

1962

# Surface Water Records of California

Volume 1: Colorado River Basin, Southern  
Great Basin, and Pacific Slope Basins  
excluding Central Valley



UNITED STATES DEPARTMENT OF THE INTERIOR-GEOLOGICAL SURVEY

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



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

SURFACE WATER RECORDS  
OF CALIFORNIA  
1962

Volume 1: Colorado River Basin, Southern Great Basin  
and Pacific Slope Basins excluding Central Valley

Prepared in cooperation with

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

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

# CALENDAR FOR WATER YEAR 1962

## OCTOBER 1961

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

## NOVEMBER 1961

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 1961

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 1962

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

## FEBRUARY 1962

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 1962

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 1962

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 1962

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

## JUNE 1962

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

## JULY 1962

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

## AUGUST 1962

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 1962

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						



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## SURFACE WATER RECORDS OF CALIFORNIA, 1962

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### INTRODUCTION

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

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

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

## COOPERATION

In California the work was done under cooperative agreements with:

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

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

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

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

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

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

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

Santa Barbara County Water Agency, C. W. Bradbury, Chair-  
man.

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

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

City of Arcata, Philip Brown, City Manager.

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

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

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

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

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

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

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

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



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

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

#### DEFINITION OF TERMS AND ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

#### DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indentation in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indentation shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

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

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

#### EXPLANATION OF DATA

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

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

is determined by shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

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

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

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

The data in this report generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1962 water year is shown on page II to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

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

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

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

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

Peak discharges and the times of their occurrence and corresponding gage heights for most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour time, for example 12:30 a.m. is 0030, 1:30 p.m. is 1330.

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

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

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

#### ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

#### SUPPLEMENTAL DATA

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

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

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1958 have been analyzed with an electronic computer to give:

(1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. At many gaging stations water samples are collected from the streams for the purpose of making chemical analyses; computing dissolved solids, suspended sediment loads, and particle-size distribution; or measuring water temperatures.

#### HYDROLOGIC CONDITIONS

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



9-4230. Colorado River below Davis Dam, Ariz.-Nev.

Location.--Lat 35°11'30", long 114°34'15", in SE  $\frac{1}{4}$  sec. 1, T. 32 S., R. 66 E., Mount Diablo meridian, on right bank half a mile downstream from Davis Dam, 29 miles west of Kingman, Ariz., and 68 miles downstream from Hoover Dam.

Drainage area.--169,300 sq mi, approximately.

Records available.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 500.00 ft above mean sea level, datum of 1929. 1905-7, staff gage at site  $\frac{1}{4}$  miles downstream at datum about 13.4 ft lower. Mar. 16 to May 3, 1949, water-stage recorder at site half a mile downstream at present datum. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft upstream at present datum.

Average discharge.--13 years (1949-62), 13,960 cfs (10,110,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 25,000 cfs April 10 (gage height, 6.96 ft); minimum daily, 2,960 cfs Dec. 23.

1905-7: Maximum daily discharge, 116,000 cfs June 20, 1906; minimum daily, 2,850 cfs Jan. 5, 1906.

1949-62: Maximum discharge, 31,200 cfs Apr. 22, 1952 (gage height, 13.91 ft); no flow at Davis Dam parts of several days July to September and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 cfs Aug. 3, 1950.

Remarks.--Records excellent. Discharge measurements generally made three to four times a month. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal uses.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,940	7,580	5,390	6,100	3,510	11,400	8,520	12,500	14,100	13,000	16,200	12,600
2	10,800	7,600	5,460	8,970	3,520	11,600	16,300	12,500	14,100	16,900	16,400	8,810
3	10,800	7,380	5,440	9,440	3,550	11,300	16,300	12,400	14,200	17,300	16,200	11,600
4	11,000	7,490	5,670	9,420	3,510	7,040	16,200	12,400	15,000	14,900	16,300	11,800
5	9,170	5,040	5,660	9,580	8,290	14,200	16,100	12,400	14,900	17,100	14,800	11,800
6	8,410	6,920	5,790	8,420	8,110	14,300	16,200	12,300	14,900	17,200	15,900	11,600
7	8,630	7,000	6,010	6,620	8,180	14,200	16,100	13,300	14,800	16,900	16,000	11,800
8	6,190	7,040	5,860	7,660	7,270	14,200	8,750	13,200	14,400	14,600	15,700	11,600
9	7,660	7,150	6,810	7,470	3,010	14,000	18,700	13,300	14,500	16,200	15,800	11,600
10	7,430	7,070	5,140	7,130	3,150	14,200	18,500	13,400	11,400	16,200	15,800	13,000
11	6,840	7,090	3,630	7,360	6,880	9,190	18,700	13,200	15,200	16,400	15,900	13,100
12	6,820	5,670	3,590	7,420	7,740	12,800	18,600	13,300	15,100	16,300	14,600	13,000
13	6,730	5,990	3,540	7,530	8,480	12,700	18,300	13,400	15,000	16,200	14,600	13,000
14	8,860	5,900	3,500	5,800	6,560	12,700	18,700	14,100	15,300	16,100	14,600	12,900
15	7,280	6,000	3,480	6,740	8,240	12,900	12,800	13,900	15,100	14,600	14,800	13,100
16	9,230	5,950	3,530	9,840	8,290	13,000	16,500	13,800	15,200	17,200	14,700	12,800
17	9,140	5,920	3,570	9,980	8,300	12,900	16,400	13,700	12,200	17,000	14,800	13,400
18	9,270	5,800	3,570	9,960	6,240	7,790	16,100	13,600	15,400	17,200	14,700	13,500
19	9,510	5,150	3,080	9,990	9,270	16,800	16,300	13,800	15,700	17,100	14,700	13,500
20	9,350	9,030	3,110	10,200	9,570	16,600	16,200	13,700	15,600	17,200	14,800	13,800
21	9,400	6,960	3,080	6,680	9,510	14,300	16,300	14,300	15,900	17,200	15,000	13,600
22	7,230	6,870	3,010	9,860	9,640	14,100	12,900	14,400	15,800	15,100	15,000	13,800
23	7,960	6,830	2,960	9,830	9,700	14,200	13,700	13,400	15,900	16,800	14,800	13,800
24	8,030	6,910	3,000	9,830	9,560	14,200	14,000	13,500	12,500	16,400	14,900	12,900
25	7,810	6,850	3,090	8,020	6,760	8,630	13,800	13,400	16,200	16,300	14,900	13,100
26	7,970	5,150	3,030	5,130	11,500	16,800	13,700	13,300	16,300	16,200	15,000	12,700
27	7,970	5,310	3,030	4,660	11,100	16,700	13,700	13,200	16,600	16,400	14,100	8,620
28	7,880	5,350	3,010	4,530	11,400	16,600	13,600	14,300	16,300	16,500	12,200	8,800
29	5,870	5,550	4,640	4,600	-	16,600	13,700	14,300	16,400	14,900	12,300	8,750
30	7,560	5,460	5,030	3,990	-----	16,700	12,500	14,300	16,400	16,600	12,700	8,990
31	7,610	-----	5,080	3,570	-----	16,700	-----	14,100	-----	16,200	12,700	-----
Total	257,350	194,010	130,790	236,330	210,840	419,350	458,170	416,700	450,400	504,200	460,900	363,370
Mean	8,302	6,467	4,219	7,624	7,530	13,530	15,270	13,440	15,010	16,260	14,870	12,110
Ac-ft	510,400	384,800	259,400	468,800	418,200	831,800	908,800	826,500	893,400	1,000,000	914,200	720,700

Calendar year 1961: Max 18,600 Min 2,960 Mean 11,510 Ac-ft 8,329,000  
 Water year 1961-62: Max 18,700 Min 2,960 Mean 11,240 Ac-ft 8,137,000

## COLORADO RIVER MAIN STEM

9-4235. Colorado River at Needles, Calif.

Location.--Lat 34°51'05", long 114°36'35", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.19; T.9 N., R.23 E., San Bernardino meridian, on right bank at Needles, 18 miles upstream from gaging station near Topock, Ariz., 31 miles downstream from Davis Dam, and 98 miles downstream from Hoover Dam.

Drainage area.--170,600 sq mi, approximately.

Records available.--April 1931 to September 1962 (elevations only).

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level, datum of 1929; gage readings have been reduced to elevations above mean sea level. Prior to May 15, 1942, at site 750 ft downstream and May 15, 1942, to Jan. 12, 1952, at present site, both at datum 66.23 ft higher.

Extremes.--Maximum elevation during year, 471.49 ft July 6; minimum, about 462 ft Dec. 20, 28 (estimated on basis of records for station near Topock, Ariz. auxiliary gage).  
1931-62: Maximum elevation, 475.77 ft Nov. 30, 1944; minimum, that of Dec. 20, 28, 1961.

Remarks.--Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

Correction.--Elevations as published for 1961 water year should be corrected by subtracting 0.08 ft.

Mean elevation, in feet, water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	466.80	465.26	f 464.09	463.84	-	-	467.78	467.84	468.30	468.72	469.39	467.82
2	466.50	f 465.15	d 463.84	464.56	-	-	467.71	467.65	468.44	468.54	469.38	467.19
3	466.91	465.48	d 464.06	465.83	-	-	469.25	467.65	468.32	469.52	469.39	466.52
4	466.91	465.16	d 463.94	465.88	-	-	469.30	467.51	468.54	469.14	469.33	467.44
5	466.91	f 465.08	464.36	465.89	-	-	469.15	467.95	468.64	469.23	468.81	467.48
6	465.73	f 464.25	464.04	465.62	-	-	469.19	467.63	468.79	469.83	469.01	467.38
7	465.78	464.98	d 464.02	464.85	-	467.84	469.19	467.41	468.70	469.74	469.22	467.52
8	465.41	465.02	464.54	464.66	-	468.18	467.60	467.99	468.66	469.08	469.16	467.42
9	464.76	464.92	464.18	464.90	-	468.20	468.20	468.04	468.58	469.04	469.03	467.48
10	465.27	465.05	464.72	464.88	-	468.12	470.00	467.94	468.25	469.31	469.09	467.65
11	f 465.14	464.90	d 463.50	464.76	-	467.36	470.10	468.01	467.86	469.26	469.12	467.94
12	f 464.82	464.86	-	464.79	464.75	466.68	470.25	467.96	468.77	469.27	468.84	467.95
13	f 464.80	464.24	-	464.76	465.02	467.57	470.12	467.98	468.74	469.33	468.65	467.72
14	465.35	464.45	-	464.75	465.11	467.56	470.13	468.09	468.89	469.38	468.68	467.86
15	465.66	f 464.36	-	464.08	-	467.66	468.88	468.26	468.77	469.04	468.64	467.84
16	465.62	f 464.40	-	465.00	-	467.90	468.38	468.12	468.86	469.53	468.62	467.89
17	465.82	f 464.38	-	465.94	-	467.76	469.17	468.10	468.36	469.83	468.62	468.19
18	466.23	f 464.36	-	466.05	-	466.78	469.18	468.10	468.05	469.83	468.56	468.18
19	466.15	f 464.26	-	466.08	-	467.12	469.22	468.08	469.09	469.77	468.56	468.18
20	466.27	f 464.47	-	465.92	-	469.24	469.15	467.82	468.98	469.90	468.59	468.19
21	466.22	465.72	-	465.46	-	468.80	469.18	468.31	469.04	469.81	468.78	468.20
22	466.05	464.82	-	465.22	-	468.09	468.65	468.39	469.06	469.23	468.68	468.23
23	f 465.09	f 465.01	-	466.05	-	468.17	468.11	468.22	469.06	469.33	468.73	468.26
24	465.50	464.97	-	465.90	-	468.32	468.12	468.10	468.65	469.62	468.70	468.08
25	465.42	464.96	-	465.49	-	467.40	468.02	467.92	468.26	469.47	468.79	467.77
26	465.48	d 464.66	-	f 464.74	-	467.58	468.15	467.96	469.29	469.51	468.80	467.94
27	465.44	463.94	-	-	-	469.41	468.17	467.85	469.26	469.61	468.56	467.22
28	465.42	f 463.84	-	-	-	469.27	468.10	468.04	469.30	469.54	468.08	465.82
29	f 464.98	f 463.92	-	-	-	469.56	468.26	468.44	469.36	468.88	467.72	465.87
30	464.69	464.18	f 463.52	-	-----	469.37	467.92	468.38	469.39	469.50	467.78	466.68
31	465.26	-----	463.55	-	-----	469.32	-----	468.49	-----	469.15	467.72	-----

d Computed from reconstructed gage-height graph.

f Computed from partly estimated gage-height record.

Note.--No gage heights recorded Dec. 12-29, Jan. 27 to Feb. 11, Feb. 15 to Mar. 6.

COLORADO RIVER MAIN STEM

13

9-4240. Colorado River near Topock, Ariz.

Location.--Lat 34°41'15", long 114°27'45", in SW $\frac{1}{4}$  NW $\frac{1}{4}$  sec.13, T.15 N., R.21 W., Gila and Salt River meridian, on left bank in Mohave Canyon, 2.7 miles downstream from Topock, 39.5 miles upstream from Parker Dam, and 49 miles downstream from Davis Dam.

Drainage area.--172,300 sq mi, approximately.

Records available.--January 1917 to September 1962. Daily mean elevations published since October 1938.

Gage.--Water-stage recorder. Datum of gage is 423.02 ft above mean sea level, datum of 1929; gage readings have been reduced to elevations above mean sea level. Prior to Dec. 3, 1922, at site about 1 mile upstream at different datum. Since May 1, 1939, supplementary water-stage recorder at former highway bridge at Topock, 2.7 miles upstream from base gage at datum 13.33 ft higher.

Average discharge.--18 years (1917-34), 20,260 cfs (14,670,000 acre-ft per year); 28 years (1934-62), 13,870 cfs (10,040,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 17,700 cfs Apr. 15; maximum elevation 457.04 Apr. 15; minimum discharge, 2,600 cfs Dec. 20; minimum elevation, 450.14 ft Dec. 20.

1917-34: Maximum discharge probably exceeded 200,000 cfs June 22, 1921; minimum, 1,480 cfs Aug. 17, 1934.

1934-62: Maximum discharge, 35,700 cfs Jan. 29, 1942; maximum elevation, 457.37 ft, July 9, 1959; minimum discharge, 375 cfs Feb. 14, 1935; minimum daily, 422 cfs Feb. 14, 1935.

Discharge of about 300,000 cfs (based on determination at Lees Ferry gaging station) occurred about July 10, 1884. Discharge in excess of 400,000 cfs (estimated) probably occurred within the period 1857-68 and most likely in 1862.

Remarks.--Records excellent. Discharge measurements generally made twice a month. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,100	7,100	5,450	5,210	4,240	10,200	15,400	12,900	13,800	15,900	15,800	12,600
2	10,200	7,030	5,440	5,960	4,090	10,600	13,600	12,600	13,900	15,100	15,800	12,100
3	10,300	7,250	5,390	7,560	3,980	10,700	14,600	12,500	13,600	15,600	16,000	11,000
4	10,200	6,900	5,280	8,030	4,130	10,400	15,100	12,300	13,900	15,800	15,900	11,500
5	10,300	6,940	5,520	8,120	4,090	9,580	15,300	12,500	14,200	15,600	15,700	11,600
6	9,370	5,700	5,440	8,250	6,760	11,500	15,500	12,300	14,400	16,100	15,500	11,700
7	8,960	6,330	5,360	7,760	6,950	12,000	15,400	12,000	14,600	16,300	15,600	11,600
8	8,640	6,470	5,680	7,160	7,080	12,600	14,900	12,300	14,600	16,200	15,600	11,700
9	7,580	6,460	5,450	7,550	6,420	12,900	13,500	12,500	14,500	15,900	15,500	11,700
10	7,820	6,600	5,930	7,550	4,210	13,400	15,400	12,700	14,200	15,900	15,500	11,800
11	7,730	6,550	5,090	7,150	4,210	13,200	16,000	12,700	13,400	15,900	15,500	12,200
12	7,370	6,470	3,970	7,230	6,360	12,000	16,600	12,700	14,000	15,800	15,400	12,400
13	7,250	5,880	3,760	7,160	6,820	12,400	17,100	12,800	14,300	15,800	14,900	12,300
14	7,320	5,860	3,540	7,340	7,280	12,200	17,400	12,800	14,500	15,800	14,900	12,400
15	8,030	5,780	3,680	6,570	6,680	12,300	17,000	13,200	14,700	15,600	14,700	12,400
16	7,690	5,780	3,600	6,900	7,180	12,500	15,800	13,200	14,900	15,600	14,600	12,500
17	8,270	5,760	3,500	8,190	7,780	12,600	15,800	13,300	14,700	16,100	14,600	12,800
18	8,500	5,750	3,630	8,660	7,670	12,200	15,800	13,200	14,000	16,300	14,500	12,900
19	8,610	5,660	3,540	8,810	6,920	11,300	15,800	13,300	14,600	16,500	14,500	13,000
20	8,720	5,510	2,980	8,820	8,160	13,200	15,800	13,200	14,900	16,600	14,600	12,900
21	8,750	7,080	3,140	8,820	8,500	13,900	15,800	13,300	15,200	16,600	14,600	13,000
22	8,810	6,410	3,070	7,920	8,700	13,700	15,500	13,600	15,200	16,300	14,500	13,200
23	7,890	6,440	3,030	8,730	8,860	13,800	14,500	13,500	15,400	16,200	14,800	13,200
24	7,960	6,470	3,050	9,110	8,990	13,800	14,000	13,400	15,300	16,400	14,500	13,200
25	7,910	6,500	3,100	8,680	8,970	13,500	13,600	13,200	14,500	16,200	14,600	12,800
26	7,830	6,470	3,230	8,010	8,160	12,300	13,600	13,100	15,100	16,200	14,600	12,700
27	7,830	5,660	3,220	6,440	9,700	13,900	13,400	13,100	15,400	16,100	14,400	12,300
28	7,760	5,500	3,240	5,700	10,000	14,600	13,300	13,200	15,700	16,300	14,000	10,600
29	7,470	5,500	3,450	5,340	-	15,100	13,400	13,600	15,900	15,900	13,300	10,100
30	6,740	5,620	4,610	5,270	-----	15,700	13,300	13,700	16,000	15,800	13,000	10,200
31	7,110	-----	5,000	4,470	-----	16,200	-----	13,900	-----	15,800	12,800	-----
Total	260,020	187,430	130,370	228,470	192,890	394,280	452,200	402,600	439,400	496,200	460,200	364,400
Mean	8,388	6,248	4,205	7,370	6,889	12,720	15,070	12,990	14,650	16,010	14,650	12,150
Ac-ft	515,700	371,800	258,600	453,200	382,600	782,000	896,900	798,500	871,500	984,200	912,800	722,800

Calendar year 1961: Max 17,200 Min 2,980 Mean 11,100 Ac-ft 8,035,000  
 Water year 1961-62: Max 17,400 Min 2,980 Mean 10,980 Ac-ft 7,951,000

## COLORADO RIVER MAIN STEM

9-4240. Colorado River near Topock, Ariz.--Continued

Mean elevation, in feet, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	454.33	452.72	451.89	451.50	450.95	453.92	456.18	455.21	455.55	456.28	456.31	d454.9
2	453.92	452.70	451.88	451.91	450.82	454.10	455.50	455.08	455.54	455.94	456.30	d454.7
3	453.96	452.84	451.90	452.75	450.71	454.18	455.87	455.02	455.51	456.14	456.34	d454.2
4	453.96	452.75	451.82	452.99	450.80	454.08	456.04	454.96	455.56	456.24	456.32	d454.4
5	454.00	452.78	451.94	453.02	450.80	453.64	456.16	455.03	455.68	456.18	456.24	d454.5
6	453.64	452.07	451.94	453.04	452.44	454.49	456.26	454.98	455.75	d456.4	456.14	d454.47
7	453.40	452.42	451.90	452.86	452.53	454.72	456.22	454.83	455.82	d456.4	456.16	454.50
8	453.30	452.50	452.08	452.53	452.62	454.98	456.02	454.96	455.82	d456.4	456.14	454.57
9	452.76	452.47	452.00	452.71	452.30	455.15	455.42	455.04	455.76	d456.3	456.14	454.52
10	452.87	452.60	452.28	452.74	450.84	455.28	456.17	455.11	455.69	d456.3	456.14	454.56
11	452.80	452.58	451.81	452.57	450.80	455.28	456.41	455.12	455.37	d456.3	456.15	454.72
12	452.60	452.48	451.07	452.60	452.18	454.80	456.64	455.12	455.61	d456.3	456.10	454.78
13	452.54	452.16	450.94	452.60	452.45	454.94	456.80	455.11	455.69	d456.3	455.94	454.79
14	452.52	452.13	450.82	452.62	452.64	454.90	456.91	455.16	455.78	d456.3	455.88	454.87
15	452.92	452.10	450.93	452.24	452.35	454.92	456.82	455.28	455.86	d456.2	d455.8	454.91
16	452.73	452.10	450.87	452.42	452.62	455.00	456.36	455.27	455.92	d456.2	d455.8	454.90
17	453.06	452.07	450.82	453.05	452.90	455.04	456.36	455.33	455.89	d456.4	d455.8	455.00
18	453.16	452.06	450.91	453.27	452.86	454.93	456.35	455.30	455.58	d456.4	d455.7	455.04
19	453.21	452.00	450.83	453.38	452.50	454.50	456.33	455.31	455.83	d456.5	d455.7	455.09
20	453.27	451.90	450.43	453.40	453.09	455.31	456.35	455.30	455.95	d456.6	d455.8	455.10
21	453.30	452.82	450.52	453.43	453.22	455.57	456.32	455.30	456.03	d456.6	d455.8	455.15
22	453.34	452.44	450.51	453.01	453.30	455.55	456.24	455.41	456.10	d456.5	d455.7	455.19
23	452.86	452.49	450.42	453.39	453.41	455.58	455.86	455.42	456.12	d456.4	d455.8	455.22
24	452.90	452.46	450.38	453.52	453.42	455.61	455.65	455.39	456.12	d456.46	d455.7	455.19
25	452.92	452.45	450.38	453.44	453.40	455.47	455.51	455.32	455.78	456.42	d455.7	455.04
26	452.88	452.40	450.42	453.14	453.08	454.97	455.49	455.26	456.00	456.44	d455.7	455.00
27	452.90	451.98	450.38	452.30	453.72	455.58	455.43	455.24	456.14	456.42	d455.7	454.88
28	452.86	451.85	450.35	451.84	453.84	455.90	455.38	455.24	456.23	456.47	d455.5	454.03
29	452.81	451.87	450.43	451.65	-----	456.10	455.41	455.41	456.31	456.33	d455.2	453.78
30	452.42	451.94	451.18	451.60	-----	456.30	455.37	455.47	456.34	456.27	d455.08	453.84
31	452.40	-----	451.40	451.18	-----	456.36	-----	455.52	-----	456.28	d455.0	-----

d Computed from reconstructed gage-height graph.

DIVERSIONS FROM HAVASU LAKE

15

9-4270. Colorado River aqueduct near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW 1/4 sec. 28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant of Metropolitan Water District of Southern California on Havasu Lake, 1.8 miles upstream from Parker Dam and 154 miles downstream from Hoover Dam.

Records available.--January 1939 to September 1962 (monthly diversions only since October 1942). Published as a supplement to records for Colorado River below Parker Dam, 1942-50.

Gage.--Venturi meters in pressure lines at intake pumping plant.

Average discharge.--23 years, 454 cfs (328,700 acre-ft per year).

Extremes.--1939-62: Maximum daily diversion, 3,966 acre-ft (2,000 cfs) Dec. 15, 1960; no diversion at times.

Remarks.--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Havasu Lake less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. During this year 5,618 acre-ft (partly estimated) of cooling water, which is included in the record of diversions, was returned to Havasu Lake at the pumping plant. Percolation from Gene and Copper Basin Reservoirs was measured in 4 washes between pumping plant and Copper Basin Wash by means of weirs, each about 1 mile from Colorado River. Percolation amounted to 5,110 acre-ft during the water year and was not subtracted from the diversion record.

Cooperation.--Records furnished by Metropolitan Water District of Southern California.

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

Month	Maximum	Minimum	Mean	Total
October.....	3,898	2,500	3,142	97,387
November.....	3,921	0	2,548	76,452
December.....	3,945	0	2,690	83,401
Calendar year 1961.....	3,945	0	3,021	1,102,689
January.....	3,827	1,989	3,055	94,714
February.....	3,788	823	1,651	46,226
March.....	2,696	425	1,729	53,614
April.....	3,359	1,850	2,987	89,616
May.....	3,605	3,032	3,258	101,010
June.....	3,571	3,064	3,235	97,046
July.....	3,610	3,050	3,264	101,190
August.....	3,473	3,094	3,262	101,115
September.....	3,454	3,065	3,254	97,606
Water year 1961-62.....	3,945	0	2,848	1,039,377

## COLORADO RIVER MAIN STEM

9-4275. Havasu Lake near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 miles upstream from Parker Dam on Colorado River, which is 156 miles downstream from Hoover Dam.

Drainage area.--178,800 sq mi, approximately.

Records available.--July 1938 to September 1962. Published as Parker Reservoir near Parker Dam 1938.

Gage.--Water-stage recorder. Datum of gage is 400.54 ft above mean sea level, datum of 1929. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum contents during year, 614,400 acre-ft May 6 (elevation, 450.29 ft); minimum, 526,000 acre-ft Jan. 19 (elevation, 445.61 ft).

1938-62: Maximum contents, 693,000 acre-ft (by temporary use of flashboards) Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft June 26, 1958; minimum contents, 71,400 acre-ft June 25, 1942 (elevation, 412.09 ft).

Remarks.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity, 619,400 acre-ft between elevation 400.54 (sill of regulating gates) and 450.54 ft (top of regulating gates) above mean sea level, based on re-survey of Havasu Lake made in April 1957 by Bureau of Reclamation between elevations 430.54 and 450.54 ft. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft below 400.54 ft (based on original survey). About 0.07 ft fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting the safety of the dam. Lake is used for flood control, power development, reregulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct and return flow, see record for Colorado River aqueduct near Parker Dam (sta 9-4270).

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	575,400	554,300	555,800	538,700	565,200	534,100	561,600	607,600	599,800	593,400	578,100	577,200
2	572,400	554,400	557,700	536,800	561,100	533,200	560,200	608,000	599,800	593,200	579,000	575,800
3	572,400	554,400	559,000	538,600	558,200	533,700	559,200	609,800	598,800	593,400	580,200	570,900
4	574,700	555,000	558,200	541,800	554,100	533,500	559,800	610,200	598,200	594,600	580,400	567,100
5	576,600	555,000	557,500	543,800	548,500	529,700	562,400	611,000	597,600	595,400	580,400	566,700
6	576,200	552,600	558,400	546,300	548,500	533,000	561,800	611,200	598,000	595,400	578,300	564,600
7	574,500	553,300	559,200	545,800	548,600	536,900	561,500	608,800	598,000	595,400	577,200	561,600
8	573,200	553,300	561,300	545,200	553,300	542,300	560,300	605,800	601,400	595,000	576,000	560,700
9	567,100	553,500	562,500	547,000	558,400	545,400	556,700	604,600	601,400	593,800	575,800	558,100
10	563,700	553,000	564,400	544,000	553,900	549,400	556,500	604,400	602,000	593,200	575,800	555,200
11	558,800	553,100	565,200	541,800	545,200	552,200	558,400	599,800	599,800	590,400	575,200	553,100
12	556,200	553,700	565,800	539,500	544,700	552,800	562,000	596,800	597,200	590,600	574,900	552,100
13	552,100	551,700	565,400	541,800	545,600	553,100	565,200	595,400	595,400	589,700	571,600	551,200
14	548,100	549,200	567,500	540,900	547,400	552,200	568,800	593,600	593,400	589,900	569,200	550,600
15	544,700	546,300	568,800	535,900	547,200	552,200	573,000	594,800	598,400	589,500	566,900	549,900
16	541,300	546,500	569,600	529,700	548,100	550,600	573,900	592,800	600,800	586,600	564,800	549,200
17	539,600	545,200	568,600	527,600	548,600	548,500	575,400	595,400	602,000	584,600	564,000	547,900
18	538,200	543,200	568,400	526,100	549,500	545,900	578,900	598,000	600,200	583,600	562,700	547,000
19	539,500	539,500	568,600	526,100	547,200	541,100	583,000	599,000	598,800	585,700	563,300	547,200
20	542,300	535,900	568,200	529,200	546,700	543,600	588,900	601,600	597,400	585,300	563,800	547,200
21	545,800	538,600	568,000	531,400	545,800	548,800	595,400	601,600	597,400	584,900	565,000	549,000
22	549,700	539,600	567,800	534,400	543,400	552,600	599,600	602,000	595,600	585,700	565,800	550,300
23	551,700	540,200	566,700	539,100	540,900	554,100	601,600	601,600	595,200	585,100	567,600	552,200
24	553,900	540,500	564,400	546,300	539,800	555,800	603,200	601,800	593,600	583,400	567,100	553,700
25	557,700	544,500	561,800	555,400	537,700	557,300	604,400	600,000	590,300	582,700	568,200	556,700
26	559,800	548,300	559,000	557,900	535,100	556,000	608,000	598,000	586,600	581,000	570,500	561,100
27	558,800	550,600	556,200	562,200	533,300	553,500	606,600	598,000	585,900	581,900	572,800	565,400
28	558,800	552,600	553,000	564,200	532,600	552,400	607,200	597,400	588,700	581,000	574,700	568,600
29	555,400	553,900	548,600	565,900	-	553,900	608,000	597,000	589,700	580,000	576,000	569,200
30	553,500	555,800	544,500	567,300	-----	556,700	608,400	597,200	591,400	580,000	578,300	567,600
31	554,300	-----	541,600	566,700	-----	559,000	-----	599,400	-----	579,200	577,900	-----
(±)	-16,200	+1,500	-14,200	+25,100	-34,100	+26,400	+49,400	-9,000	-8,000	-12,200	-1,300	-10,300

Calendar year 1961..... ± -8,300

Water year 1961-62..... ± -2,900

\* Change in contents, in acre-feet.

COLORADO RIVER MAIN STEM

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9-4275. Havasu Lake near Parker Dam, Ariz.-Calif.--Continued

Elevation, in feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	448.30	447.18	447.26	446.32	447.76	446.06	447.57	449.95	449.56	449.24	448.44	448.39
2	448.14	447.19	447.36	446.21	447.54	446.01	447.49	449.97	449.56	449.23	448.49	448.32
3	448.14	447.19	447.43	446.31	447.39	446.04	447.44	450.06	449.51	449.24	448.55	448.06
4	448.26	447.22	447.39	446.49	447.17	446.03	447.47	450.08	449.48	449.30	448.56	447.86
5	448.36	447.22	447.35	446.60	446.86	445.82	447.61	450.12	449.45	449.34	448.56	447.84
6	448.34	447.09	447.40	446.74	446.86	446.00	447.58	450.13	449.47	449.34	448.45	447.73
7	448.25	447.13	447.44	446.71	446.87	446.22	447.56	450.01	449.47	449.34	448.39	447.57
8	448.18	447.13	447.55	446.68	447.13	446.52	447.50	449.86	449.64	449.32	448.33	447.52
9	447.86	447.14	447.62	446.78	447.40	446.69	447.31	449.80	449.64	449.26	448.32	447.38
10	447.68	447.11	447.72	446.61	447.16	446.91	447.30	449.79	449.67	449.23	448.32	447.23
11	447.42	447.12	447.76	446.49	446.68	447.07	447.40	449.56	449.56	449.09	448.29	447.12
12	447.28	447.15	447.79	446.36	446.65	447.10	447.59	449.41	449.43	449.10	448.27	447.06
13	447.06	447.04	447.77	446.49	446.70	447.12	447.76	449.34	449.34	449.05	448.10	447.01
14	446.84	446.90	447.88	446.44	446.80	447.07	447.95	449.25	449.44	449.06	447.97	446.98
15	446.65	446.74	447.95	446.16	446.79	447.07	448.17	449.31	449.49	449.04	447.85	446.94
16	446.46	446.75	447.99	445.82	446.84	446.98	448.22	449.21	449.61	448.89	447.74	446.90
17	446.37	446.68	447.94	445.70	446.87	446.86	448.30	449.34	449.67	448.78	447.70	446.83
18	446.29	446.57	447.93	445.62	446.92	446.72	448.48	449.47	449.58	448.73	447.63	446.78
19	446.36	446.36	447.94	445.62	446.79	446.45	448.70	449.52	449.51	448.84	447.66	446.79
20	446.52	446.16	447.92	445.79	446.76	446.59	449.01	449.65	449.44	448.82	447.69	446.79
21	446.71	446.31	447.91	445.91	446.71	446.88	449.34	449.65	449.44	448.80	447.75	446.89
22	446.93	446.37	447.90	446.08	446.58	447.09	449.55	449.67	449.35	448.84	447.79	446.96
23	447.04	446.40	447.84	446.34	446.44	447.17	449.65	449.65	449.33	448.81	447.89	447.07
24	447.16	446.42	447.72	446.74	446.38	447.26	449.73	449.66	449.25	448.72	447.86	447.15
25	447.36	446.64	447.58	447.24	446.26	447.34	449.79	449.57	449.08	448.68	447.92	447.31
26	447.47	446.85	447.43	447.37	446.12	447.27	449.97	449.47	448.89	448.59	448.04	447.54
27	447.42	446.98	447.28	447.60	446.02	447.14	449.90	449.47	448.85	448.64	448.16	447.77
28	447.42	447.09	447.11	447.71	445.98	447.08	449.93	449.44	449.00	448.59	448.26	447.94
29	447.24	447.16	446.87	447.80	-	447.16	449.97	449.42	449.05	448.54	448.33	447.97
30	447.14	447.26	446.64	447.87	-----	447.31	449.99	449.43	449.14	448.54	448.45	447.89
31	447.18	-----	446.48	447.84	-----	447.43	-----	449.54	-----	448.50	448.43	-----

Note.--Elevation for Oct. 1, June 7, 8, July 26-30, based on Bureau of Reclamation recorder graph at Parker Dam.

## COLORADO RIVER MAIN STEM

9-4280. Colorado River below Parker Dam, Ariz.-Calif.

Location.--Lat 34°15'30", long 114°09'00", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.16, T.2 N., R.27 E., San Bernardino meridian, on right bank 3.9 miles downstream from Parker Dam, 10.4 miles upstream from Headgate Rock Dam, and 11 miles northeast of Parker, Ariz.

Drainage area.--178,800 sq mi, approximately.

Records available.--February to September 1934 (gage heights and fragmentary discharge records), October 1934 to September 1962. Prior to October 1937 published as "near Parker, Ariz."

Gage.--Water-stage recorder. Datum of gage is 346.23 ft above mean sea level, datum of 1929.

Average discharge.--28 years (1934-62), 13,430 cfs (9,723,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 19,400 cfs Aug. 14 (gage height, 22.54 ft); minimum daily, 2,040 cfs Dec. 22.

1934-62: Maximum discharge, 42,400 cfs Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed; minimum daily discharge, 1,440 cfs Feb. 15, 1935.

An unregulated discharge of probably less than 1,350 cfs occurred Aug. 13, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

Remarks.--Records excellent. Discharge measurements generally made twice a month. Flow regulated by Lake Mead since Feb. 1, 1935, Lake Mohave since Jan. 17, 1950, and by Havasu Lake since July 1, 1936. Many diversions above station. For record of diversion to Colorado River aqueduct and return flows, see record for Colorado River aqueduct near Parker Dam (sta 9-4270).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.760	5.230	4.820	4.200	3.820	9.080	13.200	11.300	11.700	13.200	14.500	11.100
2	9.350	5.400	4.020	4.700	4.450	10.200	13.400	10.900	12.000	13.200	13.600	11.500
3	8.360	5.790	3.760	4.940	4.080	9.930	13.300	9.760	12.300	13.400	13.600	11.600
4	7.520	5.630	4.580	4.580	3.950	10.200	13.300	9.990	12.200	13.500	13.800	11.000
5	7.440	5.290	4.390	5.400	5.180	10.500	12.800	10.300	12.700	13.300	14.000	10.400
6	7.510	4.880	4.080	5.540	5.510	9.390	13.900	10.300	12.700	14.200	15.000	10.400
7	8.000	4.940	3.360	5.700	5.580	8.920	14.000	11.200	11.500	14.800	14.800	11.300
8	8.010	5.510	3.560	5.660	3.880	8.960	14.100	11.600	12.500	14.600	14.500	10.700
9	8.210	5.400	3.220	5.510	3.150	10.800	14.000	11.200	12.500	14.400	14.300	10.900
10	7.880	5.630	4.140	6.200	5.590	10.600	13.800	10.800	12.600	14.400	14.000	11.700
11	7.900	5.510	3.880	6.120	6.300	11.000	13.200	12.000	13.000	14.800	13.900	11.100
12	6.650	5.460	3.950	6.080	6.170	11.100	13.000	12.300	13.000	14.300	14.400	11.600
13	7.090	5.350	3.690	7.460	6.010	11.000	13.700	11.100	13.300	14.000	14.400	10.900
14	6.920	5.680	3.020	5.540	6.390	11.200	13.800	11.600	12.500	14.100	15.000	11.100
15	7.160	5.790	2.580	7.170	6.280	11.200	13.600	11.900	12.100	13.400	14.500	11.100
16	7.340	5.290	2.430	8.260	6.690	11.800	14.000	11.100	12.400	15.000	14.200	11.400
17	6.930	5.510	2.580	7.730	6.950	12.600	13.500	10.100	12.700	15.300	14.200	12.000
18	7.330	5.900	2.580	7.730	6.920	12.200	12.600	10.100	13.100	14.900	13.300	11.800
19	5.970	6.220	2.270	7.220	7.770	12.100	11.800	10.300	13.400	13.800	13.000	11.500
20	5.420	6.010	2.190	6.680	7.930	10.500	11.600	10.500	13.600	14.800	13.100	11.000
21	5.170	5.460	2.120	6.200	8.930	10.000	11.200	10.800	13.100	15.000	12.400	11.200
22	5.170	5.230	2.040	5.550	9.190	10.600	11.500	11.500	15.000	14.400	12.500	11.200
23	5.000	4.880	2.190	4.900	9.650	12.000	12.000	11.300	14.000	14.800	12.300	11.400
24	4.700	6.120	2.350	4.550	9.450	12.100	11.800	11.300	14.500	14.900	13.400	11.300
25	4.140	4.450	2.430	3.100	9.650	12.200	11.300	12.200	14.500	14.600	12.800	10.500
26	4.640	5.170	3.020	5.700	9.500	12.000	10.500	11.600	14.900	14.500	12.200	9.840
27	6.430	5.110	2.950	3.050	9.700	13.300	12.100	11.900	14.600	14.600	11.500	9.510
28	6.530	4.700	2.810	3.140	9.700	13.800	11.600	11.700	13.400	15.000	12.000	9.040
29	6.430	5.110	3.820	3.050	-	13.200	11.600	12.100	13.300	14.600	11.100	8.420
30	5.290	4.330	4.510	3.080	-----	13.200	11.200	11.800	13.200	14.300	10.500	9.200
31	5.350	-----	4.390	3.500	-----	13.200	-----	11.300	-----	14.500	11.200	-----
Total	207,600	160,980	101,730	168,240	188,370	348,880	381,400	345,850	392,300	444,600	414,000	324,710
Mean	6,697	5,366	3,282	5,427	6,728	11,250	12,710	11,160	13,080	14,340	13,350	10,820
Ac-ft	411,800	319,300	201,800	333,700	373,600	692,000	756,500	686,000	778,100	881,900	821,200	644,100

Calendar year 1961: Max 15.30 Min 2.040 Mean 9.634 Ac-ft 6,975,000  
 Water year 1961-62: Max 15.300 Min 2.040 Mean 9.531 Ac-ft 6,900,000

Note.--Doubtful or no gage-height record Jan. 13-15, 21-30.



9-4285.3. Arch Creek near Earp, Calif.

Location.--Lat  $34^{\circ}09'55''$ , long  $114^{\circ}22'20''$ , in NE $\frac{1}{4}$  sec.20, T.1 N., R.25 E., on right bank on Parker Dam road, 4 miles east of Earp.

Drainage area.--1.52 sq mi.

Records available.--January 1960 to September 1962.

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

Extremes.--No flow during year.

1959-62: Flood of Sept. 13, 1959, reached a stage of 13.24 ft from floodmarks (discharge, 67 $\frac{1}{2}$  cfs, by indirect measurement of peak flow through culvert); no flow most of each year.

Remarks.--No flow since Aug. 18, 1961. No regulation or diversion. Figures for calendar year 1961 are as follows: maximum daily discharge, 0.1 cfs; minimum, zero; mean, 0.0003 cfs; runoff, 0.2 acre-ft. Monthly figures of precipitation, in inches, are as follows: December, 0.5; January, 0.7; February, 0.1; June, 0.3; the year, 1.6.

## TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM

9-4290. Palo Verde Canal near Blythe, Calif.

Location.--Lat 33°43'54", long 114°30'43", in SE 1/4 NW 1/4 sec. 19, T.5 S., R.24 E., San Bernardino meridian, at canal intake structure on west side of Palo Verde Diversion Dam, 10 miles northeast of Blythe and 43 miles downstream from Headgate Rock Dam.

Records available.--January 1922 to December 1923, January 1925 to September 1962 (prior to October 1950, monthly discharge only).

Gage.--Recording gages above and below intakes to record head. Datum of gage is: Forebay gage, at mean sea level, tailrace gage, 274.13 ft above mean sea level, both to datum of 1929. Aug. 7, 1950, to Nov. 30, 1952, water stage recorder on tailrace and auxiliary recorder half a mile downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure a quarter of a mile upstream, at different datums.

Average discharge.--12 years (1950-62), 1,182 cfs (855,700 acre-ft per year).

Extremes.--1950-62: Maximum daily discharge, 2,180 cfs Aug. 7, 1962; no flow at times in several years.

Remarks.--Records excellent except those below 1,000 cfs which are good. Discharge measurements generally made twice a month. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River during 1962 for irrigation of 79,914 acres. Return flows to Colorado River are measured by 11 wasteways and drains extending throughout the project; 4 of these are equipped with water-stage recorders and Parshall flumes, 3 are equipped with Sparling flowmeters and 1 with total flow meter on Parshall flume. Return flows have not been subtracted; combined monthly return flows are given in table below. Check measurements of return flows are made about twice a month by the Geological Survey and the Palo Verde Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1110	881	828	544	764	1570	1250	1410	1790	1800	2080	1680
2	1270	872	792	654	706	1450	1330	1400	1800	1830	2170	1570
3	1380	1010	690	691	690	1380	1420	1450	1760	1860	2030	1620
4	1310	879	721	870	721	1390	1470	1640	1830	1880	2090	1690
5	1260	869	714	882	734	1360	1390	1560	1830	1740	1980	1740
6	1180	864	798	824	787	1500	1390	1380	1750	1780	2090	1740
7	1060	947	801	783	907	1560	1280	1440	1730	1880	2180	1760
8	1040	1030	810	835	938	1530	1100	1550	1760	1880	2150	1720
9	1040	1020	791	799	984	1510	1230	1540	1760	1900	1930	1660
10	1050	845	694	949	1030	1480	1300	1580	1770	1900	1960	1640
11	1000	836	391	977	887	1300	1260	1490	1790	1650	1880	1850
12	1000	776	457	937	717	1500	1350	1540	1860	1870	1770	1830
13	974	874	686	989	1170	1570	1350	1330	1910	1880	1850	1820
14	1070	860	892	848	1260	1500	1380	1380	1920	1880	1850	1700
15	993	990	573	803	1180	1430	1420	1460	1900	1840	1890	1600
16	933	1040	514	960	1190	1300	1410	1500	1800	1830	1870	1540
17	1020	1040	474	973	1200	1200	1490	1440	1640	2010	1790	1710
18	987	1020	501	866	1070	1040	1540	1400	1620	1950	1480	1790
19	931	883	512	791	1220	1130	1530	1410	1760	1940	1340	1810
20	901	925	555	769	1350	1170	1480	1320	1860	1930	1420	1770
21	876	893	567	738	1290	1130	1280	1590	1830	1940	1610	1730
22	900	823	553	845	1310	1100	1240	1700	1870	1900	1670	1580
23	919	666	486	807	1350	1090	1240	1570	1830	1880	1740	1410
24	876	723	437	727	1340	1060	1210	1560	1630	2080	1750	1430
25	880	813	488	562	1290	1060	1320	1610	1740	2080	1810	1330
26	929	744	532	560	1420	1130	1360	1430	1890	2100	1670	1370
27	908	786	666	624	1640	1300	1390	1320	1980	2120	1790	1330
28	847	809	642	546	1570	1400	1350	1600	1980	1950	1720	1170
29	815	813	706	529	-	1450	1200	1600	1870	1850	1690	1170
30	869	883	627	582	-----	1450	1370	1590	1870	1910	1780	1090
31	879	-----	532	699	-----	1410	-----	1620	-----	2050	1800	-----
Total	31,207	26,414	19,430	23,963	30,715	41,450	40,330	46,410	54,330	59,090	56,830	47,850
Mean	1,007	880	627	773	1,097	1,337	1,344	1,497	1,811	1,906	1,833	1,595
Ac-ft	61,900	52,390	38,540	47,530	60,920	82,210	79,990	92,050	107,800	117,200	112,700	94,910
(t)	47,540	45,790	41,850	44,400	38,780	50,250	49,800	52,110	50,210	48,780	49,920	57,200
Calendar year 1961:	Max	2,100		Min	391	Mean	1,303	Ac-ft	943,200	† 550,000		
Water year 1961-62:	Max	2,180		Min	391	Mean	1,310	Ac-ft	948,100	† 576,600		

† Return flows, in acre-feet, to Colorado River.

9-4291. Colorado River below Palo Verde Dam, Ariz.-Calif.

Location.--Lat 33°43'10", long 114°29'50", in NE $\frac{1}{4}$  sec.2, T.4 N., R.22 W., Gila and Salt River meridian, on right bank 1.4 miles downstream from Palo Verde Canal intake structure, 9.5 miles northeast of Blythe, Calif., and 11.0 miles upstream from Ehrenberg, Ariz.

Drainage area.--182,200 sq mi, approximately.

Records available.--March 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 260.00 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1957-62) 9,684 cfs (7,011,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,400 cfs Aug. 14 (gage height, 15.79 ft); minimum daily, 1,380 cfs Dec. 21.

1956-62: Maximum discharge, 24,300 cfs Mar. 21, 1958; maximum gage height, 17.94 ft May 4, 1958; minimum daily, that of Dec. 21, 1961.

Remarks.--Records excellent. Discharge measurements generally made two to three times a month. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Havasu Lake.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.120	4.760	3.570	4.020	2.910	7.790	11.300	9.580	9.160	10.700	11.800	8.900
2	6.970	4.640	3.890	3.890	3.220	7.610	11.200	9.530	9.520	10.700	11.600	9.000
3	7.740	4.660	3.110	4.120	3.900	8.390	11.200	9.120	9.640	10.600	10.700	9.190
4	7.390	5.080	3.080	4.100	3.660	8.270	11.100	7.950	9.870	10.800	10.700	9.100
5	6.520	4.900	3.740	3.830	3.440	8.410	11.200	8.350	9.790	11.000	11.200	8.710
6	6.460	4.730	3.530	4.440	4.490	8.460	10.800	8.440	10.100	11.200	11.300	8.200
7	6.620	4.340	3.240	4.780	4.540	7.270	11.900	8.870	10.000	11.600	11.900	8.340
8	6.310	4.080	2.850	4.960	4.540	7.060	12.000	9.240	9.500	11.500	11.600	8.920
9	6.800	4.490	2.780	4.800	2.500	7.370	12.100	9.640	9.980	11.500	11.600	8.560
10	7.070	4.260	2.780	4.790	2.020	8.460	11.800	9.120	9.910	11.200	11.100	9.060
11	6.700	4.490	3.740	5.330	4.720	8.760	11.900	8.670	10.100	12.100	11.300	9.120
12	6.670	4.490	3.600	5.120	5.270	8.800	11.300	10.500	10.200	12.000	12.000	8.870
13	5.920	4.260	3.390	5.550	4.780	8.800	11.000	9.890	10.400	11.400	11.100	9.120
14	6.020	4.340	2.920	5.920	4.600	9.020	11.600	9.310	10.200	11.400	12.200	8.910
15	6.110	4.270	2.590	5.670	5.230	9.060	11.600	9.980	9.580	10.900	11.700	9.140
16	6.330	4.310	2.400	6.240	5.040	9.200	11.600	10.000	9.600	12.000	11.300	9.310
17	6.310	3.960	2.000	6.910	5.270	10.300	11.700	9.480	9.940	12.400	11.200	9.420
18	6.030	4.190	2.140	6.670	5.540	10.600	11.300	8.620	10.400	12.300	11.200	9.680
19	6.180	4.510	2.070	6.650	5.650	10.500	9.540	8.530	10.700	11.800	10.700	9.470
20	5.220	4.980	1.710	6.230	6.000	10.200	9.620	8.530	10.900	11.400	10.900	9.010
21	4.820	4.550	1.380	5.910	6.500	8.740	9.720	8.930	10.700	12.200	10.400	8.670
22	4.640	4.260	1.460	5.310	7.370	8.760	9.500	8.780	11.300	11.900	9.900	8.780
23	4.490	4.160	1.420	4.910	7.430	9.160	10.200	9.370	11.800	11.800	10.000	8.920
24	4.400	4.060	1.740	4.440	7.720	10.300	10.200	9.110	11.200	12.200	9.790	9.160
25	4.190	4.800	1.810	4.380	7.540	10.400	9.640	9.260	11.500	12.000	10.400	9.130
26	3.740	4.090	1.900	2.860	7.500	10.300	9.330	9.980	11.700	11.800	10.200	8.520
27	4.100	4.130	2.540	2.720	7.570	10.700	9.050	9.770	11.700	11.500	9.510	8.190
28	5.390	4.100	2.400	2.780	7.560	11.400	10.100	9.620	10.800	12.200	9.210	7.820
29	5.590	3.820	2.430	2.790	-	11.300	9.770	9.550	10.700	12.100	9.390	6.740
30	5.510	3.940	3.480	2.640	-----	10.900	9.680	9.700	10.800	11.700	8.800	7.170
31	4.680	-----	4.040	2.640	-----	11.000	-----	9.760	-----	11.700	8.020	-----
Total	182,040	131,650	83,730	145,400	146,510	287,290	322,950	287,180	311,690	359,600	332,720	263,130
Mean	5,872	4,388	2,701	4,690	5,232	9,267	10,760	9,264	10,390	11,600	10,730	8,771
Ac-ft	361,100	261,100	166,100	288,400	290,600	569,800	640,600	569,600	618,200	713,300	659,900	521,900

Calendar year 1961: Max 12,500 Min 1,380 Mean 7,957 Ac-ft 5,760,000  
 Water year 1961-62: Max 12,400 Min 1,380 Mean 7,819 Ac-ft 5,661,000

Note.--Discharge for period Nov. 13 to Dec. 29 computed on basis of stage-discharge relation for station 1.4 miles upstream, operated by Palo Verde Irrigation District.

## COLORADO RIVER MAIN STEM

9-4295. Colorado River at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°53'00", long 114°27'50", in W $\frac{1}{2}$  sec.9, T.15 S., R.24 E., San Bernardino meridian, near All-American Canal headworks at west end of Imperial Dam, 5 miles upstream from Laguna Dam, 15 miles northeast of Yuma, 90 miles downstream from Palo Verde Dam, and 147 miles downstream from Parker Dam.

Drainage area.--184,600 sq mi, approximately.

Records available.--Flow of Colorado River passing Imperial Dam: October 1960 to September 1962. Flow of Colorado River reaching Imperial Dam: 1903-34 (yearly discharge only), July 1934 to September 1962 (monthly discharge only since October 1942). Prior to 1943 published as "near Picacho, Calif."

Gage.--Water-stage recorder for obtaining head on gates. Datum of gage is 162.00 ft above mean sea level (U.S. Bureau of Reclamation bench mark). Prior to Oct. 1, 1942, water-stage recorder at site 14 $\frac{1}{2}$  miles upstream at datum 167.38 ft above mean sea level, datum of 1929. Oct. 1, 1942, to Sept. 30, 1960, no gage on river at this site (see Remarks).

Average discharge (flow reaching Imperial Dam).--28 years (1934-62), 12,590 cfs (9,115,000 acre-ft per year).

Extremes (flow reaching Imperial Dam).--1934-62: Maximum discharge, 40,800 cfs Sept. 5, 1939; minimum, 538 cfs Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 cfs Feb. 17, 1935.

Remarks.--Records excellent. Records of daily discharge show flow of Colorado River passing Imperial Dam, and include water released to river through California and Gila sluiceways, sludge from desilting basins returned to river, and leakage through dam. Records of flow reaching Imperial Dam (given in monthly and yearly summaries below) are based on combined daily discharge of Colorado River at this station, and at gaging stations on All-American Canal near Imperial Dam (sta 9-5230), and Gila Gravity Main Canal at Imperial Dam (sta 9-5225). Records for October 1942 to September 1960 were computed as combined flow of Colorado River at Yuma (sta 9-5210) and the All-American and Gila Gravity Main Canals, less flow of Gila River near Dome (drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were neglected).

Flow of Colorado River regulated by many reservoirs, principally Lake Mead, since 1935. Many diversions from Colorado River and tributaries above station.

Cooperation.--Records of gate openings furnished by Bureau of Reclamation. Records of sludge return flow from desilting basins furnished by Imperial Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	337	*337	337	486	237	337	427	*496	*337	838	812	500
2	337	337	617	237	237	337	427	417	337	881	681	500
3	*337	337	465	425	237	337	*427	417	337	838	537	500
4	337	337	337	1,430	486	337	427	417	437	838	804	*1,010
5	337	355	337	1,070	462	337	427	417	437	835	809	1,190
6	337	355	337	217	237	343	679	722	337	455	811	1,160
7	337	337	337	217	237	337	847	696	337	681	810	701
8	337	350	337	217	237	337	848	623	337	834	811	500
9	337	337	337	217	237	337	838	599	337	836	*811	570
10	337	337	337	235	237	337	1,240	598	337	1,140	1,040	675
11	337	337	237	217	237	437	841	598	347	*970	1,080	544
12	337	355	237	*217	237	527	841	599	347	811	1,120	392
13	337	460	*237	217	237	1,120	841	600	347	678	864	367
14	337	427	250	217	237	*751	841	598	359	568	864	367
15	337	*337	729	217	237	750	841	1,090	368	811	1,010	367
16	337	337	567	424	237	751	841	1,010	347	848	865	367
17	337	337	347	706	237	751	842	*1,080	609	810	781	467
18	*337	337	237	252	237	751	841	759	713	807	768	822
19	337	337	237	337	322	751	*841	715	713	806	865	623
20	337	337	237	337	237	797	853	701	712	880	865	*367
21	337	337	377	337	*237	751	858	602	641	1,220	*865	367
22	337	337	998	337	337	751	885	602	447	812	1,110	367
23	337	337	237	345	337	771	851	341	661	812	500	367
24	337	337	489	337	337	852	851	237	795	820	500	367
25	337	337	615	*337	337	771	855	337	809	812	500	700
26	394	515	269	237	337	752	851	337	984	811	500	433
27	440	399	237	237	355	751	851	337	*996	*811	500	683
28	337	337	317	250	337	567	621	437	812	812	572	367
29	337	*411	*434	275	427	427	427	437	813	812	*500	467
30	337	500	301	237	-----	427	432	337	838	812	500	467
31	337	-----	790	237	-----	427	-----	337	-----	826	500	-----
Total	10,607	10,867	12,157	11,058	7,913	18,009	22,492	17,593	16,228	25,525	23,555	16,574
Mean	342	362	392	357	283	581	750	568	541	823	760	552
Ac-ft	21,040	21,550	24,110	21,930	15,700	35,720	44,610	34,900	32,190	50,630	46,720	32,870
(†)	6,952	5,252	3,608	5,478	5,477	9,707	11,580	10,080	10,890	12,050	11,880	9,959
(‡)	427,500	312,500	221,900	336,800	304,200	596,900	689,200	619,500	647,800	740,800	730,100	592,600
Calendar year 1961:	Max 1,660			Min 237		Mean 604		Ac-ft 436,900		+8,692		+6,293,000
Water year 1961-62:	Max 1,430			Min 217		Mean 528		Ac-ft 382,000		+8,591		+6,220,000

\* Discharge measurement made on this day.

† Flow reaching Imperial Dam, in cubic feet per second (combined flow of Colorado River, All-American Canal near Imperial Dam, and Gila Gravity Main Canal at Imperial Dam).

‡ Flow reaching Imperial Dam, in acre-feet.

9-5210. Colorado River at Yuma, Ariz.

Location.--Lat 32°43'45", long 114°37'15", in NW 1/4 sec. 35, T.16 S., R.22 E., San Bernardino meridian, on left bank 500 ft upstream from lower highway bridge, 1,800 ft downstream from upper highway bridge at Yuma, half a mile upstream from Yuma Main Canal wasteway, 5 miles downstream from Gila River, 7 miles upstream from boundary between California and Mexico, and 19 miles downstream from Imperial Dam.

Drainage area.--242,900 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1878 to December 1901 (gage heights only), January 1902 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 102.32 ft above mean sea level, Yuma project datum, or 102.86 ft, datum of 1929, leveling of 1941 (datum was 0.07 ft lower prior to earthquake of May 18, 1940). Supplementary water-stage recorder 180 ft downstream since Oct. 30, 1953. Prior to May 1922 staff gages at several sites 600 to 1,000 ft upstream at approximately same datum. May 1922 to October 1933, water-stage recorder or automatic transmitter at site 800 ft upstream from present site at same datum. Nov. 11, 1933, to July 19, 1934, staff gage at present site and datum.

Extremes.--Maximum discharge during year, 2,170 cfs Jan. 4; maximum gage height, 12.24 ft Dec. 22; minimum daily discharge, 565 cfs Dec. 8; minimum gage height, 10.45 ft Nov. 29.

1902-34: Maximum discharge, 250,000 cfs Jan. 22, 1916 (gage height, 34.0 ft); minimum daily, 18 cfs Aug. 25-27, 1934, caused by diversion at Laguna Dam.

1934-62: Maximum discharge, 34,900 cfs Sept. 7, 1939 (gage height, 24.57 ft); minimum, 41 cfs Mar. 8, 1956; minimum gage height, 8.36 ft July 16, 1947.

Remarks.--Records excellent. Discharge measurements generally made three times a month. Many diversions from Colorado River and tributaries. Principal diversions below Parker Dam are Colorado River Indian Reservation Canal, Palo Verde Canal, All-American Canal and Gila Gravity Main Canal. Return flows entering downstream but above northerly international boundary are Yuma Main Canal wasteway, Reservation Canal Main Drain No. 4, Drain 8-B, and Pilot Knob powerplant and wasteway. See monthly table below for combined flow of river, Yuma Main Canal wasteway, and Reservation Canal Main Drain No. 4. Flow of Colorado River regulated by Hoover, Davis, Parker, Headgate Rock, and to a small extent by Imperial, Palo Verde, and Laguna Dams. No regulation on Gila River below Painted Rock Dam.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	777	793	625	1,120	811	870	898	1,020	811	1,240	1,240	977
2	730	793	643	661	793	829	912	1,020	805	1,220	1,200	996
3	757	811	813	637	787	856	912	968	829	1,170	1,290	993
4	757	817	641	1,940	793	879	947	982	842	1,220	1,290	1,120
5	770	811	577	1,840	1,110	870	968	1,200	919	1,240	1,190	1,470
6	727	799	589	849	829	829	968	1,330	905	1,220	1,230	1,520
7	701	799	595	781	733	811	1,270	1,300	817	1,180	1,210	1,370
8	800	791	565	757	745	856	1,330	1,190	842	1,190	1,240	1,040
9	806	811	649	751	733	829	1,310	1,150	823	1,250	1,240	944
10	781	835	751	715	745	856	1,280	1,130	912	1,260	1,240	1,150
11	811	835	787	721	769	961	1,200	1,120	898	1,220	1,330	952
12	787	829	685	1,190	775	1,280	1,320	1,140	849	1,200	1,290	915
13	773	891	733	805	751	1,100	1,360	1,160	823	1,190	1,270	828
14	761	947	732	751	751	1,140	1,330	1,180	817	1,280	1,230	791
15	757	898	1,070	745	733	1,210	1,340	1,150	842	1,270	1,160	813
16	765	823	1,040	745	721	1,240	1,340	1,280	841	1,280	1,210	835
17	811	805	982	817	727	1,240	1,320	1,640	915	1,250	1,250	886
18	805	739	769	823	745	1,240	1,340	1,540	1,170	1,210	1,170	1,000
19	835	793	727	811	799	1,190	1,320	1,270	1,180	1,200	1,260	1,230
20	805	787	673	870	805	1,200	1,320	1,200	1,190	1,210	1,300	965
21	787	757	673	891	793	1,240	1,320	1,130	1,200	1,280	1,280	856
22	823	763	1,110	856	802	1,230	1,360	1,070	1,340	1,210	1,350	847
23	842	799	871	849	847	1,200	1,380	975	1,230	1,200	1,230	860
24	835	811	737	912	933	1,190	1,300	863	1,240	1,190	984	864
25	829	747	899	919	905	1,270	1,310	870	1,270	1,170	970	983
26	843	736	864	849	944	1,170	1,340	863	1,270	1,210	998	1,090
27	905	770	670	793	877	1,090	1,320	856	1,260	1,230	1,000	1,070
28	891	648	655	817	849	1,050	1,340	905	1,260	1,240	1,040	979
29	912	571	703	817	-	1,130	1,070	947	1,260	1,260	954	898
30	805	713	781	817	-----	849	989	898	1,240	1,240	988	949
31	793	-----	685	817	-----	884	-----	823	-----	1,250	1,060	-----
Total	24,781	23,722	23,294	27,666	22,587	32,589	36,714	34,170	30,600	37,980	36,694	30,191
Mean	799	791	751	892	807	1,051	1,224	1,102	1,020	1,225	1,184	1,006
Ac-ft	49,150	47,050	46,200	54,870	44,800	64,640	72,820	67,780	60,690	75,330	72,780	59,860
(+)	961	973	1,032	995	954	1,157	1,335	1,264	1,155	1,342	1,366	1,425
(#)	59,090	57,890	63,430	61,180	53,010	71,160	79,450	77,690	68,710	82,510	83,980	84,810
Calendar year 1961:	Max 2,050		Min 448		Mean 943		Ac-ft 683,000		+1,658		+1,200,000	
Water year 1961-62:	Max 1,940		Min 565		Mean 989		Ac-ft 716,000		+1,164		+842,900	

+ Combined flow in cubic feet per second, of river, Yuma Main Canal Wasteway and Reservation Canal Main Drain No. 4.

# Combined flow in acre-feet.

## COLORADO RIVER MAIN STEM

9-5220. Colorado River at northerly international boundary  
above Morelos Dam, near Andrade, Calif.

Location.--Lat 32°43'00", long 114°43'00", in NE 1/4 sec. 21, T.8 S., R.24 W., Gila and Salt River meridian, on left bank at northerly international boundary, half a mile east of Andrade, 1.1 miles upstream from Morelos Dam, 1.1 miles downstream from Rockwood Gate, and 7.2 miles downstream from gaging station on Colorado River at Yuma.

Drainage area.--243,000 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1950 to September 1962. Prior to October 1958, published as "at international boundary."

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, leveling of 1941. Supplementary water-stage recorder 1,450 ft upstream at same datum.

Extremes.--Maximum discharge during year, 5,710 cfs Mar. 21; maximum elevation, 107.95 ft Jan. 21; minimum discharge, 650 cfs Dec. 8; minimum elevation, 102.37 ft Nov. 29.

1950-62: Maximum discharge, 25,390 cfs Jan. 1, 1953; maximum elevation, 114.24 ft Jan. 28, 1958; minimum discharge, 570 cfs Feb. 24, 1956 (elevation, 103.00 ft).

Remarks.--This record shows water passing northerly international boundary. Minor diversions to the United States below this station from river and by pumping from ground water for irrigation in the floodway between river and Yuma levee. Discharge measurements generally made six times a week.

Cooperation.--Records furnished by International Boundary and Water Commission, United States Section (discharge figures rounded in accordance with Geological Survey standard practice).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	943	1,250	2,620	993	2,170	4,150	2,470	2,210	2,930	3,390	1,510
2	1,020	955	1,160	2,740	941	2,120	4,100	2,430	2,100	3,050	3,130	1,460
3	920	969	1,710	2,430	913	2,060	3,730	2,150	2,150	3,050	3,140	1,420
4	926	958	1,410	2,060	962	2,370	3,650	2,040	2,150	2,980	3,180	1,520
5	944	913	822	2,170	1,270	2,950	3,620	2,000	2,220	2,750	3,080	1,950
6	902	910	764	2,150	1,070	3,130	3,250	1,580	2,380	2,740	3,000	1,870
7	890	913	735	2,100	941	2,990	3,300	1,470	2,280	2,680	3,160	1,890
8	950	983	700	2,050	1,050	2,430	3,310	1,380	2,160	2,690	3,060	1,490
9	980	976	760	2,040	1,000	2,460	3,650	1,290	2,140	2,920	3,070	1,310
10	920	990	830	2,090	1,160	2,290	3,400	1,280	2,250	2,900	3,120	1,420
11	914	966	872	2,130	1,070	2,290	3,620	1,240	2,240	3,020	3,200	1,510
12	902	924	776	2,140	958	2,610	3,920	1,250	2,180	3,190	3,180	1,490
13	941	924	800	2,050	952	2,640	3,840	1,280	2,210	3,280	3,250	1,430
14	1,080	1,030	902	2,100	927	2,940	3,930	1,360	2,370	3,370	3,190	1,210
15	1,130	1,040	2,970	2,230	930	3,110	4,100	1,280	2,510	3,430	3,120	1,340
16	1,000	965	3,010	2,180	879	3,260	3,770	1,770	2,820	3,290	2,850	1,420
17	932	882	2,440	2,480	818	3,360	3,700	2,350	3,240	3,190	3,290	1,340
18	920	832	2,050	3,070	916	3,740	3,940	2,880	3,190	3,300	3,590	1,430
19	956	888	1,920	2,850	906	3,860	3,760	3,120	3,080	3,300	3,660	1,920
20	908	885	1,910	2,880	948	4,210	3,860	3,070	2,950	3,260	4,180	1,770
21	872	838	901	3,140	972	5,150	3,080	2,500	2,790	3,420	3,740	1,470
22	920	825	1,270	2,870	994	4,430	3,010	2,260	2,940	3,780	3,580	1,380
23	950	892	1,720	2,720	1,280	4,550	3,240	2,170	2,740	3,760	2,790	1,340
24	1,010	944	1,370	3,700	1,940	3,900	2,690	2,000	2,760	3,620	2,500	1,360
25	957	912	1,640	4,740	2,700	4,120	2,630	2,200	2,910	3,330	2,710	1,410
26	1,040	1,380	1,690	4,440	2,550	4,160	2,650	2,050	2,920	3,290	2,800	1,820
27	1,010	1,540	1,270	4,150	2,090	4,010	2,490	2,100	3,010	3,410	2,860	2,500
28	1,020	1,040	785	2,800	1,920	3,830	2,480	2,260	2,850	3,370	2,520	3,870
29	1,010	687	879	2,200	-	3,910	2,200	2,630	2,980	3,600	2,500	2,610
30	943	947	958	1,920	-----	4,200	2,540	2,940	2,930	3,380	2,120	2,490
31	906	-----	928	1,840	-----	4,120	-----	2,370	-----	3,410	1,560	-----
Total	29,883	28,851	41,202	81,080	34,050	103,370	101,610	63,170	77,660	99,690	94,520	50,950
Mean	964	962	1,330	2,620	1,220	3,330	3,390	2,040	2,590	3,220	3,050	1,700
Ac-ft	59,270	57,230	81,720	160,600	67,540	205,000	201,500	125,300	154,000	197,700	187,500	101,100

Calendar year 1961: Max 7,320 Min 687 Mean 2,310 Ac-ft 1,672,000  
Water year 1961-62: Max 5,150 Min 687 Mean 2,210 Ac-ft 1,599,000

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

25

9-5225. Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°52'35", long 114°27'15", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.30, T.6 S., R.21 W., Gila and Salt River meridian, on right bank 3,200 ft downstream from intake at east end of Imperial Dam.

Records available.--August 1943 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 160.00 ft above mean sea level, datum of 1929.

Extremes.--1943-62: Maximum daily discharge, 1,910 cfs June 20, 1959; no flow at canal intake at times in several years when intake gates were closed.

Remarks.--Records excellent. Discharge measurements generally made two to three times a month. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands on Gila Project in Arizona. Diversion to this canal began Aug. 17, 1943. Diversion to North Gila Valley from this canal began Dec. 16, 1954. During the 1962 water year water was used for irrigation of 79,089 acres divided as follows: North and South Gila Valleys, 7,930 acres; Yuma Mesa Division, 16,295 acres; Wellton-Mohawk Division, 51,735 acres; Yuma Mesa Auxiliary Division, 3,129 acres.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.020	1.340	649	200	380	919	742	1.640	1.750	1.680	1.740	1.790
2	1.140	1.250	572	571	449	961	1.160	1.560	1.680	1.780	1.810	1.650
3	1.230	1.110	469	594	376	834	1.220	1.480	1.460	1.690	1.850	1.570
4	1.230	872	872	719	263	748	1.240	1.670	1.650	1.730	1.730	1.660
5	1.330	660	798	738	634	882	1.240	1.620	1.680	1.750	1.560	1.590
6	1.330	904	702	545	744	923	1.340	1.320	1.710	1.820	1.710	1.620
7	1.210	822	858	471	786	921	1.320	1.460	1.690	1.730	1.820	1.710
8	1.200	662	992	572	736	886	1.060	1.610	1.800	1.730	1.860	1.750
9	1.150	653	886	609	786	990	1.320	1.620	1.840	1.700	1.810	1.530
10	1.200	583	641	641	740	1.200	1.420	1.550	1.560	1.660	1.700	1.500
11	1.250	559	710	696	647	881	1.430	1.820	1.710	1.710	1.720	1.580
12	1.150	500	694	624	828	1.040	1.570	1.860	1.750	1.760	1.510	1.620
13	1.120	843	651	525	886	1.120	1.650	1.530	1.750	1.730	1.760	1.660
14	1.130	908	479	430	932	1.160	1.530	1.780	1.720	1.700	1.820	1.660
15	1.090	856	168	836	858	1.160	1.410	1.800	1.900	1.420	1.810	1.450
16	1.440	762	101	902	834	974	1.620	1.660	1.890	1.680	1.810	1.320
17	1.460	691	131	736	880	952	1.620	1.580	1.470	1.740	1.860	1.410
18	1.520	616	352	740	715	740	1.600	1.740	1.600	1.700	1.840	1.390
19	1.600	525	351	980	624	1.160	1.640	1.610	1.720	1.740	1.720	1.450
20	1.570	818	354	882	852	1.040	1.590	1.300	1.730	1.730	1.760	1.500
21	1.580	876	292	732	752	1.130	1.570	1.450	1.770	1.680	1.830	1.690
22	298	772	161	768	713	1.100	1.290	1.470	1.780	1.560	1.780	1.710
23	188	723	197	654	798	1.100	1.470	1.550	1.730	1.620	1.710	1.360
24	182	632	197	281	906	984	1.570	1.620	1.520	1.740	1.720	1.440
25	182	500	198	163	762	730	1.590	1.720	1.770	1.810	1.640	1.460
26	182	403	217	150	1.070	913	1.650	1.760	1.770	1.840	1.510	1.340
27	171	859	462	182	1.230	1.000	1.620	1.460	1.840	1.820	1.650	1.190
28	369	898	559	241	1.260	1.130	1.520	1.720	1.840	1.830	1.770	1.230
29	770	834	660	385	-	1.160	1.320	1.700	1.840	1.690	1.760	1.140
30	1.560	660	624	481	-----	1.140	1.630	1.740	1.840	1.720	1.760	854
31	1.320	-----	363	388	-----	1.100	-----	1.750	-----	1.700	1.720	-----
Total	32,172	23,091	15,360	17,436	21,441	30,978	42,952	50,150	51,760	53,190	54,050	44,824
Mean	1,038	770	495	562	766	999	1,432	1,618	1,725	1,716	1,744	1,494
Ac-ft	63,810	45,800	30,470	34,580	42,530	61,440	85,190	99,470	102,700	105,500	107,200	88,910
Calendar year 1961: Max			1,860	Min	101	Mean	1,130	Ac-ft	818,400			
Water year 1961-62: Max			1,900	Min	101	Mean	1,198	Ac-ft	867,600			

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

9-5230. All-American Canal near Imperial Dam, Ariz.-Calif.

Location.--Lat 32°52'15", long 114°28'50", in SE 1/4 sec. 17, T.15 S., R.24 E., San Bernardino meridian, on left bank 6,000 ft downstream from intake at west end of Imperial Dam and 13 1/2 miles upstream from turnout to Yuma Main Canal.

Records available.--October 1938 to September 1962. Monthly discharge only prior to October 1939, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929 (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18 1/2 miles downstream from base gage.

Average discharge.--21 years (1941-62), 7,243 cfs (5,244,000 acre-ft per year).

Extremes.--1938-62: Maximum daily discharge, 13,500 cfs Apr. 16, 1958; no flow at times in several years.

Remarks.--Records excellent. Discharge measurements generally made weekly. All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to the river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began October 1938, but prior to October 1940 was used only for priming canal.

Cooperation.--Gage-height record furnished by Imperial Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,780	4,690	3,650	3,270	2,850	7,120	10,300	8,340	8,410	8,950	10,100	7,700
2	6,330	4,580	3,610	3,590	2,860	7,210	9,910	8,560	8,260	8,710	10,000	7,390
3	6,200	4,380	3,580	3,500	2,970	7,140	9,780	8,360	8,330	8,750	10,000	7,250
4	6,490	4,280	3,500	2,610	2,880	7,050	9,950	8,170	8,290	8,680	9,680	7,060
5	6,940	4,080	3,090	2,830	3,230	7,470	10,100	8,310	8,200	8,870	9,230	7,220
6	6,620	4,110	2,880	4,000	3,320	7,800	10,000	7,380	8,300	8,940	9,150	7,270
7	6,340	4,210	3,520	4,120	3,450	7,890	9,790	7,150	8,420	8,830	9,170	7,390
8	6,140	4,420	3,670	4,260	3,800	7,590	9,710	7,020	8,470	8,950	9,300	7,280
9	5,960	4,340	3,400	4,240	3,920	7,130	9,920	7,200	8,530	8,990	9,710	7,160
10	6,140	4,340	3,120	4,500	3,780	6,940	9,640	7,620	8,480	9,010	9,780	7,350
11	6,050	4,490	2,670	4,930	3,040	6,840	10,200	7,520	8,460	9,300	9,710	7,350
12	6,380	4,250	2,720	4,640	2,920	6,710	10,200	7,570	8,430	9,770	9,720	7,820
13	5,950	4,120	2,510	5,430	3,770	7,200	10,100	7,590	8,490	9,880	9,530	8,050
14	5,670	4,150	2,700	5,110	4,110	7,390	9,980	7,690	8,700	9,770	9,590	7,980
15	5,620	4,200	3,580	4,650	4,340	7,580	9,980	7,720	8,590	9,780	9,500	8,080
16	5,510	4,320	3,430	4,300	4,560	7,710	9,670	7,800	8,520	9,480	9,610	7,950
17	5,440	4,190	3,050	4,820	4,530	8,090	9,840	7,810	8,530	9,380	10,100	7,830
18	5,620	4,010	3,030	5,660	4,570	8,550	9,980	8,250	7,980	9,580	10,000	7,930
19	5,600	3,850	2,800	5,950	4,700	8,630	9,980	8,430	8,210	9,810	9,790	8,280
20	5,480	3,880	2,670	6,150	4,830	9,100	9,850	8,130	8,620	9,750	9,770	8,720
21	5,000	4,200	1,700	6,460	5,020	9,390	8,790	7,600	8,970	9,760	9,380	8,700
22	5,230	4,170	1,990	5,740	5,390	9,060	8,440	7,360	8,860	10,000	9,130	8,420
23	4,990	4,120	2,030	5,640	5,630	8,410	8,160	7,700	8,870	9,920	9,180	8,110
24	4,790	3,920	1,710	5,680	6,080	7,890	8,100	7,730	9,000	9,950	8,770	7,840
25	4,540	3,840	1,670	5,480	7,160	8,530	8,330	7,950	9,140	9,840	8,880	7,860
26	4,540	3,750	2,270	5,270	6,890	8,960	8,360	7,910	8,870	10,000	8,890	8,190
27	4,480	4,100	2,130	4,860	6,670	9,180	8,090	8,160	9,080	10,000	8,990	9,050
28	4,430	3,470	1,880	3,530	6,720	9,330	8,220	8,290	9,250	9,910	8,830	9,530
29	4,330	3,370	1,930	3,300	-	9,560	8,100	8,430	9,280	10,000	8,780	8,490
30	4,440	3,750	2,020	3,240	-----	10,300	8,370	8,530	9,150	9,960	8,350	8,170
31	4,620	-----	1,810	3,540	-----	10,400	-----	8,280	-----	10,100	7,760	-----
Total	172,650	123,580	84,320	141,300	123,990	252,150	281,840	244,560	258,690	294,620	290,380	237,420
Mean	5,569	4,119	2,720	4,558	4,428	8,134	9,395	7,889	8,623	9,504	9,367	7,914
Ac-ft	342,400	245,100	167,200	280,300	245,900	500,100	559,000	485,100	513,100	584,400	576,000	470,900

Calendar year 1961: Max 11,500 Min 1,670 Mean 6,958 Ac-ft 5,037,000  
 Water year 1961-62: Max 10,400 Min 1,670 Mean 6,864 Ac-ft 4,970,000



DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

27

9-5265. All-American Canal above Pilot Knob wasteway, Calif.

Location.--Lat 32°45'00", long 114°42'20", in NW 1/4 sec. 24, T.16 S., R.21 E., San Bernardino meridian, near right bank on downstream side of pier of bridge on U. S. Highway 80, 1.1 miles upstream from Pilot Knob wasteway, 5 miles downstream from turnout to Yuma Main Canal, 5 1/2 miles northwest of Yuma, and 19 1/2 miles downstream from intake at Imperial Dam.

Records available.--October 1938 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929. Prior to Oct. 3, 1961, at datum 1.46 ft lower. Auxiliary water-stage recorder, in NE 1/4 sec. 15, T.16 S., R.22 E., on wash overshoot structure 4.4 miles upstream at same datum.

Average discharge.--21 years (1941-62), 5,315 cfs (3,848,000 acre-ft per year).

Extremes.--1938-62: Maximum daily discharge, 11,400 cfs Apr. 28, 1958; no flow (since continuous operation of canal began Sept. 18, 1940) Dec. 17-20, 1940.

Remarks.--Records excellent. Discharge measurements generally made once a week. First flow in All-American Canal at this point began Feb. 5, 1939. Water is used for power development, irrigation in Coachella and Imperial Valleys, and can be released back to Colorado River through Pilot Knob powerplant and wasteway for power, for regulatory purposes, or downstream use in Mexico.

Cooperation.--Gage-height record furnished by Imperial Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,730	3,990	2,730	3,100	2,150	6,200	9,800	7,230	7,380	8,180	8,950	6,460
2	5,360	3,890	2,770	3,430	2,140	6,250	9,460	7,420	7,220	7,970	8,690	6,230
3	5,280	3,600	2,650	3,430	2,300	6,150	9,170	7,200	7,350	7,970	8,760	6,080
4	5,500	3,500	2,810	2,330	2,430	6,230	9,220	7,090	7,210	7,710	8,440	5,790
5	5,660	3,500	2,710	2,490	2,590	6,820	9,250	7,060	7,110	7,650	8,320	6,070
6	5,460	3,520	2,270	3,410	2,590	7,130	9,150	6,520	7,150	7,630	8,330	6,060
7	5,460	3,610	2,860	3,650	2,730	7,140	8,980	6,460	7,260	7,660	8,290	6,220
8	5,520	3,720	3,210	3,660	2,970	6,690	8,890	6,260	7,360	7,840	8,260	6,220
9	5,050	3,610	2,970	3,660	2,980	6,470	9,040	6,330	7,500	7,910	8,480	6,040
10	5,230	3,710	2,850	3,870	2,740	6,240	8,780	6,430	7,460	7,950	8,630	6,030
11	5,070	3,900	2,280	4,320	2,150	6,140	9,380	6,410	7,360	8,190	8,660	5,860
12	5,430	3,720	2,280	3,640	2,150	5,850	9,450	6,850	7,380	8,810	8,640	6,260
13	5,100	3,530	2,280	5,400	2,840	6,350	9,350	6,680	7,490	8,780	8,330	6,480
14	4,870	3,430	2,430	4,700	3,090	6,480	9,290	6,840	7,810	8,740	8,300	6,530
15	4,770	3,430	3,230	4,340	3,270	6,690	9,410	6,770	7,660	8,920	8,160	6,620
16	4,760	3,620	3,350	3,810	3,780	6,850	9,050	6,570	7,490	8,760	8,290	6,620
17	4,770	3,530	2,990	4,460	3,660	7,280	9,100	6,410	7,690	8,470	8,770	6,440
18	4,770	3,420	2,870	5,240	3,730	7,780	9,100	6,920	7,160	8,530	8,850	6,440
19	4,690	3,300	2,580	5,460	4,010	7,920	9,030	7,510	7,310	8,670	8,830	6,630
20	4,600	3,190	2,440	5,750	4,200	8,410	8,890	7,390	7,520	8,670	8,980	6,900
21	4,370	3,630	1,460	6,110	4,200	8,760	7,860	6,730	7,640	8,710	8,440	7,060
22	4,570	3,540	1,460	5,410	4,390	8,300	7,600	6,370	7,590	9,050	8,180	6,920
23	4,310	3,320	1,200	5,160	4,320	7,760	7,300	6,660	7,730	8,760	7,960	6,690
24	4,010	3,190	849	5,220	4,780	7,130	7,100	6,720	7,990	8,760	7,660	6,340
25	3,920	3,070	849	5,070	6,230	7,710	7,360	7,090	8,150	8,600	7,830	6,330
26	3,720	2,710	1,380	4,740	5,970	8,190	7,340	7,140	7,830	8,860	7,890	6,430
27	3,610	3,070	1,760	4,360	5,740	8,360	7,090	7,330	8,050	8,900	7,970	7,520
28	3,900	2,830	1,670	2,730	5,890	8,380	7,300	7,360	8,260	8,890	7,890	8,500
29	3,970	2,820	1,670	2,600	—	8,560	7,160	7,370	8,310	9,030	8,060	7,510
30	3,970	2,830	1,670	2,440	-----	9,480	7,340	7,410	8,280	8,980	7,660	7,220
31	3,980	-----	1,670	2,590	-----	9,660	-----	7,190	-----	8,960	6,640	-----
Total	147,410	102,730	70,198	126,580	100,020	227,360	257,240	213,720	227,700	262,510	257,140	196,500
Mean	4,755	3,424	2,264	4,083	3,572	7,334	8,575	6,894	7,590	8,468	8,290	6,550
Ac-ft	292,400	203,800	139,200	251,100	198,400	451,000	510,200	423,900	451,600	520,700	510,000	389,800

Calendar year 1961: Max 10,100 Min 849 Mean 5,560 Ac-ft 4,032,000  
 Water year 1961-62: Max 9,800 Min 849 Mean 6,000 Ac-ft 4,342,000

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

9-5270. Pilot Knob powerplant and wasteway near Pilot Knob, Calif.

Location.--Lat 32°44'15", long 114°42'55", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.25, T.16 S., R.21 E., San Bernardino meridian, 2 miles east of summit of Pilot Knob, 6 miles west of Yuma, Ariz., and 20.8 miles downstream from intake of All-American Canal at Imperial Dam.

Records available.--February 1939 to September 1962. Prior to October 1943, monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

Gage.--Water-stage recorder on right bank of All-American Canal, 550 ft upstream from wasteway gates and 1,800 ft from entrance to powerplant (also used as auxiliary gage for station 9-5275, All-American Canal below Pilot Knob wasteway). Datum of gage is 150.00 ft (corrected) above mean sea level, datum of 1929. Tailrace gage is on left bank 680 ft downstream from powerplant, with automatic recording equipment in control house. All bypass gates are equipped with calibrated openings, which are read on all gate changes. Datum of tailrace is at mean sea level, datum of 1929. Elevation of sill of wasteway gates is 147.88 ft, datum of 1929.

Extremes.--1939-62: Maximum daily discharge, 8,350 cfs Jan. 26, 1958; no flow for long periods.

Remarks.--Records excellent. Daily discharge computed from flowmeter equipment and head and openings on wasteway gates or from head and gate openings on wicket and wasteway gates. Discharge measurements generally made three times a month during flow. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in January 1957 and first flow occurred Jan. 14, 1957. See table below for monthly return flow by Pilot Knob wasteway only.

Cooperation.--Midnight readings of flowmeter, recorder graph of forebay, and record of tailrace elevation and gate openings furnished by Imperial Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.560	18	1.210	3.050	1.340	1.200	1.580	1.930	0
2			0	1.850	0	1.180	2.950	1.410	1.110	1.670	1.650	0
3			0	1.540	0	1.130	2.690	1.140	1.100	1.740	1.660	0
4			0	230	0	1.340	2.540	986	1.150	1.680	1.650	0
5			0	179	0	1.950	2.360	667	1.200	1.360	1.650	0
6			0	1.200	0	2.180	2.130	0	1.250	1.370	1.650	0
7			0	1.200	0	2.000	1.900	0	1.260	1.370	1.650	0
8			0	1.210	0	1.500	1.830	0	1.270	1.370	1.650	0
9			0	1.200	0	1.480	2.100	0	1.300	1.550	1.650	0
10			0	1.380	0	1.320	2.030	0	1.290	1.600	1.650	0
11			0	1.310	0	1.280	2.270	0	1.240	1.690	1.660	0
12			0	367	0	1.040	2.300	0	1.260	1.940	1.650	0
13			0	1.080	0	1.400	2.310	0	1.340	2.000	1.650	0
14			0	1.250	0	1.570	2.480	0	1.530	1.990	1.650	0
15			1.570	1.350	0	1.660	2.560	0	1.570	1.930	1.650	0
16			1.590	1.360	0	1.800	2.200	0	1.900	1.860	1.420	0
17			1.170	1.660	0	1.910	2.360	0	2.250	1.830	1.750	0
18			1.090	2.230	0	2.320	2.510	577	1.980	1.870	1.920	0
19			1.040	2.110	0	2.430	2.330	1.560	1.870	1.850	1.970	0
20			991	1.900	0	2.890	2.320	1.660	1.590	1.870	2.430	0
21			0	2.180	0	3.730	1.670	1.180	1.460	1.960	2.170	0
22			0	1.730	0	3.030	1.630	1.010	1.430	2.360	1.800	0
23			0	1.920	0	3.090	1.670	1.000	1.450	2.340	1.170	0
24			0	2.730	414	2.510	1.340	998	1.450	2.240	1.170	0
25			0	3.460	1.620	2.580	1.260	1.170	1.510	1.930	1.430	0
26			0	3.470	1.380	2.670	1.190	1.050	1.540	1.890	1.660	0
27			0	3.170	1.060	2.680	1.070	1.100	1.610	1.880	1.780	894
28			0	1.760	985	2.600	1.100	1.080	1.550	1.850	1.390	2.580
29			0	1.300	—	2.570	1.110	1.600	1.610	1.990	1.420	1.570
30			0	1.030	-----	3.150	1.500	1.740	1.660	1.870	1.040	1.330
31		-----	0	1.020	-----	3.060	-----	1.310	-----	1.960	0	-----
Total	0	0	7,451	49,936	5,477	65,260	60,760	22,578	43,930	56,390	49,570	6,374
Mean	0	0	240	1,611	196	2,105	2,025	728	1,464	1,819	1,599	212
Ac-ft	0	0	14,780	99,050	10,860	129,400	120,500	44,780	87,130	111,600	98,320	12,640
(†)	0	0	0	30	0	0	0	0	0	0	0	456

Calendar year 1961: Max 3,800 Min 0 Mean 610 Ac-ft 441,400 †0  
 Water year 1961-62: Max 3,730 Min 0 Mean 1,007 Ac-ft 729,300 †486

† Return flow, in acre-feet, by Pilot Knob wasteway (also included in daily discharge table).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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9-5275. All-American Canal below Pilot Knob wasteway, Calif.

Location.--Lat 32°44'05", long 114°43'25", in NW 1/4 SE 1/4 sec. 26, T.16 S., R.21 E., San Bernardino meridian, on left bank 0.4 mile downstream from Pilot Knob wasteway, 6 1/2 miles west of Yuma, Ariz., 15 miles upstream from turnout to Coachella Canal, and 21.2 miles downstream from intake at Imperial Dam.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929. Auxiliary water-stage recorder on right bank 0.4 mile upstream, used to determine head on Pilot Knob check gates (also used as forebay gage for sta 9-5270, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft above mean sea level, datum of 1929. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum daily discharge during year, 7,010 cfs Aug. 2; minimum daily, 798 cfs Dec. 15.

Remarks.--Records excellent. Discharge measurements generally made once a week. Water is used for power development at three sites below station, and for irrigation in Coachella and Imperial Valleys.

Cooperation.--Records prior to July 1 furnished by Imperial Irrigation District. Since July 1, gage-height record and log of gate operation furnished by Imperial Irrigation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,950	3,830	2,680	1,600	2,010	4,850	6,650	5,820	6,060	6,640	6,910	6,470
2	5,600	3,680	2,640	1,680	2,070	4,890	6,110	6,000	5,970	6,420	7,010	6,290
3	5,370	3,520	2,350	1,930	2,250	4,880	6,470	6,000	6,020	6,270	7,000	6,160
4	5,480	3,540	2,500	2,260	2,280	4,860	6,420	6,040	5,830	6,150	6,780	5,930
5	5,720	3,540	2,600	2,220	2,580	4,920	6,740	6,260	5,700	6,380	6,650	6,090
6	5,510	3,540	2,310	2,190	2,750	4,810	6,770	6,260	5,790	6,400	6,690	6,120
7	5,270	3,550	2,850	2,340	2,710	5,070	6,890	6,240	5,920	6,390	6,700	6,210
8	5,070	3,630	2,980	2,580	2,960	5,200	6,980	6,070	6,080	6,610	6,630	6,200
9	5,060	3,610	2,810	2,560	3,090	4,540	6,830	6,130	6,050	6,470	6,770	6,080
10	5,240	3,710	2,500	2,750	2,650	4,510	6,470	6,200	6,140	6,410	6,860	6,120
11	5,090	3,920	2,150	3,140	2,130	4,660	6,780	6,160	6,100	6,510	6,840	6,020
12	5,350	3,580	2,320	3,140	1,990	4,650	6,880	6,180	5,910	6,620	6,870	6,310
13	4,900	3,440	2,060	3,490	2,850	4,690	6,780	6,320	5,940	6,830	6,630	6,500
14	4,780	3,580	2,250	3,510	3,150	4,820	6,500	6,300	5,850	6,840	6,610	6,520
15	4,890	3,520	798	2,720	3,370	4,960	6,520	6,660	5,810	6,990	6,500	6,600
16	4,680	3,560	1,440	3,030	3,480	4,960	6,680	6,210	5,650	6,880	6,820	6,620
17	4,560	3,420	1,640	2,470	3,670	5,340	6,440	6,230	5,480	6,720	6,870	6,490
18	4,670	3,410	1,730	3,060	3,870	5,430	6,500	6,100	5,320	6,640	6,800	6,460
19	4,460	3,380	1,440	3,440	3,890	5,350	6,450	5,750	5,590	6,760	6,720	6,570
20	4,550	3,330	1,270	3,850	4,140	5,470	6,450	5,370	5,980	6,740	6,380	6,870
21	4,250	3,600	1,320	3,810	4,150	4,810	6,050	5,270	6,310	6,700	6,240	7,000
22	4,440	3,560	1,380	3,560	4,300	5,220	5,940	5,190	6,180	6,540	6,300	6,860
23	4,150	3,410	1,100	3,250	4,370	4,000	5,490	5,470	6,480	6,370	6,730	6,650
24	3,970	3,310	800	2,510	4,280	4,360	5,660	5,540	6,570	6,470	6,420	6,400
25	3,780	3,370	805	1,440	4,500	4,900	5,870	5,580	6,530	6,680	6,330	6,350
26	3,840	2,640	1,340	1,320	4,550	5,340	6,000	5,800	6,310	6,880	6,190	6,370
27	3,800	2,890	1,480	1,330	4,550	5,600	6,030	5,900	6,390	6,910	6,200	6,550
28	3,660	2,780	1,580	1,320	4,660	5,660	6,080	5,820	6,720	6,940	6,540	5,900
29	3,760	2,880	1,630	1,430	-	5,720	6,000	5,610	6,590	6,930	6,550	5,910
30	3,840	2,830	1,760	1,540	-----	6,110	5,640	5,480	6,400	6,970	6,610	5,870
31	3,870	-----	1,730	1,730	-----	6,360	-----	5,740	-----	6,900	6,590	-----
Total	145,560	102,560	58,243	77,200	93,250	156,940	191,070	183,700	181,670	205,960	205,740	190,510
Mean	4,695	3,419	1,879	2,490	3,330	5,063	6,369	5,926	6,056	6,644	6,637	6,350
Ac-ft	288,700	203,400	115,500	153,100	185,000	311,300	379,000	364,400	360,300	408,500	408,100	377,900

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 7,010 Min 798 Mean 4,911 Ac-ft 3,555,000

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, Ariz.-Calif.

Between Imperial Dam and the international boundary return surface flows from irrigated areas enter the Colorado River through many drains and wasteways in Arizona and California. Other return flows enter the Gila River below the gaging station near Dome (9-5205). In addition, return flows collected by the Main Drain and East Main Canal are delivered across the international boundary for use in Mexico.

Diversions for irrigation in the Gila project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal (see sta 9-5225). Diversions for the Yuma project in Arizona and California are made at Imperial Dam by the All-American Canal (see sta 9-5230) and from the Yuma Main Canal.

See figure 1 on p. 475, for a schematic diagram showing location of diversions and return flows.

9-5270. Pilot Knob powerplant and wasteway.--See daily table elsewhere in this report.

9-5286. Laguna Canal wasteway.

Location.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.14, T.7 S., R.22 W., 1,000 ft downstream from Laguna Dam and three-quarters of a mile upstream from outlet to Colorado River.

Record available.--Monthly discharge October 1960 to September 1962.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District to Colorado River.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5288. Levee Canal wasteway.

Location.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.4, T.8 S., R.22 W., 1,000 ft upstream from outlet to Colorado River.

Records available.--Monthly discharge October 1960 to September 1962.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District returned to Colorado River. Flow record computed from standard weir rating occasionally checked by discharge measurements.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5290. North Gila Drain No. 1.

Location.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.9, T.8 S., R.22 W.,  $5\frac{1}{2}$  miles downstream from Laguna Dam.

Records available.--Monthly discharge October 1960 to September 1962.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District returned to Colorado River. There is no gage but, due to fairly constant drainage, flow record is computed by interpolation between discharge measurements, which are made on a weekly basis at bridge 1,000 ft above outlet.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5290.5 North Gila Drain No. 3.

Location.--Enters Gila River in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.18, T.8 S., R.21 W., 10 miles upstream from mouth.

Records available.--Monthly discharge April to September 1962.

Remarks.--Record shows waste water spilled from Gila Gravity Main Canal to Gila River. There is no gage; records are computed by interpolation between discharge measurements made five to six times a year.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5291. Fortuna wasteway.

Location.--Water-stage recorder and sharp-crested weir, in NE $\frac{1}{4}$  sec.30, T.8 S., R.21 W.,  $1\frac{1}{4}$  miles upstream from outlet to Gila River.

Records available.--Monthly discharge October 1960 to September 1962.

Remarks.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River. Flow record computed from standard weir rating.

Cooperation.--Record furnished by Bureau of Reclamation.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

9-5291.5 North Gila Main Canal wasteway.

Location--Water-stage recorder and sharp-crested weir, in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.15, T.8 S., R.22 W., 1 mile upstream from outlet to Gila River.

Records available--Monthly discharge October 1960 to September 1962.

Remarks--Record shows waste water from North Gila Valley Irrigation and Drainage District less flow diverted for irrigation between gage and Gila River. Flow record computed from standard weir rating occasionally checked by discharge measurements.

Cooperation--Record furnished by Bureau of Reclamation.

9-5292. Bruce Church Drain.

Location--Pump in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.21, T.8 S., R.22 W., a quarter of a mile upstream from outlet to Gila River.

Records available--Monthly discharge April to September 1962.

Remarks--Record shows seepage water from parts of Secs. 15, 16, and 21 (Bruce Church Ranch). Flow determined from pump rating.

Cooperation--Record furnished by Bureau of Reclamation.

9-5292.5 Bruce Church wasteway.

Location--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.20, T.8 S., R.22 W., 500 ft upstream from outlet to Gila River.

Records available--Monthly discharge October 1960 to September 1962.

Remarks--Record shows waste water from North Gila Valley Irrigation and Drainage District returned to Gila River. Flow record computed from standard weir rating occasionally checked by discharge measurements.

Cooperation--Record furnished by Bureau of Reclamation.

9-5293. Wellton-Mohawk Main Outlet Drain.

Location--Water-stage recorder in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.8 S., R.21 W., 8 miles upstream from outlet to Gila River, which is half a mile upstream from mouth of Gila River. Prior to Feb. 20, 1962, gage heights measured from reference point on measuring bridge.

Records available--Monthly discharge October 1960 to September 1962.

Remarks--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Drainage is conveyed by concrete and earth channels to Gila River. Flow records computed from discharge measurements made on a weekly basis and gage height measured once daily from reference point on bridge prior to Feb. 20, and from water-stage recorder thereafter.

Cooperation--Record furnished by Bureau of Reclamation.

9-5293.3 South Gila Pump Outlet Channel No. 2

Location--Sparling total-flow meter, in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.28, T.8 S., R.22 W., at outlet to Wellton-Mohawk Main Outlet Drain.

Records available--Monthly discharge January to September 1962.

Remarks--Record shows water pumped from 4 wells in South Gila Valley Irrigation & Drainage District and conveyed by concrete channel to Gila River.

Cooperation--Record furnished by Bureau of Reclamation.

9-5293.6 South Gila Pump Outlet Channel No. 1.

Location--Sparling total-flow meter, near center of sec.30, T.8 S., R.22 W., a quarter of a mile upstream from outlet to Gila River, which is half a mile upstream from mouth of Gila River.

Records available--Monthly discharge August to September 1962.

Remarks--Record shows water pumped from wells in South Gila Valley Irrigation and Drainage District and conveyed by concrete channel to Gila River.

Cooperation--Record furnished by Bureau of Reclamation.

9-5294. South Gila Drain No. 2.

Location--Sparling total-flow meter, near center of sec.24, T.8 S., R.23 W., at outlet to Colorado River.

Records available--Monthly discharge October 1960 to September 1962.

Remarks--Record shows waste water from South Gila Valley Irrigation and Drainage District returned to Colorado River.

Cooperation--Record furnished by Bureau of Reclamation.

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

## Return surface flows below Imperial Dam, Ariz.--Calif.--Continued

## 9-5300. Reservation Canal Main Drain No. 4.

Location.--Water-stage recorder 500 ft upstream from crossing of U. S. Highway 80. Drainage canal enters Yuma Main Canal wasteway 200 ft downstream from spillway structure. Prior to May 1955, it entered 500 ft upstream from outlet of Yuma Main Canal wasteway in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.26, T.16 S., R.22 E., San Bernardino meridian.

Records available.--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to September 1962. Prior to October 1955, published as California drainage canal.

Remarks.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division. Since 1939, seepage from All-American Canal has caused large increase. Flow is not included in the record of Yuma Main Canal wasteway. Fifty-two discharge measurements made during year.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5305. Drain 8-B.

Location.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.30, T.16 S., R.22 E., San Bernardino meridian, 4 miles downstream from outlet of Yuma Main Canal wasteway.

Records available.--Monthly discharge March 1948 to September 1962. Prior to October 1955, published as Araz drain.

Remarks.--Record shows waste and drainage water west of Yuma Main Canal on the Reservation Division. There is no gage, but due to fairly constant drainage, flow record is computed by Bureau of Reclamation by interpolation between discharge measurements, of which 50 were made during year by Imperial Irrigation District.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5320. Cooper wasteway.

Location.--Water-stage recorder and weir, in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.33, T.8 S., R.24 W., half a mile downstream from Morelos Dam.

Records available.--Monthly discharge January 1934 to September 1962.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5325. Eleven Mile wasteway.

Location.--Water-stage recorder and regulating gate in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.8, T.9 S., R.24 W., 3 $\frac{1}{4}$  miles downstream from Morelos Dam.

Records available.--January 1924 to September 1962.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5330. Twenty-one Mile wasteway.

Location.--Recording gage and flume, in NW $\frac{1}{4}$  sec.35, T.10 S., R.25 W., 17 $\frac{1}{2}$  miles downstream from Morelos Dam.

Records available.--March 1939 to September 1962.

Remarks.--Record shows waste water from Valley Division returned to Colorado River.

Cooperation.--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5340. Main drain.

Location.--Pumping plant in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.11, T.11 S., R.25 W., half a mile west of San Luis, Ariz. Water-stage recorder at outlet, and at inlet since May 8, 1953.

Records available.--Monthly discharge January 1919 to September 1962.

Remarks.--Record computed from rated pumps checked by discharge measurements made once a month by International Boundary and Water Commission (U. S. Section). Flow consists mostly of drainage water from the Valley Division which is pumped across the Arizona-Sonora boundary for use in Mexico.

Cooperation.--Record furnished by Yuma County Water Users' Association, and International Boundary and Water Commission (U. S. Section).

## 9-5345. East Main Canal wasteway.

Location.--Water-stage recorder, in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.11 S., R.25 W., a quarter of a mile east of Main drain pumping plant and a quarter of a mile west of San Luis, Ariz.

Records available.--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to September 1962. Calendar year estimates 1934 and 1935, published in WSP 1313.

Remarks.--Record shows amount of unused water at the extreme end of the Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

Cooperation.--Record furnished by International Boundary and Water Commission (U. S. Section).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

33

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

Monthly return flows, in acre-feet, water year October 1961 to September 1962

Month	Laguna Canal wasteway	Levee Canal wasteway	North Gila Drain No.1	North Gila Drain No.3	Fortuna wasteway	North Gila Main Canal wasteway	Bruce Church Drain
October.....	840	910	633		62	1,150	
November.....	225	816	581		38	645	
December.....	338	980	403		29	1,170	
Calendar year 1961.....	7,340	17,470	7,160		388	7,510	
January.....	148	993	238		55	824	
February.....	342	1,100	208		50	450	
March.....	385	1,510	541		27	703	
April.....	597	1,260	551	79	59	583	60
May.....	631	1,210	662	67	44	590	61
June.....	408	1,070	772	60	58	675	60
July.....	385	1,260	762	66	27	747	61
August.....	612	1,280	912	61	26	725	61
September.....	700	1,430	900	60	27	911	60
Water year 1961-62.....	5,610	13,820	7,160	-	502	9,170	-

Month	Bruce Church wasteway	Wellton- Mohawk Main Outlet Drain	South Gila Pump Outlet Channel No. 2	South Gila Pump Outlet Channel No. 1	South Gila Drain No.2	Reservation Canal Main Drain No. 4	Drain 8-B
October.....	817	18,620		1,800	38	4,050	448
November.....	985	15,480		2,280	50	3,600	385
December.....	1,760	10,690		2,100	59	3,080	393
Calendar year 1961.....	10,130	139,700		-	941	46,670	4,970
January.....	1,520	19,450	1,080	2,150	81	3,090	268
February.....	906	16,260	1,890	2,520	54	2,980	260
March.....	871	16,520	1,920	2,650	17	3,670	298
April.....	420	16,790	2,010	2,680	10	4,150	341
May.....	515	19,040	1,950	2,600	.7	4,390	399
June.....	537	17,330	2,110	2,320	.7	4,570	369
July.....	699	18,980	2,370	2,330	.5	4,450	407
August.....	987	17,870	2,350	2,050	0	4,920	476
September.....	867	18,310	2,260	2,140	0	4,170	417
Water year 1961-62.....	10,880	205,300	-	27,620	311	47,120	4,460

Month	Cooper wasteway	Eleven Mile wasteway	Twenty- one Mile wasteway	Main drain	East Main Canal wasteway		
October.....	130	1,630	700	11,910	1,080		
November.....	160	1,250	320	10,860	1,120		
December.....	110	1,370	480	10,110	1,070		
Calendar year 1961.....	1,880	16,950	7,420	133,600	11,330		
January.....	90	1,440	470	9,480	940		
February.....	80	1,510	560	9,270	1,310		
March.....	110	1,380	570	11,200	1,400		
April.....	80	1,120	630	11,760	1,050		
May.....	120	1,120	460	12,390	1,390		
June.....	100	1,030	440	11,380	950		
July.....	120	1,340	480	11,270	730		
August.....	90	1,260	580	10,950	1,040		
September.....	150	1,160	750	11,010	1,380		
Water year 1961-62.....	1,340	15,610	6,440	131,600	13,460		

## PANAMINT VALLEY

10-2506. Wildrose Creek near Wildrose Station, Calif.

Location.--Lat 36°15'55", long 117°10'40", in Death Valley National Monument, on left bank 0.8 mile east of road from Wildrose Station to Stovepipe Wells and 2 miles east of Wildrose Spring, Inyo County.

Drainage area.--23.7 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map).

Extremes.--No flow during year.

1960-62: Maximum discharge, 330 cfs Aug. 5, 1961 (gage height, 5.10 ft), on basis of slope-area measurement of peak flow; no flow all or part of each year.

Remarks.--No flow since Aug. 5, 1961. No regulation or diversion. Figures for the calendar year 1961 are as follows: maximum daily discharge, 7.2 cfs; minimum, zero; mean, 0.02 cfs; runoff, 14 acre-ft.



## DEATH VALLEY

35

10-2513. Amargosa River at Tecopa, Calif.

Location.--Lat 34°50'55", long 116°13'45", in NW 1/4 sec. 9, T.20 N., R.7 E., on right bank 20 ft upstream from county road and 0.2 mile west of Tecopa.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 1,310 ft (from topographic map).

Extremes.--1961-62: Maximum discharge during year, 192 cfs Sept. 26 (gage height, 3.41 ft), from rating curve extended above 3.1 cfs on basis of indirect measurement of peak flow through culvert; no flow for many days.

Flood in August 1961 reached a stage of 8.1 ft, from floodmarks (discharge, 790 cfs).

Remarks.--Records good. Monthly precipitation, in inches, is as follows: November, 0.1; December, 0.6; February, 0.3; September, 0.1; the year, 1.1.

Rating table, except for periods of no gage-height record and ice effect  
(gage height, in feet, and discharge, in cubic feet per second)

0.7	0	1.3	8.1
.8	.1	1.6	19
.9	.8	1.9	35
1.0	1.9	2.2	55
1.1	3.5	2.5	80

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.8	2.2	1.3	0.9	0.6	0.4	0.2	0.1		0
2			5.0	2.2	1.4	1.0	.6	.4	.2	.1		0
3			6.4	2.4	1.4	1.0	.6	.4	.2	.1		0
4			2.4	2.9	1.4	1.1	.6	.3	.2	.1		0
5			1.2	1.7	1.5	1.2	.6	.3	.2	.1		0
6			11	1.8	1.5	1.3	.6	.3	.2	.1		0
7		a 0.2	9.8	1.7	1.5	1.2	.6	.3	* .1	.1		0
8			6.8	1.2	3.2	1.3	.6	.3	.1	.1		0
9			4.8	1.0	4.6	1.4	.5	.2	.1	.1	(*)	0
10			3.2	b 1.0	3.5	1.5	* .4	.2	.1	.1		0
11			1.9	b 1.0	2.7	1.5	.4	.2	.1	.1		0
12			b 2	b 1.0	2.4	1.4	.4	.2	.1	.1		0
13			b 2	1.1	2.2	1.0	.4	.3	.1	.1		0
14		* .2	2.1	b 1.2	2.4	* .9	.4	.3	.1	.1		0
15		.2	2.7	b 1.2	* 2.9	.9	.3	* .3	.1	.1		0
16	a 0.1	.2	2.9	* 1.2	3.0	1.0	.3	.3	.1	.1		0
17		.2	3.4	1.5	2.4	1.0	.3	.3	.1	.1		* 0
18		.3	* 3.2	1.4	1.8	1.1	.3	.3	.1	.1		0
19		.4	3.0	1.5	1.9	1.1	.3	.2	.1	.1		0
20		.4	2.7	1.7	2.6	1.1	.3	.2	.1	.1		0
21		.4	2.6	1.7	2.4	1.0	.3	.2	.1	.1		0
22		.5	2.4	1.7	1.7	1.0	.4	.2	.1	.1		0
23		.5	2.1	1.2	1.5	.9	.4	.2	.1	0		0
24		.6	2.1	1.1	1.2	.9	.4	.2	.1	0		0
25		.7	2.1	1.1	1.1	.8	.4	.2	.1	.1		0
26		.9	2.2	1.1	1.1	.8	.4	.3	* .1	0		* 72
27		.9	2.1	1.1	1.0	.9	.4	.3	.1	0		27
28		.8	1.9	1.2	.8	1.0	.3	.3	.1	0	(*)	2.8
29		.8	1.8	1.1	-	1.0	.3	.3	.1	.1		.9
30		.8	1.8	1.1	-----	.9	.4	.3	.1	.1		.4
31		-----	1.9	1.2	-----	.7	-----	.3	-----	.1		-----
Total	3.1	11.4	100.3	44.5	56.4	32.8	12.8	8.5	3.6	2.6	0	103.1
Mean	0.10	0.38	3.24	1.44	2.01	1.06	0.43	0.27	0.12	0.08	0	3.44
Max	-	0.9	11	2.9	4.6	1.5	0.6	0.4	0.2	0.1	0	72
Min	-	0.2	0.8	1.0	0.8	0.7	0.3	0.2	0.1	0	0	0
Ac-ft	6.1	23	199	88	112	65	25	17	7.1	5.2	0	204

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 72 Min 0 Mean 1.04 Ac-ft 751

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

a No gage-height record.

b Stage-discharge relation affected by ice.

## DEATH VALLEY

10-2513.5. Horse Thief Creek near Tecopa, Calif.

Location---Lat 35°46'50", long 115°53'35", T.19 N., R.11 E., on left bank 0.6 mile northwest of Horse Thief Springs and 19.2 miles southeast of Tecopa, San Bernardino County.

Drainage area---3.06 sq mi.

Records available---October 1960 to September 1962.

Gage---Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 4,600 ft (from topographic map).

Extremes---No flow during year.

1960-62: Maximum discharge, 411 cfs Aug. 23, 1961 (gage height, 3.13 ft), from rating curve extended above 10 cfs on basis of slope-area measurement of peak flow; no flow except Nov. 6, 1960 and Aug. 23, 1961.

Remarks---No flow since Aug. 23, 1961. No regulation or diversion. Figures for calendar year 1961 are as follows: maximum daily discharge, 8.7 cfs; minimum, zero; mean, 0.02 cfs; runoff, 17 acre-ft.

Month	Precipitation in inches
October.....	0
November.....	.5
December.....	1.9
January.....	.5
February.....	2.4
March.....	1.3
April.....	0
May.....	.2
June.....	0
July.....	0
August.....	0
September.....	.2
Water year 1961-62.....	7.0

## IVANPAH VALLEY

10-2523. China Spring Creek near Mountain Pass, Calif.

Location---Lat 35°28'05", long 115°30'30", in E½ sec. 31, T.16 N., R.14 E., on upstream right bank of State highway culvert on U. S. Highway 466 and 91 and 2.0 miles east of Mountain Pass.

Drainage area---0.94 sq mi.

Records available---January 1959 to September 1962.

Gage---Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 4,400 ft, revised (from topographic map).

Remarks---No flow since station first established Jan. 14, 1959. No regulation or diversion.

Monthly precipitation, water year October 1961 to September 1962

Month	Precipitation (inches)
October.....	0.2
November.....	.2
December.....	.6
Calendar year 1961.....	3.9
January.....	.5
February.....	1.1
March.....	.7
May.....	.1
June.....	.2
July.....	.1
Water year 1961-62.....	3.7

Note---Precipitation occurred only in months listed above.

10-2536. Eagle Creek at Eagle Mountain, Calif.

Location (revised).--Lat 33°51'50", long 115°29'50", on right bank in Joshua Tree National Monument, 0.8 mile from Eagle Mountain and 11.8 miles northwest of Desert Center, Riverside County.

Drainage area.--7.63 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder and tipping bucket rain gage. Datum of gage is 1,514.65 ft above mean sea level (levels by Kaiser Industries). Prior to Mar. 12, 1962, at site 0.2 mile downstream at datum 39.07 ft lower.

Extremes.--No flow during year.

1960-62: Maximum discharge, about 380 cfs Aug. 23, 1961 (gage height, 2.81 ft, present datum), on basis of field estimate of peak flow; no flow most of each year.

Remarks.--No flow since Aug. 23, 1961. No regulation or diversion. Figures for the calendar year 1961 are as follows: maximum daily discharge, 20 cfs; minimum, zero; mean, 0.05 cfs; runoff, 40 acre-ft.

Month	Precipitation in inches
October.....	-
November.....	-
December.....	-
January.....	-
February.....	-
March.....	0
April.....	0
May.....	0
June.....	0
July.....	0
August.....	0
September.....	.3

## SALTON SEA BASIN

10-2540.05. Salton Sea near Westmoreland, Calif.

Location.--Lat 33°11'37", long 115°49'54", in NE 1/4 Sec. 21, T.11 S., R.11 E., at outer end of third mooring pier from western shore at Sandy Beach 15.5 miles northwest of Westmoreland. Prior to Oct. 23, 1951, at site on west shore 22 miles northwest of present gage.

Drainage area.--8,360 sq mi, approximately.

Records available.--November 1904 to September 1962. Records prior to 1932 are published in WSP 735.

Gage.--Water-stages recorder. Datum of gage is 250.00 ft below mean sea level, datum of 1929, adjustment of 1934; gage readings have been converted to elevations below mean sea level. Prior to January 1925, staff gages at various sites along eastern shore, but all elevations have been converted to datum of 1901. January 1925 to Oct. 22, 1951, staff gages and reference marks at site on western shore 22 miles northwest originally set to 1901 datum and on Mar. 2, 1956 found at mean-sea-level datum 0.91 ft lower than 1929 datum, adjustment of 1934 (levels by U.S.C. & G.S.).

Extremes.--Maximum elevation during year, 233.3 ft below mean sea level Apr. 13 to May 10; minimum, 234.6 ft below mean sea level on some days in October and November.

1904-62: Maximum elevation, 195.9 ft below mean sea level (present datum) in February and March 1907; minimum since 1906, 251.6 ft below mean sea level (present datum) in November 1924.

Remarks.--Bottom of sea is 273.5 ft below mean sea level (determined in 1904-5, datum of 1901). See WSP 300, 735, and 918 for condensed history of Salton Sea. Area and capacity table for Oct. 23, 1951, to Sept. 30, 1962, as computed from survey of 1956 above elevation 240 ft below mean sea level and based on former survey for portion below this elevation is given in WSP 1564.

Month-end elevations, in feet below mean sea level, water year  
October 1961 to September 1962

Date	Elevation (feet)
Sept. 30, 1961.....	234.5
Oct. 31.....	234.6
Nov. 30.....	234.5
Dec. 31.....	234.3
Jan. 31, 1962.....	234.0
Feb. 28.....	233.8
Mar. 31.....	233.5
Apr. 30.....	233.3
May 31.....	233.5
June 30.....	233.5
July 31.....	233.6
Aug. 31.....	233.8
Sept. 30.....	233.8

## Inflow to Salton Sea, Calif.

Salton Sea, located near the northwest corner of Imperial County, is a closed basin consisting of 8,360 sq mi. A systematic record of inflow was not attempted until the fall of 1960. The following table shows monthly and annual inflow, in acre-feet, for the water year October 1961 to September 1962. Inflow from Imperial Valley is the sum of flows in Alamo River (see p.40), New River (see p.41), and about 30 drains and wasteways. About 92 percent of the inflow was measured at gaging stations; the remainder was estimated on the basis of weekly discharge measurements made on 5 drains and the relation between flows in groups of drains. These figures are based in part on data not available at the time the Imperial Irrigation District figures were released at monthly intervals. Inflow from Coachella Valley is the sum of flows in Whitewater River and 18 drains. Flow in the river was measured by a gaging station (see p.52), but that for the drains was furnished by Coachella Valley County Water District. (See pp.43 to 53 for other flows to the sea.) Table also shows amount of flow in Alamo and New Rivers contributed by Mexico as furnished by Imperial Irrigation District.

Inflow from	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
Imperial Valley	117,500	89,600	73,200	83,200	73,400	116,000	125,000	114,000	105,000	109,000	115,000	133,000	1,253,900
Coachella Valley	7,250	6,090	6,440	6,960	7,490	9,190	10,150	10,910	10,100	10,730	11,600	11,340	108,250
Total	124,750	95,690	79,640	90,160	80,890	125,190	135,150	124,910	115,100	119,730	126,600	144,340	1,362,150

## Flow from Mexico at International Boundary

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
Alamo River	149	117	121	131	109	189	174	146	150	123	94	110	1,613
New River	8,930	8,604	9,826	20,160	7,765	12,353	10,602	10,618	8,715	7,380	6,984	6,692	118,629

## Total Inflow from Coachella Valley 1961 1/

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
	5,280	4,940	4,750	5,170	5,330	6,550	7,300	7,500	7,260	7,320	9,040	8,640	79,080

1/ Revised figures of inflow from Coachella Valley County Water District supersede those published in Surface Water Records of California, 1961.

## SALTON SEA BASIN

39

10-2540.5. Salt Creek near Mecca, Calif.

Location.--Lat 33°26'50", long 115°50'35", in NE 1/4 sec. 28, T.8 S., R.11 E., on pier of Southern Pacific railroad bridge, 0.3 mile upstream from mouth and 16 miles southeast of Mecca.

Records available.--January 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 230 ft below mean sea level (from topographic map).

Extremes.--Maximum discharge during year, 81 cfs Sept. 27 (gage height, 2.87 ft), from rating curve extended above 25 cfs; minimum daily, 2.6 cfs July 12-14.

1961-62: Maximum discharge, that of Sept. 27, 1962; minimum daily, 1.2 cfs July 10-12, 1961.

Remarks.--Records good except those above 10 cfs, which are poor. Discharge measurements made two or more times a month.

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

Oct. 1 to Dec. 15

Dec. 15 to Sept. 30

1.7 2.7  
1.8 4.5  
1.9 8.0  
2.0 14

1.6 2.4  
1.8 4.6  
2.0 8.9  
2.3 21

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	5.7	7.2	7.7	7.4	6.7	6.5	6.5	5.2	3.0	3.0	3.7
2	4.0	6.0	7.2	7.7	7.4	7.4	7.0	6.5	5.0	3.0	3.0	3.7
3	4.0	6.0	7.6	7.7	7.2	7.7	7.0	6.7	4.8	3.0	3.0	3.8
4	4.0	5.7	8.0	7.4	7.4	7.7	7.2	6.5	4.8	3.0	3.0	3.9
5	4.2	6.0	8.6	7.2	7.4	7.4	7.0	6.3	4.8	3.0	3.0	4.0
6	4.5	5.4	7.6	6.5	7.4	7.7	6.7	6.2	4.8	3.0	3.0	4.0
7	4.5	4.5	7.2	7.2	7.7	7.7	6.2	6.2	4.9	3.0	3.0	4.2
8	4.5	5.1	6.8	7.7	8.0	7.4	6.2	6.0	4.9	3.0	3.0	4.2
9	4.8	5.7	7.2	7.4	9.2	7.4	6.3	5.6	4.6	3.0	3.0	4.2
10	5.1	6.0	7.2	7.2	8.6	7.4	6.2	5.4	4.4	3.0	3.0	4.2
11	5.1	5.7	7.2	6.3	8.6	7.4	5.8	5.2	4.2	2.8	3.0	4.2
12	5.4	6.0	6.8	6.0	9.5	7.4	5.2	5.2	4.2	2.6	3.0	4.2
13	5.4	5.4	6.8	7.2	8.0	7.4	5.2	5.0	4.2	2.6	3.2	4.0
14	5.1	4.0	9.2	8.0	7.7	7.2	5.2	5.2	3.9	2.6	3.2	4.0
15	4.5	4.5	19	7.0	8.0	6.7	5.4	5.4	3.8	3.0	3.2	4.0
16	4.2	5.1	21	6.7	7.4	6.7	6.0	5.6	4.2	3.0	3.2	4.2
17	4.5	6.0	9.8	7.4	7.2	7.0	6.5	5.8	4.6	3.0	3.2	4.0
18	4.8	5.7	8.9	7.7	7.0	7.2	6.5	5.8	12	3.0	3.2	4.0
19	4.8	5.7	8.6	7.4	7.2	7.7	6.5	5.6	7.1	3.0	3.4	4.0
20	4.8	6.4	8.3	8.0	8.9	8.3	6.5	5.4	4.2	3.0	3.4	4.2
21	4.8	6.8	8.0	8.6	8.6	8.0	6.3	5.2	3.8	3.2	3.4	4.0
22	5.1	6.4	8.3	8.3	7.7	7.7	6.3	5.2	3.7	3.4	3.2	4.0
23	5.1	5.7	8.0	7.4	7.4	7.4	7.0	5.2	3.4	3.4	3.2	4.2
24	5.1	6.4	7.7	8.3	7.4	7.2	9.2	5.2	3.2	3.2	3.4	4.6
25	5.1	7.2	7.7	12	7.4	6.5	7.2	5.2	3.2	3.0	3.4	4.9
26	5.1	7.2	7.7	11	7.4	6.7	7.2	5.2	3.2	3.0	3.4	4.9
27	5.4	6.8	7.7	8.0	7.0	7.0	7.2	5.2	3.2	3.0	3.4	18
28	5.7	6.8	7.7	8.0	6.7	7.0	7.4	5.2	3.2	3.0	3.6	20
29	5.7	7.2	7.7	7.4	-	7.2	7.4	5.2	3.2	3.0	3.6	5.4
30	5.4	7.2	7.7	7.2	-----	7.2	7.2	5.2	3.2	3.0	3.6	5.2
31	5.4	-----	7.7	7.2	-----	7.0	-----	5.4	-----	3.0	3.6	-----
Total	150.1	178.3	266.1	238.8	216.8	226.4	197.5	173.5	133.9	92.8	99.8	155.9
Mean	4.84	5.94	8.58	7.70	7.74	7.30	6.58	5.60	4.46	2.99	3.22	5.20
Max	5.7	7.2	21	12	9.5	8.3	9.2	6.7	12	3.4	3.6	20
Min	4.0	4.0	6.8	6.0	6.7	6.5	5.2	5.0	3.2	2.6	3.0	3.7
Ac-ft	298	354	528	474	430	449	392	344	266	184	198	309

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 21 Min 2.6 Mean 5.84 Ac-ft 4,230

## SALTON SEA BASIN

10-2547.3. Alamo River near Niland, Calif.

Location.--Lat 33°12'03", long 115°36'07", in NE 1/4 SW 1/4 sec. 22, T.11 S., R.13 E., on left bank 0.6 mile upstream from mouth and 5.8 miles southwest of Niland.

Records available.--January 1943 to September 1962. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 235 ft below mean sea level (from topographic map).

Remarks.--Flow represents seepage and return flow from irrigated areas.

Cooperation.--Records furnished by Imperial Irrigation District and reviewed by Geological Survey.

Monthly diversion, in acre-feet, from Alamo River above gage for use in quenching the discharge from steam well, water year October 1961 to September 1962

May..... 656  
June.....1,488  
July.....1,639  
August..... 802

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1300	925	723	464	521	856	1110	1040	922	955	1020	1110
2	1220	925	699	455	535	889	1200	975	932	965	1020	1090
3	1260	943	679	435	516	922	1220	975	1040	975	946	1050
4	1260	848	727	459	554	941	1220	984	941	927	975	1030
5	1190	848	665	483	568	970	1260	970	917	917	946	1040
6	1180	835	670	521	558	1010	1250	994	913	908	946	1060
7	1160	815	665	544	573	994	1330	1060	917	903	975	1130
8	1110	835	674	616	601	932	1290	1060	975	913	951	1160
9	1120	943	699	635	649	903	1300	1010	946	941	1060	1150
10	1100	912	713	625	568	903	1280	998	965	975	998	1150
11	1120	835	694	649	582	903	1190	1010	955	1030	1010	1140
12	1090	875	713	710	582	970	1170	984	1010	965	1060	1140
13	1120	893	660	762	535	951	1190	979	955	903	1080	1200
14	995	835	635	776	577	932	1250	994	951	913	1080	1180
15	990	820	788	852	597	970	1290	1030	955	922	970	1230
16	1070	835	763	790	663	979	1210	1040	989	1030	1020	1280
17	1120	802	583	568	696	965	1130	1120	932	1030	1030	1370
18	1090	766	525	469	691	994	1120	1190	922	951	1030	1380
19	1080	799	498	592	733	1040	1100	1080	847	922	1080	1320
20	1030	848	460	663	786	1110	1050	1030	814	917	1120	1330
21	987	870	484	795	738	1090	1070	1020	885	951	1120	1360
22	995	848	480	871	771	1060	1090	979	871	1040	1050	1460
23	1010	853	480	842	757	1030	1030	922	899	1090	1040	1460
24	1010	807	433	946	823	903	979	922	917	1040	1050	1480
25	973	790	442	1170	866	885	946	880	965	979	1060	1520
26	923	790	433	823	861	955	1000	903	970	941	1040	1510
27	930	755	406	577	866	927	1090	922	941	970	1040	1480
28	923	730	447	488	823	989	1010	970	903	984	1040	1460
29	915	766	493	440	-	1080	979	998	936	1030	1060	1460
30	920	771	442	435	-----	1030	1010	975	988	1070	1090	1400
31	917	-----	438	450	-----	1070	-----	907	-----	1040	1170	-----
Total	33,108	25,117	18,211	19,905	18,590	30,153	34,364	30,921	28,073	30,097	32,077	38,130
Mean	1,068	837	587	642	663	973	1,145	997	936	971	1,035	1,271
Max	1,300	943	788	1,170	866	1,110	1,330	1,190	1,040	1,090	1,170	1,520
Min	915	730	406	435	516	856	946	880	814	903	946	1,030
Ac-ft	65,670	49,820	36,120	39,480	36,870	59,810	68,160	61,330	55,680	59,700	63,620	75,630
Calendar year 1961:	Max	1,340	Min	406	Mean	933	Ac-ft	675,500				
Water year 1961-62:	Max	1,520	Min	406	Mean	928	Ac-ft	671,900				

## SALTON SEA BASIN

41

10-2555.5. New River near Westmoreland, Calif.

Location.--Lat 33°06'17", long 115°39'49", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.19, T.12 S., R.13 E., on right bank 3.5 miles upstream from mouth and 5.2 miles northwest of Westmoreland.

Records available.--January 1943 to September 1962. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 220 ft below mean sea level (from topographic map).

Remarks.--Flow represents seepage and return flow from irrigated areas.

Cooperation.--Records furnished by Imperial Irrigation District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	781	605	431	366	645	621	732	649	657	590	564	617
2	797	590	461	362	521	596	734	671	640	607	584	586
3	832	555	477	368	464	590	738	693	634	601	555	590
4	816	555	536	477	444	578	764	647	643	538	588	649
5	800	511	513	594	413	574	787	615	626	584	636	598
6	726	600	540	687	408	580	710	659	600	590	598	617
7	653	624	566	576	429	605	660	708	622	630	601	600
8	664	576	536	470	466	561	681	685	619	582	570	540
9	679	549	553	464	483	578	718	643	590	588	536	536
10	676	588	564	444	427	582	734	676	582	566	517	555
11	636	596	578	435	457	588	720	649	605	549	547	632
12	607	570	570	461	449	572	649	632	592	543	607	674
13	617	553	451	457	429	570	657	607	594	498	628	704
14	621	490	427	479	440	578	651	641	566	536	578	683
15	624	455	519	440	400	596	655	653	525	545	578	681
16	647	459	590	463	404	598	685	641	542	580	600	687
17	621	472	574	477	418	632	728	672	594	662	674	716
18	615	466	596	530	481	647	693	636	570	574	676	716
19	626	515	521	498	521	676	697	609	592	526	649	736
20	601	451	427	580	590	774	712	653	601	594	626	744
21	564	444	400	683	615	676	726	740	566	586	624	730
22	603	442	448	630	600	710	768	628	576	605	570	764
23	640	440	438	630	551	681	748	630	580	649	584	793
24	588	479	404	828	525	726	754	582	607	574	605	843
25	559	519	398	1020	517	787	700	545	603	568	582	895
26	674	511	359	945	545	836	659	566	645	601	605	870
27	626	515	373	901	626	899	651	574	598	572	613	897
28	588	515	382	934	738	816	630	583	626	582	649	874
29	572	463	377	904	-	756	619	591	626	561	655	834
30	584	483	384	923	-----	732	640	600	603	561	641	772
31	588	-----	382	772	-----	732	-----	609	-----	628	603	-----
Total	20,225	15,591	14,775	18,798	14,006	20,447	21,000	19,687	18,024	17,970	18,643	21,133
Mean	652	520	477	606	500	660	700	635	601	580	601	704
Max	832	624	596	1,020	738	899	787	740	657	662	676	897
Min	559	440	359	362	400	561	619	545	525	498	517	536
Ac-ft	40,120	30,920	29,310	37,290	27,780	40,560	41,650	39,050	35,750	35,640	36,980	41,920
Calendar year 1961: Max	866	Min	393	Mean	604	Ac-ft	437,000					
Water year 1961-62: Max	1,020	Min	359	Mean	604	Ac-ft	437,000					

## SALTON SEA BASIN

10-2557. San Felipe Creek near Julian, Calif.

Location.--Lat 33°07'07", long 116°26'04", in Anza Borrego State Park, on left bank at bridge on State Highway 78, in Sentenac Canyon 1.0 mile upstream from Grapevine Canyon and 10 miles northeast of Julian, San Diego County.

Drainage area.--89.3 sq mi.

Records available.--August 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,872.69 ft above mean sea level (datum of 1929).

Extremes.--Maximum discharge during year, 5.5 cfs Jan. 24 (gage height, 1.62 ft); no flow Oct. 1-30, June 1 to Sept. 30.  
1958-62: Maximum discharge, 16 cfs Sept. 13, 1961 (gage height, 1.85 ft); no flow for many days each year.

Remarks.--Records good. Discharge measurements or observations of no flow generally made twice a month. No regulation or diversion.

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

1.1	0	1.4	1.3
1.2	.2	1.5	2.6
1.3	.6	1.6	4.8

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	0.3	0.5	0.5	0.7	0.6	0.2				
2	0	.2	.3	.5	.5	.7	.5	.2				
3	0	.2	.4	.5	.5	.6	.5	.2				
4	0	.2	.3	.5	.5	.6	.5	.1				
5	0	.2	.3	.5	.5	.6	.5	.1				
6	0	.2	.3	.4	.5	.6	.5	.1				
7	0	.2	.3	.4	.5	.6	.4	.1				
8	0	.2	.3	.5	1.1	.6	.3	.1				
9	0	.2	.3	.5	.8	.7	.3	.1				
10	0	.2	.3	.5	.7	1.1	.3	.1				
11	0	.2	.3	.4	.6	.7	.3	.1				
12	0	.2	.3	.4	.7	.7	.3	.1				
13	0	.2	.3	.6	.6	.6	.3	.1				
14	0	.2	.5	.5	.6	.6	.3	.2				
15	0	.2	1.7	.4	.6	.6	.3	.3				
16	0	.2	.7	.5	.6	.6	.2	.3				
17	0	.2	.5	.5	.6	.6	.2	.3				
18	0	.2	.5	.5	.6	.6	.2	.2				
19	0	.3	.4	.5	1.8	.6	.2	.2				
20	0	.3	.4	.6	2.7	.6	.2	.2				
21	0	.4	.4	3.0	1.1	.6	.2	.2				
22	0	.3	.4	1.0	.7	.6	.2	.2				
23	0	.3	.4	.9	.6	.7	.2	.1				
24	0	.3	.4	2.0	.7	.6	.2	.1				
25	0	.2	.4	2.1	1.6	.6	.2	.1				
26	0	.3	.4	.7	1.5	.6	.3	.1				
27	0	.3	.4	.6	1.1	.6	.2	.2				
28	0	.3	.4	.6	.7	.5	.2	.2				
29	0	.3	.5	.5	-	.5	.2	.2				
30	0	.3	.5	.5	-	.6	.2	.1				
31	.2	-	.5	.5	-	.6	-	.1				
Total	0.2	7.2	13.4	22.1	23.5	19.5	9.0	4.9	0	0	0	0
Mean	0.01	0.24	0.43	0.71	0.84	0.63	0.30	0.16	0	0	0	0
Max	0.2	0.4	1.7	3.0	2.7	1.1	0.6	0.3	0	0	0	0
Min	0	0.2	0.3	0.4	0.5	0.5	0.2	0.1	0	0	0	0
Ac-ft	0.4	14	27	44	47	39	18	9.7	0	0	0	0

Calendar year 1961: Max 2.4 Min 0 Mean 0.23 Ac-ft 165

Water year 1961-62: Max 3.0 Min 0 Mean 0.27 Ac-ft 199

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



10-2558. Coyote Creek near Borrego Springs, Calif.

Location (revised).--Lat 33°22'25", long 116°25'39", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.23, T.9 S., R.5 E., on right bank 500 ft upstream from Box Canyon and 8.5 miles northwest of Borrego Springs.

Drainage area.--144 sq mi.

Records available.--October 1950 to September 1962. Monthly discharge only for October and November 1950, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 1,250 ft (from topographic map).

Average discharge.--12 years, 2.36 cfs (1,710 acre-ft per year).

Extremes.--Maximum discharge during year, 2.5 cfs Oct. 27 (gage height, 8.37 ft); minimum daily, 0.9 cfs June 23-27.

1950-62: Maximum discharge, 3,800 cfs July 28, 1951 (gage height, 14.14 ft, from floodmark), from rating curve extended above 4 cfs on basis of slope-area measurement of peak flow; minimum daily, that of June 23-27, 1962.

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

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

8.2	0
8.3	1.1
8.4	2.9

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	* 1.7	1.7	1.9	1.9	1.7	1.6	* 1.4	* 1.4	1.1	1.1	1.2
2	1.6	1.7	1.7	1.7	1.9	1.7	1.7	1.4	1.4	1.1	1.1	1.1
3	* 1.6	1.7	1.9	1.7	1.9	1.7	1.7	1.6	1.6	1.1	1.1	1.1
4	1.6	1.7	1.9	1.7	1.9	1.7	1.7	1.4	1.7	1.1	1.1	1.1
5	1.6	1.7	1.9	1.7	1.9	1.7	1.7	1.4	1.7	1.1	1.1	1.1
6	1.2	1.7	2.1	1.6	1.9	1.7	* 1.7	1.4	1.7	1.1	1.1	* 1.1
7	1.4	1.7	2.1	1.6	1.9	1.7	1.6	1.4	1.7	1.1	1.1	1.1
8	1.6	1.7	2.1	1.6	1.9	1.7	1.6	1.6	1.7	1.1	1.1	1.1
9	1.6	1.7	2.1	1.6	1.9	* 1.7	1.6	1.6	1.6	1.1	1.1	1.1
10	1.6	1.7	2.1	1.6	1.9	1.7	1.6	1.6	1.6	1.1	* 1.2	1.1
11	1.6	1.9	2.1	1.6	1.9	1.7	1.4	1.6	1.6	1.1	1.2	1.1
12	1.6	2.1	1.9	* 1.7	1.9	1.7	1.4	1.6	1.6	1.1	1.2	1.1
13	1.4	1.9	* 1.9	1.7	1.9	1.7	1.4	1.6	* 1.6	1.1	1.2	1.1
14	1.4	1.9	1.9	1.7	1.9	1.7	1.2	1.6	1.6	1.1	1.2	1.1
15	1.6	1.7	1.9	1.7	1.9	1.7	1.2	1.6	1.4	1.1	1.2	1.1
16	1.6	* 1.7	1.9	1.7	* 1.7	1.7	1.2	1.6	1.4	1.1	1.2	1.1
17	1.6	1.7	1.9	1.7	1.7	1.7	* 1.2	1.6	1.4	1.1	1.1	1.1
18	1.6	1.7	1.9	1.7	1.6	1.7	1.2	* 1.6	1.2	1.1	1.1	1.1
19	1.6	1.7	1.9	1.7	1.7	1.7	1.2	1.6	1.1	1.1	1.1	1.1
20	1.6	1.7	1.9	1.9	1.7	1.7	1.2	1.6	1.1	1.1	1.1	1.1
21	1.6	1.7	1.9	1.9	* 1.9	* 1.7	1.2	1.6	1.1	1.2	1.1	1.1
22	1.6	1.7	1.9	1.9	1.7	1.7	1.2	1.6	1.1	1.2	1.1	1.1
23	1.6	1.7	2.1	1.9	1.7	1.7	1.2	1.6	.9	1.2	* 1.1	1.1
24	1.4	1.7	2.1	1.9	1.7	1.7	1.2	1.6	.9	1.1	1.2	1.1
25	1.2	1.7	1.9	1.9	1.7	1.7	1.4	1.4	.9	* 1.1	1.2	* 1.2
26	1.6	1.7	1.9	1.9	1.7	1.6	1.4	1.4	.9	1.1	1.2	1.2
27	2.1	1.9	1.9	1.9	1.7	1.6	1.4	1.6	.9	1.1	1.2	1.2
28	2.1	1.9	* 1.9	1.9	1.7	1.6	1.4	1.6	* 1.1	1.1	1.2	1.2
29	1.9	1.9	1.9	1.9	-	1.6	1.4	1.6	1.1	1.1	1.2	1.2
30	1.7	* 1.7	1.9	* 1.9	-----	1.6	1.4	1.6	1.1	1.1	1.2	1.2
31	1.7	-----	1.9	1.9	-----	1.6	-----	1.6	-----	1.1	1.2	-----
Total	49.5	52.6	60.1	54.7	50.7	52.1	42.3	48.0	40.1	34.4	35.6	33.7
Mean	1.60	1.75	1.94	1.76	1.81	1.68	1.41	1.55	1.34	1.11	1.15	1.12
Max	2.1	2.1	2.1	1.9	1.9	1.7	1.7	1.6	1.7	1.2	1.2	1.2
Min	1.2	1.7	1.7	1.6	1.6	1.6	1.2	1.4	0.9	1.1	1.1	1.1
Ac-ft	98	104	119	108	101	103	84	95	80	68	71	67

Calendar year 1961: Max 66 Min 1.2 Mean 1.99 Ac-ft 1,440

Water year 1961-62: Max 2.1 Min 0.9 Mean 1.52 Ac-ft 1,100

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

\* Discharge measurement made on this day.

## SALTON SEA BASIN

10-2558.1. Borrego Palm Creek near Borrego Springs, Calif.

Location.--Lat 33°16'44", long 116°25'45", in Anza-Borrego Desert State Park, on left bank 3.3 miles northwest of Borrego Springs, San Diego County.

Drainage area.--21.7 sq mi.

Records available.--October 1950 to September 1962. Prior to October 1960, published as "Palm Canyon Creek." Monthly discharge only for October to November 1950, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 1,200 ft (from topographic map).

Average discharge.--12 years, 0.43 cfs (311 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 1.9 cfs Feb. 20 (gage height, 1.86 ft); no flow Oct. 1 to Dec. 30, May 4 to Sept. 30. 1950-62: Maximum discharge, about 2,000 cfs Aug. 23, 1955 (gage height, 9.9 ft, from floodmarks), on basis of velocity-area study; no flow for several months in each year.

Remarks.--Records good. No regulation or diversion. Discharge measurements generally made twice monthly.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 19-25)

1.4	0	1.7	0.7
1.5	.1	1.8	1.1
1.6	.3	1.9	1.8

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.1	0.5	0.8	0.4	0.1				
2			0	.1	.4	.8	.4	.1				
3			0	.1	.4	.8	.4	.1				
4			0	.1	.4	.8	.4	0				
5			0	.1	.4	.8	.4	0				
6			0	.1	.4	.8	.3	0				
7			0	.1	.4	a 1.1	.3	0				
8			0	.1	.7	a 1	.3	0				
9			0	.1	.6	a .9	.3	0				
10			0	.1	.5	a .9	.3	0				
11			0	.1	.4	a .9	.2	0				
12			0	.1	.4	a .9	.2	0				
13			0	.3	.4	a .9	.2	0				
14			0	.3	.4	a .9	.2	0				
15			0	.3	.4	a .9	.1	0				
16			0	.3	.4	a .9	.1	0				
17			0	.3	.4	a .9	.1	0				
18			0	.3	.3	a .9	.1	0				
19			0	.3	.9	.9	.1	0				
20			0	.6	1.8	1.2	.1	0				
21			0	1.4	1.5	1.1	.1	0				
22			0	.9	1.1	1.1	.1	0				
23			0	.7	1.0	1.2	.1	0				
24			0	.8	.9	1.0	.1	0				
25			0	.8	1.1	.8	.1	0				
26			0	.7	1.1	.8	.1	0				
27			0	.6	1.0	.7	.1	0				
28			0	.6	.9	.7	.1	0				
29			0	.6	-	.7	.1	0				
30			0	.6	-	.6	.1	0				
31			0	.5	-	.5	-	0				
Total	0	0	0.1	12.1	19.1	27.2	5.9	0.3	0	0	0	0
Mean	0	0	0.003	0.39	0.68	0.88	0.20	0.01	0	0	0	0
Max	0	0	0.1	1.4	1.8	1.2	0.4	0.1	0	0	0	0
Min	0	0	0	0.1	0.3	0.5	0.1	0	0	0	0	0
Ac-ft	0	0	0.2	24	38	54	12	0.6	0	0	0	0

Calendar year 1961: Max 0.4 Min 0 Mean 0.05 Ac-ft 38

Water year 1961-62: Max 1.8 Min 0 Mean 0.18 Ac-ft 129

Peak discharge (base, 15 cfs).--No peak above base.

a No gage-height record.

## SALTON SEA BASIN

45

10-2558.85. San Felipe Creek near Westmoreland, Calif.

Location.--Lat 33°07'25", long 115°51'05", in NW 1/4 sec. 17, T. 12 S., R. 11 E., on left bank 320 ft downstream from U. S. Highway 99 and 14.6 miles northwest of Westmoreland.

Records available.--December 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 190 ft below mean sea level (from topographic map).

Extremes.--Maximum discharge during year, 338 cfs Jan. 25 (gage height, 5.42 ft); no flow Oct. 1 to Dec. 13, Apr. 4, Apr. 7 to Sept. 30.

1960-62: Maximum discharge, 2,910 cfs Aug. 29; 1961 (gage height, 8.22 ft, from floodmark), on basis of slope-area measurement of peak flow; no flow for some months in each year.

Remarks.--Records fair except those for Dec. 14-16 and Jan. 24 to Feb. 5, which are poor. No regulation. Diversion and pumping for domestic use and irrigation in Borrego Valley 25 miles upstream from station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			* 0	0.2	a 0.4	0.2	0.1		(*)			
2			0	.2	a .3	.2	.1	(*)				
3			0	.2	a .3	.2	.1					
4	(*)		0	.2	a .3	.2	0					
5			0	.2	a .3	* .2	* .1					
6			0	.2	* .3	.2	.1					
7			0	.2	.3	.2	0					(*)
8			0	.2	* .3	.2	0					(*)
9			0	* .2	.4	.2	0					
10			0	.2	.4	.2	0					
11			0	.2	.3	.2	0					
12			0	.2	.3	.1	* 0		(*)			(*)
13	(*)		* 0	.2	.3	.1	0					
14			a 5	.2	.3	.2	0					
15			* 4.4	* .2	.3	.2	0					
16		(*)	* 9.4	.2	.3	.2	0					
17	(*)		.6	.2	.2	.2	0	(*)				
18			.3	.2	.2	.2	0					
19			* .3	.2	* .2	.2	0					
20			.3	.3	.2	.2	0					
21			.3	.3	.2	.1	0					
22			.2	.2	.2	.1	0					
23			.2	.2	.2	.2	0					
24			.2	28	.2	.2	0				(*)	
25			.2	* 1 26	.2	.2	0					
26	(*)		.2	* 6.1	.2	.2	0					
27			* .2	a 2	.2	* .2	0			(*)		
28			.2	a 1	.2	.2	0					
29			.2	a .5	-	.2	0		(*)			
30			.2	a .4	-	.1	0					
31			.2	a .4	-	.1	0					
Total	0	0	62.2	1 69.2	7.5	5.6	0.5	0	0	0	0	0
Mean	0	0	2.01	5.46	0.27	0.18	0.02	0	0	0	0	0
Max	0	0	44	126	0.4	0.2	0.1	0	0	0	0	0
Min	0	0	0	0.2	0.2	0.1	0	0	0	0	0	0
Ac-ft	0	0	123	336	15	11	1.0	0	0	0	0	0

Calendar year 1961: Max 200 Min 0 Mean 1.56 Ac-ft 1,130

Water year 1961-62: Max 126 Min 0 Mean 0.67 Ac-ft 486

Peak discharge (base, 200 cfs).--Jan. 25 (0400) 338 cfs (5.42 ft).

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

a No gage-height record.

10-2560. Whitewater River at White Water, Calif.

Location.--Lat 33°56'48", long 116°38'24", in NW 1/4 sec. 2, T.3 S., R.3 E., on right bank 1.5 miles north of White Water and 3 1/2 miles upstream from San Geronio River.

Drainage area.--57.4 sq mi.

Records available.--October 1948 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,610.98 ft above mean sea level, adjustment of 1934. Supplementary water-stage recorder and sharp-crested weir on diversion channel 400 ft west and 500 ft downstream from base gage. Feb. 24, 1950, to Sept. 30, 1952, supplementary gage used as base gage. Since Apr. 13, 1960, supplementary gage 150 ft upstream at datum 5.0 ft higher.

Average discharge.--14 years, 10.2 cfs (7,380 acre-ft per year); average adjusted discharge of river and infiltration line, 13 years (1949-62), 11.9 cfs (8,620 acre-ft per year); median of adjusted yearly mean discharges, 10 cfs (7,200 acre-ft per year).

Extremes.--Maximum discharge during year, 185 cfs Dec. 2 (gage height, 7.04 ft, from floodmark); minimum daily, 0.2 cfs Jan. 24-25. 1948-62: Maximum discharge, about 1,500 cfs Apr. 3, 1958 (gage height, 8.35 ft), from rating curve extended above 230 cfs on basis of slope-area measurement at gage height 7.52 ft; no flow Jan. 9, 11, 1957.

Maximum discharge known, 42,000 cfs Mar. 2, 1938, from slope-area measurement of peak flow, at site 2.5 miles upstream (drainage area, 51.4 sq mi).

Remarks.--Records poor. Discharge measurements generally made twice a month. Monthly runoff is adjusted for flow from infiltration line that bypasses station. Water is diverted out of basin about 15 miles upstream to powerplants in San Geronio River basin and thence to an area north of Banning for irrigation. One small diversion for domestic use and one for irrigation are made 2 to 3 miles upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	6.1	4.6	3.0	4.0	1.5	4.6	6.6	7.3	6.8	9.8	9.0
2	6.6	6.1	3.1	4.0	4.4	4.0	6.2	6.3	7.3	7.6	10	6.3
3	6.6	6.1	2.6	4.0	3.6	3.6	6.2	6.1	6.1	9.7	10	8.7
4	6.3	5.8	2.6	3.4	3.0	3.2	5.5	6.5	6.4	10	9.2	9.5
5	6.3	4.6	2.6	3.4	4.2	3.4	6.3	5.6	7.2	9.8	7.6	8.7
6	6.3	6.3	2.6	3.4	4.2	2.3	6.2	4.9	7.2	9.9	9.8	8.7
7	6.1	6.1	2.6	3.0	3.4	2.8	6.3	6.4	7.1	7.9	10	9.0
8	4.9	6.1	2.4	4.0	12	3.4	5.1	7.3	7.7	6.6	9.5	8.7
9	6.6	5.3	2.4	4.2	5	3.5	6.4	7.3	7.3	9.3	9.2	6.1
10	6.6	5.3	2.4	3.8	3.0	3.2	7.0	7.1	6.6	9.9	9.5	9.2
11	6.3	5.1	3.4	3.8	16	3.0	7.0	7.3	7.3	9.8	9.2	9.5
12	6.3	4.6	4.0	4.0	22	3.4	6.0	6.8	8.1	9.8	6.3	9.2
13	6.3	6.1	3.8	3.4	3.8	3.8	6.4	6.6	8.4	9.9	9.2	9.2
14	6.1	6.3	4.2	3.0	3.4	4.1	5.1	7.3	8.7	7.3	10	9.0
15	5.1	6.1	3.0	4.2	4.0	4.7	3.5	7.1	8.1	6.8	9.5	8.7
16	6.3	5.6	2.6	4.4	13	3.4	6.1	6.9	7.3	9.2	9.5	6.1
17	6.1	5.6	2.6	4.4	4.3	4.0	6.4	7.1	6.3	9.5	9.0	8.7
18	6.1	5.1	4.0	3.8	3.6	2.4	6.4	6.6	8.1	9.5	8.7	9.2
19	6.1	4.4	4.0	4.4	5.4	4.0	6.0	6.1	7.9	10	6.1	9.5
20	6.1	5.3	4.0	3.8	2.8	4.2	6.3	5.8	7.9	10	9.0	9.0
21	6.1	11	3.6	3.0	2.5	4.4	5.3	6.6	7.1	9.2	9.0	8.7
22	4.9	1.3	3.8	2.8	2.5	4.2	5.6	6.6	6.8	6.8	8.7	9.0
23	6.8	1.8	3.4	.5	2.2	4.4	6.3	6.5	6.8	9.2	9.0	6.1
24	6.8	3.0	3.0	.2	1.8	4.0	6.4	7.0	6.3	10	9.0	9.0
25	6.6	5.7	3.0	.2	1.1	3.2	6.3	7.0	7.8	9.8	8.7	9.2
26	6.8	5.6	4.0	.5	1.4	4.9	6.3	5.5	9.2	9.8	6.6	9.8
27	6.8	2.8	4.0	.5	1.5	4.5	6.8	5.2	9.0	9.5	9.5	9.0
28	6.6	3.8	3.8	.5	1.7	4.7	4.9	5.7	9.0	9.2	9.5	9.2
29	5.6	3.8	4.4	4.3		5	4.9	7.6	9.4	6.6	9.2	9.0
30	7.3	3.0	3.6	4.4		4.1	6.1	7.0	7.6	9.8	9.2	6.3
31	6.6		3.0	4.4		4.6		7.2		10	9.0	
Total	192.9	153.8	131.0	96.7	139.8	115.9	177.9	203.6	227.3	279.2	278.5	257.3
Mean	6.22	5.13	4.23	3.12	4.99	3.74	5.93	6.57	7.58	9.01	8.98	8.58
Max	7.3	11	31	4.4	22	5	7.0	7.6	9.4	10	10	9.8
Min	4.9	1.3	2.4	0.2	1.1	1.5	3.5	4.9	6.1	6.6	6.1	6.1
Ac-ft	383	305	260	192	277	230	353	404	451	554	552	510
(†)	13	13	22	63	45	37	54	38	41	26	15	16
(‡)	396	318	282	255	322	267	407	442	492	580	567	526
(††)	41	45	67	66	102	94	230	179	116	90	81	48

Calendar year 1961: Max 16

Min 1.3

Mean 3.87

Ac-ft 2,800

Mean ‡ 7.00

Ac-ft ‡ 5,070

Water year 1961-62: Max 31

Min 0.2

Mean 6.18

Ac-ft 4,470

Mean ‡ 6.70

Ac-ft ‡ 4,850

Peak discharge (base, 100 cfs).--Dec. 2 (1300) 185 cfs (7.04 ft).

† Runoff, in acre-feet, from infiltration line; furnished by Whitewater Mutual Water Co.

‡ Adjusted for water collected in infiltration line.

†† Runoff, in acre-feet, diverted from basin 15 miles upstream; furnished by California Electric Power Co.

## SALTON SEA BASIN

47

10-2565. Snow Creek near White Water, Calif.

Location---Lat 33°52'10", long 116°40'50", in NW $\frac{1}{4}$  sec.33, T.3 S., R.3 E., on left bank 50 ft upstream from Southern Pacific Railroad diversion dam, 500 ft downstream from unnamed tributary, 2.8 miles upstream from mouth, and 4.5 miles southwest of White Water.

Drainage area---11.0 sq mi.

Records available---July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to September 1962.  
Yearly discharge only for 1930, published in WSP 1314.

Gage---Water-stage recorder and crest-stage gage. Altitude of gage is 2,100 ft (from topographic map). Prior to Dec. 16, 1927, water-stage recorders at sites 50 ft and 150 ft downstream at different datum. Dec. 16, 1927, to Sept. 30, 1931, water-stage recorder at site 500 ft upstream at different datum.

Average discharge---10 years (1922-26, 1928-31, 1959-62), 6.65 cfs (4,810 acre-ft per year).

Extremes---Maximum discharge during year, 285 cfs Dec. 2 (gage height, 3.87 ft), from rating curve extended above 65 cfs; minimum daily, 2.4 cfs Sept. 6-7.

1921-31, 1959-62: Maximum discharge, that of Dec. 2, 1961; minimum daily, 2.1 cfs June 23-27, Sept. 5-11, 1961.

Remarks---Records good. Discharge measurements generally made twice a month. No regulation or diversion.

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

1.8	2.2	2.6	22
2.0	4.0	2.8	35
2.2	7.2	3.0	55
2.4	13	3.3	103

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		2.8	4.0	3.5	3.7	6.2	8.4	8.4	7.2	3.7	2.8	2.5
2	2.7	2.9	91	3.5	3.7	6.0	8.6	8.2	7.9	3.5	2.8	2.5
3	2.6	2.9	16	3.5	3.6	5.8	8.6	8.6	7.9	3.3	2.8	2.5
4	2.6	2.9	9.6	3.5	3.6	5.8	8.6	9.1	7.7	3.3	2.8	2.6
5	2.6	2.8	6.2	3.5	3.6	5.6	9.1	9.6	7.2	3.3	2.8	2.5
6		2.8	5.8	3.5	3.6	10	10	9.4	7.0	3.3	2.9	2.4
7	2.6	2.8	5.3	3.5	4.8	11	11	9.6	7.0	3.3	2.9	2.4
8	3.0	2.9	5.0	3.5	5.9	8.9	12	9.6	6.9	3.3	2.9	2.5
9	2.9	2.9	4.9	3.5	4.0	8.2	13	8.9	6.9	3.3	2.9	2.5
10	2.9	2.9	4.3	3.5	3.3	8.2	13	8.6	6.9	3.3	2.8	2.5
11		2.9	4.1	3.5	7.8	7.4	11	8.4	6.7	3.4	2.8	2.5
12	2.8	2.9	4.1	3.5	3.5	7.0	10	8.2	6.3	3.5	2.8	2.5
13	2.8	2.9	4.1	4.0	1.7	6.7	9.9	7.7	6.2	3.4	2.8	2.5
14	2.8	2.9	4.0	3.7	1.3	6.3	11	7.9	6.0	3.3	2.8	2.6
15	2.8	2.9	4.0	3.6	1.2	6.2	12	7.9	5.8	3.2	2.9	2.6
16		2.9	4.0	3.6	1.6	6.0	11	7.2	5.6	3.2	2.8	2.6
17	2.8	3.0	3.9	3.6	1.2	6.0	11	6.9	5.5	3.1	2.8	2.6
18	2.8	3.0	3.8	3.6	9.6	6.0	13	6.7	5.3	3.0	2.7	2.6
19	2.8	3.0	3.8	3.6	1.2	6.0	13	6.7	5.3	2.9	2.7	2.6
20	2.8	4.9	3.7	9.4	1.1	6.0	11	6.7	5.2	2.8	2.7	2.6
21		5.4	3.6	7.1	9.9	6.0	11	6.5	5.0	2.9	2.6	2.6
22	2.8	3.5	3.5	4.9	8.6	6.2	9.4	6.3	4.9	2.9	2.7	2.8
23	2.8	3.3	3.5	4.6	8.2	6.7	9.1	6.3	4.7	2.9	2.7	2.8
24	2.7	3.1	3.5	4.3	7.7	6.3	9.6	6.3	4.4	2.8	2.7	2.8
25	2.7	6.3	3.5	4.1	7.7	6.2	9.9	6.5	4.4	2.8	2.7	2.9
26		9.9	3.5	4.1	7.0	6.3	9.1	6.3	4.6	3.0	2.7	2.9
27	2.8	5.6	3.5	4.1	6.7	7.0	9.4	6.3	4.4	2.9	2.7	2.8
28	2.8	4.6	3.5	4.1	6.3	8.2	9.9	6.2	4.4	2.9	2.6	2.8
29	2.8	4.1	3.5	3.9	-	8.9	9.9	6.0	4.1	2.9	2.5	2.8
30	2.8	4.0	3.5	3.8	-----	8.6	9.4	6.5	3.9	2.8	2.6	2.8
31	2.8	-----	3.5	3.8	-----	8.4	-----	6.7	-----	2.8	2.5	-----
Total	85.7	109.7	230.2	125.9	436.3	218.1	311.9	234.2	175.3	97.0	85.2	78.6
Mean	2.76	3.66	7.43	4.06	15.6	7.04	10.4	7.55	5.84	3.13	2.75	2.62
Max	3.0	9.9	91	9.4	78	11	13	9.6	7.9	3.7	2.9	2.9
Min	2.6	2.8	3.5	3.5	3.6	5.6	8.4	6.0	3.9	2.8	2.5	2.4
Ac-ft	170	218	457	250	865	433	619	465	348	192	169	156

Calendar year 1961: Max 91 Min 2.1 Mean 3.30 Ac-ft 2,390

Water year 1961-62: Max 91 Min 2.4 Mean 5.92 Ac-ft 4,340

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1300	3.87	285	2-11	1300	3.53	158
2-8	1900	3.46	140				

10-2580. Tahquitz Creek near Palm Springs, Calif.

Location.--Lat 33°48'18", long 116°33'30", in NE<sup>1</sup>SW<sup>1</sup> sec.22, T.4 S., R.4 E., on left bank 2.2 miles southwest of Palm Springs and 7 miles upstream from mouth.

Drainage area.--16.7 sq mi.

Records available.--October 1947 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 764.5 ft above mean sea level (levels by Riverside County Flood Control and Water Conservation District).

Average discharge.--15 years, 2.59 cfs (1,880 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

Extremes.--Maximum discharge during year, 20 cfs Feb. 8 (gage height, 2.00 ft); no flow for several months.

1947-62: Maximum discharge, 1,570 cfs Aug. 31, 1954 (gage height, 8.45 ft in gage well, 10.0 ft outside, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement of peak flow; no flow during parts of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 4-11, Apr. 8-20, June 20 to July 3)

0.5	0	1.0	2.4
.6	.2	1.2	4.5
.7	.5	1.5	8.9
.8	1.0	1.8	15

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.2	0.4	1.4	3.6	9.4	4.8	0.9	0.1	
2			1.4	.2	.4	1.3	4.1	9.4	4.7	.7	.1	
3			1.1	* .2	.3	1.2	4.4	10	4.8	.6	.1	
4			.6	.2	.3	1.2	4.8	10	4.7	.6	.1	
5			.4	.2	.3	1.3	5.8	10	4.4	.5	.1	
6			* .3	.2	.3	1.7	7.2	10	4.2	.4	.1	(*)
7			.2	.2	.3	2.1	8.3	10	4.0	.4	* 0	
8		(*)	.2	.2	* 2.7	1.8	9.8	10	3.7	.4	0	
9			.2	.2	1.1	1.8	* 1.2	9.4	3.5	.3	0	
10			.2	.2	8.6	1.7	12	9.3	3.2	* .2	0	
11	(*)		.2	.2	9.4	1.7	12	8.6	3.0	.2	0	
12			* .2	.2	6.6	1.6	12	8.6	* 2.8	.2	0	
13			.2	.2	3.8	1.4	12	8.1	2.7		0	
14			.2	.2	3.0	1.4	12	8.4	2.8		0	
15			.3	.2	2.7	1.4	13	8.1	3.0		* 0	
16			.2	.2	3.8	1.4	13	8.1	2.9		0	
17			.2	* .2	2.7	1.3	14	* 7.5	2.5		0	
18			.2	.2	2.2	1.3	* 1.5	7.3	2.3	.1	0	
19			.2	.2	2.7	1.4	14	7.2	2.2		0	
20			.2	.8	2.2	* 1.4	14	7.2	2.0		0	
21			.2	1.4	2.2	1.4	14	6.6	1.8		0	(*)
22			* .2	.9	1.8	1.4	13	6.2	1.6		0	
23			.2	.7	1.6	1.6	13	6.0	1.4		0	
24			.2	* .6	1.3	1.6	12	5.8	1.2	* .1	0	
25			.2	.6	1.4	1.6	12	5.8	* 1.0	.1	0	
26			.2	.4	1.4	1.8	* 1.1	5.8	1.0	.1	0	
27			.2	.4	1.4	* 2.3	* 1.1	5.8	1.0	.2	0	
28			.2	.4	* 1.4	3.1	12	5.6	1.0	.2	0	
29			.2	.4	-	3.4	11	5.2	1.0	.2	0	
30			.2	.4	-----	3.2	10	5.1	.9	.2	0	
31			.2	.4	-----	3.4	-----	* 5.0	-----	.2	0	
Total	0	0	8.9	11.2	76.2	54.6	322.0	239.5	80.1	7.8	0.6	0
Mean	0	0	0.29	0.36	2.72	1.76	10.7	7.73	2.67	0.25	0.02	0
Max	0	0	1.4	1.4	11	3.4	15	10	4.8	0.9	0.1	0
Min	0	0	0	0.2	0.3	1.2	3.6	5.0	0.9	0.1	0	0
Ac-ft	0	0	18	22	151	108	639	475	159	15	1.2	0

Calendar year 1961: Max 16 Min 0 Mean 0.11 Ac-ft 82

Water year 1961-62: Max 15 Min 0 Mean 2.19 Ac-ft 1,590

Peak discharge (base, 20 cfs).--Feb. 8 (2300) 20 cfs (2.00 ft).

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

Note.--No gage-height record July 13-23.

10-2585. Palm Canyon Creek near Palm Springs, Calif.

Location.--Lat 33°44'55", long 116°32'15", in S½ sec. 11, T.5 S., R.4 E., on right bank three-quarters of a mile upstream from Murray Canyon Creek and 6 miles south of Palm Springs.

Drainage area.--94.0 sq mi.

Records available.--January 1930 to January 1942, October 1947 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 700 ft (from topographic map). Prior to Jan. 14, 1942, at datum 0.2 ft higher.

Average discharge.--26 years (1930-41, 1947-62), 4.20 cfs (3,040 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

Extremes.--Maximum discharge during year, 4.8 cfs Mar. 9 (gage height, 1.63 ft); no flow most of year.

1930-42, 1947-62: Maximum discharge, 3,850 cfs Feb. 6, 1937 (gage height, 5.60 ft, datum then in use), from rating curve extended above 120 cfs on basis of velocity-area study; no flow for several months in most years.

Remarks.--Records good. Apr. 9-27, stream diverted for irrigation on Indian reservation downstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 27-30)

1.1	0	1.4	1.3
1.2	.1	1.5	3.2
1.3	.4	1.6	6.2

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0.9	2.1	(*)				
2				0	0	.9	2.1					
3				*0	0	.9	1.9					
4				0	0	.9	1.7					
5				0	0	.9	1.5					
6			(*)	0	0	1.4	1.5					(*)
7				0	0	2.9	1.4					
8		(*)		0	*0	2.3	.9					
9				0	0	2.5	0					
10				0	0	3.4	0					
11	(*)			0	.6	2.3	0					
12			(*)	0	1.2	1.9	*0					
13				0	*.7	1.7	0					
14				0	.4	1.5	0					
15				0	.3	1.4	0					
16				0	.4	*1.3	0					
17				0	.4	1.3	0					
18				0	.4	1.3	0					
19				0	1.0	1.5	0					
20				0	2.3	1.7	0					
21				.1	2.1	1.5	0					(*)
22				0	1.3	1.5	0					
23				0	1.2	1.9	0					
24				*0	1.2	1.9	0			(*)		
25				0	1.3	1.7	0					
26				0	*1.2	1.7	0					
27				0	1.0	*1.7	*.1					
28				0	.9	2.3	.1		(*)			
29				0	-	2.3	.1					
30				0	-----	2.3	0					
31				0	-----	2.1	-----					
Total	0	0	0	0.1	17.9	53.8	13.4	0	0	0	0	0
Mean	0	0	0	0.003	0.64	1.74	0.45	0	0	0	0	0
Max	0	0	0	0.1	2.3	3.4	2.1	0	0	0	0	0
Min	0	0	0	0	0	0.9	0	0	0	0	0	0
Ac-ft	0	0	0	0.2	36	107	27	0	0	0	0	0

Calendar year 1961: Max 2.9 Min 0 Mean 0.008 Ac-ft 5.8

Water year 1961-62: Max 3.4 Min 0 Mean 0.23 Ac-ft 170

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

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

## SALTON SEA BASIN

10-2590. Andreas Creek near Palm Springs, Calif.

Location.--Lat 33°45'36", long 116°32'57", in NW 1/4 SE 1/4 sec. 3, T.5 S., R.4 E., on left bank at Bureau of Indian Affairs diversion dam, 1.1 miles above mouth and 5.1 miles south of Palm Springs.

Drainage area.--8.78 sq mi.

Records available.--October 1948 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (from topographic map). Prior to Mar. 25, 1949, reference point at same site at different datum.

Average discharge.--14 years, 1.87 cfs (1,350 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 28 cfs Feb. 8 (gage height, 2.12 ft); minimum daily, 0.1 cfs Aug. 25, Aug. 29 to Sept. 2. 1948-62: Maximum discharge, 1,960 cfs Aug. 31, 1954 (gage height, 7.11 ft), from rating curve extended above 80 cfs on basis of slope-area measurement of peak flow; no flow at times in June and July 1961.

Remarks.--Records good. One small diversion for domestic use about 1 mile above station.

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

1.3	0
1.4	1.1
1.5	2.6
1.6	4.5
1.8	9.9
1.9	14

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.8	1.0	1.2	1.7	2.4	2.4	*1.7	1.2	0.4	0.3	0.1
2	.2	.8	8.4	1.2	1.7	2.4	2.4	1.7	1.0	.4	.3	.1
3	.2	.7	2.9	*1.2	1.7	2.3	2.4	1.5	1.0	.4	.3	.2
4	.2	.7	2.0	1.2	1.7	2.3	*2.4	1.5	1.0	.4	.3	.3
5	.2	.7	1.5	1.2	1.7	2.4	2.6	1.4	1.2	.4	.3	.3
6	.2	.7	*1.2	1.2	1.7	3.4	2.6	1.2	1.1	.4	.3	*.2
7	.2	.7	1.2	1.2	1.8	3.1	2.6	1.1	1.1	.4	*.3	.2
8	.3	*.7	1.2	1.1	*1.2	2.9	2.7	1.1	1.1	.4	.2	.2
9	.4	.7	1.2	1.1	7.2	3.3	2.7	1.2	1.1	.4	.3	.3
10	.5	.7	1.2	1.1	5.0	3.3	2.7	1.2	1.0	*.3	.2	.3
11	*.5	.7	1.2	1.1	6.2	3.1	2.6	1.2	1.0	.3	.2	.2
12	.4	.7	*1.1	1.1	5.5	2.9	2.6	1.2	*1.0	.4	.2	.2
13	.2	.7	1.1	1.2	*3.8	2.7	2.4	1.4	1.0	.5	.2	.2
14	.2	.6	1.4	1.1	3.4	2.6	2.3	1.8	1.0	.5	.2	.2
15	.2	.8	1.4	1.1	3.4	2.6	2.1	1.8	1.2	.5	.3	.2
16	.3	.8	1.2	1.1	3.8	*2.4	*2.1	1.8	1.1	.5	.3	.2
17	.4	.8	1.2	*1.1	3.3	2.3	2.1	*1.7	1.0	.5	.3	.2
18	.4	.7	1.1	1.1	2.9	2.3	2.1	1.4	1.0	.5	.2	.2
19	.5	.7	1.1	1.1	4.8	2.4	2.1	1.2	.8	.5	.2	.2
20	.5	1.7	1.1	3.6	3.8	2.3	2.0	1.2	.7	.4	*.2	.2
21	.6	1.5	1.1	2.7	3.3	2.3	2.0	1.2	.5	.5	.2	*.2
22	.6	*1.0	*1.1	2.0	2.9	2.3	2.0	1.2	.5	.3	.2	.4
23	.6	1.0	1.1	1.8	2.7	2.7	1.8	1.1	.5	.3	.3	.3
24	.6	1.0	1.1	*1.8	2.6	2.3	1.8	1.1	.4	*.3	.2	.3
25	.6	2.0	1.1	1.7	2.9	2.3	1.8	1.1	.4	.2	.1	.4
26	*.6	1.7	1.2	1.7	*2.6	2.3	1.8	1.1	.4	.3	.2	.4
27	.7	1.1	1.2	1.7	2.6	2.4	1.8	1.2	.4	.3	.2	.4
28	.7	1.0	1.2	1.7	2.4	2.6	1.7	1.2	*.5	.3	.2	.4
29	.7	1.0	1.2	1.7	-	2.6	1.7	1.2	.4	.3	.1	.4
30	.8	1.0	1.2	1.7	-----	2.4	1.8	1.2	.4	.3	.1	.4
31	.8	-----	1.2	1.7	-----	2.4	-----	*1.2	-----	.3	.1	-----
Total	13.5	27.9	46.4	45.5	99.1	80.0	66.1	41.1	25.0	11.9	7.0	7.8
Mean	0.44	0.93	1.50	1.47	3.54	2.58	2.20	1.33	0.83	0.38	0.23	0.26
Max	0.8	2.0	8.4	3.6	12	3.4	2.7	1.8	1.2	0.5	0.3	0.4
Min	0.2	0.7	1.0	1.1	1.7	2.3	1.7	1.1	0.4	0.2	0.1	0.1
Ac-ft	27	55	92	90	197	159	131	82	50	24	14	15
Calendar year 1961: Max 8.4 Min 0 Mean 0.69 Ac-ft 497												
Water year 1961-62: Max 12 Min 0.1 Mean 1.29 Ac-ft 936												
Peak discharge (base, 30 cfs).--No peak above base.												

\* Discharge measurement made on this day.



## SALTON SEA BASIN

51

10-2592. Deep Creek near Palm Desert, Calif.

Location.--Lat 33°37'50", long 116°23'30", in SE 1/4 sec. 19, T. 6 S., R. 6 E., on left bank 500 ft downstream from unnamed tributary, and 6.3 miles south of Palm Desert.

Drainage area.--30.6 sq mi.

Records available.--May to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,440 ft above mean sea level (from topographic map).

Extremes.--No flow during period May to September 1962.

Maximum discharge observed, 1.3 cfs Feb. 10, 1962.

Remarks.--No flow since May 1, date of establishment. No regulation or diversion.

Discharge measurements, in cubic feet per second, February to June 1962

Date	Discharge	Date	Discharge
Feb. 10	1.32	Apr. 12	0.33
26	.58	27	.02
Mar. 20	.38	June 5	.02
27	.42		

Location.--Lat 33°30'39", long 116°03'35", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.33, T.7 S., R.9 E., on left bank 0.3 mile upstream from mouth and 4.3 miles south of Mecca.

Records available.---October 1960 to September 1962 in reports of the Geological Survey. May 1957 to September 1960 in reports of Coachella Valley County Water District.

Cooperation.--Forty-four discharge measurements furnished by Coachella Valley County Water District.

Discharge, in cubic feet per second, water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	69	65	67	78	91	94	94	112	106	116	118
2	84	66	66	68	82	96	98	97	111	106	111	117
3	80	64	64	72	80	98	101	101	111	102	114	116
4	82	65	64	72	84	108	104	100	109	102	116	121
5	77	63	68	72	86	119	99	103	108	98	112	119
6	77	61	66	74	84	108	91	102	111	98	113	105
7	75	62	68	77	85	107	92	108	110	101	115	110
8	79	68	68	79	85	93	106	102	107	99	107	113
9	77	70	67	79	85	89	110	105	106	97	111	112
10	71	72	65	78	85	81	102	100	104	95	109	117
11	72	73	64	78	85	80	101	106	108	98	107	118
12	72	72	64	82	88	76	106	104	101	101	114	112
13	72	70	68	74	91	76	107	106	99	98	116	111
14	72	71	63	74	92	79	109	106	99	106	112	110
15	74	68	74	72	91	83	111	100	98	105	115	109
16	76	75	72	78	94	84	113	102	96	102	114	108
17	77	63	72	78	96	86	111	100	95	97	117	108
18	75	63	70	78	94	89	115	101	94	95	117	114
19	71	65	68	78	98	95	119	105	95	96	117	128
20	74	65	68	76	91	100	113	107	94	99	108	126
21	76	66	68	74	92	103	109	107	96	107	112	123
22	77	60	70	70	92	99	106	104	97	110	115	124
23	68	62	68	80	93	98	99	116	100	112	117	127
24	70	62	67	83	95	95	99	125	99	108	120	125
25	70	60	68	81	92	96	96	123	103	108	122	123
26	70	58	68	80	88	98	97	114	105	105	119	127
27	68	59	66	80	88	93	96	113	100	112	125	126
28	70	66	67	80	88	97	100	118	100	107	122	107
29	65	63	69	77	-	95	101	112	103	111	117	108
30	62	63	71	78	-	92	92	112	104	112	114	120
31	62	-	70	77	-	91	-	112	-	110	115	-
Total	2,281	1,964	2,096	2,366	2,482	2,895	3,097	3,305	3,075	3,203	3,559	3,507
Mean	73.6	65.5	67.6	76.3	88.6	93.4	103	107	102	103	115	117
Max	86	75	74	83	98	119	119	125	112	112	125	128
Min	62	58	63	67	78	76	91	94	94	95	107	107
Ac-ft	4,520	3,900	4,160	4,690	4,920	5,740	6,140	6,560	6,100	6,350	7,060	6,960
Calendar year 1961:	Max	98	Min	47	Mean	73.7	Ac-ft	53,390				
Water year 1961-62:	Max	128	Min	58	Mean	92.7	Ac-ft	67,100				

# SALTON SEA BASIN

53

10-2596. Cottonwood Wash near Cottonwood Spring, Calif.

Location.--Lat  $33^{\circ}44'40''$ , long  $115^{\circ}49'35''$ , in  $SE\frac{1}{4}SW\frac{1}{4}$  sec.10, T.5 S., R.11 E., on right bank (revised) on Cottonwood Spring road, one mile northwest of Cottonwood Spring.

Drainage area.--0.71 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 3,100 ft (from topographic map).

Extremes.--No flow during year.

1959-62: Maximum discharge, about 1 cfs Sept. 5, 1960 (gage height, 1.33 ft, from crest-stage gage), estimated on basis of velocity-area study; no daily flow for entire period including maximum day, which was less than 0.05 cfs.

Remarks.--No flow since Oct. 1, 1959, date station established. Monthly precipitation, in inches, water year 1961-62 is as follows: November, 0.2; December, 0.6; January, 0.4; the year, 1.2.

# EMERSON LAKE BASIN

10-2602. Pipes Creek near Yucca Valley, Calif.

Location.--Lat  $34^{\circ}10'20''$ , long  $116^{\circ}32'45''$ , in  $NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$  sec.15, T.1 N., R.4 E., on left bank 2.8 miles upstream from Antelope Wash, and 6.8 miles northwest of Yucca Valley.

Records available.--September 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,435.40 ft above mean sea level, datum of 1929.

Remarks.--No flow since station first established Sept. 3, 1958. No regulation or diversion.

# LUCERNE LAKE BASIN

10-2604. Cushenbury Creek near Lucerne Valley, Calif.

Location.--Lat  $34^{\circ}21'50''$ , long  $116^{\circ}50'35''$ , in  $NE\frac{1}{4}$  sec.14, T.3 N., R.1 E., on right bank 0.3 mile upstream from San Bernardino National Forest boundary and 9 miles southeast of Lucerne Valley.

Drainage area.--6.36 sq mi.

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,750 ft (from topographic map).

Average discharge.--5 years, 0.004 cfs (2.9 acre-ft per year).

Extremes.--No flow during year.

1957-62: Maximum discharge, 35 cfs Apr. 11, 1958 (gage height, 1.90 ft), on basis of area-velocity study; no flow in most years.

Remarks.--No flow since Apr. 15, 1958. No regulation or diversion.

## MOJAVE RIVER BASIN

10-2605. Deep Creek near Hesperia, Calif.

Location.--Lat 34°20'30", long 117°13'40", in SE $\frac{1}{4}$  sec.18, T.3 N., R.3 W., on right bank 0.5 mile upstream from confluence with West Fork Mojave River and 7 miles southeast of Hesperia.

Drainage area.--137 sq mi.

Records available.--October 1904 to September 1922, October 1929 to September 1962. Monthly discharge only prior to January 1930, published in WSP 1314. Combined creek and canal, October 1950 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 3,050 ft (from topographic map). Prior to Sept. 30, 1922, staff gage and water-stage recorder at same site at different datum. December 1929 to Apr. 20, 1938, at same site at different datum. Apr. 21 to Dec. 10, 1938, at site 0.25 mile downstream at different datum.

Average discharge.--51 years, 68.3 cfs (49,450 acre-ft per year); median of yearly mean discharges, 49 cfs (35,500 acre-ft per year). Average combined discharge of creek and canal, 12 years (1950-62), 41.1 cfs (29,760 acre-ft per year); median of yearly mean combined discharges, 23 cfs (16,700 acre-ft per year).

Extremes.--Maximum discharge during year, 7,040 cfs Feb. 11 (gage height, 6.55 ft), from rating curve extended above 200 cfs on basis of slope-area measurement at gage height 11.3 ft; minimum daily, 0.4 cfs Aug. 29, Sept. 3, 4, 7. 1904-22, 1929-62: Maximum discharge, 46,600 cfs Mar. 2, 1938, by slope-area measurement of peak flow; no flow July 17, 18, 1961.

Remarks.--Records good. Discharge measurements generally made twice a month. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft), used principally for recreation. Hesperia Water Co.'s canal diverts water about 2 $\frac{1}{2}$  miles above station for irrigation of about 1,500 acres and domestic use below station. No diversion since May 9, 1959.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Dec. 1, Dec. 18 to Feb. 2, July 21 to Aug. 16, Aug. 23 to Sept. 22)

0.7	0.4	1.2	7.3	2.1	76	3.5	980
.8	1.0	1.4	9.6	2.4	166	4.0	1,620
.9	2.0	1.6	16	2.7	313	4.5	2,430
1.0	3.4	1.8	30	3.0	518	5.4	4,320

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	3.4	4.9	6.6	25	65	179	48	21	5.6	1.2	0.5
2	.8	2.8	1,690	6.6	28	65	183	45	19	4.8	1.2	.5
3	1.0	2.7	202	6.9	31	67	183	41	18	4.8	1.1	.4
4	1.2	2.6	70	6.9	31	67	188	41	18	4.9	.8	.4
5	1.2	2.4	44	6.9	31	70	192	42	18	4.8	.7	.5
6	1.2	2.4	29	6.6	31	139	224	37	16	4.8	.6	.5
7	1.2	2.4	21	6.9	30	139	234	36	14	4.4	.6	.4
8	1.6	2.6	16	6.9	576	93	219	34	15	4.1	.6	.5
9	1.1	2.6	13	6.9	1,790	90	219	32	15	3.5	.6	.5
10	1.3	2.6	11	6.9	1,160	86	209	31	13	3.4	.7	.5
11	1.6	2.7	10	6.9	4,150	78	166	29	12	3.2	.7	.5
12	1.7	2.4	9.5	6.2	2,220	74	148	31	12	3.2	.7	.5
13	1.7	2.7	8.7	6.2	466	72	141	29	11	3.1	.7	.5
14	1.7	2.8	8.3	6.2	302	72	141	31	12	3.2	.6	.5
15	1.8	2.7	8.3	6.0	409	74	141	36	17	3.2	.6	.6
16	1.8	2.8	7.5	6.6	1,180	76	124	37	18	2.8	.6	.6
17	1.7	3.1	7.1	6.9	473	86	118	42	17	2.7	.6	.6
18	1.5	3.2	7.1	6.9	275	95	112	56	14	2.3	.6	.6
19	1.4	3.2	7.1	7.3	188	90	106	56	11	2.0	.6	.6
20	1.5	3.5	7.3	15	141	88	103	41	9.6	2.3	.5	.6
21	1.6	6.2	7.3	27	118	81	86	33	9.3	2.3	.5	.6
22	1.6	4.1	7.3	15	106	86	74	29	8.9	2.0	.5	.6
23	1.7	3.2	7.1	12	106	98	72	27	7.7	2.0	.5	.6
24	1.8	3.1	6.6	12	98	88	72	25	6.6	2.0	.5	.6
25	1.9	3.9	6.6	11	88	93	68	24	6.6	1.9	.5	.7
26	2.0	6.4	6.6	14	78	121	65	25	6.6	1.8	.5	.7
27	2.1	5.6	6.9	16	72	155	61	29	6.9	1.7	.5	.7
28	2.7	4.8	7.1	19	65	183	61	27	6.6	1.6	.5	.8
29	2.7	4.6	7.1	21	-	166	56	26	6.4	1.5	.4	.9
30	2.7	4.8	6.9	22	-----	166	56	25	6.0	1.4	.5	.9
31	3.1	-----	6.6	24	-----	170	-----	22	-----	1.2	.5	-----
Total	51.8	102.3	2,257.9	3,353	14,268	3,093	4,001	1,067	372.2	92.5	19.7	17.4
Mean	1.67	3.41	72.8	10.8	510	99.8	133	34.4	12.4	2.98	0.64	0.58
Max	3.1	6.4	1,690	27	4,150	183	234	56	21	5.6	1.2	0.9
Min	0.8	2.4	4.9	6.0	25	65	56	22	6.0	1.2	0.4	0.4
Ac-ft	103	203	4,480	665	28,300	6,130	7,940	2,120	738	183	39	35
Calendar year 1961:	Max 1,690	Min 0	Mean 10.4	Ac-ft 7,510								
Water year 1961-62:	Max 4,150	Min 0.4	Mean 70.4	Ac-ft 50,940								

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1130	6.27	6,360	2-16	0300	4.44	1,530
2-11	2100	6.55	7,040				

Note.--No diversion by Hesperia Water Co.'s canal during water year; therefore, there is no need to publish a table of combined flow of creek and canal.

MOJAVE RIVER BASIN

55

10-2610: West Fork Mojave River near Hesperia, Calif.

Location.--Lat 34°20'27", long 117°14'24", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.18, T.3 N., R.4 W., on left bank at highway bridge, 0.5 mile upstream from confluence with Deep Creek and 6.5 miles southeast of Hesperia.

Drainage area.--74.8 sq mi.

Records available.--October 1904 to September 1922, October 1929 to September 1962. Prior to February 1930, monthly discharge only, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 3,050 ft (from topographic map). Prior to June 30, 1922, staff gage and water-stage recorder several hundred feet downstream at different datum.

Average discharge.--51 years, 40.1 cfs (29,030 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,750 cfs Feb. 11 (gage height, 6.90 ft), from rating curve extended above 950 cfs; no flow for much of year.

1904-22, 1929-62: Maximum discharge, 26,100 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Water diverted from Lake Gregory above station for domestic use and fire protection. One small diversion for irrigation above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	8.0	* 58	31	1.7	0.1			
2		0	218	0	7.2	49	28	1.4	.1			
3		0	* 26	0	5.8	44	28	1.2	.1	(*)		
4		0	* .1	0	5.5	42	* 31	.8	.1			
5		0	0	0	* 5.2	* 39	31	.6	.1			
6		0	0	0	4.4	73	22	.5	.1			
7		* 0	0	0	4.2	98	21	* .4	.1			
8		0	0	0	94	73	20	.2	* .1			
9	(*)	0	0	* 0	* 4 59	70	19	.2	.1			
10		0	0	0	290	60	16	.2	.1			
11		0	0	0	1340	52	15	.2	0			
12		0	0	0	1430	49	15	.3	0			
13		0	0	0	* 226	43	* 14	.3	0			
14		0	0	0	* 119	39	11	.8	.1			
15		0	0	0	179	* 35	9.0	4.1	.1			
16		0	0	0	* 251	35	7.7	* 5.0	.1			
17		0	0	0	141	39	6.8	5.5	0			(*)
18		0	0	0	102	41	* 5.3	4.4	0			
19		0	0	0	193	46	5.5	4.1	* 0			
20		1.1	0	37	188	52	6.3	1.8	0		(*)	
21		1.9	0	65	141	49	6.8	* 1.1	0			
22		.1	0	44	106	* 44	5.9	1.0	0			
23		0	0	29	* 88	60	6.3	.7	0			
24		0	0	14	89	54	6.8	.4	0			
25		.2	0	* 7.6	82	50	7.2	.4	0			
26		0	0	6.9	74	47	8.1	.6	0	(*)		
27		0	0	6.9	68	40	* 7.7	2.5	0			
28		0	0	8.3	63	36	6.3	* 1.6	0			
29		0	0	8.7	-	35	3.3	.1	0			
30		0	.1	8.3	-----	34	2.0	.1	0			
31		-----	0	8.0	-----	32	-----	.1	-----			
Total	0	3.3	244.2	243.7	5763.3	1518	403.0	42.3	1.3	0	0	0
Mean	0	0.11	7.88	7.86	206	49.0	13.4	1.36	0.04	0	0	0
Max	0	1.9	218	65	1,430	98	31	5.5	0.1	0	0	0
Min	0	0	0	0	4.2	32	2.0	0.1	0	0	0	0
Ac-ft	0	6.5	484	483	11,430	3,010	799	84	2.6	0	0	0

Calendar year 1961: Max 218 Min 0 Mean 0.81 Ac-ft 586

Water year 1961-62: Max 1,430 Min 0 Mean 22.5 Ac-ft 16,300

Peak discharge (base, 500 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0830	3.75	685	2-15	2230	3.86	568
2-11	1930	6.90	3,750				

## MOJAVE RIVER BASIN

10-2615. Mojave River at lower narrows, near Victorville, Calif.

Location.--Lat  $34^{\circ}34'22''$ , long  $117^{\circ}19'08''$ , in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.29, T.6 N., R.4 W., on left bank 1,000 ft upstream from bridge on county road, formerly U.S. Highway 66, 2,500 ft downstream from Atchison, Topeka and Santa Fe Railway bridge, and 3 miles northwest of Victorville.

Drainage area.--530 sq mi.

Records available.--February 1899 to September 1906, October 1930 to September 1962. Monthly discharge only for January to September 1906, October, November 1930, published in WSP 1314. Prior to October 1936, published as "at Victorville" and as "near Victorville" in 1937.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,650 ft (from topographic map). Prior to Aug. 1, 1906, staff gage and Nov. 12, 1930, to Dec. 8, 1936, water-stage recorder, at site 3.8 miles upstream at different datum. Dec. 9, 1936, to Mar. 28, 1938, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--39 years (1899-1906, 1930-62), 74.5 cfs (53,940 acre-ft per year); median of yearly mean discharges, 41 cfs (29,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,860 cfs Feb. 11 (gage height, 5.44 ft); minimum daily, 8.7 cfs Sept. 19-20. 1930-62: Maximum discharge, 70,600 cfs Mar. 2, 1938 (gage height, 18.7 ft, present datum), from rating curve extended above 10,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 6 cfs Aug. 19, 21, 26, 1951.

Remarks.--Records good. Periodic regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 5,000 acres above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	26	31	38	a 42	31	30	21	14	16	12	e 10
2	21	24	553	38	a 40	32	27	23	14	16	12	
3	23	23	307	34	a 40	34	26	24	14	* 14.	11	
4	21	21	67	34	a 40	29	* 26	24	16	14	10	
5	20	21	54	34	a 40	29	26	26	* 17	14	10	
6	18	24	46	31	a 40	29	26	24	18	14	* 11	(*)
7	17	* 23	36	31	* 40	29	27	* 24	18	16	11	
8	17	21	38	29	40	27	27	24	18	16	11	
9	18	23	40	* 29	402	29	27	23	18	18	10	
10	* 20	23	40	27	600	29	27	21	18	18	11	
11	20	23	40	27	1,320	27	27	21	17	16	11	a 10
12	20	21	38	29	* 1,760	27	27	20	17	16	11	
13	18	18	* 38	29	* 150	27	27	20	* 18	14	13	
14	17	18	38	29	44	27	27	21	20	13	12	
15	16	21	36	29	40	27	27	23	21	12	11	
16	16	21	36	29	* 92	* 29	27	* 21	20	13	10	* 11
17	14	23	36	29	29	29	27	20	18	13	10	
18	14	26	34	27	26	32	* 29	20	17	14	11	
19	14	26	34	29	40	34	29	18	* 17	16	8.7	
20	16	* 31	32	31	34	34	29	20	16	17	8.7	
21	18	32	32	34	38	34	26	21	16	16	11	(*)
22	20	24	32	31	40	34	24	23	16	13	11	
23	20	24	34	36	* 40	36	23	20	16	14	12	
24	20	29	34	38	40	38	24	20	16	12	13	
25	21	27	36	* 38	42	38	26	20	16	12	e 10	
26	* 20	27	38	38	44	36	23	20	16	* 13	12	e 10
27	20	* 29	* 38	40	42	29	* 23	27	16	12	12	
28	18	32	38	40	40	26	21	* 26	16	12	13	
29	20	34	36	a 40	-	* 27	21	20	16	12	13	
30	20	34	36	a 40	-----	26	23	14	16	12	13	
31	24	-----	34	a 40	-----	34	-----	14	-----	12	-----	-----
Total	579	749	1,962	1,028	5,185	949	779	663	506	440	327	322.4
Mean	18.7	25.0	63.3	33.2	185	30.6	26.0	21.4	16.9	14.2	10.5	10.7
Max	24	34	553	40	1,760	38	30	27	21	18	13	13
Min	14	18	31	27	26	26	21	14	14	12	-	8.7
Ac-ft	1,150	1,490	3,890	2,040	10,280	1,880	1,550	1,320	1,000	873	649	639

Calendar year 1961: Max 553 Min 8.7 Mean 27.6 Ac-ft 20,000  
 Water year 1961-62: Max 1,760 Min 8.7 Mean 37.0 Ac-ft 26,760

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1730	4.86	2,860	2-16	1330	2.27	202
2-11	2400	5.44	3,860				

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

## MOJAVE RIVER BASIN

57

10-2615. Mojave River at lower narrows, near Victorville, Calif.--Continued.

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

Extremes.--Maximum temperature during period, 94°F July 23, Aug. 14; minimum, 45°F Mar. 23.

Temperature (°F) of water, water year October 1961 to September 1962																									
Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	
1												-	-	75	53	78	54	86	61	88	62	88	64	86	61
2												-	-	77	53	76	57	84	61	87	63	84	67	88	62
3												-	-	68	55	83	59	81	60	89	63	86	64	84	62
4												-	-	74	55	76	59	85	58	92	62	84	63	81	61
5												-	-	72	54	75	59	84	59	89	64	87	62	83	59
6												-	-	69	56	82	57	80	60	87	64	89	64	84	60
7												-	-	76	54	76	58	82	59	89	64	89	66	-	-
8												-	-	68	55	86	55	88	61	90	64	92	66	-	-
9												-	-	74	57	74	56	89	62	89	65	88	67	-	-
10												-	-	68	58	73	58	88	62	86	65	88	66	-	-
11												-	-	70	52	77	58	88	61	91	66	90	65	-	-
12												-	-	69	54	76	53	86	62	85	66	90	65	-	-
13												-	-	79	54	71	54	78	62	91	64	89	67	-	-
14												-	-	77	56	65	54	74	56	92	64	94	68	-	-
15												-	-	70	54	75	52	75	56	90	66	89	68	-	-
16												-	-	81	56	62	54	84	57	90	66	91	69	-	-
17												72	50	83	58	77	51	84	60	89	65	90	68	85	64
18												63	49	81	56	77	56	88	63	86	63	89	69	84	64
19												66	53	77	58	78	55	91	64	87	62	86	66	82	64
20												63	51	72	53	74	56	91	64	90	63	86	66	78	62
21												67	49	77	52	72	53	90	64	85	69	84	66	82	58
22												68	51	74	54	83	54	87	64	93	68	86	66	83	62
23												65	45	82	55	81	56	84	62	94	68	88	64	85	66
24												67	47	73	59	78	56	87	61	91	68	88	65	86	67
25												74	50	70	60	76	55	88	62	91	66	91	66	84	66
26												69	52	70	57	75	55	88	62	92	67	87	67	82	67
27												74	51	76	57	72	54	82	62	93	69	89	65	77	62
28												68	52	78	57	82	56	89	63	92	68	82	66	77	61
29												70	52	73	54	77	59	88	62	91	66	81	64	78	61
30												73	52	72	54	82	60	90	62	87	63	83	63	80	61
31												74	52	-	-	82	60	-	-	91	63	85	62	-	-
Avg												-	-	74	55	76	56	85	61	90	65	88	66	-	-

## MOJAVE RIVER BASIN

10-2618. Beacon Creek at Helendale, Calif.

Location.--Lat 34°45'00", long 117°18'53", in SE $\frac{1}{4}$  sec.29, T.8 N., R.4 W., on county road (formerly U. S. Highway 66 and 91), 0.6 mile northeast of Helendale.

Drainage area.--0.72 sq mi.

Records available.--Water year 1959-60 (annual maximum), October 1960 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,470 ft (from topographic map). Jan. 13, 1959, to Sept. 30, 1960, crest-stage gage at same site and datum.

Extremes.--No flow during year.

1959-62: Maximum discharge, 28 cfs Sept. 13, 1959 (gage height, 13.12 ft, revised, from crest-stage gage), by indirect measurement of peak flow through culvert; no daily flow in each year.

Remarks.--No flow since Oct. 1, 1960, date of establishment. No regulation or diversion. Monthly precipitation, in inches, is as follows: November, 0.2; December, 1.2; February, 0.4; September, 0.1; the year, 1.9.

10-2625. Mojave River at Barstow, Calif.

Location.--Lat 34°54'25", long 117°01'20", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.10 N., R.1 W., on left bank 75 ft upstream from bridge on U. S. Highway 91 at Barstow.

Records available.--October 1930 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,089.80 ft above mean sea level, unadjusted.

Average discharge.--32 years, 24.8 cfs (17,950 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year).

Extremes.--Maximum discharge during year, 1,200 cfs Feb. 12 (gage height, 3.08 ft); no flow for most of year.

1930-62: Maximum discharge, 64,300 cfs Mar. 3, 1938 (gage height, 8.60 ft), by slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 15,000 acres above station.

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

Dec. 3.....\* 1.2  
4......1  
Feb. 12.....\*369

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	1.3	1.2	0	0.04	2.6
February 1962.....	369	369	0	13.2	732
Calendar year 1961.....	-	1.2	0	.004	2.6
Water year 1961-62.....	-	369	0	1.01	735

Peak discharge (base, 100 cfs).--Feb. 12 (1000) 1,200 cfs (3.08 ft).

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above.



MOJAVE RIVER BASIN

59

10-2630. Mojave River at Afton, Calif.

Location.--Lat 35°02'15", long 116°23'00", in SE 1/4 sec.18, T.11 N., R.6 E., on downstream end of right pier of Union Pacific Railroad bridge, 0.3 mile west of Afton.

Records available.--October 1929 to September 1932, October 1952 to September 1962. Records for the water year 1930 incomplete, yearly estimate published in WSP 1314.

Gage.--Water-stage recorder. Datum of gage is 1,400.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Dec. 21, 1929, to Sept. 30, 1932, water-stage recorder at site 1.7 miles downstream at different datum.

Average discharge.--13 years, 2.11 cfs (1,530 acre-ft per year); median of yearly mean discharges, 1.3 cfs (940 acre-ft per year).

Extremes.--Maximum discharge during year, 12 cfs Feb. 14 (gage height, 3.03 ft); no flow Aug. 29-30.

1929-32, 1952-62: Maximum discharge, 3,550 cfs Feb. 10, 1932 (gage height, 4.70 ft, site and datum then in use); no flow June 29-30, July 14-29, 1961, Aug. 29-30, 1962.

Remarks.--Records good. Natural flow affected by ground-water withdrawals, diversions, municipal use, and storage in two small reservoirs.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 16 to Sept. 30)

2.6	0
2.7	.4
2.8	1.5
2.9	3.7
3.0	7.4

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.7	1.1	1.3	1.2	1.2	1.2	0.7	0.6	0.3	0.2	0.2
2	.5	.7	1.2	1.2	* 1.1	1.2	1.2	.7	.6	.3	.1	.2
3	.6	* .7	1.3	1.2	1.1	1.2	1.2	.6	.3	.3	.1	.2
4	.6	.7	1.3	1.2	1.2	1.2	1.2	.7	.4	.4	.1	.2
5	.6	.7	1.3	1.2	1.2	1.2	1.2	.6	.4	.4	.1	.2
6	.6	.7	1.1	1.2	1.3	1.2	1.2	.6	.4	.3	* .1	.2
7	.4	.7	1.1	1.2	1.3	1.2	1.2	.6	* .4	.3	.1	.1
8	.5	.8	1.1	1.2	1.3	1.2	1.2	* .6	.3	.3	.1	.1
9	.6	.7	1.1	1.3	1.5	1.2	1.2	.7	.3	.1	.1	.2
10	* .6	.7	1.1	1.2	1.3	1.2	* 1.2	.7	.3	.1	.1	.2
11	.6	.7	1.1	1.2	1.3	1.2	1.2	.8	.2	* .1	.2	.2
12	.6	.7	1.1	1.2	* 1.2	1.2	1.1	.9	.2	.1	.2	.2
13	.6	.7	1.1	1.2	1.2	* 1.2	1.2	1.1	.1	.1	.2	.3
14	.6	.8	* 1.1	1.2	4.6	1.2	1.1	1.3	.3	.3	.1	.3
15	.6	.8	1.1	1.2	2.0	1.2	1.1	1.5	.4	.3	.1	.3
16	.5	.8	1.1	1.2	1.3	1.2	.9	1.6	.5	.2	.2	.3
17	.5	.6	1.1	1.2	1.2	1.2	1.1	1.8	.5	.2	.2	.3
18	.5	.9	1.1	1.2	1.2	1.2	1.1	1.5	.4	.2	.1	.3
19	.5	1.1	1.1	1.3	1.2	1.2	.8	1.2	.4	.3	.1	.3
20	.5	1.2	1.2	1.3	1.2	1.2	.9	1.2	* .2	.4	.2	.2
21	.5	1.1	1.2	1.3	1.2	1.2	.9	1.3	.2	.5	.2	.3
22	.6	.9	1.2	1.2	1.2	1.2	.9	1.3	.2	.5	.2	.3
23	.6	.9	1.2	1.2	1.2	1.2	.8	1.1	.1	.4	.2	.3
24	.6	.9	1.2	1.2	1.2	1.2	.8	1.1	.2	.2	.3	.3
25	.7	.9	1.2	1.2	1.2	1.2	.8	.9	.2	.1	.3	.3
26	.7	.9	1.2	1.2	1.2	1.2	.7	1.1	.2	.1	.3	.4
27	.7	* .9	1.2	1.1	1.2	1.2	.7	1.2	.3	.2	.1	.4
28	.6	1.1	1.2	1.1	1.2	1.2	.6	1.2	.3	.3	* .1	.4
29	.6	1.1	1.2	1.2	-	1.2	.7	1.1	.3	.2	0	.4
30	.6	1.1	1.3	1.2	-----	1.2	.7	.8	.2	.1	0	.4
31	.8	-----	1.3	1.2	-----	1.2	-----	.7	-----	.2	.1	-----
Total	18.0	25.4	36.2	37.5	38.5	37.2	30.1	31.2	9.4	7.8	4.5	8.0
Mean	0.58	0.85	1.17	1.21	1.38	1.20	1.00	1.01	0.31	0.25	0.15	0.27
Max	0.8	1.2	1.3	1.3	4.6	1.2	1.2	1.8	0.6	0.5	0.3	0.4
Min	0.4	0.7	1.1	1.1	1.1	1.2	0.6	0.6	0.1	0.1	0	0.1
Ac-ft	36	50	72	74	76	74	60	62	19	15	8.9	16
Calendar year 1961:	Max 20	Min 0	Mean 0.84	Ac-ft 608								
Water year 1961-62:	Max 4.6	Min 0	Mean 0.78	Ac-ft 563								

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

\* Discharge measurement made on this day.

## ANTELOPE VALLEY

10-2635. Big Rock Creek near Valyermo, Calif.

Location.--Lat 34°25'15", long 117°50'19", in NW 1/4 sec. 20, T. 4 N., R. 9 W., on left bank 0.1 mile upstream from Punchbowl Canyon and 1.9 miles southeast of Valyermo.

Drainage area.--23.0 sq mi.

Records available.--January 1923 to September 1962. Monthly discharge only for October 1937 to January 1939, published in WSP 1314.

Prior to October 1954, published as Rock Creek near Valyermo.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 4,050 ft (from topographic map). Prior to May 4, 1938, at same site at different datums. May 4, 1938, to Jan. 26, 1939, at site 0.2 mile downstream (below Punchbowl Canyon) at different datum.

Average discharge.--39 years, 15.4 cfs (11,150 acre-ft per year); median of yearly mean discharges, 8.7 cfs (6,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,090 cfs Feb. 11 (gage height, 5.68 ft), from rating curve extended above 500 cfs on basis of slope-area measurements at gage heights 5.7 and 7.0 ft; minimum daily, 0.9 cfs Oct. 13-17.

1923-62: Maximum discharge, 8,300 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.7 cfs Nov. 5, 1951.

Remarks.--Records good. Discharge measurements made three or more times a month. No regulation or diversion. There is evidence of appreciable infiltration into the stream bed in the immediate vicinity of station.

Cooperation.--Thirty discharge measurements furnished by Los Angeles County Flood Control District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 10-19, June 1 to Sept. 30)

Oct. 1 to Feb. 10

Feb. 11 to Sept. 30

1.6	0.6	2.1	13	1.4	6.1	2.8	130
1.7	1.6	2.3	26	1.6	13	3.4	280
1.8	3.2	2.6	54	2.0	38	4.8	700
1.9	5.6	3.1	134	2.4	72		
2.0	8.8	3.6	264				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.3	1.3	2.6	3.2	22	27	36	24	16	12	9.2
2	1.0	1.3	52	2.6	3.2	21	27	36	24	16	12	9.2
3	1.0	1.3	19	2.6	3.4	21	30	37	23	16	11	8.8
4	1.0	1.2	8.4	2.6	3.4	20	31	37	22	16	11	8.8
5	1.0	1.2	5.1	2.6	3.4	20	34	37	22	16	11	8.8
6	1.0	1.2	3.8	2.6	3.4	27	36	37	21	16	11	8.8
7	1.0	1.2	3.2	2.6	3.6	24	38	36	21	16	11	8.8
8	1.0	1.2	2.8	2.6	27	23	40	36	21	16	11	8.8
9	1.0	1.2	2.8	2.8	142	22	43	36	21	16	11	8.8
10	1.0	1.2	2.6	2.8	235	21	44	36	21	16	11	8.4
11	1.0	1.2	2.6	3.0	678	19	44	35	21	16	10	8.4
12	1.0	1.2	2.6	3.0	405	18	41	34	21	15	10	8.4
13	.9	1.3	2.5	3.0	168	18	40	33	21	15	10	8.1
14	.9	1.4	2.5	3.0	97	18	40	32	21	14	10	8.1
15	.9	1.6	2.5	3.0	99	18	39	31	21	14	11	8.1
16	.9	1.6	2.3	3.0	92	18	39	32	21	14	12	7.8
17	.9	1.7	2.3	3.0	73	18	39	30	20	14	11	7.8
18	1.0	1.6	2.2	3.4	63	18	38	29	20	14	11	7.8
19	1.1	1.6	2.2	3.4	60	18	42	28	20	14	11	7.4
20	1.1	1.4	2.2	4.6	54	18	42	27	19	14	11	7.4
21	1.2	1.3	2.0	3.6	49	18	39	27	19	14	10	7.8
22	1.2	1.3	2.0	3.2	44	18	37	27	19	14	10	7.8
23	1.2	1.3	2.0	3.2	40	18	37	27	19	14	10	7.8
24	1.2	1.3	2.0	3.2	36	18	40	27	19	13	10	7.8
25	1.2	2.2	2.0	3.2	31	17	40	28	18	13	10	7.8
26	1.3	1.6	2.0	3.2	27	19	39	28	18	13	10	7.8
27	1.3	1.3	2.0	3.2	24	22	39	27	18	13	10	7.8
28	1.3	1.3	2.2	3.2	23	24	39	27	18	12	10	7.8
29	1.3	1.3	2.3	3.2	-	25	39	27	18	12	10	7.8
30	1.3	1.3	2.3	3.2	-----	26	36	26	17	12	9.6	7.8
31	1.3	-----	2.5	3.2	-----	27	-----	25	-----	12	9.6	-----
Total	33.5	41.1	148.2	94.4	2490.6	634	1139	971	608	446	328.2	245.7
Mean	1.08	1.37	4.78	3.05	89.0	20.5	38.0	31.3	20.3	14.4	10.6	8.19
Max	1.3	2.2	52	4.6	678	27	44	37	24	16	12	9.2
Min	0.9	1.2	1.3	2.6	3.2	17	27	25	17	12	9.6	7.4
Ac-ft	66	82	294	187	4,940	1,260	2,260	1,930	1,210	885	651	487

Calendar year 1961: Max 52 Min 0.9 Mean 2.30 Ac-ft 1,660

Water year 1961-62: Max 678 Min 0.9 Mean 19.7 Ac-ft 14,250

Peak discharge (base, 50 cfs).--Dec. 2 (1030) 140 cfs (3.13 ft); Feb. 11 (1500) 1,090 cfs (5.68 ft).

ANTELOPE VALLEY

61

10-2635. Big Rock Creek near Valyermo, Calif.--Continued.

Water temperatures: January to September 1962.

Maximum temperature during the period, 65°F June 20-21; minimum, 42°F Jan. 23.

Temperature (°F) of water, water year October 1961 to September 1962																								
Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1							-	-	54	44	50	46	53	46	57	48	60	52	62	54	63	56	62	56
2							-	-	-	-	50	46	53	46	58	50	61	53	62	54	62	56	62	57
3							-	-	-	-	50	46	53	46	58	50	60	52	62	54	62	55	62	57
4							-	-	-	-	50	46	54	46	58	50	58	50	62	55	61	55	61	56
5							-	-	52	43	49	47	54	47	58	50	59	51	62	56	62	56	60	56
6							-	-	52	42	47	45	54	47	58	50	59	50	63	56	62	56	61	56
7							-	-	50	48	50	46	54	47	57	50	60	52	63	55	63	57	61	57
8							-	-	49	46	51	46	54	47	58	50	60	52	63	56	63	57	61	56
9							-	-	47	46	50	46	54	48	58	50	60	52	63	56	63	58	61	56
10							-	-	46	45	50	46	53	47	57	50	60	52	63	56	62	55	61	57
11							-	-	46	46	49	46	54	46	58	49	61	53	63	56	63	56	60	56
12							-	-	48	46	50	46	54	47	56	48	61	53	61	56	63	56	60	56
13							-	-	50	46	50	46	54	47	55	49	59	53	62	55	64	57	60	55
14							-	-	50	48	50	45	54	47	55	49	59	53	62	55	63	58	60	54
15							-	-	48	46	50	45	54	47	56	49	60	53	62	55	62	58	60	56
16							-	-	48	46	50	46	55	47	54	50	62	54	62	55	64	59	61	57
17							-	-	49	46	50	46	55	48	58	50	64	56	62	55	64	58	61	58
18							48	44	50	46	48	46	55	48	58	50	64	57	62	54	62	57	61	58
19							-	-	47	43	50	47	55	48	58	50	64	57	62	54	62	58	61	58
20							-	-	50	45	51	46	54	46	56	50	65	58	62	55	62	58	60	56
21							-	-	48	47	51	46	54	47	57	50	65	58	62	56	62	58	59	56
22							-	-	51	46	50	46	55	47	58	50	64	58	63	57	62	56	59	55
23							43	43	50	47	50	45	56	48	58	51	65	57	63	57	62	57	60	56
24							45	42	48	46	51	45	55	49	58	50	65	57	63	57	62	57	60	56
25							-	43	49	46	51	46	56	49	58	50	63	57	63	56	62	58	58	56
26							-	-	49	46	51	45	56	48	56	49	62	54	63	56	62	57	58	56
27							-	-	49	46	51	45	57	49	55	49	62	54	62	57	62	58	57	55
28							-	-	50	45	50	45	56	50	58	51	62	55	63	58	62	58	57	54
29							-	-	-	-	53	44	55	48	-	-	62	54	63	57	61	56	57	54
30							-	-	---	---	53	46	56	48	60	52	62	54	62	56	61	56	58	55
31							58	44	---	---	53	46	---	---	60	52	---	---	63	55	61	56	---	---
Avg							-	-	-	-	50	46	55	47	57	50	62	54	62	56	62	57	60	56

## ANTELOPE VALLEY

10-2639. Buckhorn Creek near Valyermo, Calif.

Location.--Lat 34°20'35", long 117°55'13", in SW $\frac{1}{4}$  sec.15, T.3 N., R.10 W., on right bank at culvert on State Highway 2, 8.1 miles southwest of Valyermo.

Drainage area.--0.48 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 6,720 ft (from topographic map).

Extremes.--Maximum discharge during year, 27 cfs Feb. 11 (gage height, 2.66 ft), from rating curve extended above 5 cfs on basis of indirect measurements of flow through culvert at gage heights 1.9, 2.4 and 2.7 ft; no flow for many months.  
1960-62: Maximum discharge, that of Feb. 11, 1962; no flow for most of each year.

Remarks.--Records fair. Flow of spring above station diverted to ranger station for domestic use.

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

1.0	0	1.7	6.0
1.1	.3	2.0	11
1.3	1.4	2.3	18
1.5	3.3		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	* 0.1	2.8	1.9				
2			* 1.2		0	.1	3.1	1.8				
3			0		0	.1	3.1	1.7				
4	(*)		0		0	.1	3.6	1.6				
5			0	(*)	0	.2	4.3	1.4				
6			0		0							
7			* 0		0	.4	5.3	1.2				
8			0		1.4	.3	5.4	1.1				
9		(*)	0		9.0	.1	6.0	* .9				
10			0		5.4	.1	6.4	.4				
11			0		* 16	b .1	5.7	.4				
12			0		6.5	b .1	5.6	.2	(*)			
13			0		3.0	b .1	* 5.7	.1				
14			0		2.5	b .1	5.0	.1			(*)	
15			0		2.0	* .2	4.5	.1				
16			0	(*)	1.6							
17			0		1.4	.2	4.5	.1				
18			0		1.2	.3	4.6	a .1				
19			0		1.0	.3	4.6	a .1		(*)		
20			0		.8	.2	3.8	a .1				
21			0		.6	.1	3.4	a .1				(*)
22		(*)	0		a .5	.2	3.4	0				
23			0		a .4	.2	3.8	0				
24			0		a .3	.3	* 3.8	0				
25			0		a .2	.6	3.3	0				
26			0		a .1	1.5	2.9	0				
27			0		a .1	2.0	2.8	0				
28			0		a .1	* 2.1	2.6	0				
29			0			2.4	2.2	* 0				
30			0		-----	2.4	1.9	0				
31			0		-----	2.6	-----	0	-----			-----
Total	0	0	1.2	0	54.1	17.9	125.5	14.1	0	0	0	0
Mean	0	0	0.04	0	1.93	0.58	4.18	0.45	0	0	0	0
Max	0	0	1.2	0	16	2.6	6.9	1.9	0	0	0	0
Min	0	0	0	0	0	0.1	1.9	0	0	0	0	0
Ac-ft	0	0	2.4	0	107	36	249	28	0	0	0	0
(†)	0	2.9	6.4	1.1	17.6	1.2	0	0.6	0	0	0	0

Calendar year 1961: Max 1.2 Min 0 Mean 0.003 Ac-ft 2.4

Water year 1961-62: Max 16 Min 0 Mean 0.58 Ac-ft 422

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

† Precipitation, in inches.

a No gage-height record.

b Stage-discharge relation affected by ice.

10-2640. Little Rock Creek near Little Rock, Calif.

Location.--Lat 34°27'50", long 118°01'05", in SW 1/4 sec. 3, T.4 N., R.11 W., on right bank 0.3 mile upstream from Santiago Creek, 1.65 miles upstream from Little Rock Palmdale Irrigation District's dam, and 5 miles south of Little Rock.

Drainage area.--49.0 sq mi.

Records available.--October 1930 to February 1938, May to September 1938, April 1939 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,290 ft (from topographic map). Prior to May 1943, at site 500 ft downstream at different datums (datum changed in March 1939).

Average discharge.--30 years (1930-37, 1939-62), 16.5 cfs (11,950 acre-ft per year); median of yearly mean discharges, 8.4 cfs (6,100 acre-ft per year).

Extremes.--Maximum discharge during year, 3,180 cfs Feb. 11 (gage height, 9.48 ft); no flow Oct. 1 to Dec. 1, Aug. 27 to Sept. 30. 1930-62: Maximum discharge, 17,000 cfs (estimated) Mar. 2, 1938; no flow at times in most years.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	3.0	11	46	59	24	8.9	1.8	0.5	
2			109	3.0	11	48	59	22	8.4	1.8	.4	
3			33	3.0	11	48	59	21	8.1	1.8	.4	
4			15	2.8	10	49	56	20	7.8	1.8	.3	
5			11	2.5	10	49	60	20	7.5	1.7	.3	
6			9.1	2.5	10	49	66	19	7.2	1.7	.3	
7			7.9	2.6	10	46	73	18	7.2	1.6	.3	
8			6.8	3.8	7.4	4.4	75	17	7.0	1.5	.3	
9			6.1	4.1	272	41	78	16	6.4	1.5	.3	
10			5.4	3.9	411	38	73	15	6.0	1.4	.2	
11			4.7	3.9	2060	36	68	15	5.7	1.4	.2	
12			4.1	3.8	922	37	64	14	5.5	1.3	.2	
13			3.8	3.8	304	39	61	15	5.3	1.3	.2	
14			3.6	3.4	165	38	58	15	5.5	1.2	.2	
15			3.8	3.0	180	38	56	16	6.2	1.2	.2	
16			3.4	3.0	155	36	54	16	5.7	1.1	.2	
17			3.2	3.0	116	35	52	15	5.3	1.1	.2	
18			3.2	2.8	95	37	52	14	4.9	1.0	.2	
19			3.2	2.8	95	37	49	13	4.4	.9	.2	
20			3.4	4.9	80	34	47	13	4.2	.8	.1	
21			3.4	6.8	7.4	31	43	12	3.8	.8	.1	
22			3.2	4.9	70	30	39	11	3.4	.7	.1	
23			3.6	4.7	66	30	35	11	3.2	.7	.1	
24			3.6	4.9	66	31	33	11	2.9	.6	.1	
25			3.6	4.7	58	34	32	11	2.7	.6	.1	
26			3.6	5.4	49	48	30	11	2.7	.6	.1	
27			3.4	5.6	44	56	29	11	2.3	.6	0	
28			3.4	7.2	43	59	28	11	2.2	.6	0	
29			3.4	8.4	-	59	27	11	2.0	.5	0	
30			3.2	9.6	-----	61	25	10	1.8	.5	0	
31		-----	3.0	10	-----	57	-----	9.5	-----	.5	0	-----
Total	0	0	277.1	137.8	547.2	1321	1540	457.5	154.2	34.6	5.8	0
Mean	0	0	8.94	4.45	195	42.6	51.3	14.8	5.14	1.12	0.19	0
Max	0	0	109	10	2,060	61	78	24	8.9	1.8	0.5	0
Min	0	0	0	2.5	10	30	25	9.5	1.8	0.5	0	0
Ac-ft	0	0	550	273	10,850	2,620	3,050	907	306	69	12	0
Calendar year 1961:	Max	109	Min	0	Mean	1.84	Ac-ft	1,330				
Water year 1961-62:	Max	2,060	Min	0	Mean	25.8	Ac-ft	18,640				

## ANTELOPE VALLEY

10-2646. Oak Creek near Mojave, Calif..

Location.--Lat 35°03'00", long 118°21'25", in NW $\frac{1}{4}$  sec.15, T.11 N., R.14 W., on upstream right wingwall of culvert, 100 ft downstream from unnamed tributary, 0.1 mile west of junction of Oak Creek and Willow Springs Roads and 10.5 miles west of Mojave.

Drainage area.--15.8 sq mi.

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,100 ft (from topographic map).

Average discharge.--5 years, 0.90 cfs (652 acre-ft per year).

Extremes.--Maximum discharge during year, 29 cfs Feb. 11 (gage height, 1.55 ft); no flow Oct. 1 to Dec. 1, Dec. 3 to Jan. 29, Aug. 17-18, Aug. 22 to Sept. 30.

1957-62: Maximum discharge, that of Feb. 11, 1962; no flow for some months in each year.

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

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

0.5	0	.9	2.1
.6	.1	1.1	5.9
.7	.3	1.3	12
.8	1.0	1.5	21

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.1	1.1	3.4	4.4	2.1	0.2	0.1	
2			.1	0	.1	1.1	3.8	4.4	2.1	.2	.1	
3	(*)		0	0	.1	1.1	4.0	4.2	2.0	.2	.1	
4			0	0	.1	1.1	4.2	3.8	2.0	.1	.1	
5			0	* 0	.1	1.1	4.4	3.0	2.0	.1	.1	
6			* 0	0	.1	1.2	4.8	3.0	2.0	.1	.1	
7			0	0	.1	1.1	5.0	* 3.6	2.0	.1	.1	
8			0	0	.1	1.0	5.7	3.6	2.0	.1	.1	
9		(*)	0	0	.1	1.1	5.9	3.6	2.0	.1	.1	
10			0	0	.5	1.0	6.7	3.6	2.1	.1	.1	
11			0	0	1.9	1.2	6.7	3.6	* 2.1	.1	.1	
12			0	0	* 1.5	1.2	* 6.7	3.6	2.1	.3	.1	
13			0	0	5.6	1.1	6.4	3.6	2.2	.3	.1	
14			0	0	2.2	* 1.0	6.4	4.0	2.4	.3	.1	
15			0	* 0	3.4	1.0	6.2	3.8	2.4	.2	* .1	
16			0	0	3.4	1.0	5.9	3.8	2.4	.2	.1	
17			0	0	2.5	1.0	5.7	3.4	2.2	.2	0	
18			0	0	1.6	1.1	5.7	3.2	2.1	* .2	0	
19			0	0	2.1	1.2	5.7	3.0	2.1	.1	.1	
20			0	0	2.1	1.3	5.7	3.0	1.8	.1	.1	
21			* 0	0	1.7	1.6	5.7	3.0	1.0	.1	.1	
22		(*)	0	0	1.7	1.3	5.5	2.8	1.1	.1	0	
23			0	0	1.4	1.7	5.1	2.8	1.2	.1	0	
24			0	0	1.4	2.1	4.4	2.8	.8	.1	0	
25			0	0	1.4	2.2	5.7	2.8	* .7	.1	0	
26			0	0	2.0	1.8	* 5.5	2.8	.7	.1	0	
27			0	0	1.2	1.7	5.3	2.7	.7	.1	0	
28			0	0	* 1.0	2.7	5.5	* 2.4	.6	.1	0	
29			0	0	-	* 2.8	5.5	2.2	.2	.1	0	
30			0	.1	-----	2.2	4.8	2.1	.2	.1	0	
31			0	.1	-----	2.8	-----	2.1	-----	.1	0	
Total	0	0	0.1	0.2	70.1	44.9	162.0	100.7	49.3	4.4	1.9	0
Mean	0	0	0.003	0.006	2.50	1.45	5.40	3.25	1.64	0.14	0.06	0
Max	0	0	0.1	0.1	19	2.8	6.7	4.4	2.4	0.3	0.1	0
Min	0	0	0	0	0.1	1.0	3.4	2.1	0.2	0.1	0	0
Ac-ft	0	0	0.2	0.4	139	89	321	200	98	8.7	3.8	0

Calendar year 1961: Max 0.3 Min 0 Mean 0.07 Ac-ft 49  
 Water year 1961-62: Max 19 Min 0 Mean 1.19 Ac-ft 860

Peak discharge (base, 10 cfs).--Feb. 11 (1800) 29 cfs (1.55 ft).

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

ANTELOPE VALLEY

65

10-2647.5. Pine Tree Creek near Mojave, Calif.

Location.--Lat 35°13'50", long 118°05'05", in SE¼ sec.14, T.31 S., R.36 E., on downstream side of city of Los Angeles aqueduct-siphon pier, near right bank 0.5 mile downstream from unnamed tributary, and 13 miles northeast of Mojave.

Drainage area.--33.5 sq mi.

Records available.--July 1958 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,700 ft (from topographic map). Prior to Oct. 1, 1961, at datum 3.0 ft higher.

Extremes.--Maximum discharge during year, 103 cfs Dec. 2 (gage height, 4.05 ft, from floodmark), on basis of indirect measurement of peak flow; no flow most of year.  
1958-62: Maximum discharge, about 30,000 cfs Aug. 23, 1961, on basis of field estimate of peak flow; no flow for most of each year.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, water year 1961-62, is as follows: December, 3.1; January, 0.9; February, 4.0; March, 0.8; April, 0.5; the year, 9.3.

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

Dec. 2.....\*a10      Feb. 11..... 7.8  
Feb. 10..... .2      Feb. 12.....\*2.4

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	10	10	0	0.32	20
February 1962.....	10.4	7.8	0	.37	21
Calendar year 1961.....	-	750	0	2.15	1,560
Water year 1961-62.....	-	10	0	.06	41

\* Discharge measurement made on this day.

a No gage-height record.

Note.--Flow occurred only on days listed above.

## OWENS LAKE BASIN

10-2652. Convict Creek near Mammoth Lakes, Calif.

Location.--Lat 37°36'30", long 118°50'55", in NE $\frac{1}{4}$  sec.14, T.4 S., R.28 E., on right bank 1.1 miles downstream from Convict Lake, 2.0 miles upstream from U. S. Highway 395, and 7.0 miles southeast of Mammoth Lakes (ranger station).

Drainage area.--18.7 sq mi.

Records available.---July 1925 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder, and wooden retaining walls and control. Altitude of gage is 7,450 ft (from topographic map). Prior to Nov. 15, 1926, staff gage at same site and datum.

Average discharge.--37 years, 23.3 cfs (16,870 acre-ft per year).

Extremes.--Maximum discharge during year, 157 cfs June 25; minimum daily, 2.8 cfs Oct. 8.

1925-62: Maximum discharge, 290 cfs June 29, 1932 (gage height, 4.43 ft); minimum daily, 1.3 cfs Jan. 10, 1951.

Remarks.--No diversion; some regulation by Convict Lake above station.

Cooperation.--Records furnished by City of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.7	6.6	7.7	5.9	7.0	11	8.1	23	29	114	55	22
2	7.7	6.6	9.7	5.9	7.0	12	8.1	22	33	106	53	22
3	7.7	6.6	10	5.9	6.6	12	8.1	21	39	101	52	21
4	7.7	6.6	9.2	5.9	6.3	10	8.1	21	42	101	50	21
5	7.7	6.6	8.4	5.9	5.9	9.7	8.4	22	44	100	46	21
6	7.7	6.6	8.4	5.6	4.9	10	8.4	25	47	103	44	21
7	5.9	6.6	8.4	5.6	5.2	10	8.8	30	51	104	42	20
8	2.8	6.6	8.4	5.6	6.6	11	9.2	35	57	104	40	20
9	3.4	7.0	8.1	5.6	12	11	10	37	61	101	39	20
10	4.3	7.0	8.1	5.6	16	11	10	38	66	100	37	20
11	4.6	6.6	7.7	5.6	18	10	11	38	78	96	37	19
12	4.9	6.3	7.0	6.6	18	9.7	12	37	83	90	36	19
13	5.6	6.3	7.0	10	15	9.7	12	34	89	85	36	19
14	5.9	6.3	7.0	8.8	14	9.7	13	32	90	75	34	19
15	6.3	6.3	7.0	8.1	14	9.7	14	30	87	69	33	18
16	6.6	6.3	7.0	7.4	14	9.2	15	29	81	67	33	18
17	6.6	6.3	8.4	7.4	14	9.2	16	29	73	65	33	18
18	6.6	6.3	6.6	7.0	15	8.8	16	28	67	65	33	17
19	6.6	6.3	7.4	6.3	16	8.8	17	27	67	65	33	17
20	7.0	7.7	7.7	8.8	16	8.1	15	25	81	65	33	17
21	8.1	8.8	5.9	10	16	8.1	16	24	97	65	31	17
22	7.0	8.1	5.9	9.2	15	8.4	16	24	120	64	30	16
23	6.6	7.4	5.9	8.8	14	9.2	16	24	141	63	30	16
24	6.6	7.4	5.9	9.7	13	8.8	23	23	155	61	29	16
25	7.4	7.4	5.9	8.1	13	8.8	30	23	157	60	28	16
26	7.7	7.7	5.9	8.1	12	8.4	29	23	150	59	27	18
27	8.4	7.7	5.9	7.7	12	8.1	29	24	146	59	26	18
28	7.7	7.7	5.9	7.7	12	8.1	39	25	137	59	24	18
29	6.6	8.1	5.9	7.7	-	8.1	31	25	129	59	23	18
30	6.6	8.1	5.9	7.0	-----	8.1	27	25	142	59	22	18
31	6.6	-----	5.9	7.0	-----	8.1	-----	27	-----	56	21	-----
Total	202.6	209.6	224.1	224.5	338.5	292.8	484.2	850	2,639	2,440	1,090	560
Mean	6.54	6.99	7.23	7.24	12.1	9.45	16.1	27.4	88.0	78.7	35.2	18.7
Max	8.4	8.8	10	10	18	12	39	38	157	114	55	22
Min	2.8	6.3	5.9	5.6	4.9	8.1	8.1	21	29	56	21	16
Ac-ft	402	416	444	445	671	581	960	1,690	5,230	4,840	2,160	1,110
Calendar year 1961: Max	42		Min	2.8	Mean	11.1	Ac-ft	8,030				
Water year 1961-62: Max	157		Min	2.8	Mean	26.2	Ac-ft	18,950				



## 67

Location.--Lat 37°32'50", long 118°41'15", T.5 S., R.30 E., on right bank just upstream from diversion to Little Round Valley, 1.1 miles south of Toms Place and 20.5 miles northwest of Bishop, Mono County.

Records available.--January to December 1918, January 1920 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Average discharge.--42 years (1920-62), 30.0 cfs (21,720 acre-ft per year).

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	7.4	9.8	7.4	7.9	9.2	9.5	29	43	99	55	20
2	7.9	7.4	11	7.4	7.9	9.0	9.8	32	54	94	52	19
3	7.9	7.4	11	7.4	7.9	8.7	10	37	65	93	50	18
4	7.7	7.7	11	7.2	8.2	9.2	11	44	67	94	47	17
5	7.7	7.7	11	7.2	8.2	9.2	11	52	64	97	44	17
6	7.7	7.7	10	7.4	8.2	9.5	12	60	65	103	41	16
7	7.4	7.7	13	7.4	8.2	9.5	13	65	68	106	38	15
8	7.2	7.7	11	7.4	7.7	9.5	14	65	75	108	36	15
9	7.2	7.9	10	7.4	8.7	9.5	15	65	83	108	34	15
10	7.2	7.9	10	7.4	9.5	9.8	15	60	95	105	33	15
11	7.2	7.9	9.9	9.5	10	9.8	15	51	100	95	32	15
12	7.2	7.7	9.7	8.7	11	9.8	17	47	104	87	31	15
13	7.0	7.9	9.4	8.7	13	16	19	42	105	80	29	15
14	6.7	7.7	9.2	9.0	14	9.5	21	40	105	68	28	14
15	6.7	7.7	9.0	9.0	15	9.0	22	38	102	62	29	14
16	6.7	7.7	8.7	9.2	16	9.2	23	35	89	60	30	14
17	6.7	7.4	8.7	9.2	14	9.2	24	33	74	61	31	14
18	6.7	7.2	8.7	9.5	13	9.2	26	31	68	63	32	13
19	6.7	7.2	8.7	9.5	14	9.2	27	30	74	66	32	12
20	6.7	5.8	8.5	9.5	13	9.5	25	29	93	66	30	12
21	7.7	8.2	8.5	9.8	12	9.0	25	28	113	65	29	12
22	7.4	9.2	8.2	9.8	11	8.2	26	28	129	65	28	12
23	7.7	10	8.2	10	11	9.2	29	29	141	70	27	12
24	7.7	11	8.2	10	11	9.0	31	28	141	71	26	12
25	7.7	11	8.2	9.8	11	9.2	32	28	133	65	25	12
26	7.7	11	8.2	9.5	12	9.2	33	29	127	63	24	17
27	7.9	11	7.2	9.2	21	9.2	33	31	123	65	23	15
28	7.0	10	7.2	9.2	16	9.0	33	34	116	65	22	15
29	7.0	9.5	7.2	8.7	-	9.2	30	33	111	64	21	14
30	7.4	9.8	7.2	8.5	-----	9.2	29	34	106	62	21	14
31	7.4	-----	7.2	7.9	-----	9.2	-----	37	-----	59	21	-----
Total	226.7	251.4	283.8	267.8	320.4	293.1	640.3	122.4	283.3	242.9	100.1	440
Mean	7.31	8.38	9.15	8.64	11.4	9.45	21.3	39.5	94.4	78.4	32.3	14.7
Max	7.9	11	13	10	21	16	33	65	141	108	55	20
Min	6.7	5.8	7.2	7.2	7.7	8.2	9.5	28	43	59	21	12
Ac-ft	450	499	563	531	636	581	1,270	2,430	5,620	4,820	1,990	873
Calendar year 1961:	Max	57	Min	5.8	Mean	14.8	Ac-ft	10,700				
Water year 1961-62:	Max	141	Min	5.8	Mean	28.0	Ac-ft	20,260				

## OWENS LAKE BASIN

10-2670. Pine Creek at division box, near Bishop, Calif.

Location.--Lat 37°25'00", long 118°37'15", in NW<sup>1</sup> sec.19, T.6 S., R.31 E., on right bank 0.25 mile upstream from division box (at Rovana), 1.9 miles west of Round Valley schoolhouse, and 13 miles northwest of Bishop.

Drainage area.--37.9 sq mi.

Records available.--October 1921 to September 1962. Prior to October 1959, monthly discharge only published in WSP 1314 and 1734.

Gage.--Water-stage recorder and Parshall flume, since November 1938. Altitude of gage is 5,280 ft (from topographic map).

Average discharge.--41 years, 43.3 cfs (31,350 acre-ft per year).

Extremes.--Maximum discharge during year, 298 cfs June 23; minimum daily, 17 cfs Jan. 14, 22-23.

1921-62: Maximum discharge, 356 cfs June 4, 1957; minimum, 10 cfs Jan. 8, 1930, Jan. 21, 1935.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	20	20	20	19	20	22	39	98	136	84	26
2	20	20	20	20	19	20	22	43	123	147	81	24
3	20	20	20	19	19	20	23	53	133	160	74	24
4	20	20	21	19	19	20	23	73	101	163	67	24
5	20	20	20	19	19	20	24	89	98	175	62	22
6	20	20	21	19	19	21	24	96	112	185	60	22
7	20	20	20	19	19	20	25	94	133	183	56	22
8	20	20	20	19	20	20	27	91	145	189	53	22
9	20	20	20	19	24	21	28	79	165	179	51	22
10	20	20	20	20	25	20	30	69	168	163	49	21
11	20	20	19	19	24	20	31	59	162	139	47	22
12	19	19	20	19	23	20	33	54	167	125	46	23
13	19	19	20	19	22	20	35	50	169	91	45	23
14	19	19	20	17	22	20	39	47	167	88	45	24
15	19	19	20	18	23	20	40	44	167	86	46	24
16	19	19	20	18	24	20	39	43	166	99	48	24
17	19	19	20	18	24	20	40	42	165	96	48	24
18	19	19	20	18	24	20	44	41	164	99	46	25
19	19	19	20	18	23	20	46	41	164	95	43	26
20	19	20	20	18	23	20	44	41	200	89	41	25
21	20	20	20	18	22	20	42	40	221	85	40	24
22	20	20	20	17	22	20	42	41	230	102	37	24
23	20	20	20	17	21	19	46	43	232	110	35	25
24	20	20	20	18	21	20	51	43	196	103	33	24
25	20	20	20	19	21	20	52	43	179	98	32	25
26	20	20	20	19	21	20	49	43	186	103	31	32
27	20	20	20	19	20	21	48	42	184	102	30	29
28	20	20	20	19	20	21	46	41	167	100	30	29
29	20	20	20	19	-	22	42	42	158	96	30	28
30	20	20	20	19	-----	22	40	52	150	90	28	28
31	20	-----	20	19	-----	22	-----	71	-----	89	27	-----
Total	611	592	621	578	602	629	1097	1689	4870	3765	1445	737
Mean	19.7	19.7	20.0	18.6	21.5	20.3	36.6	54.5	162	121	46.6	24.6
Max	20	20	21	20	25	22	52	96	232	189	84	32
Min	19	19	19	17	19	19	22	39	98	85	27	21
Ac-ft	1,210	1,170	1,230	1,150	1,190	1,250	2,180	3,350	9,660	7,470	2,870	1,460
Calendar year 1961:	Max 105		Min 17		Mean 27.4		Ac-ft 19,830					
Water year 1961-62:	Max 232		Min 17		Mean 47.2		Ac-ft 34,190					

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Location.--Lat 37°24'15", long 118°18'30", in NW $\frac{1}{4}$  sec.25, T.6 S., R.33 E., on right bank at mouth of canyon, 2.0 miles east of Laws.

Records available.--March 1930 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Average discharge.--32 years, 1.53 cfs (1,110 acre-ft per year).

Extremes.--Maximum discharge during year, 2.6 cfs Feb. 9; minimum daily discharge, 1.5 cfs for many days.  
1930-62: Maximum discharge, 8.4 cfs Oct. 19, 1958; no flow at times in some years.

Remarks.--Occasional diversion above gage.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

[illegible]

## OWENS LAKE BASIN

10-2760. Big Pine Creek near Big Pine, Calif.

Location.--Lat 37°08'40", long 118°18'55", in NW $\frac{1}{4}$  sec.25, T.9 S., R.33 E., on left bank 0.3 mile downstream from Little Pine Creek, 0.5 mile downstream from powerhouse No. 3, and 2.2 miles southwest of Big Pine.

Drainage area.--39.0 sq mi.

Records available.--November 1907 to February 1911, January 1920 to September 1962. Monthly discharge only for some periods, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and 6-foot Parshall flume. Altitude of gage is 4,550 ft (from topographic map). Prior to January 1923, staff gage at same site and datum.

Average combined discharge.--32 years (1930-62), 40.5 cfs (29,320 acre-ft per year), including diversion to upper and lower Giroux ditches, and Little Pine Creek diversion.

Extremes (creek only).--Maximum discharge during year, 183 cfs July 8; minimum daily, 7.7 cfs Jan. 13.

1907-11, 1920-62: Maximum discharge, 458 cfs July 3, 1932 (gage height, 6.55 ft); no flow (channel only) Dec. 3-12, 1935, caused by diversion of total flow into Giroux ditches.

Remarks.--Diversions for power and irrigation above station. Records prior to June 1930 do not include diversions to Giroux ditches. For records of combined discharge of Big Pine Creek, Giroux ditches, and Little Pine Creek diversion, see following page.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	13	16	10	11	9.5	11	19	36	98	77	26
2	15	15	19	9.5	10	9.2	11	21	46	103	72	26
3	14	29	17	9.5	10	9.8	12	26	50	118	68	25
4	14	29	16	9.2	11	9.8	12	33	42	119	63	24
5	13	29	15	9.5	11	9.8	13	38	40	130	59	23
6	13	28	15	9.8	11	11	14	44	44	160	55	22
7	12	28	15	10	11	11	15	42	52	167	50	22
8	13	27	15	9.5	14	11	17	42	58	167	50	21
9	13	26	13	9.5	24	10	18	39	64	162	50	21
10	13	24	13	9.5	22	10	19	33	71	144	48	21
11	13	17	14	9.5	24	9.8	20	30	73	118	48	21
12	12	16	12	9.5	20	9.8	17	28	75	100	49	19
13	12	16	14	7.7	17	9.8	16	26	78	76	52	18
14	12	17	15	8.5	15	9.2	17	26	68	74	54	17
15	12	17	15	9.8	16	9.2	18	24	54	87	64	17
16	12	16	15	11	15	9.2	18	24	44	100	66	17
17	12	16	14	9.8	14	9.0	19	22	41	94	62	17
18	12	15	15	9.8	15	9.0	23	22	48	100	59	16
19	12	15	14	9.5	15	9.2	24	22	68	97	51	16
20	12	16	14	10	14	9.2	22	21	83	91	48	15
21	12	18	14	10	13	8.7	21	21	95	92	45	15
22	12	18	13	9.5	13	9.0	22	21	107	114	45	14
23	12	18	13	10	12	9.0	24	23	136	108	42	13
24	12	17	13	11	12	9.5	26	21	150	92	40	14
25	12	17	13	11	11	9.8	25	21	144	95	38	16
26	12	17	13	11	13	10	24	22	151	104	39	24
27	12	17	12	10	18	10	24	21	147	100	41	19
28	11	17	12	10	11	10	23	21	140	102	41	15
29	11	17	11	10	-	9.0	21	22	128	102	35	13
30	12	17	10	10	-	11	19	25	114	92	29	13
31	13	-	10	11	-	10	-	29	-	83	27	-
Total	387	582	430	304.6	403	300.5	565	829	2,447	3,389	1,567	560
Mean	12.5	19.4	13.9	9.83	14.4	9.69	18.8	26.7	81.6	109	50.5	18.7
Max	15	29	19	11	24	11	26	44	151	167	77	26
Min	11	13	10	7.7	10	8.7	11	19	36	74	27	13
Ac-ft	768	1,150	853	604	799	596	1,120	1,640	4,850	6,720	3,110	1,110

Calendar year 1961: Max 92 Min 9.2 Mean 25.8 Ac-ft 18,690  
 Water year 1961-62: Max 167 Min 7.7 Mean 32.2 Ac-ft 23,320

## OWENS LAKE BASIN

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10-2760. Big Pine Creek near Big Pine, Calif.--Continued

Combined discharge, in cubic feet per second, of Big Pine Creek, upper and lower Giroux ditches, and Little Pine Creek diversion, near Big Pine, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	16	17	11	12	12	14	31	48	123	100	41
2	18	18	20	11	11	12	14	33	58	127	89	41
3	17	31	18	11	11	11	15	38	62	140	90	40
4	16	31	17	10	12	11	15	46	54	141	85	39
5	16	30	16	11	12	11	16	51	50	152	81	38
6	16	29	16	11	12	12	17	57	56	182	77	37
7	15	29	16	11	12	13	18	55	64	189	71	37
8	16	29	16	11	15	12	20	54	70	189	71	36
9	16	29	14	11	25	12	22	51	76	183	70	36
10	16	27	14	11	23	12	22	45	84	164	66	36
11	16	19	15	11	25	11	24	42	88	136	66	36
12	15	18	13	11	21	11	24	40	92	118	68	33
13	15	18	15	8.9	18	11	26	37	94	95	70	32
14	15	19	16	9.7	16	11	28	37	84	96	72	31
15	15	19	16	11	17	11	28	34	71	110	79	31
16	15	18	16	12	16	11	28	36	62	123	85	31
17	15	18	15	11	15	11	29	33	58	117	82	31
18	15	18	16	11	16	11	34	33	68	123	78	30
19	15	18	15	11	16	10	35	33	89	120	69	30
20	15	18	15	11	15	11	33	32	105	114	65	29
21	15	19	15	11	14	10	31	32	119	115	62	29
22	15	19	14	11	14	10	32	32	131	137	62	28
23	15	19	14	11	13	11	35	34	160	131	60	27
24	15	18	14	12	13	11	37	32	173	115	58	28
25	15	18	14	12	12	11	36	32	166	117	56	30
26	15	18	14	12	14	11	35	33	174	125	57	40
27	15	18	13	11	19	11	35	32	171	122	58	34
28	14	18	13	11	12	12	34	32	165	125	56	29
29	14	18	12	11	-	11	33	33	154	125	50	27
30	15	18	11	11	-----	14	31	37	140	115	44	27
31	16	-----	11	12	-----	13	-----	42	-----	106	42	-----
Total	479	635	461	341.6	431	352	801	1189	2986	4075	2139	994
Mean	15.5	21.2	14.9	11.0	15.4	11.4	26.7	38.4	99.5	131	69.0	33.1
Max	18	31	20	12	25	14	37	57	174	189	100	41
Min	14	16	11	8.9	11	10	14	31	48	95	42	27
Ac-ft	950	1,260	914	678	855	698	1,590	2,360	5,920	8,080	4,240	1,970
Calendar year 1961: Max	100		Min 11		Mean 29.3		Ac-ft 21,190					
Water year 1961-62: Max	189		Min 8.9		Mean 40.8		Ac-ft 29,520					

## OWENS LAKE BASIN

10-2775. Owens River near Big Pine, Calif.

Location.--Lat 37°00'55", long 118°13'30", in SE $\frac{1}{4}$  sec. 2, T.11 S., R.34 E., on left bank 0.1 mile downstream from Little Seeley Spring, 0.15 mile downstream from Charlies Butte, and 10.8 miles southeast of Big Pine.

Drainage area.--1,930 sq mi, approximately.

Records available.--January 1906 to September 1962. Monthly discharge only for some periods published in WSP 1314. Published as "near Tinemaha" prior to 1912.

Gage.--Water-stage recorder with artificial rock control. Altitude of gage is 3,800 ft (from topographic map). Prior to Oct. 8, 1922, staff gage at same site and datum.

Average discharge.--56 years, 368 cfs (266,400 acre-ft per year).

Extremes.--Maximum discharge during year, 636 cfs Oct. 17; minimum daily, 18 cfs Feb. 27, 28.

1906-62: Maximum discharge, about 3,220 cfs Jan. 26, 1914 (gage height, 11.2 ft), from rating curve extended above 1,100 cfs; no flow Jan. 9-13, 21-26, 1937.

Remarks.--Diversion above station from both main stream and tributaries. Flow regulated by Sabrina Reservoir and South Lake since 1911 (combined capacity, 20,900 acre-ft), Tinemaha Reservoir since 1929 (capacity, 16,600 acre-ft), Lake Crowley since 1941 (capacity, 183,500 acre-ft), and Pleasant Valley Reservoir since 1955 (capacity, 3,900 acre-ft). Water imported from Mono Lake basin since 1941 for diversion to Los Angeles aqueduct which diverts 4 miles downstream.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	498	545	266	427	469	29	201	338	479	293	559	437
2	508	545	276	427	471	167	200	347	479	307	532	431
3	546	545	290	427	468	380	198	339	477	367	520	446
4	545	543	276	437	468	475	198	333	480	368	517	456
5	545	539	273	437	466	480	193	337	470	391	506	460
6	543	543	330	428	451	480	189	393	460	438	487	479
7	543	526	390	434	415	477	189	421	446	438	479	448
8	545	345	406	434	420	479	182	426	429	437	477	441
9	548	300	410	434	431	482	179	420	432	437	475	444
10	549	295	414	438	381	486	175	416	446	436	474	446
11	547	289	403	438	376	486	172	406	449	434	471	448
12	547	286	367	437	370	484	189	389	460	420	481	431
13	547	277	408	434	365	480	188	386	439	342	489	431
14	546	271	415	433	364	479	180	400	388	307	487	433
15	546	273	424	411	364	477	202	404	330	291	475	439
16	577	276	425	377	365	475	205	417	319	294	482	433
17	635	271	427	384	364	474	195	426	318	309	478	427
18	594	269	418	431	364	348	202	424	329	338	473	441
19	545	266	415	444	365	253	200	415	457	397	475	462
20	548	273	406	477	364	227	199	411	558	416	489	471
21	547	283	414	480	369	225	205	413	376	433	493	475
22	546	280	415	450	363	224	193	411	323	470	490	490
23	545	280	418	416	362	220	186	410	254	506	488	494
24	543	280	399	419	281	219	183	401	247	522	485	513
25	541	276	410	451	32	219	215	397	261	524	482	521
26	543	280	410	464	23	217	296	397	294	539	480	527
27	546	278	408	471	18	217	319	408	294	596	477	540
28	546	270	421	472	18	214	335	423	295	580	474	549
29	545	266	427	469	-	209	338	443	294	563	472	554
30	545	266	421	466	-----	201	338	448	294	558	469	560
31	545	-----	425	468	-----	198	-----	460	-----	559	436	-----
Total	16,994	10,236	12,007	13,615	9,567	10,481	6,444	12,459	11,577	13,310	15,072	14,127
Mean	548	341	387	439	342	338	215	402	386	429	486	471
Max	635	545	427	480	471	486	338	460	558	596	559	560
Min	498	266	266	377	18	29	172	333	254	291	436	427
Ac-ft	33,710	20,300	23,820	27,000	18,980	20,790	12,780	24,710	22,960	26,400	29,890	28,020
Calendar year 1961: Max	635			Min 26	Mean 404			Ac-ft 292,700				
Water year 1961-62: Max	635			Min 18	Mean 400			Ac-ft 289,400				

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Location.--Lat 36°46'45", long 118°15'45", in NE $\frac{1}{4}$  sec.27, T.13 S., R.34 E., on right bank 0.2 mile downstream from Pinyon Creek and 4.0 miles southwest of Independence.

Records available.--January 1923 to September 1962. Prior to October 1959, monthly discharge only published in WSP 1734.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 5,300 ft (from topographic map). Prior to Sept. 12, 1934, water-stage recorder, Sept. 12, 1934, to Dec. 13, 1936, water-stage recorder and Cipolletti weir (removed during high water), at same site and datum.

Extremes.--Maximum discharge during year, 76 cfs June 23, 24; minimum daily, 1.4 cfs Jan. 11.

1923-62: Maximum daily discharge, 106 cfs June 16, 1941; minimum daily, 0.7 cfs Jan. 25, 1926, Dec. 15, 1935.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	2.8	2.6	2.1	2.1	3.8	4.4	17	28	56	25	10
2	2.6	3.0	3.2	2.1	2.1	3.5	4.5	18	35	54	25	9.5
3	2.6	2.8	3.0	2.0	2.1	4.1	4.8	20	39	54	24	9.3
4	2.6	2.6	3.0	2.1	2.1	3.4	5.0	23	37	52	23	8.7
5	2.5	2.5	2.8	2.1	2.1	3.0	5.5	26	36	52	22	8.5
6	2.2	2.5	2.8	1.9	2.2	3.2	6.2	31	36	53	20	8.1
7	2.3	2.5	2.6	1.9	2.8	3.2	6.8	34	39	54	19	7.7
8	2.6	2.5	2.6	1.9	4.5	3.2	7.5	35	43	54	19	7.7
9	2.6	2.5	2.4	1.9	6.7	3.0	8.5	34	47	54	18	7.5
10	2.6	2.5	2.4	1.9	6.8	3.4	8.5	31	52	52	17	7.3
11	2.6	2.5	2.4	1.4	6.6	3.4	8.5	28	58	51	17	7.2
12	2.6	2.5	2.4	1.7	5.4	3.2	9.3	27	59	48	16	7.0
13	2.5	2.5	2.4	2.1	4.7	3.2	10	25	61	45	15	7.0
14	2.5	2.5	2.4	2.1	4.6	3.0	12	23	62	43	15	6.8
15	2.6	2.5	2.4	2.1	4.8	3.0	13	22	56	40	15	6.8
16	2.4	2.5	2.4	2.1	4.5	2.8	14	21	49	38	15	6.8
17	2.4	2.5	2.4	2.3	4.1	2.8	14	20	46	35	15	6.0
18	2.5	2.5	2.4	2.3	3.9	2.8	16	19	46	34	15	5.7
19	2.5	2.5	2.4	2.2	4.0	2.8	17	19	51	33	15	5.7
20	2.5	2.5	2.3	2.2	3.8	2.8	17	18	57	32	14	5.7
21	2.6	2.6	2.1	2.8	3.6	2.8	17	18	63	31	13	5.7
22	2.8	2.6	2.1	2.6	3.8	2.8	17	18	71	30	13	5.7
23	2.6	2.6	2.1	3.2	3.5	3.0	18	18	74	30	13	5.7
24	2.6	2.6	2.0	4.5	3.2	3.0	19	18	73	30	12	5.7
25	2.6	2.6	2.0	3.2	3.6	3.2	20	18	71	29	12	5.9
26	2.8	2.6	2.0	2.6	3.5	3.2	20	19	71	30	12	7.5
27	2.6	2.6	2.1	2.5	3.0	3.5	20	19	69	29	11	6.8
28	2.6	2.6	2.2	2.4	3.5	3.9	19	18	66	29	10	6.4
29	2.4	2.6	2.3	2.2	-	3.9	18	18	63	29	10	6.0
30	2.5	2.6	2.2	2.1	-	3.9	17	20	60	28	10	5.9
31	2.6	2.1	2.1	2.1	-	4.0	23	23	27	10	-	-
Total	79.2	77.2	74.5	70.6	107.6	100.8	377.5	698	1,618	1,256	490	210.3
Mean	2.55	2.57	2.40	2.28	3.84	3.25	12.6	22.5	53.9	40.5	15.8	7.01
Max	2.8	3.0	3.2	4.5	6.8	4.1	20	35	74	56	25	10
Min	2.2	2.5	2.0	1.4	2.1	2.8	4.4	17	28	27	10	5.7
Ac-ft	157	153	148	140	213	200	749	1,380	3,210	2,490	972	417
Calendar year 1961:	Max	17	Min	1.6	Mean	4.37	Ac-ft	3,160				
Water year 1961-62:	Max	74	Min	1.4	Mean	14.1	Ac-ft	10,230				

## OWENS LAKE BASIN

10-2824.8. Mazourka Creek near Independence, Calif.

Location.--Lat 36°50'50", long 118°05'05", in NE $\frac{1}{4}$  lot 19, N $\frac{1}{2}$  sec.5, T.13 S., R.36 E., on right bank 7 miles northeast of Independence.Drainage area.--15.6 sq mi.Records available.--October 1960 to September 1962.Gage.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map).Remarks.--No flow since Oct. 1, 1960, date station established. No regulation or diversion above station.

10-2857. Owens River at Keeler Bridge, near Lone Pine, Calif.

Location.--Lat 36°34'30", long 118°00'45", in NW $\frac{1}{4}$  sec.1, T.16 S., R.36 E., on left bank under old timber bridge, 0.5 mile upstream from bridge on State Highway 190 and 3.4 miles southeast of Lone Pine.Records available.--January 1927 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.Gage.--Water-stage recorder and 10-foot Cipolletti weir. Altitude of gage is 3,600 ft (from topographic map). Prior to Oct. 19, 1930, staff gage, and Oct. 20, 1930, to Feb. 14, 1935, staff gage and 3-foot Cipolletti weir, all at present site at different datums.Average discharge.--35 years, 20.8 cfs (15,060 acre-ft per year); median of yearly mean discharges, 6.4 cfs (4,600 acre-ft per year).Extremes.--Maximum discharge during year, 53 cfs Mar. 2; no flow July 26 to Sept. 25.  
1927-62: Maximum daily discharge, 1,200 cfs July 9, 1938 (gage height, 7.06 ft); no flow at times in some years.Remarks.--Natural flow affected by storage in several reservoirs, many natural lakes, diversions for irrigation, and return flow from irrigated areas. Major portion of runoff from drainage is diverted out of basin through Los Angeles aqueduct. Discharge at this point is wasted into Owens Lake.Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.8	4.5	5.5	7.6	4.4	8.8	6.1	3.5	1.6		0
2	1.4	3.0	4.7	5.5	7.6	5.1	8.8	6.1	3.5	1.6		0
3	1.4	3.0	5.0	5.8	7.6	3.9	8.5	5.8	3.5	1.4		0
4	1.6	3.2	5.0	6.1	7.6	2.2	8.5	5.5	3.2	1.4		0
5	1.6	3.2	5.0	6.1	7.6	1.6	8.5	5.3	3.2	1.2		0
6	1.6	3.2	5.0	6.1	7.6	1.3	8.5	5.0	3.0	1.2		0
7	1.6	3.2	5.0	6.1	7.3	1.3	8.5	5.0	3.0	1.2		0
8	1.6	3.5	5.0	6.1	7.3	1.2	8.5	4.7	2.8	1.2		0
9	1.6	3.5	5.0	6.1	8.2	1.1	8.2	4.5	2.8	1.2		0
10	1.8	3.7	5.0	6.1	8.2	1.1	7.9	4.2	2.8	1.2		0
11	2.0	3.7	5.0	6.1	8.2	1.1	7.9	4.0	2.6	1.2		0
12	2.2	4.0	5.3	6.1	8.8	1.0	7.9	4.0	2.6	1.1		0
13	2.2	4.0	5.3	6.1	9.2	1.0	7.9	4.0	2.4	1.1		0
14	2.2	4.2	5.3	6.1	9.5	1.0	7.9	4.0	2.4	.9		0
15	2.2	4.2	5.3	6.1	9.5	1.0	7.9	4.0	2.4	.9		0
16	2.4	4.2	5.3	6.1	9.5	9.8	7.9	4.2	2.4	.8		0
17	2.4	4.2	5.3	6.1	9.5	9.8	7.6	4.2	2.4	.6		0
18	2.6	4.2	5.3	6.1	9.2	9.5	7.6	4.2	2.4	.4		0
19	2.6	4.2	5.3	6.1	9.2	9.5	7.6	4.2	2.2	.2		0
20	2.6	4.2	5.3	6.7	9.5	9.5	7.6	4.0	2.0	.1		0
21	2.6	4.2	5.3	7.0	9.5	9.2	7.6	4.0	2.0	.1		0
22	2.6	4.2	5.3	6.7	9.2	9.2	7.6	3.7	2.0	.2		0
23	2.6	4.2	5.3	6.7	9.2	9.2	7.6	3.7	2.0	.3		0
24	2.6	4.2	5.3	7.0	9.2	9.2	7.3	3.5	2.0	.2		0
25	2.6	4.2	5.3	7.0	9.2	9.2	7.0	3.5	1.8	.1		0
26	2.6	4.2	5.3	7.0	9.2	9.2	7.0	3.5	1.6	0		.8
27	2.8	4.2	5.3	7.0	9.2	9.2	7.0	3.7	1.8	0		1.1
28	2.8	4.2	5.3	7.3	31	9.2	7.0	3.7	1.8	0		1.1
29	2.8	4.5	5.3	7.3	-	9.2	6.7	3.7	1.8	0		1.1
30	2.8	4.5	5.3	7.6	-----	8.8	6.4	3.7	1.8	0		1.1
31	2.8	-----	5.3	7.6	-----	8.8	-----	3.5	-----	0		-----
Total	68.4	116.0	160.2	199.3	264.4	431.5	233.7	133.2	73.7	21.4	0	5.2
Mean	2.21	3.87	5.17	6.43	9.44	13.9	7.79	4.30	2.46	0.69	0	0.17
Max	2.8	4.5	5.3	7.6	31	51	8.8	6.1	3.5	1.6	0	1.1
Min	1.2	2.8	4.5	5.5	7.3	8.8	6.4	3.5	1.6	0	0	0
Ac-ft	136	230	318	395	524	856	464	264	146	42	0	10

Calendar year 1961: Max 13 Min 0 Mean 4.39 Ac-ft 3,180

Water year 1961-62: Max 51 Min 0 Mean 4.68 Ac-ft 3,380



## OWENS LAKE BASIN

75

10-2860. Cottonwood Creek near Olancho, Calif.

Location.--Lat 36°26'20", long 118°04'40", T.17 S., R.36 E., just downstream from intake to Cottonwood powerhouse, 11.2 miles north of Olancho.

Drainage area.--39.9 sq mi.

Records available.--January 1906 to March 1911, January 1914 to September 1962. January 1914 to September 1959, monthly discharge only published in WSP 1314 and 1734.

Gage.--Water-stage recorder and Parshall flume on creek; water-stage recorder and Cipolletti weir for powerhouse diversion. Prior to Sept. 9, 1908, staff gage at site about 2 miles downstream at different datum. Sept. 9, 1908, to Mar. 31, 1911, and Jan. 1, 1914, to Mar. 6, 1921, staff gage and Mar. 7, 1921, to Oct. 31, 1938, water-stage recorder, at site just upstream from intake to Cottonwood powerhouse at different datum.

Average combined discharge.--52 years (1906-10, 1914-62), 22.3 cfs (16,140 acre-ft per year).

Extremes.--1961: Maximum discharge during year, 20 cfs Apr. 3 (not previously published).

1962: Maximum discharge during year, 179 cfs May 7; no flow Oct. 1, 2.

1906-11, 1914-62: Maximum discharge observed, 434 cfs June 13, 1906 (discharge measurement); no flow for some days in 1959, 1961.

Remarks.--No regulation. Cottonwood powerhouse (maximum capacity, 22 cfs) has diverted since Nov. 13, 1908. Records Oct. 31, 1938, to Sept. 30, 1962, computed as sum of powerhouse diversion and flow past station. For records of combined discharge of Cottonwood Creek and powerhouse, see following page.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	0.1	0.1	0.1	0.1	0.2	5.4	7.1	6.6	8.2	0.5
2	0	.2	.1	.1	.1	.1	.2	6.2	9.6	6.3	7.7	.5
3	.1	.2	.1	.1	.1	.1	.1	7.4	9.2	5.8	6.7	.5
4	.1	.2	.1	.1	.1	.1	.1	8.4	9.1	5.4	5.6	.5
5	.2	.2	.1	.1	.1	.1	.1	9.7	9.3	5.6	4.1	.5
6	.2	.2	.1	.1	.1	.1	.1	11.4	9.5	5.4	3.1	.7
7	.2	.2	.1	.1	.1	.1	.1	13.1	9.5	5.0	2.2	.4
8	.1	.2	.1	.1	.1	.1	.1	12.9	9.8	4.6	1.6	.4
9	.1	.2	.1	.1	.1	.1	.1	12.4	10.1	4.3	1.1	.4
10	.1	.2	.1	.1	.1	.1	.1	10.7	10.5	4.1	1.0	.4
11	.1	.2	.1	.1	.1	.1	.1	9.3	10.8	3.9	.9	.4
12	.1	.2	.1	.1	.1	.1	1.4	8.7	11.3	3.8	.8	.3
13	.2	.2	.1	.1	.1	.1	3.1	8.0	11.0	3.5	.7	.3
14	.1	.2	.1	.1	.1	.1	6.2	6.7	11.3	3.3	.6	.3
15	.1	.2	.1	.1	.1	.1	9.8	5.7	11.7	3.1	.5	.3
16	.1	.2	.1	.1	.1	.1	1.3	5.0	10.4	2.8	.4	.3
17	.1	.2	.1	.1	.1	.1	1.7	5.4	9.6	2.7	.4	.3
18	.1	.3	.1	.1	.1	.1	2.3	5.3	9.7	2.5	.4	.2
19	.1	.4	.1	.1	.1	.1	2.7	5.1	9.8	2.5	.4	.2
20	.1	.5	.1	.1	.1	.1	2.6	4.9	10.1	2.3	.4	.2
21	.2	.6	.1	.1	.1	.1	2.4	4.7	10.3	3.1	.4	.2
22	.2	.4	.1	.1	.1	.1	2.6	5.3	10.3	2.6	.8	.2
23	.2	.4	.1	.1	.1	.1	3.6	6.0	10.0	2.6	.5	.2
24	.2	.4	.1	.1	.1	.1	4.8	5.5	9.9	1.7	.6	.2
25	.2	.5	.1	.1	.1	.1	4.9	5.4	9.5	1.7	.5	.2
26	.2	.2	.1	.1	.1	.1	4.6	5.2	9.1	1.5	.5	.2
27	.2	.2	.1	.1	.1	.1	5.0	4.7	8.5	1.5	.5	.2
28	.2	.2	.1	.1	.1	.1	5.4	5.0	8.0	1.3	.5	.2
29	.2	.1	.1	.1	-	.1	5.1	5.6	7.6	1.2	.5	.2
30	.2	.1	.1	.1	-	.1	4.9	5.8	7.1	1.1	.5	.2
31	.2	-	.1	.1	-	.2	-	6.0	-	9.4	.5	-
Total	4.4	7.7	3.1	3.1	2.8	3.2	560.8	2,209	2,897	10,274	52.6	9.6
Mean	0.14	0.26	0.10	0.10	0.10	0.10	18.7	71.3	96.6	33.1	1.70	0.32
Max	0.2	0.6	-	-	-	0.2	54	131	117	66	8.2	0.7
Min	0	0.1	-	-	-	0.1	0.1	47	71	9.4	0.4	0.2
Ac-ft	8.7	15	6.1	6.1	5.6	6.3	1,110	4,380	5,750	2,040	104	19
Calendar year 1961: Max	0.7	Min	0	Mean	0.13	Ac-ft	91					
Water year 1961-62: Max	131	Min	0	Mean	18.6	Ac-ft	13,450					

## OWENS LAKE BASIN

10-2860. Cottonwood Creek near Olancha, Calif.--Continued

Combined discharge, in cubic feet per second, of Cottonwood Creek and powerhouse near Olancha, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	3.3	4.3	3.7	4.6	6.1	7.0	7.4	9.0	8.6	2.7	1.2
2	2.3	3.3	4.6	3.7	4.6	6.4	7.3	8.2	11.6	8.3	2.8	1.2
3	2.4	3.5	4.6	3.7	4.3	6.4	8.1	9.3	11.2	7.7	2.7	1.2
4	2.4	3.5	4.8	3.7	4.3	6.4	8.6	10.3	11.1	7.4	2.5	1.2
5	2.5	3.5	5.1	3.7	4.3	6.4	8.3	11.6	11.3	7.5	2.3	1.2
6	2.5	3.5	5.6	3.7	4.3	6.4	10	13.3	11.5	7.3	2.2	9.5
7	2.5	3.8	5.8	3.7	4.6	6.4	12	14.9	11.3	6.9	2.1	10
8	2.4	3.5	5.3	3.4	4.8	6.6	13	14.8	11.8	6.5	2.1	10
9	3.0	3.5	4.1	3.4	6.6	6.6	16	14.4	12.1	6.2	2.0	10
10	3.2	3.5	3.7	3.4	7.2	6.4	17	12.7	12.5	6.0	2.0	9.8
11	3.0	3.8	3.0	3.0	8.1	6.4	17	11.2	12.7	5.8	1.9	9.8
12	2.8	3.5	3.4	3.0	7.8	5.8	20	10.7	13.2	5.7	1.8	9.5
13	2.1	3.3	4.3	2.6	7.8	5.8	22	10.0	12.8	5.4	1.8	9.5
14	2.4	3.5	4.8	2.0	7.8	5.8	25	8.7	13.3	5.2	1.7	9.1
15	2.4	3.5	4.8	2.4	8.3	5.8	28	7.7	13.6	5.0	1.6	9.1
16	2.4	2.7	4.6	3.2	8.6	5.8	32	6.9	12.3	4.7	1.7	9.1
17	2.4	2.5	4.6	3.4	8.6	5.8	37	7.3	11.5	4.6	1.7	8.8
18	2.4	3.0	4.3	3.7	10	5.8	42	7.2	11.6	4.4	1.6	8.4
19	2.6	3.1	4.3	3.7	10	5.8	46	7.0	11.7	4.4	1.6	8.2
20	2.8	3.6	4.3	3.7	9.9	5.8	45	6.8	12.1	4.2	1.6	7.9
21	2.9	3.7	4.3	3.2	8.9	5.8	43	6.6	12.2	5.0	1.5	8.2
22	2.9	4.0	4.1	3.2	8.3	5.8	45	7.3	12.3	4.6	1.5	8.2
23	2.9	4.2	4.1	3.4	7.5	5.6	56	7.7	12.0	4.5	1.4	8.2
24	3.1	4.2	3.9	3.9	6.9	5.8	67	6.9	11.9	3.6	1.5	8.4
25	3.1	4.7	3.9	4.1	6.6	5.8	68	7.2	11.5	3.6	1.4	8.7
26	3.1	4.2	3.9	4.1	6.9	6.1	65	7.0	11.1	3.2	1.4	1.4
27	2.9	4.0	3.9	4.3	5.8	6.1	70	6.6	10.5	3.4	1.4	1.1
28	2.9	4.4	3.9	4.8	6.1	6.4	74	6.9	9.8	3.2	1.2	1.0
29	2.3	4.6	3.7	4.8	-	6.1	70	7.5	9.6	3.1	1.2	9.6
30	2.9	4.3	3.7	4.6	-----	6.1	68	7.7	9.0	3.0	1.2	9.4
31	3.3	-----	3.7	4.6	-----	6.5	-----	7.9	-----	2.8	1.2	-----
Total	83.1	109.7	133.4	111.8	193.5	188.8	1047.3	2797	3481	1618	553	294.4
Mean	2.68	3.66	4.30	3.61	6.91	6.09	34.9	90.2	116	52.2	17.8	9.81
Max	3.3	4.7	5.8	4.8	10	6.6	74	149	136	86	28	14
Min	2.1	2.5	3.0	2.0	4.3	5.6	7.0	66	90	28	12	7.9
Ac-ft	165	218	265	222	384	374	2,080	5,550	6,900	3,210	1,100	584
Calendar year 1961: Max	14			Min	1.0	Mean	4.14	Ac-ft	3,000			
Water year 1961-62: Max	149			Min	2.0	Mean	29.1	Ac-ft	21,050			

## MONO LAKE BASIN

10-2870. Mono Lake near Mono Lake, Calif.

Location.--Lat 38°00', long 119°08', in NE 1/4 sec. 31, T.2 N., R.26 E., on west bank 1 mile south of town of Mono Lake.Records available.---June 1912 to September 1962: Records prior to September 1934 are published in WSP 765.Gage.---Staff gage or reference point. Datum of gage is 6,410.73 ft above mean sea level, datum of 1929. Prior to Oct. 2, 1945, at datum 20.07 ft lower. Gage readings have been reduced to elevations above mean sea level.Extremes.---1912-62: Maximum elevation observed, 6,428.1 ft July 18, 1919, present datum; minimum observed, 6,394.01 ft Sept. 24, 1962.Cooperation.---Records furnished by city of Los Angeles, Department of Water and Power.

Elevation, in feet, water year October 1961 to September 1962

Date	Elevation	Date	Elevation	Date	Elevation
Oct. 2	6,395.56	Feb. 5	6,395.02	June 11	6,395.19
10	6,395.43	12	6,395.02	18	6,395.17
16	6,395.41	19	6,395.04	25	6,395.07
23	6,395.40	26	6,395.09	July 2	6,395.04
26	6,395.38	Mar. 5	6,395.22	9	6,394.96
30	6,395.23	13	6,395.42	19	6,394.90
Nov. 7	6,395.19	19	6,395.37	23	6,394.88
13	6,395.13	25	6,395.44	30	6,394.79
20	6,395.04	Apr. 4	6,395.48	Aug. 6	6,394.66
22	6,395.08	9	6,395.50	9	6,394.62
Dec. 4	6,395.07	16	6,395.47	13	6,394.51
11	6,395.01	23	6,395.44	16	6,394.48
18	6,394.95	30	6,395.34	20	6,394.41
26	6,394.95	May 7	6,395.32	27	6,394.39
Jan. 2	6,394.97	14	6,395.25	Sept. 6	6,394.24
8	6,394.95	21	6,395.19	11	6,394.19
15	6,394.94	28	6,395.26	17	6,394.10
22	6,394.98	June 4	6,395.20	24	6,394.01
29	6,395.03				

## 77

Location.--Lat 37°48'20", long 119°06'30", in NE $\frac{1}{4}$  sec.4, T.2 S., R.26 E., on left bank in narrows, 0.6 mile upstream from head of Grant Lake and 2.7 miles northwest of town of June Lake.

Records available.--December 1936 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Average discharge.--25 years (1937-62), 79.8 cfs (57,770 acre-ft per year).

1936-62: Maximum daily discharge, 711 cfs June 28, 1938; minimum daily, 5.5 cfs Sept. 6-8, 14, 1954.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	63	40	14	22	64	76	100	143	185	119	96
2	51	63	31	13	24	61	74	108	157	178	117	95
3	48	63	24	15	24	59	74	115	168	175	114	95
4	50	61	29	20	26	52	76	125	171	174	112	95
5	60	59	42	22	24	53	78	135	168	172	111	96
6	61	60	51	26	25	69	81	143	170	178	108	95
7	61	63	55	27	24	65	84	153	177	177	106	95
8	61	64	59	24	23	58	88	157	182	174	105	96
9	62	64	42	25	42	45	92	152	192	166	109	96
10	63	65	35	27	36	48	93	147	210	159	108	96
11	63	65	46	33	32	63	92	135	206	152	106	95
12	63	66	60	32	29	67	89	135	201	149	105	93
13	63	65	51	38	33	71	63	134	198	146	104	91
14	63	51	45	38	52	72	64	131	195	140	102	90
15	63	41	57	51	51	70	76	130	192	138	102	89
16	63	54	50	63	60	68	87	128	182	138	101	89
17	63	64	40	65	42	67	99	128	177	136	101	89
18	56	67	36	63	30	67	107	125	177	136	101	91
19	38	68	40	65	41	68	120	123	197	135	100	92
20	20	73	37	61	64	68	118	119	221	131	99	93
21	16	70	28	57	69	68	115	121	235	129	99	93
22	12	68	20	57	51	68	114	120	246	133	99	93
23	10	65	16	62	53	65	107	123	249	135	99	93
24	9.8	66	14	65	59	57	102	123	239	120	99	93
25	9.3	63	14	67	56	41	100	123	224	83	98	93
26	8.4	65	14	67	67	36	96	125	218	118	98	100
27	19	64	22	55	87	41	97	126	212	125	98	98
28	48	63	18	36	70	51	107	128	201	125	97	97
29	57	63	16	36	-	55	111	121	195	125	96	96
30	60	56	17	34	-----	67	98	125	190	123	96	96
31	63	-----	15	26	-----	91	-----	134	-----	121	96	-----
Total	1,417.5	1,882	1,064	1,284	1,216	1,895	2,778	3,992	5,893	4,476	3,205	2,818
Mean	45.7	62.7	34.3	41.4	43.4	61.1	92.6	129	196	144	103	93.9
Max	63	73	60	67	87	91	120	157	249	185	119	100
Min	8.4	41	15	13	22	36	63	100	143	83	96	89.
Ac-ft	2,810	3,730	2,110	2,550	2,410	3,760	5,510	7,920	11,690	8,880	6,360	5,590
Calendar year 1961:	Max	128	Min	8.0	Mean	38.7	Ac-ft	28,020				
Water year 1961-62:	Max	249	Min	8.4	Mean	87.5	Ac-ft	63,320				

10-2879. Lee Vining Creek near Lee Vining, Calif.

Location.--Lat 37°55'45", long 119°10'10", in SW $\frac{1}{4}$  sec.24, T.1 N., R.25 E., on right bank 0.8 mile upstream from Gibbs Canyon and 3.3 miles southwest of Lee Vining.

Drainage area.--35.2 sq mi.

Records available.--April 1934 to September 1962. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder on concrete revetment walls, rebuilt at different datum Oct. 17, 1955. Altitude of gage is 7,400 ft (from topographic map). Prior to Aug. 6, 1944, staff gage at same site at different datum.

Average discharge.--28 years, 66.6 cfs (48,220 acre-ft per year).

Extremes.--Maximum discharge during year, 265 cfs June 23; minimum daily, 10 cfs for several days.

1934-62: Maximum discharge observed, 503 cfs June 9, 1938 (gage height, 3.07 ft); no flow Nov. 29, 1935.

Remarks.--Flow regulated by Ellery, Saddlebag, and Tioga Lakes (combined capacity, 13,269 acre-ft) and several small natural lakes. No diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	43	16	17	16	15	45	57	153	199	91	25
2	10	26	46	17	16	21	52	73	172	190	72	21
3	11	26	15	16	26	21	42	105	187	199	106	21
4	10	23	23	12	34	23	24	122	190	192	75	29
5	10	28	34	12	16	34	65	123	172	199	67	22
6	51	16	32	12	10	26	49	146	151	188	101	19
7	45	24	21	12	11	24	59	160	162	185	106	17
8	33	55	20	14	12	36	47	160	186	174	38	17
9	46	30	15	12	20	59	84	158	204	165	62	17
10	31	34	15	29	20	46	70	157	229	163	33	16
11	34	28	27	18	28	59	63	146	242	161	41	16
12	40	26	25	18	28	79	75	111	217	132	31	21
13	28	20	23	20	38	54	90	90	210	108	58	26
14	42	23	19	17	39	58	84	110	258	152	47	16
15	34	25	23	21	39	62	99	51	173	117	36	15
16	34	26	14	17	26	31	101	70	160	115	37	15
17	33	32	23	33	20	50	87	57	158	113	32	15
18	54	33	16	18	29	42	103	79	132	111	32	26
19	52	24	16	20	29	66	103	94	204	112	25	16
20	54	27	16	44	26	35	91	68	246	110	32	15
21	39	38	23	18	27	58	92	78	247	108	32	18
22	23	27	26	20	28	42	99	56	253	106	23	17
23	48	17	16	26	22	40	94	111	246	103	30	17
24	45	33	15	20	16	26	104	52	228	101	31	17
25	50	29	15	22	16	75	107	97	231	99	37	18
26	44	17	14	18	57	42	103	68	230	97	24	23
27	34	33	16	17	26	52	104	59	224	87	23	20
28	40	32	16	15	17	60	105	90	219	79	21	19
29	36	26	28	10	-	46	110	67	204	93	21	19
30	34	20	20	20	-----	59	95	101	195	93	21	23
31	21	-----	19	16	-----	44	-----	116	-----	91	24	-----
Total	1,076	841	647	581	692	1,385	2,446	3,032	6,083	4,142	1,409	576
Mean	34.7	28.0	20.9	18.7	24.7	44.7	81.5	97.8	203	134	45.5	19.2
Max	54	55	46	44	57	79	110	160	258	199	106	29
Min	10	16	14	10	10	15	24	51	132	79	21	15
Ac-ft	2,130	1,670	1,280	1,150	1,370	2,750	4,850	6,010	12,070	8,220	2,790	1,140
Calendar year 1961: Max	156	Min	4.2	Mean	38.2	Ac-ft	27,650					
Water year 1961-62: Max	258	Min	10	Mean	62.8	Ac-ft	45,430					

## TIA JUANA RIVER BASIN

79

11-100. Cottonwood Creek at Morena Dam, Calif.

Location.--Lat 32°41'01", long 116°32'45", in NE $\frac{1}{4}$  sec.23, T.17 S., R.4 E., on Morena Dam outlet tower.Drainage area.--120 sq mi, approximately.Records available.--January 1916, October 1936 to September 1962.Gage.--Staff gage read once daily. Datum of gage is 2,882.4 ft above mean sea level.Average discharge.--26 years (1936-62), 11.8 cfs (8,550 acre-ft per year); median of yearly mean discharges, 3.9 cfs (2,800 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Morena Reservoir, including precipitation on reservoir surface. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Prior to January 1962, monthly evaporation from reservoir surface computed on basis of evaporation from Colorado pan using a coefficient of 0.80. Since January 1962, evaporation computed by mass-transfer method. Capacity and area ratings for reservoir are based on a resurvey made in 1948. Dam completed and storage began in 1910. Capacity of reservoir at permanent spillway level (gage height, 157.00 ft), 50,210 acre-ft. Dead storage, 654 acre-ft below outlet No. 3 at gage height 70.5 ft. No diversion above reservoir. Water is released down Cottonwood Creek to Barrett Reservoir as required.

Cooperation.--Records computed in cooperation with city of San Diego.

## Monthly runoff, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre-foot)	Change in contents (acre-foot)	Draft (acre-foot)	Evapo- ration (acre-foot)	Spill plus leakage (acre-foot)	Runoff (acre-foot)
	Morena Reservoir						
Sept. 30.....	68.8	539	-	-	-	-	-
Oct. 31.....	68.4	514	-25	0	21	1	-3
Nov. 30.....	68.2	501	-13	0	11	2	0
Dec. 31.....	68.5	520	+19	0	6	4	29
Calendar year 1961.....	-	-	-260	0	314	24	78
Jan. 31.....	69.1	559	+39	0	13	2	54
Feb. 28.....	70.4	647	+88	0	12	2	102
Mar. 31.....	71.6	734	+87	0	18	2	107
Apr. 30.....	71.5	727	-7	0	40	7	40
May 31.....	71.2	705	-22	0	48	2	28
June 30.....	70.7	668	-37	0	46	3	12
July 31.....	70.0	620	-48	0	43	2	-3
Aug. 31.....	69.2	566	-54	0	50	2	-2
Sept. 30.....	68.6	526	-40	0	42	2	4
Water year 1961-62.....	-	-	-13	0	350	31	368

† At 0800.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## TIA JUANA RIVER BASIN

11-110. Cottonwood Creek at Barrett Dam, near Dulzura, Calif.

Location (revised).--Lat  $32^{\circ}40'46''$ , long  $116^{\circ}40'11''$ , in SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  sec. 22, T.17 S., R.3 E., on Barrett Dam outlet tower, 7.0 miles northeast of Dulzura.

Drainage area.--250 sq mi.

Records available.--January 1906 to December 1915, October 1945 to September 1962. Published as "near Jamul" prior to October 1912 and as "near Dulzura" October 1912 to December 1915. October 1936 to September 1945, published as "near Dulzura"; records not equivalent, as they were computed to represent runoff from Cottonwood Creek Basin below Morena Dam (drainage area, 130 sq mi).

Gage.--Staff gage read once daily. Datum of gage is 1,446.12 ft above mean sea level. January 1906 to December 1915, staff gage at same site at different datum (prior to completion of dam).

Remarks.--Records of inflow represent all water reaching Barrett Reservoir, including precipitation on the reservoir and water passing down Cottonwood Creek from Morena Reservoir. Inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Prior to January 1962, monthly evaporation from reservoir surface computed on basis of evaporation from Colorado pan using a coefficient of 0.80. Since January 1962, evaporation computed by mass-transfer method. Capacity and area ratings for reservoir are based on a resurvey made in 1948, 1951, and 1955. Barrett Dam was completed and storage began in 1922. Capacity of reservoir at top of flash gates on spillway (gage height, 168.88 ft), 44,760 acre-ft. Dead storage, 719 acre-ft below lowest outlet at gage height 58.88 ft, included in these records. Flow partly regulated by Morena Reservoir (see p. 79). Water drawn from Barrett Reservoir is diverted out of drainage basin to Lower Otay Reservoir by Dulzura conduit for municipal use.

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly inflow, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill plus leakage (acre-feet)	Inflow (acre-feet)
	Barrett Reservoir						
Sept. 30.....	63.3	1,001	-	-	-	-	-
Oct. 31.....	63.0	980	-21	0	26	0	5
Nov. 30.....	62.9	973	-7	0	15	0	8
Dec. 31.....	63.1	987	+14	0	6	0	20
Calendar year 1961.....	-	-	-212	0	344	0	132
Jan. 31.....	63.5	1,015	+28	0	6	0	34
Feb. 28.....	64.8	1,108	+93	0	6	0	99
Mar. 31.....	71.4	1,659	+551	0	11	0	562
Apr. 30.....	72.1	1,725	+66	0	36	.1	102
May 31.....	71.9	1,706	-19	0	36	0	17
June 30.....	71.4	1,659	-47	0	44	0	-3
July 31.....	70.7	1,594	-65	0	57	0	-8
Aug. 31.....	70.1	1,539	-55	0	53	0	-2
Sept. 30.....	69.6	1,495	-44	0	41	0	-3
Water year 1961-62.....	-	-	+494	0	337	0.1	831

† At 0800.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of inflow may appear. This arises primarily from the difficulty of computing inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## TIA JUANA RIVER BASIN

81

11-120. Cottonwood Creek above Tecate Creek, near Dulzura, Calif.

Location.--Lat 32°34'30", long 116°45'10", in SW $\frac{1}{4}$  sec.26, T.18 S., R.2 E., on right bank 0.8 mile upstream from confluence with Tecate Creek and 5.1 miles south of Dulzura.

Drainage area.--316 sq mi.

Records available.--October 1936 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 569.40 ft above mean sea level (levels by International Boundary and Water Commission).

Average discharge.--26 years, 8.42 cfs (6,100 acre-ft per year); median of yearly mean discharges, 1.3 cfs (940 acre-ft per year).

Extremes.--Maximum discharge during year, 10 cfs Feb. 20 (gage height, 1.87 ft); no flow for most of year.

1936-62: Maximum discharge, 4,340 cfs Feb. 7, 1937 (gage height, 9.65 ft), from rating curve extended above 1,500 cfs; no flow for part of each year.

Remarks.--Records good. Flow regulated by Morena Reservoir (see p. 79) and Barrett Reservoir (see p. 80). Water released from Barrett Reservoir through Dulzura conduit is diverted to Lower Otay Reservoir.

Cooperation.--Two discharge measurements furnished by International Boundary and Water Commission.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.1	3.9	1.0	(*)				
2				0	.1	3.2	*.9					
3	(*)			* 0	0	2.5	*.7					
4				0	0	2.0	.6					
5			(*)	0	0	1.5	.5					(*)
6		(*)		0	0	2.0	.5					
7				0	0	* 2.2	.4					
8				0	.1	1.7	.3					
9				0	0	1.7	.3					
10				0	0	2.3	.2					
11				0	0	2.0	.2					
12				0	0	1.7	.1					
13				0	.1	1.6	.1					
14				0	*.2	1.3	.1	(*)				
15				0	.2	1.2	.1		(*)			
16				0	.2	1.1	.1					
17				0	.3	1.0	.1					
18				0	.3	.9	**1					
19				0	.6	* 1.8	.1					
20				0	* 6.7	1.7	0					
21				0	8.0	1.2	0					
22				* 0	5.9	1.2	0					
23				*.4	3.9	2.5	0					
24				.3	3.2	1.9	0					
25				.6	* 4.7	1.7	0					
26				.5	* 7.0	1.5	0					
27				.5	7.0	1.5	0					
28				.4	5.1	1.3	0					
29				.3	-	1.3	0	(*)				
30				.2	-----	1.2	0			(*)		
31				.2	-----	1.1	-----					
Total	0	0	0	3.4	53.7	53.7	6.4	0	0	0	0	0
Mean	0	0	0	0.11	1.92	1.73	0.21	0	0	0	0	0
Max	0	0	0	0.6	8.0	3.9	1.0	0	0	0	0	0
Min	0	0	0	0	0	0.9	0	0	0	0	0	0
Ac-ft	0	0	0	6.7	107	107	13	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0

Water year 1961-62: Max 8.0 Min 0 Mean 0.32 Ac-ft 234

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

\*\* Field estimate made on this day.

## TIA JUANA RIVER BASIN

11-121. Miller Creek near Live Oak Springs, Calif.

Location.--Lat 32°42'15", long 116°21'48", in SW $\frac{1}{4}$  sec.10, T.17 S., R.6 E., 10 ft upstream from culvert on U. S. Highway 80, 2.0 miles northwest of Live Oak Springs.

Drainage area.--1.00 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 4,020 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.2 cfs Mar. 6 (gage height, 3.13 ft); no flow for most of year.

Remarks.--Records good. No regulation or diversion. Monthly figures of precipitation, in inches, for the period January to September, are as follows: January, 3.4; February, 4.4; March, 2.0; May, 0.4; the period, 10.2.

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

Feb. 20.....	0.1	Mar. 19.....	0.1
21.....*	.1	23.....	.1
Mar. 6.....	.1		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1962.....	0.2	0.1	0	0.007	0.4
March.....	.3	.1	0	.01	.6
Calendar year 1961.....	-	-	-	-	-
Water year 1961-62.....	-	.1	0	.001	1.0

\* Discharge measurement made on this day.

Note.--Discharge occurred only on days listed above.

11-125. Campo Creek near Campo, Calif.

Location.--Lat 32°35'25", long 116°31'30", in SE $\frac{1}{4}$  sec.24, T.18 S., R.4 E., on left bank just upstream from bridge on State Highway 94, about 3.5 miles southwest of Campo.

Drainage area.--84 sq mi, approximately, of which 4 sq mi are in Mexico.

Records available.--October 1936 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 2,179.08 ft above mean sea level (State Highway Department bench mark). Prior to Dec. 1, 1954, at datum 1 ft higher.

Average discharge.--26 years, 2.42 cfs (1,750 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes.--No flow during year.

1936-62: Maximum discharge, 880 cfs Feb. 6, 1937 (gage height, 4.80 ft, present datum), from rating curve extended above 110 cfs on basis of velocity mean-depth relation and cross-sectional area at control; no flow for part of most years.

Remarks.--No flow since May 9, 1960. A small conservation reservoir a quarter of a mile upstream, completed in August 1956, partly regulates flow.



## 11-130. Tia Juana River near Dulzura, Calif.

Location--Lat 32°33'50", long 116°46'25", in sec.33, T.18 S., R.2 E., on left bank 0.5 mile downstream from confluence of Cottonwood and Tecate Creeks and 5.5 miles south of Dulzura.

Drainage area--478 sq mi, of which 62 sq mi are in Mexico.

Records available--October 1936 to September 1962.

Gage--Water-stage recorder. Datum of gage is 542.42 ft above mean sea level (levels by International Boundary and Water Commission). Prior to Sept. 19, 1939, at datum 2.00 ft higher.

Average discharge--26 years, 13.5 cfs (9,770 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

Extremes--Maximum discharge during year, 10 cfs Feb. 21 (gage height, 2.23 ft); no flow for most of year.

1936-62: Maximum discharge, 4,700 cfs Feb. 7, 1937 (gage height, 8.50 ft, present datum), from rating curve extended above 300 cfs on basis of velocity mean-depth and area studies; no flow for part of most years.

Remarks--Records good. Flow regulated by Morena Reservoir (see p. 79) and Barrett Reservoir (see p. 80). Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek.

Cooperation--Four discharge measurements furnished by International Boundary and Water Commission.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	5.6	0.6	* 0.1				
2					0	4.6	* .7	.1				
3	(*)			(*)	0	3.7	* .7	.1				
4					0	3.0	.9	.1				
5			(*)		0	2.4	1.0	.1				(*)
6		(*)			0	2.3	1.0	.1				
7					0	* 2.1	1.0	.1				
8					0	1.8	1.0	.1				
9					0	1.8	.9	.1				
10					0	2.1	.8	.1				
11					0	1.9	.7	0				
12					0	1.7	.7	0				
13					0	1.4	.6	0				
14					* 0	1.4	.6	* .1				
15					0	1.4	.6	.1	(*)			
16					0	1.3	.6	.1				
17					0	1.2	.5	.1				
18					0	1.2	.5	.1				
19					0	* 2.0	.4	.1				
20					* 3.3	2.1	.4	.1				
21					* 8.8	1.6	.3	0				
22				(*)	6.3	1.5	.3	0				
23				(*)	4.4	2.0	.3	0				
24					3.7	1.7	.3	0				
25					5.6	1.2	.3	0				
26					* 7.9	1.0	.3	0				
27					7.9	.8	.2	.1				
28					6.3	.8	.2	.1				
29					-	.7	.2	* .1				
30					-----	.7	* .2	0		(*)		
31					-----	.6	-----	* 0	-----			-----
Total	0	0	0	0	54.2	57.6	16.8	2.0	0	0	0	0
Mean	0	0	0	0	1.94	1.86	0.56	0.06	0	0	0	0
Max	0	0	0	0	8.8	5.6	1.0	0.1	0	0	0	0
Min	0	0	0	0	0	0.6	0.2	0	0	0	0	0
Ac-ft	0	0	0	0	107	114	33	4.0	0	0	0	0

Calendar year 1961: Max 0.1 Min 0 Mean 0.0005 Ac-ft 0.4

Water year 1961-62: Max 8.8 Min 0 Mean 0.36 Ac-ft 258

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

## TIA JUANA RIVER BASIN

11-132. Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico

Location.--Lat 32°26'40", long 116°54'25", at Rodriguez Dam on Rio de las Palmas, a quarter of a mile upstream from Arroyo Matanuco and 10 miles southeast of Tijuana, Baja California, Mexico.

Drainage area.--988 sq mi, of which 7 sq mi are in the United States.

Records available.--April 1937 to September 1962. Published with record for Tia Juana River near Nestor, Calif., October 1953 to September 1957. Month-end contents for April 1937 to September 1950 published in WSP 1315-B and for October 1950 to September 1960 in WSP 1735.

Gage.--Staff gage. Altitude of gage is 250 ft (from topographic map).

Extremes.--Maximum contents during year, 892 acre-ft Jan. 23; minimum, 23 acre-ft Aug. 29.

1937-62: Reservoir spilled during March 1938, September 1940, February to May 1941, March 1942, and February, March 1944; minimum contents, that for Aug. 29, 1962.

Remarks.--Reservoir is formed by thin shell concrete arch dam completed in 1936; storage began in 1937. Area and capacity ratings are based on surveys made in 1927. Maximum storage at top of spillway gates (elevation, 410.10 ft), 111,070 acre-ft; at spillway lip (elevation, 380.08 ft), 74,580 acre-ft; dead storage below outlet (elevation, 267.39 ft), 1,650 acre-ft included in contents. Reservoir is used to store water for irrigation of about 3,000 acres on both banks one-half to 5½ miles downstream and for municipal supply of city of Tijuana.

Cooperation.--Records furnished by Ministry of Hydraulic Resources, Government of Mexico, through International Boundary and Water Commission, United States Section.

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

Month	Contents (acre- feet)	Change in contents (acre-feet)	Month	Contents (acre- feet)	Change in contents (acre-feet)
Sept. 30.....	73	-	Apr. 30.....	43	-1
Oct. 31.....	59	-14	May 31.....	33	-10
Nov. 30.....	60	+1	June 30.....	30	-3
Dec. 31.....	47	-13	July 31.....	30	0
	- - - - -	- - - - -	Aug. 31.....	24	-6
Calendar year 1961.....	-	-149	Sept. 30.....	28	+4
	- - - - -	- - - - -			
Jan. 31.....	47	0	Water year 1961-62.....	-	-45
Feb. 28.....	51	+4			
Mar. 31.....	44	-7			

11-135. Tia Juana River near Nestor, Calif.

Location.--Lat 32°33'05", long 117°05'00", on line between secs.3 and 4, T.19 S., R.2 W., on downstream side of county highway bridge, 1.7 miles south of Nestor and 2.9 miles upstream from mouth.

Drainage area.--1,668 sq mi, of which 1,198 sq mi are in Mexico.

Records available.--October 1914 to September 1915, October 1936 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 15.14 ft above mean sea level. Oct. 1, 1914, to Sept. 30, 1915, reference point at same site at mean sea level datum. Oct. 1, 1936, to Apr. 9, 1953, water-stage recorder at different datum. Apr. 10, 1953, to Aug. 5, 1958, at site 2 miles upstream at different datum.

Average discharge.--27 years, 41.2 cfs (29,830 acre-ft per year); median of yearly mean discharges, 5.6 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 75 cfs Jan. 21 (gage height, 3.57 ft); no flow for most of year.

1936-62: Maximum discharge, 17,700 cfs Feb. 7, 1937 (gage height, 8.20 ft, at different datum), from rating curve extended above 2,000 cfs on basis of velocity-depth relation and cross section after peak; no flow in parts of each year.

Remarks.--Records good. Flow regulated by Morena Reservoir (see p. 79) and Barrett Reservoir (see p. 80) in the United States, and Rodriguez Reservoir (see above) in Mexico. Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek.

Cooperation.--Three discharge measurements furnished by International Boundary and Water Commission.

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

Jan. 21.....	*14	Feb. 20.....	*1.2
22.....	.4	21.....	*1.7
23.....	*8.4	25.....	*1.8
24.....	*1.5	26.....	*.8
25.....	*3.4	27.....	*.4
Feb. 19.....	.5		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1962.....	27.7	14	0	0.89	55
February.....	6.4	1.8	0	.23	13
Calendar year 1961.....	-	0	0	0	0
Water year 1961-62.....	-	14	0	.09	68

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

Note.--Flow occurred only on days listed above.

## OTAY RIVER BASIN

85

11-140. Jamul Creek near Jamul, Calif.

Location.--Lat 32°38'15", long 116°53'00", in NE¼ sec.4, T.18 S., R.1 E., on right bank 300 ft upstream from county road crossing at upper end of Lower Otay Reservoir, 1.4 miles downstream from Dulzura Creek, and 5.5 miles south of Jamul.

Drainage area.--70.0 sq mi.

Records available.--April 1940 to September 1962.

Gage.--Water-stage recorder and broad-crested weir with venturi flume for low-water notch. Datum of gage is 511.64 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1951, at same site at datum 1.00 ft higher.

Extremes.--Maximum discharge during year, 91 cfs Feb. 25 (gage height, 2.94 ft, from floodmark); no flow for most of year.

1940-62: Maximum discharge, 4,000 cfs Dec. 1, 1947 (gage height, 6.42 ft, present datum), from rating curve extended above 1,200 cfs; no flow at times in some years.

Remarks.--Records good except those for period of no gage-height record, which are poor. Water diverted from Cottonwood Creek by Dulzura conduit discharges into Jamul Creek via Dulzura Creek and is included in discharge records for this station (see p. 80).

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

0.95	0
1.0	.3
1.1	1.4
1.3	4.4
1.5	8.7
1.8	17

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	* 4.4	0.9	(*)				
2				0	0	3.1	* .9					
3	(*)			* 0	0	2.3	.9			(*)		
4				0	0	2.0	.9					
5				0	0	1.9	.8					(*)
6				0	0	2.0	.7					
7				0	0	* 1.5	.6					
8				0	0	1.3	.6					
9				0	0	1.4	.6					
10				0	0	1.4	.6					
11			(*)	0	0	1.0	.5					
12				0	* 0	1.0	.4					
13				0	0	* .9	.3					
14				0	0	.9	.3	(*)				
15				0	0	.9	a .2					
16				0	0	.9	a .2					
17				0	0	.9	a .1					
18				0	0	1.2	* a .1					
19				0	.3	1.4	a .1					
20				0	* 3.2	1.0	a .1					
21				* .6	9.9	1.2	a .1					
22				0	4.1	1.3	a .1					
23				0	1.7	1.3	a .1					
24				.2	1.5	1.0	a .1					
25				.4	* 1.5	1.0	0					
26				0	1.6	.9	0					(*)
27				0	1.4	.9	0					
28				0	6.6	.9	0					
29				0	-	.9	0	(*)				
30				* 0	-----	.9	0			(*)		
31	(*)	-----	-----	0	-----	.9	-----	-----	-----	-----	-----	-----
Total	0	0	0	1.2	72.3	42.6	10.2	0	0	0	0	0
Mean	0	0	0	0.04	2.58	1.37	0.34	0	0	0	0	0
Max	0	0	0	0.6	16	4.4	0.9	0	0	0	0	0
Min	0	0	0	0	0	0.9	0	0	0	0	0	0
Ac-ft	0	0	0	2.4	143	84	20	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0

Water year 1961-62: Max 16 Min 0 Mean 0.35 Ac-ft 249

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

a No gage-height record.

## SWEETWATER RIVER BASIN

11-150. Sweetwater River near Descanso, Calif.

Location.--Lat 32°50'05", long 116°37'20", in NW 1/4 sec. 25, T.15 S., R.3 E., on right bank at county road bridge, 0.7 mile downstream from unnamed tributary and 1.3 miles south of Descanso.

Drainage area.--44.5 sq mi.

Records available.--October 1905 to September 1927, October 1956 to September 1962. Monthly discharge only for October to December 1905; January to February 1916, February, March, June to September 1927, published in WSP 1315-B. Combined records of river and diversion, October 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 3,269.24 ft above mean sea level, datum of 1929. Prior to June 25, 1927, staff gages at several sites within 0.1 mile upstream at various datums.

Average discharge.--28 years, 12.8 cfs (9,270 acre-ft per year); median of yearly mean discharges, 7.1 cfs (5,100 acre-ft per year). Average combined discharge of river and diversion, 6 years (1956-62), 2.63 cfs (1,900 acre-ft per year).

Extremes.--Maximum discharge during year, 38 cfs Mar. 24 (gage height, 3.21 ft); no flow for most of year.

1905-27, 1956-62: Maximum discharge, 11,200 cfs Feb. 16, 1927 (gage height, 13.2 ft, from floodmark, site and datum then in use), on basis of slope-area measurement of peak flow; no flow on many days in some years.

Remarks.--Records good. Sweetwater River diversion ditch diverts about 0.3 mile above station for irrigation below. For records of combined discharge of river and diversion, see following page.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	2.4	7.2	* 0.9	1.0			
2			0	0	0	2.2	* 7.0	.9	.7			
3			0	* 0	0	2.2	6.5	.9	.4	(*)		
4			0	0	0	2.0	5.8	.8	.3			(*)
5			0	0	0	2.0	5.2	.7	.2			
6		(*)	0	0	0	2.6	4.9	.7	.2			
7			0	0	.1	* 7.3	4.9	.7	.2			
8			0	0	* .1	7.4	4.7	.6	.2			
9			0	0	.1	8.4	4.1	.4	.2			
10			0	* 0	.1	13	3.5	.5	.2			
11			0	0	.1	11	3.0	.4	.1			
12			0	0	.2	9.5	2.6	.4	.1			
13			0	0	.1	8.1	2.3	.5	.1			
14			.5	0	.1	6.5	2.2	.8	.2			
15			.3	0	.2	5.6	2.2	3.0	* .3			
16			0	0	.2	5.6	2.1	2.6	.5			
17			0	0	.2	5.6	2.0	* 3.7	.4			
18			0	0	.2	6.2	* 1.9	2.6	.2			
19			0	0	.5	* 11	1.9	2.0	.2			
20			0	.5	2.5	20	2.1	1.8	0			
21			0	.7	* 4.7	* 15	1.8	1.7	0			
22			0	.2	2.2	13	1.6	1.5	0			
23			0	* .1	1.9	18	1.4	1.2	0			
24			0	.1	1.7	15	1.5	1.1	0			
25			0	.1	2.4	11	1.5	1.1	0			
26			0	.1	2.7	10	1.5	1.5	0			
27			0	0	2.8	9.8	1.3	2.3	0			
28		(*)	0	0	2.4	10	1.3	3.1	0			
29			0	0		11	1.3	* 2.1	0			
30			0	* 0	-----	9.3	1.1	1.6	0	(*)		
31		-----	0	.1	-----	7.9	-----	1.3	-----	-----		
Total	0	0	0.8	1.9	25.5	268.6	90.4	43.4	5.7	0	0	0
Mean	0	0	0.03	0.06	0.91	8.66	3.01	1.40	0.19	0	0	0
Max	0	0	0.5	0.7	4.7	20	7.2	3.7	1.0	0	0	0
Min	0	0	0	0	0	2.0	1.1	0.4	0	0	0	0
Ac-ft	0	0	1.6	3.8	51	533	179	86	11	0	0	0

Calendar year 1961: Max 0.5 Min 0 Mean 0.007 Ac-ft 4.8  
 Water year 1961-62: Max 20 Min 0 Mean 1.20 Ac-ft 865

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

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

## SWEETWATER RIVER BASIN

87

## 150. Sweetwater River near Descanso, Calif.--Continued

Combined discharge, in cubic feet per second, of Sweetwater River and Sweetwater River diversion ditch,  
near Descanso, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	2.4	7.2	1.1	1.4			
2			0	0	0	2.2	7.0	1.1	1.1			
3			0	0	0	2.2	6.5	1.0	.8			
4			0	0	0	2.0	5.8	.9	.6			
5			0	0	0	2.0	5.2	.8	.5			
6			0	0	0	2.6	4.9	.8	.5			
7			0	0	.1	7.3	4.9	.8	.5			
8			0	0	.1	7.4	4.7	.8	.4			
9			0	0	.1	8.4	4.1	.7	.4			
10			0	0	.1	13	3.5	.8	.3			
11			0	0	.1	11	3.0	.7	.1			
12			0	0	.2	9.5	2.6	.8	.1			
13			0	0	.1	8.1	2.3	.9	.1			
14			.5	0	.1	6.5	2.2	1.2	.3			
15			.3	0	.2	5.6	2.2	3.4	.7			
16			0	0	.2	5.6	2.1	3.0	.9			
17			0	0	.2	5.6	2.0	4.1	.7			
18			0	0	.2	6.2	1.9	3.0	.4			
19			0	0	.5	11	1.9	2.4	.3			
20			0	.5	2.5	20	2.1	2.2	0			
21			0	.7	4.7	15	1.8	2.1	0			
22			0	.2	2.2	13	1.6	1.9	0			
23			0	.1	1.9	18	1.4	1.6	0			
24			0	.1	1.7	15	1.5	1.5	0			
25			0	.1	2.4	11	1.5	1.5	0			
26			0	.1	2.7	10	1.6	1.9	0			
27			0	0	2.8	9.8	1.6	2.8	0			
28			0	0	2.4	10	1.6	3.6	0			
29			0	0	-	11	1.6	2.6	0			
30			0	0	-----	9.3	1.3	2.1	0			
31		-----	0	.1	-----	7.9	-----	1.7	-----			
Total	0	0	0.8	1.9	25.5	268.6	91.6	53.8	10.1	0	0	0
Mean	0	0	0.03	0.06	0.91	8.66	3.05	1.74	0.34	0	0	0
Max	0	0	0.5	0.7	4.7	20	7.2	4.1	1.4	0	0	0
Min	0	0	0	0	0	2.0	1.3	0.7	0	0	0	0
Ac-ft	0	0	1.6	3.8	51	533	182	107	20	0	0	0
Calendar year 1961:	Max	0.5	Min	0	Mean	0.007	Ac-ft	4.8				
Water year 1961-62:	Max	20	Min	0	Mean	1.24	Ac-ft	898				

## SWEETWATER RIVER BASIN

11-155. Sweetwater River at Loveland Dam, near Alpine, Calif.

Location.--Lat 32°46'54", long 116°47'35", in SE 1/4 SW 1/4 sec.17, T.16 S., R.2 E., on upstream face near center of Loveland Dam, 4 miles southwest of Alpine.

Drainage area.--98.3 sq mi.

Records available.--October 1944 to September 1962.

Gage.--Staff gage read once daily. Datum of gage is 1,215 ft above mean sea level.

Average discharge.--18 years, 5.10 cfs (3,690 acre-ft per year); median of yearly mean discharges, 1.3 cfs (950 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Loveland Reservoir, including precipitation on the reservoir. Runoff computed on the basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from reservoir surface computed by mass-transfer method. Capacity and area ratings for the reservoir are dated April 1946. Loveland Dam was completed in July 1945; storage began in March 1945. Capacity of reservoir at spillway level (gage height, 140.00 ft), 25,387 acre-ft. Dead storage, 125 acre-ft below lowest outlet at gage height -1.25 ft, included in these records. One small diversion above reservoir. Water is released down Sweetwater River to Sweetwater Reservoir as required.

Cooperation.--Records of stage, draft and spill plus leakage furnished by California Water & Telephone Co.

Monthly runoff, water year October 1961 to September 1962

Month	Elevation (feet)†	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Spill plus leakage (acre- feet)	Runoff (acre- feet)
	Loveland Reservoir						
October.....	1,244.54	944	-12	0	16	0	4
November.....	1,244.30	932	-3	0	7	0	4
December.....	1,244.24	929	+11	0	2	0	13
Calendar year 1961.....	-	-	-121	0	234	0	113
January.....	1,244.46	940	+17	0	2	0	19
February.....	1,244.80	957	+69	0	4	0	73
March.....	1,246.12	1,026	+528	0	11	0	539
April.....	1,254.52	1,554	+145	0	30	0	175
May.....	1,256.46	1,699	+23	0	40	0	63
June.....	1,256.76	1,722	-28	0	43	0	15
July.....	1,256.39	1,694	-45	0	44	0	-1
August.....	1,255.80	1,649	-41	0	37	0	-4
September.....	1,255.26	1,608	-19	0	29	0	10
October.....	1,255.00	1,589	-	-	-	-	-
Water year 1961-62.....	-	-	+645	0	265	0	910

† On first day of month.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## 11-165. Sweetwater River at Sweetwater Dam, Calif.

Location.--Lat 32°41'20", long 117°00'35", in La Nacion Grant, at Sweetwater Dam, 6 miles east of National City, San Diego County, and 8 miles upstream from mouth.

Drainage area.--180 sq mi.

Records available.--October 1887 to September 1962.

Gage.--Staff gage read once daily. Datum of gage is 149.12 ft above mean sea level, datum of 1929.

Remarks.--Records of total inflow represent all water reaching Sweetwater Reservoir, including precipitation on reservoir and supplemental Colorado River water delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude supplemental water from Colorado River. Monthly evaporation from reservoir surface computed on basis of evaporation from Colorado pan using coefficient of 0.80. Capacity and area ratings for reservoir are dated December 1947. Capacity of reservoir at spillway level (gage height, 89.70 ft), 27,690 acre-ft. Dead storage, 4 acre-ft below lowest outlet at gage height 19.7 ft, included in these records. Diversions above reservoir. Regulation at Loveland Reservoir (see p. 88). Water is released as required for irrigation and domestic use in Chula Vista, National City, and contiguous areas.

Cooperation.--Records furnished by California Water & Telephone Co.

Monthly net inflow, water year October 1961 to September 1962

Month	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill plus leakage (acre-feet)	Total inflow (acre-feet)	Colorado River water imported (acre-feet)	Net inflow (acre-feet)
	Sweetwater Reservoir								
October.....	47.02	3,558	-610	621	115	0	126	150	-24
November.....	44.67	2,948	-407	415	82	0	90	69	21
December.....	43.00	2,541	-295	346	31	0	82	19	63
Calendar year 1961.....	-	-	-1,533	7,697	1,377	0	7,541	7,497	44
January.....	41.73	2,246	+46	251	48	0	345	218	127
February.....	41.93	2,292	+129	39	24	0	192	75	117
March.....	42.49	2,421	-60	92	55	0	87	37	50
April.....	42.23	2,361	-16	46	82	0	112	96	16
May.....	42.16	2,345	+229	10	103	0	342	295	47
June.....	43.14	2,574	+186	5	122	0	313	307	6
July.....	43.93	2,760	-35	42	151	0	158	64	94
August.....	43.77	2,725	-125	83	140	0	98	46	52
September.....	43.25	2,600	-33	31	108	0	106	69	37
October.....	43.11	2,567	-	-	-	-	-	-	-
Water year 1961-62.....	-	-	-991	1,981	1,061	0	2,051	1,445	606

† On first day of month.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SAN DIEGO RIVER BASIN

11-170. Boulder Creek at Cuyamaca Reservoir, near Julian, Calif.

Location.--Lat 32°59'20", long 116°35'10", in NE¼ sec.5, T.14 S., R.4 E., on outlet tower at Cuyamaca Dam, 7 miles south of Julian.Drainage area.--12.0 sq mi.Records available.--October 1935 to September 1962 (inflow to Cuyamaca Reservoir; precipitation on water surface deducted October 1939 to September 1944). June 1912 to September 1926, records not equivalent as they represent only outflow (draft) from Cuyamaca Reservoir.Gage.--Staff gage read periodically. Datum of gage is 4,600.2 ft above mean sea level (Helix Irrigation District bench mark).Average discharge.--22 years (1935-39, 1944-62), 4.50 cfs (3,260 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).Remarks.--Records of runoff represent all water reaching Cuyamaca Reservoir, including precipitation on reservoir. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from Colorado pan using a coefficient of 0.80. Capacity and area ratings for reservoir are based on a resurvey made in the fall of 1949. Capacity of reservoir at spillway level (gage height, 35.4 ft), 11,540 acre-ft. No dead storage. Small diversions for local use near dam. Water is released down Boulder Creek to El Capitan Reservoir.Cooperation.--Records of reservoir operation furnished by Helix Irrigation District.

Monthly runoff, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Spill plus leakage (acre- feet)	Runoff (acre- feet)
	Cuyamaca Reservoir						
Sept. 30.....	-	0	-	-	-	-	-
Oct. 31.....	-	0	0	0	0	0	0
Nov. 30.....	-	0	0	0	0	0	0
Dec. 31.....	-	0	0	0	0	0	0
Calendar year 1961.....	-	0	0	0	3	0	3
Jan. 31.....	11.0	2	+2	0	a0	0	2
Feb. 28.....	14.7	156	+154	0	a5	0	159
Mar. 31.....	19.2	1,076	+920	0	a20	0	940
Apr. 30.....	19.0	1,013	-63	0	66	0	3
May 31.....	12.8	28	-985	975	32	0	22
June 30.....	12.1	12	-16	0	12	0	-4
July 31.....	10.2	1	-11	0	3	0	-8
Aug. 31.....	-	0	-1	0	1	0	0
Sept. 30.....	-	0	0	0	0	0	0
Water year 1961-62.....	-	0	0	975	139	0	1,114

† At 0800.

a Estimated (pan frozen).

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.



## SAN DIEGO RIVER BASIN

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11-205. San Diego River at El Capitan Dam, Calif.

Location.--Lat 32°53'00", long 116°48'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.7, T.15 S., R.2 E., on outlet tower of El Capitan Dam, 7 miles east of Lakeside.

Drainage area.--190 sq mi.

Records available.--October 1945 to September 1962. October 1936 to September 1945, records not equivalent owing to exclusion of greater part of flow released from Cuyamaca Reservoir.

Gage.--Staff gage read daily. Datum of gage is 553.0 ft above mean sea level.

Remarks.--Records of total inflow represent all water reaching El Capitan Reservoir, including precipitation on reservoir, water passing down Boulder Creek from Cuyamaca Reservoir, and supplemental Colorado River water delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude the supplemental Colorado River water. Monthly evaporation from reservoir surface computed by mass-transfer method. Revised area and capacity ratings for reservoir, based on a resurvey completed in 1955, are dated Mar. 29, 1956, and May 25, 1956, respectively. Dam was completed in 1935. Capacity of reservoir at spillway level (gage height, 197.00 ft), 112,810 acre-ft. Dead storage, 59.2 acre-ft below outlet at gage height 21.0 ft, included in these records. No significant diversion above reservoir. Flow partly regulated by Cuyamaca Reservoir (see p. 90). Water is released as required for municipal use and irrigation.

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly net inflow, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evapo- ration (acre-feet)	Spill plus leakage (acre-feet)	Total inflow (acre-feet)	Colorado River water included (acre-feet)	Net inflow (acre-feet)
	El Capitan Reservoir								
Sept. 30.....	83.64	10,066	-	-	-	-	-	-	-
Oct. 31.....	83.08	9,866	-200	47	215	0	62	0	62
Nov. 30.....	81.06	9,160	-706	848	137	0	279	0	279
Dec. 31.....	76.05	7,521	-1,639	1,616	60	0	37	0	37
Calendar year 1961.....	-	-	-6,465	5,063	2,235	0	833	0	833
Jan. 31.....	76.74	7,738	+217	319	55	0	591	454	137
Feb. 28.....	78.22	8,212	+474	0	25	0	499	0	499
Mar. 31.....	83.86	10,145	+1,933	0	73	0	2,006	0	2,006
Apr. 30.....	84.58	10,406	+261	0	145	0	406	0	406
May 31.....	87.32	11,430	+1,024	4	165	0	1,193	0	1,193
June 30.....	86.79	11,228	-202	15	177	0	-10	0	-10
July 31.....	84.93	10,534	-694	405	245	0	-44	0	-44
Aug. 31.....	83.37	9,970	-564	530	220	0	186	166	20
Sept. 30.....	82.78	9,760	-210	14	174	0	-22	0	-22
Water year 1961-62.....	-	-	-306	3,798	1,691	0	5,183	620	4,563

† At 0800.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of inflow may appear. This arises primarily from the difficulty of computing inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

11-225. San Diego River near Santee, Calif.

Location.--Lat 32°49'27", long 117°03'17", in Ex Mission San Diego Grant, on right bank in Mission Gorge, 0.2 mile upstream from left tributary and 6 miles west of Santee, San Diego County.

Drainage area.--380 sq mi.

Records available.--May 1912 to December 1915, March 1916 to September 1962. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP 1315-B.

Gage.--Water-stage recorder and unfinished rubble dam control. Altitude of gage is 180 ft (from topographic map). Prior to Nov. 10, 1920, staff gage at site  $1\frac{1}{2}$  miles upstream at different datum. Nov. 10, 1920, to Dec. 1, 1954, water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--49 years, 25.6 cfs (18,530 acre-ft per year); median of yearly mean discharges, 8.8 cfs (3,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,640 cfs Jan. 20 (gage height, 4.99 ft), from rating curve extended above 500 cfs on basis of slope-area measurement at gage height 5.85 ft; minimum daily, 2.7 cfs Nov. 1, 7.

1912-62: Maximum discharge, 70,200 cfs Jan. 27, 1916 (gage height, 25.1 ft, site and datum then in use), on basis of velocity-area study; no flow at times in most years.

Remarks.--Records fair below 90 cfs and poor above. Flow regulated by Cuyamaca, El Capitan (see p.90, 91) and San Vicente Reservoirs. Diversions above station by city of San Diego for municipal supply and by Helix Irrigation District. "Average discharge" represents flow to ocean during period of record, regardless of upstream development.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 11 to Dec. 12, Jan. 20 to Mar. 28)

Oct. 1 to May 25

May 25 to Sept. 30

1.5	2.1	2.0	30	1.6	3.3
1.6	3.5	2.3	92	1.8	5.7
1.7	5.7	3.0	305		
1.8	9.3				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	2.7	4.8	3.9	7.9	21	6.1	4.2	4.5	3.9	* 3.9	4.0
2	3.5	* 2.8	30	* 4.4	8.2	17	6.1	5.3	4.4	4.4	3.8	3.7
3	* 3.9	2.8	29	4.8	8.6	13	* 5.5	4.4	4.3	4.3	3.9	3.8
4	4.2	3.1	* 9.3	4.6	8.2	13	6.1	* 4.6	4.7	3.9	3.8	4.1
5	3.7	3.1	8.6	4.2	7.9	13	5.5	3.8	4.5	4.3	3.5	4.1
6	3.5	2.9	7.9	3.9	6.1	* 18	5.5	3.7	* 4.4	4.3	3.9	* 4.1
7	3.5	2.7	7.1	4.4	7.5	19	5.0	3.7	4.4	4.0	3.8	4.3
8	3.9	2.8	6.8	4.4	17	13	4.6	3.6	4.5	3.9	3.8	4.0
9	4.2	2.9	6.4	4.8	16	12	5.0	3.8	4.3	* 4.3	3.8	3.8
10	4.2	3.9	5.7	4.2	8.6	13	4.8	3.8	4.1	4.1	3.9	4.3
11	3.7	4.2	7.9	4.2	8.2	12	4.2	3.8	4.5	4.0	3.8	4.3
12	3.7	4.2	6.1	4.4	10	12	4.2	4.0	4.3	4.1	3.5	4.1
13	3.5	3.7	3.8	4.8	7.9	11	4.8	4.2	4.3	4.3	3.9	4.0
14	3.1	* 3.1	6.1	4.6	7.9	9.3	4.6	4.6	4.3	4.0	3.9	4.1
15	3.1	2.9	15	4.6	7.9	10	3.9	4.2	4.3	3.9	3.8	4.1
16	* 3.2	3.9	7.1	4.8	* 12	8.9	3.9	4.4	4.3	4.3	* 3.9	4.0
17	3.4	3.5	6.1	* 4.6	10	8.9	3.9	4.6	4.0	* 4.1	4.0	4.4
18	3.2	3.7	* 5.7	4.6	7.5	10	* 4.2	* 5.0	4.4	4.1	3.9	* 4.1
19	3.1	3.5	5.5	4.8	9.6	* 22	3.7	4.2	4.3	4.1	3.8	4.0
20	3.1	3.7	5.5	67	8.6	19	3.7	3.9	4.1	4.1	4.0	4.1
21	3.2	6.1	5.3	* 18.3	8.8	13	3.7	4.2	4.3	4.0	4.0	4.1
22	3.2	4.4	4.8	7.1	3.7	11	3.5	4.2	4.3	3.8	3.9	4.0
23	3.1	3.4	4.8	3.4	16	11	4.2	4.1	4.0	4.1	3.9	3.9
24	3.2	4.2	4.6	22	13	8.9	3.5	4.1	4.0	4.0	4.0	4.3
25	2.9	4.4	4.6	29	7.3	8.2	3.4	4.4	* 4.4	3.9	3.9	4.1
26	2.9	9.3	4.4	11	60	8.2	3.5	4.6	4.3	3.9	3.8	4.0
27	2.9	7.5	4.7	10	4.6	8.2	3.6	4.5	4.1	4.0	4.0	4.0
28	2.9	6.1	4.4	8.6	25	8.2	3.7	5.6	4.3	4.0	4.0	4.1
29	2.9	5.3	4.4	8.2	-	7.5	3.5	5.2	4.0	3.8	4.0	4.0
30	3.1	5.0	4.2	7.9	-	7.1	3.9	4.6	4.1	4.1	4.0	3.8
31	2.9	-	4.2	7.9	-	6.8	-	4.7	-	4.0	4.0	-
Total	104.0	121.8	234.8	544.6	707.4	373.2	131.8	134.0	128.7	126.0	120.1	121.7
Mean	3.35	4.06	7.57	17.6	25.3	12.0	4.39	4.32	4.29	4.06	3.87	4.06
Max	4.2	9.3	30	183	96	22	6.1	5.6	4.7	4.4	4.0	4.4
Min	2.9	2.7	3.8	3.9	6.1	6.8	3.4	3.6	4.0	3.8	3.5	3.7
Ac-ft	206	242	466	1,080	1,400	740	261	266	255	250	238	241

Calendar year 1961: Max 40 Min 0.7 Mean 3.67 Ac-ft 2,660  
Water year 1961-62: Max 183 Min 2.7 Mean 7.80 Ac-ft 5,640

\* Discharge measurement made on this day.

11-240. Santa Ysabel Creek at Sutherland Dam, Calif.

Location.--Lat 33°07'05", long 116°47'10", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec. 21, T. 12 S., R. 2 E., on face of Sutherland Dam, 1.6 miles upstream from Black Canyon Creek and 7 miles northeast of Ramona.

Drainage area.--54.0 sq mi.

Records available.--December 1912 to September 1928, October 1936 to September 1962. Prior to October 1953, published as "near Mesa Grande."

Gage.--Water-stage recorder. Datum of gage is 1,912.00 ft above mean sea level (levels by city of San Diego). Prior to Oct. 1, 1936, water-stage recorder at same site at various datums. Oct. 1, 1936, to Sept. 30, 1953, at site 1 mile downstream at different datum. Mar. 7 to Nov. 29, 1954, staff gage at present site and datum.

Average discharge.--41 years (1913-28, 1936-62), 19.0 cfs (13,750 acre-ft per year); median of yearly mean discharges, 9.9 cfs (7,200 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Sutherland Reservoir including precipitation on reservoir. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from Colorado pan using coefficient of 0.80. Sutherland Dam was completed and storage began in October 1953. Capacity and area ratings for the reservoir are based on an aerial survey made in 1949. Capacity of reservoir at spillway level (gage height, 145.00 ft), 29,680 acre-ft. Dead storage, 176 acre-ft below lowest outlet at gage height 28.00 ft, included in these records. Small diversion above reservoir. Water is released as required for municipal use.

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly runoff, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill plus leakage (acre-feet)	Runoff (acre-feet)
	Sutherland Reservoir						
Sept. 30.....	64.62	2,601	-	-	-	-	-
Oct. 31.....	64.16	2,539	-62	0	50	0	-12
Nov. 30.....	64.03	2,522	-17	0	29	0	12
Dec. 31.....	64.07	2,527	+5	0	19	0	24
Calendar year 1961.....	-	-	-483	0	599	0	116
Jan. 31.....	64.44	2,577	+50	0	32	.1	82
Feb. 28.....	67.39	2,989	+412	0	21	0	433
Mar. 31.....	70.63	3,487	+498	0	30	0	528
Apr. 30.....	71.15	3,571	+84	0	51	0	135
May 31.....	71.29	3,594	+23	0	60	0	83
June 30.....	70.96	3,540	-54	0	70	0	16
July 31.....	70.33	3,439	-101	0	88	0	-13
Aug. 31.....	69.64	3,330	-109	0	89	0	-20
Sept. 30.....	69.05	3,238	-92	0	73	0	-19
Water year 1961-62.....	-	-	+637	0	612	0.1	1,249

† At 0800.

Note.--For months when inflow to the reservoir was small and other elements were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff as a residual of several larger quantities which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SAN DIEGUITO RIVER BASIN

11-255. Santa Ysabel Creek near Ramona, Calif.

Location.--Lat 33°06'25", long 116°51'55", in SW 1/4 NE 1/4 sec. 27, T.12 S., R.1 E., on left bank 1.6 miles downstream from Temescal Creek and 4.5 miles north of Ramona.

Drainage area.--110 sq mi.

Records available.--February 1912 to February 1923, October 1943 to September 1962. Monthly discharge only for February 1912, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Datum of gage is 847.88 ft above mean sea level (levels by city of San Diego Water Department). Prior to Jan. 31, 1916, staff gage at site 0.5 mile upstream at different datum. Jan. 31, 1916, to Feb. 3, 1923, staff gage or water-stage recorder at present site at datum 0.3 ft higher.

Extremes.--Maximum discharge during year, 86 cfs Jan. 20 (gage height, 3.08 ft); no flow for much of year.

1912-23, 1943-62: Maximum discharge, 28,400 cfs Jan. 27, 1916 (gage height, 14.0 ft, datum then in use), from rating curve extended above 1,500 cfs by velocity-area study; no flow for parts of some years.

Remarks.--Records good. Flow regulated by Sutherland Reservoir beginning July 1954 (see p. 93). Small diversions above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.1	3.8	2.4	0.2	0.7			
2		(*)		* 0	.1	3.5	2.2	.1	.4			
3	(*)			0	.1	3.0	2.0	.1	.4		(*)	
4			(*)	0	.1	2.8	2.0	.1	.3			
5				0	.1	2.4	1.9	0	.2			
6				0	0	3.0	1.7	0	.2			(*)
7				0	.1	5.5	1.6	0	.2			
8				0	.1	* 4.6	1.4	0	.1			
9				0	.1	7.5	* 1.4	* .1	.1	(*)		
10				0	0	6.4	1.4	.1	.1			
11				0	.1	5.8	1.2	0	.1			
12				0	4.0	4.3	.6	.1	.1			
13				0	* .8	3.5	.5	.1	* .1			
14				0	.2	2.8	.5	.2	.1			
15				0	.1	2.6	.6	10	.2			
16				0	.2	2.4	.6	2.4	.2			
17				* 0	.9	2.4	.5	3.0	.2			
18				0	.4	2.4	.4	1.9	.1			(*)
19				0	8.3	4.7	.6	1.1	0			
20				4.4	22	11	.6	.8	0			
21			(*)	4.9	* 1.8	6.1	.8	.6	0			
22				.2	4.6	4.0	.5	.4	0			
23				* 0	2.0	* 2.5	* .4	.3	0			
24				0	1.9	7.1	.4	.2	0			
25				0	14	4.3	.6	* .2	* 0			
26				0	13	3.8	.7	.3	0			
27				0	9.1	2.2	.6	1.0	0			
28				0	5.2	2.2	.7	1.9	0			
29				0	-	2.2	.5	1.7	0			
30				0	-----	2.0	.4	1.4	0			
31				0	-----	1.9	-----	1.0	-----			
Total	0	0	0	9.5	105.6	145.2	29.7	29.3	3.8	0	0	0
Mean	0	0	0	0.31	3.77	4.68	0.99	0.95	0.13	0	0	0
Max	0	0	0	4.9	22	25	2.4	10	0.7	0	0	0
Min	0	0	0	0	0	1.9	0.4	0	0	0	0	0
Ac-ft	0	0	0	19	209	288	59	58	7.5	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
 Water year 1961-62: Max 25 Min 0 Mean 0.89 Ac-ft 640

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

SAN DIEGUITO RIVER BASIN

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11-260. Santa Ysabel Creek near San Pasqual, Calif.

Location.--Lat 33°05'10", long 116°54'56", in NE 1/4 sec. 31, T.12 S., R.1 E., on left bank 1.1 miles downstream from Clevenger Canyon and 2 miles east of San Pasqual.

Drainage area.--128 sq mi.

Records available.--December 1905 to September 1910 and May 1911 to September 1912 (published as "near Escondido"), April 1947 to November 1955 (irrigation seasons only), April 1956 to September 1962. Records for October to December 1910, published in WSP 447, have been found to be in error and should not be used.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 510 ft (from topographic map). Dec. 17, 1905, to Sept. 30, 1912, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--10 years (1906-10, 1912, 1957-62), 22.1 cfs (16,000 acre-ft per year); median of yearly mean discharges, 18 cfs (13,000 acre-ft per year).

Extremes.--Maximum discharge during year, 50 cfs Mar. 23 (gage height, 1.99 ft); no flow for most of year.  
1905-12, 1947-62: Maximum discharge observed, 8,000 cfs Mar. 24, 1906 (gage height, 6.3 ft, site and datum then in use); no flow at times in most years.

Remarks.--Records fair. Small diversion above station. Flow regulated since July 1954 by Sutherland Reservoir (see p. 93).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 5-20, May 15-30)

0.4	0	1.3	4.2
.5	.1	1.4	5.7
.6	.2	1.5	8.0
.7	.4	1.6	13
.8	.7	1.7	19
.9	1.1	1.8	28
1.1	2.4		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	4.4	2.4	0.2	0.2			
2		(*)		* 0	0	3.8	2.3	.1	.1			
3	(*)			0	0	3.1	2.1	.1	.1		(*)	
4			(*)	0	0	2.7	2.0	.1	.1			
5				0	0	2.3	2.0	.1	0			
6				0	.1	2.5	1.7	0	0			(*)
7				0	.1	3.2	1.5	0	0			
8				.1	.1	* 3.3	1.3	0	0			
9				.1	.1	4.4	* 1.3	* 0	0	(*)		
10				.1	.1	4.7	1.2	0	0			
11				.1	.1	4.4	1.1	0	0			
12				.1	.4	3.9	.9	0	0			
13				.1	* .5	3.0	.6	0	* 0			
14				.1	.2	2.6	.5	0	0			
15				.1	.1	2.2	.4	3.8	0			
16				.1	.2	2.0	.4	1.8	0			
17				* .1	.2	1.9	.4	1.7	0			
18			(*)	0	.1	1.8	.4	1.1	0			
19				0	.3	3.2	.4	.6	0			
20				.2	2.2	6.5	.4	.4	0			
21				2.4	* 2.0	5.5	.4	.3	0			
22				.4	8.2	4.3	.4	.2	0			
23				* .1	4.1	* 1.9	* .3	.1	0			
24				.1	3.1	7.7	.3	.1	0			
25				.1	1.2	5.0	.3	* 0	* 0			
26				.1	1.2	4.0	.4	.1	0			
27				.1	1.0	3.4	.4	.2	0			
28				.1	5.7	3.0	.3	.4	0			
29				.1	-	2.9	.3	.6	0			
30				.1	-----	2.8	.2	.5	0			
31				.1	-----	2.6	-----	.3	-----			
Total	0	0	0	4.9	99.7	126.1	26.6	12.8	0.5	0	0	0
Mean	0	0	0	0.16	3.56	4.07	0.89	0.41	0.02	0	0	0
Max	0	0	0	2.4	22	19	2.4	3.8	0.2	0	0	0
Min	0	0	0	0	0	1.8	0.2	0	0	0	0	0
Ac-ft	0	0	0	9.7	198	250	53	25	1.0	0	0	0

Calendar year 1961: Max 0.1 Min 0 Mean 0.001 Ac-ft 0.6  
Water year 1961-62: Max 22 Min 0 Mean 0.74 Ac-ft 537

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

## SAN DIEGUITO RIVER BASIN

11-270. Guejito Creek near San Pasqual, Calif.

Location.--Lat 33°06'57", long 116°57'08", in NW 1/4 Sec. 23, T.12 S., R.1 W., on left bank 0.3 mile upstream from Rockwood Canyon Creek and 1.8 miles north of San Pasqual.

Drainage area.--24 sq mi, approximately.

Records available.--December 1946 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 560 ft (from topographic map).

Average discharge.--15 years (1947-62), 1.09 cfs (789 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 71 cfs Feb. 21 (gage height, 2.61 ft); no flow Oct. 1 to Jan. 19, May 7-13, June 23 to Sept. 30.

1946-62: Maximum discharge, 1,660 cfs Apr. 3, 1958 (gage height, 5.83 ft), from rating curve extended above 440 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good. Discharge measurements or observations of no flow generally made twice a month. Diversions about a quarter of a mile upstream for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 21)

0.1	0	1.8	7.6
.2	.1	2.0	12
.5	.7	2.2	19
1.0	2.4	2.4	32
1.5	4.7		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.1	1.5	0.4	0.1	0.1			
2				0	.1	1.2	.4	.1	.1			
3				0	.1	1.0	.4	.1	.1			
4				0	.1	.8	.4	.1	.1			
5				0	.1	.7	.4	.1	.1			
6				0	.1	1.0	.3	.1	.1			
7				0	.2	1.1	a .3	0	.1			
8				0	2.0	1.0	a .3	0	.1			
9				0	1.7	.8	.3	0	.1			
10				0	.8	.8	.3	0	.1			
11				0	.8	.8	a .3	0	.1			
12				0	.7	.7	a .3	0	.1			
13				0	.6	.5	a .3	0	.1			
14				0	.5	.5	a .2	.1	.1			
15				0	.5	.5	a .2	.1	.1			
16				0	1.2	.5	a .2	.3	.1			
17				0	1.0	.5	a .2	.3	.1			
18				0	.6	.5	a .2	.2	.1			
19				0	4.1	1.2	a .2	.1	.1			
20				2.6	1.3	1.4	a .1	.1	.1			
21				3.8	2.9	1.3	a .1	.1	.1			
22				2.2	8.2	1.0	a .1	.1	.1			
23				1.0	2.3	3.1	.1	.1	0			
24				.5	1.8	1.4	.1	.1	0			
25				.5	1.4	.9	.1	.1	0			
26				.3	5.9	.7	.1	.1	0			
27				.2	3.8	.6	.1	.1	0			
28				.2	2.2	.5	.1	.2	0			
29				.1		.5	.1	.2	0			
30				.1		.5	.1	.2	0			
31				.1		.4		.1				
Total	0	0	0	11.6	95.5	27.9	6.7	3.2	2.2	0	0	0
Mean	0	0	0	0.37	3.41	0.90	0.22	0.10	0.07	0	0	0
Max	0	0	0	3.8	29	3.1	0.4	0.3	0.1	0	0	0
Min	0	0	0	0	0.1	0.4	0.1	0	0	0	0	0
Ac-ft	0	0	0	23	189	55	13	6.3	4.4	0	0	0

Calendar year 1961: Max 1.0 Min 0 Mean 0.04 Ac-ft 31

Water year 1961-62: Max 29 Min 0 Mean 0.40 Ac-ft 291

Peak discharge (base, 30 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	2200	2.37	30	2-25	0200	2.50	42
2-21	1100	2.61	71				

SAN DIEGUITO RIVER BASIN

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11-285. Santa Maria Creek near Ramona, Calif.

Location.--Lat 33°03'08", long 116°56'41", in SE<sup>1</sup>SE<sup>1</sup>SE<sup>1</sup> sec.11, T.13 S., R.1 W., on left bank 3.75 miles northwest of Ramona and 4.6 miles upstream from mouth.

Drainage area.--58 sq mi, approximately.

Records available.--November 1912 to September 1920, October 1946 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,294.44 ft above mean sea level, datum of 1927. Prior to Oct. 1, 1946, at same site at datum 1.78 ft lower.

Average discharge.--23 years (1913-20, 1946-62), 4.49 cfs (3,250 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year).

Extremes.--Maximum discharge during year, 40 cfs Feb. 21 (gage height, 1.85 ft); no flow for most of year.

1912-20, 1946-62: Maximum discharge, 7,140 cfs Jan. 27, 1916 (gage height, 14.1 ft, from floodmarks, present datum), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. City of Ramona pumps water from stream above station for municipal supply.

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

Feb. 21.....*17	Mar. 2..... 0.1	Mar. 19..... 0.3
22..... 2.1	3..... .1	20.....* .2
23..... .1	6..... .2	21..... .1
25..... .2	7..... .2	22..... .1
26.....* 7.3	8.....* .1	23..... .1
27..... 5.4	10..... .1	Apr. 3..... .1
28..... 1.0	11..... .1	4..... .1
Mar. 1..... .2	18..... .1	28..... .1

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1962.....	33.1	17	0	1.18	66
March.....	2.0	.3	0	.06	4.0
April.....	.3	.1	0	.01	.6
Calendar year 1961.....	-	0	0	0	0
Water year 1961-62.....	-	17	0	.10	71

Peak discharge (base, 20 cfs).--Feb. 21 (0900) 40 cfs (1.85 ft).

\* Discharge measurement made on this day.

Note.---Flow occurred only on days listed above.

11-290. San Dieguito River near San Pasqual, Calif.

Location.--Lat 33°04'00", long 117°02'05", in San Bernardo Grant, on right bank 1.5 miles downstream from Bach Creek, 4.5 miles south-east of Escondido, and 5 miles west of San Pasqual, San Diego County.

Drainage area.--250 sq mi, approximately.

Records available.--April 1947 to April 1956 (irrigation seasons only), May 1956 to September 1962.

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

Extremes.--No flow during year.

1956-62: Maximum discharge, about 3,600 cfs Apr. 3, 1958 (gage height, 7.35 ft), from field estimate of peak flow; no flow in most months each year.

Remarks.--No flow since May 14, 1958. Diversions for irrigation and pumping from wells along river in San Pasqual Valley above station. Flow regulated since July 1954 by Sutherland Reservoir (see p. 93 ).

## SAN DIEGUITO RIVER BASIN

11-300. San Dieguito River at Lake Hodges, Calif.

Location.--Lat 33°02'48", long 117°07'33", in NE 1/4 sec. 18, T.13 S., R.2 W., on right bank 800 ft upstream from Lake Hodges Dam and 6.2 miles southwest of Escondido.

Drainage area.--303 sq mi.

Records available.--January 1916 to September 1962. Published as "near Bernardo" prior to October 1920 and as "near Escondido" October 1920 to September 1925.

Gage.--Staff gage read once daily. Datum of gage is 200.0 ft above mean sea level. Prior to January 1919, staff gage at same site at different datum (prior to completion of dam).

Remarks.--Records of total inflow represent all the water reaching Lake Hodges, including precipitation on the lake and supplemental water from Colorado River delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude supplemental water from Colorado River. Capacity and area ratings for lake are based on a resurvey in 1948. Monthly evaporation from lake surface computed by mass-transfer method. Lake Hodges Dam was completed and storage began Feb. 1, 1919. Capacity of lake at spillway level (gage height, 115.00 ft), 33,550 acre-ft. Dead storage, 1,160 acre-ft below lowest outlet at gage height 54.0 ft, included in these records. Water drawn from Lake Hodges passes through a conduit to San Dieguito re-regulating reservoir, from which it is released as required for municipal use. Diversions for irrigation above Lake Hodges. Flow regulated since July 1954 by Sutherland Reservoir (see p. 93).

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly net inflow, water year October 1961 to September 1962

Month	Gage height (feet) †	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Spill plus leakage (acre- feet)	Total inflow (acre- feet)	Colorado River water included (acre- feet)	Net inflow (acre- feet)
	Lake Hodges								
Sept. 30.....	64.80	2,968	-	-	-	-	-	-	-
Oct. 31.....	66.25	3,288	+320	951	97	0.3	1,368	1,395	-27
Nov. 30.....	65.60	3,142	-146	780	63	.3	697	630	67
Dec. 31.....	64.10	2,821	-321	378	21	.2	78	0	78
Calendar year 1961.....	-	-	+221	11,837	1,030	4.3	13,090	13,414	-324
Jan. 31.....	63.50	2,700	-121	556	23	.3	458	403	55
Feb. 28.....	68.00	3,690	+990	227	16	.4	1,233	1,054	179
Mar. 31.....	67.00	3,460	-230	288	45	.6	104	0	104
Apr. 30.....	68.10	3,714	+254	699	76	.5	1,030	1,127	-97
May 31.....	69.20	3,980	+266	975	92	.5	1,334	1,409	-75
June 30.....	69.90	4,155	+175	1,000	81	.5	1,257	1,379	-122
July 31.....	69.45	4,042	-113	1,290	125	.5	1,303	1,411	-108
Aug. 31.....	68.75	3,870	-172	1,350	121	.5	1,300	1,414	-114
Sept. 30.....	68.90	3,906	+36	1,130	87	.4	1,253	1,374	-121
Water year 1961-62.....	-	-	+938	9,624	847	5.0	11,415	11,596	-181

† At 0800.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.



11-315. Agua Caliente Creek near Warner Springs, Calif.

Location.--Lat 33°17'20", long 116°39'08", in San Jose del Valle Grant, on left bank 60 ft upstream from highway bridge, 1.2 miles upstream from Canada Verde Creek and 1.2 miles northwest of Warner Springs, San Diego County.

Drainage area.--19.0 sq mi.

Records available.--February 1961 to September 1962.

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

Extremes.--Maximum discharge during year, 88 cfs Mar. 6 (gage height, 3.76 ft), from rating curve extended above 10 cfs on basis of velocity-area study; no flow for many months.  
1961-62: Maximum discharge, that of Mar. 6, 1962; no flow for most of each year.

Remarks.--Records good except those above 10 cfs, which are poor. No regulation or diversion.

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

3.2	0
3.3	.2
3.4	1.0
3.5	5.0
3.6	17
3.7	51

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	* 0.2	* 5.7	0.2	* 0.1	* 0.1		(*)	
2				* 0	.1	9.5	* .2	.1	.1			
3				0	0	12	.1	0	.1	(*)		
4			(*)	0	0	12	.1	0	.1			
5				0	0	9.5	.1	0	.1			(*)
6				0	0	18	.1	0	.1			
7				0	0	27	.1	.1	.1			
8				0	1.0	14	.1	.1	.1			
9				0	* 3.2	11	.1	.1	0			
10				0	1.2	8.3	.1	.1	0			
11				0	1.4	6.4	.1	.1	0			
12				0	* 5.0	5.7	.1	.1	0			
13				0	1.2	4.3	.1	.1	0			
14			(*)	0	.6	3.2	.1	* .1	.1			
15				0	.3	2.7	.1	.1	.1			
16	(*)			0	.4	* 2.7	.1	.1	.1	(*)		
17				* 0	.3	2.3	.1	.1	0		(*)	
18				0	.2	2.3	.1	.1	* 0			(*)
19				0	.6	3.7	* .1	.1	0			
20				0	* 2.7	5.7	.1	.1	0			
21				1.6	5.0	4.3	.1	.1	0			
22				* .4	5.7	3.2	.1	.1	0			
23				.3	11	4.3	.1	.1	0			
24				.3	11	2.7	.1	.1	0			
25				.1	* 6.6	2.0	.1	.1	0			
26				.5	3.7	1.4	.1	.1	0			
27				1.4	3.2	1.2	0	.1	0			
28				2.0	4.3	1.0	.1	.1	0			
29				1.7	-	.8	.1	.1	0			
30				1.0	-----	.6	.1	.1	0			
31	(*)			.5	-----	.3	-----	.1	-----			
Total	0	0	0	9.8	68.9	187.8	3.1	2.7	1.1	0	0	0
Mean	0	0	0	0.32	2.46	6.06	0.10	0.09	0.04	0	0	0
Max	0	0	0	2.0	11	27	0.2	0.1	0.1	0	0	0
Min	0	0	0	0	0	0.3	0	0	0	0	0	0
Ac-ft	0	0	0	19	137	372	6.1	5.4	2.2	0	0	0

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 27 Min 0 Mean 0.75 Ac-ft 542

Peak discharge (base, 50 cfs).--Mar. 6 (2200) 88 cfs (3.76 ft).

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

## SAN LUIS REY RIVER BASIN

11-330. West Fork San Luis Rey River near Warner Springs, Calif.

Location.--Lat 33°17'50", long 116°45'30", in San Jose del Valle Grant, on left bank 0.1 mile downstream from small unnamed tributary, 2.5 miles upstream from mouth, and 7.5 miles west of Warner Springs, San Diego County.

Drainage area.--26.0 sq mi.

Records available.--January 1913 to November 1915, October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Oct. 1, 1956, at different datum.

Average discharge.--7 years (1913-15, 1957-62), 8.94 cfs (6,470 acre-ft per year).

Extremes.--Maximum discharge during year, 72 cfs Mar. 6 (gage height, 5.81 ft); no flow for several months.

1913-15, 1956-62: Maximum discharge, 2,060 cfs Mar. 16, 1958 (gage height, 10.77 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 2-4)

4.3	0	4.8	6.6
4.4	.2	5.0	14
4.5	1.0	5.2	23
4.6	2.2	5.4	36

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	* 0.5	10	6.4	* 0.8	* 0.5	0.2	* 0.1	0
2				* 0	.3	10	* 5.8	.8	.5	.2	.1	0
3				0	.1	12	5.4	.8	.4	* .2	.1	0
4			(*)	0	.1	13	4.8	.6	.4	.2	.1	0
5				0	.1	13	4.6	.5	.4	.2	.1	* 0
6				0	.1	3.4	4.2	.5	.4	.2	.1	.1
7				0	.1	3.4	4.0	.5	.4	.2	.1	.1
8				0	12	21	3.5	.4	.4	.2	.1	.1
9				0	* 11	21	3.3	.5	.4	.2	.1	.1
10				0	7.5	17	3.1	.4	.3	.2	.1	.1
11				0	2.4	1.4	3.0	.4	.3	.2	.1	.1
12				0	* 22	15	2.8	.5	.3	.2	.1	.1
13				0	9.1	13	2.6	.6	.3	.2	.1	.1
14			(*)	0	5.6	11	2.4	* .8	.4	.2	.1	.1
15				0	4.2	10	2.2	2.6	.5	.2	.1	0
16	(*)			0	13	* 10	2.1	2.8	.4	* .1	.1	0
17				* 0	6.4	11	2.0	5.6	.4	.1	* .1	0
18				0	4.2	10	1.8	2.4	* .4	.1	.1	* 0
19				0	9.3	2.4	* 1.3	1.4	.4	.1	.1	0
20				4.4	* 20	22	1.7	1.0	.4	.1	.1	0
21				9.6	22	1.4	1.5	.8	.4	.1	.1	0
22				* .9	17	12	1.4	.6	.4	.1	0	0
23				.1	1.4	22	1.3	.5	.4	.1	0	0
24				.1	15	12	1.2	.5	.4	.1	0	0
25				.1	* 1.4	9.8	1.1	.5	.4	.1	0	0
26				.1	11	9.1	1.2	.6	.3	.1	0	0
27				.1	10	9.1	1.2	.7	.3	.1	0	0
28				.2	10	8.8	1.1	1.0	.3	.1	0	0
29				.9	-	8.1	1.1	1.0	.3	.1	0	0
30				1.0	-----	7.5	1.0	.8	.3	.1	0	0
31	(*)	-----	-----	.7	-----	6.9	-----	.7	-----	.1	0	-----
Total	0	0	0	18.2	262.6	444.3	79.6	31.6	11.4	4.6	2.1	0.9
Mean	0	0	0	0.59	9.38	14.3	2.65	1.02	0.38	0.15	0.07	0.03
Max	0	0	0	9.6	24	34	6.4	5.6	0.5	0.2	0.1	0.1
Min	0	0	0	0	0.1	6.9	1.0	0.4	0.3	0.1	0	0
Ac-ft	0	0	0	36	521	881	158	63	23	9.1	4.2	1.8

Calendar year 1961: Max 0.1 Min 0 Mean 0.04 Ac-ft 27

Water year 1961-62: Max 34 Min 0 Mean 2.34 Ac-ft 1,700

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

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

11-350. San Luis Rey River at Lake Henshaw, near Mesa Grande, Calif.

Location.--Lat 33°14'20", long 116°45'43", in Valle de San Jose Grant, at Henshaw Dam, 4 miles north of Mesa Grande, San Diego County.

Drainage area.--206 sq mi.

Records available.--October 1922 to September 1962. October 1911 to September 1922 at site 1 mile downstream published as "near Mesa Grande"; records not equivalent owing to change in natural water losses resulting from creation of Lake Henshaw. Monthly net runoff only October to December 1922, published in WSP 1315-B.

Gage.--Staff gage read once daily. Datum of gage is 2,620 ft above mean sea level. Prior to June 14, 1912, staff gage at same site at different datum. June 14, 1912, to Oct. 7, 1922, water-stage recorder at site 1 mile downstream at different datum.

Average discharge.--11 years (1911-22), 59.6 cfs (43,160 acre-ft per year), below damsite; 40 years (1922-62), 26.9 cfs (19,470 acre-ft per year), discharge at Lake Henshaw, exclusive of 90 percent of precipitation on lake surface; median of yearly mean discharges, 15 cfs (11,000 acre-ft per year).

Remarks.--Records of net runoff represent all water reaching Lake Henshaw, exclusive of 90 percent of rainfall on water surface of lake and supplemental water obtained by pumping ground water from lake bed. Net runoff computed on basis of records of storage, release (draft), spill, leakage, evaporation, precipitation, and ground-water pumpage. Monthly evaporation from lake surface computed on basis of evaporation from a floating pan using a coefficient of 0.87, except during periods when winds swamp the floating pan. Net evaporation for these periods is computed on basis of Colorado pan using coefficient of 0.80. Storage began on Oct. 7, 1922. Capacity and area ratings for lake are based on resurvey made in October 1951. Capacity of lake at spillway level (gage height, 107.00 ft), 194,300 acre-ft. No dead storage. No flow over spillway since dam was completed. Water is released down San Luis Rey River for diversion downstream for irrigation, power, and domestic use. No diversion above Lake Henshaw.

Cooperation.--Records furnished by Vista Irrigation District.

Monthly net runoff, water year October 1961 to September 1962

Month	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Net evaporation (acre-feet)†	Spill plus leakage (acre-feet)	Pumped ground water (acre-feet)	Net runoff (acre-feet)
	Lake Henshaw							
Sept. 30.....	33.36	2,325	-	-	-	-	-	-
Oct. 31.....	34.43	2,769	+444	369	194	0	994	13
Nov. 30.....	35.76	3,426	+657	297	57	0	1,022	-11
Dec. 31.....	37.70	4,583	+1,157	19	-161	0	1,157	-142
Calendar year 1961.....	-	-	+2,084	8,125	2,405	0	12,923	-309
Jan. 31.....	39.26	5,694	+1,111	203	-106	0	1,123	85
Feb. 28.....	41.61	7,710	+2,016	8	-387	0	983	654
Mar. 31.....	43.18	9,310	+1,600	411	-29	0	1,022	960
Apr. 30.....	43.15	9,277	-33	651	495	0	962	151
May 31.....	42.67	8,766	-511	1,009	410	0	966	-58
June 30.....	41.33	7,446	-1,320	1,887	639	0	1,211	-5
July 31.....	40.51	6,713	-733	1,196	738	0	1,250	-49
Aug. 31.....	39.68	6,023	-690	1,187	705	0	1,210	-8
Sept. 30.....	39.52	5,896	-127	635	513	0	1,109	-88
Water year 1961-62.....	-	-	+3,571	7,872	+3,068	0	13,009	+1,502

† During the year the amount of precipitation excluded was 1,318 acre-ft.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SAN LUIS REY RIVER BASIN

## 11-400. San Luis Rey River at Monserate Narrows, near Pala, Calif.

Location.--Lat 33°20'15", long 117°08'10", in NE $\frac{1}{4}$  sec.6, T.10 S., R.2 W., on left bank 4 miles southwest of Pala and 6 miles north-east of Bonsall.

Drainage area.--374 sq mi.

Records available.--December 1935 to March 1938 (fragmentary), April 1938 to November 1941, October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map). Prior to October 1946, at same site at different datum. Oct. 22, 1946, to Nov. 30, 1954, at datum 1.0 ft higher.

Average discharge.--19 years (1938-41, 1946-62), 8.93 cfs (6,470 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

Extremes.--No flow during year.

1935-41, 1946-62: Maximum gage height, 8.7 ft Feb. 7, 1937, datum then in use (discharge not determined); no flow at times in 1948-62.

Remarks.--No flow since Apr. 30, 1959. Flow regulated by Lake Henshaw (see p. 101). Several diversions above station.

## 11-410. San Luis Rey River near Bonsall, Calif.

Location.--Lat 33°15'13", long 117°14'48", in SW $\frac{1}{4}$  sec.1, T.11 S., R.4 W., on left bank 0.7 mile downstream from bridge on State Highway 76 and 2.8 miles southwest of Bonsall.

Drainage area.--514 sq mi.

Records available.--July 1916 to September 1918 (gage heights and discharge measurements only), October 1929 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 108.10 ft above mean sea level, datum of 1929. July 1916 to September 1918, staff gages at site 0.8 mile upstream at different datums. October 1929 to Nov. 15, 1945, water-stage recorder at present site at datum 3.44 ft higher and Nov. 16, 1945, to Sept. 16, 1946, at datum 1.44 ft higher.

Average discharge.--33 years (1929-62), 21.2 cfs (15,350 acre-ft per year); median of yearly mean discharges, 6.4 cfs (4,600 acre-ft per year).

Extremes.--Maximum discharge during year, 5.8 cfs Feb. 19 (gage height, 4.39 ft); no flow for most of year.

1929-62: Maximum discharge, 18,100 cfs Mar. 3, 1938 (gage height, 12.60 ft, datum then in use), from rating curve extended above 2,400 cfs; no flow for part of each year.

Remarks.--Records fair. Flow regulated by Lake Henshaw (see p. 101). Several diversions above station.

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

Dec. 2.....*0.2	Feb. 20..... 0.1
Jan. 20.....* .4	21..... .1
22..... .1	Mar. 6.....* .1
Feb. 8..... .3	18..... .1
16..... .1	19.....* .3
19.....* .3	

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	0.2	0.2	0	0.006	0.4
January 1962.....	.5	.4	0	.02	1.0
February.....	.9	.3	0	.03	1.8
March.....	.5	.3	0	.02	1.0
Calendar year 1961.....	-	.2	0	.0005	.4
Water year 1961-62.....	-	.4	0	.006	4.2

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above.

## 11-420. San Luis Rey River at Oceanside, Calif.

Location.--Lat 33°12'48", long 117°22'33", in SW $\frac{1}{4}$  sec.14, T.11 S., R.5 W., on right bank 0.7 mile upstream from bridge on U. S. Highway 101, 1.1 miles upstream from mouth, and 1.2 miles north of Oceanside.

Drainage area.--559 sq mi.

Records available.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map). April 1912 to September 1914, staff gage at site three-quarters of a mile upstream at different datum. January 1916, staff gage a quarter of a mile downstream at different datum.

Average discharge.--30 years (1912-14, 1929-41, 1946-62), 17.8 cfs (12,890 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--No flow during year.

1912-14, 1916, 1929-42, 1946-62: Maximum discharge, 95,600 cfs Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in each year.

Remarks.--No flow since Apr. 13, 1958. Flow regulated by Lake Henshaw (see p. 101). Several diversions above station.

## SANTA MARGARITA RIVER BASIN

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11-424. Temecula Creek near Aguanga, Calif.

Location.--Lat 33°27'33", long 116°55'22", in NE 1/4 SW 1/4 sec. 19, T.8 S., R.1 E., on right bank, 1.6 miles downstream from Long Canyon, and 3.5 miles northwest of Aguanga.

Drainage area.--132 sq mi.

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,590 ft (from topographic map).

Average discharge.--5 years, 3.41 cfs (2,470 acre-ft per year).

Extremes.--Maximum discharge during year, 106 cfs Jan. 20 (gage height, 2.42 ft); no flow Oct. 1 to Nov. 13, July 3 to Sept. 30.

1957-62: Maximum discharge, 3,540 cfs Apr. 3, 1958 (gage height, 6.57 ft), from rating curve extended above 800 cfs; no flow for several months each year.

Remarks.--Records good. Discharge measurements or observations of no flow generally made twice monthly. Pumping for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 21-Nov. 11, Feb. 20, 21, June 25 to July 31)

0.7	0	1.3	5.2
.8	.1	1.4	8.0
.9	.4	1.5	12
1.0	.9	1.7	24
1.1	1.8	1.9	42
1.2	3.2		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.2	0.3	2.8	7.1	5.4	1.5	0.6	0.1		
2		0	.5	.3	2.7	6.2	5.4	1.4	.5	.1		
3		0	.6	.4	2.7	5.2	5.2	1.2	.5	0		
4		0	.5	.4	2.6	5.0	5.0	1.1	.4	0		
5		0	.3	.4	2.6	4.4	4.2	1.0	.4	0		
6		0	.3	.4	2.6	12	4.0	.9	.4	0		
7		0	.3	.4	2.6	32	3.8	.7	.4	0		
8		0	.3	.4	4.0	18	3.7	.6	.4	0		
9		0	.3	.4	6.0	13	3.5	.5	.4	0		
10		0	.3	.4	5.0	13	3.3	.6	.3	0		
11		0	.2	.4	13	10	3.2	.7	.3	0		
12		0	.2	.4	26	8.8	3.0	.7	.3	0		
13		0	.2	1.0	7.7	7.7	2.7	.7	.2	0		
14		.1	.2	1.5	5.2	6.8	2.6	.6	.2	0		
15		.1	.2	1.3	4.0	6.2	2.4	.9	.3	0		
16		.1	.2	1.2	6.0	5.7	2.3	1.3	.3	0		
17		.1	.2	1.0	5.0	5.7	2.2	1.4	.2	0		
18		.1	.2	1.0	3.8	5.7	2.1	1.4	.2	0		
19		.1	.2	1.0	15	8.4	2.0	1.2	.2	0		
20		.1	.2	13	32	9.2	2.0	1.1	.1	0		
21		.2	.2	27	37	8.0	1.8	.8	.1	0		
22		.2	.2	8.0	19	7.9	1.7	.4	.1	0		
23		.2	.2	6.0	12	10	1.6	.4	.1	0		
24		.2	.2	4.7	9.2	8.0	1.6	.4	.1	0		
25		.2	.2	4.0	10	7.4	1.7	.6	.1	0		
26		.2	.2	3.7	10	7.1	1.7	.8	.1	0		
27		.2	.2	3.2	8.8	6.8	1.7	1.0	.1	0		
28		.2	.2	3.0	8.0	6.5	1.7	1.1	.1	0		
29		.2	.2	2.8	-	6.5	1.7	.6	.1	0		
30		.2	.2	2.8	-----	6.2	1.6	.6	.1	0		
31		-----	.2	2.8	-----	6.0	-----	.7	-----	0		
Total	0	2.7	7.8	93.6	265.3	270.5	84.8	26.9	7.6	0.2	0	0
Mean	0	0.09	0.25	3.02	9.48	8.73	2.83	0.87	0.25	0.006	0	0
Max	0	0.2	0.6	27	37	32	5.4	1.5	0.6	0.1	0	0
Min	0	0	0.2	0.3	2.6	4.4	1.6	0.4	0.1	0	0	0
Ac-ft	0	5.4	15	186	526	537	168	53	15	0.4	0	0

Calendar year 1961: Max 2.5 Min 0 Mean 0.30 Ac-ft 216  
Water year 1961-62: Max 37 Min 0 Mean 2.08 Ac-ft 1,510

Peak discharge (base, 50 cfs).--Jan. 20 (2400) 106 cfs (2.42 ft); Feb. 12 (0400) 51 cfs (1.99 ft); Feb. 21 (0700) 56 cfs (2.13 ft); Mar. 6 (2400) 52 cfs (2.02 ft).

## SANTA MARGARITA RIVER BASIN

11-425. Temecula Creek at Vail Dam, Calif.

Location.--Lat 33°29'44", long 116°58'33", in Pauba Grant, at Vail Dam 0.2 mile downstream from Arroyo Seco, and 10 miles east of Temecula, Riverside County.

Drainage area.--319 sq mi.

Records available.--October 1948 to September 1962. October 1948 to September 1951, published as "at Nigger Canyon, near Temecula"; records are for draft and spill only from Vail Lake. October 1951 to September 1955, published as "at Vail Dam, near Temecula."

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 1,350.0 ft above mean sea level (levels by Bureau of Reclamation). Water-stage recorder at site 500 ft downstream measures release and spill.

Average discharge.--25 years (1923-48), 14.5 cfs (10,500 acre-ft per year); 14 years (1948-62), 4.59 cfs (3,320 acre-ft per year); median of yearly mean discharges, (1923-48), 8.3 cfs (6,010 acre-ft per year); (1948-62), 2.2 cfs (1,600 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Vail Lake, including precipitation on lake surface. Runoff computed on basis of records of storage, release (draft), spill, and evaporation. Monthly evaporation from lake surface, computed on basis of evaporation from Class A pan using coefficient of 0.77. Capacity and area ratings for lake are based on a survey made in 1947. Vail Dam completed in June 1949. Capacity of lake at spillway level (gage height, 120.00 ft), 49,370 acre-ft. Dead storage, 2.4 acre-ft below lowest outlet at gage height 2.5 ft, included in these records. Water is released down Temecula Creek for diversion about 1 mile below dam as required.

Monthly runoff, water year October 1961 to September 1962

Month	Elevation (feet) †	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Runoff (acre- feet)
	Vail Lake					
Sept. 30.....	1,379.63	1,057	-	-	-	-
Oct. 31.....	1,379.44	1,038	-19	0	44	25
Nov. 30.....	1,379.58	1,052	+14	0	35	49
Dec. 31.....	1,379.98	1,091	+39	0	20	59
Calendar year 1961.....	-	-	-9	0	626	617
Jan. 31.....	1,380.61	1,156	+65	0	35	100
Feb. 28.....	1,384.65	1,624	+468	0	20	488
Mar. 31.....	1,387.32	1,986	+362	0	21	383
Apr. 30.....	1,387.31	1,985	-1	0	64	63
May 31.....	1,387.06	1,949	-36	0	82	46
June 30.....	1,386.66	1,893	-56	0	87	31
July 31.....	1,386.02	1,804	-89	0	100	11
Aug. 31.....	1,385.36	1,716	-88	0	126	38
Sept. 30.....	1,384.83	1,646	-70	0	66	-4
Water year 1961-62.....	-	-	+589	0	700	1,289

† Elevation at 2400.

a Estimated on basis of records for San Dieguito River at Lake Hodges.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

11-430. Murrieta Creek at Temecula, Calif.

Location.--Lat 33°28'47", long 117°08'35", in Temecula Grant, on right bank 0.4 mile upstream from mouth and 1.0 mile south of Temecula, Riverside County.

Drainage area.--220 sq mi.

Records available.--October 1924 to September 1962. Monthly discharge only October 1924 to September 1930, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 970 ft (from topographic map). Prior to Jan. 6, 1931, staff gage and sharp-crested weir at site 0.4 mile downstream at different datum. Jan. 6, 1931, to Dec. 16, 1938, supplemental water-stage recorder and sharp-crested weir at site 0.4 mile downstream at different datum used to record low flows.

Average discharge.--38 years, 9.22 cfs (6,680 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

Extremes.--Maximum discharge during year, 410 cfs Feb. 19 (gage height, 3.26 ft); minimum daily, 0.2 cfs for many days.

1930-62: Maximum discharge, 17,500 cfs Jan. 23, 1943 (gage height, 13.82 ft); minimum daily, 0.1 cfs several days in 1952-53, Aug. 17, 1957.

Remarks.--Records good. Discharge measurements made four or more times a month. Some pumping above station for irrigation of about 2,500 acres.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 30, 31)

Oct. 1 to July 31

Aug. 1 to Sept. 30

0.1	0.2	0.6	3.0	1.3	29	0.2	0.1
.2	.3	.7	4.7	1.6	55	.3	.5
.3	.5	.8	7.0	2.0	112	.37	.8
.4	.9	1.0	14	2.4	203		
.5	1.6						

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.4	0.9	0.3	0.5	1.4	0.4	0.3	1.2	0.2	0.4	0.2
2	.3	.5	5.7	.2	.5	1.2	.4	.3	.8	.2	.5	.4
3	.2	.8	3.6	.2	.4	1.1	.4	.3	.4	.2	.4	.2
4	.3	.5	1.5	.2	.4	1.0	.4	.3	.4	.2	.6	.2
5	.5	.5	.8	.2	.4	.9	.4	.3	.3	.4	.4	.5
6	.7	.3	.6	.2	.4	1.3	.4	.3	.3	.5	.2	.3
7	.7	.5	.5	.2	.4	1.4	.4	.5	.4	.5	.2	.2
8	.8	.5	.4	.2	1.2	2.0	.4	.6	.5	.5	.5	.2
9	.5	.4	.4	.2	5.9	1.3	.4	.6	.3	.3	.6	.2
10	.5	.5	.4	.2	1.6	1.1	.4	.7	.2	.3	.3	.4
11	1.1	.5	.3	.2	1.8	.9	.5	.6	.2	.3	.2	.3
12	.7	.4	.3	.2	2.3	.8	.5	.6	.2	.5	.2	.2
13	.8	.3	.3	.3	2.6	.8	.4	.7	.2	.4	.2	.2
14	.5	.3	.3	.2	1.4	.7	.4	.4	.2	.4	.2	.2
15	.4	.3	.3	.2	1.2	.6	.4	.6	.3	.5	.2	.2
16	.3	.6	.3	.2	1.4	.6	.4	.6	.5	.3	.2	.3
17	.3	.6	.3	.2	1.3	.6	.4	.6	.6	.3	.2	.2
18	.3	.6	.3	.2	1.0	.6	.4	.5	.4	.3	.2	.4
19	.4	.5	.3	.2	7.8	1.1	.4	.7	.4	.3	.2	.4
20	.4	.5	.3	1.0	5.6	1.2	.4	.5	.8	.2	.2	.6
21	.3	.8	.3	1.7	18.4	.9	.4	.4	.8	.2	.2	.5
22	.3	.6	.3	2.4	5.2	.8	.4	.3	.9	.3	.2	.2
23	.3	.7	.3	1.5	4.7	.8	.4	.3	.6	.2	.4	.2
24	.4	.5	.3	2.6	3.0	.7	.4	.3	.3	.2	.4	.2
25	.4	.6	.3	1.3	1.2	.6	.4	.3	.4	.2	.3	.2
26	.4	.6	.3	.9	4.0	.6	.4	.6	.6	.2	.2	.2
27	.5	.4	.3	.8	2.8	.5	.4	.8	.3	.2	.2	.2
28	.3	1.1	.2	.7	1.8	.5	.4	.5	.3	.2	.2	.2
29	.5	1.1	.3	.6	-	.4	.4	1.0	.3	.3	.2	.2
30	.3	1.0	.3	.5	-----	.4	.4	.9	.2	.2	.2	.2
31	.3	-----	.3	.5	-----	.4	-----	1.3	-----	.2	.2	-----
Total	14.1	16.9	21.0	68.9	443.7	27.2	12.2	16.7	13.3	9.2	8.8	8.1
Mean	0.45	0.56	0.68	2.22	15.8	0.88	0.41	0.54	0.44	0.30	0.28	0.27
Max	1.1	1.1	5.7	24	184	2.0	0.5	1.3	1.2	0.5	0.6	0.6
Min	0.2	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2
Ac-ft	28	34	42	137	880	54	24	33	26	18	17	16

Calendar year 1961: Max 5.7 Min 0.2 Mean 0.50 Ac-ft 359  
Water year 1961-62: Max 184 Min 0.2 Mean 1.81 Ac-ft 1,310

Peak discharge (base, 55 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-22	1700	1.72	71	2-19	1730	3.26	410
2-12	0200	1.77	63				

## SANTA MARGARITA RIVER BASIN

11-440. Santa Margarita River near Temecula, Calif.

Location.--Lat 33°28'26", long 117°08'30", in Temecula Grant, on left bank at upper end of Temecula Canyon, 0.1 mile downstream from Murrieta Creek and 1.4 miles south of Temecula, Riverside County.

Drainage area.--592 sq mi.

Records available.--January 1923 to September 1962. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

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

Average discharge--25 years (1923-48), 28.2 cfs (20,420 acre-ft per year), 14 years (1948-62), 9.97 cfs (7,220 acre-ft per year); median of yearly mean discharges (1923-48), 13 cfs (9,400 acre-ft per year); (1948-62), 5.6 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 524 cfs Feb. 19 (gage height, 4.66 ft); minimum daily, 2.2 cfs Oct. 16, Aug. 11-13, 25-27, 29.

1923-62: Maximum discharge, 25,000 cfs Feb. 16, 1927 (gage height, 14.6 ft), from rating curve extended above 10,000 cfs; minimum, 0.4 cfs July 16, 1925.

Remarks.--Records good below 10 cfs and fair above. Discharge measurements generally made five or more times a month. Pumping diversions above gage affect flow during irrigation season. Flow partly regulated by Vail Lake beginning in November 1948 (see p.104).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	2.8	3.7	3.4	3.7	6.9	4.6	3.5	3.2	2.6	3.5	2.4
2	3.2	2.8	2.5	3.4	3.7	6.4	4.6	3.5	3.2	2.6	3.2	2.5
3	2.9	3.8	11	3.4	3.7	6.2	4.4	3.4	3.2	2.6	3.2	2.5
4	2.6	3.3	5.8	3.4	3.8	5.8	4.4	3.4	3.0	2.4	3.0	2.6
5	2.6	3.0	4.4	3.4	3.8	5.7	4.4	3.3	3.0	2.5	2.8	2.6
6	3.4	2.8	3.9	3.4	3.8	6.4	4.4	3.3	3.0	2.6	2.6	2.6
7	3.4	3.0	3.8	3.4	3.8	6.5	4.4	3.4	3.0	2.8	2.4	2.6
8	3.3	3.0	3.7	3.5	6.9	6.7	4.4	3.7	3.0	2.6	2.8	2.8
9	3.0	3.2	3.5	3.5	13	6.4	4.4	4.9	3.0	2.6	2.8	3.3
10	3.0	3.0	3.5	3.5	6.0	5.7	4.4	4.6	2.9	2.6	2.4	3.2
11	3.3	3.0	3.4	3.5	18	5.7	4.4	4.4	2.8	2.6	2.2	3.3
12	3.3	2.8	3.5	3.5	40	5.5	4.2	4.1	3.0	2.8	2.2	2.8
13	3.3	2.6	3.5	3.8	8.3	5.4	4.1	3.5	3.5	2.8	2.2	2.8
14	2.6	2.6	3.5	3.5	6.4	5.2	4.1	3.3	2.8	2.8	2.6	2.6
15	2.4	2.6	3.4	3.5	6.2	5.0	3.9	3.3	3.0	3.2	2.8	2.8
16	2.2	3.2	3.3	3.5	6.4	5.0	3.9	3.6	3.2	3.0	2.8	2.6
17	2.6	3.4	3.3	3.5	5.9	5.0	3.8	4.6	3.4	3.0	2.8	2.6
18	2.6	3.0	3.3	3.4	6.9	5.2	3.7	4.4	3.1	2.6	2.8	2.8
19	2.6	3.0	3.3	3.4	14.1	8.6	3.9	4.4	3.2	2.6	2.8	2.8
20	3.0	3.6	3.3	11	8.4	6.7	3.7	3.7	3.5	2.4	2.8	3.0
21	2.6	4.0	3.3	2.9	2.28	6.0	3.5	3.4	3.4	2.4	2.8	2.6
22	2.4	3.2	3.3	3.7	7.4	5.7	3.4	3.4	3.4	2.6	2.6	2.6
23	2.4	3.2	3.3	2.7	10	5.8	3.4	3.2	3.4	2.4	3.0	2.6
24	2.6	2.9	3.3	9.0	6.9	5.4	3.5	3.2	2.8	2.6	2.6	2.6
25	2.6	3.3	3.3	6.2	1.7	5.2	3.7	3.3	2.6	2.6	2.2	2.6
26	2.6	3.4	3.4	5.7	9.8	5.0	3.5	3.4	3.0	2.6	2.2	2.8
27	2.8	3.0	3.4	5.4	8.3	4.9	3.7	3.4	2.8	2.6	2.2	3.3
28	3.0	3.8	3.4	5.2	7.6	4.9	3.7	3.4	2.8	2.6	2.4	3.5
29	2.8	4.1	3.4	5.0	-	4.9	3.8	3.3	2.8	2.8	2.2	3.7
30	2.6	3.7	3.4	4.7	-----	4.7	3.7	3.3	2.8	2.6	2.4	2.8
31	2.8	-----	3.4	4.3	-----	4.6	-----	3.3	-----	2.6	2.4	-----
Total	87.4	95.1	139.0	215.4	736.9	177.1	120.0	112.9	91.8	82.1	81.7	84.3
Mean	2.82	3.17	4.48	6.95	26.3	5.71	4.00	3.64	3.06	2.65	2.64	2.81
Max	3.4	4.1	.25	37	228	8.6	4.6	4.9	3.5	3.2	3.5	3.7
Min	2.2	2.6	3.3	3.4	3.7	4.6	3.4	3.2	2.6	2.4	2.2	2.4
Ac-ft	173	189	276	427	1,460	351	238	224	182	163	162	167
Calendar year 1961:	Max	25	Min	2.2	Mean	3.45	Ac-ft	2,500				
Water year 1961-62:			Max	2.2	Mean	5.54	Ac-ft	4,010				





## SANTA MARGARITA RIVER BASIN

11-446. Santa Margarita River tributary near Fallbrook, Calif.

Location.--Lat 33°24'39", long 117°16'45", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.10, T.9 S., R.4 W., on left bank at culvert on De Luz Road, 2.5 miles north-west of Fallbrook.

Drainage area.--0.52 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 750 ft (from topographic map).

Extremes.--1961-62: Maximum discharge during year, 1.6 cfs Jan. 20 (gage height, 2.03 ft, from crest-stage gage), by indirect measurement of peak flow through culvert; no flow for most of year.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, is as follows: January, 5.6; February, 6.7; March, 1.8; May, 0.5; June, 0.3; the period January to September 1962, 14.9.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0.2		(*)				
2			.1	0	0	.2	(*)					
3			0	0	0	.1						
4			0	0	0	.1						(*)
5			0	0	0	.1						
6			0	0	0	.5						
7			0	0	0	.3						
8			0	* 0	.3	.2						
9			0	0	* .1	.2						
10			0	0	0	.1						
11			0	0	0	.1						
12			0	0	0	.1						
13			0	0	0	0						
14			0	0	0	.1						
15			0	0	0	* 0		(*)				
16			0	0	0	0						
17			0	0	0	.1						
18			0	0	0	.1						
19			* 0	0	* .4	.4			(*)			
20			0	* .4	.5	.2						
21			0	0	.7	.2						
22		(*)	0	.4	.5	.2						
23			0	* 0	.4	.2						
24			0	* 0	.4	.1						
25			0	0	.4	.1						
26			0	0	.4	.1						
27			0	0	.3	.1						
28			0	0	.2	.1						
29			0	0	-	.1						
30			0	0	-----	.1						
31			0	0	-----	0				(*)		
Total	0	0	0.1	0.8	4.6	4.4	0	0	0	0	0	0
Mean	0	0	0.003	0.03	0.16	0.14	0	0	0	0	0	0
Max	0	0	0.1	0.4	0.7	0.5	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0.2	1.6	9.1	8.7	0	0	0	0	0	0

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 0.7 Min 0 Mean 0.03 Ac-ft 20

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

Note.--No gage-height record Oct. 1 to Dec. 19.

## SANTA MARGARITA RIVER BASIN

109

11-449. De Luz Creek near Fallbrook, Calif.

Location.--Lat 33°22'10", long 117°19'15", in NW 1/4 sec. 29, T.9 S., R.4 W., on left bank 0.65 mile upstream from mouth and 4.2 miles west of Fallbrook.

Drainage area.--47.9 sq mi.

Records available.--February 1951 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Prior to Dec. 23, 1958, at site 750 ft upstream at same datum.

Average discharge.--11 years, 5.58 cfs (4,040 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

Extremes.--Maximum discharge during year, 240 cfs Feb. 19 (gage height, 6.45 ft); no flow for several months.

1951-62: Maximum discharge, 2,800 cfs Apr. 1, 1958 (gage height, 9.95 ft, at present site, from floodmarks), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; no flow for several months of each year.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	26	6.1	0.7	0.2			
2	(*)	(*)	* .1	0	0	23	* 7.1	.6	.2		(*)	
3			0	* 0	0	20	7.6	.5	.2			
4			0	0	0	19	6.6	.4	.2			
5			* 0	0	0	* 18	6.1	.3	* .2			(*)
6			0	0	0	24	5.6	.4	.2			
7			0	0	0	28	5.6	.4	.2			
8			0	0	* 22	21	4.7	.3	.2			
9			0	0	* 25	19	4.7	.3	.2			
10			0	0	1.1	17	* 3.9	.3	.2			
11			0	0	43	16	3.9	.2	.2			
12			0	0	* 66	* 15	3.2	.2	.1			
13			0	0	26	15	2.2	.2	.2			
14			0	0	21	15	2.2	.4	.2			
15			0	0	23	15	2.5	* .2	.3			
16			0	0	36	15	2.5	.2	.2			
17			0	0	29	14	1.4	.2	.1			
18			0	0	a 25	14	1.6	.2	0			
19			0	0	* 95	* 20	* 1.6	.1	* 0			
20			0	30	* 114	24	1.2	.1	0			
21			0	* 1.6	164	15	1.0	.1	0			
22			0	* 7.8	a 100	14	1.0	.1	0			
23			0	1.5	a 80	18	1.0	.1	0			
24			0	0	a 50	13	1.0	.1	0			
25			0	0	a 60	12	1.0	.2	0			
26			0	0	a 50	11	1.0	.2	0			
27			0	0	* 40	11	1.0	.3	0			
28			0	0	* 31	10	1.0	.3	0			
29			0	0	-	8.8	.8	.2	0			
30			0	0	-----	7.1	* .8	.2	0			
31			0	* 0	-----	6.6	-----	.2	-----			
Total	0	0	0.1	40.9	1.101.1	504.5	89.9	8.2	3.3	0	0	0
Mean	0	0	0.003	1.32	39.3	16.3	3.00	0.26	0.11	0	0	0
Max	0	0	0.1	30	164	28	7.6	0.7	0.3	0	0	0
Min	0	0	0	0	0	6.6	0.8	0.1	0	0	0	0
Ac-ft	0	0	0.2	81	2,180	1,000	178	16	6.5	0	0	0

Calendar year 1961: Max 0.1 Min 0 Mean 0.0003 Ac-ft 0.2

Water year 1961-62: Max 164 Min 0 Mean 4.79 Ac-ft 3,460

Peak discharge (base, 200 cfs).--Jan. 20 (2000) 216 cfs (6.35 ft); Feb. 19 (1800) 240 cfs (6.45 ft).

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

a No gage-height record.

## SANTA MARGARITA RIVER BASIN

11-460. Santa Margarita River at Ysidora, Calif.

Location.--Lat 33°14'38", long 117°22'56", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.3, T.11 S., R.5 W., on right bank 1 mile downstream from Ysidora and about 2.5 miles upstream from mouth.

Drainage area.--740 sq mi.

Records available.--February 1923 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map). Prior to Feb. 16, 1927, at site 1 mile upstream at different datum (destroyed by flood). Feb. 16, 1927, to Feb. 1, 1931, no gage in operation; records based on discharge measurements. Feb. 2, 1931, to Nov. 27, 1935, at same site at datum 1.00 ft higher.

Average discharge.--39 years, 30.1 cfs (21,790 acre-ft per year); median of yearly mean discharges, 8.8 cfs (6,400 acre-ft per year).

Extremes.--No flow during year.

1923-62: Maximum discharge, 33,600 cfs Feb. 16, 1927, on basis of slope-area measurement of peak flow; no flow for part of most years.

Remarks.--No flow since June 1, 1958. Diversions above station for irrigation on Santa Margarita Ranch and Pauba Ranch. Flow partly regulated by Vail Lake (see p. 104) beginning in November 1948. "Average discharge" represents flow to ocean during period of record, regardless of upstream development.

## LAS FLORES CREEK BASIN

111

11-461. Las Flores Creek near Oceanside, Calif.

Location.--Lat 33°17'32", long 117°27'21", in NW 1/4 sec. 24, T.10 S., R.6 W., on upstream side and at center of bridge on Atchison, Topeka and Santa Fe Railway, 0.5 mile upstream from mouth and 8.5 miles northwest of Oceanside.

Drainage area.--26.6 sq mi.

Records available.--May 1951 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 35 ft (from topographic map).

Average discharge.--11 years, 0.88 cfs (637 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 238 cfs Feb. 8 (gage height, 1.55 ft); no flow for most of year.

1951-62: Maximum discharge, 960 cfs Jan. 16, 1952 (gage height, 4.75 ft); no flow for most of each year.

Remarks.--Records fair. Rising water from area, which bypasses the station 1,000 ft to the northwest, amounted to 36 acre-ft this year.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	0	0	0	0.5				0		
2	(*)		33	0	0	4				0	(*)	
3			18	0	0	a .2				0		
4			0	0	0	0				0		(*)
5			* 0	0	0	0			(*)	0		
6			0	0	0	* 4.4				0		
7			0	0	0	.6				0		
8			0	0	61	a .1				.1		
9			.1	0	* 29	0				.1		
10			.1	0	1.2	.7				0		
11			.1	0	.7	0				0		
12			.1	0	10	0				0		
13			0	0	a 4	0				0		
14			0	0	* .8	0				a 0		
15			0	0	3.1	0		(*)		a 0		
16			0	0	9.6	* 0				a 0		
17			0	0	a 4	.1				* 0		
18			0	0	a 1	.5	(*)			0		
19			.1	0	36	* 2.8			(*)	0		
20			.1	* 40	a 15	.4				0		
21		(*)	0	5.2	38	a 0				0		
22			0	* 19	a 8	.1				0		
23			0	2.9	a 4	.5				0		
24			0	a 3	a 2	a 0				0		
25			0	0	a 1	a 0				0		
26			0	0	* 2.6	a 0				0		
27			0	0	.9	a 0				0		
28			.1	0	.6	a 0				0		
29			* 0	0	-	0				0		
30			0	0	-----	* 0	(*)			0		
31			0	* 0	-----	a 0				0		
Total	0	0	51.7	67.4	232.5	11.3	0	0	0	0.2	0	0
Mean	0	0	1.67	2.17	8.30	0.36	0	0	0	0.006	0	0
Max	0	0	33	40	61	4.4	0	0	0	0.1	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	103	134	461	22	0	0	0	0.4	0	0

Calendar year 1961: Max 33 Min 0 Mean 0.15 Ac-ft 108

Water year 1961-62: Max 61 Min 0 Mean 0.99 Ac-ft 720

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1100	1.10	142	2- 8	2000	1.55	238
1-20	1900	1.35	194	2-19	1800	1.05	132

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

a No gage-height record.

## SAN ONOFRE CREEK BASIN

11-462. San Onofre Creek near San Onofre, Calif.

Location.--Lat 33°23'23", long 117°30'50", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.16, T.9 S., R.6 W., on left bank 0.3 mile southwest of Tent Camp No. 2, 0.5 mile downstream from ford on Basilone Road, 4 miles east of San Onofre, and 5 miles upstream from mouth.

Drainage area.--34.6 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map). Prior to June 22, 1957, at datum 1.00 ft higher. June 22, 1957, to Oct. 7, 1960, at site 50 ft upstream at same datum.

Average discharge.--12 years, 2.65 cfs (1,920 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 588 cfs Jan. 20 (gage height, 3.08 ft); no flow on many days.

1950-62: Maximum discharge, 2,680 cfs Apr. 1, 1958 (gage height, 5.90 ft); from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow at gage height 5.6 ft; no flow for several months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 28 to Aug. 1)

1.0	0	1.4	16
1.1	.3	1.5	27
1.2	2.2	1.8	78
1.3	7.4	2.1	155

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	a 0	11	a 1.5	0.5	0.5	0.3		
2		0	* 30	0	a 0	11	* 1.6	.6	.4	.2	(*)	
3		0	.3	* 0	a 0	9.0	1.6	.7	.3	* .2		
4		0	0	0	a 0	6.8	1.6	.7	.2	.2		(*)
5		0	* 0	.1	a 0	* 5.6	1.6	.7	* .4	.2		
6		0	.1	.1	a 0	19	1.6	.7	.3	.2		
7		0	.1	.1	* 0	8.0	1.6	.7	.4	.2		
8		0	.1	.1	* 61	5.0	1.6	.7	.3	.2		
9		0	.1	0	* 34	5.0	1.3	.7	.2	.2		
10		0	0	0	13	5.0	* 1.3	.8	.2	.2		
11		0	0	0	6.4	5.0	1.3	.8	.2	.2		
12		0	0	.1	* 63	* 4.5	1.3	.8	.4	.2		
13		* 0	0	.2	* 12	4.5	1.3	.8	.4	.2		
14		0	* 0	0	a 2	4.5	1.3	1.6	.6	.2		
15		0	0	0	a 20	4.0	1.3	* .6	.6	.1	(*)	
16	(*)	0	0	* 0	22	4.0	1.0	.6	.6	.1		
17		0	0	0	9.0	4.5	.8	.5	.5	* .1		
18		0	0	0	3.5	4.5	.8	.5	.4	.1		
19		0	0	.1	* 126	* 10	* 1.0	.6	* .5	.1		
20		.1	0	106	* 68	9.8	1.3	.6	.5	.1		(*)
21		* 0	0	* 6.8	107	5.6	.8	.6	.4	.1		
22		0	0	* 22	51	4.9	.8	.3	.4	.1		
23		0	0	1.7	a 35	7.8	.8	.5	.5	.1		
24		0	0	a .1	32	4.0	* .7	.5	.5	.1		
25		.3	0	a 0	34	a 3.5	.7	.6	.4	.1		
26		.1	0	a 0	30	a 3.5	.7	.5	.4	.1		
27		0	0	a 0	19	a 3	.5	.5	.4	.1		
28		0	0	a 0	13	a 3	.6	.4	.3	0		
29		0	0	a 0	-	a 2.5	.5	.4	.3	0		
30		0	0	a 0	-----	a 2.5	* .5	.5	.3	0		
31		-----	0	a 0	-----	a 2	-----	.5	-----	0		
Total	0	0.5	30.7	137.4	818.5	183.0	33.4	19.5	11.8	4.2	0	0
Mean	0	0.02	0.99	4.43	29.2	5.90	1.11	0.63	0.39	0.14	0	0
Max	0	0.3	30	106	126	19	1.6	1.6	0.6	0.3	0	0
Min	0	0	0	0	0	2	0.5	0.3	0.2	0	0	0
Ac-ft	0	1.0	61	273	1,620	363	66	39	23	8.3	0	0

Calendar year 1961: Max 30 Min 0 Mean 0.09 Ac-ft 68

Water year 1961-62: Max 126 Min 0 Mean 3.39 Ac-ft 2,450

Peak discharge (base, 150 cfs)

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

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0930	2.45	275	2-11	2230	2.26	206
1-20	1700	3.08	588	2-19	1500	2.87	465
2- 8	1600	2.08	179				

## SAN ONOFRE CREEK BASIN

113

11-462.5. San Onofre Creek at San Onofre, Calif.

Location.--Lat 33°23'00", long 117°34'22", in SE<sup>1</sup><sub>4</sub>SE<sup>1</sup><sub>4</sub> sec.14, T.9 S., R.7 W., on left bank 0.2 mile north of San Onofre, 0.3 mile upstream from U. S. Highway 101, and 0.5 mile upstream from mouth.

Drainage area.--42.2 sq mi.

Records available.--October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 15 ft (from topographic map).

Average discharge.--16 years, 1.32 cfs (956 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year).

Extremes.--Maximum discharge during year, 454 cfs Jan. 20 (gage height, 5.68 ft); no flow for most of year.

1946-62: Maximum discharge, 2,600 cfs Apr. 1, 1958 (gage height, 6.90 ft); no flow for most or all of each year.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Pumping above station for irrigation and water supply.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	a 10						
2			* 32	0	0	a 8					(*)	
3			.4	* 0	0	a 7				(*)		
4			0	0	0	a 6						(*)
5			0	0	0	a 5			(*)			
6			0	0	0	17						
7			0	0	0	5.1						
8			0	0	* 52	a 3						
9			0	0	34	a 2						
10			0	0	a 12	a 1	(*)					
11			0	0	43	0						
12			0	.2	* 55	* 0						
13		(*)	0	.1	a 25	0						
14			* 0	0	a 15	0						
15			0	0	17	0		(*)				
16			0	0	41	0						
17			0	0	a 15	0				(*)		
18			0	0	a 10	0						
19			0	0	* 115	* 1.4						
20			0	92	102	1.0						
21			0	* 8.5	108	* .2						(*)
22			0	26	a 60	.1						
23			0	3.9	a 50	1.7						
24			0	0	a 40	.2						
25			0	0	32	0						
26			0	0	37	0						
27			0	0	28	* 0						
28			0	0	12	0						
29			0	0	-	0						
30			0	0	-----	0						
31			0	0	-----	0						
Total	0	0	32.4	130.7	903	68.7	0	0	0	0	0	0
Mean	0	0	1.05	4.22	32.2	2.22	0	0	0	0	0	0
Max	0	0	32	92	115	17	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	64	259	1,790	136	0	0	0	0	0	0

Calendar year 1961: Max 32 Min 0 Mean 0.09 Ac-ft 64  
 Water year 1961-62: Max 115 Min 0 Mean 3.11 Ac-ft 2,250

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1030	4.81	212	2-19	1600	5.16	300
1-20	1800	5.68	454				

\* Discharge measurement or observation of no flow made on this day.  
 a No gage-height record.

## SAN MATEO CREEK BASIN

11-463. San Mateo Creek near San Clemente, Calif.

Location.--Lat 33°28'15", long 117°28'20", in SE 1/4 sec. 23, T.8 S., R.6 W., on left bank 0.4 mile downstream from mouth of Devil Canyon and 8.6 miles northeast of San Clemente.

Drainage area.--81.1 sq mi.

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 405 ft (from topographic map).

Average discharge.--10 years, 6.85 cfs (4,960 acre-ft per year); median of yearly mean discharge, 2.5 cfs (1,800 acre-ft per year).

Extremes.--Maximum discharge during year, 380 cfs Jan. 20 (gage height, 6.75 ft); no flow Oct. 1 to Nov. 19, Nov. 21 to Dec. 1, June 27 to Sept. 30.

1952-62: Maximum discharge, 4,800 cfs Apr. 1, 1958 (gage height, 9.10 ft), from rating curve extended above 2,000 cfs; no flow for several months in each year.

Remarks.--Records good except those for period of no gage-height record, which are fair.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.1	7.1	a 35	11	2.7	1.2			
2		0	16	.1	6.9	* 28	11	2.6	1.1		(*)	
3		0	1.7	* .1	6.9	24	10	2.5	1.1	(*)		
4		0	* .8	.1	6.7	22	10	2.4	1.1			
5		0	.5	.1	6.7	* 20	9.5	2.3	* 1.0			
6		0	.3	.1	6.5	26	8.8	2.2	.9			
7		0	.2	.1	6.9	24	8.3	2.3	.9			
8		0	.2	.1	30	20	7.7	2.3	.8			
9		0	.1	.1	25	19	7.3	2.3	.8			
10		0	.1	.1	14	19	* 7.3	2.3	.8			
11		0	.1	.1	106	19	6.9	2.4	.7			
12		0	.1	.1	125	* 18	6.4	2.3	.7			
13		* 0	.1	.3	* 55	18	5.9	2.4	.6			
14		0	* .1	.2	11	16	5.4	3.0	.6			
15		0	.1	.2	33	15	5.3	* 2.8	.7			
16		0	.1	.2	18	14	4.8	2.7	.7			
17		0	.1	.2	8.5	14	4.6	2.2	.6			
18		0	.1	.2	6.5	14	4.1	2.1	.5			
19		0	.1	.2	99	42	* 3.9	1.9	* .4			
20		.1	.1	* 56	66	49	3.8	1.8	* .4			(*)
21		0	.1	14	105	20	3.3	1.8	.3		(*)	
22		0	.1	25	70	17	3.1	1.6	.3			
23		0	.1	* 31	a 60	20	3.1	1.5	.2			
24		0	.1	16	a 50	16	3.0	1.5	.1			
25		0	.1	12	a 40	15	3.1	1.5	* .1			
26		0	.1	10	a 50	14	3.1	1.5	.1			
27		0	.1	9.0	* 46	* 14	3.0	1.6	0			
28		0	.1	8.1	a 40	14	3.1	1.6	0			
29		0	.1	7.7	-	14	3.2	1.5	0			
30		0	.1	7.3	-----	13	* 3.1	1.4	0			
31		-----	.1	7.1	-----	12	-----	1.4	-----			
Total	0	0.1	22.0	205.9	1105.7	625	173.1	64.4	16.7	0	0	0
Mean	0	0.003	0.71	6.64	39.5	20.2	5.77	2.08	0.56	0	0	0
Max	0	0.1	16	56	125	49	11	3.0	1.2	0	0	0
Min	0	0	0	0.1	6.5	12	3.0	1.4	0	0	0	0
Ac-ft	0	0.2	44	408	2,190	1,240	343	128	33	0	0	0

Calendar year 1961: Max 16 Min 0 Mean 0.08 Ac-ft 58  
 Water year 1961-62: Max 125 Min 0 Mean 6.06 Ac-ft 4,390

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	1800	6.75	380	2-19	1200	6.35	288
2-11	2300	6.48	350	3-19	1600	6.17	221

\* Discharge measurement or observation of no flow made on this day.  
 a No gage-height record.



## SAN MATEO CREEK BASIN

115

11-463.5. Cristianitos Creek near San Clemente, Calif.

Location.--Lat 33°26'57", long 117°34'13", in SW1/4 sec.25, T.8 S., R.7 W., on right bank 900 ft downstream from Talanga Canyon, 2.3 miles upstream from mouth and 2.8 miles northeast of San Clemente.

Drainage area.--29.1 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 165 ft (from topographic map). Prior to Sept. 19, 1952, at datum 3.92 ft higher.

Average discharge.--12 years, 1.70 cfs (1,230 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 454 cfs Dec. 2 (gage height, 6.21 ft); no flow for most of year.

1950-62: Maximum discharge, 1,800 cfs Jan. 16, 1952 (gage height, 8.86 ft, present datum), from rating curve extended above 360 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1.		0	0	0	0	0	0.1	0	0			
2		0	* 50	0	0	0	*.1	0	0		(*)	
3		0	7.6	0	0	0	.2	0	0	(*)		
4		0	*.1	0	0	0	.4	0	0			(*)
5		0	.1	0	0	0	.3	0	* 0			
6		0	.1	0	0	13	.1	0	0			
7		0	.1	0	.1	4.3	.1	0	0			
8		0	.1	0	* 44	a2	.1	0	0			
9		0	.1	0	*5.4	a1	.2	0	.1			
10		0	.2	0	1.0	a .5	*.1	0	.2			
11		0	.2	0	41	a .3	0	0	.1			
12		0	0	0	*27	*.1	0	0	.2			
13		*0	0	.9	a2	.1	0	0	.1			
14		0	0	0	a1	.1	0	0	.2			
15		0	0	0	4.9	.2	0	*0	.2		(*)	
16		0	0	0	4.5	.2	0	.1	.2			
17		0	0	0	0	.1	0	0	0	(*)		
18		0	0	0	0	.1	0	0	0			
19		0	0	0	*73	*.5	.1	0	*0			
20		3.7	0	71	*35	.3	.1	0	0			
21		*.2	0	*3.9	73	.1	.1	0	0			
22		0	0	7.3	21	.1	0	0	0			
23		0	0	.3	a 7	.1	0	0	0			
24		0	0	.2	a 6	.1	*.1	0	0			
25		.1	0	.1	a 5	.1	.1	0	0			
26		0	0	0	* 3.8	0	.1	0	0			
27		0	0	0	.2	0	.1	0	0			
28		0	0	0	0	0	0	0	0			
29		0	0	0	-	.1	0	0	0			
30		0	0	0	-----	.1	* 0	0	0			
31		-----	0	0	-----	.1	-----	0	-----			
Total	0	4.0	58.6	83.7	354.9	23.6	2.4	0.1	1.3	0	0	0
Mean	0	0.13	1.89	2.70	12.7	0.76	0.08	0.003	0.04	0	0	0
Max	0	3.7	50	71	73	13	0.4	0.1	0.2	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	7.9	116	166	704	47	4.8	0.2	2.6	0	0	0

Calendar year 1961: Max 50 Min 0 Mean 0.17 Ac-ft 124

Water year 1961-62: Max 73 Min 0 Mean 1.45 Ac-ft 1,050

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0830	6.21	454	2- 8	2130	4.98	107
1-20	1400	6.02	378	2-19	1000	6.02	398

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SAN MATEO CREEK BASIN

11-463.7. San Mateo Creek at San Onofre, Calif.

Location.--Lat 33°23'46", long 117°35'21", in NW¼NW¼ sec.14, T.9 S., R.7 W., on right bank 0.3 mile upstream from U. S. Highway 101, 0.8 mile upstream from mouth, 1.3 miles northwest of San Onofre, and 2.25 miles downstream from Cristianitos Creek.

Drainage area.--133 sq mi.

Records available.--October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--16 years, 5.04 cfs (3,650 acre-ft per year); median of yearly mean discharges, 0.05 cfs (36 acre-ft per year).

Extremes.--Maximum discharge during year, 1,940 cfs Feb. 11 (gage height, 5.64 ft, from floodmark), from rating curve extended above 300 cfs; no flow for most of year.

1946-62: Maximum discharge, 4,650 cfs Apr. 1, 1958 (gage height, 5.62 ft); no flow for all or several months in each year.

Remarks.--Records fair. Minor flows regulated by percolation basins.

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

Feb. 11.....*104	Feb. 20.....*175	Feb. 27.....15	Mar. 21.....3.3
12.....*261	21..... 275	28..... 4.0	22.....2.7
13..... 37	22..... 111	Mar. 7..... .4	23.....2.7
14.....* 4.4	23..... 40	8..... 1.7	24.....2.7
16..... 16	24..... 20	9..... 4.1	25.....1.8
17..... 5.9	25..... 24	10..... 4.6	26..... .8
18..... 1.4	26..... 8.7	20..... .4	27..... .1
19..... 307			

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1962.....	1,409.4	307	0	50.3	2,800
March.....	25.3	4.6	0	.82	50
Calendar year 1961.....	-	0	0	0	0
Water year 1961-62.....	-	307	0	3.93	2,850

Peak discharge (base, 150 cfs)--Feb. 11 (2000) 1,940 cfs (5.64 ft); Feb. 19 (1800) 1,560 cfs (5.20 ft).

\* Discharge measurement made on this day.

## SAN JUAN CREEK BASIN

117

11-465. San Juan Creek near San Juan Capistrano, Calif.

Location.--Lat 33°31'08", long 117°37'27", in NE 1/4 sec. 32, T.7 S., R.7 W., on right pier of bridge on State Highway 74, 2.5 miles northeast of San Juan Capistrano.

Drainage area.--110 sq mi.

Records available.--October 1928 to September 1962. Combined records of creek and diversion October 1954 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Prior to Feb. 28, 1934, at site  $2\frac{1}{2}$  miles downstream at different datum. Feb. 28, 1934, to Dec. 10, 1938, at present site at different datum. Dec. 11, 1938, to Dec. 17, 1941, at present site at datum 2.00 ft higher.

Average discharge.--34 years, 12.2 cfs (8,830 acre-ft per year); median of yearly mean discharges, 2.8 cfs (2,000 acre-ft per year). Average combined discharge of creek and canal, 8 years (1954-62), 8.62 cfs (6,240 acre-ft per year).

Extremes.--Maximum discharge during year, 484 cfs Feb. 19 (gage height, 2.63 ft); no flow for some days.

1929-62: Maximum discharge, 13,000 cfs Mar. 2, 1938, by slope-area measurement, determined by Corps of Engineers; no flow at times in most years.

Remarks.--Records good. Discharge measurements or observations of no flow generally made weekly. See following page for records of combined discharge of creek and Capistrano Water Co.'s canal, which diverts 500 ft upstream from station.

Cooperation.--Thirty-eight discharge measurements furnished by Orange County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-25, Apr. 15 to Sept. 30)

0.7	0	1.1	2.9	1.6	41
.8	.1	1.2	6.4	1.8	78
.9	.2	1.3	11	2.1	170
1.0	1.0	1.4	18	2.3	265

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	0.5	0.9	1.4	3.4	6.8	0.2	0.3	0	0.2	0
2	.1	.2	5.4	.9	1.4	28	6.0	.2	.4	0	.2	0
3	.1	.2	8.1	1.0	1.4	25	5.6	.2	.4	0	.2	0
4	.1	.3	3.5	1.2	1.6	22	5.6	.2	.4	0	.2	0
5	.1	.3	2.6	1.3	1.6	18	4.1	.2	.4	0	.2	0
6	.1	.3	2.4	1.3	1.6	57	2.2	.3	.4	0	.2	0
7	0	.4	2.0	1.0	1.6	62	2.6	.3	.4	.1	.2	0
8	0	.3	1.8	.5	38	40	2.2	.3	.4	.2	.2	0
9	0	.3	1.6	.3	101	35	2.0	.3	.3	.2	.2	0
10	0	.2	1.4	.3	4.4	31	2.0	.4	.3	.2	.2	.1
11	0	.2	1.4	.2	128	27	2.0	.4	.3	.2	.2	0
12	0	.2	1.3	.2	233	22	2.0	.5	.3	.2	.1	0
13	0	.2	1.4	.2	66	20	1.3	.6	.3	.2	.1	.1
14	0	.2	1.4	.2	37	17	1.0	.6	.3	.2	.1	0
15	0	.2	1.4	.2	6.4	14	1.0	.6	.2	.3	.1	0
16	0	.2	1.4	.2	111	14	1.0	.6	.2	.3	.1	0
17	0	.2	1.3	.2	48	14	1.0	.6	.2	.3	0	0
18	0	.2	1.0	.2	30	14	1.0	.5	.2	.3	0	0
19	0	.2	.9	.2	174	54	1.0	.4	.1	.3	0	0
20	0	4.1	.9	61	120	27	1.0	.4	.1	.3	0	0
21	.1	9.8	.9	33	244	20	1.0	.4	.1	.3	0	0
22	.1	1.8	.8	18	138	17	.9	.4	.1	.3	0	0
23	.2	1.0	.8	15	78	24	.7	.4	.1	.3	0	0
24	.2	.7	.7	11	58	14	.4	.4	.1	.3	0	0
25	.2	.7	.7	7.6	62	13	.4	.4	.1	.3	0	0
26	.3	.7	.7	4.8	55	11	.3	.4	.1	.3	0	0
27	.3	.7	.8	3.8	46	11	.2	.4	.1	.3	0	0
28	.3	.4	.8	2.9	37	9.5	.2	.4	0	.3	0	0
29	.3	.2	.8	2.2	-	9.5	.2	.4	0	.2	0	0
30	.2	.3	.8	1.8	-----	8.5	.2	.3	0	.2	0	0
31	.2	-----	.9	1.6	-----	7.6	-----	.3	-----	.2	0	-----
Total	3.0	24.9	99.0	173.2	1922.6	720.1	55.9	12.0	6.6	6.3	2.7	0.2
Mean	0.10	0.83	3.19	5.59	68.7	23.2	1.86	0.39	0.22	0.20	0.09	0.007
Max	0.3	9.8	54	61	244	62	6.8	0.6	0.4	0.3	0.2	0.1
Min	0	0.2	0.5	0.2	1.4	7.6	0.2	0.2	0	0	0	0
Ac-ft	6.0	49	196	344	3,810	1,430	111	24	13	12	5.4	0.4

Calendar year 1961: Max 54 Min 0 Mean 0.48 Ac-ft 347

Water year 1961-62: Max 244 Min 0 Mean 8.29 Ac-ft 6,000

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1300	2.25	240	2-15	2200	2.40	320
1-20	2030	2.45	352	2-19	1600	2.63	484
2- 8	2330	2.18	206	3- 6	2000	2.27	250
2-12	0300	2.52	400	3-19	1700	2.60	460

## SAN JUAN CREEK BASIN

11-465. San Juan Creek near San Juan Capistrano, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Juan Creek and Capistrano Water Co.'s canal  
near San Juan Capistrano, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2	0.1	0.4	0.9	1.2	1.7	3.4	6.9	0.9	0.9	0	0.3	0
3	.1	.4	5.4	1.2	1.6	28	6.1	.8	1.0	0	.2	0
4	.1	.3	8.4	1.3	1.6	25	5.7	.7	1.0	0	.2	0
5	.1	.3	3.7	1.4	1.6	22	5.7	.8	1.0	0	.2	0
	.1	.3	2.8	1.4	1.6	18	4.5	.9	.9	0	.2	0
6	.1	.3	2.6	1.4	1.6	57	3.1	.9	.7	0	.2	0
7	0	.4	2.2	1.3	1.6	62	3.3	1.1	.5	.1	.2	0
8	0	.4	2.0	1.3	39	40	2.8	1.2	.4	.2	.2	0
9	0	.5	1.8	1.1	102	35	2.4	1.0	.3	.2	.2	0
10	0	.5	1.5	1.0	4.4	31	2.4	1.0	.3	.2	.2	.1
11	0	.5	1.5	1.0	129	27	2.3	1.0	.3	.3	.2	0
12	0	.5	1.4	1.0	233	22	2.2	1.1	.3	.3	.1	0
13	0	.5	1.5	1.1	66	20	1.9	1.2	.3	.3	.1	.1
14	0	.5	1.5	1.0	37	18	1.9	1.2	.3	.4	.1	0
15	0	.5	1.5	1.0	6.4	1.4	1.9	1.2	.2	.5	.1	0
16	0	.5	1.5	1.1	111	1.4	1.9	1.2	.2	.5	.1	0
17	0	.5	1.4	1.0	48	1.4	1.9	1.2	.2	.5	0	0
18	0	.5	1.2	1.0	30	1.4	1.9	1.1	.2	.5	0	0
19	0	.6	1.4	1.4	17.4	5.4	1.8	1.0	.1	.5	0	0
20	0	4.7	1.4	62	120	27	1.8	1.0	.1	.5	.2	0
21	.1	10	1.4	33	24.4	20	1.8	1.1	.1	.5	.1	0
22	.1	2.0	1.3	18	138	17	1.7	1.1	.1	.5	0	0
23	.2	1.4	1.2	15	78	2.4	1.6	1.1	.1	.5	0	0
24	.2	1.1	1.1	11	58	1.4	1.6	1.1	.1	.5	0	0
25	.2	1.2	1.1	7.7	62	13	1.5	1.1	.1	.5	0	0
26	.3	1.1	1.2	4.9	55	11	1.4	1.1	.1	.5	0	0
27	.4	1.1	1.1	4.0	46	11	1.2	1.1	.1	.5	0	0
28	.4	1.0	1.1	3.0	37	9.5	1.3	1.1	0	.5	0	0
29	.4	1.0	1.2	2.2	-	9.7	1.2	1.1	0	.4	0	0
30	.4	.9	1.1	1.8	-----	8.9	1.1	1.0	0	.5	0	0
31	.4	-----	1.2	1.7	-----	7.8	-----	.9	-----	.4	0	-----
Total	3.7	33.9	107.2	186.5	1926.3	721.9	76.8	32.3	9.9	10.3	3.1	0.2
Mean	0.12	1.13	3.46	6.02	68.8	23.3	2.56	1.04	0.33	0.33	0.10	0.007
Max	0.4	10	5.4	62	244	62	6.9	1.2	1.0	0.5	0.3	0.1
Min	0	0.3	0.9	1.0	1.6	7.8	1.1	0.7	0	0	0	0
Ac-ft	7.3	67	213	370	3,820	1,430	152	64	20	20	6.1	0.4
Calendar year 1961:	Max	5.4	Min	0	Mean	0.95	Ac-ft	688				
Water year 1961-62:	Max	24.4	Min	0	Mean	8.53	Ac-ft	6,170				

## 119

Location.--Lat 33°31'36", long 117°40'08", in NE¼NE¼NW¼ sec.36, T.7 S., R.8 W., on downstream side of right pier of county road bridge (formerly U. S. Highway 101), 1.8 miles north of San Juan Capistrano.

Records available.--October 1930 to September 1962. Prior to October 1956, published as Trabuco Creek near San Juan Capistrano.

Average discharge.--32 years, 4.77 cfs (3,450 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 93 cfs Feb. 21 (gage height, 2.82 ft); no flow for most of year.  
1930-62: Maximum discharge, 9,240 cfs Feb. 6, 1937; no flow at times in each year.

Cooperation.--Records furnished by Orange County Flood Control District.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0	6.5	0.1	0	0	0	0	0
2	0	0	2.4	0	0	5.2	0	0	0	0	0	0
3	0	0	.4	0	0	3.8	0	0	0	0	0	0
4	0	0	0	0	0	3.1	0	0	0	0	0	0
5	0	0	0	0	0	2.2	0	0	0	0	0	0
6	0	0	0	0	0	2.4	0	0	0	.1	0	0
7	0	0	0	0	0	2.4	0	0	0	.1	0	0
8	0	0	0	0	.6	1.4	0	0	0	0	0	0
9	0	0	0	0	0	9.8	0	0	0	0	0	0
10	0	0	0	0	0	7.9	0	0	0	.1	0	0
11	0	0	0	0	.9	7.4	0	0	0	0	0	0
12	.1	0	0	0	4.2	6.5	0	0	0	0	0	0
13	.1	0	0	0	1.3	7.0	0	0	0	0	0	0
14	0	.1	0	0	0	6.0	0	0	0	.1	.1	0
15	0	.1	0	0	5.5	5.2	0	0	0	0	0	0
16	0	0	0	0	2.1	4.8	0	0	.1	0	.1	0
17	0	0	0	0	5.3	3.5	0	0	0	0	.1	0
18	0	0	0	0	.6	3.8	0	0	0	0	0	0
19	0	0	0	0	3.2	6.3	0	0	0	0	0	0
20	0	.1	0	1.8	3.8	7.0	0	0	.1	0	0	0
21	0	0	0	0	5.8	5.6	0	0	0	0	0	0
22	0	0	0	.1	2.9	3.5	0	0	0	0	0	0
23	0	0	0	0	1.9	3.8	0	.1	0	0	0	0
24	0	0	0	0	1.5	3.3	0	.1	0	0	0	0
25	0	0	0	0	1.5	2.2	0	.2	0	.1	0	0
26	0	0	0	0	1.3	1.4	0	.1	0	0	0	.1
27	.1	0	0	0	1.0	.7	0	0	0	0	0	0
28	0	0	0	0	8.7	.7	0	0	0	0	0	0
29	0	0	0	0	-	.7	0	0	0	0	0	0
30	0	0	0	0	-	.7	0	0	0	0	0	0
31	0	-	0	0	-	.5	0	.1	0	0	0	0
Total	0.3	0.3	2.8	1.9	277.1	180.6	0.1	0.6	0.2	0.5	0.3	0.1
Mean	0.01	0.01	0.09	0.06	9.90	5.83	0.003	0.02	0.007	0.02	0.01	0.003
Max	0.1	0.1	2.4	1.8	58	24	0.1	0.2	0.1	0.1	0.1	0.1
Min	0	0	0	0	0	0.2	0	0	0	0	0	0
Ac-ft	0.6	0.6	5.6	3.8	550	358	0.2	1.2	0.4	1.0	0.6	0.2
Calendar year 1961:	Max	2.4	Min	0	Mean	0.03	Ac-ft	23				
Water year 1961-62:	Max	58	Min	0	Mean	1.27	Ac-ft	922				

## ALISO CREEK BASIN

11-475. Aliso Creek at El Toro, Calif.

Location (revised).--Lat 33°37'34", long 117°41'03", in Canada de los Alisos Grant, near center of channel on upstream side of Second Street Bridge at El Toro, Orange County. Prior to July 1962, on right abutment of former bridge.

Drainage area.--8.5 sq mi, approximately.

Records available.--October 1930 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 440 ft (from topographic map). Prior to July 1962, at different datum.

Average discharge.--32 years, 0.69 cfs (500 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes.--Maximum discharge during year, 73 cfs Feb. 15 (gage height, 2.63 ft, present datum); no flow for most of year. 1930-62: Maximum discharge, 1,950 cfs Feb. 6, 1937; no flow for most of each year.

Remarks.--Some pumping from wells along stream.

Cooperation.--Records furnished by Orange County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0						
2			.9	0	0	0						
3			.3	0	0	0						
4			0	0	0	0						
5			0	0	0	0						
6			0	0	0	2.6						
7			0	0	.1	12						
8			0	0	5.3	2.3						
9			0	0	12	0						
10			0	0	.3	0						
11			0	0	12	0						
12			0	0	4.6	0						
13			0	0	.3	0						
14			0	0	.1	0						
15			0	0	10	0						
16			0	0	6.2	0						
17			0	0	1.4	0						
18			0	0	0	0						
19			0	0	6.4	0						
20			0	1.8	4.6	2.1						
21			0	.5	7.0	2.1						
22			0	.2	1.5	1.1						
23			0	0	.1	.7						
24			0	0	.2	0						
25			0	0	.5	0						
26			0	0	0	0						
27			0	0	0	0						
28			0	0	0	0						
29			0	0	0	0						
30			0	0	0	0						
31			0	0	0	0						
Total	0	0	1.2	2.5	61.8	22.9	0	0	0	0	0	0
Mean	0	0	0.04	0.08	2.21	0.74	0	0	0	0	0	0
Max	0	0	0.9	1.8	12	12	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	2.4	5.0	123	45	0	0	0	0	0	0
Calendar year 1961:	Max	0.9	Min	0	Mean	0.003	Ac-ft	2.4				
Water year 1961-62:	Max	12	Min	0	Mean	0.24	Ac-ft	175				

## PETERS CANYON WASH BASIN

121

11-485. San Diego Creek near Irvine, Calif.

Location.--Lat 33°40'20", long 117°47'10", in San Joaquin Grant, on left bank 200 ft downstream from Jeffrey Road Bridge and 1.5 miles west of Irvine, Orange County.

Drainage area.--40.3 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 102.86 ft above mean sea level (levels by Orange County Flood Control District).

Average discharge.--13 years, 1.78 cfs (1,290 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

Extremes.--Maximum discharge during year, 734 cfs Feb. 20 (gage height, 3.79 ft); no flow for most of year.

1949-62: Maximum discharge, 4,040 cfs Jan. 18, 1952 (gage height, 7.70 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow; no flow for most of each year.

Remarks.--Records good. Discharge measurement or observation of no flow made two or more times a month. No regulation or diversion.

Cooperation.--Twelve discharge measurements furnished by Orange County Flood Control District.

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

1.05	0	1.5	11
1.1	.1	1.7	27
1.2	.6	1.9	53
1.3	2.2	2.2	105
1.4	5.6	2.4	152

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.1	0	0	0	0	0.1	0.2	0	0.1	0
2		0	98	.1	0	0	0	.1	.1	.1	.1	0
3		0	3.7	1.0	0	0	0	0	.2	.1	0	.1
4		0	0	1.4	0	0	0	0	.2	.1	0	.1
5		0	0	1.6	0	0	.1	.1	.4	.1	.1	0
6		0	0	1.2	0	.5	0	.1	.4	.1	.1	0
7		0	1.5	1.0	.6	5.9	0	.1	a .2	.1	0	0
8		0	2.2	.4	60	0	0	0	a .2	.1	0	0
9		0	1.7	0	8.7	0	0	0	a .2	.1	0	0
10		0	.8	.1	.2	0	0	.1	a .1	.1	0	0
11		0	1.0	0	142	0	0	0	a .1	.1	0	0
12		0	.7	0	50	0	0	.1	.1	.1	0	0
13		0	.8	.6	.6	0	0	.1	0	.1	0	0
14		0	1.1	0	0	0	0	.1	0	.1	0	0
15		0	1.0	0	86	.1	0	2.3	0	.1	0	0
16		0	1.0	0	40	0	0	.1	.1	.2	0	0
17		0	1.0	0	.6	.1	0	.1	0	0	0	0
18		.6	1.1	0	a .2	.2	0	.1	0	.1	0	0
19		.3	1.0	0	112	11	0	0	0	.1	0	0
20		5.5	1.0	57	103	0	0	.1	0	.1	0	0
21		.8	1.0	12	151	0	0	.1	0	.1	0	0
22		.4	1.0	4.5	a 2.5	0	.1	.1	0	.1	0	0
23		.2	0	1.0	0	0	0	.1	a 0	.1	0	0
24		.2	0	0	0	0	.1	.1	a 0	.1	0	0
25		8.1	0	0	0	0	0	.1	a 0	.1	.1	0
26		.5	0	0	0	0	0	.5	0	.2	.1	0
27		0	.5	0	0	0	0	.1	0	.1	0	0
28		.7	.6	0	0	0	0	.1	0	0	0	0
29		1.1	1.2	0	-	0	0	.1	0	0	0	0
30		1.5	1.1	0	-----	0	0	.2	.1	.1	0	0
31		-----	.1	0	-----	0	-----	.4	.1	.1	0	-----
Total	0	19.9	124.2	81.9	757.4	17.8	0.3	5.6	2.8	3.0	0.6	0.2
Mean	0	0.66	4.01	2.64	27.0	0.57	0.01	0.18	0.09	0.10	0.02	0.007
Max	0	8.1	98	57	151	11	0.1	2.3	0.4	0.2	0.1	0.1
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	39	246	162	1,500	35	0.6	11	5.6	6.0	1.2	0.4

Calendar year 1961: Max 98 Min 0 Mean 0.49 Ac-ft 357  
 Water year 1961-62: Max 151 Min 0 Mean 2.78 Ac-ft 2,010

Peak discharge (base, 200 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0730	3.29	470	2-15	1800	3.15	410
1-20	1430	2.67	231	2-20	1400	3.79	734
2-11	0300	3.45	550				

## SANTA ANA RIVER BASIN

11-490. Big Bear Lake near Big Bear Lake, Calif.

Location.--Lat  $34^{\circ}14'20''$ , long  $116^{\circ}58'50''$ , in SW $\frac{1}{4}$  sec.22, T.2 N., R.1 W., at Big Bear Lake Dam on Bear Creek, 4 miles west of town of Big Bear Lake and  $7\frac{1}{2}$  miles upstream from mouth.

Drainage area.--38 sq mi, approximately.

Records available.--October 1950 to September 1962 in reports of Geological Survey. February 1884 to September 1950 in files of Bear Valley Mutual Water Co.

Gage.--Staff gage read once daily. Datum of gage is 6,670.9 ft above mean sea level (levels by Bear Valley Mutual Water Co.). Prior to 1912, staff gage at old dam 200 ft upstream at same datum (spillway at gage height 52.4 ft).

Extremes.--Maximum contents observed during year, 11,088 acre-ft May 28; minimum contents, 530 acre-ft Nov. 24.

1884-1962: Maximum contents unknown, lake spilled in 1916, 1917, 1922, 1923, 1938, 1939; lake dry October, November 1898, August to November 1899, October, November 1904.

Remarks.--Lake is formed by multiple-arch concrete dam, completed in 1912, replacing existing lower dam built in 1884; storage began in spring of 1884. Capacity, 72,200 acre-ft at elevation 6,743.2 ft (top of dam). No dead storage. Water used for irrigation only.

Cooperation.--Record of contents furnished by Bear Valley Mutual Water Co.

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

Month	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,000	-
Oct. 31.....	693	-307
Nov. 30.....	540	-153
Dec. 31.....	700	+160
Calendar year 1961.....	-	-5,384
Jan. 31.....	900	+200
Feb. 28.....	3,664	+2,764
Mar. 31.....	6,402	+2,738
Apr. 30.....	10,365	+3,963
May 31.....	10,984	+619
June 30.....	10,365	-619
July 31.....	9,436	-929
Aug. 31.....	7,888	-1,548
Sept. 30.....	7,102	-786
Water year 1961-62.....	-	+6,102



## SANTA ANA RIVER BASIN

123

11-515. Santa Ana River near Mentone, Calif.

Location.--Lat 34°06'40", long 117°05'54", in NW 1/4 sec. 4, T.1 S., R.2 W., on left bank near mouth of canyon, 1.8 miles upstream from Mill Creek and 3.5 miles northeast of Mentone.

Drainage area.--202 sq mi, including area tributary to Baldwin Lake at head of Bear Valley.

Records available.--July 1896 to September 1962. Monthly discharge only for January 1910, January, February 1916, published in WSP 1315-B. Prior to October 1914, observed records not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon.

Gage.--Water-stage recorder. Datum of gage is 1,984.28 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1914, staff gages at various sites within 1,000 ft of point 1 1/2 miles upstream at various datums. Oct. 1, 1914, to Jan. 17, 1916, staff gage at site 10 ft upstream at different datum. Jan. 18, 1916, to Sept. 2, 1917, staff gage at same site and datum.

Average discharge.--48 years (1914-62), 29.6 cfs (21,430 acre-ft per year); median of yearly mean discharges, 9.0 cfs (6,500 acre-ft per year). Average combined discharge of Santa Ana River and canal, 66 years (1896-1962), 82.5 cfs (59,730 acre-ft per year); median of yearly mean combined discharges, 70 cfs (50,700 acre-ft per year).

Extremes.--Maximum discharge during year, 848 cfs Feb. 11 (gage height, 8.11 ft); no flow for many days.  
1896-1962: Maximum discharge, 52,300 cfs Mar. 2, 1938 (gage height, 14.3 ft), on basis of slope-area measurement of peak flow; no flow at times in some years.

Remarks.--Records fair. Discharge measurements or observations of no flow generally made two or more times a month. Flow partly regulated by Big Bear Lake (see preceding page). For records of combined discharge of Santa Ana River and Southern California Edison Co.'s canal below powerplant No. 2, which diverts above station, see following page. Bear Valley Mutual Water Company pumped 428 acre-ft into canal below canal gage. Prior to Oct. 1, 1952, pumped water entered canal above gage.

Cooperation.--Eleven discharge measurements on Southern California Edison Co.'s canal below powerplant No. 2 furnished by that agency in connection with a Federal Power Commission project.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	12	9.3	2.5	1.0	0.4	0.1	
2			151	0	0	11	8.9	2.5	1.0	.4	.1	
3			51	0	0	11	8.9	2.4	1.0	.4	.1	
4			23	0	0	10	8.4	2.4	1.0	.4	.1	
5			.1	0	0	12	8.0	2.4	1.0	.4	.1	
6			0	0	0	27	8.0	2.4	1.0	.4	.1	
7			0	0	0	a 20	11	2.2	1.0	.4	0	
8			0	0	172	a 10	8.4	2.2	1.0	.4	0	
9			0	0	258	a 10	52	1.6	1.0	.3	0	
10			0	0	204	a 10	94	1.4	1.0	.3	0	
11			0	0	481	a 10	109	1.3	1.0	.3	0	
12			0	0	353	a 10	109	1.2	1.0	.3	0	
13			0	0	194	a 10	109	1.1	1.0	.3	0	
14			0	0	102	11	102	1.6	1.0	.3	0	
15			0	0	112	10	109	1.4	1.0	.3	0	
16			0	0	177	9.7	96	7.5	1.0	.3	0	
17			0	0	35	10	77	5.5	.9	.2	0	
18			0	0	a 20	9.7	11	1.4	.7	.2	0	
19			0	0	32	11	7.3	1.1	.7	.2	0	
20			0	50	24	13	4.6	1.0	.7	.2	0	
21			0	11	10	11	3.8	1.0	.6	.2	0	
22			0	7.0	5.5	12	3.6	1.0	.6	.2	0	
23			0	2.1	3.6	21	3.4	1.0	.6	.2	0	
24			0	20	2.9	19	3.1	1.0	.6	.2	0	
25			0	31	2.7	16	3.1	1.0	.6	.2	0	
26			0	16	2.0	12	2.9	1.0	.6	.2	0	
27			0	2.0	6.1	11	2.9	1.0	.4	.2	0	
28			0	2.4	13	10	3.1	1.0	.4	.2	0	
29			0	1.2	-	10	2.9	1.0	.4	.2	0	
30			0	.1	-----	10	2.7	1.0	.4	.2	0	
31			0	0	-----	9.7	-----	1.0	-----	.1	0	-----
Total	0	0	225.1	142.8	2,209.8	379.1	982.3	56.1	24.2	8.5	0.6	0
Mean	0	0	7.26	4.61	78.9	12.2	32.7	1.81	0.81	0.27	0.02	0
Max	0	0	151	50	481	27	109	7.5	1.0	0.4	0.1	0
Min	0	0	0	0	0	9.7	2.7	1.0	0.4	0.1	0	0
Ac-ft	0	0	446	283	4,380	752	1,950	111	48	17	1.2	0

Calendar year 1961: Max 151 Min 0 Mean 0.62 Ac-ft 446  
Water year 1961-62: Max 481 Min 0 Mean 11.0 Ac-ft 7,990

Peak discharge (base, 150 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1100	8.19	520	2-11	2200	8.11	848
1-20	1830	7.19	332	2-15	2300	7.62	445
2- 8	1830	7.90	700				

## SANTA ANA RIVER BASIN

515. Santa Ana River near Mentone, Calif.--Continued.

Combined discharge, in cubic feet per second, of Santa Ana River and Southern California Edison Co.'s canal near Mentone, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	19	18	17	30	68	89	58	38	27	27	26
2	17	19	159	17	30	66	90	56	38	26	26	25
3	19	18	52	16	28	66	90	54	38	26	26	22
4	21	18	27	16	28	66	89	55	39	26	26	22
5	25	18	23	16	27	66	92	53	38	25	26	21
6	26	18	25	17	26	97	95	52	38	25	26	21
7	23	18	23	18	28	84	98	50	37	25	26	22
8	23	18	21	18	213	88	96	50	35	24	23	22
9	20	18	21	19	258	84	149	51	35	24	23	22
10	18	18	20	19	204	80	194	49	35	24	23	22
11	19	18	20	18	481	81	212	47	34	24	23	25
12	18	18	19	18	353	76	203	47	33	24	22	26
13	17	16	19	22	194	74	202	48	33	24	25	28
14	17	17	19	17	102	72	195	53	35	24	27	28
15	16	18	19	17	155	70	208	52	37	23	28	27
16	17	18	19	18	269	69	189	56	36	23	29	27
17	16	18	19	19	126	70	167	54	33	24	34	24
18	16	18	19	19	104	70	89	50	32	22	35	24
19	17	18	19	19	114	73	84	48	31	22	35	26
20	17	21	18	80	98	77	79	47	31	22	34	26
21	18	23	18	37	76	72	73	45	30	23	29	26
22	18	19	18	29	68	75	70	43	30	23	29	26
23	18	17	18	27	69	89	69	43	29	22	29	27
24	18	16	17	44	69	85	69	44	29	22	28	27
25	18	23	17	54	67	82	69	43	29	21	27	26
26	18	26	17	41	67	82	65	43	21	29	26	30
27	18	20	17	31	68	88	63	44	28	32	26	26
28	18	18	17	33	70	92	64	43	27	33	26	26
29	18	18	17	32	-	90	63	41	27	33	31	26
30	18	17	17	32	-----	88	59	40	27	27	33	25
31	19	-----	17	32	-----	88	-----	39	-----	27	26	-----
Total	578	559	769	812	3,422	2,428	3,374	1,498	983	776	854	751
Mean	18.6	18.6	24.8	26.2	122	78.3	112	48.3	32.8	25.0	27.5	25.0
Max	26	26	159	80	481	97	212	58	39	33	35	30
Min	16	16	17	16	26	66	59	39	21	21	22	21
Ac-ft	1,150	1,110	1,530	1,610	6,790	4,820	6,690	2,970	1,950	1,540	1,690	1,490
Calendar year 1961:	Max	159	Min	13	Mean	21.8	Ac-ft	15,800				
Water year 1961-62:	Max	481	Min	16	Mean	46.0	Ac-ft	33,340				

11-540. Mill Creek near Yucaipa, Calif.

**Location.**--Lat 34°05'27", long 117°02'12", in NW 1/4 sec. 13, T.1 S., R.2 W., on left bank 50 ft downstream from bridge on State Highway 190-D, 3.9 miles north of Yucaipa, and 5.3 miles upstream from mouth.

**Drainage area.**--42.9 sq mi.

**Records available.**--January 1919 to September 1938, October 1947 to September 1962. Monthly figures only for April and May 1923, published in WSP 1315-B. Prior to October 1954, published as "near Craftonville."

**Gage.**--Water-stage recorder. Datum of gage is 2,916.36 ft above mean sea level (Southern California Edison Co. bench mark). Prior to August 1926, at site 100 ft upstream at different datums. August 1926 to Mar. 2, 1938, at site 500 ft downstream at different datum (destroyed by flood).

**Average discharge.**--34 years, 10.6 cfs (7,670 acre-ft per year); median of yearly mean discharges, 1.2 cfs (870 acre-ft per year). Average combined discharge of creek and canals, 34 years, 31.3 cfs (22,660 acre-ft per year); median of yearly combined mean discharges, 22 cfs (15,900 acre-ft per year).

**Extremes.**(creek only).--Maximum discharge during year, 208 cfs Dec. 2 (gage height, 6.35 ft); no flow Oct. 12 to Nov. 19, Jan. 4-13, 1919-38, 1947-62: Maximum discharge, 18,100 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.

**Remarks.**--Records fair. Mill Creek power canals Nos. 1, 2, and 3 divert from points 100 ft, 3 miles, and 6 miles above station, respectively. Combined flow of Mill Creek and Mill Creek power canals Nos. 1, 2, and 3 is given on following page.

**Cooperation.**--Water-stage recorder chart and 12 discharge measurements for Mill Creek power canals Nos. 2 and 3 furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 21, Dec. 3, Apr. 25-30)

4.8	0	5.2	8.8
4.9	.2	5.3	16
5.0	1.2	5.5	36
5.1	4.0	5.8	80

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 0.1	0	* 0.1	0.1	0.1	* 0.6	2.7	0.1	0.1	0.1	* 0.2	0.3
2	a .1	0	* 7.2	.1	.3	1.8	* .2	.1	.1	.1	.2	.5
3	a .1	0	* 1.4	.1	.2	.6	.8	1.7	.1	.1	.2	.5
4	a .1	0	* .6	0	.1	.6	* .8	* 2.0	.1	.1	.1	.2
5	a .1	0	.5	0	* .1	2.4	.4	.5	.1	.1	.2	.2
6	a .1	* 0	.2	0	.1	6.6	.1	1.6	.1	.4	.2	.2
7	a .1	0	.2	0	.1	7.1	.1	2.7	.1	.4	.1	.2
8	a 2.5	0	.2	0	* 3.3	4.8	3.3	3.4	.1	.1	.1	.2
9	a .1	0	.2	* 0	3.3	4.8	3.6	3.6	.1	.1	.1	.1
10	a .1	0	.2	0	7.1	4.4	3.0	* 3.9	.1	.1	.1	.1
11	a .1	0	.2	0	3.7	4.4	6.6	.3	.1	.1	.1	* .1
12	*a 0	0	.1	0	* 2.4	2.1	6.6	.1	.8	.1	.1	.1
13	a 0	0	.1	0	9.4	.2	9.4	1.7	* 1.1	.1	.1	.2
14	a 0	0	.1	.1	1.1	* .3	9.4	6.1	* .1	.1	* .1	.2
15	a 0	0	.2	.1	1.4	.3	9.4	4.4	.1	.1	.1	.2
16	a 0	0	.2	.1	* 2.1	.2	8.2	* 5.0	.1	.1	.1	.3
17	0	0	.2	.1	4.8	.1	9.4	3.7	.1	* .1	.1	.3
18	0	0	* .2	.1	3.6	.1	* 10	.1	.1	.1	.1	.3
19	0	0	.1	.1	* 6.2	3.6	9.4	.1	.1	.1	.1	.3
20	0	* 2.1	.1	7.7	4.8	4.4	7.6	.1	.1	.1	.1	.3
21	0	* .9	.1	*e 3	6.1	.4	4.6	.5	.1	.3	.1	.3
22	0	.3	.1	e 2	5.2	.1	2.2	.1	.1	.4	.2	.2
23	0	.1	.1	e 1	4.8	.6	3.0	.1	.2	.1	.1	.2
24	0	.1	.1	e 1	5.2	.4	3.0	.1	.1	.1	.1	* .2
25	0	.5	.1	e .5	5.2	.5	3.0	.1	.1	.1	.1	.2
26	0	.8	.1	.2	2.9	.5	2.7	.1	.1	.1	.1	.2
27	* 0	.1	.1	.2	.8	* .8	2.1	.1	.1	.1	.3	.2
28	0	.1	.1	.3	.6	.8	2.1	* .1	.1	.1	* .3	.1
29	0	.1	.1	.4	-	.8	3.0	.1	* .1	.1	.3	.1
30	0	.1	.1	* .6	-	.8	2.3	.1	.1	.1	.3	.1
31	0	-	.1	.4	-	.8	-	.1	-	.2	.2	-
Total	3.5	5.2	78.2	18.2	240.7	54.7	130.6	42.8	4.8	4.3	4.6	6.6
Mean	0.11	0.17	2.52	0.59	8.60	1.76	4.35	1.38	0.16	0.14	0.15	0.22
Max	2.5	2.1	72	7.7	37	7.1	10	6.1	1.1	0.4	0.3	0.5
Min	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ac-ft	6.9	10	155	36	477	108	259	85	9.5	8.5	9.1	13

Calendar year 1961: Max 72 Min 0 Mean 0.51 Ac-ft 367  
Water year 1961-62: Max 72 Min 0 Mean 1.63 Ac-ft 1,180

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1000	6.35	208	2- 8	1900	5.88	92
1-20	1730	5.82	53	2-11	2030	5.78	65

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

a No gage-height record.

e Stage-discharge relation indefinite.

## SANTA ANA RIVER BASIN

## 540. Mill Creek near Yucaipa, Calif.--Continued.

Combined discharge, in cubic feet per second, of Mill Creek and Mill Creek power canals Nos. 1, 2, and 3,  
near Yucaipa, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.1	8.7	8.9	9.6	13	19	32	32	28	25	18	15
2	8.1	8.6	7.9	9.6	12	18	30	33	28	25	18	16
3	8.1	8.6	11	9.7	11	18	32	33	28	25	18	16
4	8.1	8.6	10	9.6	11	19	32	33	28	24	18	15
5	8.1	8.6	10	9.6	11	20	31	35	28	24	18	15
6	8.2	8.6	9.0	9.6	11	26	32	35	28	24	18	15
7	8.2	8.6	8.8	9.4	11	23	33	33	28	24	18	15
8	11	9.1	9.7	9.6	45	22	36	33	27	23	17	16
9	8.1	11	9.8	9.6	45	22	39	34	27	23	17	15
10	8.1	8.7	10	9.6	25	21	39	33	26	23	17	15
11	8.2	8.9	10	9.7	55	21	40	30	26	22	17	15
12	8.2	8.7	10	9.7	40	22	37	31	26	22	17	15
13	8.2	8.2	10	10	24	21	38	30	27	22	17	15
14	7.9	7.7	10	10	27	21	38	30	30	22	17	15
15	7.4	8.2	10	9.9	32	21	38	30	29	22	17	15
16	8.2	8.2	10	9.9	38	21	37	34	27	21	17	15
17	8.2	8.2	10	9.9	21	21	38	32	26	21	17	15
18	8.2	8.2	10	9.9	21	21	39	32	25	21	17	14
19	8.2	8.2	9.9	9.9	23	24	38	31	25	21	16	14
20	8.2	11	9.9	18	21	25	37	31	26	21	16	14
21	8.2	10	9.9	13	22	21	35	31	27	20	16	14
22	8.4	9.8	9.7	12	21	22	36	30	27	20	16	15
23	8.4	9.7	9.7	11	20	23	35	30	27	20	16	19
24	8.4	9.5	9.7	11	20	23	35	30	27	18	16	18
25	8.2	12	9.7	10	20	24	32	30	26	18	16	18
26	8.4	11	9.7	11	19	26	31	30	26	18	16	18
27	8.4	9.4	9.7	11	19	27	30	30	26	18	16	17
28	8.4	9.2	9.7	12	18	30	33	30	26	18	16	17
29	8.6	9.2	9.7	12	-	30	32	29	26	18	16	17
30	9.6	9.2	9.7	12	-----	29	31	29	25	18	16	17
31	8.7	-----	9.7	12	-----	30	-----	28	-----	18	16	-----
Total	258.7	273.6	372.9	329.8	656	711	1046	972	806	659	521	470
Mean	8.35	9.12	12.0	10.6	23.4	22.9	34.9	31.4	26.9	21.3	16.8	15.7
Max	11	12	79	18	55	30	40	35	30	25	18	19
Min	7.4	7.7	8.8	9.4	11	18	30	28	25	18	16	14
Ac-ft	513	543	740	654	1,300	1,410	2,070	1,930	1,600	1,310	1,030	932
Calendar year 1961: Max	79	Min	7.1	Mean	10.0	Ac-ft	7,240					
Water year 1961-62: Max	79	Min	7.4	Mean	19.4	Ac-ft	14,030					

## SANTA ANA RIVER BASIN

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11-550. Mill Creek near Mentone, Calif.

Location.--Lat 34°05'14", long 117°06'46", in NE 1/4 sec. 17, T.1 S., R.2 W., on downstream side of right pier of Bear Valley Mutual Water Co.'s pipeline crossing, 0.4 mile upstream from mouth, and 1.6 miles northeast of Mentone.

Drainage area.--51.7 sq mi.

Records available.--February 1939 to September 1962. Monthly discharge only for February 1939, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,780 ft (from topographic map).

Average discharge.--23 years, 2.97 cfs (2,150 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 114 cfs Dec. 2 (gage height, 4.66 ft); no flow for many days.

1939-62: Maximum discharge, 1,500 cfs Dec. 23, 1945 (gage height, 6.5 ft), on basis of slope-area measurement of peak flow; no flow for parts of each year.

Remarks.--Records good. The Zanja and Mill Creek spreading grounds divert most of low-water flow above station. Pumpage from wells along stream above station for irrigation affects surface flow at station.

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

3.2	0	3.6	5.8
3.3	.5	3.7	9.3
3.4	1.5	3.9	20
3.5	3.2	4.2	46

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0	0.1	0	0.9	* 1.0	2.0	0	0	0.1	* 0	0
2	.1	0	38	0	0	.9	.3	* .4	0	0	0	0
3	0	0	4.7	0	0	.8	.2	1.6	.1	0	0	0
4	0	0	* 1.8	0	.2	.5	1.5	.1	0	0	0	.1
5	0	0	2.1	0	* .1	.3	.7	.9	0	0	0	.2
6	0	* 0	1.5	0	0	5.3	.4	.1	0	0	0	.1
7	0	0	.9	0	0	6.5	.2	0	0	0	0	.1
8	.6	0	.5	0	19	1.9	.6	.1	0	0	0	.1
9	0	.1	.2	* 0	* 2.5	.3	7.5	.8	0	0	0	.1
10	.1	.1	.1	0	12	.4	5.8	0	0	0	0	.1
11	.1	.1	.2	0	24	.3	1.5	0	0	0	0	* 0
12	* 0	0	.3	0	* 16	.9	1.7	0	0	0	0	0
13	0	0	.4	0	.6	.8	.4	.1	.1	0	.1	0
14	0	0	.2	0	.6	* .3	.1	4.8	* .1	0	* 0	0
15	.1	0	.1	0	7.6	.2	.2	4.5	.1	0	0	0
16	.1	.1	.1	0	* 18	.2	0	11	.1	0	0	.1
17	.5	0	0	0	6.7	.1	0	* 9.9	.1	* 0	0	.1
18	0	0	* 0	0	.6	1.4	* 4.3	4.7	0	.1	0	.1
19	0	0	0	0	12	.5	3.6	2.2	0	.1	.2	.1
20	0	* .3	0	8.8	7.8	.2	.3	.3	0	.3	.2	.1
21	0	* 1.2	0	4.7	* 1.7	.3	.1	.1	0	.3	.1	.1
22	0	0	0	* 1.2	.1	.4	0	.1	.1	.2	.2	.1
23	0	.1	0	.2	0	1.6	.2	.1	.2	.1	.1	.2
24	0	.4	0	0	.2	.2	.2	0	.1	0	0	* .1
25	.1	.2	0	0	.3	1.2	.5	0	.2	0	0	.1
26	.1	.4	0	0	1.4	1.6	.4	.3	0	0	0	.1
27	.1	0	0	0	1.5	* 1.4	.5	.3	0	0	0	0
28	0	0	0	0	1.5	1.6	2.6	* .2	0	0	* 0	0
29	0	.1	0	0	-	.3	0	.1	* 0	0	0	0
30	0	.1	0	0	-	.6	0	.1	0	0	0	0
31	0	-----	0	2	-----	.3	-----	0	-----	0	0	-----
Total	2.0	3.2	51.2	15.1	157.8	32.3	35.8	42.8	1.2	1.2	0.9	2.0
Mean	0.06	0.11	1.65	0.49	5.64	1.04	1.19	1.38	0.04	0.04	0.03	0.07
Max	0.6	1.2	38	8.8	25	6.5	7.5	11	0.2	0.3	0.2	0.2
Min	0	0	0	0	0	0.1	0	0	0	0	0	0
Ac-ft	4.0	6.3	102	30	313	64	71	85	2.4	2.4	1.8	4.0

Calendar year 1961: Max 38 Min 0 Mean 0.24 Ac-ft 178  
 Water year 1961-62: Max 38 Min 0 Mean 0.95 Ac-ft 686

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1030	4.66	114	2-15	2300	4.27	60
2-8	2100	4.32	63				

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

## SANTA ANA RIVER BASIN

11-555. Plunge Creek near East Highlands, Calif.

Location.--Lat 34°07'06", long 117°08'27", in SW 1/4 NE 1/4 sec. 1, T.1 S., R.3 W., on left bank at mouth of canyon at crossing of North Fork ditch siphon, 1.8 miles northeast of East Highlands.

Drainage area.--16.6 sq mi.

Records available.--January 1919 to September 1962; combined records of creek and diversions, March 1951 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,590 ft (from topographic map).

Average discharge.--43 years, 5.63 cfs (4,080 acre-ft per year); median of yearly mean discharges, 3.9 cfs (2,800 acre-ft per year).  
Average combined discharge of creek and diversions, 11 years (1951-62), 5.84 cfs (4,230 acre-ft per year); median of combined yearly mean discharges, 3.9 cfs (2,800 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 536 cfs Dec. 2 (gage height, 2.04 ft, from floodmark); no flow for several months.

1919-62: Maximum discharge, 5,340 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for parts of each year.

1951-62: Minimum combined daily discharge of Plunge Creek and diversion, 0.1 cfs on Nov. 4, 1953, Nov. 3, 1959, and Nov. 14, 1961.

Remarks.--Records good. Diversions for irrigation are made at sites 0.5, 1.0, and 2.5 miles above station. Combined flow of Plunge Creek and upper, middle, and lower diversions is given on following page.

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

0.1	0	0.6	10
.2	.4	.8	24
.3	1.8	1.0	50
.4	3.7	1.3	120
.5	6.3		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	a 0	0	3.7	* 14	15	0			(*)	
2		0	*a 8.0	0	2.2	14	* 14	* 0				
3		0	13	0	1.6	13	12	0				
4		0	* 3.6	0	1.3	13	12	0				
5		0	2.4	0	1.0	13	12	0				
6		* 0	1.1	0	1.0	20	12	0				
7		0	0	0	1.0	28	12	0				
8		0	0	0	60	23	10	0				
9		0	0	* 0	* 106	21	9.5	0				
10		0	0	0	48	20	8.7	0				
11		0	0	0	70	18	6.6	0		(*)		(*)
12	(*)	0	0	0	* 66	17	4.6	0			(*)	
13		0	0	0	33	16	4.1	0	(*)		(*)	
14		0	0	0	20	* 15	3.7	0				
15		0	0	0	44	14	2.4	.6				
16		0	0	0	58	14	.8	* 8.1				
17		0	0	0	35	14	0	6.6				
18		0	* 0	0	25	14	* 0	2.6				
19		0	0	0	* 36	14	0	.4				
20		* 0	0	25	58	15	.6	.2				
21		* 2.4	0	13	* 46	14	0	.1				
22		0	0	* 6.0	30	16	.8	.1				
23		0	0	4.1	24	29	.4	.1				
24		a 0	0	* 3.4	23	20	.1	0				
25		a 1	0	2.4	23	20	.1	0				
26		a .3	0	2.1	21	20	.1	0				
27		a 0	0	2.4	20	20	.1	0	(*)		(*)	
28		a 0	0	3.2	16	16	.1	* 0				
29		a 0	0	4.4	-	16	.1	0				
30		a 0	0	* 4.6	-----	14	-----	0				
31		-----	0	4.4	-----	14	-----	0				
Total	0	3.7	100.1	75.0	873.8	529	141.9	18.8	0	0	0	0
Mean	0	0.12	3.23	2.42	31.2	17.1	4.73	0.61	0	0	0	0
Max	0	2.4	80	25	106	29	15	8.1	0	0	0	0
Min	0	0	0	0	1.0	13	0	0	0	0	0	0
Ac-ft	0	7.3	198	149	1,730	1,050	281	37	0	0	0	0

Calendar year 1961: Max 80 Min 0 Mean 0.30 Ac-ft 216  
Water year 1961-62: Max 106 Min 0 Mean 4.77 Ac-ft 3,450

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	†1000	2.04	536	2-9	1630	1.60	215
1-20	1730	1.37	141	2-15	2100	1.48	182

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

a No gage-height record.

† About.

## 11-555. Plunge Creek near East Highlands, Calif.--Continued.

Combined discharge, in cubic feet per second, of Plunge Creek and diversions near East Highlands, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.6	1.1	1.5	3.7	1.4	1.7	4.9	4.1	1.4	0.7	0.5
2	.4	.6	81	1.5	3.4	1.4	1.6	4.7	4.0	1.4	.7	.5
3	.4	.6	13	1.5	3.1	1.3	1.5	4.4	4.0	1.4	.7	.5
4	.4	.6	4.2	1.5	2.7	1.3	1.5	4.3	4.0	1.4	.7	.5
5	.4	.6	2.4	1.5	2.4	1.3	1.5	4.1	3.9	1.5	.7	.5
6	.4	.5	1.7	1.5	2.4	2.0	1.5	4.0	3.8	1.4	.6	.5
7	.5	.6	1.3	1.4	2.4	2.8	1.5	4.0	3.7	1.3	.6	.5
8	.5	.6	1.3	1.5	61	2.3	1.3	4.0	3.5	1.3	.7	.6
9	.5	.6	1.2	1.6	106	2.1	1.4	3.9	3.4	1.3	.6	.6
10	.5	.6	1.3	1.4	48	2.0	1.2	3.9	3.2	1.2	.6	.6
11	.5	.6	1.4	1.4	70	1.8	1.1	3.9	3.1	1.2	.6	.5
12	.5	.5	1.2	1.4	66	1.7	10	3.9	3.0	1.3	.6	.5
13	.5	.4	1.1	1.8	33	1.6	9.4	4.2	3.0	1.3	.6	.5
14	.5	.6	1.2	1.7	20	1.5	9.5	5.1	3.1	1.5	.6	.5
15	.5	.6	1.1	1.6	4.4	1.4	9.3	6.3	3.5	1.5	.6	.5
16	.5	.6	1.1	1.6	58	1.4	7.6	13	3.4	1.4	.6	.5
17	.5	.6	1.1	1.5	35	1.4	7.0	11	3.0	1.4	.6	.5
18	.5	.6	1.1	1.5	25	1.4	6.8	7.3	2.5	1.4	.6	.5
19	.5	.6	1.2	1.6	36	1.4	6.7	5.7	2.3	1.3	.6	.5
20	.5	.5	1.3	28	58	1.5	6.8	5.1	2.2	1.3	.6	.5
21	.5	2.9	1.3	16	46	1.4	6.2	4.7	2.1	1.3	.6	.5
22	.5	.8	1.3	8.5	30	1.6	6.4	4.2	2.0	1.2	.6	.5
23	.5	.7	1.3	5.3	24	2.9	5.7	3.9	1.9	1.2	.6	.5
24	.5	.7	1.4	4.7	23	2.0	6.0	4.0	1.7	1.2	.6	.5
25	.5	1.6	1.4	4.3	23	2.0	6.1	4.0	1.6	1.1	.5	.5
26	.5	1.2	1.4	3.9	21	2.0	6.0	4.4	1.5	.9	.5	.5
27	.5	1.6	1.4	4.3	20	2.2	5.7	4.5	1.5	.9	.5	.5
28	.5	1.2	1.4	5.1	16	2.0	5.9	4.5	1.5	.8	.5	.6
29	.5	1.1	1.5	5.0	-	1.9	5.8	4.5	1.4	.8	.5	.5
30	.5	1.1	1.5	4.6	-----	1.7	5.2	4.4	1.4	.7	.6	.5
31	.5	-----	1.5	4.4	-----	1.7	-----	4.4	-----	.7	.5	-----
Total	14.9	24.4	135.7	123.1	883.1	54.4	290.1	155.2	83.3	38.0	18.6	15.4
Mean	0.48	0.81	4.38	3.97	3.15	17.5	9.67	5.01	2.78	1.23	0.60	0.51
Max	0.5	2.9	81	28	106	29	17	13	4.1	1.5	0.7	0.6
Min	0.4	0.4	1.1	1.4	2.4	1.3	5.2	3.9	1.4	0.7	0.5	0.5
Ac-ft	30	48	269	244	1,750	1,080	575	308	165	75	37	31
Calendar year 1961:	Max 81	Min 0.3	Mean 1.22	Ac-ft 881								
Water year 1961-62:	Max 106	Min 0.4	Mean 6.37	Ac-ft 4,610								

## 11-560. Santa Ana River near San Bernardino, Calif.

Location.--Lat 34°04'14", long 117°16'41", in San Bernardino Grant, on downstream side of bridge on Waterman Avenue, 0.1 mile upstream from San Timoteo Creek and 2.7 miles southeast of San Bernardino, San Bernardino County.

Drainage area.--302 sq mi.

Records available.--October 1928 to September 1937, October 1954 to December 1961 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 995 ft (from topographic map). Oct. 1, 1928, to Sept. 30, 1937, at site 1.6 miles upstream at different datum. Oct. 1, 1954, to Sept. 30, 1956, at present site at datum 6.00 ft higher.

Average discharge.--16 years, 7.73 cfs (5,600 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during period October to December 1961 not determined; no flow for many days.

1928-37, 1954-61: Maximum discharge, 11,200 cfs Feb. 6, 1937 (gage height, 4.80 ft, site and datum then in use); no flow for most of each year.

Remarks.--Records poor. Flow regulated by Big Bear Lake (see p. 122). Many diversions above station for irrigation and domestic use.

Discharge, in cubic feet per second, period October to December 1961

Dec. 2.....140  
3..... 5

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	145	140	0	4.68	288
Calendar year 1961.....	—	140	0	.55	401

Peak discharge (base, 350 cfs).--Not determined.

Note.--No gage-height record Oct. 25 to Dec. 31. Flow occurred only on days listed above.

## SANTA ANA RIVER BASIN

11-565. Little San Geronio Creek near Beaumont, Calif.

Location.--Lat 34°01'45", long 116°56'40", in NW1/4NW1/4 sec.1, T.2 S., R.1 W., on downstream side of left abutment of bridge on Oak Glen Road, 3.0 miles upstream from Wallace Creek and 7 miles north of Beaumont.

Drainage area.--2.61 sq mi.

Records available.--October 1948 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,320 ft (from topographic map).

Average discharge.--14 years, 0.07 cfs (51 acre-ft per year).

Extremes.--Maximum discharge during year, 6.2 cfs Feb. 21 (gage height, 1.37 ft); no flow for most of year.

1948-62: Maximum discharge, 319 cfs Aug. 23, 1955 (gage height, 2.18 ft), from rating curve extended above 1 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Several small diversions above station for irrigation.

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

Dec. 2.....1.5	Feb. 15.....0.1	Mar. 6.....0.2
Feb. 8......6	16......1	14......1
9......1	19......2	15......1
11......1	20......1	

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	1.5	1.5	0	0.05	3.0
February 1962.....	1.3	.6	0	.05	2.6
March.....	.4	.2	0	.01	.8
Calendar year 1961.....	-	1.5	0	.005	3.4
Water year 1961-62.....	-	1.5	0	.009	6.4

Peak discharge (base, 10 cfs).--No peak above base.

Note.--Flow occurred only on days listed above.

11-570. San Timoteo Creek near Redlands, Calif.

Location.--Lat 34°01'59", long 117°12'29", in NE1/4NE1/4 sec.5, T.2 S., R.3 W., on downstream side of right abutment of county highway bridge, 2.0 miles southwest of Redlands and 3.4 miles downstream from Yucaipa Creek.

Drainage area.--123 sq mi.

Records available.--October 1926 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,280 ft (from topographic map). Prior to Oct. 30, 1934, at site 2 miles upstream at different datum.

Average discharge.--36 years, 1.37 cfs (992 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 530 cfs Dec. 2 (gage height, 2.80 ft); no flow for most of year.

1926-62: Maximum discharge, 7,460 cfs Mar. 2, 1938, result of slope-area measurement of peak flow; no flow for several months each year.

Remarks.--Records fair above 30 cfs and poor below. Entire low flow normally diverted above station for irrigation. Slight amounts of unmeasured irrigation waste water occasionally flow past this station.

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

Dec. 2.....*82	Feb. 12.....* 0.4	Feb. 20.....0.7
Jan. 20.....74	15.....16	21......1
21......8	16.....5.3	Mar. 19.....3.1
Feb. 8......1	19.....*61	23......1
11......3		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	82	82	0	2.65	163
January 1962.....	74.8	74	0	2.41	148
February.....	83.9	61	0	3.00	166
March.....	3.2	3.1	0	.10	6.3
Calendar year 1961.....	-	82	0	.36	260
Water year 1961-62.....	-	82	0	.67	483

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1200	2.80	530	2-19	1400	2.30	300
1-20	1930	2.55	408	3-19	1600	1.67	90
2-15	2315	2.00	187				

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above.



## 11-575. San Timoteo Creek near Loma Linda, Calif.

Location.--Lat 34°04'03", long 117°16'42", in San Bernardino Grant, on right bank 100 ft downstream from Waterman Avenue bridge, 0.2 mile upstream from mouth, and 1.5 miles northwest of Loma Linda, San Bernardino County.

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,010 ft (from topographic map). Prior to Apr. 10, 1958, at site 100 ft upstream at datum 5.51 ft higher. Apr. 10, 1958, to June 12, 1961, at site 100 ft upstream at datum 4.51 ft higher.

Average discharge.--8 years, 1.38 cfs (999 acre-ft per year).

Extremes.--Maximum discharge during year, 500 cfs Dec. 2 (gage height, 4.00 ft), from rating curve extended above 3 cfs on basis of slope-area measurement at gage height 4.37 ft; minimum daily, 0.2 cfs Aug. 14.  
1954-62: Maximum discharge, 1,050 cfs Apr. 1, 1958 (gage height, 8.74 ft, present datum), from rating curve extended above 400 cfs; minimum daily, 0.2 cfs at times in some years.

Remarks.--Records good except those above 10 cfs, which are poor. Minor diversions above station by pumping. Loma Linda sewage disposal plant discharges into stream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.7	1.8	1.2	1.0	1.2	1.2	0.8	0.5	1.0	0.5
2	1.0	1.0	* 7.9	1.8	1.4	1.0	1.2	1.0	.7	*.5	1.2	.9
3	1.4	1.0	*.9	1.4	1.9	.9	*1.4	1.0	a .7	.7	1.2	.9
4	1.0	.4	.6	1.2	a 1.5	1.0	1.6	1.0	1.4	.9	.5	.9
5	.9	.8	.7	1.2	* 2.2	1.0	1.2	.7	1.6	1.2	.7	1.0
6		.7	.7	1.0	1.6	2.1	1.0	.9	1.2	1.2	*.7	.8
7	.9	*1.0	.7	1.2	2.3	*1.2	.9	*1.0	1.2	.3	1.0	.9
8	.7	1.0	.7	1.2	4.4	1.0	.9	1.2	*1.4	.3	.7	.8
9	.7	1.0	.6	1.2	*3.1	3.0	*.9	.9	.7	.4	.5	.7
10	.7	1.4	.8	1.2	2.8	a 2	1.0	1.0	.9	*.5	.9	.7
11	.7	.8	1.0	1.2	3.1	a 1.5	1.2	1.0	1.0	.4	.7	.7
12	*.7	.6	1.0	1.2	*3.7	a 1	1.6	.8	1.2	.7	.7	*1.0
13	.7	.6	1.4	1.3	3.1	*.7	1.0	.9	1.2	.7	.8	.8
14	.3	.9	2.0	1.2	3.0	.7	.9	2.0	*1.0	.2	.7	.8
15	.4	.7	1.9	1.2	6.0	.7	1.0	1.4	.9	.4	.8	.8
16		.6	2.0	1.4	*5.9	.7	1.0	1.4	.7	.7	1.0	1.0
17	.4	.5	1.8	1.2	a 3.5	.7	*1.0	*1.2	1.0	1.0	1.2	1.0
18	.4	.4	1.8	*1.6	a 3	.7	1.0	1.0	*1.4	.7	.8	*1.0
19	.4	.7	*1.2	1.4	*5.0	2.3	1.2	.7	1.4	.5	1.0	1.0
20	.4	*1.0	.6	6.8	a 5	1.2	1.2	.7	1.0	.7	.9	1.0
21	.3	2.9	.7	*7.2	*1.6	*.7	1.6	*1.0	1.0	.9	.7	1.0
22	.3	1.0	.7	4.5	1.0	.8	1.0	1.0	.7	1.2	*.7	.7
23	.5	.7	.7	3.7	1.0	.9	1.2	.9	.4	1.2	.7	1.0
24	*.5	.6	.8	2.2	1.8	.7	1.4	a 1	.5	1.2	.8	1.0
25	.7	2.2	1.0	2.0	2.8	.7	1.4	a 1	.8	*1.2	.8	1.0
26	.5	.5	2.4	1.4	2.8	.7	1.4	a 3	1.2	1.4	.9	1.0
27	.6	.6	1.6	.7	1.6	*.7	*1.0	a 1.5	1.2	.9	1.0	1.0
28	.5	.7	1.6	.9	*1.0	1.0	.9	a 1.5	.8	.4	*.7	1.0
29	.5	.7	*1.4	*1.2	-	1.0	.9	a 1	.6	.9	.7	1.0
30	.6	*.7	1.0	1.4	-----	1.0	1.0	a 1	.4	1.0	.7	1.2
31	.5	-----	1.2	1.2	-----	1.0	-----	*.9	-----	1.0	.7	-----
Total	19.2	26.7	113.2	119.3	122.3	33.6	34.2	34.8	29.0	23.8	25.4	27.1
Mean	0.62	0.89	3.65	3.85	4.37	1.08	1.14	1.12	0.97	0.77	0.82	0.90
Max	1.4	2.9	7.9	6.8	5.0	3.0	1.6	3.0	1.6	1.4	1.2	1.2
Min	0.3	0.4	0.6	0.7	1.0	0.7	0.9	0.7	0.4	0.2	0.5	0.5
Ac-ft	38	53	225	237	243	67	68	69	58	47	50	54

Calendar year 1961: Max 79 Min 0.3 Mean 1.15 Ac-ft 830

Water year 1961-62: Max 79 Min 0.2 Mean 1.67 Ac-ft 1,210

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1230	4.00	500	2-19	1400	3.08	292
1-20	2030	3.50	380				

\* Discharge measurement made on this day.  
a No gage-height record.

11-585. East Twin Creek near Arrowhead Springs, Calif.

Location.--Lat 34°10'45", long 117°15'53", in NW 1/4 NE 1/4 sec. 14, T.1 N., R.4 W., on right bank 100 ft upstream from Del Rosa Water Co.'s diversion dam, 0.5 mile south of Arrowhead Springs, and 1.0 mile downstream from Strawberry Creek.

Drainage area.--8.6 sq mi, approximately.

Records available.--December 1919 to September 1962. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,590 ft (from topographic map).

Average discharge.--42 years (1920-62), 4.45 cfs (3,220 acre-ft per year); median of yearly mean discharges, 3.1 cfs (2,200 acre-ft per year).

Extremes.--Maximum discharge during year, 101 cfs Feb. 9 (gage height, 2.98 ft); minimum daily, 0.3 cfs for some days.

1919-62: Maximum discharge, 3,360 cfs Mar. 2, 1938, based on rainfall-runoff studies; practically no flow at times in 1929, 1931-35.

Remarks.--Records good. Discharge measurements generally made twice a month. One small diversion above station for domestic supply.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 24 to Dec. 2, Dec. 21 to Jan. 10, Feb. 3-19)

1.4	0.2	2.1	8.6
1.5	.6	2.3	14
1.6	1.2	2.6	31
1.7	2.2	2.9	64
1.9	4.8		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.6	0.7	1.2	1.7	6.4	e4	1.6	1.4	0.4	0.6	e 0.3
2	.4	.6	1.4	1.2	1.7	5.7	e4	1.5	1.3	.4	.6	e .3
3	.4	.6	5.0	1.1	1.7	5.5	3.6	1.4	1.5	.4	.6	e .3
4	.4	.6	2.6	1.2	1.7	5.4	3.5	1.4	1.7	.4	.6	e .3
5	.4	.5	1.7	1.2	1.7	4.7	3.2	1.4	1.8	.5	.6	e .3
6	.3	.5	1.4	1.2	1.6	6.8	2.9	1.4	1.7	.5	.6	.3
7	.3	.5	1.2	1.2	1.8	6.8	2.9	1.4	1.6	.5	.6	.3
8	.3	.5	1.2	1.2	1.3	6.0	2.9	1.4	1.4	.5	.6	.3
9	.4	.5	1.1	1.2	5.3	6.2	3.1	1.4	1.4	.6	.4	.3
10	.5	.5	1.2	1.2	5.9	6.0	3.1	1.5	1.4	.6	.4	.4
11	.5	.6	1.4	1.2	2.7	5.5	2.9	1.6	1.3	.6	.4	.4
12	.5	.6	1.2	1.2	1.7	5.4	2.8	1.7	1.3	.6	.3	.4
13	.4	.6	1.2	1.6	1.1	4.8	2.6	1.9	1.3	.6	.3	.4
14	.4	.6	1.2	1.4	8.8	4.7	2.5	2.2	1.8	.6	.3	.4
15	.4	.6	1.2	1.4	1.7	4.7	2.5	2.4	1.9	.6	.4	.4
16	.3	.6	1.2	1.4	2.0	4.5	2.5	3.1	1.9	.6	.4	.4
17	.4	.6	1.2	1.4	1.4	5.4	2.4	2.9	1.4	e .6	.4	.4
18	.5	.6	1.2	1.4	1.1	4.7	2.2	2.2	1.0	e .6	.4	.3
19	.5	.6	1.2	1.4	2.6	4.7	2.4	1.7	.7	e .6	.4	.3
20	.5	1.2	1.2	1.2	2.2	5.2	2.3	1.9	.7	e .6	.4	.4
21	.5	1.0	1.2	6.1	1.8	4.7	2.1	1.8	.7	e .6	.4	.4
22	.5	.8	1.2	4.3	1.5	5.3	2.1	1.5	.6	e .6	.5	.3
23	.5	.7	1.2	3.6	1.4	7.8	2.2	1.3	.6	e .6	.4	.3
24	.6	.7	1.2	3.1	1.4	5.7	2.3	1.6	.6	e .6	.4	.3
25	.6	1.7	1.2	2.8	1.1	4.8	2.8	1.7	.6	.6	.4	.3
26	.6	1.0	1.2	2.6	9.1	4.3	2.2	2.6	.6	.6	.4	.4
27	.6	.7	1.2	2.5	7.8	4.0	2.1	2.2	.6	.5	.4	.4
28	.6	.6	1.2	2.2	7.2	4.0	2.3	2.1	.6	.5	e .4	.4
29	.6	.6	1.2	2.0	-	4.3	2.2	1.8	.6	.5	e .4	.4
30	.6	.6	1.2	1.8	-----	4.0	1.8	1.8	.6	.5	e .4	.4
31	.6	-----	1.2	1.8	-----	e 4	-----	1.7	-----	.6	e 4	-----
Total	14.5	20.4	55.5	69.1	366.8	162.0	80.4	56.1	34.6	17.0	13.8	10.5
Mean	0.47	0.68	1.79	2.23	13.1	5.23	2.68	1.81	1.15	0.55	0.45	0.35
Max	0.6	1.7	14	12	53	7.8	4	3.1	1.9	0.6	0.6	0.4
Min	0.3	0.5	0.7	1.1	1.6	4	1.8	1.3	0.6	0.4	0.3	0.3
Ac-ft	29	40	110	137	728	321	159	111	69	34	27	21

Calendar year 1961: Max 14 Min 0.2 Mean 0.85 Ac-ft 612  
Water year 1961-62: Max 53 Min 0.3 Mean 2.47 Ac-ft 1,790

Peak discharge (base, 40 cfs)

e Stage-discharge relation indefinite.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0900	2.78	48	2-15	2000	2.76	58
1-20	1700	2.82	52	2-19	1900	2.77	59
2- 9	1330	2.98	101				

11-590. Waterman Canyon Creek near Arrowhead Springs, Calif.

Location.--Lat 34°11'35", long 117°16'25", in NE 1/4 NW 1/4 sec. 11, T.1 N., R.4 W., on left bank 0.8 mile northwest of Arrowhead Springs and 1.3 miles north of San Bernardino National Forest boundary.

Drainage area.--4.55 sq mi.

Records available.--November 1911 to October 1914 (published as "near San Bernardino"), December 1919 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 2,050 ft (from topographic map). Prior to December 1919, staff gage at site 300 ft downstream at different datum.

Average discharge.--44 years (1912-14, 1920-62), 2.56 cfs (1,850 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

Extremes.--Maximum discharge during year, 62 cfs Jan. 20 (gage height, 2.83 ft); no flow Oct. 1 to Nov. 19, Aug. 7 to Sept. 30. 1920-62: Maximum discharge, 2,350 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow at times in some summers.

Remarks.--Records good. Discharge measurements or observations of no flow generally made twice a month. One small diversion for domestic use above station.

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

1.5	0	2.0	3.5
1.6	.2	2.1	5.2
1.7	.6	2.2	7.6
1.8	1.3	2.4	16
1.9	2.2	2.6	31

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.3	a 0.3	0.7	4.9	2.2	1.3	0.9	0.5	0.1	
2		0	1.3	a .4	.7	4.3	2.4	1.2	.9	.4	.1	
3		0	2.6	a .4	.6	4.1	2.4	1.2	1.0	.4	.1	
4		0	1.2	a .4	.6	3.8	2.2	1.2	1.0	.4	.1	
5		0	.9	a .4	.5	3.5	2.2	1.2	1.1	.4	.1	
6		0	.6	a .4	.5	5.0	2.1	1.2	1.1	.4	.1	
7		0	.6	a .4	.5	5.2	2.0	1.2	1.0	.4	0	
8		0	.6	a .4	1.2	4.5	1.8	1.2	1.0	.3	0	
9		0	.6	.4	2.4	4.5	1.8	1.1	1.0	.3	0	
10		0	.6	.4	1.1	4.3	1.7	1.2	1.0	.3	0	
11		0	.6	.5	1.3	3.6	1.7	1.2	1.0	.3	0	
12		0	.5	.5	1.1	3.2	1.6	1.2	.9	.4	0	
13		0	.5	.7	6.9	3.1	1.5	1.3	1.0	.5	0	
14		0	.5	.5	5.0	3.0	1.5	1.6	1.2	.4	0	
15		0	.5	.5	9.4	2.8	1.5	1.6	1.2	.4	0	
16		0	.5	.5	9.2	2.8	1.4	1.7	1.2	.4	0	
17		0	.5	.5	7.1	3.1	1.4	1.7	1.1	.4	0	
18		0	.5	.5	6.2	2.8	1.4	1.5	.8	.4	0	
19		0	.5	.5	1.1	3.0	1.4	1.4	.7	.3	0	
20		.2	.4	1.1	1.2	3.4	1.4	1.6	.7	.3	0	
21		.1	.4	2.8	1.0	2.8	1.4	1.3	.7	.3	0	
22		.1	.4	2.1	8.8	4.1	1.3	1.2	.7	.3	0	
23		.1	.3	1.8	7.6	4.9	1.4	1.2	.6	.3	0	
24		.1	.3	1.4	7.1	3.4	1.5	1.2	.6	.2	0	
25		.5	.3	1.3	6.6	3.1	1.6	1.2	.5	.2	0	
26		.4	.3	1.3	6.2	2.8	1.5	1.6	.5	.2	0	
27		.3	a .3	1.2	5.7	2.7	1.5	1.4	.5	.1	0	
28		.3	a .3	.9	4.9	2.7	1.6	1.3	.5	.1	0	
29		.3	a .3	.9	-	2.7	1.6	1.1	.5	.1	0	
30		.3	a .3	.9	-----	2.6	1.5	1.1	.5	.1	0	
31		-----	a .3	.6	-----	2.5	-----	1.0	-----	.1	0	-----
Total	0	2.7	29.5	35.0	198.8	109.2	50.5	40.4	25.4	9.6	0.6	0
Mean	0	0.09	0.95	1.13	7.10	3.52	1.68	1.30	0.85	0.31	0.02	0
Max	0	0.5	1.3	1.1	24	5.2	2.4	1.7	1.2	0.5	0.1	0
Min	0	0	0.3	0.3	0.5	2.5	1.3	1.0	0.5	0.1	0	0
Ac-ft	0	5.4	59	69	394	217	100	80	50	19	1.2	0

Calendar year 1961: Max 13 Min 0 Mean 0.26 Ac-ft 193

Water year 1961-62: Max 24 Min 0 Mean 1.37 Ac-ft 995

Peak discharge (base, 35 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0730	2.76	50	2-9	1330	2.78	60
1-20	1600	2.83	62				

## SANTA ANA RIVER BASIN

11-600. City Creek near Highland, Calif.

Location.--Lat 34°08'38", long 117°11'16", in SE 1/4 NW 1/4 sec. 27, T.1 N., R.3 W., on right bank 0.6 mile upstream from Highland Avenue and 1.5 miles northeast of Highland.

Drainage area.--19.8 sq mi.

Records available.--October 1919 to September 1962; combined records of creek and canal June 1924 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,580 ft (from topographic map). Prior to Mar. 1, 1939, at site a quarter of a mile downstream at different datum.

Average discharge.--43 years, 7.93 cfs (5,740 acre-ft per year); median of yearly mean discharges, 5.2 cfs (3,800 acre-ft per year).  
Average combined discharge of creek and City Creek Water Co.'s canal, 38 years (1924-62), 9.50 cfs (6,880 acre-ft per year); median of yearly mean combined discharges, 6.7 cfs (4,900 acre-ft per year).

Extremes.--Maximum discharge during year, 648 cfs Dec. 2 (gage height, 4.14 ft); no flow for many days.

1919-62: Maximum discharge, 6,900 cfs Mar. 2, 1930, on basis of slope-area measurement of peak flow; no flow for several months in many years.

Remarks.--Records good. City Creek Water Co.'s canal diverts above station for irrigation. For records of combined discharge of creek and canal, see following page. Extremes show flow past station only.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 10-14, Jan. 13-19, Feb. 4-10, July 13 to Sept. 30)

1.5	0	2.1	13
1.6	.2	2.3	28
1.7	.9	2.5	50
1.8	2.2	2.8	100
1.9	4.5	3.0	145
2.0	8.0		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.2	2.2	5.7	* 17	15	0.8	0.1	0	0	
2	0	0	* 12.5	1.4	5.1	16	15	* .7	.1	0	0	
3	0	0	28	.3	4.5	16	14	.2	.1	0	0	
4	0	0	* 8.0	.3	5.4	16	14	.2	.1	0	0	
5	0	0	7.2	.3	* 4.5	16	13	.1	.1	0	0	
6	0	* 0	4.5	.4	3.7	29	12	.1	.1	.1	0	
7	0	0	4.0	.6	3.5	33	12	.1	.1	.1	0	
8	.1	0	3.7	.4	3.2	26	11	.1	.1	0	0	
9	0	0	3.7	* .2	* 97	26	11	.1	.1	0	0	
10	0	0	3.2	.2	53	25	10	.1	.1	0	0	
11	0	.1	3.7	.2	79	22	6.8	.1	.1	* 0	0	(*)
12	* 0	.1	3.2	.3	* 74	19	4.5	.1	.1	0	0	
13	0	.1	3.2	.9	38	18	4.0	.1	* .1	.1	* 0	
14	0	.1	3.2	.5	25	* 17	3.7	.1	.1	0	0	
15	0	.1	3.2	.3	43	16	3.5	.1	.1	0	0	
16	0	.1	3.2	.4	* 51	16	3.5	* 7.1	.1	0	0	
17	0	.2	3.2	.4	38	18	2.6	2.1	.1	0	0	
18	0	.2	* 3.0	.4	26	16	* 1.6	.2	.1	0	0	
19	0	.2	3.0	.3	* 51	16	1.3	.3	.1	0	0	
20	0	* 5.7	3.2	62	57	19	1.1	.3	0	0	.1	
21	0	3.4	3.2	34	* 44	17	1.0	.2	0	0	.1	
22	0	.5	2.8	* 12	34	20	.8	.2	0	0	.1	
23	0	.3	3.0	8.5	28	30	.7	.2	.1	0	.1	
24	0	.1	2.8	7.2	27	21	.6	.2	0	0	0	(*)
25	0	3.4	2.8	10	25	21	.4	.2	0	0	0	
26	0	3.7	2.8	11	23	21	.4	.2	0	0	0	
27	* 0	2.6	1.3	9.5	18	* 20	.4	.2	* .1	0	0	
28	0	2.2	.4	10	17	19	.7	* .2	.1	0	* 0	
29	0	1.9	.9	12	-	18	1.3	.2	.1	0	0	
30	0	.8	1.1	8.0	-----	17	1.0	.2	0	0	0	
31	0	-----	.7	6.8	-----	16	-----	.1	-----	* 0	0	
Total	0.1	25.6	241.4	201.0	912.4	617	166.9	15.1	2.3	0.3	0.4	0
Mean	0.003	0.85	7.79	6.48	32.6	19.9	5.56	0.49	0.08	0.01	0.01	0
Max	0.1	5.7	125	62	97	33	15	7.1	0.1	0.1	0.1	0
Min	0	0	0.2	0.2	3.5	16	0.4	0.1	0	0	0	0
Ac-ft	0.2	51	479	399	1,810	1,220	331	30	4.6	0.6	0.8	0

Calendar year 1961: Max 125 Min 0 Mean 0.90 Ac-ft 650

Water year 1961-62: Max 125 Min 0 Mean 5.98 Ac-ft 4,330

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0900	4.14	648	2-9	1445	3.38	216
1-20	1800	3.38	268				

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

## 600. City Creek near Highland, Calif.--Continued.

Combined discharge, in cubic feet per second, of City Creek and City Creek Water Co.'s canal near Highland, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1.6	3.7	2.6	5.7	17	15	5.5	4.8	1.9	0.8	0.3
2	0.4	1.5	128	2.8	5.1	16	15	5.4	4.4	1.9	.8	.2
3	.3	1.4	28	2.6	4.5	16	14	5.1	4.6	1.8	.8	.2
4	.3	1.1	8.0	2.5	5.4	16	14	4.7	5.1	1.8	.9	.3
5	.3	.8	7.2	2.4	4.5	16	13	4.8	5.2	1.7	.9	.3
6		.9	4.5	2.3	3.7	29	12	4.6	4.9	1.8	.9	.3
7	.3	1.1	4.0	2.1	3.5	33	12	4.5	4.9	1.7	.8	.3
8	.6	1.0	3.7	2.2	3.2	26	11	4.5	4.5	1.6	.7	.5
9	.8	1.1	3.7	2.1	9.7	26	11	4.4	4.3	1.4	.7	.8
10	.8	1.2	3.2	2.5	5.3	25	10	4.6	4.3	1.4	.7	.7
11	.8	1.4	3.7	2.6	7.9	22	9.0	4.7	4.2	1.5	.7	.6
12	.7	1.4	3.2	2.9	7.4	19	8.6	4.9	4.1	1.6	.6	.6
13	.5	1.2	3.2	3.9	3.8	18	8.4	5.3	4.2	2.0	.5	.6
14	.4	1.4	3.2	1.9	2.5	17	8.2	6.1	4.9	1.9	.4	.6
15	.4	1.4	3.2	1.5	4.3	16	8.0	6.7	5.4	1.8	.5	.6
16	.4	1.3	3.2	2.3	5.1	16	7.9	13	5.2	1.7	.5	.5
17	.4	1.4	3.2	2.0	3.8	18	7.7	8.6	4.4	1.7	.4	.5
18	.5	1.2	3.0	2.5	2.6	16	7.1	6.3	3.6	1.5	.4	.3
19	.5	1.2	3.0	2.3	5.1	16	7.1	5.1	3.1	1.4	.4	.3
20	.7	7.9	3.2	6.3	5.7	19	7.1	5.8	2.8	1.3	.4	.3
21	.8	6.5	3.3	3.4	4.4	17	6.8	5.4	2.8	1.3	.4	.3
22	1.0	4.1	2.9	1.2	3.4	20	6.4	5.0	2.6	1.3	.4	.3
23	.8	4.1	3.1	8.5	2.8	30	6.0	4.9	2.6	1.1	.5	.3
24	.8	3.9	2.9	7.2	2.7	21	6.3	5.2	2.3	1.1	.4	.4
25	.8	5.8	2.9	1.0	2.5	21	6.8	5.5	2.1	1.0	.3	.4
26	.8	3.7	2.9	1.1	2.3	21	6.5	6.5	2.0	1.0	.3	.7
27	1.0	2.6	2.9	9.5	1.8	20	6.3	6.2	2.1	1.0	.3	.8
28	1.0	2.2	2.6	1.0	1.7	19	6.5	6.1	2.2	1.0	.3	.9
29	1.1	1.9	2.3	1.2	-	18	6.5	5.5	2.2	.9	.3	1.1
30	1.2	3.1	2.3	8.0	-	17	5.9	5.5	2.0	.9	.4	.8
31	1.4	-	2.2	6.8	-	16	-	5.1	-	.8	.5	-
Total	20.4	69.4	256.4	238.0	912.4	617	270.1	175.5	111.8	44.8	16.9	14.8
Mean	0.66	2.31	8.27	7.68	32.6	19.9	9.00	5.66	3.73	1.45	0.55	0.49
Max	1.4	7.9	128	63	97	33	15	13	5.4	2.0	0.9	1.1
Min	0.3	0.8	2.2	1.5	3.5	16	5.9	4.4	2.0	0.8	0.3	0.2
Ac-ft	40	138	509	472	1,810	1,220	536	348	222	89	34	29
Calendar year 1961:	Max	128	Min	0.1	Mean	2.21	Ac-ft	1,600				
Water year 1961-62:	Max	128	Min	0.2	Mean	7.53	Ac-ft	5,450				

## 11-608.6. Warm Creek Floodway at San Bernardino, Calif.

Location.--Lat 34°05'30", long 117°16'50", in San Bernardino Grant, on left bank 250 ft downstream from Mill Street, and about 1.5 miles upstream from mouth, San Bernardino County.

Records available.--January to December 1961(discontinued).

Gage.--Water-stage recorder. Altitude of gage is 1,010 ft (from topographic map).

Extremes.--Maximum discharge during period January to December 1961, about 400 cfs Dec. 2 (gage height, 2.17 ft), estimated from rating curve extended above 10 cfs on basis of slope-conveyance study; no flow most of the time.

Remarks.--Records poor. Flow from principal tributaries regulated by spreading grounds, flood-control works, and diverted for irrigation and domestic use.

Discharge, in cubic feet per second, period January to December 1961

Jan. 26.....	*2.4	May 4.....	0.2	Nov. 21.....	3.9
Mar. 4.....	.1	5.....	.2	25.....	3.0
14.....	.4	6.....	.1	Dec. 2.....	.79
24.....	.2	Aug. 4.....	.8	3.....	.1
25.....	2.7	Nov. 20.....	4.3	14.....	.1
28.....	*.5				

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1961.....	2.4	2.4	0	0.08	4.8
March.....	3.9	2.7	0	.13	7.7
May.....	.5	.2	0	.02	1.0
August.....	.8	.8	0	.03	1.6
November.....	11.2	4.3	0	.37	22
December.....	79.2	79	0	2.55	157
Calendar year 1961.....	-	79	0	.27	194

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

Note.--Flow occurred only on days listed above.

## SANTA ANA RIVER BASIN

11-620. Lytle Creek near Fontana, Calif.

Location.--Lat 34°12'42", long 117°27'24", in NW 1/4 SE 1/4 sec. 36, T.2 N., R.6 W., on right bank at downstream side of highway bridge abutment, 0.7 mile upstream from right tributary and 8 miles north of Fontana.

Drainage area.--46.9 sq mi.

Records available.--October 1918 to September 1962. Combined discharge, Lytle Creek and diversions, October 1898 to December 1899, October 1904 to September 1962 (published as "at mouth of canyon near Rialto" 1898-99, as "near San Bernardino" 1904-18, and as Lytle Creek and Fontana pipe line near Fontana 1919-31). Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 2,380 ft (from topographic map). Prior to Mar. 22, 1938, at site 1 mile downstream at different datum.

Average discharge.--44 years, 10.4 cfs (7,530 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year). Average combined discharge of creek, conduit, and infiltration line, 59 years, 41.5 cfs (30,040 acre-ft per year); median of combined yearly mean discharges, 34 cfs (24,600 acre-ft per year).

Extremes.--Maximum discharge during year, 760 cfs Dec. 2 (gage height, 5.75 ft), on basis of field estimate of peak flow; no flow for most of year.

1918-62: Maximum discharge, 25,200 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for parts of each year.

Remarks.--Records fair. Southern California Edison Co.'s Lytle Creek conduit diverts 2.3 miles upstream for power development and Fontana Union Water Co. collects water from an infiltration line upstream for irrigation. For records of combined discharge of Lytle Creek and these two diversions, see following page.

Cooperation.--Records of flow through infiltration line furnished by Fontana Union Water Co.; water-stage recorder graph for the Lytle Creek conduit furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0	*18	7.1	0.4				
2	(*)	0	**118	0	0	17	7.1	*.4				
3		0	12	0	0	17	6.8	.4				
4		0	5.1	0	0	17	*6.8	.4				
5		0	*7.4	0	0	18	6.5	.3				
6		*0	3.3	0	0	21	6.2	.3				
7		0	*0	0	0	18	6.2	.2			(*)	
8		0	0	0	*86	*16	6.2	.2				
9		0	0	0	*175	17	6.2	.2				
10		0	0	0	158	17	6.2	.2				
11		0	0	0	165	17	5.5	.2				
12		0	0	0	*138	17	4.6	.3				
13		0	0	0	108	17	3.8	.3				
14		0	0	0	80	*17	3.0	.7				
15		*0	0	0	62	17	3.0	.3				
16		0	0	0	*62	15	*2.8	*.6				
17		*0	0	0	50	14	2.3	.2				
18		0	0	0	45	13	2.2	.1				
19		0	*0	0	*49	*12	2.0	.1	(*)			(*)
20		3.7	0	9.2	48	11	1.9	.2				
21		.4	0	2.4	*50	9.8	1.7	*.1				
22		0	0	0	44	*10	1.4	.1				
23		0	0	*0	39	11	1.0	.1				
24		0	0	0	35	9.0	1.0	.1		(*)		
25		0	0	0	33	8.5	*1.0	.1				
26		0	0	0	29	7.7	.7	.1				
27		0	0	0	24	7.7	.7	.1				
28		*0	0	0	21	7.7	.9	0				
29		0	*0	0	-----	8.1	.7	*0			(*)	
30		0	0	0	-----	7.4	.5	0				
31		-----	0	0	-----	7.1	-----	0	-----	-----	-----	-----
Total	0	4.1	145.8	11.6	150.1	420.0	106.0	6.7	0	0	0	0
Mean	0	0.14	4.70	0.37	53.6	13.5	3.53	0.22	0	0	0	0
Max	0	3.7	118	9.2	175	21	7.1	0.7	0	0	0	0
Min	0	0	0	0	0	7.1	0.5	0	0	0	0	0
Ac-ft	0	8.1	289	23	2,980	833	210	13	0	0	0	0

Calendar year 1961: Max 118 Min 0 Mean 0.46 Ac-ft 333  
 Water year 1961-62: Max 175 Min 0 Mean 6.01 Ac-ft 4,360

Peak discharge (base, 200 cfs).--Dec. 2 (0800) 760 cfs (5.75 ft); Feb. 9 (about 1200) about 300 cfs (stage unknown).

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

\*\* Field estimate made on this day.

11-620. Lytle Creek near Fontana, Calif.--Continued.

Combined discharge, in cubic feet per second, of Lytle Creek, Southern California Edison Co.'s Lytle Creek conduit, and Fontana Union Water Co.'s infiltration line, near Fontana, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	8.2	9.7	14	17	48	38	24	18	18	15	14
2	7.9	8.2	121	14	16	46	38	23	18	18	15	15
3	7.9	7.9	15	14	15	46	38	22	18	17	14	15
4	7.9	7.9	8.4	14	15	48	38	22	18	17	15	15
5	7.9	7.5	11	15	16	48	37	22	18	17	15	15
6	7.9	7.7	6.5	14	16	50	37	22	18	17	15	15
7	8.3	7.7	11	14	16	46	37	23	18	17	15	15
8	8.3	7.9	20	14	96	46	37	23	20	17	15	15
9	8.3	8.2	18	14	180	46	37	22	22	17	15	15
10	8.2	8.4	18	14	165	46	37	22	22	16	14	15
11	8.0	8.4	17	14	173	46	36	22	22	16	14	15
12	7.8	7.9	17	14	145	46	35	22	22	16	14	15
13	7.6	7.7	15	15	115	46	34	22	21	17	15	16
14	7.4	7.9	16	14	87	48	34	24	21	16	15	16
15	7.4	8.2	16	14	72	48	34	22	21	16	15	16
16	7.4	8.4	15	14	81	46	33	23	20	16	14	16
17	7.4	8.6	15	14	78	44	33	22	20	16	14	16
18	7.4	8.6	14	14	74	44	33	22	20	16	14	15
19	7.5	8.7	14	14	78	42	32	21	20	16	14	15
20	6.9	11	14	21	76	42	32	22	20	16	14	16
21	7.3	5.2	15	10	74	40	31	21	20	16	14	17
22	7.3	10	15	16	68	40	30	21	20	16	14	17
23	6.9	9.9	14	17	68	40	28	21	20	15	14	17
24	6.5	9.7	14	17	64	40	28	21	19	16	14	18
25	6.7	13	14	17	62	39	27	21	19	16	14	18
26	6.9	8.9	15	18	58	38	27	20	19	14	14	19
27	7.1	8.4	15	17	54	38	26	21	19	14	14	18
28	7.1	11	15	17	50	38	26	21	19	15	14	20
29	7.3	11	15	17	-	39	26	20	19	15	14	20
30	7.5	9.7	15	17	-----	38	26	20	18	15	15	20
31	7.7	-----	14	17	-----	38	-----	20	-----	14	14	-----
Total	233.6	261.8	552.6	469	2,029	1350	985	674	589	498	446	489
Mean	7.54	8.73	17.8	15.1	72.5	43.5	32.8	21.7	19.6	16.1	14.4	16.3
Max	8.3	13	121	21	180	50	38	24	22	18	15	20
Min	6.5	5.2	6.5	10	15	38	26	20	18	14	14	14
Ac-ft	463	519	1,100	930	4,020	2,680	1,950	1,340	1,170	988	885	970
Calendar year 1961:	Max	121	Min	5.2	Mean	11.1	Ac-ft	8,020				
Water year 1961-62:	Max	180	Min	5.2	Mean	23.5	Ac-ft	17,020				

## SANTA ANA RIVER BASIN

11-630. Cajon Creek near Keenbrook, Calif.

Location.--Lat 34°16'03", long 117°27'30", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.12, T.2 N., R.6 W., on right bank 1,600 ft upstream from Lone Pine Creek and 1.2 miles north of Keenbrook.

Drainage area.--40.9 sq mi.

Records available.--December 1919 to September 1962.

Gage.--Water-stage recorder (digital). Altitude of gage is 2,630 ft (from topographic map). Prior to Oct. 24, 1935, water-stage recorder at site 1,300 ft downstream at different datum.

Average discharge.--42 years (1920-62), 8.72 cfs (6,310 acre-ft per year); median of yearly mean discharges, 5.7 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, about 3,000 cfs Feb. 11; minimum daily, 1.5 cfs Nov. 14-19, Aug. 9-14.

1919-62: Maximum discharge, 14,500 cfs Mar. 2, 1938 (gage height, 19.3 ft), result of slope-area measurement of peak flow; minimum, 0.05 cfs June 25, 1920.

Remarks.--Records good except those above 100 cfs, which are poor. No regulation or diversion above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7		2.7	2.2	2.7	* 15	6.6	4.6	2.9	2.3	1.9	1.7
2	1.7	1.7	* 11.6	2.2	2.9	1.4	6.6	* 4.4	2.7	2.3	1.9	1.7
3	1.7	1.7	a 8.4	2.2	2.9	1.3	6.6	4.1	2.9	2.3	1.9	1.7
4	1.7	1.7	a 4.4	2.2	2.9	1.2	* 6.6	4.1	2.9	2.2	1.7	1.7
5	1.7	1.7	* 3.1	2.2	2.9	* 11	6.3	3.9	2.9	2.2	1.7	1.7
6	1.7	1.7	3.1	2.2	2.9	1.7	6.3	3.7	2.7	2.2	1.6	* 1.7
7	1.7	1.7	3.3	2.0	* 2.9	1.3	6.0	3.7	2.7	2.0	1.6	1.9
8	1.7	1.7	3.1	2.0	* 4.4	* 12	6.3	3.5	2.7	2.0	1.6	2.0
9	* 1.9	1.7	3.1	2.0	8.2	1.2	6.3	3.7	2.7	2.0	1.5	2.0
10	1.9	1.7	3.1	2.2	7.3	1.1	6.3	3.7	2.7	1.9	1.5	2.0
11	1.9	1.7	3.1	2.0	e1.540	9.8	6.3	3.7	2.7	* 2.0	1.5	2.0
12	1.9	1.7	3.1	2.0	a 7.85	9.4	* 6.1	3.9	2.7	2.0	1.5	2.0
13	1.7	* 1.7	* 3.1	2.2	* a 7.0	9.4	6.3	4.1	* 2.9	2.2	* 1.5	2.0
14	1.7	1.5	3.3	2.0	* a 4.0	9.4	5.7	4.1	3.1	2.0	1.5	2.0
15	1.9	1.5	3.1	1.9	* 7.2	* 9.4	5.4	3.9	2.9	2.0	1.6	2.0
16	1.9	1.5	3.1	1.9	3.6	9.4	* 5.1	* 4.4	2.9	2.0	1.6	2.2
17	1.9	1.5	2.9	* 1.9	a 2.5	9.4	5.1	4.1	2.3	1.9	1.7	* 2.2
18	1.7	1.5	2.9	1.9	a 1.8	10	5.1	3.9	2.0	1.9	1.7	2.2
19	1.7	1.5	2.9	1.7	* 9.2	9.8	5.1	3.9	2.0	1.9	1.9	2.0
20	1.7	3.2	2.7	9.6	7.0	9.8	5.1	3.9	1.9	1.9	1.7	2.0
21	1.7	a 8.0	2.7	4.4	* 4.7	9.1	4.9	3.9	1.9	1.9	1.9	2.2
22	1.7	a 5.4	2.5	4.1	2.5	* 9.8	4.9	3.9	1.9	1.9	* 1.9	2.2
23	1.7	a 4.1	2.5	4.1	2.1	9.4	4.9	3.9	1.7	1.9	1.9	2.2
24	1.7	a 3.5	2.5	3.3	2.0	7.7	4.9	4.1	1.7	1.9	1.9	2.2
25	1.7	a 7.5	2.5	* 3.5	1.9	7.3	* 5.4	3.9	1.9	1.9	1.9	2.2
26	* 1.7	a 3.7	2.5	3.3	1.9	7.7	5.1	3.9	1.9	1.9	1.9	2.2
27	1.7	a 3.3	* 2.5	3.1	1.7	7.3	5.1	3.7	* 2.0	2.0	1.9	2.2
28	1.7	* a 3.1	2.5	3.1	1.5	* 7.0	5.4	* 3.5	2.2	2.0	1.9	2.2
29	1.7	* 2.9	2.5	2.9	-	6.6	5.1	3.3	2.2	2.0	1.9	2.2
30	1.7	2.7	2.3	2.9	-----	6.6	4.9	3.3	2.2	2.0	1.9	2.2
31	1.7	-----	2.2	2.7	-----	6.3	-----	3.3	-----	* 2.0	1.7	-----
Total	54.1	107.3	207.7	85.9	3150.1	310.6	169.8	120.0	72.8	62.6	53.8	60.7
Mean	1.75	3.58	6.70	2.77	113	10.0	5.66	3.87	2.43	2.02	1.74	2.02
Max	1.9	3.2	11.6	9.6	1,540	17	6.6	4.6	3.1	2.3	1.9	2.2
Min	1.7	1.5	2.2	1.7	2.7	6.3	4.9	3.3	1.7	1.9	1.5	1.7
Ac-ft	107	213	412	170	6,250	616	337	238	144	124	107	120

Calendar year 1961: Max 11.6 Min 1.4 Mean 2.55 Ac-ft 1,850  
 Water year 1961-62: Max 1,540 Min 1.5 Mean 12.2 Ac-ft 8,840

Peak discharge (base, 140 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1630	5.30	318	2-15	1730	2.95	204
12-2	0800	7.32	1,190	2-19	1900	3.04	269
2-11	unknown	unknown	†3,000				

† About.

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.



11-635. Lone Pine Creek near Keenbrook, Calif.

Location.--Lat 34°15'59", long 117°27'47", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.2 N., R.6 W., on right bank 50 ft upstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 150 ft upstream from mouth, and 1.1 miles north of Keenbrook.

Drainage area.--15.0 sq mi.

Records available.--December 1919 to September 1938, June 1949 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1946. Prior to Mar. 2, 1938, water-stage recorder (destroyed by flood) and Mar. 2 to Sept. 30, 1938, staff gage, at same site at datum 0.98 ft higher.

Average discharge.--31 years (1920-38, 1949-62), 1.21 cfs (876 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 256 cfs Nov. 20 (gage height, 3.82 ft), from rating curve extended above 100 cfs on basis of slope-area measurement at gage height 4.93 ft; minimum daily, 0.1 cfs for many days.

1919-38, 1949-62: Maximum discharge, 6,180 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs at times in some years.

Remarks.--Records good. Discharge measurements generally made twice a month. No regulation or diversion above station.

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

1.0	0	1.5	4.4
1.1	.1	1.7	9.8
1.2	.5	1.9	18
1.3	1.3	2.2	36
1.4	2.6		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.1
2	.1	.1	36	.1	.1	.3	.3	.3	.3	.2	.2	.1
3	.1	.1	.7	.1	.1	.3	.3	.2	.3	.2	.2	.1
4	.1	.1	.2	.1	.1	.3	.3	.2	.3	.2	.2	.1
5	.1	.1	.1	.1	.1	.3	.3	.3	.3	.2	.2	.1
6	.1	.1	.1	.1	.1	.3	.3	.4	.3	.3	.2	.1
7	.1	.1	.1	.1	.1	.3	.3	.4	.3	.3	.2	.2
8	.1	.1	.1	.1	3.4	.3	.3	.4	.3	.2	.2	.2
9	.1	.1	.1	.1	10	.3	.3	.4	.3	.2	.2	.2
10	.1	.1	.1	.1	2.5	.3	.3	.4	.3	.2	.2	.2
11	.1	.1	.1	.1	36	.3	.3	.4	.3	.2	.2	.2
12	.1	.1	.1	.1	3.5	.3	.3	.4	.2	.2	.2	.2
13	.1	.1	.1	.2	.4	.3	.3	.4	.2	.2	.2	.2
14	.1	.1	.1	.2	.2	.3	.3	.4	.2	.2	.2	.2
15	.1	.1	.1	.2	6.0	.3	.3	.4	.2	.2	.2	.1
16	.1	.1	.1	.1	2.0	.3	.3	.4	.2	.2	.2	.1
17	.1	.1	.1	.1	.4	.3	.3	.3	.2	.2	.2	.1
18	.1	.1	.1	.1	.3	.3	.3	.3	.2	.2	.2	.1
19	.1	.1	.1	.1	6.7	.3	.4	.3	.2	.2	.1	.1
20	.1	11	.1	3.1	3.9	.3	.4	.3	.2	.2	.1	.1
21	.1	.1	.1	.3	1.9	.3	.3	.3	.2	.2	.1	.1
22	.1	.1	.1	.1	.8	.3	.3	.3	.2	.2	.1	.1
23	.1	.1	.1	.1	.5	.3	.3	.2	.2	.2	.1	.1
24	.1	.1	.1	.1	.4	.3	.3	.2	.2	.2	.1	.1
25	.1	.3	.1	.1	.4	.3	.3	.2	.2	.2	.1	.1
26	.1	.1	.1	.1	.4	.3	.3	.2	.2	.2	.1	.1
27	.1	.1	.1	.1	.3	.3	.3	.2	.2	.2	.1	.1
28	.1	.1	.1	.1	.3	.3	.3	.2	.2	.2	.1	.1
29	.1	.1	.1	.1	-	.3	.3	.2	.2	.2	.1	.1
30	.1	.1	.1	.1	-	.3	.3	.2	.2	.2	.1	.2
31	.1	-	.1	.1	-	.3	-	.3	-	.2	.1	-
Total	3.1	14.1	39.7	6.6	81.0	9.3	9.3	9.4	7.1	6.4	4.9	3.9
Mean	0.10	0.47	1.28	0.21	2.89	0.30	0.31	0.30	0.24	0.21	0.16	0.13
Max	0.1	11	36	3.1	36	0.3	0.4	0.4	0.3	0.3	0.2	0.2
Min	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.1	0.1
Ac-ft	6.1	28	79	13	161	18	18	19	14	13	9.7	7.7
Calendar year 1961: Max 36 Min 0.1 Mean 0.25 Ac-ft 182												
Water year 1961-62: Max 36 Min 0.1 Mean 0.53 Ac-ft 387												

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1600	3.82	256	2-11	1630	3.34	167
12-2	0700	3.50	195				

## SANTA ANA RIVER BASIN

11-636.8. Devil Canyon Creek near San Bernardino, Calif.

Location.--Lat 34°12'12", long 117°20'02", in Muscapiabe Grant, on right bank 1.0 mile downstream from confluence of East Fork and West Fork and 7.0 miles northwest of San Bernardino, San Bernardino County.

Drainage area.--6.16 sq mi.

Records available.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to September 1962. Monthly figures only for January 1914, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,900 ft (from topographic map). Prior to December 1919, staff gage at site 500 ft downstream at different datum.

Average discharge.--43 years (1913-14, 1920-62), 1.63 cfs (1,180 acre-ft per year), unadjusted; median of yearly unadjusted mean discharges, 0.7 cfs (510 acre-ft per year); 29 years (1913-14, 1934-62), 3.34 cfs (2,420 acre-ft per year), adjusted; median of yearly adjusted mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 57 cfs Feb. 9 (gage height, 2.36 ft); no flow for many months.

1913-14, 1919-62: Maximum discharge, 3,320 cfs Mar. 2, 1938, by rainfall-runoff studies; no flow at times in most years.

Remarks.--Records good. City of San Bernardino diverts above station for municipal supply.

Cooperation.--Records of diversion furnished by city of San Bernardino.

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

0.94	0	1.5	4.7
1.0	.1	1.7	8.8
1.1	.6	1.9	15
1.2	1.2	2.0	21
1.3	2.1	2.1	31

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	* 1.0	0.4	0.1	0.1			
2			* 2.6	0	0	.8	.3	.1	.1			
3			.1	0	0	.8	.2	.1	.1			
4			0	0	0	.8	* .2	.1	.1			
5			0	0	0	.7	.2	.1	.1			
6		(*)	0	0	0	2.8	.2	.1	.1			
7			0	0	0	5.2	.1	* .1	.1			
8			0	0	6.2	2.4	.1	.1	.1			
9	(*)		0	0	* 3.0	1.5	.1	.1	.1			
10			0	0	1.2	3.6	.1	.1	0			
11			0	0	1.4	3.2	.1	.1	0			
12			0	0	* 1.2	2.2	.1	.1	0	(*)		
13			0	0	5.9	1.8	.1	.1	* 0			
14			0	0	3.5	* 1.3	.1	.1	0			
15			0	0	8.8	.7	.1	.1	0			
16			0	0	1.3	.6	.1	.1	0			
17			0	0	6.7	1.0	.1	.1	0			
18			0	0	6.0	1.4	.1	.1	0			
19			0	* 0	* 8.7	1.6	.1	.1	0			
20			0	1.8	10	2.7	.1	.1	0			
21			0	.6	9.1	1.4	.1	.1	0			
22			0	.1	7.9	1.2	.1	.1	0			
23			0	0	7.2	3.1	.1	.1	0			
24			0	0	6.7	1.0	.1	.1	0			
25			0	* 0	6.1	.5	* .1	.1	0			
26			0	0	4.3	.4	.1	.1	0			
27			0	0	2.7	.4	.1	.2	* 0			
28		(*)	0	0	1.6	.4	.1	* .1	0		(*)	
29			0	0	0	.7	.1	.1	0			
30			0	0	0	1.0	.1	.1	0			
31			0	0	0	.4	-----	.1	-----	(*)		-----
Total	0	0	2.7	2.5	182.4	46.6	3.9	3.2	0.9	0	0	0
Mean	0	0	0.09	0.08	6.51	1.50	0.13	0.10	0.03	0	0	0
Max	0	0	2.6	1.8	30	5.2	0.4	0.2	0.1	0	0	0
Min	0	0	0	0	0	0.4	0.1	0.1	0	0	0	0
Ac-ft	0	0	5.4	5.0	362	92	7.7	6.3	1.8	0	0	0
(†)	31	36	56	55	61	149	126	95	82	55	40	36
Ac-ft†	31	36	61	60	423	241	134	101	84	55	40	36

Calendar year 1961: Max 2.6 Min 0 Mean 0.007 Ac-ft 5.4 Mean ‡ 0.77 Ac-ft ‡ 554  
 Water year 1961-62: Max 30 Min 0 Mean 0.66 Ac-ft 480 Mean ‡ 1.80 Ac-ft ‡ 1,300

Peak discharge (base, 25 cfs).--Feb. 9 (1330) 57 cfs (2.36 ft).

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

† Diversion, in acre-feet, above station for San Bernardino municipal supply.

‡ Adjusted for diversion.

## SANTA ANA RIVER BASIN

141

11-645. Meeks and Daley Canal near Colton, Calif.

Location.--Lat 34°04'47", long 117°18'00", in San Bernardino Grant, at point of diversion from Warm Creek and 1.5 miles northeast of Colton, San Bernardino County.

Records available.--September 1920 to September 1962. Published as Warm Creek and Meeks and Daley Canal near Colton, October 1950 to September 1961.

Gage.--Water-stage recorder. Altitude of gage is 965 ft (from topographic map).

Average discharge.--42 years, 11.3 cfs (8,180 acre-ft per year).

Extremes.--1920-62: Maximum daily discharge, 25 cfs Mar. 2, 1938; no flow at times.

Remarks.--Records good. Discharge measurements generally made twice a month. Canal diverts water from right bank of Warm Creek 1.6 miles northeast of Colton for irrigation in vicinity of Colton, Riverside and Corona.

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

0	0
.1	1.3
.2	3.8
.4	11
.6	20

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	16	2.4	2.4	0	0	2.7	18	15	16	15	13
2	17	16	1.3	2.4	0	0	2.7	17	15	16	14	13
3	17	16	0	2.4	0	0	2.7	17	15	16	15	13
4	17	16	0	2.4	0	0	3.0	17	15	16	14	13
5	17	15	0	2.4	0	0	2.7	17	15	16	14	13
6	17	14	0	2.4	0	0	2.7	17	16	16	14	14
7	16	14	0	2.4	1.8	0	2.7	17	16	16	14	14
8	16	14	0	2.4	1.6	0	2.7	16	16	17	14	14
9	16	14	0	6.0	0	0	3.0	16	15	17	14	14
10	16	14	0	11	0	0	8.6	16	16	17	14	14
11	16	16	0	15	0	0	17	16	16	17	14	14
12	15	16	.9	16	0	0	17	16	16	17	14	14
13	15	16	2.4	16	0	0	17	16	16	17	14	14
14	15	16	2.4	16	0	0	17	16	16	17	14	14
15	15	16	2.7	16	.4	0	16	16	14	17	14	14
16	15	16	2.7	16	0	0	16	16	9.2	17	14	14
17	15	16	2.7	16	0	0	16	16	3.5	17	14	14
18	15	16	2.7	16	0	0	16	16	9.1	17	14	14
19	15	16	2.7	16	.2	0	17	16	16	17	14	14
20	15	15	2.7	7.7	0	0	18	16	16	17	14	14
21	15	15	2.7	.1	0	0	18	16	16	18	14	14
22	15	15	2.7	0	0	0	18	16	16	18	14	14
23	15	15	2.7	0	0	0	17	16	16	18	14	14
24	16	15	2.7	0	0	0	17	16	15	18	14	14
25	16	7.3	2.7	0	0	0	17	11	16	18	14	14
26	16	2.7	2.7	0	0	0	17	2.4	16	18	14	14
27	16	2.4	2.7	0	0	1.7	17	5.6	16	18	14	14
28	16	2.4	2.7	0	0	2.7	17	11	16	18	13	14
29	16	2.4	2.7	.9	-	2.7	17	8.8	16	18	13	14
30	16	2.4	2.7	0	-----	2.7	17	4.1	16	18	13	14
31	16	-----	2.7	0	-----	2.7	-----	11	-----	18	13	-----
Total	490	387.6	55.3	187.9	4.0	12.5	372.5	445.9	444.8	531	432	415
Mean	15.8	12.9	1.78	6.06	0.14	0.40	12.4	14.4	14.8	17.1	13.9	13.8
Max	17	16	2.7	16	1.8	2.7	18	18	16	18	15	14
Min	15	2.4	0	0	0	0	2.7	2.4	3.5	16	13	13
Ac-ft	972	769	110	373	7.9	25	739	884	882	1,050	857	823

Calendar year 1961: Max 19 Min 0 Mean 12.9 Ac-ft 9,350  
 Water year 1961-62: Max 18 Min 0 Mean 10.4 Ac-ft 7,490

## SANTA ANA RIVER BASIN

11-660. Warm Creek near Colton, Calif.

Location.--Lat 34°04'09", long 117°18'28", in San Bernardino Grant, on right bank 200 ft upstream from "F" Street Bridge, 0.5 mile upstream from mouth, and 0.9 mile east of Colton, San Bernardino County.

Drainage area.--259 sq mi.

Records available.--August 1920 to December 1961 (discontinued).

Gage.--Water-stage recorder. Since Jan. 18, 1961, crest-stage gage. Altitude of gage is 950 ft (from topographic map). Prior to Sept. 13, 1958, at site 200 ft downstream at different datum. Sept. 13, 1958, to Feb. 14, 1960, at site 350 ft downstream at same datum.

Average discharge.--41 years (1920-61), 43.6 cfs (31,560 acre-ft per year); median of yearly mean discharges, 38 cfs (27,500 acre-ft per year). Average combined discharge of Warm Creek and Meeks and Daley Canal, 41 years (1920-61), 55.0 cfs (39,820 acre-ft per year); median of yearly mean combined discharges, 50 cfs (36,200 acre-ft per year).

Extremes.--Maximum discharge during period October to December, 755 cfs Dec. 2 (gage height, 5.77 ft, from floodmarks), on the basis of velocity-area study; minimum daily, 5.1 cfs Oct. 8, 29, Nov. 5.

1920-62: Maximum discharge, 27,500 cfs Mar. 2, 1938 (gage height, 11.2 ft, datum then in use), on basis of slope-area measurement of peak flow; minimum, 1.4 cfs July 17, 1951 (gage height, 0.71 ft, datum then in use). Maximum discharge including west channel of Lytle Creek, 35,000 cfs Mar. 2, 1938.

Remarks.--Records poor. For records of combined discharge of Warm Creek and Meeks and Daley Canal, which diverts above station for irrigation, see below. Adjusted runoff includes water pumped from the ground-water basin near Meeks and Daley Canal gage. In seasons of high-water table, there is flow in a depression paralleling Warm Creek 500 ft east of station. This period there was no flow. Lytle Creek flood channel (capacity, 30,000 cfs), completed in fall of 1945, enters Warm Creek above station and includes any flow which formerly might have been recorded at station on Lytle Creek (west channel).

Discharge, in cubic feet per second, period October to December 1961

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	6.1	6.6	*9.4	11	6.1	6.1	7.5	21	6.3	*12	6.6
2	6.3	6.6	181	12	6.6	6.3	7.2	22	5.8	8.1	6.6
3	*6.3	6.6	13	13	6.1	7.8	6.9	23	7.8	6.9	6.9
4	6.3	5.8	*9.9	14	5.8	7.8	7.2	24	7.2	7.5	6.6
5	6.6	5.1	7.5	15	5.8	7.2	6.9	25	*6.9	*29	6.3
6	6.3	*6.6	6.9	16	7.8	*7.8	6.9	26	6.3	7.8	7.5
7	5.3	6.6	7.2	17	8.1	8.4	5.8	27	6.3	7.8	7.2
8	5.1	6.6	7.2	18	*8.1	7.2	6.1	28	5.5	7.2	7.2
9	6.3	6.6	7.2	19	7.2	5.8	6.3	29	5.1	7.2	7.2
10	6.1	6.6	6.9	20	8.1	*19	6.9	30	6.6	*7.5	6.3
								31	6.3	-	5.8
Total.....									200.5	248.1	398.1
Mean.....									6.47	8.27	12.8
Max.....									8.1	29	181
Min.....									5.1	5.1	5.8
Runoff in acre-feet.....									398	492	790

Calendar year 1961: Max 181 Min 4.2 Mean 7.17 Ac-ft 5,190

Peak discharge (base, 500 cfs).--Dec. 2 (0400) 755 cfs (5.77 ft).

\* Discharge measurement made on this day.

Combined discharge, in cubic feet per second, of Warm Creek and Meeks and Daley Canal near Colton, Calif., period October to December 1961

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1	23	23	12	11	22	22	7.5	21	21	27	9.3
2	23	23	182	12	22	22	8.1	22	21	23	9.3
3	23	23	13	13	21	24	9.3	23	23	22	9.6
4	23	22	9.9	14	21	24	9.6	24	23	23	9.3
5	24	20	7.5	15	21	23	9.6	25	23	36	9.0
6	23	21	6.9	16	23	24	9.6	26	22	10	10
7	21	21	7.2	17	23	24	8.5	27	22	10	9.9
8	21	21	7.2	18	23	23	8.8	28	22	9.6	9.9
9	22	21	7.2	19	22	22	9.0	29	21	9.6	9.9
10	22	21	6.9	20	23	34	9.6	30	23	9.9	9.0
								31	22	-	8.5
Total.....									689	638.1	453.1
Mean.....									22.2	27.9	14.6
Max.....									24	36	182
Min.....									21	9.6	6.9
Runoff in acre-feet.....									1,370	1,270	899
(†).....									425	392	404
Runoff in acre-feet †.....									945	878	495

Calendar year 1961: Max 182 Min 4.2 Mean 20.1 Ac-ft 14,570 Mean † 10.5 Ac-ft † 7,610

† Release, in acre-ft, from city of San Bernardino sewage disposal plant.

‡ Adjusted for release.

11-660.5. Santa Ana River at Colton, Calif.

Location.--Lat 34°03'45", long 117°18'30", in San Bernardino Grant, on right bank 60 ft downstream from Southern Pacific Railroad bridge, 0.2 mile southwest of confluence of Warm Creek and Santa Ana River, and 1 mile southeast of Colton, San Bernardino County.

Records available.--December 1961 to September 1962.

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

Extremes.--Maximum discharge during period, 1,800 cfs Jan. 20 (gage height, 9.02 ft, from floodmark), on basis of field estimate of peak flow; minimum daily, 7.2 cfs Mar. 1-4, Apr. 27.

Remarks.--Records poor. Flow regulated by Big Bear Lake (see p. 122). Natural flow of stream affected by ground-water withdrawals or diversions for domestic use and irrigation.

Discharge, in cubic feet per second, December 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	14	17	* 7.2	21	7.5	13	14	18	14
2			-	19	16	7.2	21	10	13	14	17	11
3			-	18	17	7.2	20	11	13	15	18	11
4			-	16	16	7.2	* 20	13	14	15	16	12
5			-	16	16	7.5	20	14	15	16	16	11
6			-	13	* 14	15	20	14	16	17	* 18	11
7			-	11	17	* 12	20	14	16	17	18	11
8			-	13	* 198	10	20	* 14	* 17	17	19	10
9			-	11	171	64	* 21	14	16	18	19	10
10			-	11	112	14	22	14	16	* 18	17	10
11			-	14	4 55	14	21	15	16	18	15	11
12			-	13	4 04	14	22	14	16	18	15	* 11
13			-	35	* 45	16	22	14	14	17	17	12
14			-	14	28	* 18	21	14	13	16	17	14
15			* 19	14	202	15	20	13	* 13	15	16	14
16			19	14	153	14	21	12	13	15	14	15
17			19	14	57	16	* 22	* 12	13	15	* 13	17
18			18	15	27	14	16	14	14	15	12	* 16
19			* 17	* 16	501	* 12	14	15	14	14	11	16
20			16	**2 44	305	11	13	17	13	14	14	16
21			16	* 82	64	12	12	* 17	13	13	15	16
22			16	* 33	25	12	11	17	13	13	15	16
23			16	20	23	10	10	17	13	13	* 14	15
24			15	19	17	10	9.4	16	13	12	14	* 15
25			14	20	25	11	8.3	15	13	* 11	14	15
26			18	19	10	10	7.7	14	12	12	14	15
27			18	19	8.3	* 11	* 7.2	14	12	12	15	15
28			* 16	17	7.7	14	7.7	14	* 12	14	15	15
29			17	18	-	16	7.7	14	13	14	15	14
30			16	18	-----	19	7.7	13	14	16	14	13
31			15	17	-----	20	-----	* 13	-----	* 16	14	-----
Total			-	817	2,951.0	440.3	485.7	429.5	416	464	479	402
Mean			-	26.4	105	14.2	16.2	13.9	13.9	15.0	15.5	13.4
Max			-	244	501	64	22	17	17	18	19	17
Min			-	11	7.7	7.2	7.2	7.5	12	11	11	10
Ac-ft			-	1,620	5,860	873	963	852	825	920	950	797
Calendar year 1961: Max				Min	Mean	Ac-ft						
Water year 1961-62: Max				Min	Mean	Ac-ft						

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

## SANTA ANA RIVER BASIN

11-665. Santa Ana River at Riverside Narrows, near Arlington, Calif.

Location.--Lat 33°57'53", long 117°27'55", in SW 1/4 SW 1/4 sec.25, T.2 S., R.6 W., on right bank at downstream side of bridge on Pedley Road, 1.8 miles downstream from Union Pacific Railroad bridge, 3.3 miles northwest of Arlington, and 12 miles upstream from Temescal Creek.

Drainage area.--858 sq mi.

Records available.--October 1927 to September 1962. Monthly discharge only for October 1927 to January 1929; published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 666.87 ft above mean sea level (levels by Riverside County engineer). Prior to Nov. 15, 1943, at site 1 1/4 miles upstream at different datum. During this period temporary stations were maintained at different sites and datums within a quarter of a mile of the permanent gage. Nov. 15, 1943, to Aug. 31, 1954, at datum 3.00 ft higher. Sept. 1, 1954, to Jan. 17, 1955, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, 2,130 cfs Feb. 19 (gage height, 5.50 ft); minimum daily, 13 cfs July 28-30, Aug. 10.

1927-62: Maximum discharge, 100,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, that of July 28-30, Aug. 10, 1962.

Remarks.--Records good except those above 100 cfs, which are poor. Discharge measurements are generally made two or more times a month. Flow partly regulated by Big Bear Lake (see p. 122). Natural flow of stream affected by ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	19	20	33	26	a 40	22	18	21	18	19	17
2	17	19	321	32	26	a 30	22	18	21	17	18	17
3	17	19	180	28	25	a 30	23	18	21	14	18	17
4	17	19	39	26	24	a 30	23	23	21	16	18	17
5	18	19	30	26	23	a 30	23	23	21	16	18	20
6	18	19	23	24	23	30	24	23	21	16	17	21
7	18	19	19	24	34	28	22	24	21	15	16	19
8	18	19	28	23	299	22	21	25	21	15	14	17
9	18	19	38	23	142	28	20	25	21	16	14	16
10	18	19	36	22	158	60	19	25	21	16	13	16
11	18	19	38	23	248	30	19	25	21	17	14	18
12	18	19	36	23	758	26	19	24	21	17	15	20
13	18	19	36	35	47	23	18	24	21	18	16	21
14	18	19	41	23	26	23	19	31	21	19	17	20
15	17	20	40	23	118	22	21	25	22	22	17	21
16	18	20	38	22	285	22	22	23	23	23	17	21
17	18	20	37	22	52	27	22	22	22	23	17	19
18	18	20	39	22	26	25	23	21	21	24	17	18
19	18	21	38	21	665	30	23	20	20	24	17	17
20	17	23	38	246	456	24	23	20	20	23	17	18
21	18	26	38	296	64	23	23	21	21	21	17	21
22	18	23	38	59	a 50	23	23	21	20	20	17	25
23	18	23	37	35	a 50	28	19	21	21	18	16	24
24	18	23	36	34	a 50	23	19	21	19	16	16	23
25	18	38	32	34	a 50	22	19	21	18	15	16	22
26	19	32	36	33	a 40	22	18	23	19	14	16	22
27	19	23	36	32	a 40	22	a 18	21	19	14	17	22
28	19	22	36	31	a 40	22	a 18	21	19	13	18	22
29	19	22	36	30	-	22	a 18	21	19	13	17	21
30	19	21	35	28	-----	22	a 18	21	18	13	17	20
31	19	-----	34	27	-----	21	-----	21	-----	17	17	-----
Total	558	643	1509	1360	3845	830	621	690	615	543	513	592
Mean	18.0	21.4	48.7	43.9	137	26.8	20.7	22.3	20.5	17.5	16.5	19.7
Max	19	38	321	296	758	60	24	31	23	24	19	25
Min	17	19	19	21	23	21	18	18	18	13	13	16
Ac-ft	1,110	1,280	2,990	2,700	7,630	1,650	1,230	1,370	1,220	1,080	1,020	1,170

Calendar year 1961: Max 321 Min 15 Mean 22.6 Ac-ft 16,360

Water year 1961-62: Max 758 Min 13 Mean 33.8 Ac-ft 24,450

Peak discharge (base, 500 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	2200	4.79	774	2-12	0400	5.08	1,630
1-20	2400	5.62	1,760	2-16	0030	4.15	900
2-8	1800	3.83	660	2-19	2100	5.50	2,130

11-670. Day Creek near Etiwanda, Calif.

Location.--Lat 34°11'05", long 117°32'20", in NW 1/4 sec. 8, T.1 N., R.6 W., on left bank 0.5 mile downstream from confluence of two main forks and 4 miles north of Etiwanda.

Drainage area.--4.58 sq mi.

Records available.--October 1927 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Combined creek and diversion, October 1950 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 2,870 ft (from topographic map). Prior to Jan. 7, 1929, at site 125 ft downstream at different datum. Jan. 7, 1929, to Mar. 2, 1938, at site 200 ft upstream at different datum (destroyed by flood). May 2 to Sept. 2, 1938, at site 200 ft downstream at different datum.

Average discharge.--35 years, 3.45 cfs (2,500 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year). Average combined discharge of Day Creek and Etiwanda Water Co.'s diversion, 12 years, 3.13 cfs (2,270 acre-ft per year); median of yearly mean combined discharges, 2.4 cfs (1,700 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 174 cfs Dec. 2 (gage height, 2.68 ft); minimum daily, 0.1 cfs Oct. 1-15. 1927-62: Maximum discharge, 4,200 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow Oct. 5 to Nov. 1, 1950.

Remarks.--Records good. Etiwanda Water Co. diverts water above station. For records of combined discharge of creek and Etiwanda Water Co.'s diversion, see following page. In addition, an infiltration gallery, unwatering the gravel in the bed of the stream at gaging station, produced 520 acre-ft during year.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 12-17, 20, Mar. 16-19)

0.32	0.1	0.8	2.8	1.5	17
.4	.2	1.0	5.2	1.7	26
.5	.6	1.2	8.8	1.9	40
.6	1.2	1.3	11	2.0	49
.7	1.9				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	* 0.4	0.4	0.7	1.8	5.1	1.9	* 0.7	0.4	0.2	0.2	0.2
2	* .1	.4	4.0	.7	1.8	4.9	1.9	.6	.4	.2	.2	.2
3	.1	.4	* 4.9	.7	1.8	4.9	* 1.9	.6	.4	.2	.3	.2
4	.1	.4	3.6	.7	1.9	4.9	1.9	.7	.4	.2	.2	* .3
5	.1	.4	2.9	.7	1.9	4.9	1.8	.6	.4	.2	.2	.3
6	.1	.4	2.1	.7	* 1.9	* 6.3	1.7	.6	.4	.2	.2	.2
7	.1	.4	1.7	.7	2.1	6.0	1.7	.6	.4	.2	* .2	.2
8	.1	.4	1.4	.7	* 2.4	4.6	1.7	.6	.4	.2	.2	.3
9	.1	.4	1.2	.7	* 4.4	3.1	1.7	.6	.4	.2	.2	.3
10	.1	.4	1.3	.8	2.9	3.0	1.6	.6	.4	* .2	.2	.3
11	.1	.4	1.2	* .9	3.4	2.9	1.5	.6	.4	.2	.2	.3
12	.1	.5	* 1.2	.9	* 2.3	2.7	1.5	.6	* .4	.2	.2	.3
13	.1	.5	1.1	1.2	1.5	2.7	1.5	.6	.4	.2	.2	.3
14	.1	.5	1.4	1.0	1.0	2.6	1.5	.7	.4	.2	.2	.3
15	.1	* .5	1.2	.9	1.5	2.5	1.4	* .6	.4	.2	.2	.3
16	* .2	.5	1.2	.9	* 1.5	2.3	1.4	.9	.4	.2	.2	.3
17	.2	.5	1.1	.9	1.2	2.2	* 1.0	.7	.4	.2	.2	.2
18	.2	.5	1.1	.9	1.1	2.3	1.0	.6	.4	.2	.2	.2
19	.2	.6	1.1	.9	1.2	2.7	.9	.5	.3	.2	.2	* .2
20	.2	4.1	1.0	7.6	* 1.0	* 3.9	.9	.5	.3	.2	.2	.2
21	.3	2.2	1.0	3.0	9.4	4.4	.9	.5	.3	.2	* .2	.2
22	.3	1.3	1.0	2.5	8.2	4.9	.9	.5	.3	.2	.3	.2
23	.4	1.1	.9	2.2	7.4	5.2	.9	.5	.3	.2	.3	.3
24	.4	.8	.9	2.0	7.0	4.7	.7	.5	.3	* .2	.3	.3
25	.3	.5	.9	1.9	6.6	4.5	.6	.4	.3	.2	.2	.3
26	.3	.4	* .9	* 1.9	6.2	4.4	.6	.4	* .3	.2	.2	.4
27	.3	* .4	.9	1.9	5.7	4.4	.6	.4	.2	.2	.2	.4
28	.3	.4	.8	1.9	5.4	5.1	.7	.4	.2	.2	.2	.4
29	.4	.4	.8	1.9	-	3.0	.7	* .4	.2	.2	.2	.5
30	.4	.4	.8	1.8	-----	1.7	.7	.4	.2	.2	.3	.4
31	.4	-----	.8	1.8	-----	1.8	-----	.4	-----	.2	.3	-----
Total	6.3	20.5	80.8	46.0	323.1	118.6	37.7	17.3	10.4	6.2	6.8	8.5
Mean	0.20	0.68	2.61	1.48	11.5	3.83	1.26	0.56	0.35	0.20	0.22	0.28
Max	0.4	4.1	4.0	7.6	4.4	6.3	1.9	0.9	0.4	0.2	0.3	0.5
Min	0.1	0.4	0.4	0.7	1.8	1.7	0.6	0.4	0.2	0.2	0.2	0.2
Ac-ft	12	41	160	91	641	235	75	34	21	12	13	17

Calendar year 1961: Max 40 Min 0.1 Mean 0.46 Ac-ft 332

Water year 1961-62: Max 44 Min 0.1 Mean 1.87 Ac-ft 1,350

Peak discharge (base, 25 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1630	1.70	26	2-9	1200	2.25	94
12-2	0530	2.68	174	2-15	1800	1.92	31
1-20	1500	1.82	34				

## SANTA ANA RIVER BASIN

11-670. Day Creek near Etiwanda, Calif.--Continued.

Combined discharge, in cubic feet per second, of Day Creek and Etiwanda Water Co.'s diversion  
near Etiwanda, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.7	1.4	1.0	1.8	5.1	5.7	2.8	2.3	1.9	1.5	1.2
2	.4	.7	4.1	1.0	1.8	4.9	5.6	2.6	2.3	1.9	1.5	1.2
3	.4	.7	5.2	1.0	1.8	4.9	5.6	2.4	2.4	1.9	1.6	1.1
4	.4	.7	3.9	.9	1.9	4.9	5.5	2.5	2.5	1.9	1.5	1.3
5	.4	.7	3.2	.9	1.9	4.9	5.3	2.3	2.6	1.9	1.5	1.3
6												
7	.4	.6	2.4	.9	1.9	6.3	5.2	2.3	2.5	1.9	1.4	1.2
8	.5	.6	2.1	.9	2.1	6.0	5.2	2.3	2.5	1.8	1.4	1.2
9	.6	.6	1.8	.9	2.4	5.6	5.2	2.3	2.4	1.8	1.3	1.5
10	.6	.6	1.6	.9	4.4	6.0	5.1	2.3	2.3	1.8	1.4	1.4
	.6	.6	1.7	1.0	2.9	5.8	4.9	2.3	2.4	1.8	1.4	1.4
11												
12	.6	.7	1.6	1.1	3.4	5.6	4.7	2.3	2.4	1.8	1.3	1.4
13	.5	.8	1.6	1.0	2.3	5.3	4.6	2.4	2.4	1.9	1.3	1.4
14	.4	.8	1.5	1.3	1.5	5.3	4.4	2.5	2.5	2.0	1.2	1.4
15	.4	.7	1.8	1.1	1.0	5.1	4.3	3.3	2.7	1.9	1.2	1.4
	.4	.7	1.5	1.0	1.5	4.9	4.1	3.0	2.8	1.8	1.2	1.3
16												
17	.4	.7	1.5	1.0	1.5	4.7	4.0	4.4	2.7	1.7	1.2	1.3
18	.4	.7	1.4	1.0	1.2	4.6	3.5	3.5	2.5	1.8	1.2	1.2
19	.5	.7	1.4	1.0	1.1	4.7	3.4	2.9	2.3	1.8	1.2	1.2
20	.5	.8	1.4	1.0	1.2	4.7	3.3	2.7	2.1	1.7	1.2	1.2
	.5	4.4	1.3	7.7	1.0	4.9	3.2	2.8	2.1	1.7	1.2	1.2
21												
22	.6	2.3	1.3	3.0	9.5	4.6	3.2	2.7	2.1	1.7	1.2	1.2
23	.6	1.4	1.3	2.5	8.3	5.0	3.0	2.7	2.1	1.7	1.3	1.2
24	.7	1.1	1.2	2.3	7.5	5.2	2.9	2.7	2.1	1.7	1.4	1.3
25	.7	1.3	1.2	2.1	7.0	4.7	2.9	2.8	2.0	1.7	1.3	1.3
	.6	2.1	1.2	2.0	6.6	4.6	3.0	2.7	2.0	1.6	1.2	1.2
26												
27	.6	1.8	1.2	2.0	6.2	4.5	3.0	2.7	1.9	1.6	1.2	1.4
28	.6	1.5	1.2	2.0	5.7	4.5	2.9	2.9	1.9	1.6	1.2	1.4
29	.6	1.4	1.1	2.0	5.4	5.2	3.3	2.7	1.9	1.6	1.2	1.5
30	.7	1.4	1.1	2.0	-	5.6	3.1	2.6	1.9	1.6	1.2	1.6
	.7	1.4	1.1	1.8	-----	5.6	2.9	2.5	1.9	1.5	1.4	1.4
31	.7	-----	1.1	1.8	-----	5.6	-----	2.4	-----	1.5	1.3	-----
Total	16.4	33.2	92.3	50.1	323.4	159.3	123.0	83.3	68.5	54.5	40.6	39.3
Mean	0.53	1.11	2.98	1.62	11.6	5.14	4.10	2.69	2.28	1.76	1.31	1.31
Max	0.7	4.4	4.1	7.7	4.4	6.3	5.7	4.4	2.8	2.0	1.6	1.6
Min	0.4	0.6	1.1	0.9	1.8	4.5	2.9	2.3	1.9	1.5	1.2	1.1
Ac-ft	33	66	183	99	641	316	244	165	136	108	81	78
Calendar year 1961: Max	41			Min 0.3	Mean 1.13	Ac-ft 818						
Water year 1961-62: Max	44			Min 0.4	Mean 2.97	Ac-ft 2,150						



11-680. Santa Ana River at Auburndale Bridge, near Corona, Calif.

Location.--Lat 33°55'25", long 117°35'50", in La Sierra (Yorba) Grant, on right bank just downstream from Auburndale Bridge on River Road, 1.7 miles upstream from Temescal Creek and 3.8 miles northwest of Corona, Riverside County.

Drainage area.--1,021 sq mi.

Records available.--May 1930 to November 1962 (irrigation seasons only).

Gage.--Water-stage recorder. Datum of gage is 501.36 ft above mean sea level, datum of 1929 (levels by Orange County Flood Control District). Prior to May 1946, at various sites within 1,000 ft of bridge and at different datums. May 1946 to Sept. 12, 1961, at site 100 ft upstream at same datum.

Remarks.--Records fair. Flow partly regulated by Big Bear Lake (see p. 122). The natural flow is affected by ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Water diverted into Durkee ditch, a quarter of a mile above station, bypasses station; discharge measurements of flow in ditch are given below.

Cooperation.--Seventeen discharge measurements furnished by Orange County Flood Control District.

Discharge measurements, in cubic feet per second, May to December 1962

Date	Discharge	Date	Discharge	Date	Discharge
May 1	2.44	July 24	2.10	Oct. 2	2.01
15	2.72	Aug. 7	1.82	16	2.29
29	2.43	21	1.62	29	2.14
June 12	2.48	Sept. 4	1.51	Nov. 27	2.70
26	2.30	18	1.93	Dec. 13	2.88
July 10	2.39				

Discharge, in cubic feet per second, May to November 1962

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					* 36	31	27	20	19	11	28	
2		† 38			34	31	27	20	16	* 12	* 28	
3					32	31	26	20	15	13	28	
4					* 30	31	26	20	* 15	13	28	
5	† 31				30	31	26	19	16	* 19	28	
6												
7				† 44	30	31	* 26	17	17	23	27	
8					30	32	22	* 17	17	23	27	
9			† 54		31	* 32	19	17	17	23	27	
10					31	32	18	18	18	23	26	
11					31	32	* 17	* 18	19	23	26	
12					31	32	17	17	20	23	26	
13					31	* 31	18	19	20	23	25	† 41
14					31	31	18	17	21	23	25	
15					31	31	19	18	* 21	23	25	
16					* 38	31	19	19	20	23	25	
17					37	31	20	19	20	* 23	* 24	
18					36	31	22	19	20	24	24	
19					* 36	30	22	20	* 21	24	25	
20					36	29	22	19	21	* 25	24	
21					35	26	22	18	19	24	27	
22												
23					35	25	21	* 19	14	24	31	
24					34	* 24	21	19	16	25	30	
25					34	24	21	21	20	25	28	
26					34	24	* 22	21	19	25	26	
27					32	26	22	21	19	25	26	
28												
29					32	* 29	22	20	11	26	26	
30					32	29	* 22	18	9.2	26	* 31	
31					32	29	22	20	10	27	34	
					* 32	29	21	21	14	* 27	35	
					31	29	20	22	13	27	34	
					31		20	* 21	28			
Total					1,016	885	667	594	517.2	703	824	
Mean					32.8	29.5	21.5	19.2	17.2	22.7	27.5	
Max					38	32	27	22	21	28	35	
Min					30	24	17	17	9.2	11	24	
Ac-ft					2,020	1,760	1,320	1,180	1,030	1,390	1,630	

Calendar year 1961: Max Min Mean Ac-ft  
Irrigation season: Max 38 Min 9.2 Mean - Ac-ft 10,330

\* Discharge measurement made on this day.

† Result of discharge measurement.

## SANTA ANA RIVER BASIN

11-685. Cucamonga Creek near Upland, Calif.

Location.--Lat 34°10'26", long 117°37'51", in SW 1/4 sec. 17, T.1 N., R.7 W., on right bank 0.5 mile downstream from unnamed tributary on left and 5.3 miles north of Upland.

Drainage area.--10.1 sq mi.

Records available.--October 1927 to September 1962. Monthly discharge only for October to December 1928, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 2,360 ft (from topographic map). Prior to Jan. 17, 1935, and Apr. 15, 1935, to Nov. 11, 1936, at site 2,500 ft downstream at different datums. Jan. 18 to Apr. 14, 1935, at site 1,200 ft downstream at different datum. Nov. 12, 1936, to Dec. 13, 1938, at site 300 ft downstream at different datum.

Average discharge.--35 years, 7.06 cfs (5,110 acre-ft per year); median of yearly mean discharges, 4.8 cfs (3,500 acre-ft per year).

Extremes.--Maximum discharge during year, 280 cfs Nov. 20 (gage height, 3.50 ft); minimum daily, 0.3 cfs Oct. 5, 6.

1927-62: Maximum discharge, 10,300 cfs Mar. 2, 1938, based on rainfall-runoff study; minimum daily, that of Oct. 5, 6, 1962.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 21-26, Dec. 2-5, Jan. 6-10, Mar. 7 to Apr. 16, July 15-23)

1.5	0.1	2.0	12
1.6	1.0	2.2	26
1.7	2.4	2.4	46
1.8	4.2	2.6	74
1.9	7.8		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	* 1.2	2.6	1.8	3.6	16	7.0	* 5.8	3.6	2.5	2.1	1.6
2	* .5	1.2	58	1.8	3.4	16	7.0	5.5	3.4	2.4	1.9	1.6
3	.5	1.0	* 7.0	1.6	3.1	16	* 7.0	5.1	3.9	2.4	1.9	1.5
4	.4	1.0	6.2	1.6	3.1	15	6.6	4.8	3.9	2.4	2.1	* 1.6
5	.3	1.0	5.1	1.8	3.1	14	6.2	4.8	3.9	2.2	2.1	1.6
6	.3	1.0	4.5	1.9	* 3.0	* 13	5.5	4.8	3.9	2.2	2.1	1.8
7	.4	1.0	3.4	1.9	3.6	13	5.5	4.5	3.9	2.1	* 1.9	1.9
8	.4	1.0	2.8	1.9	3.6	12	5.1	4.5	3.6	1.9	1.9	2.2
9	.5	1.0	2.6	1.9	68	12	5.1	4.5	3.4	1.9	1.8	2.2
10	.5	1.0	2.5	1.9	* 4.9	11	5.5	4.8	3.4	* 1.9	1.6	2.1
11	.5	1.0	2.2	* 1.9	61	10	5.5	4.8	3.6	1.9	1.5	2.1
12	.5	1.0	* 2.1	2.1	* 61	9.2	5.5	5.1	* 3.6	2.2	1.3	2.1
13	.4	1.0	1.9	2.2	3.3	9.2	5.5	5.8	3.9	2.4	1.2	2.1
14	.4	1.0	2.5	2.1	2.3	8.3	5.5	7.0	4.2	2.2	1.2	2.1
15	.4	* 1.0	1.9	2.1	3.1	8.3	5.5	* 6.2	4.2	2.1	1.3	1.9
16	* .5	1.2	1.8	2.1	* 2.5	7.4	5.5	8.7	4.2	2.1	1.3	2.1
17	.6	1.2	1.6	2.1	2.2	7.4	* 5.5	7.0	3.6	1.9	1.3	1.9
18	.6	1.2	1.8	2.1	1.9	7.4	4.8	5.1	3.1	2.1	1.3	1.9
19	.7	1.3	1.8	2.1	2.7	7.4	4.8	4.8	2.8	2.2	1.5	* 1.9
20	.7	2.3	1.8	3.1	* 2.6	* 7.4	4.8	4.8	2.8	2.2	1.6	1.8
21	.9	4.8	1.8	1.1	2.3	7.0	5.1	4.8	2.8	2.4	* 1.6	1.8
22	.9	2.6	1.8	6.6	2.1	7.4	5.5	4.5	2.8	2.5	1.9	1.8
23	.9	1.6	1.6	6.2	1.7	* 7.0	5.8	4.5	2.8	2.6	2.1	1.8
24	1.0	1.3	1.6	5.8	1.6	6.2	5.8	4.2	2.6	* 2.4	1.8	1.8
25	1.0	6.6	1.8	4.8	1.6	6.2	5.8	4.2	2.6	2.1	1.8	1.8
26	1.0	3.4	* 1.8	* 4.5	1.5	6.2	5.8	4.2	* 2.6	1.9	1.8	2.1
27	1.2	* 2.7	1.8	4.2	1.6	6.6	6.2	4.5	2.6	1.9	1.8	1.9
28	1.0	2.5	1.8	4.2	1.6	7.4	6.6	4.2	2.6	2.1	1.8	2.1
29	1.0	2.2	1.8	4.2	-	7.8	6.6	* 3.9	2.6	2.1	1.9	1.9
30	1.2	2.6	1.8	4.2	-----	7.4	6.2	3.9	2.5	2.1	2.1	1.6
31	1.2	-----	1.8	3.9	-----	7.4	-----	3.9	-----	2.1	1.9	-----
Total	20.9	73.6	133.5	127.5	643.9	296.6	172.8	155.2	99.4	67.4	53.4	56.6
Mean	0.67	2.45	4.31	4.11	23.0	9.57	5.76	5.01	3.31	2.17	1.72	1.89
Max	1.2	23	58	31	68	16	7.0	8.7	4.2	2.6	2.1	2.2
Min	0.3	1.0	1.6	1.6	3.0	6.2	4.8	3.9	2.5	1.9	1.2	1.5
Ac-ft	41	146	265	253	1,280	588	343	308	197	134	106	112
Calendar year 1961: Max	58			Min 0.3		Mean 1.62		Ac-ft 1,170				
Water year 1961-62: Max	68			Min 0.3		Mean 5.21		Ac-ft 3,770				

Peak discharge (base, 80 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1630	3.50	280	1-20	1430	3.23	203
12- 2	0700	3.44	205	2- 9	1230	3.00	148

## SANTA ANA RIVER BASIN

149

## 11-690. Lake Hemet near Idyllwild, Calif.

Location.--Lat 33°39'55", long 116°42'20", in NE $\frac{1}{4}$  sec.7, T.6 S., R.3 E., on upstream face near right end of dam on South Fork San Jacinto River, 5 miles southeast of Idyllwild and 6.5 miles upstream from mouth.

Drainage area.--66 sq mi, approximately.

Records available.--October 1961 to September 1962.

Gage.--Staff gage read once daily. Datum of gage is 4,201.5 ft above mean sea level (levels by Lake Hemet Municipal Water District).

Extremes.--Maximum contents observed during the year, 2,025 acre-ft June 18 (elevation, 4,292.5 ft); minimum, 264 acre-ft Nov. 19 (elevation, 4,266.9 ft).

Remarks.--Lake is formed by single-arch dam. Dam was completed to a height of 110 ft in 1893; raised to 122.5 ft in 1895, and to 135 ft in 1923. Area-capacity rating, dated February 1932 (furnished by Lake Hemet Water Co.). Lowest sluice gate silted (elevation, 4,222.6 ft). Capacity below spillway level (elevation, 4,330.0 ft), 11,882 acre-ft. Water is released from lake to South Fork San Jacinto River for domestic use and irrigation in the Hemet-San Jacinto Valley.

Cooperation.--Elevations furnished by Lake Hemet Municipal Water District.

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

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	4,274.00	538	-
Oct. 31.....	4,269.75	360	-178
Nov. 30.....	4,273.08	496	+136
Dec. 31.....	4,276.42	659	+163
Calendar year 1961.....	-	-	-
Jan. 31.....	4,279.33	829	+170
Feb. 28.....	4,283.33	1,117	+288
Mar. 31.....	4,290.00	1,756	+639
Apr. 30.....	4,291.25	1,888	+132
May 31.....	4,292.08	1,979	+91
June 30.....	4,291.08	1,870	-109
July 31.....	4,286.92	1,437	-433
Aug. 31.....	4,281.92	1,009	-428
Sept. 30.....	4,275.08	590	-419
Water year 1961-62.....	-	-	+52

† At 0800.

## 11-693. South Fork San Jacinto River tributary near Valle Vista, Calif.

Location.--Lat 33°43'20", long 116°48'00", in W $\frac{1}{2}$  sec.20, T.5 S., R.2 E., 6 ft upstream from private-road culvert, 0.3 mile above mouth and 5.6 miles southeast of Valle Vista.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 2,320 ft (from topographic map).

Extremes.--1961-62: Maximum discharge during year, 3.0 cfs Mar. 6 (gage height, 3.54 ft), from rating curve extended above 1.0 cfs; no flow most of year.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, is as follows: December, 1.0; January, 2.2; February, 5.2; March, 1.4; May, 0.8; June, 0.1; the year, 10.7.

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

Dec. 2.....	a0.1	Mar. 8.....	0.5
Jan. 20.....	a .5	9.....	.3
Feb. 19.....	a .1	10.....	.3
Mar. 6.....	.9	11.....	.2
7.....	*1.0	12.....	.1

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	0.1	0.1	0	0.003	0.2
January 1962.....	.5	.5	0	.02	1.0
February.....	.1	.1	0	.004	.2
March.....	3.3	1.0	0	.11	6.5
Calendar year 1961.....	-	-	-	-	-
Water year 1961-62.....	-	1.0	0	.01	7.9

\* Discharge measurement made on this day.

a No gage-height record.

Note.---Flow occurred only on days listed above.

## SANTA ANA RIVER BASIN

11-695. San Jacinto River near San Jacinto, Calif.

Location.--Lat 33°44'15", long 116°49'35", in SW 1/4 sec. 13, T.5 S., R.1 E., on downstream side of right pier of bridge on State Highway 74, 1 mile downstream from North Fork, and 8.2 miles southeast of San Jacinto.

Drainage area.--140 sq mi.

Records available.--October 1920 to February 1927, March 1927 to September 1962. Combined river and diversions, October 1948 to September 1962. Monthly discharge only for October 1920 and July to September 1926, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 1,982.75 ft above mean sea level (Corps of Engineers bench mark). Prior to Feb. 15, 1927, water-stage recorder at site about 150 ft upstream at different datum. Feb. 15, 1927, to December 1929, staff gage at same site at different datum. December 1929 to Feb. 6, 1937, water-stage recorder at same site at different datum. Feb. 7, 1937, to Jan. 23, 1948, staff gage at same site at various datums.

Average discharge.--41 years (1920-26, 1927-62), 17.6 cfs (12,740 acre-ft per year); median of yearly mean discharges, 6.4 cfs (4,600 acre-ft per year). Average combined discharge of river, canals, and pipeline, 14 years (1948-62), 15.3 cfs (11,080 acre-ft per year); median of combined yearly mean discharges, 8.2 cfs (5,900 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 119 cfs Sept. 22 (gage height, 4.32 ft); no flow for much of year. 1920-62: Maximum discharge, 45,000 cfs Feb. 16, 1927, on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records fair. Flow partly regulated by Lake Hemet (see page 149). Lake Hemet Municipal Water District's upper and lower canals divert water above station for irrigation. Fairview Land and Water Co.'s pipeline diverts water above station for domestic use. For records of combined daily discharge of San Jacinto River and diversions, see following page.

Cooperation.--Daily discharge of Fairview Land and Water Co.'s pipeline furnished by Lake Hemet Municipal Water District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.1	8.9	20					0
2			6.9	0	0	9.4	18			(*)		0
3			* 11	0	0	14	16					0
4	(*)		2.3	0	0	20	22		(*)			0
5			.2	* 0	0	20	31					0
6			0	0	0	34	25					* 0
7			0	0	.1	* 41	10	(*)				0
8		(*)	0	0	17	27	8					0
9			0	0	* 48	25	* 6.2					0
10			0	0	20	25	5.4					0
11			0	0	28	24	2.7					0
12			0	0	36	24	.3					0
13			* 0	0	16	23	0			(*)		0
14			0	0	7.2	23	0					0
15			0	0	4.8	22	0					0
16			0	0	34	19	0			(*)		0
17			0	0	18	17	0					0
18			0	0	12	15	0		(*)			0
19			0	0	* 26	20	0					0
20			0	2.1	34	22	0					* 0
21			0	.4	32	* 16	0	(*)				0
22		(*)	0	* .2	24	12	0					4.0
23			0	.1	22	12	0					0
24	(*)		0	0	20	10	* 0					0
25			0	0	20	10	0					0
26			0	0	14	15	0					0
27			0	0	* 12	20	0					0
28			0	0	8.9	24	0					0
29			0	.2	-	22	0					0
30			0	.3	-----	22	0			(*)		0
31		-----	0	.2	-----	22	-----					-----
Total	0	0	20.4	3.5	454.1	618.3	164.6	0	0	0	0	4.0
Mean	0	0	0.66	0.11	16.2	19.9	5.49	0	0	0	0	0.13
Max	0	0	11	2.1	48	41	31	0	0	0	0	4.0
Min	0	0	0	0	0	8.9	0	0	0	0	0	0
Ac-ft	0	0	40	6.9	901	1,230	326	0	0	0	0	7.9

Calendar year 1961: Max 18 Min 0 Mean 0.14 Ac-ft 103  
 Water year 1961-62: Max 48 Min 0 Mean 3.47 Ac-ft 2,510

Peak discharge (base, 100 cfs).--Sept. 22 (1430) 119 cfs (4.32 ft).

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

## 11-695. San Jacinto River near San Jacinto, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Jacinto River, Lake Hemet Water Co.'s upper and lower canals, and Fairview Land and Water Co.'s pipeline, near San Jacinto, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	2.9	0.7	0.7	3.6	13	32	12	8.3	6.8	5.9	4.9
2	4.9	1.3	7.7	.6	3.5	14	30	12	7.8	7.0	5.8	5.2
3	4.7	.8	12	.6	3.6	18	30	12	7.6	6.8	5.9	5.2
4	4.6	.7	3.7	.6	3.6	24	33	11	7.5	6.8	5.8	5.2
5	3.3	.6	2.6	.6	3.5	25	39	11	7.5	6.8	5.6	5.2
6	5.0	.4	2.1	.6	3.5	39	46	10	7.3	7.0	5.4	5.2
7	5.5	.4	1.8	.6	3.7	46	43	10	6.8	7.1	5.4	5.2
8	5.5	.4	1.7	.6	22	32	40	9.6	6.4	7.3	5.3	5.7
9	5.3	.4	1.6	.7	51	30	42	9.5	6.1	7.6	5.1	5.4
10	3.9	.4	1.5	.7	23	30	39	9.1	5.9	8.0	5.3	5.4
11	3.5	.4	1.2	.8	31	29	35	8.7	5.8	8.7	5.3	5.4
12	3.3	.5	1.2	.8	39	29	26	8.2	5.6	9.8	5.3	5.5
13	3.2	.3	1.1	1.3	19	28	20	8.4	5.4	8.5	5.4	5.5
14	3.1	.2	1.1	1.3	11	28	20	12	5.8	7.1	5.9	5.5
15	3.1	.1	1.1	1.1	8.2	28	19	13	6.8	7.3	6.1	5.4
16	3.1	.1	1.1	1.0	37	28	19	13	6.6	7.3	6.1	5.2
17	3.2	.1	1.1	1.2	21	26	19	13	5.8	7.0	6.2	5.2
18	3.2	.2	1.1	.8	15	24	19	15	5.1	6.6	6.2	5.1
19	3.2	.4	.8	.9	29	29	19	14	4.5	6.4	5.9	5.1
20	3.2	.4	1.0	3.8	38	31	19	13	4.3	6.3	5.7	4.8
21	3.3	.9	.9	5.4	36	25	17	10	5.8	7.5	5.7	4.8
22	3.3	.9	.9	3.4	28	21	16	10	6.8	7.1	5.9	12
23	3.2	.9	.9	2.8	26	21	16	9.4	7.1	7.1	5.9	6.2
24	3.2	.7	.9	2.5	24	19	16	9.2	7.1	7.0	5.7	6.2
25	2.7	.6	.8	2.1	24	19	16	9.2	7.0	7.0	5.5	6.2
26	2.5	.6	.8	1.9	18	26	16	9.4	7.0	7.0	5.4	6.0
27	2.8	.6	.8	1.9	16	33	15	10	6.8	7.0	5.2	5.7
28	2.9	.6	.8	2.2	13	37	15	10	6.6	6.4	5.2	5.7
29	2.9	.6	.9	3.0	-	34	15	9.4	6.6	6.8	5.1	5.5
30	2.9	.6	.9	3.3	-----	34	13	8.8	7.0	6.8	5.1	5.2
31	2.9	-----	.9	3.6	-----	33	-----	8.5	-----	6.1	4.9	-----
Total	112.3	18.0	55.7	51.4	554.2	853	744	328.4	194.7	222.0	173.2	168.8
Mean	3.62	0.60	1.80	1.66	19.8	27.5	24.8	10.6	6.49	7.16	5.59	5.63
Max	5.5	2.9	12	5.4	51	46	46	15	8.3	9.8	6.2	12
Min	2.5	0.1	0.7	0.6	3.5	13	13	8.2	4.3	6.1	4.9	4.8
Ac-ft	223	36	110	102	1,100	1,690	1,480	651	386	440	344	335
Calendar year 1961: Max	25			Min 0.1	Mean 4.28	Ac-ft 3,100						
Water year 1961-62: Max	51			Min 0.1	Mean 9.52	Ac-ft 6,900						

## 11-700. Bautista Creek near Hemet, Calif.

Location.--Lat 33°41'40", long 116°51'00", in NE 1/4 sec. 35, T.5 S., R.1 E., on left bank a quarter of a mile upstream from unnamed tributary, 6 miles upstream from mouth, and 8 miles southeast of Hemet.

Drainage area.--39.4 sq mi.

Records available.--October 1947 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,250 ft (from topographic map).

Average discharge.--15 years, 0.58 cfs (420 acre-ft per year); median of yearly mean discharges, 0.01 cfs (7 acre-ft per year).

Extremes.--Maximum discharge during year, 37 cfs Dec. 2 (gage height, 2.90 ft); no flow most of year.

1947-62: Maximum discharge, 1,440 cfs Apr. 3, 1958 (gage height, 4.65 ft); no flow for most of each year.

Remarks.--Records poor. One diversion above station for irrigation of about 15 acres.

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

Dec. 2.....*	3.7	Feb. 21.....	0.8
Jan. 20.....*	1.6	22.....	.1
21.....	.5	24.....	.1
Feb. 19.....*	.8	26.....	.3
20.....	1.2		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	3.7	3.7	0	0.12	7.3
January 1962.....	2.1	1.6	0	.07	4.2
February.....	3.3	1.2	0	.12	6.5
Calendar year 1961.....	-	3.7	0	.01	7.5
Water year 1961-62.....	-	3.7	0	.02	18

Peak discharge (base, 20 cfs).--Dec. 2 (1130) 37 cfs (2.90 ft).

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

Note.--Flow occurred only on days listed above.

## SANTA ANA RIVER BASIN

11-705. San Jacinto River near Elsinore, Calif.

Location.--Lat 33°39'51", long 117°17'35", in SE 1/4 NE 1/4 sec. 9, T. 6 S., R. 4 W., on right bank 2 miles east of Elsinore and 2.1 miles downstream from Railroad Canyon Dam.

Drainage area.--717 sq mi.

Records available.--January 1916 to September 1962. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,270 ft (from topographic map). Prior to Feb. 13, 1916, staff gage at site 0.75 mile downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, staff gage at present site at different datum.

Average discharge.--35 years (1927-62), 9.57 cfs (6,930 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year), since construction of Railroad Canyon Reservoir.

Extremes.--Maximum discharge during year, 0.2 cfs Feb. 21 (gage height, 2.31 ft); no flow for most of year.

1916-62: Maximum discharge, 16,000 cfs Feb. 17, 1927 (gage height, 11.8 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in most years.

Remarks.--Records fair. Flow partly regulated by Lake Hemet (see p. 149) and regulated since 1928 by Railroad Canyon Reservoir (capacity, 12,000 acre-ft) 2.1 miles above station. Diversion for irrigation and domestic use above Railroad Canyon Reservoir. Temescal Water Co. diverts from Railroad Canyon Reservoir for irrigation below station in vicinity of Corona. No water diverted in 1962.

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

Feb. 20.....0.1	Mar. 8.....0.1	Mar. 19.....0.2
21......2	9......1	20......2
22......1	10......1	21......2
23......1	11......1	22......1
Mar. 6......1	12......1	23......1
7......1	13......1	24......1

Month	Cfs-days	Maximum	Minimum	Mean		Runoff, in acre-feet	
				Observed	Adjusted	Observed	Adjusted
February 1962.....	0.5	0.2	0	0.02	0.02	1.0	1.0
March.....	1.7	.2	0	.05	.05	3.4	3.4
Calendar year 1961.....	-	0	0	0	.02	0	17
Water year 1961-62.....	-	.2	0	.006	.006	4.4	4.4

Note.--Flow occurred only on days listed above.

11-710. Elsinore Lake at Elsinore, Calif.

Location.--Lat 33°40'35", long 117°22'05", in La Laguna Grant, on northwest shore at Elsinore, Riverside County.

Records available.--December 1915 to September 1962.

Gage.--Staff gage read occasionally. Datum of gage is 1,230.2 ft above mean sea level. Gage heights have been reduced to elevations above mean sea level. Prior to Feb. 13, 1951, staff gage at numerous sites on northeast shore at various datums.

Extremes.--Lake dry all year, on basis of hydrographer's notes.

1915-62: Maximum elevation observed, 1,265.6 ft Mar. 20-25, 1916, during period of overflow; maximum observed since cessation of overflow in June 1917, 1,259.8 ft May 6, 11-20, 1922; lake dry during parts of water years 1951, 1954-59, and all of 1960-62.

Remarks.--Lake dry since May 1959. Elsinore Lake overflows into Temescal Creek, which is its outlet, only during and after years of unusually heavy rainfall. Elevation at which lake is dry, about 1,223.0 ft. There has been no outflow since June 30, 1917. History of lake prior to 1916 is published in WSP 441. Summary of high stages that have occurred from 1916 to 1942 is contained in WSP 961. Flow partly regulated by Lake Hemet (see p. 149) and regulated since 1928 by Railroad Canyon Reservoir (capacity, 12,000 acre-ft).

Elevation, in feet, water year October 1961 to September 1962

Date	Elevation	Date	Elevation	Date	Elevation
Jan. 22	Dry	Mar. 19	*Dry	May 15	Dry
Feb. 9	*Dry	29	*Dry	July 5	Dry
19	*Dry	Apr. 19	*Dry	Sept. 17	Dry
Mar. 9	*Dry				

\* Less than 2 acre-ft of water observed in center of lake.

## SANTA ANA RIVER BASIN

153

11-720. Temescal Creek near Corona, Calif.

Location.--Lat 33°50'29", long 117°30'37", in El Sobrante de San Jacinto Grant, on left bank 0.2 mile downstream from unnamed tributary and 3.8 miles southeast of Corona, Riverside County.

Drainage area.--127 sq mi.

Records available.--October 1927 to September 1962. Monthly discharge only for the period October 1927 to January 1929, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 730 ft (from topographic map). Prior to Feb. 11, 1943, at datum 6.00 ft higher.

Average discharge.--35 years, 3.05 cfs (2,210 acre-ft per year); median of yearly mean discharges, 0.05 cfs (36 acre-ft per year).

Extremes.--Maximum discharge during year, 38 cfs Jan. 20 (gage height, 7.23 ft); no flow for much of year.

1927-62: Maximum discharge, 14,900 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good except those above 5 cfs, which are poor. Many diversions above station. Flow regulated by Elsinore Lake and several storage reservoirs above station. No water wasted from Lake Mathews during year.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0	0.3	0.3	0	0	0	0.1	0
2		0	* 5.8	0	0	.3	.3	0	0	0	.1	0
3	(*)	0	.1	0	0	.3	* .3	0	0	0	.1	0
4		0	0	0	0	.3	.2	0	0	0	.1	* 0
5		0	0	0	0	.3	.1	0	0	0	0	0
6		0	* 0	0	0	* .4	.1	.1	0	0	0	0
7		0	0	0	0	.3	.1	.1	.1	0	0	0
8		0	0	0	3.1	.3	.1	.1	.1	.1	0	.1
9		0	0	0	* .3	.3	.1	.1	.1	0	0	0
10		0	0	0	.2	.3	.1	.1	.1	* 0	0	0
11		0	0	* 0	1.4	.3	.1	0	.1	0	0	0
12		0	0	0	.3	.3	.1	0	.1	0	0	0
13		0	0	0	* .2	.4	.1	0	.1	.1	0	0
14		* 0	0	0	.2	.4	.1	0	.1	0	0	.1
15		0	0	0	2.1	.4	.1	* 0	.1	0	0	.1
16		0	0	0	.3	.4	0	.1	.1	0	0	0
17		0	0	0	.2	.3	* 0	0	.1	0	0	0
18		0	0	0	.2	.3	0	0	.1	0	0	.1
19		0	0	0	1.5	.3	0	0	.1	0	0	0
20		.1	0	5.8	* .3	* .3	0	.1	.1	0	0	0
21		.1	0	* 1.3	.5	.3	0	.1	.1	0	* 0	.1
22		0	0	.2	.3	.3	0	.1	.2	0	0	.1
23		0	0	.1	.3	.3	0	.1	.2	0	0	0
24		0	0	* 0	.3	.4	.1	.1	0	* 0	0	0
25		.1	0	0	.3	.4	.1	.1	0	0	0	0
26		.1	0	0	.3	.4	.1	.1	* 0	0	0	0
27		0	0	0	.3	.4	.1	0	0	0	0	0
28		* 0	0	0	.3	.4	0	0	.1	0	0	0
29		0	0	0	-	.4	.1	* 0	0	0	0	0
30		0	0	0	-----	.3	0	0	0	0	0	0
31		-----	0	0	-----	.3	-----	0	-----	0	.1	-----
Total	0	0.4	5.9	7.4	12.9	10.4	2.7	1.3	2.0	0.3	0.5	0.6
Mean	0	0.01	0.19	0.24	0.46	0.34	0.09	0.04	0.07	0.01	0.02	0.02
Max	0	0.1	5.8	5.8	3.1	0.4	0.3	0.1	0.2	0.1	0.1	0.1
Min	0	0	0	0	0	0.3	0	0	0	0	0	0
Ac-ft	0	0.8	12	15	26	21	5.4	2.6	4.0	0.6	1.0	1.2

Calendar year 1961: Max 5.8 Min 0 Mean 0.02 Ac-ft 13

Water year 1961-62: Max 5.8 Min 0 Mean 0.12 Ac-ft 90

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

## SANTA ANA RIVER BASIN

11-730. San Antonio Creek near Claremont, Calif.

Location.--Lat 34°12'58", long 117°40'04", in SE 1/4 sec. 36, T.2 N., R.8 W., on right bank 0.5 mile upstream from Southern California Edison Co.'s Sierra powerplant and 8.8 miles northeast of Claremont.

Drainage area.--16.9 sq mi.

Records available.--January 1917 to September 1962. Combined discharge of creek and conduit, March 1901 to December 1916 (fragmentary, published as "near Upland").

Gage.--Water-stage recorder and, since Jan. 10, 1939, broad-crested weir. Altitude of gage is 3,400 ft (from topographic map).

Prior to Aug. 24, 1907, staff gage at site 0.5 mile upstream, just above intake to Sierra powerplant, at different datum.

Aug. 24, 1907, to Jan. 24, 1917, hook gage and rectangular weir in powerplant tailrace 0.5 mile downstream at different datum; flow in natural channel estimated. Jan. 25, 1917, to Jan. 9, 1939, water-stage recorder at site 50 ft downstream at different datum.

Average discharge.--45 years (1917-62), 8.85 cfs (6,410 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year). Average combined discharge of creek and conduit, 57 years (1901-2, 1903-4, 1905-9, 1910-15, 1916-62), 21.8 cfs (15,780 acre-ft per year); median of combined yearly mean discharges, 17 cfs (12,300 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 182 cfs Feb. 11 (gage height, 2.83 ft); minimum daily, 0.1 cfs Oct. 1-18.

1917-62: Maximum discharge, 21,400 cfs Mar. 2, 1938, by slope-area measurement and rainfall-runoff studies; no flow

Aug. 24-27, 31, Sept. 1, Oct. 17-21, 1951.

Remarks.--Records good. Discharge measurements generally made three or more times a month. For records of combined discharge of San Antonio Creek and Southern California Edison Co.'s Sierra conduit, which diverts above station, see following page.

Cooperation.--Twenty-six discharge measurements furnished by Los Angeles County Flood Control District. Gage-height record for conduit furnished by Southern California Edison Co.

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

1.0	0.1	1.5	6.3
1.1	.4	1.7	14
1.2	1.1	1.9	27
1.3	2.1	2.3	71
1.4	3.9	2.6	126

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2	0.1	0.2	0.5	0.4	0.6	1.1	3.0	7.0	1.0	0.8	0.5	0.4
3	.1	.2	2.0	.4	.6	9.1	3.7	6.1	1.0	.8	.5	.4
4	.1	.2	3.4	.4	.6	7.7	4.9	5.6	1.0	.8	.5	.4
5	.1	.2	2.0	.4	.6	6.6	7.5	4.9	1.0	.8	.5	.5
	.1	.2	1.5	.4	.6	6.1	13	4.4	1.0	.8	.5	.5
6	.1	.2	1.3	.4	.6	8.4	12	3.9	1.0	.7	.5	.5
7	.1	.2	1.0	.4	.6	6.3	7.0	3.4	1.0	.7	.5	.5
8	.1	.2	.8	.4	10	5.8	8.8	3.2	.9	.6	.5	.4
9	.1	.2	.8	.4	2.9	5.6	9.8	2.8	.8	.6	.5	.4
10	.1	.2	.7	.4	2.2	5.1	12	2.5	.8	.6	.5	.4
11	.1	.2	.6	.4	8.4	4.1	12	2.0	.8	.7	.5	.4
12	.1	.2	.6	.4	11.1	3.6	13	1.9	.8	.8	.5	.4
13	.1	.2	.6	.4	6.4	3.2	14	1.8	.8	.8	.4	.4
14	.1	.2	.6	.4	5.0	2.8	15	2.0	.8	.8	.4	.4
15	.1	.2	.6	.4	4.9	2.5	17	1.8	.8	.8	.4	.4
16	.1	.2	.5	.4	4.2	2.5	15	2.1	.8	.7	.4	.4
17	.1	.2	.5	.4	3.7	2.3	15	1.7	.8	.6	.4	.4
18	.1	.2	.4	.4	3.3	2.5	14	1.6	.8	.6	.4	.4
19	.2	.2	.4	.4	3.3	2.5	14	1.5	.8	.6	.4	.4
20	.2	4.1	.4	4.0	3.1	2.5	14	1.4	.8	.6	.4	.4
21	.2	.4	.4	.9	3.2	2.5	13	1.3	.8	.6	.4	.4
22	.2	.4	.4	.8	3.1	2.8	11	1.2	.8	.6	.4	.4
23	.2	.4	.4	.8	2.6	2.8	9.8	1.1	.8	.7	.4	.4
24	.2	.4	.4	.7	2.4	2.7	9.1	1.1	.8	.7	.4	.4
25	.2	.6	.4	.7	2.3	2.5	9.4	1.1	.8	.7	.4	.4
26	.2	.5	.4	.6	1.9	2.5	9.1	1.2	.8	.7	.4	.4
27	.2	.6	.4	.6	1.5	2.7	8.4	1.2	.8	.6	.4	.4
28	.2	.6	.4	.6	1.2	2.8	8.0	1.2	.8	.6	.4	.4
29	.2	.6	.4	.6	-	2.8	7.7	1.3	.8	.5	.4	.4
30	.2	.5	.4	.6	-----	2.8	7.4	1.1	.8	.5	.4	.4
31	.2	-----	.4	.6	-----	2.8	-----	1.0	-----	.5	.4	-----
Total	4.4	12.9	41.6	19.1	78.1	129.9	317.6	74.4	25.5	20.9	13.6	12.4
Mean	0.14	0.43	1.34	0.62	2.79	4.19	10.6	2.40	0.85	0.67	0.44	0.41
Max	0.2	4.1	20	4.0	11.1	11	17	7.0	1.0	0.8	0.5	0.5
Min	0.1	0.2	0.4	0.4	0.6	2.3	3.0	1.0	0.8	0.5	0.4	0.4
Ac-ft	8.7	26	83	38	1,550	258	630	148	51	41	27	25

Calendar year 1961: Max 20 Min 0.1 Mean 0.36 Ac-ft 262

Water year 1961-62: Max 11.1 Min 0.1 Mean 3.98 Ac-ft 2,890

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1600	2.20	57	2-11	2030	2.83	182
12-2	0700	2.40	87				



## 730. San Antonio Creek near Claremont, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Antonio Creek and Southern California Edison Co.'s  
Sierra conduit near Claremont, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	3.2	4.1	5.0	5.6	36	29	32	19	15	10	9.1
2	3.1	3.2	28	5.0	5.6	34	29	31	19	15	10	8.8
3	3.1	3.2	7.7	5.0	5.6	33	30	31	19	15	10	8.8
4	3.1	3.2	6.5	5.0	5.4	32	22	30	19	14	10	8.5
5	3.1	3.2	6.1	5.0	5.5	31	13	29	19	14	10	8.5
6	3.1	3.2	5.7	5.0	5.5	33	15	29	19	14	10	8.5
7	3.1	3.2	5.3	5.0	5.7	31	32	28	19	14	10	8.5
8	3.3	3.2	5.2	5.0	18	31	34	28	18	14	10	8.8
9	3.3	3.2	5.0	5.0	36	31	35	28	18	14	10	8.4
10	3.3	3.2	5.0	5.0	30	30	37	28	18	14	10	8.8
11	3.3	3.2	4.8	5.0	93	29	37	27	18	14	10	8.4
12	3.1	3.2	4.8	5.0	119	29	38	27	17	14	10	8.4
13	3.1	3.2	4.8	5.0	78	28	39	27	17	14	9.7	8.4
14	3.1	3.2	4.8	5.0	67	28	40	27	18	13	9.7	8.4
15	3.1	3.2	4.9	5.0	68	28	42	27	18	13	9.7	8.4
16	3.1	3.2	4.8	5.0	62	28	40	27	17	13	9.7	8.1
17	3.1	3.2	4.8	5.0	57	27	41	27	17	13	9.4	8.1
18	3.1	3.2	4.7	5.0	55	28	40	26	17	13	9.4	7.8
19	3.2	3.2	4.7	4.8	55	28	40	26	17	13	9.4	7.8
20	3.2	8.4	4.7	10	53	26	40	25	17	13	9.4	7.8
21	3.2	3.8	4.7	5.7	54	26	39	24	17	13	9.4	8.1
22	3.2	3.7	4.7	5.3	52	28	37	24	16	13	9.4	7.8
23	3.2	3.7	4.8	5.5	48	28	35	23	16	12	9.4	7.8
24	3.2	3.5	4.8	5.5	47	27	34	23	16	12	9.1	7.8
25	3.2	4.8	5.0	5.6	47	26	34	23	15	12	9.1	7.8
26	3.2	4.1	5.0	5.6	43	26	34	23	15	12	9.1	7.8
27	3.2	4.2	5.0	5.7	40	27	33	22	15	12	9.1	7.8
28	3.2	4.2	5.0	5.4	37	27	33	22	15	12	9.1	7.8
29	3.2	4.2	5.0	5.5	-	27	33	21	15	12	9.1	7.8
30	3.2	4.1	5.0	5.5	-----	28	32	20	15	12	9.1	7.8
31	3.2	-----	5.0	5.5	-----	28	-----	19	-----	12	9.1	-----
Total	98.2	109.5	180.4	165.6	1197.9	899	1017	804	515	410	297.4	246.6
Mean	3.17	3.65	5.82	5.34	42.8	29.0	33.9	25.9	17.2	13.2	9.59	8.22
Max	3.3	8.4	28	10	119	36	42	32	19	15	10	9.1
Min	3.1	3.2	4.1	4.8	5.4	26	13	19	15	12	9.1	7.8
Ac-ft	195	217	358	328	2,380	1,780	2,020	1,590	1,020	813	590	489
Calendar year 1961:	Max	28	Min	3.1	Mean	4.34	Ac-ft	3,140				
Water year 1961-62:	Max	119	Min	3.1	Mean	16.3	Ac-ft	11,780				

## SANTA ANA RIVER BASIN

11-740. Santa Ana River below Prado Dam, Calif.

Location.--Lat 33°53'00", long 117°38'40", in La Sierra Grant, on left bank of outlet channel, 2,500 ft downstream from axis of Prado Dam and 4.5 miles west of Corona, Riverside County.

Drainage area.--1,462 sq mi.

Records available.--May 1930 to November 1939 (irrigation seasons only), March 1940 to September 1962. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, & Santa Fe Railroad Bridge, near Prado" May 1932 to November 1939, and as "below Prado Dam, near Prado" March 1940 to September 1950.

Gage.--Water-stage recorder and concrete control. Datum of gage is approximately 449 ft above mean sea level (Corps of Engineers survey). Prior to Mar. 18, 1940, water-stage recorder at about same site at various datums.

Extremes.--Maximum discharge during year, 649 cfs Feb. 20 (gage height, 3.66 ft); minimum daily, 14 cfs Oct. 3, Aug. 13. 1940-62: Maximum discharge, 2,260 cfs Dec. 24, 1940 (gage height, 3.20 ft); minimum daily, 12 cfs for some days in 1960.

Remarks.--Records good. Discharge measurements generally made three or more times a month. Flow regulated, by Prado Reservoir (capacity, 222,800 acre-ft) and Big Bear Lake (see p. 122). Natural flow of stream affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. Santa Ana River Development Co. pumps water from wells in Prado Reservoir into conduit which passes through dam and is released to river immediately downstream from gage.

Cooperation.--Eighteen discharge measurements and records of bypass flow were furnished by Orange County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20-22, Feb. 13-15, 19-21, Apr. 25-27)

1.9	14	2.6	175
2.1	40	3.0	315
2.3	85	3.8	640

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	30	44	50	54	95	65	42	46	22	18	18
2	15	30	145	48	54	88	54	40	46	22	18	17
3	14	28	176	48	54	82	54	38	46	22	18	16
4	16	28	80	48	54	78	54	38	42	22	18	17
5	18	27	70	46	54	75	54	40	40	22	18	18
6	20	25	68	46	54	82	58	42	40	22	18	18
7	22	25	62	48	60	108	58	40	40	21	18	18
8	18	27	60	48	312	78	58	44	40	20	18	18
9	16	27	58	48	500	72	56	44	38	21	18	18
10	17	27	56	48	318	133	56	42	38	21	18	20
11	18	27	54	50	267	92	56	44	37	20	20	20
12	18	28	54	52	385	85	56	42	37	18	18	20
13	18	30	54	56	236	80	56	38	35	20	14	20
14	18	32	54	54	110	82	56	38	35	21	17	20
15	21	30	54	50	166	80	56	50	37	21	21	17
16	22	31	54	50	452	78	56	48	40	22	23	17
17	23	32	54	46	220	80	54	48	40	26	23	20
18	23	34	54	48	150	80	54	46	38	27	21	21
19	25	35	54	52	317	82	52	42	35	23	18	26
20	26	37	52	147	624	88	50	40	34	23	20	26
21	26	44	52	355	546	78	50	40	30	22	18	18
22	27	42	52	215	250	72	48	40	27	22	20	22
23	27	42	52	154	164	85	46	42	27	21	20	22
24	27	44	52	108	134	78	46	46	25	22	20	20
25	27	46	52	92	150	72	46	46	23	23	20	20
26	28	52	52	80	125	68	46	46	23	22	18	16
27	30	42	54	72	119	72	46	46	25	22	15	16
28	31	46	54	60	110	65	46	46	25	22	18	16
29	30	48	54	60	-	62	46	46	25	20	20	16
30	28	46	54	62	-----	50	44	46	23	18	20	16
31	28	-----	54	60	-----	48	-----	46	-----	18	18	-----
Total	693	1,042	1,939	2,401	6,039	2,468	1,577	1,336	1,037	668	582	567
Mean	22.4	34.7	62.5	77.5	216	79.6	52.6	43.1	34.6	21.5	18.8	18.9
Max	31	52	176	355	624	133	65	50	46	27	23	26
Min	14	25	44	46	54	48	44	38	23	18	14	16
Ac-ft	1,370	2,070	3,850	4,760	11,980	4,900	3,130	2,650	2,060	1,320	1,150	1,120
(†)	0	0	0	0	0	0	0	0	413	424	405	489
Ac-ft†	1,370	2,070	3,850	4,760	11,980	4,900	3,130	2,650	2,470	1,740	1,560	1,610
Calendar year 1961:	Max 176			Min 14		Mean 36.7		Ac-ft 26,570		Mean † 36.7		Ac-ft † 26,570
Water year 1961-62:	Max 624			Min 14		Mean 55.8		Ac-ft 40,360		Mean † 58.1		Ac-ft † 42,090

† Water, in acre-feet, pumped from basin above Prado Dam, which is released to river below gage.

‡ Adjusted for pumped flow from basin above Prado Dam.

11-757.2. Carbon Creek below Carbon Canyon Dam, Calif.

Location.--Lat 33°54'50", long 117°50'30", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.3 S., R.9 W., on right wall of outlet channel, 250 ft downstream from toe of Carbon Canyon Dam and 2.4 miles northwest of Yorba Linda.

Drainage area.--18.8 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 398.29 ft above mean sea level, datum of 1958 (Corps of Engineers bench mark).

Extremes.--Maximum discharge during year, 81 cfs Feb. 13 (gage height, 0.89 ft); no flow for most of year.

Remarks.--Records good. Flow regulated by Carbon Canyon flood-control reservoir (capacity, 7,030 acre-ft).

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

Dec. 2..... 0.1	Feb. 9.....* 1.2	Feb. 15..... 0.2
Jan. 20.....*2.2	10..... 2.1	19..... 21
21..... 5.4	11..... 2.1	20.....*44
22..... 5.4	12..... 2.1	21..... 1.6
23..... 3.4	13.....*17	23..... 1.5
Feb. 8..... .5	14..... 4.0	

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	0.1	0.1	0	0.003	0.2
January 1962.....	16.4	5.4	0	.53	33
February.....	97.3	44	0	3.48	193
Calendar year 1961.....	-	-	-	-	-
Water year 1961-62.....	-	44	0	.31	226

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above.

## SANTA ANA RIVER BASIN

11-758. Santiago Creek at Modjeska, Calif.

Location.--Lat 33°42'32", long 117°38'05", in SE 1/4 sec. 29, T. 5 S., R. 7 W., on right bank at Santiago Canyon road bridge, 0.3 mile west of Modjeska and 0.4 mile downstream from Harding Creek.

Drainage area.--12.5 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,258.77 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 302 cfs Feb. 11 (gage height, 3.53 ft); no flow for several months.

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

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

Oct. 1 to Feb. 11						Feb. 12 to Sept. 30					
1.3	0	1.8	3.8	2.3	27	1.3	0	1.7	3.1	2.4	43
1.4	.1	1.9	6.4	2.6	60	1.4	.2	1.8	5.6	2.7	80
1.5	.3	2.0	9.9	2.9	110	1.5	.5	1.9	8.8	3.1	160
1.6	1.0	2.1	14	3.1	160	1.6	1.4	2.1	18		
1.7	2.0										

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	1.4	1.9	6.4	2.1	1.2	0.2		
2			* 0	0	1.4	1.7	6.1	1.9	1.2	.2		
3			.7	0	1.4	1.6	5.8	1.8	1.2	.2		
4			.4	0	1.2	1.4	5.6	1.8	1.2	.2		
5			.2	0	1.2	1.2	5.0	1.6	1.2	.2		
6			.2	0	1.2	1.6	4.2	1.5	1.2	.2		
7			.1	0	1.2	1.9	4.0	* 1.5	1.5	.2		
8			.1	0	* 5.1	1.8	4.0	1.5	1.5	.1		
9			.1	0	7.3	1.7	* 4.5	1.5	1.5	.1		
10	(*)		.1	0	* 3.6	1.6	4.5	1.5	1.5	* .1		
11			.1	0	* 14.4	1.4	4.2	1.5	1.5	.1		
12			* .1	0	1.52	* 1.4	3.7	1.5	* 1.5	.1		
13			.1	0	* 5.3	1.2	3.5	1.8	1.4	.1		
14			.1	0	3.3	1.1	3.3	2.3	1.4	.1		
15			.1	0	* 6.2	1.1	3.3	2.3	1.6	.1		
16			.1	0	7.8	1.0	3.1	2.3	1.8	.1		
17			.1	0	4.7	9.6	3.1	2.3	1.6	.1		
18			.1	0	3.4	9.2	3.1	1.8	.9	.1		
19			.1	0	4.4	1.1	3.1	1.5	.7	.1		
20			.1	2.9	* 5.4	1.0	3.1	1.4	.6	.1		
21			.1	* 2.0	6.8	9.2	2.9	1.4	.6	.1		
22		(*)	0	* 1.0	5.9	8.8	2.7	1.1	.5	0		
23			0	7.3	4.6	1.0	* 2.3	1.1	.5	0		
24			0	5.5	3.9	9.2	2.5	1.0	.4	0		
25			0	4.3	3.3	8.4	2.7	1.1	.4	0		
26			* 0	* 3.2	2.8	8.1	2.7	1.5	* .4	* 0		
27		(*)	0	2.5	2.4	7.7	2.7	1.6	.4	0		
28			0	1.9	* 2.1	* 7.7	2.7	* 1.5	.3	0	(*)	
29			0	* 1.6	-	7.4	2.7	1.4	.3	0		
30	(*)		0	1.6	-----	7.4	2.5	1.4	.3	0		
31			0	1.6	-----	6.7	-----	1.4	-----	0		
Total	0	0	3.0	88.5	1188.0	366.4	110.0	49.9	30.3	2.8	0	0
Mean	0	0	0.10	2.85	42.4	11.8	3.67	1.61	1.01	0.09	0	0
Max	0	0	0.7	29	152	19	6.4	2.3	1.8	0.2	0	0
Min	0	0	0	0	1.2	6.7	2.3	1.0	0.3	0	0	0
Ac-ft	0	0	6.0	176	2,360	727	218	99	60	5.6	0	0

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 152 Min 0 Mean 5.04 Ac-ft 3,650

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	1900	3.00	118	2-11	2300	3.53	302
2-8	1900	3.18	169	2-15	1900	3.05	150

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

11-760. Santiago Creek at Santiago Dam, near Villa Park, Calif.

Location.--Lat 33°47'10", long 117°43'33", near west corner of lot 70 of Lomas de Santiago Grant, on upstream face near left end of Santiago Dam, 0.3 mile upstream from Fremont Canyon, and 5.7 miles southeast of Villa Park, Orange County.

Drainage area.--63.2 sq mi.

Records available.--October 1931 to September 1960, October 1961 to September 1962.

Gage.--Staff gage read on last day of each month. Datum of gage is at mean sea level.

Average discharge.--30 years, 16.8 cfs (12,180 acre-ft per year); median of yearly mean discharges, 10 cfs (7,300 acre-ft per year).

Remarks.--Records of total inflow represent all water reaching Santiago Reservoir, including precipitation on the reservoir and supplemental Colorado River water delivered through aqueduct of Metropolitan Water District of Southern California. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from Class A pan using coefficient of 0.80. Records of net inflow exclude supplemental water from Colorado River. This earth-fill dam was completed in December 1931. Capacity and area ratings for the reservoir are dated December 1930. Capacity of reservoir at spillway level (gage height, 790.0 ft), 25,000 acre-ft. Dead storage below lowest outlet included in these records. Minor diversions in basin above this reservoir.

Cooperation.--Records of reservoir operation and draft furnished by Serrano and Carpenter Irrigation Districts and Irvine Co.

Monthly net inflow, water year October 1961 to September 1962

Month	Elevation (feet)†	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Spill, waste, and leakage (acre- feet)	Total inflow (acre- feet)	Colorado River water included (acre- feet)	Net inflow (acre- feet)
	Santiago Reservoir								
Sept. 30.....	725.4	2,252	-	-	-	-	-	-	-
Oct. 31.....	724.8	2,176	-76	193	54	0	171	24	147
Nov. 30.....	724.8	2,176	0	19	42	0	61	0	61
Dec. 31.....	733.2	3,393	+1,217	30	30	0	1,277	1,298	-21
Calendar year 1961.....	-	-	-	-	-	-	-	-	-
Jan. 31.....	734.8	3,665	+272	107	62	0	441	296	145
Feb. 28.....	750.4	7,318	+3,653	24	70	0	3,747	0	3,747
Mar. 31.....	754.5	8,588	+1,270	35	77	0	1,382	0	1,382
Apr. 30.....	755.1	8,783	+195	150	134	0	479	0	479
May 31.....	754.8	8,685	-98	582	133	0	617	0	617
June 30.....	753.5	8,268	-417	700	138	0	421	0	421
July 31.....	748.3	6,748	-1,520	1,831	172	0	483	0	483
Aug. 31.....	741.9	5,154	-1,594	1,877	154	0	437	0	437
Sept. 30.....	735.5	3,792	-1,362	1,543	93	0	274	0	274
Water year 1961-62.....	-	-	+1,540	7,091	1,159	0	9,790	1,618	8,172

† At 1700.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SANTA ANA RIVER BASIN

11-770. Santiago Creek near Villa Park, Calif.

Location.--Lat 33°49'22", long 117°46'33", in NE¼NE¼SW¼ sec.13, T.4 S., R.9 W., on right bank 1.4 miles downstream from Weir Canyon and 2.7 miles northeast of Villa Park.

Drainage area.--83.8 sq mi.

Records available.--June 1920 to September 1962.

Gage.--Water-stage recorder and oiled roadway control. Altitude of gage is 430 ft (from topographic map).

Extremes.--Maximum discharge during year, 98 cfs Jan. 20 (gage height, 4.08 ft); no flow most of year.  
1920-62: Maximum discharge, 11,000 cfs Feb. 16, 1927 (gage height, 8.4 ft), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; maximum gage height, 9.40 ft Jan. 16, 1952; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Santiago Reservoir (see preceding page). Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 23 to May 2)

2.84	0
2.9	.1
3.0	.8
3.1	2.6
3.2	5.7
3.3	10

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0.2		0	0.4	0.9	0.7	0.1				
2		0		0	.4	.3	.2	0				
3		0		0	0	2.0	.7	0				
4		0		0	0	2.5	.8	0				
5		0		0	0	1.2	.8	0				
6		0		0	0	1.3	1.5	0				
7		0		0	0	1.2	2.6	* 0				
8		0		0	* 3.5	1.2	2.6	0				
9		0		0	1.5	1.2	* 2.1	0				
10	(*)	0		0	* 3	1.2	1.9	0				
11		0		0	7.9	1.2	1.5	0				
12		0		.4	4.8	* .9	1.3	0	(*)			
13		* 0		0	.6	.5	1.5	0				
14		0		0	.5	.7	1.9	0				
15		0		0	* 4.8	.7	1.7	0				
16		0		0	1.9	.4	1.5	0				
17		0		0	.1	.5	1.3	0				
18		0		0	.7	.6	1.3	0				
19		0		0	6.8	.7	1.3	0				
20		0		11	* 3.6	.7	1.2	0				
21		0		* 1.6	2.6	.6	1.2	0				
22		* 0		.8	1.9	.5	1.2	0				
23		0		.2	1.2	.4	* 1.2	0				
24		0		.3	1.0	.3	1.2	0				
25		0		.8	1.0	.3	1.2	0				
26		0	(*)	2.3	1.5	.3	.6	0	(*)	(*)		
27		* 0		.4	1.2	.3	.1	0				
28		0		.1	* 1.0	* .1	.1	* 0			(*)	
29		0		* 0		.1	.1	0				
30	(*)	0		0		0	.1	.1				
31		-----		0	-----	.4	-----	0	-----			-----
Total	0	0.2	0	17.9	49.2	23.2	36.0	0.2	0	0	0	0
Mean	0	0.007	0	0.58	1.76	0.75	1.20	0.006	0	0	0	0
Max	0	0.2	0	11	7.9	2.5	2.6	0.1	0	0	0	0
Min	0	0	0	0	0	0	0.1	0	0	0	0	0
Ac-ft	0	0.4	0	36	98	46	71	0.4	0	0	0	0

Calendar year 1961: Max 1.9 Min 0 Mean 0.02 Ac-ft 11  
Water year 1961-62: Max 7.9 Min 0 Mean 0.35 Ac-ft 252

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

## SANTA ANA RIVER BASIN

161

11-775. Santiago Creek at Santa Ana, Calif.

Location.--Lat 33°46'09", long 117°52'54", in NE 1/4 sec. 1, T.5 S., R.10 W., on left bank at end of Baker Street, Santa Ana, 2,400 ft upstream from mouth.

Drainage area.--96.6 sq mi.

Records available.--October 1928 to September 1962. Monthly discharge only October to December 1928, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 110 ft (from topographic map). Prior to June 22, 1948, at datum 0.96 ft higher.

Average discharge.--34 years, 4.49 cfs (3,250 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

Extremes.--Maximum discharge during year, 157 cfs Dec. 2 (gage height, 3.28 ft); no flow for most of year.

1928-62: Maximum discharge, 4,400 cfs Mar. 2, 1938 (gage height, 8.36 ft, present datum), from rating curve extended above 1,200 cfs; maximum gage height, 9.85 ft Jan. 16, 1952; no flow for most of each year.

Remarks.--Records good. Flow regulated by Santiago Reservoir (see p. 159). Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts. In each winter season, some water originally diverted from Santa Ana River by Santa Ana Valley Irrigation Co.'s canal is occasionally wasted into Santiago Creek 3 miles above station.

Cooperation.--Five discharge measurements furnished by Orange County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	1.0						
2			* 3.1	0	0	.5						
3			3.1	0	0	0						
4			1.1	0	0	0						
5			5.0	0	0	0						
6			1.8	0	0	8.3						
7			8.0	0	0	1.0						
8			.4	0	* 4.2	0						
9			0	0	6.5	0						
10	(*)		0	0	* 0	0						
11			0	0	* 1.9	0						
12			.5	0	* 1.3	* 0						
13			.1	0	0	0						
14			0	0	0	0						
15			0	0	* 2.2	0						
16			0	0	* 8.0	0						
17			0	0	.2	0						
18			0	0	0	0						
19			0	0	1.5	0						
20			0	* 2.3	1.0	0						
21			0	6.0	3.1	0						
22		(*)	0	6.3	.4	0						
23			0	* .3	0	0	(*)					
24			0	0	0	0						
25			0	0	0	0						
26			* 0	0	0	0			(*)	(*)		
27		(*)	0	0	0	0						
28			0	0	* 0	* 0		(*)			(*)	
29			0	* 0	-	0						
30	(*)		0	0	-----	0						
31		-----	0	0	-----	0	-----		-----			-----
Total	0	0	51.1	35.6	130.2	10.8	0	0	0	0	0	0
Mean	0	0	1.65	1.15	4.65	0.35	0	0	0	0	0	0
Max	0	0	31	23	42	8.3	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	101	71	258	21	0	0	0	0	0	0

Calendar year 1961: Max 31 Min 0 Mean 0.18 Ac-ft 127  
 Water year 1961-62: Max 42 Min 0 Mean 0.62 Ac-ft 451

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

## SANTA ANA RIVER BASIN

11-780. Santa Ana River at Santa Ana, Calif.

Location.--Lat 33°44'56", long 117°54'30", in NW 1/4 SE 1/4 sec. 10, T.5 S., R.10 W., on center pier of Fifth Street Bridge in Santa Ana, 1.8 miles downstream from Santiago Creek. Prior to Feb. 28, 1961, on right pier.

Drainage area.--1,625 sq mi.

Records available.--January 1923 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 71.20 ft (revised) above mean sea level (Orange County bench mark). Jan. 3, 1923, to Jan. 24, 1929, at same site at different datum. Jan. 25, 1929, to June 20, 1948, at site 450 ft upstream at different datum. June 21, 1948, to May 2, 1960, at same site at different datum. Feb. 28, 1961, to Oct. 1, 1961, at same site at datum 2.00 ft higher.

Average discharge.--17 years (1923-40), 23.4 cfs (16,940 acre-ft per year); median of yearly mean discharges, 3.1 cfs (2,200 acre-ft per year); 22 years (1940-62), 14.1 cfs (10,210 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

Extremes.--Maximum discharge during year, 610 cfs Feb. 8 (gage height, 3.46 ft, from floodmark), from rating curve extended above 250 cfs; no flow for most of year.

1923-62: Maximum discharge, 46,300 cfs Mar. 3, 1938 (gage height, 10.20 ft, former site and datum), on basis of slope-area measurement of peak flow; no flow during several months each year.

Remarks.--Records poor. Natural flow affected by ground-water withdrawals, diversions, importation from Metropolitan Water District, municipal use, return flow from irrigation, and several storage reservoirs, including Prado flood-control reservoir (capacity, 222,800 acre-ft), and Big Bear Lake (see p. 122). At times there are small amounts of return irrigation water from Santa Ana Valley Irrigation Co.'s drain 1,500 ft upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0	*a 0						
2		0	*e 20	0	0	0						
3		0	e 10	0	0	0						
4		0	e 5	0	0	0						
5		0	a .1	0	0	0						
6		0	0	0	0	a 5						
7		0	0	0	0	a 1						
8		0	* 0	* 3.8	*a 200	0						
9		0	e 1	.2	*a 300	0						
10	(*)	0	e .5	0	*a 200	0						
11		0	e 0	0	*a 150	0						
12		0	* 0	.5	*a 200	* 0			(*)			
13		0	0	0	*a 100	0						
14		0	e 0	0	*a 5	0						
15		0	e .2	2.4	*a 40	0						
16		0	e .2	0	a 100	0						
17		0	e 0	0	a 10	0						
18		0	0	0	a 5	0						
19		0	0	0	*a 80	0						
20		*a 5	0	40	a 100	0						
21		0	0	* 6.9	*a 250	0						
22		* 0	0	* 44	a 100	0						
23		0	0	9.5	a 10	0	(*)					
24		0	0	* .2	a 5	0				(*)		
25		0	0	0	a 3	0						
26		0	* 0	0	a 2	0						
27		*a .1	0	4.0	a 1	0						
28		*a 5	0	10	*a .5	* 0		(*)			(*)	
29		*a .5	0	1.5	-	0						
30	(*)	0	0	0	-----	0						
31		-----	0	* 0	-----	0						
Total	0	10.6	37.0	123.0	1861.5	6	0	0	0	0	0	0
Mean	0	0.35	1.19	3.97	66.4	0.19	0	0	0	0	0	0
Max	0	5	20	44	300	5	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	21	73	244	3,690	12	0	0	0	0	0	0

Calendar year 1961: Max 20 Min 0 Mean 0.15 Ac-ft 108  
 Water year 1961-62: Max 300 Min 0 Mean 5.58 Ac-ft 4,040

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

a No gage-height record.

e Stage-discharge relation indefinite.



## SAN GABRIEL RIVER BASIN

163

11-805. East Fork San Gabriel River near Camp Bonita, Calif.

Location---Lat 34°14'08", long 117°48'16", in NE 1/4 sec. 27, T.2 N., R.9 W., on right bank 1,600 ft upstream from mouth of Graveyard Canyon, 2.5 miles upstream from confluence with West Fork, and 2.5 miles west of Camp Bonita.

Drainage area---88.2 sq mi.

Records available---December 1932 to September 1962. Prior to 1940, published as San Gabriel River near Camp Bonita.

Gage---Water-stage recorder. Datum of gage is 1,567.04 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Dec. 10, 1938, at site 0.6 mile downstream at different datum.

Average discharge---29 years (1933-62), 67.3 cfs (48,720 acre-ft per year); median of yearly mean discharges, 44 cfs (31,900 acre-ft per year).

Extremes---Maximum discharge during year, 3,600 cfs Feb. 11 (gage height, 11.76 ft); minimum daily, 2.3 cfs Oct. 4-6.

1932-62: Maximum discharge, 46,000 cfs Mar. 2, 1938, from rating curve extended above 21,300 cfs (computed by Geological Survey); minimum, 1.5 cfs Oct. 1, 1934.

Remarks---No regulation or diversion above station.

Cooperation---Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	4.0	11	15	28	178	144	105	59	41	27	19
2	2.9	4.2	345	15	28	171	148	100	58	39	27	19
3	2.4	4.2	102	15	28	164	150	96	59	39	27	18
4	2.3	4.2	51	15	28	152	146	96	60	38	26	18
5	2.3	4.0	38	15	27	154	148	94	58	37	25	18
6	2.3	3.4	36	17	27	172	154	93	55	37	25	18
7	2.9	3.7	33	15	29	164	156	93	53	36	25	18
8	3.4	4.0	28	15	206	159	159	90	51	35	25	19
9	3.4	4.2	27	15	520	158	166	88	51	34	25	18
10	3.7	4.2	25	15	468	152	161	88	51	34	25	18
11	3.4	4.2	23	16	1,760	148	154	87	50	34	25	18
12	3.4	4.0	22	16	1,180	146	148	85	49	35	23	18
13	2.9	3.7	22	17	596	142	148	83	50	36	23	18
14	2.7	4.2	22	15	479	135	148	91	53	34	22	17
15	2.7	4.5	21	15	502	131	144	85	54	32	21	17
16	2.7	4.5	20	16	461	127	139	85	53	31	21	16
17	2.9	4.7	19	15	418	127	135	83	48	31	21	15
18	2.9	4.7	17	15	363	129	133	76	46	31	21	15
19	2.9	5.4	17	15	376	133	129	75	45	32	21	14
20	3.2	37	16	79	350	129	131	72	45	32	21	14
21	3.4	22	16	38	345	127	127	69	45	31	21	15
22	3.7	11	16	30	268	130	121	66	45	30	21	15
23	3.7	10	16	30	254	127	119	66	42	29	21	14
24	3.7	10	16	27	259	117	117	66	41	30	20	15
25	3.7	16	16	24	235	113	121	66	42	30	20	16
26	3.7	17	16	24	214	115	117	64	42	29	20	16
27	3.7	14	16	23	205	123	113	64	40	29	20	17
28	3.7	12	16	24	189	131	117	64	40	27	20	17
29	4.0	11	15	25	-	137	117	61	42	27	20	17
30	4.0	10	15	27	-----	142	111	60	42	27	20	16
31	4.0	-----	15	28	-----	142	-----	60	-----	27	20	-----
Total	99.5	250.0	1,068	671	9,843	4,375	4,121	2,471	1,469	1,014	699	503
Mean	3.21	8.33	34.5	21.6	352	141	137	79.7	49.0	32.7	22.5	16.8
Max	4.0	37	345	79	1,760	178	166	105	60	41	27	19
Min	2.3	3.4	11	15	27	113	111	60	40	27	20	14
Ac-ft	197	496	2,120	1,330	19,520	8,680	8,170	4,900	2,910	2,010	1,390	998

Calendar year 1961: Max 345 Min 1.7 Mean 10.0 Ac-ft 7,260  
 Water year 1961-62: Max 1,760 Min 2.3 Mean 72.8 Ac-ft 52,720

## SAN GABRIEL RIVER BASIN

11-820. West Fork San Gabriel River at Camp Rincon, Calif.

Location---Lat 34°14'30", long 117°51'50", in SE $\frac{1}{4}$  sec.19, T.2 N., R.9 W., on right bank 0.2 mile upstream from Camp Rincon, 0.5 mile downstream from North Fork, and 6 miles downstream from Cogswell Dam.

Drainage area---102 sq mi.

Records available---October 1927 to September 1962.

Gage---Water-stage recorder. Datum of gage is 1,474.94 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Nov. 19, 1930, at site  $\frac{1}{2}$  miles downstream at different datum. Aug. 27, 1938, to July 3, 1941, at datum 6.41 ft higher.

Average discharge---35 years, 62.2 cfs (45,030 acre-ft per year); median of yearly mean discharges, 33 cfs (23,900 acre-ft per year).

Extremes---Maximum discharge during year, 7,830 cfs Feb. 11 (gage height, 14.75 ft); minimum daily, 1.5 cfs Oct. 4.  
1927-62: Maximum discharge, 34,000 cfs (estimated) Mar. 2, 1938; no flow at times in 1928-29.

Remarks---Flow regulated by Cogswell flood-control reservoir (capacity, 10,630 acre-ft).

Cooperation---Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	4.4	8.2	11	17	243	78	47	39	41	43	37
2	1.7	3.5	503	10	17	237	78	45	37	42	43	37
3	1.7	3.3	110	10	17	234	78	44	38	41	43	37
4	1.5	3.1	45	9.6	16	231	78	43	38	40	43	39
5	1.7	2.5	29	9.5	16	231	76	42	38	38	42	49
6	1.7	12	20	9.4	15	236	74	42	37	38	42	48
7	2.1	4.4	18	9.3	17	196	72	42	37	38	42	49
8	2.3	3.1	17	9.2	212	158	71	42	36	38	42	49
9	2.5	2.7	16	9.2	542	119	71	41	36	39	42	49
10	2.5	2.7	15	9.1	589	113	70	41	36	38	42	49
11	2.7	2.5	14	9.0	3800	106	67	41	36	38	41	49
12	2.5	2.3	14	9.0	3070	100	66	41	36	38	40	49
13	1.9	2.1	13	10	1090	96	63	41	38	37	40	49
14	1.9	2.5	13	9.0	815	96	61	46	40	45	40	50
15	1.9	2.5	13	8.8	819	95	59	45	41	45	41	52
16	1.9	2.7	12	8.7	715	94	56	49	39	49	39	51
17	1.9	2.7	11	8.4	617	91	56	43	37	41	42	50
18	2.1	2.9	10	9.1	536	91	56	41	34	40	42	49
19	2.1	2.9	9.9	9.1	518	89	57	39	34	40	42	48
20	2.3	25	9.6	103	452	88	56	41	34	45	42	47
21	2.7	11	9.3	32	414	83	53	40	33	44	42	47
22	2.9	6.9	9.7	28	387	85	53	39	33	43	41	47
23	2.9	6.2	10	27	374	85	51	38	33	43	40	48
24	2.9	5.6	10	24	353	82	51	39	33	43	39	48
25	2.9	22	11	20	324	80	52	39	33	42	38	49
26	2.9	19	11	20	297	79	50	39	32	42	39	50
27	3.1	11	12	20	280	80	50	40	42	42	38	50
28	3.1	8.4	12	20	259	82	50	39	42	43	37	50
29	3.1	6.9	12	20	-	85	51	39	42	43	38	50
30	112	7.2	11	19	-----	85	49	42	42	44	38	49
31	49	-----	11	18	-----	80	-----	40	-----	43	38	-----
Total	2283	1940	1019.7	528.4	16578	3850	1853	1290	1106	1283	1261	1425
Mean	7.36	6.47	32.9	17.0	592	124	61.8	41.6	36.9	41.4	40.7	47.5
Max	112	25	503	103	3,800	243	78	49	42	49	43	52
Min	1.5	2.1	8.2	8.4	15	79	49	38	32	37	37	37
Ac-ft	453	385	2,020	1,050	32,880	7,640	3,680	2,560	2,190	2,540	2,500	2,830
Calendar year 1961:	Max	503	Min	1.2	Mean	8.40	Ac-ft	6,080				
Water year 1961-62:	Max	3,800	Min	1.5	Mean	83.9	Ac-ft	60,730				

11-835. San Gabriel River near Azusa, Calif.

Location.--Lat 34°10'11", long 117°53'16", in SW 1/4 SW 1/4 sec.13, T.1 N., R.10 W., on right bank 1.1 miles downstream from Morris Dam and 2.7 miles northeast of Azusa.

Drainage area.--211 sq mi.

Records available.--May to November 1894, September 1895 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 867.59 ft above mean sea level (from Los Angeles County Flood Control District bench mark). Prior to August 1917, staff gages and August 1917 to Sept. 30, 1937, water-stage recorders at several sites from 1½ to 2 miles downstream at different datum. Oct. 1, 1937, to Feb. 21, 1938, water-stage recorder at site half a mile downstream at different datum. Feb. 22, 1938, to Feb. 7, 1939, water-stage recorder at site a quarter of a mile upstream at different datum. Datum lowered 4.35 ft May 9, 1950.

Average discharge.--67 years (1895-1962), 149 cfs (107,900 acre-ft per year), adjusted for diversions, importations, regulation, and evaporation, in Cogswell, San Gabriel and Morris Reservoirs; median of yearly mean adjusted discharges, 100 cfs (72,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,650 cfs Feb. 12 (gage height, 8.50 ft); no flow most of year.

1894, 1895-1962: Maximum discharge, 65,700 cfs Mar. 2, 1938, by computation of peak flow over Morris Dam; no flow for several months in most years.

Remarks.--Records fair. Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft) and by Morris Reservoir (capacity, 35,000 acre-ft). Azusa Canal diverts above high-water level of Morris Reservoir or from San Gabriel Reservoir about 5 miles above station. The Metropolitan Water District of Southern California reports a release of 1,833 acre-ft of Colorado River water into San Gabriel River below Morris Dam and above station during the water year. They also furnished records of adjusted runoff for San Gabriel River computed on basis of flow in river above Morris Reservoir plus Azusa canal, adjusted for storage and evaporation in Cogswell, San Gabriel, and Morris Reservoirs, as shown in table below. These figures of runoff are equivalent to combined records of San Gabriel River and Southern California Edison Co.'s canal as published from 1894 to 1933.

Month	Adjusted runoff (acre-feet)	Month	Adjusted runoff (acre-feet)
October.....	288	April.....	13,020
November.....	908	May.....	7,960
December.....	4,670	June.....	4,800
		July.....	3,160
Calendar year 1961.....	13,620	August.....	2,100
		September.....	1,460
January.....	3,240	Water year 1961-62.....	120,100
February.....	60,050		
March.....	18,470		

Cooperation.--Twenty-six discharge measurements furnished by Los Angeles County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	4.2		0	0	* 795				0	320	
2	4.2	* 4.2		0	0	* 885				0	* 286	
3	4.2	4.2		0	0	* 1,140				0	* 291	
4	4.2	4.2		0	0	1,130				0	291	
5	* 4.4	4.4		0	0	907				0	291	
6	4.4	4.9		0	0	795				0	* 291	
7	4.2	4.9		0	0	788				0	291	
8	4.2	5.2		0	0	335				0	* 291	
9	4.2	* 5.2		* 0	0	* 35				0	* 291	
10	* 4.2	5.2		0	0	59				0	* 319	
11	4.4	5.2		0	461	43				0	372	
12	4.4	4.9		0	1,350	43				0	372	
13	4.4	4.9		0	1,240	47				0	* 388	
14	4.4	4.9		0	* 1,300	52				0	* 408	
15	5.2	* 4.9		0	1,520	48				0	408	
16	5.5	4.9		0	1,190	46				* 382	348	
17	5.5	4.6		0	1,020	46				* 620	* 2.2	
18	5.2	4.4		0	908	46				* 575	0	
19	4.6	4.4		0	809	44				* 520	0	
20	4.6	5.5		2.4	809	44				* 485	0	
21	4.4	5.2		.1	802	43				485	0	
22	4.4	5.2		0	802	* 43				485	0	
23	4.2	5.5		0	795	43				* 480	0	
24	3.9	5.2		0	* 795	42				480	0	
25	3.9	5.5		0	795	42				480	0	
26	* 3.9	5.2		0	795	* 44				* 390	0	
27	3.9	1.7		0	795	43				* 308	0	
28	3.9	* 0	(*)	0	795	.7				320	0	
29	3.9	0		0	-	* .1				320	0	
30	3.9	0		* 0	-	0				* 320	0	
31	4.2	-		0	-	0				320	* 0	
Total	135.1	128.7	0	2.5	16,981	7,628.8	0	0	0	6,970	5,260.2	0
Mean	4.36	4.29	0	0.08	606	246	0	0	0	225	170	0
Max	5.5	5.5	0	2.4	1,520	1,140	0	0	0	620	408	0
Min	3.9	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	268	255	0	5.0	33,680	15,130	0	0	0	13,820	10,430	0

Calendar year 1961: Max 7.5 Min 0 Mean 2.45 Ac-ft 1,780  
 Water year 1961-62: Max 1,520 Min 0 Mean 102 Ac-ft 73,590

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

## SAN GABRIEL RIVER BASIN

11-840. Rogers Creek near Azusa, Calif.

Location.--Lat 34°09'55", long 117°54'20", in NW<sup>1</sup>/<sub>4</sub> sec.23, T.1 N., R.10 W., on left bank 0.5 mile upstream from mouth and 2.2 miles north of Azusa.

Drainage area.--6.4 sq mi, approximately.

Records available.--October 1917 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map). Since June 26, 1959, supplementary water-stage recorder 300 ft downstream at different datum.

Average discharge.--45 years, 2.85 cfs (2,060 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 700 cfs Feb. 11 (gage height, 7.1 ft), from rating curve extended above 150 cfs on basis of velocity-area study of peak flow; no flow for many days.  
1917-62: Maximum discharge, about 2,400 cfs Jan. 6, 1959 (gage height, 11.7 ft, from floodmarks), on basis of field estimate of peak flow; no flow during parts of each year.

Remarks.--Records poor prior to Mar. 26, good thereafter. Diversion above station for irrigation of about 20 acres below station.

Cooperation.--Fourteen discharge measurements furnished by Los Angeles County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	e 0.6	*13	*4.0	2.2	1.3	0.5	0.2	
2		*0	*26	0	e .5	a12	3.6	2.2	1.3	.4	.2	
3		0	10	0	e .5	a12	3.6	*2.0	1.3	.4	.1	
4		0	1.3	0	e .5	a11	3.6	1.7	1.3	.4	.1	
5		0	1.1	0	e .5	a10	*3.6	1.7	1.3	*.4	.1	
6		0	e 1	0	e .5	a11	3.6	1.7	1.3	.4	.1	
7		0	.9	0	e .5	a10	3.6	1.7	*1.3	.3	.1	
8		0	*.4	0	*21	*a9	3.6	*1.5	1.3	.3	.1	
9		0	.3	0	*4.4	a8.5	3.6	1.5	1.3	.3	.1	
10	(*)	0	e .3	0	*50	a8	*3.6	1.5	1.3	.3	0	
11		0	e .3	0	*258	a8	3.2	1.5	*1.5	*.3	0	
12		0	e .3	0	*135	*a7.5	3.2	1.5	1.5	.4	0	
13		0	e .3	0	a50	a7	3.2	1.7	1.5	.4	0	
14		0	e .4	0	a45	*6.4	3.2	2.5	1.5	.5	0	
15		0	e .4	0	a60	5.8	3.2	2.8	1.5	.5	0	
16		*0	e .4	0	*a40	5.8	3.2	3.2	1.5	.5	0	
17		0	e .3	0	a35	5.8	3.2	2.5	1.5	.5	0	
18		0	e .2	0	a30	5.8	3.2	*1.7	1.5	.5	0	
19		0	e .1	0	a35	5.8	3.2	1.7	1.3	.5	0	
20		.5	0	30	*a50	5.8	2.8	1.7	1.1	.4	0	(*)
21		*0	0	14	a45	5.8	2.8	1.5	*1.1	.3	0	
22		0	0	*6.2	a40	*6.9	2.8	1.5	.9	.3	0	
23		0	0	3.6	*a35	e6	2.8	1.5	.8	.3	0	
24		0	0	2.5	*a25	e5.5	2.8	*1.5	.8	.3	0	
25		0	0	1.5	a20	a5	*2.8	1.5	.6	*.3	0	
26		0	0	e 1.3	a17	*4.6	2.8	1.5	*.6	.3	0	
27		*0	0	e 1.2	a15	4.6	2.8	1.5	.6	.3	0	
28		0	*0	e 1	a14	4.6	2.8	1.5	.6	.2	0	
29		0	0	e .9	-	4.6	2.8	*1.5	.6	.2	0	
30		0	0	*e .8	-----	4.6	2.5	1.5	.6	.2	0	
31		-----	0	e .7	-----	4.0	-----	1.3	-----	.2	*0	
Total	0	0.5	44.0	63.7	1067.6	224.4	95.7	54.8	34.6	11.1	1.1	0
Mean	0	0.02	1.42	2.05	38.1	7.24	3.19	1.77	1.15	0.36	0.04	0
Max	0	0.5	26	30	258	13	4.0	3.2	1.5	0.5	0.2	0
Min	0	0	0	0	0.5	4.0	2.5	1.3	0.6	0.2	0	0
Ac-ft	0	1.0	87	126	2,120	445	190	109	69	22	2.2	0

Calendar year 1961: Max 26 Min 0 Mean 0.15 Ac-ft 107

Water year 1961-62: Max 258 Min 0 Mean 4.38 Ac-ft 3,170

Peak discharge (base, 35 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0800	3.65	112	2-15	unknown	unknown	unknown
1-20	1300	4.00	105	2-20	unknown	unknown	unknown
2-11	1200	7.1	700				

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

a No gage-height record.

e Stage-discharge relation indefinite.

## SAN GABRIEL RIVER BASIN

167

11-845. Fish Creek near Duarte, Calif.

Location.--Lat 34°10'00", long 117°55'25", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.15, T.1 N., R.10 W., on left bank 0.8 mile upstream from mouth of canyon and 3 miles northeast of Duarte.

Drainage area.--6.5 sq mi, approximately.

Records available.--July to September 1916, July 1917 to September 1962.

Gage.--Water-stage recorder and broad-crested weir since July 28, 1917. Altitude of gage is 1,000 ft (from topographic map). Prior to July 28, 1917, staff gage at same site at different datum. July 28, 1917, to Mar. 2, 1938, water-stage recorder at same site at different datum (destroyed by flood of Mar. 2, 1938). Mar. 3 to Dec. 7, 1938, staff gage at same site at different datum. Dec. 7, 1938, to Oct. 3, 1951, water-stage recorder at same site at datum 1 ft higher.

Average discharge.--45 years (1917-62), 3.85 cfs (2,790 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 770 cfs Feb. 11 (gage height, 8.05 ft), from rating curve extended above 250 cfs on basis of slope-area measurement and broad-crested-weir study, at gage height 6.78 ft; no flow Oct. 1 to Nov. 19, 1916-62: Maximum discharge, 2,100 cfs Mar. 2, 1938, and Jan. 23, 1943; maximum gage height, about 14.5 ft Feb. 11, 16, 1959 (from debris wave); no flow at times in some years.

Remarks.--Records good except those for Dec. 26 to Feb. 22, which are poor. No regulation or diversion above station.

Cooperation.--Fourteen discharge measurements furnished by Los Angeles County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.5	0.6	* 1.5	1.4	4.7	2.7	2.1	1.0	0.6	0.5
2		* 0	1.1	.6	1.5	1.3	4.7	2.6	2.1	1.0	.6	.4
3		0	a 3	.6	1.5	1.3	4.7	* 2.5	2.1	1.0	.7	.4
4		0	a 2	* .6	1.2	1.2	4.6	2.3	2.1	1.0	.7	.4
5		0	a 1.5	.6	1.2	1.1	* 4.4	2.2	2.1	* 1.0	.8	.4
6		0	a 1.5	.5	1.2	1.4	4.4	2.1	2.1	1.0	.8	* .4
7		0	* a 1	.4	1.7	* 1.0	4.4	2.0	* 2.1	1.0	.8	.4
8		0	a 1	.3	4.3	* 9.5	4.4	* 2.0	2.1	1.0	.8	.5
9		0	a 1	* .3	7.7	9.0	4.4	2.0	2.0	1.0	.7	.6
10	(*)	0	a 1	.3	* 6.3	8.7	* 4.4	2.0	2.0	1.0	.7	.5
11		0	a .9	.3	4.7	8.6	4.2	2.0	* 2.1	* 1.0	.8	.5
12		0	a .9	.6	a 1.5	8.2	4.1	2.1	2.1	1.0	.8	.5
13		0	* a .8	a .5	a .6	8.0	3.9	2.2	2.2	1.3	.8	.5
14		0	a 1	a .5	* a 5.0	* 7.8	3.8	2.7	2.2	1.3	.8	.5
15		* 0	* 1.2	a .5	a 7.0	7.6	3.6	3.0	2.3	1.3	.8	.5
16		0	1.0	a .4	* 5.7	7.6	3.5	3.5	2.3	1.1	.7	.5
17		0	.7	a .4	5.2	7.3	3.5	* 2.9	1.8	1.1	.7	.5
18		0	.5	* .3	a 3.0	7.6	3.3	2.6	1.2	1.0	.7	.5
19		0	.3	.3	a 4.0	7.6	3.3	2.6	1.1	.9	.6	.4
20		5.1	.4	* 4.3	a 5.0	7.6	* 3.3	2.7	1.2	.8	.6	* .4
21		1.7	.3	3.6	a 4.0	7.1	3.2	2.7	* 1.3	.7	.5	.4
22		.3	.2	* 1.3	a 3.0	7.8	3.2	2.6	1.3	.6	.6	.4
23		.3	.2	a 5	* 2.8	6.3	3.0	2.6	1.2	.6	.6	.4
24		.2	.2	a 3	2.7	5.7	3.0	2.6	1.2	.7	.6	.4
25		5.0	.2	* 3.4	2.2	5.5	* 3.4	2.5	* 1.1	.8	.5	.4
26		3.2	.2	3.1	1.8	5.3	3.0	2.5	1.0	.8	.5	.5
27		.5	.3	2.8	1.6	* 5.1	2.9	2.5	1.0	* .7	.5	.5
28		* .4	* .4	1.9	1.5	5.1	2.9	2.5	1.0	.7	.5	.6
29		.4	.5	1.9	-	5.1	2.9	2.3	1.0	.7	.5	.6
30		.7	.6	* 1.7	-----	4.9	2.9	2.2	1.0	.6	.5	.5
31		-----	.6	1.7	-----	4.9	-----	* 2.1	-----	.6	* .5	-----
Total	0	17.8	136.9	125.1	141.9	254.9	112.0	75.8	50.4	28.3	20.3	14.0
Mean	0	0.59	4.42	4.04	50.7	8.22	3.73	2.45	1.68	0.91	0.65	0.47
Max	0	5.1	11.3	4.3	4.72	14	4.7	3.5	2.3	1.3	0.8	0.6
Min	0	0	0.2	0.3	1.2	4.9	2.9	2.0	1.0	0.6	0.5	0.4
Ac-ft	0	35	272	248	2,820	506	222	150	100	56	40	28

Calendar year 1961: Max 113 Min 0 Mean 0.75 Ac-ft 546

Water year 1961-62: Max 472 Min 0 Mean 6.18 Ac-ft 4,480

Peak discharge (base, 60 cfs)

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

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0800	8.10	420	2-11	0600	8.05	770
1-20	1230	7.35	200				

## SAN GABRIEL RIVER BASIN

11-850. San Gabriel River below Santa Fe Dam, near Baldwin Park, Calif.

Location.--Lat 34°06'44", long 117°58'07", in SE 1/4 SW 1/4 sec. 6, T.1 S., R.10 W., on left bank at stilling basin of outlet of Santa Fe flood-control dam, 500 ft downstream from axis of dam, and 1.7 miles north of Baldwin Park.

Drainage area.--231 sq mi.

Records available.--October 1942 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 728 cfs Feb. 13 (gage height, 11.72 ft); no flow for most of year.  
1942-62: Maximum discharge, 8,000 cfs Jan. 23, 1943; no flow for several months of each year.

Remarks.--Records good. Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Diversions above station for irrigation, power development, and ground-water replenishment. The Los Angeles County Flood Control District diverted 9,110 acre-ft above station through the Santa Fe channel to headwaters of Rio Hondo during year.

Cooperation.--Records of diversion to Rio Hondo and 23 discharge measurements furnished by Los Angeles County Flood Control District; 2 discharge measurements furnished by Corps of Engineers, U. S. Army.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)		0	0	* 342	0			0	248	
2				0	0	335	0			0	* 232	
3				0	0	355	0			0	* 232	
4				0	0	330	0			0	237	
5				0	0	313	0			0	237	
6				0	0	293	0			0	213	
7				0	0	194	0			0	* 189	
8				0	0	* 244	0			0	189	
9				0	0	193	.9			0	* 189	
10				0	* 0	19	0			0	213	
11				0	106	3.5	0			0	253	
12	(*)			0	* 268	1.2	0			0	253	
13				0	* 437	0	0			* 0	* 269	
14				0	367	0	0			0	* 285	
15				0	321	0	0			0	285	
16				0	199	0	0			* 114	* 212	
17				0	361	0	0			* 446	* 0	
18				0	392	0	0			* 466	0	
19				0	185	0	0			* 398	0	
20				0	159	0	0			* 379	0	
21				0	191	0	0			* 379	0	
22				0	302	0	0			379	0	
23				0	* 313	0	0			386	0	
24				0	308	0	0			386	0	
25				* 12	296	0	* 0			386	0	
26				0	308	* 0	0			* 337	0	
27				0	342	0	0			* 232	0	
28		(*)	(*)	0	* 361	0	0		(*)	248	0	(*)
29				0	-	0	0			248	* 0	
30				* 0	-----	0	0	(*)		* 248	0	
31				0	-----	0	-----			243	0	-----
Total	0	0	0	12	5,216	2,622.7	0.9	0	0	5,275	3,736	0
Mean	0	0	0	0.39	186	84.6	0.03	0	0	170	121	0
Max	0	0	0	12	437	355	0.9	0	0	466	285	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	24	10,350	5,200	1.8	0	0	10,460	7,410	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
 Water year 1961-62: Max 466 Min 0 Mean 46.2 Ac-ft 33,450

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

SAN GABRIEL RIVER BASIN

169

11-860. Dalton Creek near Glendora, Calif.

Location.--Lat 34°09'30", long 117°49'40", in center of sec.21, T.1 N., R.9 W., on right bank 0.6 mile upstream from mouth of canyon, 1.7 miles downstream from Big Dalton Dam, and 2.6 miles northeast of Glendora.

Drainage area.--7.5 sq mi, approximately.

Records available.--December 1919 to September 1962 (discontinued).

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,170 ft (from topographic map). Prior to Aug. 26, 1953, at datum 1.00 ft higher.

Average discharge.--42 years (1920-62), 1.08 cfs (782 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 3,040 cfs Dec. 2 (gage height, 6.40 ft), from rating curve extended above 100 cfs on basis of slope-area measurement at gage height 6.25 ft; no flow for most of year.

1919-62: Maximum discharge, that of Dec. 2, 1962; no flow for several months in each year.

Remarks.--Records good except those above 10 cfs and those for periods of no gage-height record, which are poor. Flow regulated by Big Dalton flood-control reservoir (capacity, 950 acre-ft) since August 1929. Glendora Irrigation Co. diverted no water during year at diversion dam 1.5 miles above station.

Cooperation.--Twenty-four discharge measurements furnished by Los Angeles County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	* 0.2	* 2.1	9.0	a 0.1	0.1			
2		* 0	7.1	0	.1	2.1	7.0	a 0				
3		0	a 2	0	0	2.0	12	* a 0	.1			
4		0	* 1.1	* 0	0	1.8	11	a 0	.1			
5		0	.8	0	0	1.5	* 9.4	a 0	.1			
6		0	.5	0	0	5.0	8.4	a 0	.1			
7		0	* 2	0	.1	20	a 5	a 0	* .1			
8		0	.2	.1	5.5	* 16	a 3	* 0	.1			
9		0	.1	* 0	7.8	5.5	a 2	0	0			
10	(*)	0	.1	0	* 4.7	.7	* a 1	* 0	0			
11		0	.1	* 0	13	1.1	a .5	0	0	(*)		
12		0	.1	0	* 12	1.5	* a .3	0	0	(*)		
13		0	* 1	0	7.7	4.2	a .3	0	0			
14		0	.2	0	5.8	* 12	a .3	.1	0			
15		0	.1	0	8.8	* 11	a .2	0	0			
16		0	.1	0	* 18	11	a .2	3.1	0			
17		0	.1	0	20	7.6	a .2	* .1	0			
18		0	.1	* 0	18	4.1	a .2	.1	0			
19		0	.1	0	* 18	4.4	* a .2	.1	0			
20		* 122	.1	25	9.5	5.1	a .2	.1	0			
21		* 0	* a .1	a 1	12	3.6	a .2	.1	* 0			
22		0	a .1	* a .5	13	* 4.9	a .2	.1	0			
23		0	a .1	a .4	* 7.0	5.2	a .2	.1	0			
24		0	a 0	a .3	a 3	a 1.5	a .2	* .1	0			
25		0	a 0	* a .3	a 2.5	a 1	* a .2	.1	0	(*)		
26		0	a 0	.3	a 2	* 3.4	a .2	.1	0			
27		0	* 0	.3	a 2	7.4	a .2	.1	* 0			
28		* 0	* 0	.2	* a 2	16	a .1	.1	0			
29		0	0	.2	-	* 13	a .1	* .1	0			
30		0	0	* .2	-	13	a .1	.1	0			
31		-	0	.2	-	13	-	* .1	0		(*)	-
Total	0	122	77.4	29.0	192.7	200.7	72.1	4.8	0.8	0	0	0
Mean	0	4.07	2.50	0.94	6.88	6.47	2.40	0.15	0.03	0	0	0
Max	0	122	71	25	20	20	12	3.1	0.1	0	0	0
Min	0	0	0	0	0	0.7	0.1	0	0	0	0	0
Ac-ft	0	242	154	58	382	398	143	9.5	1.6	0	0	0

Calendar year 1961: Max 122 Min 0 Mean 0.58 Ac-ft 420  
 Water year 1961-62: Max 122 Min 0 Mean 1.92 Ac-ft 1,390

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

a No gage-height record.

## SAN GABRIEL RIVER BASIN

11-863. San Dimas Creek below San Dimas Dam, Calif.

Location.--Lat 34°09'10", long 117°46'18", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.24, T.1 N., R.9 W., on left bank 1,000 ft downstream from San Dimas Dam and 3.7 miles northeast of San Dimas.

Drainage area.--16.2 sq mi.

Records available.--October 1951 to September 1962. Prior to October 1956 monthly discharge only, published in WSP 1735.

Gage.--Water-stage recorder and low-flow concrete control. Datum of gage is 1,325.0 ft above mean sea level (levels by Los Angeles County Flood Control District).

Extremes.--Maximum discharge during year, 215 cfs Dec. 3 (gage height, 1.91 ft); no flow for many days.  
1951-62: Maximum discharge, 270 cfs Apr. 3, 1958 (gage height, 2.32 ft); no flow for part of each year.

Remarks.--Flow regulated by San Dimas flood-control reservoir (capacity, 1,042 acre-ft) and at times by old water tunnel 150 ft upstream.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.2	0.1	0.1	7.4	0	0	0.1	0.1	0.1	0.1
2	.1	.1	13	.1	.2	7.7	0	0	.1	.1	.1	.1
3	.1	.1	55	.1	.2	10	.1	0	.1	.1	.1	.1
4	.1	.1	59	.1	.2	6.4	.3	0	.2	.1	.1	.1
5	.1	.1	72	.1	.2	5.0	.4	0	.2	.1	.1	.1
6	.1	.1	.1	.1	.2	.6	.5	0	.2	.1	.1	.1
7	.1	.1	.1	.1	.3	20	.5	0	.2	.1	.1	.1
8	.1	.1	.2	.1	24	9.4	.6	0	.2	.1	.1	.1
9	.1	.1	.2	.1	52	9.0	.6	0	.2	.1	.1	.1
10	.1	.1	.2	.1	59	9.0	.6	0	.2	.1	.1	.1
11	.1	.1	.2	.1	68	7.0	.6	0	.1	.1	.1	.1
12	.1	.1	.2	.1	136	5.0	.6	0	.1	.1	.1	.1
13	0	.1	.2	.2	.3	4.0	.6	0	.1	.1	.1	.1
14	0	.1	.2	.1	.3	4.0	0	.1	.1	.1	.1	.1
15	0	.1	.1	.1	.3	4.0	0	.1	.1	.1	.1	.2
16	0	.1	6.9	.1	.3	5.0	0	.1	.1	.1	.1	.3
17	.1	.1	6.6	.1	32	5.0	0	.1	.1	.1	.1	.3
18	.1	.1	3.3	.1	38	5.0	0	.1	.1	.1	.1	.4
19	.1	0	.2	.1	11	7.0	0	.1	.1	.1	.1	.4
20	.1	7.0	.2	30	71	6.0	0	.1	.1	.2	.1	.4
21	.1	36	.1	.3	14	5.0	0	.1	.1	.2	.1	.4
22	.1	3.1	.1	62	.2	10	0	.1	.1	.2	.1	.3
23	.1	.3	.1	40	.2	8.0	0	.1	.1	.2	.1	.3
24	.1	.3	.1	.1	.2	5.0	0	.1	.1	.2	.1	.2
25	.1	.1	.1	.1	.2	5.0	0	.1	.2	.2	.1	.2
26	.1	.1	.2	.1	.2	5.0	0	.1	.2	.2	.1	.1
27	.1	.1	.1	.1	61	5.0	0	.1	.2	.2	.1	.1
28	.1	.2	.1	.1	47	5.0	0	.1	.2	.2	.1	1.8
29	.1	.2	.1	.2	-	0	0	.1	.2	.1	.1	3.1
30	.1	.2	.1	.2	-----	0	0	.1	.2	.1	.1	3.1
31	.1	-----	.1	.2	-----	0	-----	.1	-----	.1	.1	-----
Total	2.7	49.4	219.3	135.4	616.6	320.4	5.4	1.8	4.3	4.0	3.1	13.0
Mean	0.09	1.65	7.07	4.37	22.0	10.3	0.18	0.06	0.14	0.13	0.10	0.43
Max	0.1	36	72	62	136	77	0.6	0.1	0.2	0.2	0.1	3.1
Min	0	0	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
Ac-ft	5.4	98	435	269	1,220	636	11	3.6	8.5	7.9	6.1	26
Calendar year 1961: Max	72	Min	0	Mean	1.15	Ac-ft	832					
Water year 1961-62: Max	136	Min	0	Mean	3.77	Ac-ft	2,730					



SAN GABRIEL RIVER BASIN

171

11-865. Little Dalton Creek near Glendora, Calif.

Location.--Lat 34°10'03", long 117°50'15", in NE 1/4 sec. 17, T.1 N., R.9 W., on left bank 0.2 mile upstream from Angeles National Forest boundary, and 2.6 miles northeast of Glendora.

Drainage area.--2.7 sq mi, approximately.

Records available.--December 1938 to September 1962. January 1929 to November 1938 at site 0.8 mile downstream; records not equivalent because diversion was not included.

Gage.--Water-stage recorder. Datum of gage is 1,334.38 ft above mean sea level (levels by Los Angeles County Flood Control District).

Average discharge.--24 years, 0.66 cfs (478 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 1,700 cfs Nov. 20 (gage height, 5.24 ft); no flow for several months.

1938-62: Maximum discharge, that of Nov. 20, 1961; no flow at times in each year.

Flood of Mar. 2, 1938, 960 cfs (estimated). Flood of February 1914, 1,020 cfs, result of slope-area measurement.

Remarks.--No regulation above station. Prior to Dec. 1, 1938, diversion by Glendora Irrigating Company above station then in use.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0	0.1	2.0	1.2	0.3	0.2			
2		0	7.0	0	.1	2.0	1.1	.3	.2			
3		0	.1	0	.1	1.9	1.0	.3	.2			
4		0	.1	0	.1	1.9	.8	.3	.2			
5		0	0	0	.1	1.9	.7	.3	.2			
6		0	0	0	.1	3.4	.7	.3	.2			
7		0	0	0	.3	2.8	.6	.3	.2			
8		0	0	0	8.3	1.8	.6	.3	.2			
9		0	0	0	12	2.0	.6	.3	.2			
10		0	0	0	7.7	1.5	.6	.3	.2			
11		0	0	0	50	1.7	.6	.3	.2			
12		0	0	.1	32	1.7	.6	.3	.2			
13		0	0	.1	23	1.6	.5	.3	.2			
14		0	0	0	4.7	1.3	.5	.4	.2			
15		0	0	0	17	1.3	.5	.5	.2			
16		0	0	0	15	1.3	.4	1.1	.2			
17		0	0	0	9.7	1.3	.4	.5	.1			
18		0	0	0	7.5	1.4	.4	.5	.1			
19		0	0	0	13	1.5	.4	.4	.1			
20		58	0	50	7.8	1.4	.4	.4	.1			
21		0	0	1.9	8.2	1.4	.3	.4	.1			
22		0	0	1.6	6.5	3.1	.3	.4	0			
23		0	0	1.0	7.1	2.7	.2	.3	0			
24		0	0	.9	4.7	2.1	.2	.3	0			
25		0	0	1.0	5.1	1.4	.2	.3	0			
26		0	0	.8	4.5	1.5	.2	.3	0			
27		0	0	.6	2.7	1.4	.2	.3	0			
28		0	0	.4	2.4	1.4	.2	.3	0			
29		0	0	.3	-	1.4	.3	.3	0			
30		0	0	.2	-	1.3	.3	.3	0			
31		-	0	.2	-	1.2	-	.3	-			
Total	0	58	70.3	59.1	249.8	54.6	15.0	11.2	3.7	0	0	0
Mean	0	1.93	2.27	1.91	8.92	1.76	0.50	0.36	0.12	0	0	0
Max	0	58	70	50	50	3.4	1.2	1.1	0.2	0	0	0
Min	0	0	0	0	0.1	1.2	0.2	0.3	0	0	0	0
Ac-ft	0	115	139	117	495	108	30	22	7.3	0	0	0
Calendar year 1961: Max	70			Min 0	Mean 0.43	Ac-ft 312						
Water year 1961-62: Max	70			Min 0	Mean 1.43	Ac-ft 1,030						

## SAN GABRIEL RIVER BASIN

11-870. San Jose Creek near Whittier, Calif.

Location.--Lat 34°01'25", long 118°02'05", in Paso de Bartolo Grant, on downstream side of Workman Mill Road Bridge, 3 miles north of Whittier, Los Angeles County.

Drainage area.--85.2 sq mi.

Records available.--January 1929 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 214.85 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Sept. 27, 1937, at datum 2.0 ft higher. Since Sept. 13, 1955, supplementary water-stage recorder on San Jose flood channel  $1\frac{1}{2}$  miles upstream.

Average discharge.--33 years, 8.63 cfs (6,250 acre-ft per year); median of yearly mean discharges, 5.6 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,000 cfs Feb. 11; minimum daily, 0.2 cfs May 11.

1929-62: Maximum discharge, 13,100 cfs Jan. 1, 1934; no flow at times.

Remarks.--One small diversion above station for ground-water recharge. San Jose flood channel  $1\frac{1}{2}$  miles upstream diverts all flows in excess of 200 cfs from San Jose Creek to San Gabriel River above Whittier Narrows Reservoir. Records published herein represent combined flow of San Jose Creek and San Jose flood channel.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

[illegible]

## 11-875. San Gabriel River at Pico, Calif.

Location.--Lat 34°00'25", long 118°04'05", in Paso de Bartolo Grant, in downstream end of mid-span pier of Beverly Boulevard bridge, 0.7 mile downstream from San Jose Creek, and 0.8 mile northeast of Pico, Los Angeles County.

Drainage area.--206 sq mi (excluding area above Santa Fe Dam).

Records available.--October 1928 to September 1962. Since 1954, Colorado River water released to San Gabriel River above station. Records since 1954 not equivalent.

Gage.--Water-stage recorder. Altitude of gage is 180 ft (from topographic map). Prior to Feb. 4, 1937, at site 0.8 mile downstream at different datum. Feb. 4, 1937, to Nov. 14, 1947, at site 1,200 ft downstream at different datum. Nov. 15, 1947, to Mar. 5, 1952, at site 1,000 ft downstream at different datum.

Extremes.--Maximum discharge during year, 8,810 cfs Feb. 11 (gage height, 10.31 ft); no flow on Oct. 17-20, July 2-4, Aug. 24-29. 1928-62: Maximum discharge, 22,700 cfs Mar. 2, 1938; no flow for periods each year.

Remarks.--Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Diversions above station for irrigation, power development, and ground-water replenishment. Colorado River water is released to San Gabriel River at sites 4.7 and 6.7 miles upstream for ground-water replenishment in the San Gabriel River. During the year, 9,110 acre-ft was diverted from the San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	170	11	99	99	168	121	48	168	0.7	149	130
2	121	170	812	99	87	159	125	48	159	0	149	149
3	130	160	137	105	96	206	110	46	149	0	149	163
4	130	165	7.1	130	96	163	117	46	178	0	163	159
5	139	160	58	185	93	144	125	57	195	55	163	163
6	178	160	114	205	93	266	139	106	184	159	184	159
7	184	133	175	200	84	120	144	121	168	163	163	154
8	200	133	160	190	1520	59	130	121	144	149	130	168
9	195	130	180	200	591	99	154	53	154	154	121	168
10	184	133	175	158	88	32	184	149	163	135	102	159
11	158	152	175	137	2840	14	168	144	139	121	79	154
12	135	165	165	114	377	29	139	139	106	130	102	154
13	130	170	133	109	176	121	125	154	125	130	102	154
14	161	152	88	93	126	139	117	159	149	130	121	135
15	138	145	22	96	489	114	106	178	128	135	139	144
16	63	152	116	96	211	117	106	154	124	103	139	149
17	0	175	119	96	171	31	102	125	122	33	48	144
18	0	190	126	96	252	13	135	117	122	173	4.0	144
19	0	172	116	94	804	17	190	110	124	159	4.0	144
20	0	597	105	701	407	117	149	121	114	144	3.0	144
21	32	22	99	68	377	37	139	125	103	144	2.0	144
22	228	68	110	157	159	108	144	125	136	139	1.0	144
23	222	54	108	42	135	19	149	135	131	130	.3	149
24	205	51	93	156	163	13	144	135	134	139	0	144
25	165	32	105	185	139	86	149	135	65	139	0	110
26	141	40	105	165	117	125	149	139	3.0	135	0	65
27	160	63	102	165	163	117	149	144	1.3	106	0	73
28	180	82	93	180	173	121	163	144	1.0	121	0	110
29	185	74	108	160	170	130	159	154	1.3	135	0	117
30	180	7.4	102	170	-----	130	120	154	1.0	139	3.8	117
31	164	-----	105	140	-----	121	-----	163	-----	144	91	-----
Total	4,247	4,077.4	4,124.1	4,791	10,126	3,135	4,151	3,749	3,491.6	3,544.7	2,312.1	4,211
Mean	137	136	133	155	362	101	138	121	116	114	74.6	140
Max	228	597	812	701	2,840	266	190	178	195	173	184	168
Min	0	7.4	7.1	42	84	13	102	46	1.0	0	0	65
Ac-ft	8,420	8,090	8,180	9,500	20,080	6,220	8,230	7,440	6,930	7,030	4,590	8,350
Ac-ft†	12,740	11,530	13,960	14,050	3,430	7,780	14,600	14,280	13,640	8,580	2,190	17,780
Calendar year 1961: Max 812 Min 0 Mean 86.8 Ac-ft 62,860												
Water year 1961-62: Max 2,840 Min 0 Mean 142 Ac-ft 103,100												

† Colorado River water released to San Gabriel River for ground-water recharge, 4.7 and 6.7 miles upstream.

## SAN GABRIEL RIVER BASIN

11-880. San Gabriel River at Spring Street, near Los Alamitos, Calif.

Location.--Lat 33°48'38", long 118°05'24", in NE 1/4 sec. 24, T.4 S., R.12 W., on downstream side of Spring Street bridge, 1.2 miles upstream from Coyote Creek, and 1.2 miles northwest of Los Alamitos.

Drainage area.--216 sq mi (excluding area above Santa Fe Dam).

Records available.--October 1927 to September 1951, October 1952 to September 1962. Monthly discharge only for October 1927 to September 1936, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 12.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1934. Prior to October 1952, at datum 4.44 ft higher.

Average discharge.--34 years, 23.3 cfs (16,870 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

Extremes.--Maximum discharge during year, 7,350 cfs Feb. 11 (gage height, 7.90 ft); no flow for most of year.  
1936-51, 1952-62: Maximum discharge, 27,000 cfs (estimated) Mar. 2, 1938; no flow for several months in each year.

Remarks.--Flow regulated by San Gabriel and Cogswell flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Many diversions above station for irrigation, power development, and ground-water replenishment. "Average discharge" represents flow to ocean during period of record, regardless of upstream development. The Los Angeles County Flood Control District diverted 9,110 acre-ft from San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo during year.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0	0						
2		0	711	0	0	0						
3		0	80	0	0	0						
4		0	2.0	0	0	0						
5		0	0	0	0	0						
6		0	0	0	0	65						
7		0	0	0	0	83						
8		0	0	0	1800	1.9						
9		0	0	0	893	0						
10		0	0	0	126	0						
11		0	0	0	2940	0						
12		0	0	0	618	0						
13		0	0	0	199	0						
14		0	0	0	65	0						
15		0	0	0	702	0						
16		0	0	0	188	0						
17		0	0	0	149	0						
18		0	0	0	1.0	5.2						
19		0	0	0	689	75						
20		446	0	656	446	0						
21		95	0	74	251	0						
22		0	0	119	117	0						
23		0	0	32	10	0						
24		0	0	0	0	0						
25		10	0	0	0	0						
26		1.0	0	0	0	0						
27		0	0	0	0	0						
28		0	0	0	0	0						
29		0	0	0	0	0						
30		0	0	0	0	0						
31		0	0	0	0	0						
Total	0	552.0	793.0	881	9194.0	230.1	0	0	0	0	0	0
Mean	0	18.4	25.6	28.4	328	7.42	0	0	0	0	0	0
Max	0	446	711	656	2,940	83	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	1,090	1,570	1,750	18,240	456	0	0	0	0	0	0
Calendar year 1961:	Max	711	Min	0	Mean	4.30	Ac-ft	3,110				
Water year 1961-62:	Max	2,940	Min	0	Mean	31.9	Ac-ft	23,110				

SAN GABRIEL RIVER BASIN

175

11-885. Brea Creek below Brea Dam, near Fullerton, Calif.

Location.--Lat 33°53'16", long 117°55'32", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.28, T.3 S., R.10 W., on right bank 0.2 mile downstream from Brea Dam and 1 mile north of Fullerton.

Drainage area.--23.4 sq mi.

Records available.--January 1942 to September 1962.

Gage.--Water-stage recorder. V-notch sharp-crested weir since Oct. 25, 1946. Datum of gage is 197.70 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--20 years, 0.67 cfs (485 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes.--Maximum discharge during year, 215 cfs Feb. 11 (gage height, 3.45 ft); no flow most of year.

1942-62: Maximum discharge, 655 cfs Feb. 29, 1944 (gage height, 5.10 ft); no flow parts of most years.

Remarks.--Records fair. Flow regulated by Brea flood-control reservoir (capacity, 4,100 acre-ft).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0	0	0			0			
2		0	.28	0	0	0			0			
3		0	10	0	0	0			0			
4		0	0	0	0	0			0			
5		0	0	0	0	0			0			
6		0	0	0	0	1.5			0			
7		0	0	0	.3	.6			0			
8		0	0	0	* 52	0			0			
9		0	0	0	20	0			0			
10	(*)	0	0	0	* 5.0	0			0			
11		0	0	0	76	0			0			
12		0	0	.1	* 7.4	* 0			.1			
13		* 0	0	0	.4	0			.2			
14		0	0	0	0	0			0			
15		0	0	0	44	0			0			
16		0	0	0	13	0			0			
17		0	0	0	3.7	0			0			
18		0	0	0	.1	.2			0			
19		0	0	0	31	2.6			0			
20		.4	0	* 30	27	.5			0			
21		0	0	.8	14	0			0			
22		* 0	0	* 3.6	1.6	.1			0			
23		0	0	.6	.5	.1			0			
24		0	0	0	.1	0	(*)		0			
25		.4	0	.2	0	0			0			
26		0	0	.1	0	0			0	(*)		
27		0	* 0	0	0	0			0			
28		0	0	0	* 0	* 0			* 0		(*)	
29		* 0	0	* 0	-	0		(*)	0			
30	(*)	0	0	0	-----	0	-----		0			
31		-----	0	0	-----	0	-----		-----			
Total	0	0.8	38.1	35.4	296.1	5.6	0	0	0.3	0	0	0
Mean	0	0.03	1.23	1.14	10.6	0.18	0	0	0.01	0	0	0
Max	0	0.4	.28	30	76	2.6	0	0	0.2	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	1.6	76	70	587	11	0	0	0.6	0	0	0

Calendar year 1961: Max 28 Min 0 Mean 0.12 Ac-ft 86  
 Water year 1961-62: Max 76 Min 0 Mean 1.03 Ac-ft 746

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

## SAN GABRIEL RIVER BASIN

11-890. Brea Creek at Fullerton, Calif.

Location.--Lat 33°52'25", long 117°55'30", in SE 1/4 SE 1/4 sec. 28, T.3 S., R.10 W., between Malden Avenue and Spadra Road at Fullerton.

Drainage area.--26.2 sq mi.

Records available.--October 1930 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map). From Oct. 1, 1930, to Sept. 30, 1935, at site a quarter of a mile upstream at different datum. Oct. 1, 1935, to Jan. 19, 1940, at site a quarter of a mile downstream at different datum.

Average discharge.--32 years, 1.12 cfs (811 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 258 cfs Feb. 11 (gage height, 1.07 ft); no flow for most of year.

1930-62: Maximum discharge, 3,700 cfs Mar. 14, 1941 (gage height, 5.45 ft); no flow for most of each year.

Remarks.--Flow regulated by Brea flood-control reservoir (capacity, 4,100 acre-ft).

Cooperation.--Records furnished by Orange County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.4	0	0	0	0	0				
2		0	15	0	0	0	0	0				
3		0	6.7	0	0	0	0	0.1				
4		0	0	0	0	0	0	0				
5		0	0	0	0	0	0	0				
6		0	0	0	0	2.2	0	0				
7		0	0	0	9	0	0	0				
8		0	0	0	63	0	0	0				
9		0	0	0	23	0	0	0				
10		0	0	1.0	6.9	0	0	0				
11		0	0	.6	99	0	0	0				
12		0	.1	1.2	10	0	0	0				
13		0	0	.2	.6	0	0	0				
14		0	.2	0	0	0	0	.4				
15		0	0	0	58	0	0	.1				
16		0	0	0	15	0	0	0				
17		0	0	0	2.8	0	0	0				
18		0	0	0	0	.4	0	0				
19		0	0	0	43	2.1	0	0				
20		1.6	0	33	34	.8	0	0				
21		0	0	2.7	20	0	0	0				
22		0	0	5.4	2.5	.1	0	0				
23		0	0	1.0	.2	.3	0	0				
24		0	0	0	0	0	0	0				
25		1.5	0	.3	0	0	0	0				
26		0	0	.2	0	0	.1	0				
27		0	0	0	0	0	0	0				
28		0	0	0	.1	0	0	0				
29		0	0	0	-	0	0	0				
30		0	0	.1	-----	0	0	0				
31		-----	0	0	-----	0	-----	0				
Total	0	3.1	22.4	45.7	379.0	6.7	0.1	0.6	0	0	0	0
Mean	0	0.10	0.72	1.47	13.5	0.22	0.003	0.02	0	0	0	0
Max	0	1.6	15	33	99	2.2	0.1	0.4	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	6.1	44	91	752	13	0.2	1.2	0	0	0	0

Calendar year 1961: Max 15 Min 0 Mean 0.08 Ac-ft 60

Water year 1961-62: Max 99 Min 0 Mean 1.25 Ac-ft 908

11-895. Fullerton Creek below Fullerton Dam, near Brea, Calif.

Location.--Lat 33°53'45", long 117°53'07", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.24, T.3 S., R.10 W., on left bank of outlet channel of Fullerton Dam, 1.6 miles southeast of Brea.

Drainage area.--3.24 sq mi.

Records available.--October 1941 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map). V-notch sharp-crested weir used Oct. 25, 1946, to Feb. 2, 1956.

Average discharge.--13 years (1941-54), 0.19 cfs (138 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year); 8 years (1954-62), 0.54 cfs (391 acre-ft per year).

Extremes.--Maximum discharge during year, 57 cfs Feb. 13 (gage height, 1.50 ft); no flow for most of year.  
1941-62: Maximum discharge, 298 cfs Mar. 16, 1943 (gage height, 3.80 ft); no flow at times each year.

Remarks.--Records good below 2 cfs and fair above. Flow regulated by Fullerton flood-control reservoir (capacity, 743 acre-ft). Since December 1954, small tributary formerly entering below station diverted into reservoir.

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

Dec. 2..... 0.5	Feb. 12.....*11	Feb. 20.....17
3..... 1.3	13..... 23	21..... 6.7
Jan. 20..... 5.5	14..... .1	22..... .2
22..... .8	15..... 10	Mar. 6..... .2
Feb. 8..... 13	16..... 20	19..... .3
9..... 14	17..... 8.0	20..... .1
10.....* .7	19..... 12	23..... .1
11..... 7.6		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1961.....	1.8	1.3	0	0.06	3.6
January 1962.....	6.3	5.5	0	.20	12
February.....	143.3	23	0	5.12	284
March.....	.7	.3	0	.02	1.4
Calendar year 1961.....	-	3.1	0	.16	117
Water year 1961-62.....	-	23	0	.42	301

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above.

## SAN GABRIEL RIVER BASIN

11-900. Fullerton Creek at Fullerton, Calif.

Location.--Lat 33°52'22", long 117°54'22", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.34, T.3 S., R.10 W., on Raymond Avenue Bridge at Fullerton.

Drainage area.--6.2 sq mi, approximately.

Records available.--October 1935 to September 1962. Monthly discharge only for October 1935 to September 1939, published in WSP 1315-B and 1735.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Average discharge.--27 years, 0.57 cfs (413 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 273 cfs Feb. 19 (gage height, 2.65 ft); no flow for many days.

1935-62: Maximum discharge, 1,600 cfs Mar. 14, 1941 (gage height, 10.05 ft); no flow at times each year.

Remarks.--Local irrigation company occasionally wastes water to creek during summer months. Flow regulated by Fullerton flood-control reservoir (capacity, 743 acre-ft).

Cooperation.--Records furnished by Orange County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.8	0	0	0	0	0.1	0.1	0.2	0.1	0.2
2	.1	.1	1.1	0	0	0	0	.1	.1	.1	.1	.2
3	.2	.1	1.2	0	0	0	0	.1	.1	.1	.1	.2
4	.1	.2	.3	0	0	0	0	.1	0	.1	.1	.2
5	.1	.1	.3	0	0	0	0	.2	0	.1	.1	.1
6	.1	.1	.3	.1	0	1.5	0	.1	0	.1	.1	.1
7	.1	.2	.3	.3	.8	.2	.1	0	0	.1	.1	.1
8	.1	.2	.2	.1	2.3	0	0	.1	0	.1	.1	.1
9	.1	.2	.1	0	1.0	.1	0	.1	.1	.1	.2	.2
10	.1	.2	0	0	1.6	0	0	.3	.1	.1	.2	.1
11	.1	.2	0	.1	2.5	0	.1	.1	0	.2	.2	.1
12	.1	.2	0	.5	8.3	0	.1	.1	0	.1	.2	.1
13	.1	.2	0	.2	1.4	0	.1	.1	0	.1	.1	0
14	.1	.1	.3	0	.4	0	.1	.6	.1	.2	.1	0
15	.1	.1	0	0	2.2	0	.1	0	0	.2	.1	0
16	.1	.1	0	0	1.2	0	.1	0	.1	.2	.1	0
17	.1	.1	0	.1	4.2	0	.1	.1	.1	.1	.1	0
18	.1	.1	0	0	.3	.5	.1	0	.1	.2	.1	.1
19	.1	.1	0	0	2.8	.3	0	.1	.1	.2	.1	.1
20	.1	1.4	0	1.5	1.1	.3	.1	.1	.1	.2	.1	.1
21	.1	0	0	1.4	5.0	0	.1	.1	.1	.2	.1	.1
22	.1	0	0	1.9	1.2	.2	.1	.1	.1	.1	.1	.1
23	.1	0	0	.4	.4	.1	.1	.1	.1	.2	.1	.1
24	.1	0	0	0	.4	0	0	0	.1	.2	.2	.1
25	.1	1.5	0	0	.4	0	0	0	.1	.1	.1	.1
26	.2	0	0	0	.2	0	0	0	.1	.1	.2	0
27	.2	.2	0	0	0	.1	0	.1	.1	.1	.2	0
28	.2	.2	0	.1	0	0	.1	0	.1	.2	.2	0
29	.2	.3	0	0	-	0	.1	0	.1	.2	.2	.1
30	.2	.2	0	.1	-----	0	0	0	.1	.1	.2	.1
31	.1	-----	0	0	-----	0	-----	0	-----	.1	.1	-----
Total	3.7	6.5	14.8	20.1	168.2	3.3	1.5	2.8	2.1	4.4	4.1	2.7
Mean	0.12	0.22	0.48	0.65	6.01	0.11	0.05	0.09	0.07	0.14	0.13	0.09
Max	0.2	1.5	1.1	1.5	2.8	1.5	0.1	0.6	0.1	0.2	0.2	0.2
Min	0.1	0	0	0	0	0	0	0	0	0.1	0.1	0
Ac-ft	7.3	13	29	40	334	6.5	3.0	5.6	4.2	8.7	8.1	5.4
Calendar year 1961:	Max	5.4	Min	0	Mean	0.30	Ac-ft	221				
Water year 1961-62:	Max	28	Min	0	Mean	0.64	Ac-ft	465				



## SAN GABRIEL RIVER BASIN

179

11-905. Coyote Creek near Artesia, Calif.

Location.--Lat 33°50'20", long 118°03'34", in NE 1/4 sec. 8, T.4 S., R.11 W., on downstream side of Centralia Road Bridge, 2 miles southeast of Artesia, and 3.7 miles upstream from mouth.

Drainage area.--110 sq mi.

Records available.--February 1930 to September 1962. Prior to October 1940, monthly figures only, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 20.2 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Feb. 9, 1956, at several sites about half a mile upstream at different datums.

Average discharge.--32 years, 8.98 cfs (6,500 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,810 cfs Feb. 11 (gage height, 13.01 ft); minimum daily, 0.4 cfs Nov. 6, July 9, 13, Aug. 8, 9, Sept. 7, 22.

1930-62: Maximum discharge, 7,360 cfs Jan. 18, 1952 (gage height, 14.30 ft, site and datum then in use); no flow at times in most years.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.0	1.4	1.2	2.0	3.6	3.3	2.8	1.7	1.0	0.9	1.5
2	.8	.8	4 53	1.2	1.9	3.4	3.1	2.8	1.4	.8	1.0	2.2
3	1.0	.9	1 93	1.4	2.1	2.8	3.0	3.3	1.5	.8	1.0	1.2
4	.8	.9	5.9	1.7	2.2	2.6	3.1	3.1	1.5	.7	.8	1.3
5	1.5	.6	5.1	1.6	3.0	2.7	3.9	3.0	1.4	.8	.8	1.3
6	1.9	.4	4.4	1.3	2.6	1 00	2.6	2.9	1.4	.7	.7	.8
7	.9	.5	3.8	1.1	58	14	2.7	3.1	1.4	.6	.7	.4
8	1.2	1.0	3.3	.8	1 500	3.7	2.4	3.0	1.9	.5	.4	.7
9	1.3	.8	2.8	1.0	4 31	3.3	2.5	2.8	2.4	.4	.4	.7
10	1.2	.9	2.6	1.3	1 79	3.3	2.9	2.6	2.2	.5	.7	.8
11	1.3	1.4	2.6	1.0	2 700	2.8	1.7	2.4	2.3	.5	1.0	.8
12	1.2	.9	2.4	1.2	1 60	2.6	1.9	2.6	2.6	.5	.9	1.1
13	1.2	.6	2.3	20	96	2.4	2.5	2.9	2.7	.4	1.3	1.1
14	1.0	1.2	15	1.8	21	2.2	2.3	8.2	3.2	.7	1.4	.9
15	1.2	1.5	2.3	2.2	1 140	2.8	2.0	5.2	4.3	.6	1.4	.9
16	1.1	1.0	1.3	1.8	1 94	3.0	2.2	2.4	3.9	.6	1.6	.9
17	.9	.7	1.0	1.5	36	2.5	2.4	2.1	3.9	.7	1.6	.8
18	1.1	1.0	1.0	1.5	17	24	2.3	1.9	3.5	.7	1.4	.8
19	1.4	1.0	.8	1.5	1 000	19	2.4	1.8	3.5	.8	1.1	.9
20	1.7	1 42	.7	7 43	2 72	7.9	2.6	2.4	3.8	.8	.8	1.1
21	2.3	10	.8	1 08	3 80	6.7	2.6	1.6	3.7	.9	1.0	.7
22	1.2	3.0	.7	2 91	72	6.4	2.4	1.5	3.0	.8	.7	.4
23	.8	1.9	.8	91	22	10	2.7	1.5	2.6	.7	.6	.7
24	.8	.6	1.0	9.3	14	6.0	2.6	1.5	2.4	.9	.7	1.1
25	1.2	1 16	.9	11	12	5.8	2.6	1.7	2.0	.9	1.0	1.2
26	.9	19	.8	29	10	5.7	2.6	1.5	1.5	.9	.9	1.0
27	1.3	3.0	.8	5.8	8	5.6	2.2	1.9	1.0	.6	1.0	.6
28	1.0	2.0	.8	5.0	6	5.5	2.6	2.1	.8	.6	1.3	.8
29	.6	1.0	.9	4.1	-	5.3	2.8	2.1	.7	.7	1.1	.7
30	.5	2.0	1.6	3.4	-----	4.6	2.9	1.6	1.0	.6	1.4	.7
31	.7	-----	1.2	2.1	-----	3.4	-----	1.8	-----	.7	1.3	-----
Total	34.8	317.5	715.0	1347.8	8341.8	273.6	77.8	80.1	69.2	21.8	30.9	28.1
Mean	1.12	10.6	23.1	43.5	298	8.83	2.59	2.58	2.31	0.70	1.00	0.94
Max	2.3	142	453	743	2,700	100	3.9	8.2	4.3	1.0	1.6	2.2
Min	0.5	0.4	0.7	0.8	1.9	2.2	1.7	1.5	0.7	0.4	0.4	0.4
Ac-ft	69	630	1,420	2,670	16,550	543	154	159	137	43	61	56

Calendar year 1961: Max 453 Min 0.4 Mean 5.38 Ac-ft 3,900  
 Water year 1961-62: Max 2,700 Min 0.4 Mean 31.1 Ac-ft 22,490

## 11-924.5. Los Angeles River at Sepulveda Dam, Calif.

Location.--Lat 34°09'42", long 118°27'57", in Ex Mission de San Fernando Grant, on right bank of outlet channel of Sepulveda Dam, 200 ft upstream from Sepulveda Boulevard in city of Los Angeles, and 1.85 miles southwest of Van Nuys, Los Angeles County.

Drainage area.--155 sq mi.

Records available.--January 1929 to February 1938, May 1938 to September 1962. Monthly discharge only for January 1929 to September 1940 and May 1943 to September 1950, published in WSP 1315-B. Records for May 1943 to September 1950, published in WSP 981, 1011, 1041, 1061, 1091, 1121, 1151, and 1181, have been found to be unreliable and should not be used. Equivalent daily discharge, published as "below Sepulveda Dam," 1943-45, and as "below Sepulveda Boulevard" (in reports of Los Angeles County Flood Control District), 1946-50, supersede the discredited records.

Gage.--Water-stage recorder. Altitude of gage is 670 ft (from topographic map). Prior to Aug. 23, 1941, at site 1 mile downstream at different datum; Aug. 23, 1941, to Sept. 30, 1950, at site 900 ft downstream at different datum; Oct. 1, 1950, to Aug. 29, 1953, at site 800 ft upstream at datum 5.99 ft higher.

Average discharge.--32 years (1929-37, 1938-62), 21.9 cfs (15,850 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

Extremes.--Maximum discharge during year, 13,400 cfs Feb. 12 (gage height, 10.00 ft); minimum daily, 1.4 cfs Nov. 24.

1929-37, 1938-62: Maximum discharge, that of Feb. 12, 1962; no flow Sept. 19, 20, 1930.

Flood of Mar. 2, 1938 amounted to 12,000 cfs (estimated).

Remarks.--Records good. Flow regulated by Sepulveda flood-control reservoir (capacity, 17,400 acre-ft). Some diversion above station. City of Los Angeles at times discharges imported Owens River water into Los Angeles River from upstream distributing reservoirs.

Cooperation.--Twenty-two discharge measurements furnished by Los Angeles County Flood Control District. Records of released water from reservoirs furnished by city of Los Angeles.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 3-11, Apr. 16 to May 4)

0.16	1.4	0.8	104	3.0	1,770
.2	2.8	1.0	176	4.0	2,960
.3	8.9	1.5	440	6.0	6,000
.4	19	2.0	800	6.1	6,170
.6	50				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	25	* 4.7	2.8	3.2	21	34	34	6.7	12	19	31
2	* 25	25	8 97	2.8	* 3.2	32	34	37	6.7	12	* 18	31
3	24	25	47	3.2	3.2	31	34	* 34	6.7	10	16	31
4	18	25	4.2	* 3.2	3.2	31	31	26	* 5.4	9.7	16	31
5	* 5.4	25	3.7	3.2	3.2	30	* 25	10	5.4	* 8.9	16	31
6	24	22	3.2	3.2	3.2	211	9.3	8.1	6.0	10	16	* 12
7	24	4.8	2.4	3.7	1.80	26	34	6.7	* 6.0	10	18	10
8	24	* 5.4	2.8	3.7	* 2.010	* 16	34	5.4	6.0	10	18	9.7
9	25	6.7	3.7	3.7	* 5.48	31	36	* 5.4	6.0	10	18	9.7
10	25	7.4	2.8	* 3.2	6.080	23	36	5.4	6.0	10	18	9.7
11	18	7.4	4.2	3.7	* 3.620	19	* 36	4.8	* 5.4	10	18	9.7
12	25	8.1	10	10	* 2.100	25	36	4.8	5.4	* 10	18	11
13	* 28	8.1	10	13	75	22	36	4.2	5.4	10	19	30
14	28	* 8.9	4.6	2.8	32	22	36	11	4.8	10	20	30
15	28	9.7	4.2	2.8	560	* 24	36	5.8	4.8	10	* 21	30
16	28	9.3	2.8	2.8	133	24	36	11	4.8	10	30	30
17	24	2.4	2.4	3.2	31	24	36	3.2	4.8	10	30	32
18	* 24	2.0	2.8	* 3.2	21	99	36	3.2	4.2	10	30	* 26
19	20	2.4	4.8	3.2	* 2.270	33	* 36	3.2	4.2	* 10	30	12
20	5.4	514	9.7	406	* 125	27	32	3.7	4.2	9.7	30	* 12
21	21	2.1	* 9.7	89	54	26	32	4.2	* 9.7	16	30	12
22	22	2.8	9.7	770	32	* 15	31	4.8	9.7	18	30	10
23	24	1.6	9.7	75	26	20	30	6.0	9.7	12	* 30	10
24	24	1.4	9.7	6.7	40	21	30	* 6.0	10	16	32	7.1
25	24	* 644	9.7	* 4.2	20	24	30	5.4	12	19	37	4.8
26	24	38	7.4	3.7	10	24	* 30	6.0	12	16	37	4.2
27	24	4.2	3.7	3.2	* 18	25	31	6.0	* 12	10	39	4.2
28	24	3.2	3.7	2.4	21	41	32	6.0	12	19	37	4.8
29	25	3.2	* 2.8	3.2	-	* 41	34	6.7	10	19	36	5.4
30	25	59	2.8	2.8	-----	39	34	6.7	12	19	* 32	5.4
31	* 25	-----	3.2	3.2	-----	36	-----	6.7	-----	* 19	31	-----
Total	709.8	1522.0	1140.5	1446.8	18025.2	1083	977.3	291.4	218.0	385.3	790	496.7
Mean	22.9	50.7	36.8	46.7	644	34.9	32.6	9.40	7.27	12.4	25.5	16.6
Max	28	644	897	770	6,080	211	36	37	12	19	39	32
Min	5.4	1.4	2.4	2.4	3.2	15	9.3	3.2	4.2	8.9	16	4.2
Ac-ft	1,410	3,020	2,260	2,870	35,750	2,150	1,940	578	432	764	1,570	985
(†)	1,070	196	0	0	0	719	1,710	166	0	209	953	405

Calendar year 1961: Max 897 Min. 1.4 Mean 18.5 Ac-ft 13,420 Ac-ft† 2,630

Water year 1961-62: Max 6,080 Min. 1.4 Mean 74.2 Ac-ft 53,730 Ac-ft† 5,430

\* Discharge measurement made on this day.

† Water, in acre-ft, released from city of Los Angeles distributing reservoirs to Los Angeles River. This flow is included in that shown on previous line.

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Location.--Lat 34°20'02", long 118°23'55", in SE 1/4 sec.24, T.3 N., R.15 W., on right bank 500 ft downstream from Pacoima Dam, a third of a mile upstream from mouth of canyon, and 4 miles northeast of San Fernando.

Records available.--March to July 1916 (fragmentary), December 1916 to September 1962.

Gage.--Water-stage recorder and Parshall-type flume. Altitude of gage is 1,650 ft (from topographic map). Prior to September 1929, at site 0.5 mile downstream at different datum. September 1929 to Mar. 23, 1933, records based on outflow from Pacoima Dam. Mar. 24, 1933, to Feb. 1, 1935, at site 450 ft downstream at different datum.

Average discharge---45 years (1917-62), 8.69 cfs (6,290 acre-ft per year); median of yearly mean discharges, 4.1 cfs (3,000 acre-ft per year).

Extremes.--Maximum discharge during year, 511 cfs Apr. 7 (gage height, 3.90 ft); no flow for many days.  
1916-62: Maximum discharge, 2,440 cfs Mar. 3, 1938; no flow for several months in most years.

Remarks.--Flow regulated by Pacoima flood-control reservoir (capacity, 4,710 acre-ft). Flow passing over Pacoima Dam spillway enters creek below station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

[illegible]

## LOS ANGELES RIVER BASIN

11-940. Tujunga Creek below Mill Creek, near Colby Ranch, Calif.

Location.--Lat 34°18'33", long 118°08'40", on left bank 500 ft downstream from Mill Creek and 2 miles west of Colby Ranch, Los Angeles County.

Drainage area.--64.9 sq mi.

Records available.--January 1948 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,650 ft (from topographic map).

Average discharge.--14 years, 6.74 cfs (4,880 acre-ft per year); median of yearly mean discharges, 2.6 cfs (1,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,860 cfs Feb. 11 (gage height, 10.90 ft); no flow Oct. 1 to Nov. 8, Aug. 13 to Sept. 24.

1948-62: Maximum discharge, that of Feb. 11, 1962; no flow at times in most years.

Maximum discharge known since November 1930, 14,800 cfs Jan. 23, 1943.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.6	1.1	4.7	32	16	6.6	4.5	1.2	0.2	0
2		0	3.4	1.1	4.3	30	16	6.3	4.2	1.1	.2	0
3		0	8.4	1.1	4.2	29	16	6.3	4.2	1.0	.2	0
4		0	4.5	1.1	3.8	28	15	6.3	4.3	1.0	.2	0
5		0	2.7	1.1	3.7	28	14	6.3	4.5	1.0	.2	0
6		0	2.0	1.1	3.6	46	14	6.3	4.5	.9	.1	0
7		0	1.5	1.1	4.2	40	13	6.1	4.5	.8	.1	0
8		0	1.4	1.0	7.2	36	12	5.9	4.2	.7	.1	0
9		.1	1.3	1.0	151	34	12	5.9	3.8	.7	.1	0
10		.1	1.1	1.0	308	30	12	5.9	3.8	.6	.1	0
11		.1	1.1	1.0	1,720	28	11	5.9	3.6	.4	.1	0
12		.1	.9	1.0	638	28	11	5.9	3.6	.4	.1	0
13		.1	.9	1.1	182	26	11	6.1	3.6	.6	0	0
14		.1	1.0	1.1	103	26	11	7.0	3.6	.6	0	0
15		.2	1.0	.9	120	24	11	7.3	3.8	.6	0	0
16		.2	1.0	.9	99	24	11	7.3	3.6	.4	0	0
17		.2	1.0	.9	69	23	11	7.0	3.0	.4	0	0
18		.2	1.0	.9	55	25	11	5.9	2.7	.3	0	0
19		.2	1.0	.9	71	26	11	5.9	2.5	.3	0	0
20		1.5	1.0	8.7	64	25	10	5.7	2.1	.3	0	0
21		1.0	1.0	5.2	59	23	9.7	5.3	1.9	.3	0	0
22		.4	1.0	4.3	56	24	9.1	5.1	1.9	.2	0	0
23		.4	1.0	4.2	56	24	8.8	5.1	1.8	.2	0	0
24		.4	1.0	4.0	55	21	8.6	5.1	1.7	.2	0	0
25		1.9	1.0	3.7	50	20	8.6	5.1	1.7	.2	0	.1
26		1.3	1.0	4.2	44	20	8.3	5.1	1.5	.2	0	.1
27		.8	1.0	4.3	37	20	7.8	5.3	1.5	.2	0	.1
28		.6	1.0	5.3	33	20	7.6	5.3	1.4	.2	0	.1
29		.6	1.0	5.9	-	20	7.3	5.1	1.4	.2	0	.1
30		.6	1.0	5.3	-----	18	7.0	4.9	1.2	.2	0	.1
31		-----	1.0	5.1	-----	17	-----	4.9	-----	.2	0	-----
Total	0	11.1	78.4	79.6	4,070.5	815	331.8	182.2	90.6	15.6	1.7	0.6
Mean	0	0.37	2.53	2.57	145	26.3	11.1	5.88	3.02	0.50	0.05	0.02
Max	0	1.9	3.4	8.7	1,720	46	16	7.3	4.5	1.2	0.2	0.1
Min	0	0	0.6	0.9	3.6	17	7.0	4.9	1.2	0.2	0	0
Ac-ft	0	22	156	158	8,070	1,620	658	361	180	31	3.4	1.2
Calendar year 1961:	Max	3.4	Min	0	Mean	0.69	Ac-ft	497				
Water year 1961-62:	Max	1,720	Min	0	Mean	15.6	Ac-ft	11,260				

11-955. Tujunga Creek near Sunland, Calif.

Location.--Lat 34°18'02", long 118°16'02", near center of SW $\frac{1}{4}$  sec.32, T.3 N., R.13 W., on left bank 1,000 ft upstream from Gold Canyon, 2 miles upstream from mouth of canyon, and  $\frac{1}{4}$  miles northeast of Sunland.

Drainage area.--106 sq mi.

Records available.--October 1916 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,571.80 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 1, 1932, at site 1,000 ft upstream at different datum.

Average discharge.--45 years, 26.4 cfs (19,110 acre-ft per year); median of yearly mean discharges, 13 cfs (9,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,770 cfs Feb. 11 (gage height, 14.27 ft); minimum daily, 0.6 cfs Oct. 14-17, Nov. 6. 1916-62: Maximum discharge, 50,000 cfs (estimated) Mar. 2, 1938; minimum, 0.1 cfs at times during summers of 1919, 1924, 1928-31, 1960.

Remarks.--Flow regulated since 1931 by Big Tujunga flood-control reservoir (capacity, 4,240 acre-ft). Several small diversions above station for irrigation.

Cooperation.--Records since 1932 furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.3	2.1	1.3	3.4	85	9.0	14	2.7	2.7	2.7	1.9
2	.8	1.4	26.0	1.3	3.2	80	108	14	2.2	2.7	2.7	1.9
3	.8	1.4	8.5	1.3	3.0	74	245	14	2.4	3.2	2.9	1.9
4	.8	1.3	6.2	1.3	3.0	69	247	5.4	2.4	3.5	2.9	2.2
5	1.0	.8	4.4	1.3	3.0	67	263	3.9	2.4	3.5	2.7	1.9
6	1.1	.6	3.8	1.1	3.0	66	262	3.2	2.4	3.5	2.7	1.9
7	1.1	.7	2.8	1.0	3.0	66	45	2.9	2.7	3.2	2.7	2.2
8	1.1	1.0	2.6	1.0	2.9	66	28	2.9	2.2	3.2	2.7	2.4
9	1.1	1.1	2.6	1.0	60	65	28	2.9	1.9	3.2	2.7	2.7
10	1.1	1.1	2.6	1.0	87	65	28	3.2	1.9	2.9	2.7	2.7
11	1.0	1.1	2.4	1.0	1.520	64	26	3.2	1.9	3.2	2.7	2.4
12	.8	1.1	2.2	1.0	1.850	52	25	2.9	1.9	3.2	2.4	2.7
13	.8	.8	2.1	1.1	1.110	17	22	2.9	1.9	3.5	2.2	2.2
14	.6	.7	1.9	1.1	4.61	14	21	3.9	2.2	3.5	2.4	2.2
15	.6	.7	1.9	1.1	3.49	13	21	5.4	2.2	3.2	2.2	1.9
16	.6	.8	1.9	1.1	304	13	20	4.3	2.2	3.2	2.4	1.7
17	.6	.8	1.9	1.1	235	13	20	4.3	1.4	3.2	2.2	1.9
18	.7	.7	1.9	1.1	194	14	20	3.9	.9	3.2	1.7	3.2
19	.8	.7	1.9	1.1	186	14	19	3.5	.9	3.2	1.7	2.4
20	1.0	2.9	1.9	2.4	148	13	17	3.5	1.2	3.2	1.9	1.9
21	1.1	3.8	1.8	10	122	12	16	3.2	1.4	2.7	2.2	1.9
22	1.3	2.2	1.4	8.9	121	11	16	3.2	3.2	3.2	2.2	1.9
23	1.3	1.6	1.3	10	121	11	16	3.2	3.2	3.2	2.4	1.9
24	1.3	1.3	1.3	8.2	120	11	16	3.5	3.2	3.2	2.4	1.9
25	1.3	2.6	1.1	6.8	119	11	16	3.5	3.5	2.9	1.7	1.9
26	1.3	3.0	1.1	6.2	114	11	16	3.5	3.5	2.9	1.9	1.9
27	1.4	2.4	1.1	5.0	96	11	15	3.5	3.2	2.7	2.2	2.4
28	1.3	1.9	1.1	4.4	86	11	16	3.2	3.2	2.7	1.9	2.2
29	1.0	1.9	1.1	4.2	-	10	15	2.9	3.5	2.7	1.7	2.2
30	1.0	2.2	1.3	3.8	-----	10	14	2.9	3.2	2.7	2.4	1.9
31	1.1	-----	1.3	3.6	-----	9.3	-----	2.9	-----	2.7	2.4	-----
Total	30.6	43.9	95.5	116.4	7453.6	1048.3	1630.0	139.7	71.0	95.8	72.6	64.3
Mean	0.99	1.46	3.08	3.75	266	33.8	54.3	4.51	2.37	3.09	2.34	2.14
Max	1.4	3.8	26	24	1,850	85	263	14	3.5	3.5	2.9	3.2
Min	0.6	0.6	1.1	1.0	3.0	9.3	9.0	2.9	0.9	2.7	1.7	1.7
Ac-ft	61	87	189	231	14,780	2,080	3,230	277	141	190	144	128

Calendar year 1961: Max 26 Min 0.4 Mean 1.31 Ac-ft 946  
 Water year 1961-62: Max 1,850 Min 0.6 Mean 29.8 Ac-ft 21,540

## LOS ANGELES RIVER BASIN

11-965. Little Tujunga Creek near San Fernando, Calif.

Location.--Lat 34°16'30", long 118°22'20", in Tujunga Grant, on downstream side of Foothill Boulevard Bridge, 4 miles east of San Fernando, Los Angeles County.

Drainage area.--21.0 sq mi.

Records available.--October 1928 to September 1962. Monthly discharge for April 1931, published in WSP 1315-B.

Gage.--Water-stage recorder. Concrete control since May 1940. Datum of gage is 1,067.89 ft above mean sea level (levels by Los Angeles County Flood Control District).

Average discharge.--34 years, 2.36 cfs (1,710 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 1,630 cfs Feb. 11 (gage height, 5.40 ft); no flow for most of year.

1928-62: Maximum discharge, 8,500 cfs (estimated) Mar. 2, 1938; no flow for several months each year.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0	7.5	0.3					
2		0	28	0	0	5.6	.1					
3		0	0	0	0	5.0	.1					
4		0	0	0	0	4.6	.1					
5		0	0	0	0	3.7	0					
6		0	0	0	0	5.0	0					
7		0	0	0	0	4.0	0					
8		0	0	0	12	4.0	0					
9		0	0	0	9.1	4.0	0					
10		0	0	0	96	4.0	0					
11		0	0	0	365	4.0	0					
12		0	0	0	170	3.7	0					
13		0	0	0	39	3.3	0					
14		0	.1	0	18	3.0	0					
15		0	0	0	47	3.0	0					
16		0	0	0	27	2.8	0					
17		0	0	0	18	2.8	0					
18		0	0	0	12	5.5	0					
19		0	0	0	72	2.8	0					
20		.8	0	15	32	1.8	0					
21		0	0	13	24	1.2	0					
22		0	0	12	16	4.0	0					
23		0	0	1.0	17	6.0	0					
24		0	0	0	23	4.0	0					
25		1.8	0	0	12	2.0	0					
26		0	0	0	12	1.0	0					
27		0	0	0	16	.8	0					
28		0	0	0	8.6	.3	0					
29		0	0	0	-	.5	0					
30		0	0	0	-	.5	0					
31		-	0	0	-	.3	-					
Total	0	2.6	28.1	29.3	1045.7	100.7	0.6	0	0	0	0	0
Mean	0	0.09	0.91	0.95	37.3	3.25	0.02	0	0	0	0	0
Max	0	1.8	28	15	365	7.5	0.3	0	0	0	0	0
Min	0	0	0	0	0	0.3	0	0	0	0	0	0
Ac-ft	0	5.2	56	58	2,070	200	1.2	0	0	0	0	0

Calendar year 1961: Max 28 Min 0 Mean 0.09 Ac-ft 64

Water year 1961-62: Max 365 Min 0 Mean 3.31 Ac-ft 2,390

## LOS ANGELES RIVER BASIN

185

11-970. Tujunga Creek below Hansen Dam, Calif.

Location.--Lat 34°15'10", long 118°23'20", in Ex Mission San Fernando Grant, in city of Los Angeles, on left bank of outlet channel of Hansen Dam, 0.1 mile upstream from Glen Oaks Boulevard, and 3 miles southeast of San Fernando, Los Angeles County.

Drainage area.--148 sq mi.

Records available.--May 1932 to February 1938, August 1940 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 943.32 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 25, 1944, at site 0.1 mile downstream at different datum. Aug. 25, 1944, to Sept. 30, 1951, at site 0.3 mile upstream at different datum. Oct. 1, 1951, to Sept. 30, 1953, at present site at datum 1.00 ft higher.

Extremes.--Maximum discharge during year, 3,130 cfs Feb. 12 (gage height, 3.86 ft); no flow for most of year.

1940-62: Maximum discharge, that of Feb. 12, 1962; no flow for parts of each year.

Maximum discharge known since May 1932, 54,000 cfs (estimated) Mar. 2, 1938.

Remarks.--Records good. Flow regulated since July 1931 by Big Tujunga flood-control reservoir (capacity, 4,240 acre-ft) and since September 1940 by Hansen flood-control reservoir (capacity, 32,000 acre-ft). Several small diversions above station for domestic use and irrigation. Water diverted from outlet channel upstream from gage to spreading grounds during year.

Cooperation.--Records of diversion furnished by Los Angeles County Flood Control District.

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

0.97	0	1.3	97
1.0	1.1	1.6	305
1.1	17	2.0	660
1.2	49	3.0	1,820

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	0	0	0		0.3	0	(*)			
2			.2	0	* 0		.5	0				
3			0	0	0		.5	0				
4			0	0	0		.5	.5				
5			0	0	0		3.2	.1				
6			0	0	0		0	0				
7			0	0	0		0	1.6				
8			0	0	* .1		0	1.1				
9			0	0	.1		0	.1				
10			0	0	.5		0	0				
11			0	0	* 68		0	0				
12			0	0	*1.6 00		0	0				
13	(*)		0	0	67.4		0	0				
14			0	0	17		0	0				
15			0	0	0	(*)	0	0				
16			0	0	0		0	0				
17			0	0	0		0	0				
18			0	0	0		0	0				
19			0	0	* 3.8		0	0				
20			0	.2	8.3		0	0				
21			0	.1	5.4		0	0				
22			0	0	0		0	0				
23			0	0	0		0	0				
24			0	0	0		0	0				
25			0	0	0		.2	0				
26			0	0	0		* 0	0				
27			0	0	* 0	(*)	0	0	(*)			
28			0	0	0		0	0				
29			* 0	0	-		0	0				
30		(*)	0	0	-----		0	0			(*)	
31		-----	0	0	-----		-----	0	-----	(*)	(*)	-----
Total	0	0	0.2	0.3	2,377.2	0	5.2	3.4	0	0	0	0
Mean	0	0	0.006	0.01	84.9	0	0.17	0.11	0	0	0	0
Max	0	0	0.2	0.2	1,600	0	3.2	1.6	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0.4	0.6	4,720	0	10	6.7	0	0	0	0
(†)	0	0	0	0	5,550	4,420	2,310	289	0	0	0	0
(‡)	0	0	0.4	0.6	10,270	4,420	2,320	296	0	0	0	0

Calendar year 1961: Max 0.3 Min 0 Mean 0.002 Ac-ft 1.4 Mean‡ 0.002 Ac-ft‡ 1.4  
 Water year 1961-62: Max 1,600 Min 0 Mean 6.54 Ac-ft 4,740 Mean‡ 23.9 Ac-ft‡ 17,310

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

† Diversion, in acre-feet, to spreading grounds by Los Angeles County Flood Control District.

‡ Adjusted for diversion, in acre-feet.

## LOS ANGELES RIVER BASIN

11-975. Los Angeles River at Los Angeles, Calif.

Location.--Lat  $34^{\circ}04'55''$ , long  $118^{\circ}13'35''$ , on right bank near Figueroa Street, Los Angeles, 800 ft upstream from Arroyo Seco.

Drainage area.--510 sq mi.

Records available.--October 1929 to September 1962.

Gage---Water-stage recorder. Datum of gage is 292.58 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to May 26, 1938, at site 150 ft downstream at different datum. May 26, 1938, to Dec. 8, 1939, at site 350 ft downstream at different datum.

Average discharge.--33 years, 57.8 cfs (41,850 acre-ft per year); median of yearly mean discharges, 32 cfs (23,200 acre-ft per year).

Extremes.--Maximum discharge during year, 32,500 cfs Feb. 12 (gage height, 10.20 ft); no flow for many days.  
1929-62: Maximum discharge, 67,000 cfs Mar. 2, 1938; no flow at times in some years.

Remarks.--Flow regulated by Hansen and Sepulveda flood-control reservoirs (combined capacities, 49,400 acre-ft) and several small flood-control reservoirs. City of Los Angeles at times discharges imported Owens River water into Los Angeles River from upstream distributing reservoirs. Excess treated sewage effluent from Los Angeles Bureau of Sanitation is released to channel about 8 miles upstream. Many diversions above station for domestic use and irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	5.5	0.3	2.2	6.7	0.4	0.2	0.3	0.1	0	0.1
2	0	0	2.2 20	.5	1.0	2.8	.5	.2	.3	.1	.1	.1
3	0	0	203	1.0	1.2	1.4	.6	.2	.3	.1	.1	.1
4	0	0	6.3	1.4	.4	.8	.6	.1	.2	.1	.1	.1
5	0	0	2.5	1.4	.6	.8	3.3	.1	.2	.1	.1	.1
6	0	0	1.0	1.4	1.6	4.29	9.2	.1	.2	.1	.1	.1
7	0	0	.2	.6	303	35	3.4	.1	.2	.1	.1	.1
8	0	0	0	.8	3230	15	.5	.1	.2	.1	.1	.1
9	0	0	0	1.2	1.5 50	42	.3	.1	.3	.1	.1	.1
10	0	0	0	1.4	8.510	40	.4	.1	.3	.1	0	.1
11	.3	0	0	1.6	8.110	1.4	.3	.1	.3	.1	0	.1
12	.4	0	0	7.2	5.3 60	1.0	.3	.1	.3	.1	.1	.1
13	.3	0	0	3.4	8.52	1.4	.3	.1	.3	.1	.1	.1
14	.1	0	67	3.4	10.4	1.6	.3	23	.3	.1	.1	.1
15	0	0	22	2.5	1.300	1.4	.3	40	.3	.1	.1	.1
16	0	0	.5	3.8	4.20	1.4	.3	41	.2	.1	.1	.1
17	0	0	0	3.8	98	.8	.3	30	.2	.1	.1	.1
18	0	0	0	1.4	93	2.42	.3	2.5	.2	.1	.1	.1
19	0	0	0	1.6	3.3 50	1.54	.3	1.0	.2	.1	.1	.1
20	0	1.2 40	0	1.3 60	306	58	.2	.3	.1	.1	.1	.1
21	0	5.8	0	2.31	1.46	8.2	1.9	.3	.1	.1	.1	.1
22	0	3.4	0	1.3 40	.61	27	.3	.3	.1	.1	.1	.1
23	0	.6	0	1.96	.36	4.3	.3	.3	.1	.1	.1	.1
24	0	.3	0	1.3	.41	11	.3	.3	.1	.1	.1	.1
25	0	1.0 90	0	7.7	.67	1.0	.3	.3	.1	.1	.1	.1
26	0	91	0	2.8	20	.8	.3	.3	.1	.1	.1	0
27	0	5.5	0	3.1	18	.5	.3	.3	.1	.1	.1	0
28	0	.6	.1	1.6	20	.5	.3	.3	.1	.1	.1	0
29	0	.4	.3	1.2	-	.5	.3	.3	.1	.1	.1	0
30	0	172	.4	3.8	-----	.5	.2	.3	.1	.1	.1	
31	0	-----	.1	1.6	-----	.5	-----	.3	-----	.1	-----	
Total	1.1	2.6 61.8	2.5 28.9	3.2 31.1	3.4 00.20	1.2 03.8	26.6	1.4 2.7	5.9	3.1	2.8	2.5
Mean	0.04	88.7	81.6	104	1,214	38.8	0.89	4.60	0.20	0.10	0.09	0.08
Max	0.4	1,240	2,220	1,360	8,510	429	9.2	41	0.3	0.1	0.1	0.1
Min	0	0	0	0.3	0.4	0.5	0.2	0.1	0.1	0.1	0	0
Ac-ft	2.2	5,280	5,020	6,410	67,440	2,390	53	283	12	6.1	5.6	5.0
Calendar year 1961:	Max	2,220	Min	0	Mean	20.8	Ac-ft	15,030				
Water year 1961-62:	Max	8,510	Min	0	Mean	120	Ac-ft	86,910				



11-980. Arroyo Seco near Pasadena, Calif.

Location.--Lat 34°13'20", long 118°10'36", near north line of sec.31, T.2 N., R.12 W., on right bank 1.5 miles upstream from Millard Canyon and 5.5 miles northwest of Pasadena.

Drainage area.--16.4 sq mi.

Records available.--December 1910 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 1,397.88 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1916, staff gage at different datum. Oct. 1, 1916, to Oct. 19, 1945, water-stage recorder at datum 4.00 ft lower.

Average discharge.--48 years (1913-15, 1916-62), 8.69 cfs (6,290 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,500 cfs Feb. 11 (gage height, 5.06 ft); no flow Oct. 13-15.

1910-62: Maximum discharge, 8,620 cfs Mar. 2, 1938 (gage height, 9.42 ft, present datum), from slope-area measurements of peak flow; no flow at times in some years.

Remarks.--Records good. Minor regulations at debris dam 1.5 miles upstream.

Cooperation.--Twenty-three discharge measurements furnished by Los Angeles County Flood Control District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 6-9, 12-16, 21-30, Dec. 6 to Feb. 28, Mar. 9-17)

Oct. 1 to Feb. 10

Feb. 11 to Sept. 30

1.2	0	1.6	3.4	2.2	36	0.5	0	1.2	17	3.1	216
1.3	.1	1.7	6.0	2.4	58	.6	.7	1.6	34	3.6	374
1.4	.5	1.8	9.6	2.7	106	.7	2.5	2.0	61	4.2	698
1.5	1.6	2.0	21			.9	7.6	2.5	113		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	*0.2	0.5	1.0	3.4	24	9.6	5.2	3.0	1.5	1.0	0.7
2	.1	*.2	*6.9	.9	3.6	22	9.0	*5.0	2.7	1.5	1.0	.7
3	.1	.2	7.1	*.9	3.2	21	8.7	4.7	3.2	1.5	1.0	.7
4	a.1	.2	a 2	.8	2.6	20	*8.5	4.4	3.7	1.7	1.0	.7
5	a.1	.2	a 2	.8	1.2	20	8.2	4.4	3.7	*1.9	1.0	*.7
6	a.1	.2	*1.5	.7	.9	27	7.9	4.2	*3.4	1.9	1.0	.7
7	a.1	.2	1.5	.7	2.3	23	7.9	4.4	3.2	1.7	.8	.7
8	a.1	.2	1.5	.7	*6.1	*20	7.9	4.2	3.0	1.7	.8	.7
9	a.1	*.2	1.5	.7	*7.2	20	7.9	*4.2	2.7	1.5	.8	.7
10	a.1	.2	1.5	*.6	10.3	18	7.9	4.2	2.7	1.5	.8	.7
11	*.1	.2	1.3	.7	*6.70	16	*7.6	4.4	*2.5	*1.5	.8	.7
12	.1	.2	1.1	.8	*2.42	16	7.4	4.4	2.3	1.5	.8	.7
13	0	.2	1.0	.9	*.99	15	7.4	4.4	2.3	1.7	.8	.7
14	0	.2	*1.2	.8	6.4	14	7.1	4.4	2.3	1.7	.8	.7
15	0	*.2	1.2	.9	9.8	*14	6.6	5.4	2.3	1.7	*.8	.7
16	.1	.2	1.2	.8	7.8	13	6.6	5.2	2.3	1.7	.8	.7
17	*.1	.2	1.1	*.8	5.5	12	6.3	*4.7	2.3	1.7	.8	.7
18	.1	.2	1.2	.8	4.6	14	*6.3	4.2	2.3	1.7	.7	*.7
19	*.1	.2	1.1	.9	*7.2	16	6.3	4.0	2.3	*1.5	.7	*.6
20	.2	2.1	*1.1	6.6	*5.5	15	6.3	4.2	*2.3	1.5	.7	.6
21	.2	.2	1.1	14	50	12	6.3	4.2	2.3	1.5	.7	.6
22	.2	*.3	1.1	17	44	14	6.0	4.0	2.3	1.3	.7	.6
23	.2	.4	1.1	*12	40	16	5.7	*3.7	2.3	1.3	*.7	.5
24	.2	.2	1.1	3.6	39	12	5.7	4.0	2.1	1.3	.7	.5
25	.1	*1.6	1.1	6.1	34	12	6.0	4.2	2.1	1.1	.7	.5
26	*.2	1.7	1.1	9.2	32	12	6.0	4.4	2.1	1.1	.7	.6
27	.2	1.5	1.1	10	*28	11	*5.7	4.4	2.1	1.1	.7	.6
28	.2	1.2	1.1	6.0	26	12	5.7	4.2	*2.1	1.1	.7	.6
29	.2	.6	*1.1	2.3	-	*12	5.7	4.2	1.9	1.1	.8	.7
30	.2	*.8	1.1	2.2	-----	11	5.4	4.0	1.9	1.1	*.8	.7
31	.2	-----	1.1	*3.6	-----	9.9	-----	*3.7	-----	*1.0	.8	-----
Total	3.9	14.4	111.7	167.2	2025.2	493.9	209.6	135.2	75.7	45.6	24.9	19.7
Mean	0.13	0.48	3.60	5.39	72.3	15.9	6.99	4.36	2.52	1.47	0.80	0.66
Max	0.2	2.1	69	66	670	27	9.6	5.4	3.7	1.9	1.0	0.7
Min	0	0.2	0.5	0.6	0.9	9.9	5.4	3.7	1.9	1.0	0.7	0.5
Ac-ft	7.7	29	222	332	4,020	980	416	268	150	90	49	39

Calendar year 1961: Max 69 Min 0 Mean 0.92 Ac-ft 655  
Water year 1961-62: Max 670 Min 0 Mean 9.12 Ac-ft 6,600

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0600	3.98	558	2-11	1300	5.06	1,500
1-20	1200	3.40	290	2-15	1500	2.93	180
2- 9	1130	2.85	200				

\* Discharge measurement made on this day.  
a No gage-height record.

## LOS ANGELES RIVER BASIN

11-985. Los Angeles River near Downey, Calif.

Location.--Lat 33°56'57", long 118°10'24", in San Antonio Grant, on right bank 400 ft downstream from Firestone Boulevard Bridge, 1 mile upstream from Rio Hondo and 2.5 miles west of Downey, Los Angeles County.

Drainage area.--614 sq mi.

Records available.--March 1928 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 96.12 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Apr. 11, 1938, at site 1,600 ft downstream at different datum. Apr. 11, 1938, to Nov. 3, 1949, at site 400 ft upstream at datum 0.96 ft lower, and Nov. 4, 1949, to Dec. 11, 1956, at site 400 ft upstream at datum 2.25 ft higher.

Average discharge.--34 years, 95.3 cfs (68,990 acre-ft per year); median of yearly mean discharges, 56 cfs (40,500 acre-ft per year).

Extremes.--Maximum discharge during year, 28,400 cfs Feb. 12 (gage height, 7.08 ft); minimum daily, 3.8 cfs Nov. 24. 1928-62: Maximum discharge, 79,700 cfs Mar. 2, 1938, on basis of slope-area measurements; no flow for parts of some years.

Remarks.--Flow regulated by Hansen and Sepulveda flood-control reservoirs (combined capacities, 49,400 acre-ft), and several small flood-control reservoirs. City of Los Angeles stores imported Owens River water in San Fernando and Chatsworth Reservoirs and at times discharges imported water into Los Angeles River. Many diversions above station for domestic use and irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	8.0	22	5.2	16	31	14	13	9.0	9.5	9.0	8.0
2	12	8.0	27.50	8.0	14	34	13	12	8.5	11	9.0	7.5
3	15	8.5	39.7	8.5	10	37	16	13	9.0	11	8.0	6.1
4	12	6.7	28	9.5	7.5	32	18	13	10	8.5	6.4	7.5
5	15	6.1	14	8.5	6.0	34	17	15	11	9.0	8.0	6.7
6	11	7.0	10	7.0	8.8	61.5	30	11	13	10	9.0	6.1
7	10	7.0	8	5.8	30.4	69	21	8.8	14	8.5	8.5	6.4
8	10	7.5	9	9.0	51.60	31	19	15	10	7.0	8.5	5.8
9	11	7.0	10	8.0	27.50	22	14	17	10	9.5	9.0	5.8
10	12	7.5	10	8.5	84.90	86	14	17	9.5	10	8.0	7.5
11	12	5.5	10	7.0	9.630	16	15	14	9.5	10	6.7	8.5
12	9.0	6.1	11	23	59.20	14	15	11	9.5	10	7.0	9.0
13	10	8.0	10	98	15.10	15	17	9.5	8.5	9.5	8.5	10
14	7.0	8.5	72	18	33.8	15	18	9.5	10	9.5	9.5	8.0
15	6.1	9.0	43	10	28.90	15	15	60	14	10	10	6.7
16	8.5	8.5	7.5	13	10.80	15	12	20	8.0	12	10	7.0
17	9.5	8.5	6.1	13	20.5	15	16	85	7.5	12	9.5	9.0
18	9.5	6.4	6.7	12	12.5	37.2	16	12	10	12	8.5	9.0
19	9.0	6.7	7.5	7.0	46.50	59.1	16	6.4	10	11	9.0	9.0
20	9.0	17.50	8.5	22.20	90.9	74	14	6.4	9.5	11	11	8.5
21	6.4	18.6	8.5	23.9	37.5	23.5	13	7.5	9.5	9.0	13	9.0
22	6.7	9.0	7.5	15.60	65	96	15	8.5	9.0	9.0	11	7.5
23	9.0	5.2	5.5	36.7	12.9	122	10	9.0	8.5	10	10	7.5
24	9.5	3.8	6.1	30	10.5	28	18	8.0	10	10	10	8.5
25	10	14.40	5.5	18	14.0	18	16	8.0	13	9.5	8.0	8.5
26	10	22.6	7.5	8.8	85	15	15	7.0	15	10	8.0	8.5
27	10	17	8.5	11	43	18	16	7.5	14	9.0	10	9.0
28	9.0	10	8.5	9.0	43	19	17	9.0	14	8.5	10	7.5
29	7.5	8.5	10	7.0	-	18	12	8.5	13	9.5	9.5	6.4
30	9.0	23.6	8.0	16	-----	16	11	8.0	10	10	9.5	6.4
31	9.0	-----	6.7	23	-----	16	-----	9.0	-----	9.0	10	-----
Total	302.7	4032.0	3522.6	4787.8	45008.3	2734	473	458.6	316.5	304.5	282.1	230.9
Mean	9.76	134	114	154	1,607	88.2	15.8	14.8	10.6	9.82	9.10	7.70
Max	15	1,750	2,750	2,220	9,630	615	30	85	15	12	13	10
Min	6.1	3.8	5.5	5.2	6.0	14	11	6.4	7.5	7.0	6.4	5.8
Ac-ft	600	8,000	6,990	9,500	89,270	5,420	938	910	628	604	560	458
Calendar year 1961: Max	2,750	Min	5.0	Mean	38.4	Ac-ft	27,820					
Water year 1961-62: Max	9,630	Min	3.8	Mean	171	Ac-ft	123,900					

11-1000. Santa Anita Creek near Sierra Madre, Calif.

Location.--Lat 34°11'30", long 118°00'59", in SW 1/4 NE 1/4 sec.10, T.1 N., R.11 W., on right bank at head of Hermits Falls, 0.9 mile upstream from Big Santa Anita Dam and 3 miles northeast of Sierra Madre.

Drainage area.--10.5 sq mi.

Records available.--July 1916 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,475.3 ft above mean sea level (levels by U. S. Forest Service). Prior to Mar. 2, 1938, at same site at datum 0.4 ft lower (destroyed by flood). Mar. 18 to Sept. 27, 1938, at same site at datum 0.7 ft higher.

Average discharge.--46 years, 5.67 cfs (4,100 acre-ft per year); median of yearly mean discharges, 3.5 cfs (2,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,300 cfs Feb. 11 (gage height, 7.46 ft); minimum daily, 0.1 cfs Oct. 1-4, 15-17.

1916-62: Maximum discharge, about 5,200 cfs Mar. 2, 1938, based on inflow to Big Santa Anita flood-control reservoir; practically no flow Aug. 18 to Sept. 14, 1929.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Little or no regulation from debris dams upstream from station.

Cooperation.--Seventeen discharge measurements furnished by Los Angeles County Flood Control District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.4	0.9	0.8	* 2.9		1.1	6.1	* 4.4	2.8	2.3	1.4
2	.1	* .4	* 3.5	.8	2.5		1.1	5.9	4.4	2.8	2.5	1.3
3	.1	.4	1.0	.8	2.2	a 15	* 1.1	5.6	4.6	2.8	2.5	1.3
4	* .1	.3	* 4.2	* .8	2.1		1.1	5.4	4.8	2.6	2.5	1.3
5	.2	.3	3.1	.8	1.9		1.0	5.2	4.8	* 2.5	2.5	* 1.4
6	.2	.2	2.3	.8	1.8		9.4	5.2	4.6	2.5	2.5	1.4
7	.2	.2	1.8	.8	* 2.3	(*)	8.8	5.2	* 4.6	2.5	2.3	1.4
8	.2	* .2	1.5	.8	4.8	a 20	8.5	5.2	4.6	2.5	2.3	1.5
9	.2	.2	1.4	.8	8.4		8.2	5.2	4.4	2.5	2.3	1.6
10	.2	.2	1.3	.7	* 5.8		7.9	* 5.2	4.2	2.5	2.2	1.7
11	* .3	.2	1.3	.7	7.7	a 15	* 7.7	5.2	4.0	2.6	2.2	1.6
12	.3	.2	1.2	* 1.0	2.6		7.7	5.2	* 4.0	* 2.6	2.2	1.6
13	.2	.3	1.1	1.2	* 8.0	* 1.4	7.7	5.2	4.0	2.6	2.1	1.5
14	.2	.3	* 1.2	.9	3.3	1.4	7.7	5.2	4.2	2.6	2.1	1.5
15	.1	* .3	* 1.2	.9	5.1	1.4	7.7	6.1	4.2	2.6	2.1	1.4
16	.1	.3	1.1	.8	4.1	1.4	7.7	* 6.3	4.0	2.6	1.9	1.4
17	.1	.4	1.0	.8	a 3.5	1.4	7.7	5.9	4.0	2.6	1.8	1.4
18	.2	.4	1.0	* .8	a 2.5	1.5	7.7	5.2	3.8	2.5	1.8	1.4
19	.2	.4	1.0	.8	3.8	1.5	* 7.7	5.2	3.8	2.3	1.8	* 1.4
20	.3	3.2	.9	1.8	a 5.0	* 1.5	7.4	5.2	3.8	2.3	1.8	1.3
21	.3	2.0	.8	5.3	a 4.5	1.4	6.9	5.2	* 3.6	2.2	1.8	1.3
22	.3	* .8	.8	5.6	a 4.0	1.6	6.1	4.8	3.6	2.2	1.8	1.3
23	.3	.5	.8	* 6.5	a 3.5	1.4	5.6	4.8	3.4	2.2	1.8	1.3
24	.3	.4	.8	4.8	a 3.0	1.2	* 5.9	5.0	3.3	2.2	1.7	1.3
25	.3	2.2	.7	4.2	a 2.5	1.2	6.4	5.0	3.3	2.1	1.7	1.3
26	.3	2.2	.7	3.8		1.2	6.4	5.0	3.3	2.1	1.6	1.4
27	.3	1.3	.7	3.8	a 2.0	* 1.2	6.4	5.0	3.3	* 2.1	1.5	1.5
28	.3	* .8	* .8	4.0		1.2	6.4	5.0	* 3.1	2.1	1.6	1.6
29	.3	.6	.8	3.5	-	1.2	6.4	4.8	3.1	2.2	1.6	1.6
30	.3	.7	.8	3.1	-----	1.1	6.4	4.8	2.9	2.3	* 1.6	1.5
31	.3	-----	.8	3.1	-----	1.1	-----	4.6	-----	2.3	1.6	-----
Total	6.9	20.3	81.0	81.5	1.8 34.7	4 4.8	2 36.4	1 62.9	1 18.1	7 5.3	6 2.0	4 2.9
Mean	0.22	0.68	2.61	2.63	65.5	14.5	7.88	5.25	3.94	2.43	2.00	1.43
Max	0.3	3.2	35	18	773	-	11	6.3	4.8	2.8	2.5	1.7
Min	0.1	0.2	0.7	0.7	1.8	11	5.6	4.6	2.9	2.1	1.5	1.3
Ac-ft	14	40	161	162	3,640	889	469	323	234	149	123	85

Calendar year 1961: Max 35 Min 0.1 Mean 0.74 Ac-ft 540  
 Water year 1961-62: Max 773 Min 0.1 Mean 8.68 Ac-ft 6,290

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0700	2.97	152	2-15	1530	2.73	135
1-20	1400	2.39	91	2-19	0800	2.18	71
2-11	1800	7.46	1,300				

\* Discharge measurement made on this day.  
 a No gage-height record.

11-1005. Little Santa Anita Creek near Sierra Madre, Calif.

Location.--Lat 34°11'13", long 118°02'35", in SE 1/4 SW 1/4 NW 1/4 sec. 9, T.1 N., R.11 W., on right bank 1.3 miles upstream from Sierra Madre Dam and 2 miles north of Sierra Madre.

Drainage area.--1.9 sq mi, approximately.

Records available.--August 1916 to September 1962 (discontinued). Monthly discharge only for April 1926, published in WSP 1315-B.

Gage.--Water-stage recorder. Concrete control since Aug. 3, 1926. Altitude of gage is 2,200 ft (from topographic map). Prior to Apr. 7, 1926, water-stage recorder at different datum (destroyed by flood).

Average discharge.--46 years, 0.85 cfs (615 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 147 cfs Feb. 11 (gage height, 2.80 ft); no flow Oct. 1 to Nov. 19.

1916-62: Maximum discharge, 536 cfs Mar. 2, 1938, computed on basis of inflow to Sierra Madre flood-control reservoir; no flow for periods in some years.

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

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

Oct. 1 to Nov. 19

Nov. 20 to Sept. 30

Note.--Discharge

was less than 0.05

cfs, which was called

zero.

0.4	0	1.1	7.0
.5	.2	1.3	12
.6	.5	1.6	28
.7	1.2	2.0	57
.9	3.7		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0.1	* 0.3	3.4	1.8	1.0	0.6	0.4	0.2	0.1
2		* 0	3.2	* .1	.3	3.1	1.8	1.0	.6	.4	.2	.1
3		0	.5	.1	.3	3.0	1.8	1.0	.6	.4	.2	.1
4		0	.2	.1	.3	2.8	1.8	1.0	* .6	.4	.2	.1
5		0	.2	.1	.3	2.6	1.8	1.0	.5	.4	.2	.1
6		0	.2	.1	.3	4.2	1.6	.9	.5	.4	.2	.1
7		0	.1	.1	.4	4.4	1.6	.9	.5	.4	.2	.1
8		0	.1	.1	3.4	3.4	1.6	.9	.5	.4	.2	.1
9		0	.1	.1	6.0	2.8	1.6	.9	.5	.4	.2	.1
10		0	.1	* .1	5.6	2.6	1.6	* .9	.5	.4	.2	.1
11	(*)	0	.1	.1	5.1	2.6	1.4	.9	.5	* .4	.2	.1
12		0	.1	.1	2.2	2.6	1.4	.9	.5	.4	.2	.1
13		0	.1	.1	1.1	* 2.5	1.4	.9	.5	.4	.2	.1
14		0	.1	.1	* 9.0	2.5	1.4	1.2	.5	.4	.2	.1
15		* 0	.1	.1	9.2	2.4	1.4	.9	.5	.4	.2	.1
16		0	.1	.1	8.7	2.2	1.3	1.1	.5	.3	.2	.1
17		0	.1	.1	8.0	2.2	1.3	.9	.5	.3	.2	.1
18		0	.1	.1	7.6	2.4	1.2	.8	.4	.3	.2	.1
19		0	.1	.1	8.7	2.5	1.2	.8	.4	.3	.2	.1
20		.4	.1	1.6	8.5	2.5	1.2	.8	.4	.3	.2	.1
21		.3	.1	.5	8.0	2.4	1.1	.8	.4	.2	.2	.1
22		.2	.1	.5	8.0	2.6	1.1	.8	.4	.2	.2	.1
23		.2	.1	.6	7.8	2.2	1.1	.7	.4	.2	.2	.1
24		.2	.1	.5	7.6	2.1	1.1	.7	.4	.2	.2	.1
25		.3	.1	.5	7.0	2.0	1.1	.7	.4	.2	.2	.1
26		.2	.1	.5	6.0	2.0	* 1.1	.7	.4	.2	.2	.1
27		.2	.1	.4	4.6	2.0	1.2	.7	.4	.2	.2	.1
28		.1	.1	.4	3.8	1.9	1.2	.7	.4	.2	.1	.1
29		.1	.1	.4	-	1.9	1.2	.7	* .4	.2	* .1	.1
30		* .1	.1	.4	-----	* 1.9	1.1	.6	.4	* .2	.2	.1
31		-----	.1	.3	-----	1.8	-----	.6	-----	.2	.2	-----
Total	0	2.3	6.9	8.5	213.7	79.5	41.5	26.4	14.1	9.7	6.0	4.5
Mean	0	0.08	0.22	0.27	7.63	2.56	1.38	0.85	0.47	0.31	0.19	0.15
Max	0	0.4	3.2	1.6	51	4.4	1.8	1.2	0.6	0.4	0.2	0.2
Min	0	0	0.1	0.1	0.3	1.8	1.1	0.6	0.4	0.2	0.1	0.1
Ac-ft	0	4.6	14	17	424	158	82	52	28	19	12	8.9

Calendar year 1961: Max 3.6 Min 0 Mean 0.10 Ac-ft 71

Water year 1961-62: Max 51 Min 0 Mean 1.13 Ac-ft 820

Peak discharge (base, 7.0 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0600	1.40	17	2-15	1530	1.26	11
1-20	1300	1.20	9.2	2-19	0730	1.26	11
2-11	1100	2.80	147	3- 6	1100	1.20	9.2

## LOS ANGELES RIVER BASIN

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11-1010. Eaton Creek near Pasadena, Calif.

Location.--Lat 34°11'37", long 118°06'13", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.2, T.1 N., R.12 W., on right bank at mouth of canyon just upstream from bridge on old Mount Wilson toll road, and 4.5 miles northeast of Pasadena.

Drainage area.--6.5 sq mi, approximately.

Records available.--Creek: March 1918 to September 1962. Diversion: July 1923 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,230 ft (from topographic map). Prior to Oct. 28, 1938, water-stage recorder at site 75 ft downstream at different datum. Oct. 28, 1938, to Nov. 4, 1959, at same site at datum 1.00 ft higher.

Average discharge.--44 years, 2.13 cfs (1,540 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

Average adjusted discharge, 39 years, 3.29 cfs (2,380 acre-ft per year); median of adjusted yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

Extremes.--Maximum discharge during year, 539 cfs Feb. 11 (gage height, 3.90 ft); no flow most of year.

1918-62: Maximum discharge, 2,400 cfs Mar. 2, 1938, from record of inflow to Eaton flood-control reservoir; no flow at times during each year.

Flood of January 1916, 1,500 cfs, from slope-area measurement, by local engineering student.

Remarks.--Records fair. Figures of daily discharge do not include water diverted above station by city of Pasadena. In addition, 114 acre-ft was diverted by the city from two infiltration galleries, one 800 ft upstream and the other 500 ft downstream from station.

Cooperation.--Records of diversion furnished by City of Pasadena.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	0	0	0	*a 0.5		0	(*)	0		
2			* 11	0	* 0	a .5		0		0		
3			4.8	0	0	a .5		0		0		
4			1.0	0	0	a .5		0		0		
5			.2	0	0	a .5		0		0		
6			0	0	0	6.9		0		0		
7			0	0	0	3.9		0		0		
8			0	0	* 14	.6		0		0		
9			0	0	* 29	.2		.2		0		
10			0	0	37	1.2		0		0		
11	(*)		0	0	* 203	.7		.1		0		
12			0	0	* 84	.3		0		.1		
13			0	0	* 37	0		0		0		
14			0	0	22	0		.8		0		
15			* 0	0	26	* 0		.8		0		
16			0	0	21	0		0		0		
17			0	0	15	0		0		0		
18			0	0	12	.2		0		0		
19			0	0	* 25	.3		0		0		
20			0	11	* 19	0		0		0		
21			0	2.9	13	0		0		0		
22			0	4.1	9.7	.3		0		0		
23			0	* 3.2	8.1	.8		0		0		
24			0	.6	8.2	0	(*)	0		0		
25			0	.8	4.8	0		0	(*)	0		
26			0	.6	a 1	0		0		0		
27			0	0	a 1	* 0		0		0		
28			* 0	0	a 1	0		0		0		
29			0	0	-	0		0		0	(*)	
30		(*)	0	0	-	0		0		0		
31		-----	0	0	-----	0	-----	0	-----	* 0	-----	-----
Total	0	0	17.0	23.2	590.8	18.5	0	1.9	0	0.1	0	0
Mean	0	0	0.55	0.75	21.1	0.60	0	0.06	0	0.003	0	0
Max	0	0	11	11	203	6.9	0	0.8	0	0.1	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	34	46	1,170	37	0	3.8	0	0.2	0	0
(†)	2.8	5.6	40	53	158	363	202	137	88	58	35	27
(‡)	2.8	5.6	74	99	1,330	400	202	141	88	58	35	27

Calendar year 1961: Max 11 Min 0 Mean 0.06 Ac-ft 43 Mean† 0.32 Ac-ft‡ 234  
 Water year 1961-62: Max 203 Min 0 Mean 1.78 Ac-ft 1,290 Mean† 3.40 Ac-ft‡ 2,460

Peak discharge (base, 55 cfs).--Dec. 2 (0700) 60 cfs (2.35 ft); Feb. 11 (1230) 539 cfs (3.90 ft).

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

a No gage-height record.

† Diversion, in acre-ft, above station, for Pasadena municipal supply.

‡ Adjusted for diversion, in acre-ft.

## LOS ANGELES RIVER BASIN

11-1012.5. Rio Hondo above Whittier Narrows Dam, Calif.

Location.--Lat 34°03'30", long 118°04'15", in Portrero Grande Grant, on right bank 0.3 mile downstream from Garvey Avenue, 0.4 mile downstream from Rubio Wash, and 2.2 miles west of El Monte, Los Angeles County.

Records available.--February 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 220 ft (from topographic map).

Extremes.--Maximum discharge during year, 6,650 cfs Feb. 11 (gage height, 4.40 ft); minimum daily, 0.1 cfs May 13, 20.  
1956-62: Maximum discharge, 8,150 cfs Jan. 6, 1959 (gage height, 4.90 ft, from floodmark); no flow on many days in most years.

Remarks.--Records good. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs (combined capacity, 1,700 acre-ft), and Sierra Madre, Las Flores, and Rubio debris basins. Many diversions above station for domestic use and irrigation. At times flow is diverted from San Gabriel River below Santa Fe Dam to Rio Hondo above station.

Cooperation.--Twenty-nine discharge measurements furnished by the Los Angeles County Flood Control District.

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

1.05	0.1	1.9	57
1.1	.4	2.0	107
1.2	1.6	2.1	220
1.3	3.4	2.2	420
1.5	8.2	2.3	750
1.6	11	2.6	1,750
1.7	15	2.9	2,500
1.8	27		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.2	50	0.3	*0.6	134	0.6	1.0	*0.5	0.4	1.6	2.6
2	1.0	*.6	845	.6	.7	227	.7	1.0	.3	.8	2	1.2
3	2.1	.5	35	.7	1.2	69	.7	*1.2	.5	.9	2	1.5
4	*1.6	.7	33	.6	1.8	130	.4	1.2	.7	.3	2	2.4
5	1.8	.6	2.6	.6	1.9	142	1.2	.4	.8	1.3	2.5	2.1
6	1.9	.7	.3	.7	4.4	75	.5	.2	2.6	*1.2	2.5	*2.1
7	4.4	1.2	.3	.6	87	118	1.6	.8	*3.6	.7	2.5	2
8	4.4	.8	.3	.8	*1200	164	.8	*.8	3.2	.4	2.6	2
9	1.9	*1.0	1.2	.9	621	201	*1.0	*.8	.6	.9	1.9	2
10	.8	.8	.3	*.7	645	34	.9	.8	.3	*1.3	1.6	2
11	*1.0	.7	.5	.7	2470	1.6	1.8	.6	1.6	1.8	.8	2
12	*1.9	.6	.4	20	1050	1.9	3.4	.2	*3.2	*1.6	.8	2
13	1.9	.6	*.3	5.6	1590	*1.8	3.8	.1	*3.2	1.8	1.4	*2
14	2.4	*.5	21	.2	*750	*1.6	4.0	71	3.0	.8	*1.8	2
15	1.9	.5	.7	.3	1200	2.0	3.4	1.6	4.0	.6	1.9	2
16	2.4	.5	.6	.4	254	2.5	3.0	103	4.0	*.6	*1.6	2
17	2.8	*.5	.3	.5	433	2.2	1.4	*.6	4.0	1.2	3.4	2
18	2.8	.3	.6	.6	186	83	1.4	.9	4.0	1.0	2.4	*2.3
19	*3.6	.2	.5	.7	1130	9.6	.9	.2	3.6	*1.6	1.8	1.6
20	5.6	493	.5	889	*705	9.7	.9	.1	.8	2.1	2.8	*1.6
21	1.3	1.9	.6	28	476	2.8	.9	.5	*.9	1.3	3.0	1.6
22	.4	.3	.6	400	92	20	.6	.9	.7	.7	2.6	1.2
23	1.3	.2	.5	7.2	92	2.7	1.2	.9	.3	1.3	*1.4	.7
24	1.6	.2	.3	.7	164	*.6	1.8	*1.3	.2	1.4	1.6	1.6
25	2.4	113	.3	.6	87	.6	*1.6	.9	.8	1.3	2.6	2.4
26	*1.9	10	.4	.4	67	*1.4	1.0	.4	*1.2	*1.6	1.6	2.6
27	1.0	.7	.3	.4	77	.9	.9	.4	.8	1.4	1.8	2.4
28	.4	.3	*.4	.4	*72	1.3	.4	.9	*1.0	1.2	1.8	2.1
29	.2	*.8	.3	.6	-	1.9	.7	*.8	1.0	.6	*2.1	1.6
30	.6	29	.2	1.0	-----	1.3	.8	.4	.6	1.0	2.1	1.8
31	*.2	-----	.3	.5	-----	.5	-----	.6	-----	1.6	*2.6	-----
Total	57.9	660.9	967.9	1364.3	13458.6	1443.9	42.3	194.5	52.0	34.7	63.1	57.4
Mean	1.87	22.0	31.2	44.0	481	46.6	1.41	6.27	1.73	1.12	2.04	1.91
Max	5.6	493	845	889	2,470	227	4.0	103	4.0	2.1	3.4	2.6
Min	0.2	0.2	0.2	0.2	0.6	0.5	0.4	0.1	0.2	0.3	0.8	0.7
Ac-ft	115	1,310	1,920	2,710	26,690	2,860	84	386	103	69	125	114

Calendar year 1961: Max 845 Min 0.1 Mean 7.39 Ac-ft 5,360  
Water year 1961-62: Max 2,470 Min 0.1 Mean 50.4 Ac-ft 36,490

\* Discharge measurement made on this day.

Note.--No gage-height record Aug. 2-7, Sept. 7-17.

## LOS ANGELES RIVER BASIN

193

11-1015. Rio Hondo near Montebello, Calif.

Location.--Lat 34°02'00", long 118°04'40", in Potrero Grande Grant, on right bank 900 ft upstream from Mission Bridge and 2 miles northeast of Montebello, Los Angeles County. Prior to Sept. 17, 1962, at site 67 ft upstream.

Drainage area.--115 sq mi (excluding area above Santa Fe Dam).

Records available.--October 1928 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 190.77 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 23, 1956, at datum 3.86 ft higher. Oct. 23, 1956, to Sept. 17, 1962, at site 67 ft upstream at datum 2.06 ft higher.

Average discharge.--29 years (1928-57), 51.5 cfs (37,280 acre-ft per year); median of yearly mean discharges, 36 cfs (26,100 acre-ft per year).

Extremes.--Maximum discharge during year, 6,090 cfs Jan. 20 (gage height, 10.13 ft, present datum); minimum daily, 3.4 cfs Oct. 22. 1928-62: Maximum discharge, 28,000 cfs Mar. 2, 1938 (gage height, 16.69 ft, present datum), from rating curve extended above 9,000 cfs on basis of slope-area measurement and runoff from contributing stream; minimum, 0.3 cfs Dec. 1, 1933 (gage height, 5.17 ft, present datum).

Remarks.--Flow regulated by Big Santa Anita, Sawpit and Eaton flood-control reservoirs (combined capacity, 1,700 acre-ft) and Sierra Madre, Las Flores, and Rubio debris basins. Many diversions above station for domestic use and irrigation. At times flow is diverted from San Gabriel River below Santa Fe Dam to Rio Hondo. Since 1957 at times imported Colorado River water has been released to Rio Hondo for ground-water recharge at site 1.6 miles upstream.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	141	204	147	147	131	128	75	143	119	231	6.4
2	83	141	793	147	147	211	126	47	141	119	215	6.2
3	72	141	157	147	147	99	128	92	141	123	208	6.0
4	65	142	191	147	147	153	128	145	128	121	217	5.5
5	57	142	147	147	147	158	132	143	107	51	224	4.7
6												
7	52	141	147	147	142	245	132	141	115	3.8	186	4.0
8	53	141	147	147	208	158	128	139	138	4.4	149	4.2
9	55	141	147	147	1,050	191	128	145	153	4.4	149	4.4
10	55	142	147	147	529	229	127	219	151	4.4	147	4.6
11	56	142	147	147	491	165	120	143	151	5.4	176	4.8
12												
13	58	142	147	147	1,800	231	119	145	153	7.2	248	5.0
14	60	142	147	165	659	95	124	149	157	5.9	248	5.1
15	63	139	147	159	737	8.5	124	153	155	5.4	168	5.2
16	35	139	161	147	443	35	128	195	155	5.0	4.1	4.9
17	9.0	139	67	147	928	64	128	159	155	4.4	4.4	4.3
18												
19	107	141	147	147	217	59	128	234	155	106	4.7	3.6
20	125	142	147	147	241	12	124	157	155	233	5.4	23
21	9.0	144	147	147	223	90	101	153	137	241	5.9	56
22	60	131	147	157	928	159	87	157	70	248	4.4	55
23	221	634	147	992	405	185	87	157	93	253	6.8	54
24												
25	154	84	147	63	343	75	93	161	83	255	9.4	55
26	3.4	143	147	311	151	166	85	115	47	255	8.9	55
27	38	141	147	102	141	8.1	61	63	48	253	229	55
28	82	162	147	147	187	62	45	63	46	250	217	27
29	124	299	147	147	145	124	52	57	95	250	220	5.0
30												
31	139	89	147	147	123	126	65	50	132	248	226	4.7
32	141	156	147	147	153	130	68	60	128	248	236	30
33	141	141	147	147	107	134	68	107	123	248	233	54
34	141	136	147	147	-----	134	85	147	123	248	229	54
35	141	112	147	147	-----	130	89	145	123	243	104	55
36	146	-----	147	147	-----	126	-----	145	-----	241	6.5	-----
Total	2,628.4	4,777.0	5,248	5,477.7	11,086	3,893.6	3,138	4,061	3,701	4,403.3	4,400.6	6,616
Mean	84.8	159	169	177	396	126	105	131	123	142	142	22.1
Max	221	634	793	992	1,800	245	132	234	157	255	248	56
Min	3.4	84	67	63	107	8.1	45	47	46	3.8	4.1	3.6
Ac-ft	5,210	9,460	10,410	10,860	21,990	7,720	6,220	8,050	7,340	8,730	8,730	1,310
(†)	5,052	7,521	8,414	8,028	1,938	3,987	6,662	7,281	6,910	8,251	8,648	1,000

Calendar year 1961: Max 793 Min 0.8 Mean 81.6 Ac-ft 59,080 Ac-ft† 52,625

Water year 1961-62: Max 1,800 Min 3.4 Mean 146 Ac-ft 106,000 Ac-ft† 73,692

† Colorado River water, in acre-feet, released to Rio Hondo via Alhambra Wash 1.6 miles upstream for ground-water recharge in Rio Hondo basin.

## LOS ANGELES RIVER BASIN

11-1020. Mission Creek near Montebello, Calif.

Location.--Lat 34°01'45", long 118°04'07", in La Merced Grant, on upstream side of right abutment of San Gabriel Boulevard Bridge, 2 miles northeast of Montebello, Los Angeles County.

Drainage area.--6 sq mi, approximately.

Records available.--October 1929 to September 1962. Yearly estimate for 1938, published in WSP 1315-B. Prior to October 1944, published as Rio Hondo Slough near Montebello.

Gage.--Water-stage recorder. Altitude of gage is 195 ft (from topographic map). Prior to Nov. 3, 1938, at datum 6.30 ft higher.

Average discharge.--33 years, 13.8 cfs (9,990 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--Maximum discharge during year, 24 cfs Feb. 11 (gage height, 7.83 ft); no flow Oct. 1 to Nov. 30.

1929-62: Maximum discharge not determined, occurred Mar. 2, 1938; no flow at times in 1957, 1961-62.

Remarks.--Flow is almost entirely from ground-water seepage. Flow partially regulated by outflow from Legg Lake.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.3	0.9	1.0	2.5	2.4	1.7	1.1	1.3	1.2	0.2
2			3	9	1.0	2.9	2.5	1.6	1.1	1.2	1.1	2
3			4	8	1.0	2.6	2.5	1.5	1.2	1.2	1.0	3
4			5	8	1.0	2.5	2.5	1.5	1.2	1.2	1.0	1
5			4	8	1.0	2.6	2.5	1.4	1.3	1.2	1.0	2
6			4	8	1.1	2.6	2.5	1.4	1.4	1.2	9	3
7			4	8	1.1	2.4	2.4	1.4	1.5	1.1	9	4
8			4	8	4.7	2.5	2.4	1.3	1.5	1.0	8	7
9			5	8	5.4	2.7	2.4	1.3	1.5	9	8	6
10			5	9	3.4	2.5	2.3	1.3	1.4	8	8	5
11			5	9	12	2.5	2.3	1.3	1.4	7	8	5
12			5	9	6.3	2.3	2.3	1.4	1.3	7	8	4
13			5	9	4.3	2.4	2.3	1.5	1.3	7	8	4
14			5	9	4.1	2.4	2.3	1.6	1.3	7	5	3
15			5	1.0	7.7	2.4	2.3	1.7	1.3	7	5	4
16			6	1.0	5.1	2.4	2.3	1.8	1.3	7	5	7
17			6	1.0	4.3	2.5	2.3	1.9	1.3	7	6	5
18			7	1.1	4.2	2.5	2.3	1.8	1.4	7	8	5
19			7	1.1	5.5	2.6	2.3	1.7	1.4	7	5	8
20			7	3.7	4.6	2.5	2.3	1.6	1.4	7	5	8
21			8	2.2	4.8	2.5	2.3	1.5	1.4	7	5	8
22			8	2.1	4.2	2.5	2.3	1.4	1.4	7	4	8
23			8	1.1	3.9	2.5	2.3	1.3	1.4	7	6	9
24			8	1.1	3.6	2.5	2.3	1.2	1.4	6	6	8
25			9	1.1	3.3	2.5	2.3	1.1	1.3	6	5	6
26			9	1.1	2.9	2.5	2.3	1.1	1.3	6	4	6
27			9	1.1	2.7	2.4	2.2	1.1	1.3	8	4	7
28			9	1.0	2.6	2.4	2.1	1.1	1.3	1.0	3	1.0
29			9	1.0	-	2.4	2.0	1.1	1.3	1.0	2	1.2
30			9	1.0	-----	2.4	1.8	1.1	1.3	1.0	2	1.2
31			9	1.0	-----	2.4	-----	1.1	-----	1.0	1	-----
Total	0	0	19.5	34.6	106.8	77.3	69.3	43.8	40.0	26.8	20.0	17.4
Mean	0	0	0.63	1.12	3.81	2.49	2.31	1.41	1.33	0.86	0.65	0.58
Max	0	0	0.9	3.7	12	2.9	2.5	1.9	1.5	1.3	1.2	1.2
Min	0	0	0.3	0.8	1.0	2.3	1.8	1.1	1.1	0.6	0.1	0.1
Ac-ft	0	0	39	69	212	153	137	87	79	53	40	35

Calendar year 1961: Max 2.0 Min 0 Mean 0.60 Ac-ft 433

Water year 1961-62: Max 12 Min 0 Mean 1.25 Ac-ft 904



11-1022.5. Mission Creek below Whittier Narrows Dam, Calif.

Location.--Lat 34°01'15", long 118°04'15", near north boundary of Paso de Bartolo Grant, on left bank about 500 ft downstream from axis of Whittier Narrows Dam, and 1.4 miles north of Pico, Los Angeles County.

Records available.--December 1955 to September 1962.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 187.1 ft above mean sea level (Corps of Engineers Survey).

Extremes.--Maximum daily discharge during year, 7.2 cfs Apr. 16; no flow for several months.  
1955-62: Maximum daily discharge, 18 cfs Jan. 6, 1959; no flow for many days in most years.

Remarks.--Records fair. Discharge measurements generally made once a week. Flow is almost entirely from ground-water seepage. At times flow regulated by Whittier Narrows Dam.

Cooperation.--Thirty discharge measurements furnished by Los Angeles County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 19 to May 5, June 7 to July 9, Aug. 4-13)

0	0
.1	.5
.2	1.3
.4	3.8
.6	7.2

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.3	0.7	2.4	4.4	2.9	3.6	3.8	0.7	0
2			0	.3	.8	3.1	4.4	2.9	3.5	3.8	.6	0
3			0	.3	.8	2.8	4.4	2.9	3.5	3.9	.5	0
4			0	.3	.9	2.5	4.4	2.9	3.5	3.9	.4	0
5			0	.5	1.0	2.4	4.4	2.9	3.3	3.9	.4	0
6			0	.8	1.0	2.6	4.4	2.8	3.3	3.9	.3	0
7			0	.4	1.1	2.5	4.4	2.4	3.3	3.2	.2	0
8			0	.2	1.3	2.5	4.2	1.5	3.2	3.5	.2	0
9			0	.1	1.3	2.6	4.1	1.3	3.1	3.5	.2	0
10			0	.2	1.1	2.5	3.9	1.7	2.9	3.5	.2	0
11			0	.9	4.0	2.5	3.9	3.3	2.9	3.5	.2	0
12			0	.6	2.4	2.9	3.6	3.3	2.9	3.5	.2	0
13			0	.7	2.2	6.4	2.3	3.3	2.9	3.5	.2	0
14			0	.6	1.8	5.7	3.8	3.3	3.1	3.6	.1	0
15			0	.6	1.7	5.2	6.2	3.3	3.5	3.8	.1	0
16			0	.6	2.2	5.4	7.2	3.3	3.6	3.8	.1	0
17			0	.6	2.0	5.0	3.9	3.3	3.8	3.8	.1	0
18			0	.6	1.9	3.6	4.5	3.3	3.9	3.8	.2	0
19			0	.7	2.2	2.8	2.6	3.5	3.8	3.8	.1	0
20			0	.8	2.2	4.5	2.6	3.8	3.6	3.6	0	0
21			0	1.8	2.0	4.2	2.6	3.9	3.5	3.6	0	0
22			0	.5	1.9	4.5	2.6	3.9	3.5	3.6	0	.1
23			0	.4	1.8	3.9	2.6	4.1	3.5	3.6	0	.2
24			0	.3	1.7	2.6	2.6	4.1	3.5	3.6	.1	.2
25			.1	.3	1.6	3.8	2.6	4.1	3.5	3.6	.1	.1
26			.1	.2	1.5	4.2	2.6	4.1	3.6	3.6	.1	.1
27			.1	.2	1.4	4.4	2.6	4.1	3.6	4.5	.1	.2
28			.2	.2	2.2	4.4	2.8	4.1	3.6	2.4	0	.2
29			.2	.1	-	4.5	2.8	4.1	3.6	1.0	0	.3
30			.2	0	-----	4.5	2.8	3.9	3.8	.8	0	.3
31		-----	.2	.3	-----	4.5	-----	3.8	-----	.7	0	-----
Total	0	0	1.1	14.4	46.7	115.4	110.4	102.1	102.9	104.6	5.4	1.7
Mean	0	0	0.04	0.46	1.67	3.72	3.68	3.29	3.43	3.37	0.17	0.06
Max	0	0	0.2	1.8	4.0	6.4	7.2	4.1	3.9	4.5	0.7	0.3
Min	0	0	0	0	0.7	2.4	2.3	1.3	2.9	0.7	0	0
Ac-ft	0	0	2.2	29	93	229	219	203	204	207	11	3.4
Calendar year 1961: Max	2.0		Min	0	Mean	0.40	Ac-ft	285				
Water year 1961-62: Max	7.2		Min	0	Mean	1.66	Ac-ft	1,200				

## LOS ANGELES RIVER BASIN

11-1025. Rio Hondo near Downey, Calif.

Location.--Lat 33°56'46", long 118°09'44", in San Antonio Grant, on left bank 700 ft upstream from Stewart and Gray Road Bridge, 0.6 mile upstream from mouth and 1.5 miles west of Downey, Los Angeles County.

Drainage area.--140 sq mi (excluding area above Santa Fe Dam).

Records available.--March 1928 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 91.4 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 31, 1951, at site 700 ft downstream at different datum.

Average discharge.--34 years, 24.9 cfs (18,030 acre-ft per year); median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

Extremes.--Maximum discharge during year, 7,100 cfs Feb. 19 (gage height, 5.29 ft); no flow for many days.

1928-62: Maximum discharge, 24,400 cfs Mar. 3, 1938 (gage height, 13.5 ft, site and datum then in use), from rating curve extended above 10,000 cfs on basis of slope-area measurement; no flow for part of each year.

Remarks.--Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs (combined capacities, 1,700 acre-ft), Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft), and Sierra Madre, Las Flores, and Rubio debris basins. Many diversions above station for domestic use and irrigation. At times flow is diverted from San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.7	0	0	0	0.2	0	0	0.5	0	0.4
2	0	0	2.23	0	0	.2	.2	.1	0	.4	0	.4
3	0	0	1.4	0	0	.5	.2	.3	0	.4	0	.3
4	0	0	.1	0	0	.4	.2	0	0	.4	0	.4
5	0	0	0	0	0	.5	.1	.1	0	.4	0	0
6	0	0	0	0	0	86	0	.2	0	.4	0	0
7	0	0	0	0	30	.6	.1	0	0	.4	0	0
8	0	0	0	0	1,080	.3	.1	0	0	.4	0	0
9	0	0	0	0	684	.9	.2	0	0	.3	0	0
10	0	0	0	0	460	.1	.1	0	0	.4	0	0
11	0	0	0	0	2,080	0	.1	0	0	.4	0	0
12	0	0	0	3.5	1,200	0	.2	0	0	.5	0	0
13	0	0	0	13	694	0	.1	0	0	.4	0	0
14	.2	0	11	0	70	0	.1	0	0	.4	0	0
15	.9	0	.1	0	702	0	.1	0	0	.2	0	0
16	.5	0	0	0	664	.1	.1	0	0	.1	0	0
17	.4	0	0	0	14	.1	.1	.2	0	.1	0	.2
18	0	0	0	0	28	17	.1	0	0	.2	0	0
19	0	0	0	0	1,830	.6	.2	.4	0	0	0	0
20	0	389	0	231	404	.5	.1	0	0	0	0	0
21	0	3.7	0	19	304	.9	.1	0	.1	0	0	.4
22	0	.3	0	89	3.4	3.1	.1	0	.1	0	0	.4
23	0	0	0	12	3.4	.5	.1	0	.2	0	0	0
24	0	0	0	.1	6.3	.2	.2	0	.2	0	0	0
25	0	59	0	0	2.4	.2	.2	0	.2	0	0	0
26	0	8.2	0	0	1.6	.3	.3	0	.4	0	0	0
27	0	.1	0	0	.4	.4	.4	0	.5	0	.2	0
28	0	.1	0	0	.2	.4	.2	0	.5	0	.3	0
29	0	0	0	0	-	.3	.2	0	.5	0	.3	0
30	0	10	0	0	-----	.4	.1	0	.5	0	.4	0
31	0	-----	0	0	-----	.2	-----	0	-----	0	.5	-----
Total	2.0	470.4	248.9	367.6	10,261.7	114.7	4.5	1.3	3.2	6.3	1.7	2.5
Mean	0.06	15.7	8.03	11.9	366	3.70	0.15	0.04	0.11	0.20	0.05	0.08
Max	0.9	389	223	231	2,080	86	0.4	0.4	0.5	0.5	0.5	0.4
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	4.0	933	494	729	20,350	228	8.9	2.6	6.3	12	3.4	5.0

Calendar year 1961: Max 389 Min 0 Mean 2.48 Ac-ft 1,800

Water year 1961-62: Max 2,080 Min 0 Mean 31.5 Ac-ft 22,780

## LOS ANGELES RIVER BASIN

197

11-1030. Los Angeles River at Long Beach, Calif.

Location.--Lat 33°49'05", long 118°12'15", in Los Cerritos Grant, on right bank 5,000 ft upstream from Willow Street, 3.4 miles north of Long Beach, Los Angeles County, and 3.7 miles upstream from mouth.

Records available.--December 1928 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 11.91 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 31, 1931, at site 3 miles downstream at different datum. Oct. 31, 1931, to Jan. 19, 1956, at site 2 miles downstream at different datum.

Average discharge.--33 years (1929-62), 139 cfs (100,600 acre-ft per year); median of yearly mean discharges, 88 cfs (63,700 acre-ft per year).

Extremes.--Maximum discharge during year, 42,200 cfs Feb. 12 (gage height, 9.64 ft); minimum daily, 0.6 cfs Oct. 8, 9.

1928-62: Maximum discharge, 99,000 cfs Mar. 2, 1938, on basis of records for stations upstream; no flow at times in 1929-30, 1934.

Remarks.--Flow regulated by Hansen and Sepulveda flood-control reservoirs (combined capacities, 49,400 acre-ft), and several small flood-control reservoirs. City of Los Angeles stores imported Owens River water in San Fernando and Chatsworth reservoirs and at times discharges imported water into Los Angeles River above station. Many diversions above station for domestic use and irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	53	71	6.0	21	48	16	18	2.0	9.0	12	10
2	1.4	12	3,350	8.0	15	51	18	17	2.0	8.5	12	9.5
3	3.6	15	587	12	12	54	21	18	2.0	12	11	11
4	1.8	14	41	16	9.5	49	23	18	3.1	10	9.0	12
5	3.1	9.0	19	15	11	51	22	17	17	10	9.0	12
6	1.4	8.5	15	15	14	1,100	35	13	17	15	9.5	11
7	1.0	12	13	12	432	110	23	14	19	13	10	15
8	.6	12	7.6	12	8,730	48	21	20	16	9.0	11	14
9	.6	12	2.6	15	3,570	39	19	22	15	8.0	12	12
10	1.2	12	1.0	15	10,200	98	19	22	12	12	12	12
11	1.0	9.0	.7	13	14,800	20	20	19	12	12	9.5	12
12	3.1	7.2	3.1	15	8,090	18	20	16	11	12	8.0	15
13	1.6	8.5	2.0	193	2,440	19	22	12	11	12	9.5	15
14	1.3	11	146	23	659	23	20	12	10	12	12	12
15	.7	11	109	12	4,900	24	17	74	10	9.5	14	12
16	1.0	12	10	18	1,960	23	17	27	10	12	14	10
17	2.2	11	6.0	18	254	19	21	100	9.5	14	14	12
18	2.4	8.5	6.0	17	142	198	21	17	9.0	15	12	13
19	2.4	6.8	9.0	12	7,180	627	21	12	12	16	10	14
20	2.8	3,000	9.5	3,020	1,320	72	19	9.0	11	15	11	14
21	2.4	327	56	422	953	190	15	8.5	10	12	14	15
22	1.6	22	12	1,920	82	45	17	5.3	11	10	13	11
23	2.2	11	8.0	806	146	174	15	4.5	10	10	12	9.5
24	4.1	8.5	6.8	35	122	42	23	3.3	8.5	12	12	10
25	6.0	1,530	6.4	23	157	23	21	3.1	9.0	12	12	12
26	6.4	363	7.6	14	110	20	20	2.8	12	12	8.5	13
27	6.8	53	10	14	60	23	21	2.4	13	12	9.5	14
28	5.7	19	10	11	60	24	19	2.2	12	10	11	14
29	3.1	15	12	12	-	23	14	2.2	12	10	12	12
30	3.3	254	9.5	21	-----	21	16	2.2	11	10	12	12
31	6.0	-----	7.2	28	-----	18	-----	2.0	-----	12	12	-----
Total	81.8	5,847.0	4,554.0	6,773.0	6,644.95	3,294	596	515.5	319.1	358.0	349.5	370.0
Mean	2.64	195	147	218	2,373	106	19.9	16.6	10.6	11.6	11.3	12.3
Max	6.8	3,000	3,350	3,020	14,800	1,100	35	100	19	16	14	15
Min	0.6	6.8	0.7	6.0	9.5	18	14	2.0	2.0	8.0	8.0	9.5
Ac-ft	162	11,600	9,030	13,430	131,800	6,530	1,180	1,020	633	710	693	734
Calendar year 1961: Max	3,350	Min	0.6	Mean	51.8	Ac-ft	37,520					
Water year 1961-62: Max	14,800	Min	0.6	Mean	245	Ac-ft	177,500					

## BALLONA CREEK BASIN

11-1035. Ballona Creek near Culver City, Calif.

Location.--Lat 33°59'48", long 118°24'07", in La Ballona Grant, on downstream side of Sawtelle Boulevard Bridge, 1.7 miles south of Culver City, Los Angeles County, and 4 miles upstream from mouth.

Drainage area.--88.6 sq mi, excludes that of Sepulveda Creek. Prior to January 1951, 111 sq mi, change due to tributary channel realignment.

Records available.--February 1928 to September 1962 (after December 1950, flow of Sepulveda Creek excluded).

Gage.--Water-stage recorder. Datum of gage is 11.06 ft (revised) above mean sea level (levels by Los Angeles County Flood Control District). Prior to May 14, 1936, at site 1 mile downstream at different datum. May 14, 1936, to Oct. 23, 1961, at datum 0.2 ft higher.

Average discharge.--22 years (1928-50), 35.2 cfs (25,480 acre-ft per year); 12 years (1950-62), 38.7 cfs (28,020 acre-ft per year); median of yearly mean discharges, 31 cfs (22,400 acre-ft per year).

Extremes.--Maximum discharge during year, 12,900 cfs Feb. 19 (gage height, 9.75 ft); minimum daily, 3.2 cfs Oct. 29, Jan. 14, June 17, 1928-62: Maximum discharge, 19,000 cfs Mar. 2, 1938 (gage height, 15.4 ft, present datum); no flow in parts of some years.

Remarks.--Occasional discharge of imported Owens River water from several distribution reservoirs of the City of Los Angeles Department of Water and Power into the creek above station. Some small pumping diversions above station for irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	6.0	23	3.9	8.1	15	7.4	8.8	14	12	12	8.1
2	10	7.4	10 60	8.1	8.8	14	6.7	8.1	15	14	10	6.0
3	9.4	10	8.6	10	6.0	13	10	8.8	13	15	12	6.0
4	9.4	10	10	9.5	6.0	12	8.1	12	8.8	12	9.5	8.8
5	12	10	9.5	7.4	8.8	14	6.7	8.1	8.8	12	8.8	8.8
6	11	9.5	8.8	5.3	8.8	4 26	9.5	6.0	9.5	18	9.5	8.8
7	11	8.8	10	3.9	3 06	15	8.8	8.8	9.5	13	10	10
8	11	8.1	8.8	7.4	3 280	13	6.7	9.5	10	8.8	10	12
9	11	7.4	7.4	8.8	1 150	19	8.8	9.5	10	12	10	7.4
10	11	6.7	6.0	6.7	3 4 90	10	10	10	5.3	12	10	8.1
11	10	6.7	9.5	9.5	2 280	8.1	12	12	9.5	14	9.5	8.8
12	16	3.9	12	7.8	9 10	9.5	13	13	8.1	13	6.7	10
13	14	7.4	9.5	4.4	5 7	8.8	10	6.0	8.8	17	6.7	10
14	11	13	7.5	3.2	4 4	8.1	9.5	10	9.5	12	8.8	10
15	9.4	8.8	8.1	6.0	2 0 90	8.1	8.1	10	10	8.1	8.8	8.1
16	12	10	5.3	8.1	2 6 7	8.1	12	13	4.6	10	12	8.1
17	11	12	3.9	8.1	3 7	8.8	14	12	3.2	14	6.0	10
18	12	9.5	5.3	8.1	3 1	2 6 2	16	8.8	6.0	12	20	14
19	9.4	13	6.7	8.1	1 7 50	26	16	8.8	6.7	12	6.7	18
20	8.5	7 0 1	7.4	1 3 40	1 3 8	3 4	15	4.6	8.1	13	9.5	17
21	8.9	9.5	9.5	2 8 6	5 4	22	13	7.4	13	15	13	17
22	8.9	6.0	10	6 4 8	2 9	9 7	20	7.4	12	8.1	10	14
23	8.9	5.3	7.4	4 9	2 7	1 9	15	6.7	8.8	10	10	9.5
24	7.1	6.0	6.0	9.5	3 7	1 6	13	6.7	8.1	15	12	13
25	7.4	5 9 2	3.9	9.5	1 9	1 5	10	6.7	10	13	9.5	13
26	7.0	4.4	8.1	8.8	1 8	1 2	14	9.5	14	12	9.5	10
27	5.9	4.6	10	7.4	1 6	1 3	14	6.0	14	14	9.5	12
28	3.9	4.6	7.4	5.3	1 4	1 2	8.8	8.1	13	13	10	13
29	3.2	5.3	8.1	9.5	-	9.5	6.0	13	14	8.8	10	9.5
30	11	1 4 8	7.4	6.7	-----	1 3	8.8	10	13	8.8	10	8.8
31	9.5	-----	4.6	9.5	-----	1 3	-----	1 2	-----	1 3	10	-----
Total	299.3	1 6 9 4.5	1 4 5 4.6	2 6 3 3.3	1 6 0 9 0.5	1 1 7 4.0	3 3 0.9	2 8 1.3	2 9 8.3	3 8 4.6	3 1 0.0	3 1 7.8
Mean	9.65	56.5	46.9	84.9	575	37.9	11.0	9.07	9.94	12.4	10.0	10.6
Max	16	701	1,060	1,340	3,490	426	20	13	15	18	20	18
Min	3.2	3.9	3.9	3.2	6.0	8.1	6.0	4.6	3.2	8.1	6.0	6.0
Ac-ft	594	3,360	2,880	5,220	31,920	2,330	656	558	592	763	615	630

Calendar year 1961: Max 1,060 Min 3.2 Mean 19.4 Ac-ft 14,020  
 Water year 1961-62: Max 3,490 Min 3.2 Mean 69.2 Ac-ft 50,120

## TOPANGA CREEK BASIN

199

11-1040. Topanga Creek near Topanga Beach, Calif.

Location.--Lat 34°03'50", long 118°35'10", in Boca de Santa Monica Grant, on downstream side of right abutment of highway bridge, 1.7 miles north of Topanga Beach, Los Angeles County.

Drainage area.--17.9 sq mi.

Records available.--January 1930 to September 1938, October 1939 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 265.60 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to June 5, 1940, at different datum. June 5, 1940, to Dec. 9, 1941, at site 400 ft upstream at different datum.

Average discharge.--31 years, 5.15 cfs (3,730 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,790 cfs Feb. 10 (gage height, 7.73 ft); minimum daily, 0.02 cfs Oct. 2-6, 14-17, Oct. 31 to Nov. 1, Nov. 6-9.

1930-38, 1939-62: Maximum discharge, 7,960 cfs Mar. 2, 1938; no flow at times in some years.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	0.02	0.1	0.1	0.1	1.0	2.2	0.8	0.3	0.2	0.1	0.07
2	.02	.04	7.3	.1	.1	9.1	2.3	.7	.3	.2	.1	.07
3	.02	.04	6.0	.1	.1	8.2	2.2	.7	.3	.2	.1	.1
4	.02	.04	1.1	.1	.07	7.4	2.1	.7	.2	.2	.1	.1
5	.02	.04	.6	.1	.07	7.1	2.1	.7	.2	.2	.1	.1
6	.02	.02	.2	.1	.07	21	2.1	.6	.2	.1	.1	.07
7	.04	.02	.1	.1	1.6	8.2	1.9	.6	.3	.1	.1	.07
8	.04	.02	.1	.1	2.38	7.1	1.8	.6	.3	.1	.1	.1
9	.05	.02	.1	.1	2.75	6.8	1.5	.6	.3	.1	.1	.1
10	.05	.04	.1	.1	1.150	6.5	1.4	.6	.2	.1	.1	.1
11	.05	.05	.1	.1	5.72	5.9	1.3	.6	.2	.1	.1	.1
12	.05	.05	.1	.1	2.19	5.6	1.3	.6	.2	.1	.1	.07
13	.04	.04	.1	.2	7.3	5.0	1.3	.6	.2	.1	.1	.07
14	.02	.02	.1	.1	3.2	4.4	1.1	.7	.2	.1	.1	.1
15	.02	.04	.07	.1	1.28	4.4	1.1	.8	.2	.1	.1	.1
16	.02	.05	.07	.1	7.5	4.4	1.3	.8	.2	.1	.1	.1
17	.02	.05	.07	.1	3.8	4.0	1.3	.8	.2	.1	.1	.07
18	.04	.05	.07	.1	2.6	4.2	1.1	.6	.2	.1	.1	.07
19	.05	.05	.07	.1	3.61	4.2	1.1	.6	.3	.1	.1	.07
20	.05	3.1	.07	2.8	6.5	3.8	1.0	.6	.3	.07	.1	.07
21	.05	.4	.07	2.2	4.0	3.8	.9	.6	.2	.07	.1	.07
22	.05	.05	.07	1.6	2.9	3.8	.9	.5	.2	.07	.1	.07
23	.05	.05	.07	4.5	2.4	3.0	.8	.5	.2	.1	.07	.07
24	.05	.05	.07	1.4	2.1	2.5	.8	.5	.2	.1	.07	.05
25	.05	8.5	.07	.7	1.7	2.3	.8	.5	.2	.1	.07	.05
26	.05	.7	.07	.4	1.5	2.3	.8	.5	.2	.1	.07	.07
27	.05	.2	.07	.2	1.3	2.3	.8	.4	.2	.1	.07	.07
28	.05	.07	.07	.2	1.1	2.3	.9	.4	.2	.1	.07	.07
29	.04	.05	.07	.1	-	2.3	.9	.3	.2	.1	.07	.07
30	.04	.5	.07	.1	-----	2.3	.8	.4	.2	.1	.07	.07
31	.02	-----	.07	.1	-----	2.2	-----	.3	-----	.1	.07	-----
Total	1.18	90.87	82.99	55.9	3.424	1.1	166.4	39.9	18.2	3.51	2.83	2.36
Mean	0.038	3.03	2.68	1.80	122	5.37	1.33	0.59	0.23	0.113	0.091	0.079
Max	0.05	.85	.73	.28	1,150	.21	.23	.08	.03	.02	.01	.01
Min	0.02	0.02	0.07	0.1	0.07	2.2	0.8	0.3	0.2	0.07	0.07	0.05
Ac-ft	2.3	180	165	111	6,790	330	79	36	13	7.0	5.6	4.7
Calendar year 1961: Max	85	Min	0.02	Mean	0.526	Ac-ft	381					
Water year 1961-62: Max	1,150	Min	0.02	Mean	10.7	Ac-ft	7,720					

## MALIBU CREEK BASIN

11-1055. Malibu Creek at Crater Camp, near Calabasas, Calif.

Location.--Lat 34°04'38", long 118°42'03", in SW $\frac{1}{4}$  sec.18, T.1 S., R.17 W., on right bank 700 ft downstream from Cold Creek, 0.2 mile downstream from Crater Camp and 6 miles southwest of Calabasas.

Drainage area.--103 sq mi.

Records available.--January 1931 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 430.51 ft above mean sea level (levels by Los Angeles County Flood Control District).

Average discharge.--31 years, 18.3 cfs (13,250 acre-ft per year); median of yearly mean discharges, 6.2 cfs (4,500 acre-ft per year).

Extremes.--Maximum discharge during year, 7,060 cfs Feb. 10 (gage height, 12.50 ft); minimum daily, 0.01 cfs Oct. 15 to Nov. 19.  
1931-62: Maximum discharge, 13,600 cfs Mar. 15, 1952 (gage height, 19.1 ft); no flow for periods in some years.

Remarks.--Flow regulated by many small recreational reservoirs.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.06	0.01	0.2	0.2	0.5	51	12	4.8	3.5	1.2	0.6	0.3
2	.06	.01	41	.2	.5	47	11	5.8	3.3	1.2	.6	.2
3	.06	.01	.6	.2	.5	42	11	4.8	3.0	1.0	.5	.2
4	.06	.01	.2	.2	.5	38	11	4.2	2.8	1.0	.5	.2
5	.06	.01	.2	.2	.5	35	9.7	3.5	2.6	1.0	.5	.2
6	.06	.01	.2	.2	.5	60	8.9	3.0	2.6	.8	.5	.2
7	.06	.01	.2	.3	.8	45	8.0	3.0	2.4	.8	.4	.2
8	.03	.01	.2	.3	118	36	7.4	2.8	2.4	.8	.4	.2
9	.03	.01	.2	.2	350	33	7.1	2.6	2.4	.8	.4	.2
10	.02	.01	.2	.2	3,920	29	7.1	2.4	2.4	.8	.4	.2
11	.02	.01	.2	.2	2,500	26	6.4	2.4	2.4	.8	.4	.2
12	.02	.01	.2	.2	1,050	24	6.1	2.3	2.4	1.0	.4	.2
13	.02	.01	.2	.2	310	24	5.5	2.3	2.4	.8	.3	.2
14	.02	.01	.2	.2	171	23	5.2	2.4	2.4	.8	.3	.2
15	.01	.01	.2	.2	447	21	5.8	2.6	2.8	.8	.3	.2
16	.01	.01	.2	.2	345	20	5.5	2.6	2.8	.8	.3	.2
17	.01	.01	.2	.2	203	19	2.8	2.6	2.4	.8	.3	.2
18	.01	.01	.2	.2	142	19	2.6	2.4	2.1	.8	.3	.2
19	.01	.01	.2	.2	1,110	19	4.2	2.0	1.8	.8	.3	.2
20	.01	2.4	.2	12	327	21	4.8	1.9	1.7	.8	.3	.2
21	.01	.2	.2	.8	212	22	4.4	2.1	1.7	.6	.3	.2
22	.01	.03	.2	8.9	167	19	3.9	2.1	1.7	.6	.3	.3
23	.01	.03	.2	4.1	125	19	3.7	2.1	1.7	.6	.3	.3
24	.01	.03	.2	1.0	102	17	3.5	2.1	1.7	.6	.3	.3
25	.01	6.8	.2	.8	90	16	3.7	2.1	1.7	.6	.3	.4
26	.01	.6	.2	.6	80	15	3.7	2.3	1.5	.6	.3	.4
27	.01	.1	.2	.5	71	14	3.7	2.6	1.4	.6	.3	.4
28	.01	.1	.2	.4	61	14	3.9	2.8	1.4	.6	.3	.4
29	.01	.1	.2	.4	-	13	4.6	3.3	1.2	.6	.3	.4
30	.01	.1	.2	.4	-----	13	5.2	3.7	1.2	.6	.3	.5
31	.01	-----	.2	.5	-----	12	-----	3.7	-----	.6	.3	-----
Total	0.75	10.68	47.4	34.4	11,904.8	806	182.4	89.3	65.8	24.2	11.3	7.7
Mean	0.024	0.356	1.53	1.11	425	26.0	6.08	2.88	2.19	0.78	0.36	0.26
Max	0.06	6.8	41	12	3,920	60	12	5.8	3.5	1.2	0.6	0.5
Min	0.01	0.01	0.2	0.2	0.5	12	2.6	1.9	1.2	0.6	0.3	0.2
Ac-ft	1.5	21	94	68	23,610	1,600	362	177	131	48	22	15

Calendar year 1961: Max 41 Min 0.01 Mean 0.28 Ac-ft 203  
 Water year 1961-62: Max 3,920 Min 0.01 Mean 36.1 Ac-ft 26,150

CALLEGUAS CREEK BASIN

201

11-1070. Honda Barranca near Somis, Calif.

Location.--Lat 34°16'08", long 119°02'56", in Las Posas Grant, on upstream side of left abutment of bridge on Price Road, 1,600 ft upstream from Arroyo Colorado, and 3.1 miles west of Somis, Ventura County.

Drainage area.--2.57 sq mi.

Records available.---June 1954 to September 1962.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 350 ft (from topographic map).

Average discharge.--8 years, 0.14 cfs (101 acre-ft per year).

Extremes.--Maximum discharge during year, 450 cfs Feb. 19 (gage height, 8.21 ft, from crest-stage gage), on basis of field estimate of peak flow; no flow for most of year.

1954-62: Maximum discharge, that of Feb. 19, 1962; no flow for most of each year.

Remarks.--Records good except those above 50 cfs, which are poor. No storage or large diversion above station. Minor flow in summer months is waste irrigation water.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	* 0	* 0		0	0			0
2		(*)		0	0	0		0	0			0
3				0	0	0		0	0			0
4				0	0	0		0	0			0
5				0	0	0		0	0			0
6												
7				0	0	0		0	0			0
8				0	0	0		0	0			0
9			(*)	0	9.6	0		0	0			0
10				0	31	0		* .1	0	(*)		0
				0	110	0		.1	0			0
11												
12				* 0	12	0		.1	0			0
13				0	* 1.0	0	(*)	.1	0			0
14				0	0	0		0	0			0
15				0	0	.3		0	* .1			0
				0	16	* .2		0	.1			0
16												
17	(*)	(*)		0	.9	.1		0	.1			0
18				0	0	0		0	.1			0
19				0	0	0		0	.1			0
20				0	** 40	0		0	.2			0
				* .1	.4	0		0	.1			0
21												
22		(*)		0	0	0		0	.1			0
23				0	0	0		0	.1			0
24				0	0	0		0	.1			0
25				0	0	0		0	* .1			* 0
				0	0	0		0	0			0
26												
27				0	0	0		0	0	(*)		0
28		(*)		0	0	0	(*)	0	0			0
29				0	0	0		* 0	0		(*)	.1
30			(*)	0	0	* 0		0	0			0
31				0	0	0		0	0			0
Total	0	0	0	0.7	220.9	0.6	0	0.4	1.2	0	0	0.1
Mean	0	0	0	0.02	7.89	0.02	0	0.01	0.04	0	0	0.003
Max	0	0	0	0.4	110	0.3	0	0.1	0.2	0	0	0.1
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	1.4	438	1.2	0	0.8	2.4	0	0	0.2
(†)	0	2.5	1.0	2.5	15.1	0.8	0	0	0	0	0	0

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

Water year 1961-62: Max 110 Min 0 Mean 0.61 Ac-ft 444

Peak discharge (base, 15 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0600	4.71	184	2-19	0430	†8.21	450
2-15	0900	4.35	151				

† From crest-stage gage.

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

\*\* Field estimate made on this day.

† Precipitation, in inches.

Note.--No precipitation record Feb. 10-12. Precipitation estimated.

## SANTA CLARA RIVER BASIN

202

11-1085. Santa Clara River at Los Angeles-Ventura County line, Calif.

Location.--Lat 34°23'59", long 118°42'14", in San Francisco Grant, on downstream end of old diversion weir on right bank, 0.8 mile west of Los Angeles-Ventura County line.

Drainage area.--640 sq mi.

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 794.93 ft above mean sea level, datum of 1929.

Average discharge.--10 years, 14.1 cfs (10,210 acre-ft per year); median of mean annual discharges, 7.2 cfs (5,200 acre-ft per year).

Extremes.--Maximum discharge during year, 9,100 cfs Feb. 11 (gage height, 9.65 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurement of peak flow; no flow Oct. 1 to Nov. 19.

1952-62: Maximum discharge, that for Feb. 11, 1962; no flow at times in some years.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Discharge measurements made weekly during periods of flow. Flow at station affected by pumpage from wells along stream for irrigation above station.

Cooperation.--Gage-height record and 61 discharge measurements furnished by Ventura County Water Resources Division; 18 discharge measurements furnished by Los Angeles County Flood Control District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 21 to Dec. 3, Feb. 24-25, Mar. 6-17, Apr. 20-24)

Oct. 1 to Feb. 10						Feb. 11 to Sept. 30					
3.1	0	3.6	9.4	5.0	260	4.4	0.1	5.4	150		
3.2	.6	3.8	20	5.5	460	4.5	.7	6.0	480		
3.3	1.8	4.1	49	6.0	800	4.6	3.0	7.0	1,490		
3.4	3.5	4.4	94	6.5	1,250	4.7	7.0	8.0	3,390		
3.5	6.0	4.7	160	7.1	2,020	4.9	22	9.0	6,190		
						5.1	60				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.7	0.6	0.8	1.6	1.3	5.4	1.8	0.7	0.6	0.1
2		0	1.72	.5	.8	1.4	1.3	5.0	1.6	.6	.6	.1
3		0	1.5	.5	.8	1.7	1.4	4.2	1.6	.6	.6	.1
4		0	1.3	.5	.8	1.8	1.4	3.8	1.6	.6	.6	.1
5		0	1.3	.6	.9	1.6	1.4	3.4	1.6	.6	.5	.1
6		0	1.2	.6	1.0	3.9	1.3	2.8	2.1	.6	.4	.2
7		0	.9	.6	1.3	2.2	1.4	2.5	2.1	.6	.4	.6
8		0	.9	.6	1.69	1.5	1.5	2.5	2.1	.6	.4	.6
9		0	.8	.6	2.71	1.5	1.5	2.5	1.8	.5	.4	.6
10		0	.7	.5	1.920	1.3	1.4	2.5	1.6	.5	.4	.6
11		0	.6	.5	5.470	1.2	1.2	2.5	1.6	.5	.3	.7
12		0	.7	.5	a 3.000	1.2	1.2	2.3	2.1	.5	.2	.6
13		0	.8	.5	a 3.50	1.1	1.2	2.1	2.5	.6	.1	.6
14		0	.9	.4	a 5.0	1.2	1.2	2.3	2.5	.6	.1	.5
15		0	.9	.4	a 3.00	1.2	1.2	2.3	2.5	.6	.1	.5
16		0	.5	.5	a 1.50	1.2	1.2	2.5	2.1	.6	.2	.5
17		0	.5	.6	a 5.0	1.1	1.1	2.5	1.6	.6	.2	.5
18		0	.5	.7	a 2.0	1.8	1.0	2.5	1.4	.6	.2	.5
19		0	.5	.7	a 8.00	3.0	1.0	2.5	1.2	.7	.2	.5
20		.7	.5	3.2	a 2.00	1.7	9.4	2.3	1.4	.7	.3	.5
21		8.8	.5	1.1	a 1.50	1.5	8.8	1.8	1.4	.7	.3	.6
22		.9	.5	6.3	a 1.00	1.8	7.6	1.6	1.2	.7	.3	.5
23		.5	.6	1.1	a 6.0	1.6	6.6	1.8	.9	.9	.2	.5
24		.4	.6	4.4	4.1	1.5	6.6	1.8	.9	.9	.2	.4
25		1.3	.6	1.8	3.5	1.5	7.0	1.8	.9	.7	.2	.5
26		5.2	.6	1.3	3.0	1.5	7.6	2.1	.9	.6	.2	.5
27		1.2	.6	1.2	1.8	1.5	6.2	2.3	.9	.6	.2	.6
28		.8	.7	1.0	1.8	1.4	5.8	2.5	.9	.6	.2	.6
29		.8	.8	.9	-	1.3	5.8	2.3	.9	.6	.2	.5
30		.7	.7	.9	-----	1.3	5.4	2.3	.7	.5	.2	.5
31		-----	.7	.9	-----	1.3	-----	2.1	-----	.5	.2	-----
Total	0	33.0	208.1	83.1	13,208.4	4.94	318.8	80.8	46.4	19.2	9.2	13.8
Mean	0	1.10	6.71	2.68	472	15.9	10.6	2.61	1.55	0.62	0.30	0.46
Max	0	13	172	32	5,470	39	15	5.4	2.5	0.9	0.6	0.7
Min	0	0	0.5	0.4	0.8	11	5.4	1.6	0.7	0.5	0.1	0.1
Ac-ft	0	65	413	165	26,200	980	632	160	92	38	18	27

Calendar year 1961: Max 172 Min 0 Mean 1.11 Ac-ft 803

Water year 1961-62: Max 5,470 Min 0 Mean 39.8 Ac-ft 28,790

Peak discharge (base, 750 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	time	Gage height	Discharge
12- 2	1100	6.35	1,800	2-19	unknown	-	unknown
2-11	1100	9.65	9,100				



## SANTA CLARA RIVER BASIN

203

11-1096. Piru Creek above Lake Piru, Calif.

Location.--Lat 34°31'40", long 118°45'21", in SE 1/4 sec. 10, T.5 N., R.18 W., on right bank at Blue Point, 1.0 mile downstream from Aqua Blanca Creek, 4.6 miles upstream from Santa Felicia Dam, and 8.0 miles northeast of Piru.

Drainage area.--371 sq mi.

Records available.--October 1955 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,063.62 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--7 years, 43.7 cfs (31,640 acre-ft per year).

Extremes.--Maximum discharge during year, 12,200 cfs Feb. 10 (gage height, 12.20 ft), from rating curve extended above 4,000 cfs on basis of slope-area measurement of peak flow; no flow Oct. 1 to Nov. 19.

1955-62: Maximum discharge, that of Feb. 10, 1962; no flow for several months in each year.

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

Cooperation.--Twenty-two discharge measurements furnished by the Ventura County Water Resources Division.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 8-20, Feb. 22-28, Mar. 6 to Apr. 7, May 1-11)

Oct. 1 to Apr. 30

May 1 to Sept. 30

1.0	0	1.6	16	4.0	630	0.9	1.0	1.5	22
1.1	.3	1.8	32	5.0	1,200	1.0	2.3	1.7	41
1.2	1.4	2.1	65	7.0	3,000	1.1	4.2	1.9	66
1.3	3.5	2.5	135	9.0	5,850	1.3	10		
1.4	6.6	3.0	255	11.0	9,800				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.9	7.4	22	225	117	48	25	10	4.4	1.7
2		0	316	7.4	22	215	119	48	24	* 10	4.4	1.8
3		0	* 111	7.4	20	202	129	46	24	10	4.4	1.8
4		0	44	7.4	19	190	121	46	* 24	9.7	4.4	1.8
5		0	* 28	7.0	18	* 185	119	46	23	9.3	4.4	1.8
6		0	20	7.0	18	233	121	44	23	8.9	4.4	1.8
7		0	16	7.0	20	180	123	* 42	23	8.5	* 4.4	2.0
8		0	15	* 6.6	* 507	178	123	41	22	8.1	4.4	2.2
9		0	13	6.6	1850	171	* 123	41	22	7.7	4.2	2.1
10		0	12	6.6	* 9250	165	115	41	20	7.7	4.0	1.8
11		0	* 10	6.6	a 6000	155	107	40	20	* 7.7	3.8	1.8
12		0	9.6	7.0	a 3000	* 149	99	40	20	7.7	3.6	1.8
13		0	9.6	7.4	a 1500	147	94	40	* 20	7.7	3.4	1.8
14		* 0	9.6	7.0	a 800	147	90	* 40	20	7.7	3.2	1.8
15		0	9.6	* 7.0	a 1200	147	84	44	22	7.7	3.0	1.8
16	(*)	0	9.6	7.0	a 800	147	* 83	44	22	* 7.4	2.8	1.8
17		0	9.6	7.4	a 600	145	77	44	20	7.1	2.6	* 1.8
18		0	9.1	7.8	a 500	152	74	41	* 18	6.8	2.4	1.8
19		0	9.1	8.2	a 1000	* 178	71	39	16	6.5	2.3	1.8
20		* 39	9.1	* 41	a 700	169	68	37	15	6.2	* 2.2	1.8
21		8.2	8.6	a 30	a 500	163	58	* 34	14	5.6	2.2	1.8
22		* 5.2	8.6	a 25	406	157	55	34	14	5.3	2.0	1.8
23		4.3	8.2	a 25	392	155	55	34	13	5.0	2.0	1.7
24		4.0	8.2	a 30	374	143	55	34	13	* 4.8	2.0	* 1.8
25		55	7.8	a 25	336	139	* 57	32	* 12	4.6	1.8	1.8
26		47	7.8	a 25	* 303	* 143	54	28	10	4.4	1.8	1.8
27		* 14	* 7.8	a 25	264	145	52	27	10	4.4	* 1.7	2.0
28		8.6	7.8	a 25	243	145	50	* 26	10	4.4	1.7	1.8
29		* 7.8	7.8	* 26	143	143	49	26	10	4.4	1.7	1.8
30	(*)	7.0	7.4	26	135	135	* 48	26	10	* 4.4	* 1.8	1.8
31		-----	7.4	* 25	125	125	-----	25	-----	4.4	1.8	-----
Total	0	200.1	763.2	463.8	30,664	5,073	2,590	1,178	539	214.1	93.2	54.9
Mean	0	6.67	24.6	15.0	1,095	164	86.3	38.0	18.0	6.91	3.01	1.83
Max	0	55	316	41	9,250	233	129	48	25	10	4.4	2.2
Min	0	0	5.9	6.6	18	125	48	25	10	4.4	1.7	1.7
Ac-ft	0	397	1,510	920	60,820	10,060	5,140	2,340	1,070	425	185	109

Calendar year 1961: Max 316 Min 0 Mean 5.57 Ac-ft 4,030  
Water year 1961-62: Max 9,250 Min 0 Mean 115 Ac-ft 82,980

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0700	5.26	1,390	2-19	unknown	-	unknown
2-10	1830	12.20	12,200				

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SANTA CLARA RIVER BASIN

11-1097. Lake Piru near Piru, Calif.

Location--Lat 34°27'52", long 118°44'57", in Temescal Grant, at Santa Felicia Dam on Piru Creek, on left bank 1,000 ft upstream from left end of dam, 0.5 mile downstream from Santa Felicia Canyon, and 4.2 miles northeast of Piru, Ventura County.

Drainage area--424 sq mi.

Records available--May 1955 to September 1962.

Gage--Staff gage read once daily. Datum of gage is mean sea level (levels by United Water Conservation District). Prior to Jan. 27, 1956 reference point at intake tower at same datum.

Extremes--Maximum contents observed during year, 73,453 acre-ft Apr. 11-19 (elevation, 1,030.55 ft); lake dry Oct. 25 to Nov. 20. 1955-62: Maximum contents observed, 78,483 acre-ft May 19, 1958 (elevation, 1,035.30 ft); lake dry Oct. 25 to Nov. 20, 1961.

Remarks--Lake is formed by earth-fill dam. Storage began May 20, 1955; May to October 1955, negligible storage. Area and capacity ratings are based on surveys made in 1949 and 1956. Dead storage below two 24-inch sluice gates (elevation, 880.0 ft), 74 acre-ft, included in contents. Capacity below spillway level (elevation, 1,055.0 ft), 101,225 acre-ft. Water is released from outlet to Piru Creek for ground-water recharge, domestic use and irrigation on the Oxnard plain.

Cooperation--Elevations furnished by United Water Conservation District.

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

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	887.35	295	-
Oct. 31.....	870.00	0	-295
Nov. 30.....	892.70	593	+593
Dec. 31.....	900.40	1,284	+691
Calendar year 1961.....	-	-	-317
Jan. 31.....	904.10	1,750	+466
Feb. 28.....	1,021.85	64,649	+62,899
Mar. 31.....	1,029.45	72,311	+7,662
Apr. 30.....	1,030.10	72,984	+673
May 31.....	1,022.40	65,190	-7,794
June 30.....	1,008.55	52,214	-12,976
July 31.....	990.85	37,632	-14,582
Aug. 31.....	976.20	26,997	-10,635
Sept. 30.....	974.20	25,655	-1,342
Water year 1961-62.....	-	-	+25,360

† At 0800.

## SANTA CLARA RIVER BASIN

205

11-1098. Piru Creek below Santa Felicia Dam, Calif.

Location.--Lat 34°27'37", long 118°45'04", on right bank 750 ft downstream from Santa Felicia Dam, 1 mile upstream from Lime Canyon, 4 miles northeast of Piru, Ventura County.

Drainage area.--424 sq mi.

Records available.--October 1955 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 858.8 ft above mean sea level (levels by United Water Conservation District). Supplemental water-stage recorder at site 1½ miles downstream.

Extremes.--Maximum discharge during year, 400 cfs June 6 (gage height, 3.26 ft); no flow Nov. 21-26.

1955-62: Maximum discharge, 544 cfs Aug. 18, 1958 (gage height, 3.66 ft); no flow at times in most years.

Remarks.--Records good. Flow regulated by Lake Piru since May 20, 1955 (see preceding page).

Cooperation.--One discharge measurement furnished by United Water Conservation District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 20 to June 6)

1.0	0	1.6	8.4
1.1	.3	1.8	17
1.2	.9	2.1	41
1.3	2.0	2.4	83
1.4	3.5	2.8	173
1.5	5.6	3.1	280

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8		37	6.9	13	9.3	39	90	248	280	201	89
2	6.1		3.0	6.9	18	9.3	39	92	248	280	201	9.0
3	6.1		23	7.8	18	9.3	39	92	248	280	201	9.0
4	6.1		35	7.8	18	9.3	58	92	248	280	201	9.0
5	6.1		* 22	8.4	18	a 9.5	78	92	248	280	201	9.0
6	6.1		18	8.4	18	a 9	78	92	* 238	280	201	9.0
7	6.1	a 2.8	14	8.4	12	a 17	78	* 92	210	276	* 201	9.0
8	6.1		11	* 8.4	7.8	31	78	92	236	276	201	9.0
9	6.1		10	8.4	8.1	33	* 78	92	236	276	201	9.0
10	5.8		10	8.4	9.0	35	78	92	236	276	201	9.0
11	5.8		9.0	8.1	8.4	36	78	92	236	* 276	201	15
12	5.8		8.4	7.5	8.1	* 36	78	92	201	276	201	19
13	5.8		8.4	7.5	6.4	36	78	92	* 244	276	201	19
14	5.8	* 2.8	8.4	7.5	7.5	a 36	78	92	248	276	198	19
15	5.8	2.8	8.4	7.5	8.4	a 39	78	94	248	272	195	19
16	* 5.6	2.8	8.4	7.5	21	a 53	78	173	248	272	192	19
17	5.8	2.4	8.4	7.8	31	a 56	78	244	248	272	188	19
18	5.8	2.0	7.5	7.8	31	a 39	78	248	248	272	188	19
19	5.8	2.2	6.9	7.8	16	a 20	78	248	248	272	185	19
20	5.4	3.3	6.4	7.8	10	28	78	252	248	272	185	19
21	3.9	0	5.4	7.8	23	27	78	252	244	272	182	19
22	6.7	0	5.4	7.8	* 52	28	78	248	240	272	179	19
23	4.5	0	5.8	7.8	51	25	81	248	240	272	179	19
24	3.3	0	6.1	7.8	41	37	62	252	240	* 256	176	* 19
25	3.1	0	6.1	7.8	11	36	* 68	252	* 240	240	176	19
26	3.1	0	6.4	7.8	* 10	* 36	85	252	240	240	176	19
27	3.0	2.5	* 6.6	7.8	9.3	49	87	248	264	240	176	19
28	2.8	6.9	6.6	7.8	9.3	83	88	* 248	280	240	160	19
29	2.8	* 6.6	6.6	7.8	-	62	88	248	280	240	154	19
30	2.8	14	6.6	7.8	-----	39	80	248	280	222	* 154	19
31	*a 2.8	-----	6.9	* 7.8	-----	39	-----	248	-----	201	154	-----
Total	156.6	84.7	331.7	242.4	494.3	1011.7	2218	5289	7361	8215	5810	546.0
Mean	5.05	2.82	10.7	7.82	17.7	32.6	73.9	171	245	265	187	18.2
Max	6.7	14	37	8.4	52	83	88	252	280	280	201	89
Min	2.8	0	3.0	6.9	6.4	9	39	90	201	201	154	9.0
Ac-ft	311	168	658	481	980	2,010	4,400	10,490	14,600	16,290	11,520	1,080

Calendar year 1961: Max 37 Min 0 Mean 7.53 Ac-ft 5,450  
Water year 1961-62: Max 280 Min 0 Mean 87.0 Ac-ft 62,990

\* Discharge measurement made on this day.  
a No gage-height record.

## SANTA CLARA RIVER BASIN

11-1105. Hopper Creek near Piru, Calif.

Location.--Lat 34°24'03", long 118°49'32", in NE 1/4 sec. 25, T.4 N., R.19 W., on downstream end of center pier of bridge on State Highway 126, 1 mile upstream from mouth and 2.1 miles southwest of Piru.

Drainage area.--23.6 sq mi.

Records available.--October 1930 to September 1932, October 1933 to September 1936, October 1937 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 590 ft (from topographic map).

Average discharge.--30 years, 4.85 cfs (3,510 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,840 cfs Feb. 10 (gage height, 5.35 ft), on basis of slope-area measurement of peak flow; no flow Oct. 1 to Nov. 19, Aug. 7 to Sept. 30.

1930-32, 1933-36, 1937-62: Maximum discharge, 8,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for several months in most years.

Remarks.--Records fair. No regulation; some pumping along stream for irrigation above station.

Cooperation.--Water-stage recorder graph, 53 discharge measurements, and 5 observations of no flow furnished by Ventura County Water Resources Division.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.7	0.4	1.4	9.5	5.0	2.0	* 1.3	0.3	0.1	
2		0	* 83	* .4	1.1	9.0	* 5.0	2.0	1.2	* .3	.1	
3		0	* 13	.4	1.0	9.0	4.7	2.0	1.2	.2	.1	
4		0	* 2.3	.4	.8	7.4	4.7	1.8	* 1.2	.2	.1	(*)
5		0	* 1.3	.4	* .8	7.0	4.4	1.7	1.2	.2	.1	
6		0	.7	.4	.8	* 29	4.2	1.7	1.2	.2	* .1	
7		0	.4	.4	1.4	22	4.2	* 1.7	1.2	.2	0	
8		0	.4	* .4	* 3 61	* 13	4.0	1.8	1.2	.2	0	
9		0	.4	.4	* 3 82	12	* 3.7	1.8	1.2	* .2	0	
10		0	.4	.4	* 13 10	10	3.4	1.8	1.2	* .2	0	
11		0	* .4	.4	5 39	9.5	3.2	1.8	* 1.2	.2	0	(*)
12		0	.4	.4	* 96	* 9.0	3.0	1.8	1.1	.2	0	
13		* 0	.4	.5	* 40	8.6	2.8	2.0	1.1	.2	* 0	
14		0	.4	.4	* 24	8.2	2.8	* 2.1	1.2	.2	0	
15		* 0	.4	.4	* 175	8.2	2.8	2.1	1.2	.2	0	
16	(*)	0	.4	* .4	55	7.8	* 2.8	2.1	1.2	* .2	0	
17		0	.4	.4	35	7.8	2.8	2.0	1.0	.2	0	(*)
18		0	* .4	.4	25	9.5	2.6	1.8	* .8	.2	0	
19		0	.4	.4	* 1 63	* 16	2.6	1.7	.7	.2	0	
20		* 41	.4	* 21	53	8.2	2.6	1.6	.6	.2	0	
21		* 2.8	.4	6.3	37	* 7.8	2.6	* 1.6	.5	.1	0	
22		.9	.4	* 7.8	29	11	2.4	1.4	.4	.1	0	
23		.6	.4	7.4	* 23	11	* 2.4	1.3	.4	* .1	0	
24		.6	.4	4.7	20	7.4	2.4	1.3	.3	.1	0	(*)
25		21	.4	4.2	17	6.3	2.6	1.3	* .3	.1	0	
26		13	* .4	5.6	* 14	* 6.0	2.6	1.3	.3	.1	0	
27		* 2.4	.4	6.0	12	5.6	2.4	1.3	.4	.1	0	
28		1.1	.4	6.0	9.5	5.6	2.4	* 1.3	.4	.1	0	
29		.8	.4	* 3.8	-	5.6	2.4	1.3	.3	.1	0	
30		.8	.4	2.3	-----	5.3	* 2.3	1.3	.3	* .1	0	
31		-----	.4	1.8	-----	5.0	-----	1.3	-----	.1	0	-----
Total	0	85.0	1 11.0	84.6	3.4 26.8	2 97.3	95.8	52.0	25.8	5.3	0.6	0
Mean	0	2.83	3.58	2.73	122	9.59	3.19	1.68	0.86	0.17	0.02	0
Max	0	41	83	21	1,310	29	5.0	2.1	1.3	0.3	0.1	0
Min	0	0	0.4	0.4	0.8	5.0	2.3	1.3	0.3	0.1	0	0
Ac-ft	0	169	220	168	6,800	590	190	103	51	11	1.2	0

Calendar year 1961: Max 83 Min 0 Mean 0.68 Ac-ft 493

Water year 1961-62: Max 1,310 Min 0 Mean 11.5 Ac-ft 8,300

Peak discharge (base, 90 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1300	2.85	300	2-15	1100	3.65	390
12- 2	0600	3.56	535	2-19	0500	4.10	499
2-10	0930	5.35	1,840				

SANTA CLARA RIVER BASIN

207

11-1115. Sespe Creek near Wheeler Springs, Calif.

Location.--Lat 34°34'40", long 119°15'25", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.30, T.6 N., R.22 W., on right bank at Sespe Gorge, 1.6 miles upstream from Tule Creek, 5 miles upstream from Cold Springs damsite, and 5 miles northeast of Wheeler Springs.

Drainage area.--51.2 sq mi.

Records available.--January 1948 to September 1962. Monthly discharge only for January to July 1948 and yearly estimate for water year 1948 (incomplete), published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 3,500.65 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--15 years (1947-62), 8.13 cfs (5,890 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

Extremes.--Maximum discharge during year, about 3,800 cfs Feb. 10 (gage height, 10.6 ft, from floodmarks), on basis of field estimate of peak flow; no flow Oct. 1-25, Nov. 6, 7.

1948-62: Maximum discharge, that of Feb. 10, 1962; no flow for many days in most years.

Remarks.--Records good except those for period of no gage height record and those above 100 cfs, which are poor. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	* 0.1	2.5	0.6	1.8	4.8	23	8.2	3.4	1.5	0.7	0.3
2	0	.1	**1.43	.6	1.8	4.5	22	7.1	3.0	1.5	.6	.3
3	0	.1	1.6	.6	1.8	4.3	22	7.1	3.0	1.5	.6	.3
4	0	.1	4.4	.6	1.8	4.0	21	6.8	3.0	1.5	.6	.3
5	0	.1	3.2	.6	1.8	3.8	19	6.0	2.8	1.4	.6	.3
6	0	0	* 2.3	.6	1.8	8.0	19	6.0	2.8	1.3	.5	.3
7	0	0	1.9	.6	* 2.2	6.6	18	5.6	2.7	1.3	.5	.3
8	0	.1	1.6	.6	2.10	6.1	17	* 5.6	2.5	1.2	.5	.3
9	0	.1	1.3	.7	1.050	5.8	17	5.3	2.5	1.1		.3
10	0	.1	1.2	* .7	* 2.710	5.0	16	5.3	2.5	1.0		.3
11	0	.1	1.1	.7	2.020	4.7	15	5.3	2.5	1.0		.3
12	0	.1	1.0	.7	* 5.54	4.4	* 14	5.3	* 2.5	1.0		.2
13	0	.1	1.0	.7	* 2.15	* 4.2	14	5.3	2.7	* 1.0	a .5	.2
14	0	.1	1.0	.6	1.26	3.9	13	7.4	3.0	1.0		.2
15	0	.1	1.0	.6	* 1.77	3.6	12	9.6	3.4	1.0		.2
16	0	* .1	1.0	.6	1.14	3.5	12	8.5	3.0	1.0		.2
17	* 0	.1	1.0	.6	1.00	3.4	11	7.8	2.7	1.0		.2
18	0	.1	1.0	.6	.86	3.4	10	6.8	2.5	1.0		.2
19	0	.1	1.0	.6	* .97	3.6	10	6.4	2.3	1.0		.2
20	0	2.6	.9	1.3	.86	3.4	10	6.4	2.2	1.0		.2
21	0	.1	.8	.9	.84	3.3	10	6.0	1.9	.9		.2
22	0	* .3	.8	2.0	.86	3.2	9.2	5.6	1.9	.9		.2
23	0	.2	.7	1.0	.84	3.0	8.8	5.6	1.8	.8		.2
24	0	.2	.7	.9	.78	2.8	8.5	5.6	1.8	.8		.2
25	0	1.6	.7	1.0	.70	2.7	8.8	5.6	1.8	.7	a .4	.2
26	.1	1.6	.7	1.1	.65	2.7	* 8.8	5.6	* 1.8	* .7		* .2
27	.1	1.2	.7	1.3	* .57	* 2.7	8.8	5.6	1.8	.7		.2
28	.1	1.0	* .6	1.3	.53	2.7	8.8	5.0	1.8	.7		.2
29	.1	1.0	.6	* 1.5	-	2.6	8.8	* 4.4	1.6	.7		.2
30	.1	* 1.0	.6	1.8	-----	2.4	8.5	3.9	1.6	.7		.2
31	.1	-----	.6	1.8	-----	2.4	-----	3.6	-----	.7	* .3	-----
Total	0.6	41.3	194.9	27.8	8135.0	1215	404.0	188.3	72.8	31.6	14.8	7.1
Mean	0.02	1.38	6.29	0.90	291	39.2	13.5	6.07	2.43	1.02	0.48	0.24
Max	0.1	16	143	2.0	2,710	80	23	9.6	3.4	1.5	0.7	0.3
Min	0	0	0.6	0.6	1.8	24	8.5	3.6	1.6	0.7	0.3	0.2
Ac-ft	1.2	82	386	55	16,140	2,410	801	373	144	63	29	14

Calendar year 1961: Max 143 Min 0 Mean 1.20 Ac-ft 869  
 Water year 1961-62: Max 2,710 Min 0 Mean 28.3 Ac-ft 20,500

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-25	2345	4.21	73	2-10	1300	†10.6	‡3,800
12-2	0430	6.17	‡500	3-6	1700	4.33	105

† From floodmark.

‡ About.

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

a No gage-height record.

## SANTA CLARA RIVER BASIN

11-1115. Sespe Creek near Wheeler Springs, Calif.--Continued.

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

Extremes.--Maximum temperature during the period, 72°F July 22-25; minimum, 36°F Feb. 19.

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

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

## SANTA CLARA RIVER BASIN

209

11-1130. Sespe Creek near Fillmore, Calif.

Location.--Lat 34°27'03", long 118°55'30", in NE 1/4 NE 1/4 sec. 12, T. 4 N., R. 20 W., on right bank 0.1 mile downstream from Little Sespe Creek and 3.5 miles north of Fillmore.

Drainage area.--253 sq mi.

Records available.--September 1911 to September 1913 (Sespe Creek only), October 1927 to September 1962 (creek and diversion). Published as "at Sespe," prior to 1935.

Gage.--Water-stage recorder. Altitude of gage is 580 ft (from topographic map). Prior to Sept. 30, 1913, staff gage, and Oct. 1, 1927, to Nov. 4, 1934, water-stage recorder, at site 3 miles downstream at different datum. Nov. 5, 1934, to Mar. 2, 1938, water-stage recorder at same site at different datum (destroyed by flood; reestablished at present datum Feb. 2, 1939).

Average discharge.--37 years, 94.3 cfs (68,270 acre-ft per year); median of yearly mean discharges, 49 cfs (35,500 acre-ft per year). Average combined discharge, creek and canal, 35 years, 99.9 cfs (72,320 acre-ft per year); median of combined yearly mean discharges, 51 cfs (36,900 acre-ft per year).

Extremes.--Maximum discharge during year, 25,600 cfs Feb. 10 (gage height, 14.25 ft), from rating curve extended above 9,100 cfs on basis of slope-area measurement at gage height 19.10 ft; minimum daily, 0.1 cfs Oct. 1-30.

1927-62: Maximum discharge, 56,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.

Remarks.--Records good except those for periods of no gage-height record and indefinite stage-discharge relation, which are poor. Fillmore Irrigation Co. diverts water 1 mile above station. For records of combined discharge of Sespe Creek and Fillmore Irrigation Co.'s canal, see following page.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	8.2	11	35	320	a 200	57	30	8.4	0.6	0.6
2	.1	.2	970	11	31	305	a 180	56	28	8.3	.6	.6
3	.1	.2	364	8.4	28	a 300	a 170	53	28	7.6	.6	.6
4	.1	.2	111	6.2	26	a 250	164	53	26	7.3	.6	.6
5	.1	.2	* 62	6.2	24	a 200	161	53	26	7.0	.6	.6
6	.1	.2	45	6.0	23	505	155	54	25	6.2	.6	.6
7	.1	.2	34	6.0	28	560	149	* 54	25	5.5	.6	.6
8	.1	.2	28	6.0	* 2800	438	143	e 53	24	5.0	.6	.6
9	.1	.2	25	5.2	* 7290	396	140	e 52	22	4.8	.6	.6
10	.1	.2	22	* 2.8	22000	354	* 134	e 51	21	4.4	.6	.6
11	.1	.2	22	.9	* 17700	325	128	e 50	* 21	* 4.4	.6	.6
12	.1	.2	19	1.0	* 5380	320	119	e 49	21	4.2	.6	.6
13	.1	.2	18	1.0	* 1900	* 315	113	e 48	20	4.2	.6	.6
14	.1	* .2	18	.9	* 987	a 300	108	e 47	21	4.2	.6	.6
15	.1	.2	17	2.2	* 1890	a 290	102	e 46	22	4.0	.6	.6
16	* .1	.2	16	3.9	1380	a 280	100	e 45	22	3.8	.6	.6
17	.1	.2	15	2.1	888	a 270	96	e 44	22	3.8	.6	.6
18	.1	.2	15	1.0	660	a 260	90	e 43	21	3.6	.6	.6
19	.1	.2	14	1.0	* 1650	a 350	84	e 42	18	3.4	.6	.6
20	.1	182	14	* 68	1100	a 300	80	e 41	17	a 3	.6	.7
21	.1	* 23	13	36	900	a 300	78	e 40	16	a 2.5	.6	.8
22	.1	* 4.9	12	* 43	758	a 290	75	e 39	15	a 2	.6	.8
23	.1	3.1	12	48	653	a 280	73	e 38	14	a 1.5	.6	.8
24	.1	2.9	12	40	569	a 280	69	e 37	13	a 1.5	.6	.6
25	.1	126	11	37	499	a 270	67	e 36	12	a 1	.8	.6
26	.1	97	11	37	438	a 270	67	e 35	11	a 1	1.8	.5
27	.1	14	11	37	* 408	a 260	* 66	e 34	10	* 1.0	.6	* .5
28	.1	9.6	11	37	360	a 260	64	e 33	* 9.0	.6	.6	.5
29	.1	* 9.2	* 11	37	-	* a 250	62	e 33	8.7	.6	* .6	.5
30	* .1	10	11	37	-----	a 240	59	e 32	8.2	.6	.6	.5
31	.2	-----	11	* 36	-----	a 220	-----	* 32	-----	.6	.6	-----
Total	3.2	485.5	1963.2	575.8	704.05	9558	3296	1380	576.9	116.0	20.0	18.2
Mean	0.10	16.2	63.3	18.6	2,514	308	110	44.5	19.2	3.74	0.65	0.61
Max	0.2	182	970	68	22,000	560	200	57	30	8.4	1.8	0.8
Min	0.1	0.2	8.2	0.9	23	200	59	32	8.2	0.6	0.6	0.5
Ac-ft	6.3	963	3,890	1,140	139,600	18,960	6,540	2,740	1,140	230	40	36

Calendar year 1961: Max 970 Min 0.1 Mean 9.89 Ac-ft 7,160

Water year 1961-62: Max 22,000 Min 0.1 Mean 242 Ac-ft 175,300

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0630	9.27	2,730	2-15	1200	6.97	2,720
2-10	1500	14.25	25,600	2-19	0500	6.79	2,510

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

## SANTA CLARA RIVER BASIN

1130. Sespe Creek near Fillmore, Calif.--Continued

Combined discharge, in cubic feet per second, of Sespe Creek and Fillmore Irrigation Co.'s canal near Fillmore, Calif., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	2.7	9.0	13	37	321	200	70	40	18	8.8	6.5
2	1.9	2.8	971	13	33	306	180	69	37	18	8.7	6.4
3	1.7	2.9	365	12	30	301	170	67	37	18	8.7	6.3
4	1.7	2.8	112	12	28	251	166	67	35	17	8.6	6.3
5	1.8	2.6	62	12	26	201	163	67	36	17	8.5	6.3
6	1.9	2.5	45	12	25	506	157	67	35	16	8.4	6.3
7	2.1	2.4	34	12	29	561	151	67	35	16	8.1	6.4
8	2.2	2.5	28	12	2,800	438	145	66	34	15	8.0	6.6
9	2.3	2.5	26	12	7,290	396	142	65	32	15	7.8	6.8
10	2.3	2.7	22	12	22,000	354	136	64	31	14	7.5	6.9
11	2.3	2.8	23	11	17,700	325	130	63	30	14	7.5	6.9
12	2.3	2.8	20	11	5,380	320	121	62	30	14	7.4	6.8
13	2.1	2.8	19	11	1,900	315	115	61	29	14	7.2	6.7
14	2.0	2.7	18	11	987	300	110	59	30	14	6.9	6.5
15	1.8	2.8	18	11	1,890	290	104	57	32	14	6.9	6.4
16	1.9	2.9	17	11	1,380	280	102	55	32	14	6.9	6.4
17	1.9	3.0	16	11	888	271	98	54	32	13	6.8	6.4
18	2.1	3.0	16	10	660	261	97	52	31	13	6.8	6.3
19	2.3	3.1	15	11	1,650	351	94	51	28	13	6.6	5.9
20	2.3	184	15	72	1,100	301	90	50	26	13	6.5	5.9
21	2.5	23	14	36	900	301	88	50	25	12	6.5	6.0
22	2.6	5.4	14	43	758	291	85	49	24	12	6.6	5.9
23	2.5	4.1	14	48	653	280	84	48	24	11	6.7	5.9
24	2.5	3.4	14	40	569	280	80	49	23	11	6.6	5.9
25	2.4	127	13	37	499	270	80	47	24	10	6.1	6.0
26	2.4	98	13	38	438	270	79	45	22	10	6.9	6.1
27	2.5	15	13	38	409	260	77	44	21	10	6.4	6.3
28	2.6	10	13	39	361	261	75	42	20	9.6	6.3	6.3
29	2.6	9.4	13	39	-	251	73	42	20	9.4	6.3	6.3
30	2.5	10	13	38	-----	241	71	43	19	9.2	6.6	6.3
31	2.6	-----	13	38	-----	221	-----	42	-----	9.1	6.6	-----
Total	68.5	541.6	1,998.0	726	70,420	9,575	3,463	1,734	874	413.3	2,242	1,900
Mean	2.21	18.1	64.5	23.4	2,520	309	115	55.9	29.1	13.3	7.23	6.33
Max	2.6	184	971	72	22,000	561	200	70	40	18	8.8	6.9
Min	1.7	2.4	9.0	10	25	201	71	42	19	9.1	6.1	5.9
Ac-ft	136	1,070	3,960	1,440	139,700	18,990	6,870	3,440	1,730	820	445	377
Calendar year 1961:	Max	971	Min	1.3	Mean	13.5	Ac-ft	9,790				
Water year 1961-62:	Max	22,000	Min	1.7	Mean	247	Ac-ft	179,000				



11-1135. Santa Paula Creek near Santa Paula, Calif.

Location.--Lat 34°23'44", long 119°04'32", in NW 1/4 SW 1/4 sec. 27, T.4 N., R.21 W., on right bank 15 ft upstream from Santa Paula Water Works diversion dam, 150 ft upstream from Mud Creek, and 3 miles north of Santa Paula.

Drainage area.--40.0 sq mi.

Records available.--October 1927 to September 1962. March 1912 to September 1913 at site 2.5 miles upstream; records not equivalent.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map). Oct. 1, 1927, to Feb. 19, 1931, water-stage recorder at site 500 ft downstream at different datum.

Average discharge.--35 years, 18.5 cfs (13,390 acre-ft per year); median of yearly mean discharges, 9.2 cfs (6,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,150 cfs Feb. 10 (gage height, 5.40 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurements at gage heights 9.3 and 10.56 ft; minimum daily, 0.1 cfs Oct. 3 and Nov. 9. 1927-62: Maximum discharge, 13,500 cfs Mar. 2, 1938 (gage height, 10.56 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; no flow at times in 1949, 1951-52.

Remarks.--Records good. Santa Paula Water Works diverted 127 acre-ft above station for irrigation.

Cooperation.--Six discharge measurements furnished by Ventura County Water Resources Division.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	1.2	2.4	2.5	5.1	7.8	4.1	15	11	5.4	3.8	2.6
2	.2	1.2	* 3.3	2.5	4.9	7.4	4.0	14	11	5.4	3.8	2.8
3	.1	1.1	2.0	2.5	4.4	6.7	3.9	13	11	5.1	3.8	2.1
4	.2	1.0	8.4	2.4	4.1	6.3	3.6	13	11	5.1	3.8	1.9
5	.2	.9	6.1	2.4	4.1	6.1	3.5	12	11	5.1	3.8	1.8
6	.2	.4	4.9	2.4	4.4	9.5	3.2	11	11	5.1	3.8	1.8
7	.2	.2	4.4	2.4	6.5	* 8.0	3.0	* 13	12	5.1	3.6	1.9
8	.6	.2	4.1	* 2.4	* 2.65	7.8	2.9	13	12	5.1	3.3	2.2
9	1.1	.1	3.8	2.2	7.09	7.6	* 2.8	12	12	4.9	3.3	2.2
10	1.2	.2	3.6	2.2	2.020	7.4	2.6	12	12	4.9	3.3	2.2
11	1.2	.4	3.6	2.5	* 2.370	7.2	2.4	12	* 9.6	4.9	3.1	2.2
12	1.1	.4	3.8	2.6	* 9.12	* 6.9	2.3	13	9.1	4.9	3.1	2.5
13	1.0	.2	3.8	2.6	3.27	6.3	2.2	13	9.1	* 4.9	3.1	2.4
14	.9	.2	* 3.6	2.5	* 1.90	5.9	2.2	14	9.1	4.6	3.1	2.4
15	.8	* .4	3.3	2.8	* 3.94	5.8	2.1	14	9.1	4.9	3.3	2.2
16	* .7	.5	3.1	2.5	2.46	5.6	2.1	16	9.1	5.1	3.3	2.6
17	.7	.6	3.1	2.4	1.90	5.4	2.0	15	9.1	4.9	3.3	3.1
18	.8	1.2	3.1	2.5	1.46	5.2	2.0	15	8.7	4.9	3.3	3.1
19	.9	1.6	3.1	2.6	3.28	5.4	2.0	15	8.0	4.9	3.3	2.8
20	1.0	3.4	2.8	* 1.3	* 1.94	5.2	2.0	15	8.0	4.6	3.1	2.8
21	1.1	* 4.2	2.8	3.6	1.63	5.0	1.9	14	8.0	4.6	2.6	2.8
22	1.2	2.4	2.6	6.3	1.43	5.2	1.9	13	7.6	4.6	2.6	2.8
23	.7	1.8	2.6	7.2	1.36	5.0	1.9	12	7.6	4.1	2.6	2.8
24	.3	1.6	2.6	4.9	1.24	4.6	2.1	13	7.2	3.8	2.6	2.8
25	.2	1.2	2.6	4.9	1.13	4.4	2.2	13	6.9	* 3.8	3.1	1.9
26	.2	5.1	2.6	4.4	9.2	4.4	2.2	13	6.5	3.8	2.6	1.9
27	.2	* 2.8	* 2.6	3.6	8.2	4.4	* 2.1	14	6.1	3.8	2.5	* 2.1
28	.6	2.5	2.6	2.8	* 8.0	4.6	2.0	* 13	* 6.1	3.8	* 2.4	2.2
29	.8	* 2.4	2.6	4.7	-	* 4.6	1.9	12	6.1	3.8	2.4	2.2
30	.8	2.5	2.6	* 6.1	-----	4.4	1.7	12	5.8	3.8	2.4	2.1
31	* 1.1	-----	2.5	5.4	-----	4.3	-----	12	-----	3.8	2.4	-----
Total	20.5	83.3	152.7	113.8	925.7	184.4	74.8	41.1	270.8	143.5	96.5	71.2
Mean	0.66	2.78	4.93	3.67	33.1	59.5	24.9	13.3	9.03	4.63	3.11	2.37
Max	1.2	3.4	33	13	2,370	95	41	16	12	5.4	3.8	3.1
Min	0.1	0.1	2.4	2.2	4.1	4.3	1.7	11	5.8	3.8	2.4	1.8
Ac-ft	41	165	303	226	18,360	3,660	1,480	815	537	285	191	141

Calendar year 1961: Max 34 Min 0.1 Mean 1.57 Ac-ft 1,140  
 Water year 1961-62: Max 2,370 Min 0.1 Mean 36.2 Ac-ft 26,200

Peak discharge (base, 200 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1130	3.02	219	2-15	0800	3.55	580
2-10	1600	5.40	3,150	2-19	0400	3.67	676

## VENTURA RIVER BASIN

11-1145. Matilija Creek above reservoir, near Matilija Hot Springs, Calif.

Location.--Lat 34°29'41", long 119°19'48", in SW 1/4 SW 1/4 sec.19, T.5 N., R.23 W., on left bank 1.6 miles upstream from Matilija Dam and 1.7 miles northwest of Matilija Hot Springs.

Drainage area.--50.7 sq mi.

Records available.--May 1948 to September 1962. Published as "near Matilija" prior to October 1953.

Gage.--Water-stage recorder. Datum of gage is 1,160.20 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--14 years, 20.5 cfs (14,840 acre-ft per year); median of yearly mean discharges, 7.5 cfs (5,400 acre-ft per year).

Extremes.--Maximum discharge during year, 6,570 cfs Feb. 9 (gage height, 11.60 ft); minimum daily, 0.4 cfs Oct. 3-7, 17, 18.

1948-62: Maximum discharge, 8,800 cfs Jan. 15, 1952 (gage height, 12.1 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.3 cfs Oct. 17-20, 25, 27, 1951.

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

Cooperation.--Sixty-one discharge measurements furnished by Ventura County Water Resources Division and two by Ventura River Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Feb. 10)

2.3	1.5	3.6	240
2.4	4.0	4.0	420
2.5	8.6	5.0	1,140
2.6	16	6.0	2,020
2.8	42	7.0	3,020
3.2	120	8.0	4,260

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	* 0.6	* 2.7	5.0	6.5	128	60	28	* 17	8.6	5.8	3.4
2	.5	.6	* 10.3	4.9	* 6.5	118	60	28	17	8.6	5.4	3.4
3	.4	.6	* 31	4.9	6.5	112	56	27	17	8.6	* 5.4	3.4
4	.4	.6	22	4.7	6.5	106	55	* 27	17	8.6	5.8	3.4
5	.4	.6	16	* 4.7	6.5	102	49	28	17	8.6	5.4	3.4
6												
7	* .4	.6	* 12	4.7	6.5	* 148	* 47	28	17	* 8.6	5.4	3.4
8	.4	.6	10	4.5	8.6	122	46	28	17	8.1	4.9	* 3.4
9	.5	.6	* 9.4	4.5	* 38.9	* 112	44	* 28	* 16	8.1	5.4	3.4
10	.5	.6	9.2	4.3	* 19.30	108	42	28	16	8.1	5.4	3.4
11	.5	* .6	8.8	* 4.3	* 40.50	104	42	28	15	8.1	* 5.4	3.4
12	.5	.6	8.6	4.1	* 3.200	102	* 41	* 28	15	7.7	4.9	3.4
13	.5	.6	8.3	* 4.1	* 1.180	100	41	28	* 14	* 7.7	4.9	3.4
14	* .6	.6	8.0	4.1	* 6.16	* 98	* 41	28	14	* 7.7	4.9	3.4
15	.6	.6	8.0	4.1	3.66	94	39	29	14	8.1	4.5	* 3.4
16	.5	.6	* 7.7	4.1	* 5.02	88	39	29	* 14	7.7	4.0	3.4
17	.5	* .7	7.5	4.1	3.32	* 82	39	28	14	7.7	4.0	3.4
18	* .4	* .7	7.2	4.0	2.72	80	36	27	13	7.2	* 3.6	3.6
19	.4	.7	7.0	4.0	2.44	80	36	* 24	12	7.2	3.6	3.6
20	* .5	* 2.9	6.7	* 4.0	* 3.96	78	36	22	12	6.8	3.6	3.6
21			6.5	* 7.8	* 3.24	78	* 36	21	12	* 6.3	3.4	4.0
22	.6	1.8	6.2	6.7	2.68	75	35	20	12	6.8	3.4	* 4.0
23	.6	1.6	* 6.2	8.1	2.44	72	34	20	* 11	6.3	3.6	4.0
24	.6	1.5	6.2	* 8.6	2.12	* 7.2	34	* 20	11	6.3	* 3.6	3.6
25	.6	* 1.3	6.0	8.0	1.91	71	34	20	10	6.3	3.6	3.6
26	.6	6.9	6.0	7.5	1.73	68	35	* 20	10	5.8	3.6	3.6
27	.6	7.9	5.8	* 7.2	1.62	68	* 34	20	* 9.3	* 5.8	4.0	* 3.6
28	* .6	* 3.6	5.6	7.2	* 1.50	* 68	* 35	20	9.3	6.3	4.0	3.6
29	.6	3.0	* 5.6	6.7	1.35	68	32	20	9.3	6.3	3.6	* 3.4
30	.6	2.8	* 5.5	* 6.7	-	66	32	* 20	* 9.3	6.3	3.6	3.4
31	.6	* 2.8	5.3	6.5	-----	62	31	18	8.6	6.3	3.6	3.4
32	.6	-----	5.1	6.5	-----	60	-----	18	-----	6.3	* 3.4	-----
Total	16.1	48.0	363.1	170.6	153.8	3.6	2,790	1,221	758	3,998	2,269	1,357
Mean	0.52	1.60	11.7	5.50	549	90.0	40.7	24.5	13.3	7.32	4.38	3.51
Max	0.6	7.9	103	8.6	4,050	148	60	29	17	8.6	5.8	4.0
Min	0.4	0.6	2.7	4.0	6.5	60	31	18	8.6	5.8	3.4	3.4
Ac-ft	32	95	720	338	30,510	5,530	2,420	1,500	793	450	269	209

Calendar year 1961: Max 103 Min 0.4 Mean 2.68 Ac-ft 1,940

Water year 1961-62: Max 4,050 Min 0.4 Mean 59.2 Ac-ft 42,870

Peak discharge (base, 200 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0500	5.49	280	2-19	0300	4.12	496
2-9	1930	11.60	6,570				

11-1150. Matilija Reservoir at Matilija Hot Springs, Calif.

Location.--Lat 34°29'02", long 119°18'28", in SW 1/4 sec. 29, T.5 N., R.23 W., on upstream face near right end of Matilija Dam on Matilija Creek, 0.2 mile west of Matilija Hot Springs.

Drainage area.--54.6 sq mi.

Records available.--March 1948 to September 1962. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Ventura County Water Resources Division). Prior to Oct. 1, 1954, at datum 1,000 ft higher.

Extremes.--Maximum contents during year, 7,349 acre-ft Feb. 10 (elevation, 1,127.69 ft); minimum, 1,786 acre-ft Nov. 20 (elevation, 1,064.97 ft).

1948-62: Maximum contents, 7,399 acre-ft Apr. 3, 1958 (elevation, 1,128.10 ft); minimum, 54 acre-ft (sluice gate open) July 27, 1951, to Jan. 11, 1952.

Remarks.--Reservoir is formed by concrete dam, completed in 1948. Storage began Mar. 14, 1948. Capacity and area ratings for reservoir are based on surveys made in 1948. Dead storage below sluice gate (elevation, 1,000.0 ft), 54 acre-ft included in contents. Capacity below outlet gate (elevation, 1,025.0 ft), 250 acre-ft; below spillway level (elevation, 1,125.0 ft), 7,020 acre-ft. Water released from reservoir passes down natural channel of Matilija Creek or is diverted through pipeline to Ventura River basin and Ojai Valley for irrigation.

Cooperation.--Gage-height record furnished by Ventura River Municipal Water District.

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

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,069.18	2,032	-
Oct. 31.....	1,066.09	1,852	-182
Nov. 30.....	1,066.50	1,875	+25
Dec. 31.....	1,072.65	2,245	+370
Calendar year 1961.....	-	-	-1,415
Jan. 31.....	1,073.74	2,313	+68
Feb. 28.....	1,125.45	7,074	+4,761
Mar. 31.....	1,125.17	7,039	-35
Apr. 30.....	1,124.98	7,016	-23
May 31.....	1,125.00	7,018	+2
June 30.....	1,123.65	6,852	-166
July 31.....	1,120.50	6,464	-388
Aug. 31.....	1,118.56	6,236	-228
Sept. 30.....	1,115.81	5,917	-319
Water year 1961-62.....	-	-	+3,885

† At 2400.

## VENTURA RIVER BASIN

11-1155. Matilija Creek at Matilija Hot Springs, Calif.

Location.--Lat 34°28'58", long 119°18'03", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.28, T.5 N., R.23 W., on right bank 0.2 mile east of Matilija Hot Springs, 0.2 mile upstream from North Fork, and 0.45 mile downstream from Matilija Dam.

Drainage area.--54.6 sq mi.

Records available.--October 1927 to September 1962. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Altitude of gage is 900 ft (from topographic map). Prior to Feb. 11, 1939, at site 0.6 mile upstream at different datum.

Extremes.--Maximum discharge during year, 5,130 cfs Feb. 10 (gage height, 7.95 ft); minimum daily, 0.4 cfs Oct. 31.

1927-62: Maximum discharge, 15,900 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs for several days in some years of regulated flow.

Remarks.--Records good except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor.

Flow regulated by Matilija Reservoir since Mar. 14, 1948 (see preceding page); water diverted at dam to Ventura River basin and Ojai Valley for irrigation since May 1951.

Cooperation.--Records of diversion from Matilija Reservoir and one discharge measurement furnished by Ventura River Municipal Water District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	* 0.5	2.6	5.0	6.4	158	66	22	15	16	3.7	2.2
2	.5	.5	3.8	4.8	6.4	148	66	21	12	13	4.8	1.8
3	.5	.5	3.1	4.4	6.4	130	64	20	13	10	4.8	1.9
4	.6	.5	3.0	4.4	6.6	121	63	19	14	10	4.8	2.9
5	.6	.5	3.0	4.4	6.6	114	60	20	14	9.9	4.8	3.1
6	.6	.5	3.0	4.4	6.6	165	e 54	20	14	9.9	5.0	3.1
7	.5	.5	3.1	4.4	7.0	148	e 48	21	15	9.9	5.0	3.3
8	.5	.5	3.1	4.4	6.1	132	e 48	* 20	13	9.9		3.8
9	.5	.5	3.3	4.4	5.5	120	e 47	20	13	9.9		4.1
10	.5	.5	3.4	4.3	3.8 90	114	47	22	14	9.9	a 5.5	4.1
11	.5	.5	4.9	* 4.3	3.4 80	109	* 44	23	13	9.9		4.1
12	.5	.5	6.2	4.3	* 1.1 30	107	43	20	* 12	* 9.6		4.1
13	.5	.5	* 6.2	4.3	* 5.8 7	* 102	41	23	15	9.6		4.1
14	.5	.5	6.2	4.3	3.9 2	100	42	27	13	9.6	a 5	4.1
15	.5	.5	6.6	4.1	5.3 0	98	42	31	13	9.6		4.1
16	.5	* .6	6.6	3.7	3.7 2	98	e 42	29	14	9.6		4.0
17	* .5	.6	6.6	3.5	2.9 0	94	e 40	26	14	9.6		4.0
18	.5	.6	6.4	3.5	2.4 8	94	38	25	12	9.3		4.1
19	.5	.6	6.2	3.5	* 4.2 8	93	e 38	22	9.9	9.3		4.1
20	.5	1.9	6.2	4.3	3.6 0	91	e 37	22	9.6	9.3	a 4	4.1
21	.5	.7	6.2	3.8	3.0 5	89	e 35	21	9.3	9.3		4.1
22	.5	.6	6.2	5.6	2.6 9	87	e 33	18	9.3	9.3		4.1
23	.5	.6	6.2	6.8	2.4 5	87	e 32	18	9.3	9.0		4.0
24	.5	.6	6.2	6.8	2.3 0	80	e 31	18	9.0	7.2		4.0
25	.5	1.4	6.2	6.8	2.1 5	80	e 28	18	13	6.8		4.0
26	.5	.8	6.2	6.6	1.8 8	77	* 27	19	* 17	* 6.8		* 3.7
27	.5	1.8	6.2	6.6	* 1.8 0	* 77	26	20	17	6.7		3.4
28	.5	2.7	* 6.2	6.6	1.6 5	e 75	26	18	15	6.4	a 3.5	3.4
29	.5	2.7	5.8	6.6		75	26	15	17	6.4		3.4
30	.5	* 2.7	5.4	6.4	-----	72	24	* 15	16	6.2		3.3
31	.4	-----	5.2	6.4	-----	66	-----	15	-----	6.4	* 3.0	-----
Total	15.8	26.4	159.7	153.7	135.6	1,166	3,201	648	394.4	284.3	135.9	108.5
Mean	0.51	0.88	5.15	4.96	4.84	103	41.9	20.9	13.1	9.17	4.38	3.62
Max	0.6	2.7	6.6	6.8	3,890	165	66	31	17	16	-	4.1
Min	0.4	0.5	2.8	3.5	5.5	66	24	15	9.0	6.2	3.0	1.8
Ac-ft	31	52	317	305	26,900	6,350	2,500	1,290	782	564	270	215
(†)	179	79	7	44	32	95	165	208	286	330	230	281
Mean†	3.42	2.20	5.27	5.68	4.85	105	44.7	24.4	18.0	14.5	8.13	8.34
Ac-ft†	210	131	324	349	26,930	6,440	2,660	1,500	1,070	894	500	496
Calendar year 1961: Max	6.6	Min	0.3	Mean	1.89	Ac-ft	1,370	Mean†	4.46	Ac-ft†	3,230	
Water year 1961-62: Max	3,890	Min	0.4	Mean	54.7	Ac-ft	39,580	Mean†	57.3	Ac-ft†	41,500	

\* Discharge measurement made on this day.

† Diversion, in acre-feet, to Ventura River basin and Ojai Valley.

‡ Adjusted for diversion.

a No gage-height record.

e Stage-discharge relation indefinite.

11-1160. North Fork Matilija Creek at Matilija Hot Springs, Calif.

Location.--Lat 34°29'33", long 119°18'20", in NE 1/4 sec. 29, T.5 N., R.23 W., on right bank at bridge on U. S. Highway 399, 0.7 mile north of Matilija Hot Springs and 0.8 mile upstream from mouth.

Drainage area.--15.6 sq mi.

Records available.--October 1928 to September 1932, October 1933 to September 1962. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Datum of gage is 1,142.02 ft above mean sea level (levels by Ventura County Water Resources Division). Prior to Nov. 12, 1948, at site 0.3 mile downstream at different datum.

Average discharge.--33 years, 8.96 cfs (6,490 acre-ft per year); median of yearly mean discharges, 4.2 cfs (3,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,940 cfs Feb. 9 (gage height, 4.95 ft); minimum daily, 0.2 cfs Oct. 1-6, 13-18. 1928-32, 1933-62: Maximum discharge, 5,580 cfs Mar. 2, 1938; minimum, 0.1 cfs for several days in some years.

Remarks.--Records good. Discharge measurements generally made once a week. No regulation or diversion above station.

Cooperation.--Gage-height record and 68 discharge measurements furnished by Ventura County Water Resources Division.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 23 to Feb. 13)

Oct. 1 to Feb. 8

Feb. 9 to Sept. 30

1.0	0.1	1.5	9.4	0.4	0.4	1.0	20	3.0	400
1.1	.6	1.7	20	.5	1.4	1.3	45	4.0	770
1.2	1.6	2.0	44	.6	3.0	1.6	80	5.0	1,240
1.3	3.4	2.3	80	.7	5.7	2.0	145	6.0	1,850
1.4	5.9	2.6	130	.8	9.3				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.4	1.4	1.2	1.7	39	14	8.1	4.8	3.0	1.8	1.2
2	.2	.4	4.7	1.1	1.7	35	14	7.8	4.6	3.0	1.8	1.0
3	.2	.4	10	1.1	1.7	32	15	7.8	4.6	3.0	1.8	1.0
4	.2	.3	4.3	1.2	1.7	31	14	7.8	4.6	3.0	1.8	1.0
5	.2	.3	3.1	1.3	1.9	30	14	7.4	4.6	2.8	1.8	1.1
6	.2	.3	2.0	1.3	1.9	45	14	6.4	4.6	2.8	1.8	1.1
7	.3	.3	1.7	1.3	3.1	36	14	5.4	4.6	2.6	1.6	1.1
8	.3	.3	1.7	1.2	126	33	14	5.1	4.6	2.6	1.6	1.2
9	.3	.3	1.7	1.2	790	33	14	5.4	4.6	2.2	1.6	1.4
10	.3	.3	1.7	1.1	1,550	31	14	5.7	4.6	2.2	1.6	1.4
11	.3	.4	1.7	1.1	1,360	28	12	6.0	4.8	2.2	1.6	1.4
12	.3	.4	1.7	1.3	440	27	11	6.0	4.8	2.2	1.6	1.4
13	.2	.4	1.7	1.4	153	25	11	6.0	4.6	2.6	1.6	1.4
14	.2	.4	1.6	1.4	97	24	11	7.0	4.6	2.6	1.6	1.4
15	.2	.4	1.6	1.4	183	24	11	6.7	4.3	2.6	1.6	1.2
16	.2	.5	1.6	1.3	122	22	10	6.7	4.3	2.6	1.6	1.2
17	.2	.5	1.4	1.3	93	22	10	6.7	4.0	2.6	1.5	1.2
18	.2	.5	1.4	1.2	79	22	10	6.4	3.8	2.6	1.4	1.1
19	.3	.5	1.4	1.2	157	22	10	6.4	3.6	2.6	1.4	1.1
20	.3	6.3	1.4	4.2	113	21	9.8	6.4	3.6	2.6	1.4	1.1
21	.3	1.7	1.4	2.4	96	21	9.3	6.4	3.3	a 2.5	1.4	1.1
22	.3	1.1	1.3	3.6	83	20	8.9	5.7	3.0	a 2.5	1.4	1.1
23	.3	.9	1.3	3.6	74	17	8.9	5.7	3.0	a 2	1.4	1.1
24	.3	.9	1.3	2.9	66	17	8.9	6.0	3.0	a 2	1.4	1.1
25	.3	9.2	1.3	2.7	57	17	9.8	6.0	3.0	a 2	1.4	1.1
26	.3	4.3	1.3	2.5	53	18	8.9	6.0	2.8	1.6	1.2	1.2
27	.3	2.2	1.3	2.2	43	18	8.9	6.0	2.8	1.6	1.2	1.4
28	.4	1.6	1.3	2.2	43	18	8.9	6.0	3.0	1.6	1.2	1.5
29	.4	1.6	1.3	2.0	-	18	8.9	5.7	3.0	1.6	1.4	1.5
30	.4	1.4	1.3	1.9	-----	17	8.5	5.1	3.0	1.6	1.4	1.5
31	.4	-----	1.3	1.9	-----	16	-----	5.1	-----	1.8	1.4	-----
Total	8.5	38.5	104.5	55.7	5,791.7	779	336.7	194.9	118.5	73.2	47.3	36.6
Mean	0.27	1.28	3.37	1.80	207	25.1	11.2	6.29	3.95	2.36	1.53	1.22
Max	0.4	9.2	47	4.2	1,550	45	15	8.1	4.8	3.0	1.8	1.5
Min	0.2	0.3	1.3	1.1	1.7	16	8.5	5.1	2.8	1.6	1.2	1.0
Ac-ft	17	76	207	110	11,490	1,550	668	387	235	145	94	73

Calendar year 1961: Max 47 Min 0.1 Mean 0.98 Ac-ft 709  
Water year 1961-62: Max 1,550 Min 0.2 Mean 20.8 Ac-ft 15,050

Peak discharge (base, 40 cfs)

a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0500	2.96	205	2-19	0300	2.22	190
2-9	1800	4.95	1,940	3-6	0600	1.50	57
2-15	0700	2.55	272				

## VENTURA RIVER BASIN

11-1163. Ventura River near Meiners Oaks, Calif.

Location.--Lat 34°27'45", long 119°17'20", in Santa Ana Grant, on right bank 500 ft downstream from Robles diversion dam, 1,500 ft downstream from Los Padres National Forest boundary, and 1.1 miles northwest (revised) of Meiners Oaks, Ventura County.

Drainage area.--76.4 sq mi.

Records available.--May 1959 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 780 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,590 cfs Feb. 10 (gage height, 7.1 ft), from rating curve extended above 50 cfs on basis of slope-area measurement of peak flow; no flow for several months.  
1959-62: Maximum discharge, that of Feb. 10, 1962; no flow for several months in each year.

Remarks.--Records good below 50 cfs and fair above. Flow regulated by Matilija Reservoir (see p. 213). Flow reported herein is that released through gates in Robles diversion dam. Flow diverted to Casitas Reservoir above Robles diversion dam.

Cooperation.--Twenty-one discharge measurements furnished by Ventura River Municipal Water District, and twelve by Ventura County Water Resources Division.

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

1.0	0	2.1	135
1.1	.3	2.5	270
1.2	1.8	3.0	530
1.3	5.7	4.0	1,360
1.4	13	5.0	2,720
1.5	22	6.0	4,640
1.8	68	7.0	7,280

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.2	a 4	0	16	21	10	11	0.2	
2		* 0	* 12	.1	* 6.3	0	* 16	* 20	6.3	6.9	0	
3		0	9.6	0	3.8	0	17	18	6.3	1.8	* 0	
4		0	* 2.6	* .1	1.2	0	17	* 19	6.9	1.8	0	
5		0	1.2	.1	* 2.3	0	* 15	19	6.9	1.2	.3	
6		0	.9	.1	3.7	0	11	19	* 6.9	.9	.4	
7		0	.3	0	* 4.2	0	11	18	6.9	.6	.3	
8		0	.3	0	3.2	0	11	* 16	a 7	.7	.2	
9		0	.2	* 0	167	0	11	* 17	a 7	1.8	.1	
10		0	.1	0	5.210	0	* 15	17	a 7	2.3	* .1	
11		0	* .9	0	4.820	0	* 20	* 19	a 7	2.3	0	
12		0	2.6	0	1.150	0	17	17	a 7	* 2.3	.2	
13		0	* 2.6	0	2.46	0	* 16	19	* a 10	2.3	.2	
14		0	2.6	0	* 4.3	* 0	15	19	a 7	2.3	0	
15		* 0	2.6	0	2.52	0	15	* 22	a 7	2.6	0	
16		0	2.6	* 0	* 4.3	0	* 15	* 22	a 7	1.8	0	
17	(*)	0	2.6	0	0	0	15	21	a 6.5	1.6	* 0	
18		0	2.3	0	0	0	* 15	19	a 5.5	2.0	0	
19		0	* .9	0	1.25	0	15	16	a 4.5	2.3	0	
20		* .7	.4	a 3	* 1.1	0	14	16	* 4.2	2.0	0	
21		0	.6	a 1	0	0	13	16	3.3	.4	0	
22		0	.4	* a 2	0	0	13	* 15	3.0	.2	0	
23		0	.4	* 4.2	0	0	* 18	14	3.0	.2	0	
24		0	.3	3.3	0	0	21	* 14	3.0	.2	0	
25		a 2.5	.4	2.6	0	0	* 21	16	4.5	* 0	0	(*)
26		a .4	* .4	a 2	0	0	22	a 15	* 8.9	0	0	
27		* 0	.6	a 2	0	0	* 22	a 14	8.9	.4	0	
28		* 0	* .6	a 3	* 0	* 0	21	a 13	8.2	.6	* 0	
29		0	.6	a 3	-	0	21	a 12	9.6	.9	0	
30		0	.3	* a 3	-----	* 5.3	22	* 8.2	11	.9	0	
31		-----	.3	a 3	-----	16	-----	* 10	-----	.7	0	
Total	0	3.6	52.2	32.7	12.095.7	21.3	491	521.2	200.3	55.0	2.0	0
Mean	0	0.12	1.68	1.05	432	0.69	16.4	16.8	6.68	1.77	0.06	0
Max	0	2.5	12	4.2	5,210	16	22	22	11	11	0.4	0
Min	0	0	0	0	0	0	11	8.2	3.0	0	0	0
Ac-ft	0	7.1	104	65	23,990	42	974	1,030	397	109	4.0	0

Calendar year 1961: Max 12 Min 0 Mean 0.19 Ac-ft 139

Water year 1961-62: Max 5,210 Min 0 Mean 36.9 Ac-ft 26,720

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

a No gage-height record.

11-1175. San Antonio Creek at Casitas Springs, Calif.

Location.--Lat 34°22'49", long 119°18'13", in Santa Ana Grant, on downstream side of bridge on U. S. Highway 399, 0.2 mile upstream from mouth, and 0.9 mile north of Casitas Springs, Ventura County.

Drainage area.--51.2 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 307.55 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--13 years, 6.15 cfs (4,450 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,260 cfs Feb. 10 (gage height, 9.75 ft); no flow for several months.

1949-62: Maximum discharge, 5,240 cfs Apr. 3, 1958 (gage height, 12.50 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records poor. Pumping from wells along river for irrigation affects surface flow at this station.

Cooperation.--Gage-height record, 47 discharge measurements, and 3 observations of no flow furnished by Ventura County Water Resources Division.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	* 0		0.2	* 15	4.2	1.3	* 0.5	0.3		
2		0	*a 100	(*)	.2	a 13	* 4.0	* 1.1	.5	.2		
3		0	*a 10	a 0.1	.2	a 11	3.8	1.3	.5	.1	(*)	
4		0	(*)		.2	a 9	3.5	* 1.4	.5	.1		
5		0		(*)	.2	6.6	3.5	1.3	.5	.2		
6		0			* .2	* 27	* 3.2	1.0	.4	.5		
7		0			17	14	2.6	.7	.4	.5		
8		0		a 0	* 284	* 16	2.2	a .7	* .4	.4		
9		0		(*)	* 596	12	* 2.2	*a .7	.3	.4		
10		0			* 1860	8.9	* 2.8	.6	.2	.3		
11		0			* 1350	7.0			.6	.2		
12		0		(*)	*a 400	6.6	2.4	* .6	a .3	.1		
13		0			*a 125	6.3	2.2		* .4	* .1		
14		0			* 55	* 6.0	2.0		* .4	0		
15		* 0		a .1	* 420	5.7	2.0	a .6	.4	0		
16	(*)	0	a .1		148	* 5.7	* 2.0		.4	.2		
17		0			a 80	5.4	2.0		.4	.1		
18		0			a 55	5.4	2.0	* .7	.4	0		
19		0		(*)	474	5.4	2.0	.7	.4	0		
20		*a 80		*a 50	* 120	5.4	* 2.0	.7	.4	0		
21		a 5		a 10	81	5.4	2.0	.7	.4	0		
22		a 1	(*)	a 5	a 60	4.8	2.0	.7	* .4	0		
23		a 0		a 1	* 40	* 4.0	2.0	.7	.4	0		
24		*a 0			a 30	4.2	2.0	.7	.3	0		
25		a 40			a 25	4.0	1.8	* .7	.2	0		
26		a 20			18	4.0	1.8	.6	.3	0		
27		a 5		a .1	* 17	4.0	1.8	.6	.3	0		
28		a 1			15	4.2	1.8	.6	.3	0		
29		0	(*)		-	* 4.2	1.6	.5	* .3	0		
30		0		* .1	-----	4.2	1.4	.5	.3	0		
31		-----		.1	-----	4.2	-----	.5	-----	0		
Total	0	152	112.8	68.3	6271.2	2386	71.2	23.2	11.2	3.7	0	0
Mean	0	5.07	3.64	2.20	224	7.70	2.37	0.75	0.37	0.12	0	0
Max	0	80	100	50	1,860	27	4.2	1.4	0.5	0.5	0	0
Min	0	0	0	0	0.2	4.0	1.4	0.5	0.2	0	0	0
Ac-ft	0	301	224	135	12,440	473	141	46	22	7.3	0	0

Calendar year 1961: Max 100 Min 0 Mean 0.82 Ac-ft 592

Water year 1961-62: Max 1,860 Min 0 Mean 19.0 Ac-ft 13,790

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1200	7.73	698	2-15	0600	8.17	962
2-8	0700	7.74	848	2-19	0330	8.80	1,510
2-10	1800	9.75	2,260				

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

a No gage-height record.

## VENTURA RIVER BASIN

11-1176. Coyote Creek near Oak View, Calif.

Location.--Lat 34°25'00", long 119°22'00", in Santa Ana Grant, on right bank 1,000 ft downstream from Los Padres National Forest boundary, 0.6 mile upstream from Poplin Creek, and 4.2 miles west of Oak View, Ventura County.

Drainage area.--13.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 560 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,700 cfs Feb. 9 (gage height, 7.45 ft in gage well, 7.81 ft from outside gage), on basis of slope-area measurement of peak flow; no flow Oct. 1-28.  
1958-62: Maximum discharge, that of Feb. 9, 1962; no flow at times in each year.

Remarks.--Records good except those above 300 cfs, which are fair. No regulation or diversion above station.

Cooperation.--Nineteen discharge measurements furnished by Ventura River Municipal Water District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Feb. 12, Apr. 10-14)

Feb. 8 to Sept. 30

1.7	0.1	3.0	32
1.8	.2	3.5	78
1.9	.5	4.0	145
2.0	.9	4.5	250
2.1	1.6	5.0	410
2.3	4.0	5.5	630
2.5	8.4	6.5	1,270
2.7	15		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0.2	0.5	0.9	1.5	4.4	2.4	1.8	0.9	0.4	0.2
2	0	* .1	1.1	.5	.8	1.4	4.4	2.3	1.6	.9	.4	.2
3	0	.1	4.6	.5	.8	1.3	4.4	2.2	1.5	.9	.4	.2
4	0	.1	* 1.2	.5	.8	1.2	4.4	* 2.3	1.4	.9	.4	.2
5	0	.1	.9	.5	.7	* 1.1	4.4	2.4	1.4	.9	.4	.2
6	0	.1	.9	.5	.7	1.6	* 4.2	2.4	* 1.3	.9	.4	.2
7	0	.1	.9	.5	.9	1.3	4.0	2.4	1.3	.9	.3	.2
8	0	.1	.9	.5	* 2.0	1.2	4.0	2.4	1.3	.9	* .3	.2
9	0	.1	.9	* .5	* 4.0	1.1	4.0	* 2.4	1.3	.9	.3	.2
10	0	* .1	.9	.5	1.2	3.0	1.0	4.0	2.4	1.3	.9	.2
11	0	.1	.9	.5	* 7.3	9.3	* 4.0	2.4	1.3	.9	.3	.2
12	0	.1	.9	.5	1.7	8.9	4.0	2.4	* 1.3	.9	.3	.2
13	0	.1	.9	.5	* 6.1	8.4	3.9	2.4	1.3	* .9	.3	.2
14	0	.1	.9	.5	3.4	* 8.2	3.7	2.5	1.3	.9	.3	.2
15	0	.1	.9	* .5	* 1.7	7.9	3.6	2.6	1.3	.8	.3	.2
16	0	* .1	.8	.4	6.7	7.7	3.5	2.4	1.3	.8	.3	.2
17	* 0	.1	.8	.4	3.9	7.2	3.4	2.4	1.3	.8	.3	.2
18	0	.1	.8	.4	2.6	7.2	3.2	2.3	1.3	.8	.3	.2
19	0	.1	* .7	.4	2.5	7.0	3.1	2.3	1.3	.7	.2	.2
20	0	1.9	.7	.7	* 8.0	7.0	3.1	2.2	1.2	.6	.2	.2
21	0	.2	.7	.5	* 5.2	6.7	3.0	2.2	* 1.3	.6	.3	.2
22	0	* .1	.7	* .6	3.9	7.2	2.8	2.2	1.3	.6	.3	.2
23	0	.1	.7	1.6	* 3.0	6.7	2.7	2.1	1.2	.6	.3	.1
24	0	.1	.7	1.2	2.6	5.6	2.7	2.1	1.2	.6	.3	.1
25	0	* 1.2	.6	1.0	2.2	5.0	2.7	2.2	1.2	* .6	.3	.1
26	0	.5	* .6	1.0	2.0	4.8	* 2.7	2.2	1.2	.6	.2	* .2
27	0	.3	.6	1.0	1.7	4.6	2.6	2.2	* 1.2	.6	.2	.2
28	0	* .2	* .6	1.0	* 1.6	* 4.6	2.6	2.2	1.2	.5	.2	.2
29	.1	.2	.6	.9	-	4.6	2.6	2.2	1.1	.5	.2	.2
30	.1	.2	.6	* .9	-----	4.4	2.5	* 2.2	1.0	.4	* .2	.2
31	.1	-----	.6	.9	-----	4.4	-----	2.1	-----	.4	.2	-----
Total	0.3	6.9	37.7	20.4	3.7	17.6	26.4	5.1	39.0	23.1	9.1	5.7
Mean	0.01	0.23	1.22	0.66	1.33	8.53	3.49	2.30	1.30	0.75	0.29	0.19
Max	0.1	1.9	11	1.6	1,230	15	4.4	2.6	1.8	0.9	0.4	0.2
Min	0	0.1	0.2	0.4	0.7	4.4	2.5	2.1	1.0	0.4	0.2	0.1
Ac-ft	0.6	14	75	40	7,370	525	207	142	77	46	18	11

Calendar year 1961: Max 11 Min 0 Mean 0.26 Ac-ft 192  
Water year 1961-62: Max 1,230 Min 0 Mean 11.8 Ac-ft 8,530

Peak discharge (base, 150 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1900	7.45	1,700	2-19	0230	6.35	1,140
2-15	0630	5.36	540				



VENTURA RIVER BASIN

219

11-1178. Santa Ana Creek near Oak View, Calif.

Location.--Lat 34°25'25", long 119°20'25", in Santa Ana Grant, on downstream end of right abutment of bridge, 400 ft upstream from unnamed tributary and 3.0 miles northwest of Oak View, Ventura County.

Drainage area.--9.11 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map)

Extremes.--Maximum discharge during year, 2,220 cfs Feb. 9 (gage height, 6.77 ft); no flow on many days.  
1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for part of each year.

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

Cooperation.--Twenty-two discharge measurements furnished by Ventura River Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20 to Feb. 10)

2.0	0	3.0	32
2.1	.1	3.3	68
2.2	.5	3.5	102
2.3	1.2	4.0	215
2.4	2.5	4.5	390
2.5	4.7	5.0	650
2.6	7.7	5.5	970
2.8	17	6.0	1,380

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 0	0	0	0	14	2.5	1.5	0.4	0.2		
2		0	* 25	0	0	13	2.7	1.3	.4	.1		
3		0	6.7	0	0	11	2.9	1.5	.4	.1		
4		0	* 1.9	0	0	11	2.5	1.6	.4	.1		
5		0	1.0	0	0	10	2.5	1.8	.4	.1		
6		0	.6	0	0	* 14	* 2.3	1.6	* .4	.1		
7		0	.3	0	.2	12	2.5	1.5	.4	.1		
8		0	.2	0	* 193	10	3.1	1.3	.4	0		
9		0	.2	* 0	* 544	10	3.1	* 1.3	.4	0		
10		0	.1	0	* 1150	9.3	* 3.5	1.4	.4	0		
11		0	* .1	0	688	8.9	3.5	1.4	.6	.1		
12		0	.1	0	173	8.5	3.3	1.4	* .4	.1		
13		0	* .1	0	* 68	8.1	2.5	1.5	.3	.1		
14		0	.1	0	* 50	* 7.7	2.3	1.8	.4	.1		
15		* 0	.1	* 0	* 179	7.4	1.9	2.0	.4	.1		
16		0	.1	0	75	7.4	1.9	1.8	.3	.1		
17	(*)	0	.1	0	42	6.8	2.0	1.2	.3	.1		
18		0	0	0	27	6.8	2.0	.9	.3	.1		
19		0	* 0	0	* 153	6.8	2.2	.8	.3	.1		
20		* .1	0	* .9	* 73	* 6.2	2.3	.7	.2	0		
21		0	0	.2	* 52	5.9	2.5	.5	* .2	0		
22		0	0	* .9	38	5.9	2.0	.4	.2	0		
23		0	0	* 1.7	* 30	5.6	1.6	.3	.2	0		
24		0	0	.6	24	5.3	2.0	.3	.2	0		
25		* 1.1	0	0	20	5.0	2.2	.2	.2	* 0		(*)
26		.2	* 0	0	* 17	4.7	* 1.9	.6	.2	0		
27		0	0	0	16	4.7	1.6	.6	* .2	0		
28		* 0	* 0	0	* 16	* 4.7	2.0	.5	.2	0		
29		0	0	0	-	4.7	1.8	.4	.2	0		
30		0	0	* 0	-----	4.7	1.9	* .3	.2	0	(*)	
31		-----	0	0	-----	3.3	-----	.3	-----	0	-----	-----
Total	0	1.4	36.7	4.3	3628.2	243.4	71.0	32.7	9.5	1.7	0	0
Mean	0	0.05	1.18	0.14	130	7.85	2.37	1.05	0.32	0.05	0	0
Max	0	1.1	25	1.7	1,150	14	3.5	2.0	0.6	0.2	0	0
Min	0	0	0	0	0	3.3	1.6	0.2	0.2	0	0	0
Ac-ft	0	2.8	73	8.5	7,200	483	141	65	19	3.4	0	0

Calendar year 1961: Max 25 Min 0 Mean 0.10 Ac-ft 76

Water year 1961-62: Max 1,150 Min 0 Mean 11.0 Ac-ft 8,000

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1900	6.77	2,220	2-19	1430	4.60	440
2-15	0600	4.70	490				

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

11-1185. Ventura River near Ventura, Calif.

Location.--Lat 34°21'05", long 119°18'23", in southeast corner of Santa Ana Grant, on right bank 500 ft downstream from county highway bridge at Foster Memorial Park, 0.2 mile downstream from Coyote Creek, and 5 miles north of Ventura, Ventura County.

Drainage area.--188 sq mi.

Records available.--September 1911 to January 1914, October 1929 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Jan. 18, 1914, chain gage at site 370 ft upstream at different datum (destroyed by flood). October 1929 to Nov. 2, 1949, at site 370 ft upstream at present datum.

Average discharge.--35 years (1911-13, 1929-62), 58.6 cfs (42,420 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year). Average combined discharge of river and diversion, 30 years (1932-62), 69.1 cfs (50,030 acre-ft per year); median of combined yearly mean discharges, 29 cfs (21,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,400 cfs Feb. 10 (gage height, 13.55 ft); no flow for many days.

1911-14, 1929-62: Maximum discharge, 39,200 cfs Mar. 2, 1938 (gage height, 19.2 ft), from rating curve extended above 7,700 cfs on basis of slope-area and contracted-opening measurement of peak flow; no flow at times in many years.

Remarks.--Records good except those above 1,000 cfs, which are poor. Flow partly regulated by Matilija Reservoir since Mar. 14, 1948 (see p.213) and by Casitas Reservoir (capacity, 267,000 acre-ft) since Oct. 1, 1959. Water diverted through pipeline at dam (Matilija Reservoir) to Ojai Valley for irrigation since May 1951. Water diverted to Casitas Reservoir since January 1959. City of Ventura diverts water above station for municipal supply. For records of combined discharge of river and diversion, see following page.

Cooperation.--Gage-height record for diversion weir furnished by city of Ventura.

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

Oct. 1 to Feb. 10				Feb. 11 to Sept. 30			
4.6	0	5.7	75	5.7	0	7.1	92
4.7	.3	6.0	150	5.8	.3	7.5	200
4.8	1.0	6.5	380	5.9	1.0	8.0	440
4.9	2.5	7.0	720	6.0	2.1	8.5	800
5.0	5.0	8.0	1,680	6.1	3.9	9.0	1,300
5.2	14	10.0	4,250	6.3	9.8	10.0	2,750
5.4	30	13.0	10,800	6.5	20	11.0	4,800
				6.8	45	13.0	10,300

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	* 0.4	37	6.3	5.5	8.2	4.4	2.1	1.3
2		0	32	0	.4	33	5.2	6.3	8.8	4.4	1.5	1.4
3		0	3.2	0	.5	21	5.2	5.8	9.2	4.4	1.6	1.4
4		0	* 0	0	.5	21	6.1	4.7	8.8	4.2	2.1	1.8
5		0	0	0	.6	26	8.5	6.1	8.2	4.2	2.3	2.1
6		0	0	0	.6	57	7.2	6.6	8.5	5.2	2.3	2.3
7		0	0	0	.8	40	4.2	7.6	8.8	5.5	1.6	2.1
8		0	0	0	* 8.10	28	3.9	8.2	9.2	5.2	1.5	1.2
9		0	0	* 0	1.3 50	27	4.4	* 13	9.5	5.2	1.3	2.3
10		0	0	0	* 1.100	26	* 6.0	13	9.5	4.7	.9	2.3
11		0	0	0	9.4 20	21	5.2	9.8	9.5	4.4	.8	2.1
12		0	0	0	* 2.5 20	18	5.2	11	8.8	* 4.2	.9	1.8
13		0	0	0	* 6.22	12	4.4	11	* 8.5	4.7	1.1	.6
14		0	0	0	* 1.93	7.6	4.2	12	8.2	5.2	1.1	1.5
15		* 0	0	0	1.3 40	7.2	3.9	11	8.2	4.7	1.1	.3
16	(*)	0	0	0	3.2 1	7.2	3.9	8.8	7.9	4.2	1.0	.4
17		0	0	0	1.20	7.6	3.9	8.5	7.9	4.7	.9	.7
18		0	0	0	.78	7.9	3.7	8.8	7.6	4.2	.9	.8
19		0	0	0	1.4 50	7.6	3.7	8.8	7.2	4.4	1.2	1.0
20		* 2.4	0	* 4.1	* 3.29	6.9	3.7	8.5	7.2	4.2	1.6	.3
21		0	0	.2	2.0 1	7.6	3.7	8.5	6.6	3.7	2.1	.2
22		* 0	0	10	1.30	13	3.7	8.2	6.1	4.2	1.6	.2
23		0	0	20	.94	16	3.7	8.5	6.3	3.9	1.5	.3
24		0	0	.2	.70	6.6	3.7	8.2	6.3	3.9	1.5	.9
25		.1	0	.2	.61	6.3	3.9	8.2	6.3	3.7	1.8	.4
26		0	0	.2	.52	* 6.6	* 4.2	8.5	5.8	* 3.7	2.0	.4
27		0	0	.2	.44	6.6	4.2	8.5	* 3.0	3.0	2.3	* 1.6
28		0	* 0	.2	* 4.1	6.6	4.2	8.5	5.0	2.8	2.5	1.1
29		* 0	0	.2	-	6.9	4.2	8.5	4.4	2.6	2.5	.4
30		0	0	.3	-----	6.9	3.7	8.2	4.4	2.8	2.5	.2
31	(*)	-----	0	.3	-----	6.9	-----	* 7.9	-----	3.0	* 2.3	-----
Total	0	2.4 1	35.2	36.1	28.3 49.8	509.0	138.0	266.7	223.9	129.6	50.4	33.4
Mean	0	0.80	1.14	1.16	1.012	16.4	4.60	8.60	7.46	4.18	1.63	1.11
Max	0	24	32	20	9,420	57	8.5	13	9.5	5.5	2.5	2.3
Min	0	0	0	0	0.4	6.3	3.7	4.7	3.0	2.6	0.8	0.2
Ac-ft	0	48	70	72	56,230	1,010	274	529	444	257	100	66

Calendar year 1961: Max 32 Min 0 Mean 0.17 Ac-ft 126  
Water year 1961-62: Max 9,420 Min 0 Mean 81.6 Ac-ft 59,100

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1830	13.55	12,400	2-19	0400	10.70	4,100
2-15	0700	10.57	3,840				

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

Combined discharge, in cubic feet per second, of Ventura River and Ventura City diversion near Ventura, Calif., water year October 1961 to September 1962

[illegible]

## CARPINTERIA CREEK BASIN

11-1195. Carpinteria Creek near Carpinteria, Calif.

Location.--Lat 34°24'04", long 119°29'08", in El Rincon Grant, on left bank at upstream side of bridge on State Highway 150, 200 ft downstream from Gobernador Creek and 1.8 miles northeast of Carpinteria, Santa Barbara County.

Drainage area.--13.1 sq mi.

Records available.--January 1941 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 130 ft (from topographic map). Prior to July 1, 1958, at datum 2.00 ft higher.

Average discharge.--21 years, 1.92 cfs (1,390 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 1,160 cfs Feb. 10 (gage height, 7.01 ft); no flow for most of year.

1941-62: Maximum discharge, 2,440 cfs Jan. 15, 1952 (gage height, 9.75 ft, present datum), from rating curve extended above 500 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good. Gobernador Land and Water Co. diverts from Gobernador Creek 1.8 miles above station. Small lake three-quarters of a mile southeast of station and outside the drainage area stores storm runoff and surplus water diverted by Gobernador Land and Water Co. from Gobernador Creek. At times this lake is drained by pumping water into Gobernador Creek 1,000 ft above station. No pumping occurred this year.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting control method used Oct. 1 to Feb. 10)

Feb. 10 to Sept. 30

2.6	0	3.2	5.4
2.7	.1	3.4	13
2.8	.3	4.0	51
2.9	.7	4.5	105
3.0	1.6	5.0	195
3.1	3.1	5.5	320

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		0	0	* 8.4	2.8		0			
2		* 0		0	0	8.0	2.8		0			
3		0		0	0	8.4	1.6		0			
4		0		0	0	8.0	1.2		0			
5		0		0	0	7.2	1.1		0			
6		0		0	0	8.8	1.0		0			
7		0	(*)	0	0	8.4	.9		0			
8		0		0	61	7.6	.9		0			
9		0		0	* 3 21	8.8	.9	(*)	.1			
10		0		0	813	10	.8		.1			
11		0		* 0	* 57.4	9.6	*.7		* 0			
12		0		0	105	9.2	.7		0			
13		0		0	36	8.8	.6		0			
14		0		0	* 23	* 6.9	.6		0			
15		0		0	158	5.1	.5		0			
16		* 0		0	* 61	3.9	.4		0			
17		0		0	34	2.9	.4		0			
18	(*)	0		0	23	2.9	.4		0			
19		0		0	224	2.8	.4		0			
20		.6		0	* 72	2.8	.4		0			
21		0		0	47	2.6	.4		0			
22		0		1.0	a 25	2.6	.3		0			
23		0		0	a 20	2.4	.1		0			
24		0		0	a 15	2.0	0		.1			
25		0		0	a 12	1.8	.1		* 0	(*)		(*)
26		0		0	a 11	1.7	*.1		0			
27		0		.2	a 10	1.6	0		0			
28		* 0		.9	a 9	* 2.2	0		0		(*)	
29		0	(*)	*.6	-	3.1	.1	(*)	0			
30		0		.4	-----	2.9	0		0			
31		-----		.4	-----	2.8	-----		-----			
Total	0	0.6	0	3.5	2,654	1,642	20.2	0	0.3	0	0	0
Mean	0	0.02	0	0.11	94.8	5.30	0.67	0	0.01	0	0	0
Max	0	0.6	0	1.0	813	10	2.8	0	0.1	0	0	0
Min	0	0	0	0	0	1.6	0	0	0	0	0	0
Ac-ft	0	1.2	0	6.9	5,260	326	40	0	0.6	0	0	0

Calendar year 1961: Max 0.6 Min 0 Mean 0.002 Ac-ft 1.4

Water year 1961-62: Max 813 Min 0 Mean 7.79 Ac-ft 5,630

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1700	7.01	1,160	2-19	0200	6.71	856
2-15	0630	5.88	462				

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

a No gage-height record.

11-1200. Atascadero Creek near Goleta, Calif.

Location.--Lat 34°25'29", long 119°48'39", in La Goleta Grant, on downstream side of left-bank abutment of private road bridge 400 ft downstream from Maria Ygnacio Creek, 1.3 miles upstream from mouth, and 1.3 miles southeast of Goleta, Santa Barbara County.

Drainage area.--18.3 sq mi.

Records available.--October 1941 to September 1962. Prior to October 1947, published as Alascadero Creek near Goleta.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--21 years, 2.73 cfs (1,980 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs Feb. 9 (gage height, 12.00 ft); no flow on many days.

1941-62: Maximum discharge, about 4,500 cfs Jan. 15, 1952 (gage height, 10.85 ft), estimated on basis of records for nearby streams; no flow for many days in each year.

Remarks.--Records fair. Small diversions above station for irrigation. Much of low flow results from return waste water from local irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0	0.2	* 6.1	0.3	0		0	0	0
2	(*)	0	30	0	0.2	5.5	3	0		* 0	0	.1
3		0	* 3.3	0	0.2	4.8	3	0		0	0	0
4		0	.5	0	0.2	4.2	2	0		0	0	0
5		0	.4	0	0.2	4.3	2	0	(*)	0	0	0
6		0	.3	0	0.2	* 21	2	0		0	0	0
7		* 0	.2	0	16	7.0	13	.1		0	.1	0
8		0	.2	* 0	305	5.0	9.9	0		0	0	0
9		0	.2	0	* 742	4.0	* 1	.1		0	0	0
10		0	.1	0	781	2.4	.1	* 1		0	0	* 0
11		0	.1	0	* 661	1.8	.1	0		0	0	0
12		0	.1	0	17	1.6	.1	.1		0	0	0
13		0	.1	0	22	1.6	.2	0		0	* 0	0
14		0	.1	0	* 18	1.6	.1	0		0	0	0
15		0	.1	0	397	* 1.6	.1	0		0	.1	0
16		0	0	0	71	1.4	.1	0		0	.1	0
17		0	0	0	43	1.2	.1	0		0	.1	0
18		0	0	0	185	1.2	.1	0		* 0	.1	0
19		0	* 0	0	546	1.2	.1	0	(*)	0	.1	0
20		* 84	0	21	* 90	1.2	.1	0		0	.2	0
21		.6	0	2.0	42	1.2	0	* 0		0	.1	0
22		.2	0	16	20	3.7	0	0		0	.1	0
23		.1	0	* 2.4	13	1.2	0	0		0	.1	0
24	(*)	.1	0	.6	11	.8	* 0	0		0	.1	0
25		4.0	0	.4	9.4	.7	0	0		0	.1	0
26		.6	0	.4	8.4	.7	0	0		0	0	0
27		.1	0	.3	7.6	.5	.1	0		0	* 0	0
28		* .1	0	.3	6.4	.5	0	0		0	0	0
29		.1	0	.2	-	.5	0	0		0	0	0
30		.4	0	.2	-	* .7	0	0		0	0	0
31		-	0	2	-	.4	0	0		* 0	0	-
Total	0	90.5	35.8	44.0	4013.0	89.6	25.8	0.4	0	0.3	1.3	0.1
Mean	0	3.02	1.15	1.42	143	2.89	0.86	0.01	0	0.01	0.04	0.003
Max	0	84	30	21	781	21	13	0.1	0	0.3	0.2	0.1
Min	0	0	0	0	0.2	0.4	0	0	0	0	0	0
Ac-ft	0	180	71	87	7,960	178	51	0.8	0	0.6	2.6	0.2

Calendar year 1961: Max 84 Min 0 Mean 0.46 Ac-ft 335  
 Water year 1961-62: Max 781 Min 0 Mean 11.8 Ac-ft 8,530

Peak discharge (base, 60 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0900	8.66	438	2-15	0600	10.38	1,170
12-2	0400	7.80	230	2-19	0030	11.85	1,880
1-20	0830	7.18	107	3-6	0230	7.08	77
2-9	1700	12.00	1,950				

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

## SAN JOSE CREEK BASIN

11-1205. San Jose Creek near Goleta, Calif.

Location.--Lat 34°27'33", long 119°48'29", in La Goleta Grant, on left pier of Patterson Avenue Bridge, 1.1 miles downstream from unnamed tributary, and 1.7 miles northeast of Goleta, Santa Barbara County.

Drainage area.--5.51 sq mi.

Records available.--January 1941 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 100 ft (from topographic map). Prior to Dec. 24, 1955, at datum 5.50 ft higher. Dec. 24, 1955, to Jan. 10, 1960, at datum 1.5 ft higher.

Average discharge.--21 years, 1.63 cfs (1,180 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 1,150 cfs Feb. 9 (gage height, 8.10 ft); no flow on many days.

1941-62: Maximum discharge, 1,960 cfs Apr. 4, 1941, from rating curve extended above 850 cfs; maximum gage height, 12.74 ft, present datum, Jan. 21, 1943; no flow at times in each year.

Remarks.--Records fair except those above 100 cfs, which are poor. Many small diversions above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 0	0.1	0.3	0.3	0.4	* 5.2	1.3	0.4	0.3	a 0.1	0	a 0.1
2	* 0	.1	1.3	.3	.4	4.8	1.2	.4	.3	* .1	0	a .1
3	0	.1	* 3.2	.3	.4	4.4	1.1	.4	.4	0	0	a .1
4	0	.1	1.4	.3	.4	4.1	1.1	.4	.3	.1	.1	a .1
5	0	.1	.6	.2	.4	3.9	1.0	.4	* .3	.1	.2	a .1
6	0	.1	.7	.2	.4	* 1.1	1.0	.5	.3	.1	.1	a 0
7	0	* 0	.6	.2	1.6	5.6	.9	.6	.4	.1	0	a 0
8	0	0	.6	* .2	5.6	4.8	.8	.4	.5	.2	.1	a 0
9	0	0	.5	.2	* 3.4	4.2	* .6	.4	.5	.1	a .1	a 0
10	.1	.1	.5	.2	3.28	3.7	.7	* .4	.6	.1	a .1	* 0
11	.1	.1	.5	.2	* 3.48	3.4	.6	.4	.5	.2	a .1	0
12	0	.1	.5	.3	a 5.0	2.9	.6	.5	.5	.2	a .1	0
13	0	.1	.5	.3	a 2.0	2.6	.6	.5	.5	.2	* a .1	a 0
14	0	.1	.5	.3	* a 1.0	2.5	.6	.6	.5	.2	a .1	a 0
15	.1	.1	.4	.3	1.62	* 2.3	.6	.5	.5	.2	a .1	a 0
16	0	.1	.4	.3	* 2.8	2.2	.5	.3	.4	.2	a .1	a 0
17	0	.1	.4	.3	1.8	2.1	.5	.2	.4	.2	a .1	a 0
18	0	.1	.4	.3	3.0	2.1	.4	.2	.4	* .2	a .1	a 0
19	0	.2	* .4	.3	2.02	2.0	.4	.2	* .2	.2	a .1	a 0
20	0	* 6.8	.4	3.1	* 4.7	1.8	.6	.2	.1	.2	a .1	a 0
21	0	.5	.4	1.5	2.9	2.0	.6	* .2	.1	.2	a .1	a .1
22	0	.3	.4	1.8	2.6	2.2	.6	.1	.1	.2	a .1	a .1
23	0	.3	.3	* 1.4	2.5	2.2	.5	.2	.1	.2	a .1	a .1
24	* 0	.2	.3	1.2	2.5	1.7	* .5	.2	.1	.2	a .1	a .1
25	0	.5	.3	.6	2.0	1.6	.5	.2	a .1	.2	a .1	a .1
26	0	.4	.3	.6	a 1.5	1.4	.4	.2	a .1	.1	a .1	.1
27	0	.2	.3	.5	a 1.0	1.4	.5	.3	a .1	.1	* .1	.1
28	.1	* .2	.3	.5	a 7.5	1.4	.5	.4	a .1	.1	.1	.2
29	.1	.2	.3	.4	-	1.4	.4	.1	a .1	.1	.1	.2
30	.1	.2	.3	.4	-----	* 1.4	.4	.3	a .1	.1	.1	.2
31	.1	-----	.3	.4	-----	1.4	-----	.4	-----	* .1	.1	-----
Total	0.7	11.5	29.5	17.6	1.4 9 4.5	93.7	20.2	10.7	8.9	4.6	2.8	1.8
Mean	0.02	0.38	0.95	0.57	53.4	3.02	0.67	0.35	0.30	0.15	0.09	0.06
Max	0.1	6.8	13	3.1	348	11	1.3	0.8	0.6	0.2	0.2	0.2
Min	0	0	0.3	0.2	0.4	1.4	0.4	0.1	0.1	0	0	0
Ac-ft	1.4	23	59	35	2,960	186	40	21	18	9.1	5.6	3.6

Calendar year 1961: Max 13 Min 0 Mean 0.24 Ac-ft 178

Water year 1961-62: Max 348 Min 0 Mean 4.65 Ac-ft 3,360

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0300	3.98	123	2-15	0530	5.35	700
2-9	1700	8.10	1,150	2-19	0015	7.15	1,010

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

a No gage-height record.

11-1207. Canada Honda Creek near Lompoc, Calif.

Location.--Lat 34°36'05", long 120°32'30", in Lompoc Grant, on right bank 5.5 miles southwest of Lompoc and 6.6 miles upstream from mouth, Santa Barbara County.

Drainage area.--3.09 sq mi.

Records available.--June 1959 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 580 ft (from topographic map). Prior to Nov. 24, 1959, staff gage at same site and datum.

Extremes.--Maximum discharge during year, about 1,000 cfs Feb. 18 (gage height, 6.60 ft), from rating curve extended above 160 cfs on basis of maximum discharge for station near Point Arguello; no flow for many days.  
1959-62: Maximum discharge, that of Feb. 18, 1962; no flow for most of each year.

Remarks.--Records good except those for period of no gage-height record and those above 5 cfs, which are poor. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	15	0	0.1	2.6	a 0.9	0.2	0.2	0.1	0.1	0
2	(*)	0	* 17	0	0	2.2	* .9	.2	.2	.1	.1	0
3		0	.2	0	0	1.8	.9	.2	.2	* .1	.1	0
4		0	* .1	0	0	1.5	.9	.2	.2	.1	.1	0
5		0	0	0	0	* 57	.2	.2	.2	.1	.1	0
6		0	0	0	0	a 20	.7	.2	* .2	.1	.1	0
7		0	0	0	2.5	a 4.0	.7	.2	.2	.1	.1	0
8		0	0	* 0	* 70	a 3.5	.7	.2	.2	.1	.1	0
9		0	0	0	153	a 3.0	.6	* .2	.2	.1	.1	0
10		0	0	0	115	a 2.6	* .6	.2	.2	.1	.1	0
11		0	0	0	167	a 2.4	.6	.2	.2	.1	.1	* .1
12		0	0	0	41	a 2.2	.6	.2	.2	.1	0	.1
13		0	0	0	26	* 1.8	.6	.2	.2	.1	0	0
14		0	0	0	* 37	1.5	.5	.2	.2	.1	0	0
15		0	0	0	a 75	1.5	.5	.2	.2	.1	0	0
16		0	0	0	a 20	1.5	.5	.3	.2	.1	* .1	0
17		0	0	0	* 73	1.4	.5	.3	.2	* .1	0	0
18		0	0	0	* 84	1.4	.4	.3	.2	.1	0	0
19		0	0	0	34	1.6	.4	.2	* .2	.1	0	0
20		* .3	0	* 34	21	1.4	.4	.2	.2	.1	0	0
21		* 0	* 0	4.8	9.2	1.2	.3	.3	.1	.1	0	0
22		0	0	* 17	6.2	* a 2.0	.3	.3	.1	.1	0	0
23		0	0	* 8.0	* 5.6	a 1.5	.3	.3	.1	.1	0	0
24		0	0	.8	a 4.6	a 1.2	* .3	* .3	.1	.1	0	.1
25		1.3	0	* .3	a 4.0	a 1.1	.2	.2	.1	.1	0	.1
26		.1	0	.2	a 3.6	a 1.0	.2	.2	.1	.1	0	.1
27	(*)	0	0	.1	a 3.2	a 1.0	.2	.2	.1	.1	0	.1
28		0	0	.1	a 3.0	a 1.0	.2	.2	.1	.1	0	.1
29		0	0	.1	-	a 1.0	.2	.2	.1	.1	0	.1
30		0	0	* .1	-----	a 1.0	.2	.2	.1	.1	0	.1
31		-----	0	.1	-----	a 1.0	-----	.2	.2	.1	0	-----
Total	0	1.7	32.3	65.6	892.3	127.9	15.1	6.9	5.0	3.1	1.2	0.9
Mean	0	0.06	1.04	2.12	31.9	4.13	0.50	0.22	0.17	0.10	0.04	0.03
Max	0	1.3	17	34	167	57	0.9	0.3	0.2	0.1	0.1	0.1
Min	0	0	0	0	0	1.0	0.2	0.2	0.1	0.1	0	0
Ac-ft	0	3.4	64	130	1,770	254	30	14	9.9	6.1	2.4	1.8

Calendar year 1961: Max 17 Min 0 Mean 0.10 Ac-ft 74  
Water year 1961-62: Max 167 Min 0 Mean 3.16 Ac-ft 2,290

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	2400	3.62	349	2-14	2400	3.47	319
1-20	0630	2.78	181	2-18	2000	6.60	†1,000
1-22	1430	2.00	46	3- 5	2300	5.04	633
2- 9	1400	4.89	603				

† About.

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

a No gage-height record.

## CANADA HONDA CREEK BASIN

11-1208. Canada Honda Creek near Point Arguello, Calif.

Location.--Lat 34°35'48", long 120°34'41", in Lompoc Grant, on left bank 3.7 miles northeast of Arguello, Santa Barbara County, and 4.2 miles upstream from mouth.

Drainage area.--7.00 sq mi.

Records available.--March 1959 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 355 ft (from topographic map). Prior to Nov. 24, 1959, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 2,120 cfs Feb. 18 (gage height, 8.42 ft), from rating curve extended above 350 cfs on basis of slope-area measurement of peak flow; no flow for many days.

1959-62: Maximum discharge, that of Feb. 18, 1962; no flow for many days each year.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.4	0	0.4	6.9	2.9	1.0	0.7	0.4	0.3	0.1
2	(*)	0	38	0	.4	6.7	* 2.9	1.0	.6	.3	.3	.1
3		0	1.9	0	.4	6.3	2.9	.9	.6	* .3	.3	.1
4		0	* .5	.1	.4	6.1	2.8	.9	.6	.3	.3	.2
5		0	.3	.1	.4	* 1.5	2.6	.9	.5	.2	.3	.2
6		0	.2	.1	.4	7.1	2.5	.9	* .6	.2	.3	.2
7		0	.1	.1	1.6	13	2.5	.9	.6	.2	.2	.2
8		0	.1	* .1	* 1.35	10	2.4	.9	.6	.3	.2	.2
9		0	.1	.1	3.56	9.2	2.4	* .9	.6	.3	.2	.2
10		0	.1	0	18.9	8.6	* 2.4	.9	.6	.3	.3	.2
11		0	.1	0	20.5	8.4	2.2	.9	.6	.2	.3	* .2
12		0	.1	.1	5.4	7.8	2.0	.9	.6	.2	.2	.1
13		0	.1	.2	3.5	* 7.6	1.9	.9	.6	.2	.2	.1
14		0	.1	.2	* 3.5	6.7	1.8	.9	.6	.2	.2	.1
15		0	.1	.1	9.4	6.1	1.8	.9	.6	.2	.1	.1
16		0	.1	.1	3.3	5.8	1.7	.9	.6	.2	* .1	.1
17		0	.1	.1	2.2	5.5	1.6	.9	.6	* .2	.1	.1
18		0	.1	.1	* 1.49	5.2	1.5	.8	.5	.2	.1	.1
19		0	.1	.2	4.1	5.0	1.5	.8	* .5	.2	.1	.1
20		.1	.1	* 4.0	2.6	4.6	1.4	.8	.5	.2	.1	.1
21		* 0	* .1	5.9	1.9	4.3	1.4	.8	.5	.2	.1	.1
22		0	0	* 2.0	1.3	* 5.7	1.4	.8	.5	.2	.1	.1
23		0	0	* 1.7	1.0	4.4	1.4	.8	.5	* .2	.2	.1
24		0	0	5.3	1.0	3.7	* 1.4	* .8	.5	.2	.1	.1
25		.1	0	* 2.1	8.2	3.5	1.3	.8	.5	.2	.1	.1
26		3.4	0	1.6	8.8	3.4	1.3	.8	.5	.2	.1	.1
27	(*)	.2	0	1.2	7.4	3.4	1.3	.8	.5	.3	.1	.1
28		.1	0	.8	7.1	3.4	1.4	.8	.5	.3	.1	.1
29		.1	0	.6	-	3.2	1.1	.7	.4	.3	.1	.1
30		.1	0	* .5	-----	3.1	1.0	.7	.4	.3	.1	.1
31		-----	0	.5	-----	3.0	-----	.7	-----	.3	.1	-----
Total	0	4.1	48.8	97.2	146.15	256.6	56.7	26.4	16.5	7.5	5.4	3.8
Mean	0	0.14	1.57	3.14	52.2	8.28	1.89	0.85	0.55	0.24	0.17	0.13
Max	0	3.4	38	40	356	71	2.9	1.0	0.7	0.4	0.3	0.2
Min	0	0	0	0	0.4	3.0	1.0	0.7	0.4	0.2	0.1	0.1
Ac-ft	0	8.1	97	193	2,900	509	112	52	33	15	11	7.5

Calendar year 1961: Max 38 Min 0 Mean 0.19 Ac-ft 141  
 Water year 1961-62: Max 356 Min 0 Mean 5.44 Ac-ft 3,940

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-26	0030	2.31	50	2- 9	1430	8.20	2,000
12- 2	0100	4.52	445	2-15	0100	4.00	385
1-20	0700	3.21	153	2-18	2030	8.42	2,120
1-22	1530	2.32	54	3- 6	0030	4.73	579

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



11-1210. Santa Ynez River at Jameson Lake, near Montecito, Calif.

Location.--Lat 34°29'32", long 119°30'25", on upstream side of Juncal Dam, 6.5 miles north of Carpinteria and 8 miles northeast of Montecito, Santa Barbara County.

Drainage area.--13.8 sq mi (not including Alder Creek).

Records available.--December 1930 to September 1962. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

Gage.--Water-stage recorder on lake and water-stage recorder and sharp-crested weir on outlet conduit. Datum of gage is 2,021.6 ft above mean sea level (Bureau of Reclamation bench mark), or 2,000 ft above arbitrary datum (called sea level) generally used for works in this vicinity.

Average discharge.--31 years (1931-62), 5.66 cfs (4,100 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Remarks.--Records of total inflow represent all water reaching Jameson Lake, including precipitation on the lake. Net runoff computed on basis of records of storage, diversion (draft) to the city of Montecito, spill and release to river, and evaporation. Records of net runoff exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from Class A pan using coefficient of 0.80. Capacity and area ratings for this lake are based on surveys made in 1948. Lake capacity at spillway level (gage height, 223.82 ft) 6,590 acre-ft. On Apr. 20, 1962, flashboards were placed atop spillway, raising crest 0.95 ft. Dead storage, 268 acre-ft, below lowest outlet at gage height 139.0 ft, included in these records. There is no regulation or diversion above Jameson Lake. At times flow of Alder Creek, which enters Santa Ynez River 2 miles downstream from Juncal Dam, is diverted at elevation 2,250 ft through a tunnel to Jameson Lake, and is included in these records.

Cooperation.--Reservoir-operation records and related data furnished by Montecito County Water District.

Monthly net runoff, water year October 1961 to September 1962

Month	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Spill and release (acre-feet)	Evaporation (acre-feet)	Total inflow (acre-feet)	Rain on reservoir (acre-feet)	Net runoff (acre-feet)
Jameson Lake									
Sept. 30.....	157.95	847	-	-	-	-	-	-	-
Oct. 31.....	155.09	733	-114	98	0	9	-7	0	-7
Nov. 30.....	153.32	667	-66	80	0	3	17	18	-1
Dec. 31.....	153.55	676	+9	22	0	1	32	7	25
Calendar year 1961.....	-	-	-1,658	1,476	0	193	11	47	-36
Jan. 31.....	153.34	668	-8	32	0	3	27	5	22
Feb. 28.....	223.99	6,617	+5,949	8	267	5	6,229	200	6,029
Mar. 31.....	223.93	6,608	-9	13	236	21	261	24	237
Apr. 30.....	223.57	6,558	-50	132	18	46	146	0	146
May 31.....	222.33	6,388	-170	192	0	44	66	2	64
June 30.....	220.88	6,192	-196	158	0	64	26	0	26
July 31.....	219.29	5,982	-210	109	0	71	-30	0	-30
Aug. 31.....	217.47	5,747	-235	127	0	66	-42	0	-42
Sept. 30.....	215.75	5,531	-216	125	0	47	-44	0	-44
Water year 1961-62.....	-	-	+4,684	1,096	521	380	6,681	256	6,425

† At 2400.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

## SANTA YNEZ RIVER BASIN

11-1220. Santa Ynez River above Gibraltar Dam, near Santa Barbara, Calif.

Location.--Lat 34°31'37", long 119°41'10", on upstream side of Gibraltar Dam, 7 miles north of Santa Barbara, Santa Barbara County.Drainage area.--216 sq mi.Records available.--April 1920 to September 1962. November 1903 to November 1918 (fragmentary) at river station at damsite; records not equivalent because records since April 1920 are based on operation of Gibraltar reservoir, and since December 1930, Jameson Lake. Prior to October 1945, published as "near Santa Barbara."Gage.--Water-stage recorder on reservoir and water-stage recorder and sharp-crested weir on diversion canal below dam. Spill and release measured at river gaging station below dam (see following page). Datum of reservoir gage is mean sea level (datum of 1929). Prior to August 1916, staff gage 900 ft downstream at different datum. August 1916 to June 1918, water-stage recorder at Gibraltar damsite at different datum. June to November 1918, staff gage at several sites and datums near dam. Apr. 1, 1920, to Oct. 1, 1955, at datum 21.82 ft higher. Since Oct. 1, 1955, supplemental gage 15 ft to right of spillway, used for elevation above 1,386 ft.Remarks.--Records of total inflow represent all water reaching Gibraltar reservoir, including precipitation on reservoir. Total inflow computed on basis of records of storage, diversion (draft) to city of Santa Barbara, spill and release to river, and evaporation. Records of net inflow exclude precipitation on reservoir surface. Monthly evaporation from reservoir surface computed on basis of evaporation from Class A pan using coefficient of 0.80. Reservoir capacity and area tables are based on surveys made in 1956. Reservoir capacity at spillway level (elevation, 1,399.82 ft), 14,777 acre-ft. Dead storage, 716 acre-ft, below lowest outlet at elevation 1,333.86 ft, included in these records. Flow regulated by Jameson Lake since December 1930 (see preceding page).Cooperation.--Reservoir-operation records and related data furnished by city of Santa Barbara.

Monthly net inflow, water year October 1961 to September 1962

Month	Elevation (feet)†	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Spill and release (acre- feet)	Evapo- ration (acre- feet)	Total inflow (acre- feet)	Rain on reser- voir (acre- feet)	Net inflow (acre- feet)
	Gibraltar Reservoir								
Sept. 30.....	1,351.63	2,844	-	-	-	-	-	-	-
Oct. 31.....	1,350.65	2,708	-136	71	0	43	-22	0	-22
Nov. 30.....	1,350.69	2,714	+6	49	0	16	71	62	9
Dec. 31.....	1,351.69	2,852	+138	17	1	9	165	35	130
Calendar year 1961.....	-	-	-1,281	1,224	1	597	541	148	393
Jan. 31.....	1,351.92	2,884	+32	36	0	a 14	82	32	50
Feb. 28.....	1,399.62	14,692	+11,808	25	36,330	28	48,191	703	47,488
Mar. 31.....	1,401.01	14,858	+166	523	7,580	75	8,344	65	8,279
Apr. 30.....	1,399.80	14,769	-89	627	1,970	140	2,648	0	2,648
May 31.....	1,399.78	14,760	-9	868	215	172	1,246	0	1,246
June 30.....	1,398.02	14,018	-742	885	108	195	446	0	446
July 31.....	1,395.05	12,826	-1,192	1,030	53	213	104	0	104
Aug. 31.....	1,391.77	11,598	-1,228	1,100	9	198	79	0	79
Sept. 30.....	1,388.84	10,582	-1,016	869	1	138	-8	0	-8
Water year 1961-62.....	-	-	+7,738	6,100	46,267	1,241	61,346	897	60,449

† At 1800.

a Partly estimated.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net inflow may appear. This arises primarily from the difficulty of computing net inflow as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

11-1230. Santa Ynez River below Gibraltar Dam, near Santa Barbara, Calif.

Location.--Lat 34°31'28", long 119°41'11", in southwest portion of Los Padres National Forest, on left bank 700 ft downstream from Gibraltar Dam and 7 miles north of Santa Barbara, Santa Barbara County.

Drainage area.--216 sq mi.

Records available.--April 1920 to September 1962 (monthly discharge only prior to October 1941).

Gage.--Water-stage recorder. Altitude of gage is 1,250 ft (from topographic map). Water-stage recorder on Gibraltar Reservoir used as supplementary gage. Prior to Apr. 17, 1952, water-stage recorder on Gibraltar Reservoir used as principal gage. Apr. 17 to Oct. 15, 1952, staff gage and Oct. 16, 1952, to May 20, 1958, water-stage recorder, at same site at datum 5.00 ft higher.

Average discharge.--42 years, 36.3 cfs (26,280 acre-ft per year), unadjusted; median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

Extremes.--Maximum discharge during year, 7,300 cfs Feb. 10 (gage height, 16.90 ft), from rating curve extended above 4,200 cfs; no flow for much of year.

1920-62: Maximum discharge, 35,500 cfs Mar. 2, 1938, computed from spillway rating; no flow at times in most years.

Remarks.--Records good except those above 200 cfs, which are fair. Discharge represents flow in Santa Ynez River passing Gibraltar Dam. Flow regulated by Gibraltar Reservoir and Jameson Lake (see pp. 228, 227). City of Santa Barbara diverted 6,100 acre-ft during the water year from Gibraltar Reservoir; Montecito County Water District diverted 1,096 acre-ft during the water year from Jameson Lake.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 25 to July 16)

Oct. 1 to June 20, June 25 to July 16

June 21-24, July 17 to Sept. 30

4.3	0	5.5	53
4.4	.3	6.0	117
4.5	1.0	6.5	212
4.6	2.2	7.0	340
4.7	4.1	8.0	720
4.8	6.8	10.0	1,590
5.0	15	12.0	2,880
5.2	28	15.0	5,700

Note.--"Release to river" gage used on above days.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	192	60	17	0	3.7	0.35	0.03
2	(*)		.5		0	178	72	16	0	3.6	.35	.03
3			0		0	172	*88	20	0	1.5	.35	.03
4			0		0	150	74	18	0	1.5	.35	.03
5			0		0	131	34	9.8	0	1.5	.35	.02
6			0		0	176	36	6.6	0	1.6	.35	.02
7		(*)	0		0	280	41	5.4	0	1.6	.24	.03
8			0		3.2	228	42	13	0	1.6	.18	.04
9			0		34	194	41	0	0	1.0	.18	.04
10			0		2,790	166	40	0	0	.7	.18	.03
11			0		4,960	162	37	0	*0	.6	.18	.02
12			0		1,920	158	33	0	0	.6	.18	.03
13			0		766	143	32	0	0	.5	*.18	.02
14			0		514	134	31	0	0	.5	.10	.02
15			0		*908	*126	26	0	0	.5	.07	.02
16			0		698	120	19	.1	0	.4	.07	.02
17			0		415	131	17	0	0	*.35	.06	.02
18			0		356	115	17	0	0	.35	.05	*.02
19			0		1,180	73	17	.5	0	.35	.05	.02
20			0		784	48	16	.6	0	.35	.06	.02
21			*0		640	73	15	*.5	5.5	.35	.07	.02
22			0		460	81	15	.5	8.3	.35	.07	.02
23			0		404	79	15	.2	8.3	.35	.07	.02
24			0	(*)	394	75	*25	.1	8.3	.35	.07	.02
25			0		*349	74	28	0	6.2	.35	.07	.02
26			0		302	73	28	0	3.5	.35	.07	.01
27			0		224	73	28	0	3.5	.35	.04	0
28		(*)	0		214	71	25	0	3.5	.35	.02	0
29			0		-	50	22	0	3.5	.35	.02	0
30			0		-----	38	19	0	3.7	.35	.02	0
31			0		-----	56	-----	0	-----	.35	.03	-----
Total	0	0	0.5	0	18,315.2	3,820	993	108.3	54.3	26.65	4.43	0.62
Mean	0	0	0.02	0	654	123	33.1	3.49	1.81	0.860	0.143	0.021
Max	0	0	0.5	0	4,960	280	88	20	8.3	3.7	0.35	0.04
Min	0	0	0	0	0	38	15	0	0	0.35	0.02	0
Ac-ft	0	0	1.0	0	36,330	7,580	1,970	215	108	53	8.8	1.2

Calendar year 1961: Max 0.5 Min 0 Mean 0.001 Ac-ft 1.0

Water year 1961-62: Max 4,960 Min 0 Mean 63.9 Ac-ft 46,270

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

Note.--Discharge June 21-24, July 17 to Sept. 30 obtained from unpublished records for supplementary gage on outlet channel below dam.

11-1235. Santa Ynez River below Los Laureles Canyon, near Santa Ynez, Calif.

Location.--Lat 34°32'37", long 119°51'50", in San Marcos Grant, on left bank 0.3 mile downstream from Los Laureles Canyon Creek and 13.3 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--277 sq mi.

Records available.--April 1947 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 787.8 ft above mean sea level, datum of 1929.

Average discharge.--15 years, 38.1 cfs (27,580 acre-ft per year); median of yearly mean discharges, 2.7 cfs (2,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,200 cfs Feb. 11 (gage height, 10.00 ft); no flow Oct. 1 to Dec. 1, Dec. 3 to Feb. 7, June 3, June 5 to Sept. 30.

1947-62: Maximum discharge, 33,000 cfs Jan. 15, 1952 (gage height, 15.6 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of peak flow at station below Gibraltar Dam; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Jameson Lake and Gibraltar Reservoir (see pp. 226, 227). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Flow affected by intermittent local pumping for irrigation above station and from infiltration gallery in river bed at station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	375	67	31	0.3			
2	(*)		7.0		0	322	69	28	.2			
3			0		0	302	115	25	0			
4			0		0	252	97	23	.1			
5			* 0		0	216	77	22	* 0			
6			0		0	306	57	19	0			
7		(*)	0		0	470	59	15	0			
8			0	(*)	* 42	415	59	11	0			
9			0		1230	326	59	11	0			
10			0		* 4,240	269	59	* 7.8	0			(*)
11			0		* 8,910	240	* 58	7.3	0			
12			0		* 3,370	231	54	6.8	0			
13			0		1,560	204	52	6.0	0		(*)	
14			0		1,060	* 182	51	5.0	0			
15			0		1,510	172	49	4.6	0			
16			0		* 1,100	162	46	4.2	0			
17			0		740	160	38	3.6	0	(*)		
18			0		659	162	36	3.2	0			
19			0		2,050	148	35	2.8	0			
20			0		1,450	103	35	2.4	0			
21			* 0		1,190	* 101	33	* 2.0	0			
22			0		970	125	31	1.9	0			
23			0	(*)	842	119	31	1.6	0			
24			0		803	111	30	1.2	0			
25			0		719	103	* 35	1.2	0			
26			0		642	100	37	.8	0			
27			0		528	97	37	.5	0			
28		(*)	0		425	93	37	.5	0			
29			0		-	89	35	.3	0			
30			0		-----	* 57	34	.1	0			
31		-----	0		-----	60	-----	.3	-----			
Total	0	0	7.0	0	34,040	6,072	1,512	2,491	0.6	0	0	0
Mean	0	0	0.23	0	1,216	196	50.4	8.04	0.02	0	0	0
Max	0	0	7.0	0	8,910	470	115	31	0.3	0	0	0
Min	0	0	0	0	0	57	30	0.1	0	0	0	0
Ac-ft	0	0	14	0	67,520	12,040	3,000	494	1.2	0	0	0
Calendar year 1961:	Max	7.0	Min	0	Mean	0.03	Ac-ft	23				
Water year 1961-62:	Max	8,910	Min	0	Mean	115	Ac-ft	83,070				

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

## SANTA YNEZ RIVER BASIN

231

11-1245. Santa Cruz Creek near Santa Ynez, Calif.

Location.--Lat 34°35'48", long 119°54'28", in San Marcos Grant, on right bank 0.6 mile downstream from Pine Canyon and 9.9 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--73.9 sq mi (revised).

Records available.--October 1941 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 786.63 ft above mean sea level (levels by Bureau of Reclamation). Prior to Jan. 22, 1943, at site 1.9 miles downstream at different datum (destroyed by flood). Jan. 22, 1943, to Sept. 26, 1952, at site 1.7 miles downstream at different datum.

Average discharge.--21 years, 13.4 cfs (9,700 acre-ft per year); median of yearly mean discharges, 6.2 cfs (4,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,520 cfs Feb. 9 (gage height, 9.75 ft), from rating curve extended above 2,100 cfs; no flow Oct. 1 to Dec. 1, Dec. 5 to Jan. 19, Aug. 6 to Sept. 30.  
1941-62: Maximum discharge, that of Feb. 9, 1962; no flow at times in 1953-62.

Remarks.--Records good except those above 100 cfs, which are fair. No regulation or diversion.

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

Oct. 1 to Feb. 8

Feb. 8 to Sept. 30

3.2	0	3.6	6.3	2.8	0	3.2	3.0	3.9	47	6.0	690
3.3	.4	3.7	10	2.9	.2	3.3	5.3	4.2	84	7.0	1,260
3.4	1.5	3.8	16	3.0	.6	3.4	9.0	4.5	138	8.0	2,150
3.5	3.3			3.1	1.5	3.6	20	5.0	240		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	1.9	65	31	12	7.4	1.2	0.1	
2	(*)		16	0	1.6	60	30	11	7.0	* 1.0	.1	
3			11	0	1.3	58	* 30	11	6.6	.9	.1	
4			2.2	0	1.3	54	29	10	6.3	.7	.1	
5			* 0	0	1.2	52	26	9.8	6.3	.6	.1	
6			0	0	1.2	* 79	26	9.8	5.9	.4	0	
7		(*)	0	0	2.5	73	25	9.4	* 5.6	.3	0	
8			0	* 0	501	62	24	9.0	5.3	.3	0	
9			0	0	1360	58	23	9.4	4.8	.2	0	
10			0	0	1500	55	22	* 9.4	4.2	.2	0	(*)
11			0	0	* 1700	50	22	9.4	4.2	.2	0	
12			0	0	525	47	20	9.4	4.5	.2	0	
13			0	0	* 229	45	20	9.4	4.8	.2	* 0	
14			0	0	146	43	19	9.8	5.6	.1	0	
15			0	0	199	41	19	10	6.3	.1	0	
16			0	0	165	40	19	10	6.6	.1	0	
17			0	0	120	39	18	10	6.3	* .1	0	
18			0	0	100	38	17	9.4	5.0	.1	0	
19			0	0	268	37	17	9.4	* 3.6	.1	0	
20			0	.4	177	36	16	9.4	3.4	.1	0	
21			* 0	6.6	* 148	* 35	16	* 9.4	3.0	.1	0	
22			0	6.3	128	37	15	9.0	2.8	.1	0	
23			0	* 5.3	120	39	15	8.6	2.4	.1	0	
24			0	3.8	109	35	14	8.6	2.3	.2	0	
25			0	2.9	95	34	* 13	8.6	2.0	.2	0	
26			0	2.3	86	34	14	8.6	1.8	.2	0	
27			0	3.1	78	34	13	8.6	1.6	.2	0	
28		(*)	0	4.7	71	34	13	8.6	1.6	.1	0	
29			0	4.1	-	34	13	8.6	1.4	.1	0	
30			0	2.9	-----	33	12	8.2	1.3	.1	0	
31			0	2.3	-----	32	-----	7.8	-----	* .1	0	-----
Total	0	0	29.2	44.7	7836.0	1413	591	291.6	129.9	8.6	0.5	0
Mean	0	0	0.94	1.44	280	45.6	19.7	9.41	4.33	0.28	0.02	0
Max	0	0	16	6.6	1,700	79	31	12	7.4	1.2	0.1	0
Min	0	0	0	0	1.2	32	12	7.8	1.3	0.1	0	0
Ac-ft	0	0	58	89	15,540	2,800	1,170	578	258	17	1.0	0

Calendar year 1961: Max 16 Min 0 Mean 0.24 Ac-ft 177  
Water year 1961-62: Max 1,700 Min 0 Mean 28.3 Ac-ft 20,510

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2000	9.75	4,520	2-19	0130	5.57	458
2-15	0930	5.17	298				

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

## SANTA YNEZ RIVER BASIN

11-1250. Cachuma Creek near Santa Ynez, Calif.

Location---Lat 34°36'30", long 119°56'04", in Tequepis Grant, on right bank 3.2 miles downstream from Lazaro Canyon and 8.3 miles east of Santa Ynez, Santa Barbara County.

Drainage area---23.8 sq mi (revised).

Records available---October 1950 to September 1962 (discontinued).

Gage---Water-stage recorder. Datum of gage is 758.5 ft above mean sea level, datum of 1929. Prior to Aug. 13, 1953, at site 1.3 miles upstream at different datum.

Average discharge---12 years, 3.66 cfs (2,650 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes---Maximum discharge during year, 780 cfs Feb. 11 (gage height, 6.02 ft); no flow for much of year.

1950-62: Maximum discharge, 4,300 cfs Jan. 15, 1952 (gage height, 6.05 ft, site and datum then in use), from rating curve extended above 200 cfs; no flow for several months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20, Dec. 1, 2, Feb. 9-12, May 27 to July 2)

3.5	0	4.2	21
3.6	.2	4.3	33
3.7	.5	4.5	70
3.8	1.5	4.7	130
3.9	3.5	5.0	280
4.0	6.9	5.4	580
4.1	13.		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.2	0	0	13	6.0	2.4	0.9			
2	(*)		0	0	0	12	6.0	2.2	.8	(*)		
3			0	0	0	10	* 6.0	2.0	.7			
4			0	0	0	9.6	6.0	1.8	.7			
5			* 0	0	.1	9.0	5.6	1.6	.7			
6			0	0	.1	* 18	5.2	1.6	.7			
7		(*)	0	0	.4	18	5.2	1.6	* .7			
8			0	* 0	* 39	14	4.9	1.5	.8			
9			0	0	221	13	4.9	1.5	.7			
10			0	0	336	12	4.6	* 1.5	.7			(*)
11			0	0	* 555	12	4.3	1.5	.8			
12			0	0	201	11	4.0	1.5	.8			
13			0	0	* 62	9.6	4.0	1.5	.7			
14			0	0	33	9.0	3.8	1.5	.8		(*)	
15			0	0	70	9.0	3.8	1.5	.8			
16			0	0	51	8.4	3.8	1.5	.8			
17			0	0	36	7.9	3.5	1.5	.7	(*)		
18			0	0	31	7.9	3.5	1.5	.4			
19			0	0	129	7.4	3.2	1.4	* .3			
20			0	0	75	7.4	3.2	1.4	.2			
21			* 0	.1	* 51	* 7.4	3.2	* 1.2	.1			
22			0	.2	38	8.4	3.0	1.2	.1			
23			0	* .3	31	8.4	2.8	1.2	.1			
24			0	.2	27	7.9	2.8	1.1	.1			
25			0	.2	22	7.4	* 2.8	1.1	.1			
26			0	.1	20	6.9	2.8	1.0	.1			
27			0	.1	17	6.9	2.8	1.0	0			
28		(*)	0	0	15	6.9	2.6	1.0	0			
29			0	0	-	6.9	2.6	1.0	0			
30			0	0	-----	6.4	2.6	1.0	0			
31			0	0	-----	6.0	-----	1.0	-----			
Total	0	0	0.2	1.2	2060.6	297.7	119.5	44.3	14.3	0	0	0
Mean	0	0	0.006	0.04	73.6	9.60	3.98	1.43	0.48	0	0	0
Max	0	0	0.2	0.3	555	18	6.0	2.4	0.9	0	0	0
Min	0	0	0	0	0	6.0	2.6	1.0	0	0	0	0
Ac-ft	0	0	0.4	2.4	4,090	590	237	88	28	0	0	0

Calendar year 1961: Max 3.5 Min 0 Mean 0.12 Ac-ft 84

Water year 1961-62: Max 555 Min 0 Mean 6.95 Ac-ft 5,040

Peak discharge (base, 100 cfs)---Feb. 11 (1230) 780 cfs (6.02 ft); Feb. 19 (0600) 220 cfs (5.05 ft).

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

11-1255. Lake Cachuma near Santa Ynez, Calif.

Location.--Lat 34°34'57", long 119°58'47", at Cachuma Dam on Santa Ynez River, in Lomas de la Purification Grant, on upstream face near left end of dam, 6.1 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--417 sq mi.

Records available.--November 1952 to September 1962. Prior to October 1960, published as Cachuma Reservoir near Santa Ynez.

Gage.--Staff gage. Datum of gage is at mean sea level, datum of 1929 (Bureau of Reclamation bench mark).

Extremes.--Maximum contents during year, 206,056 acre-ft Mar. 18 (elevation, 750.38 ft); minimum, 129,268 acre-ft Feb. 6 (elevation, 721.75 ft).

1952-62: Maximum contents, 206,863 acre-ft Apr. 17, 1958 (elevation, 750.64 ft); minimum, since initial filling in April 1958, that of Feb. 6, 1962.

Remarks.--Reservoir is formed by earth-fill dam. Storage began November 1952. Area and capacity ratings for reservoir are based on surveys made in January 1953. Dead storage below outlet gate to river (elevation, 600 ft), 3,114 acre-ft. Capacity below sill of inlet to Tecolote Tunnel (elevation, 660 ft), 32,514 acre-ft; below spillway level (elevation, 720 ft), 125,292 acre-ft; below top of 4 radial gates (elevation, 750 ft), 204,874 acre-ft. Water is released from outlet to Santa Ynez River to satisfy downstream water rights, and from the inlet to Tecolote Tunnel for use by city of Santa Barbara and nearby communities. Figures given herein represent total contents.

Cooperation.--Reservoir elevations and releases through Tecolote Tunnel furnished by Bureau of Reclamation.

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

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Diversion through Tecolote tunnel (acre-feet)‡
Sept. 30.....	724.00	134,493	-	-
Oct. 31.....	722.69	131,436	-3,057	2,073
Nov. 30.....	722.12	130,118	-1,318	1,484
Dec. 31.....	722.20	130,302	+184	0
Calendar year 1961.....	-	-	-30,622	19,285
Jan. 31.....	721.85	129,497	-805	724
Feb. 28.....	750.20	205,496	+75,999	223
Mar. 31.....	750.15	205,341	-155	640
Apr. 30.....	750.16	205,372	+31	472
May 31.....	749.51	203,367	-2,005	1,290
June 30.....	748.56	200,458	-2,909	1,033
July 31.....	747.36	196,829	-3,629	1,352
Aug. 31.....	746.14	193,186	-3,643	1,395
Sept. 30.....	745.22	190,475	-2,711	1,236
Water year 1961-62.....	-	-	+55,982	11,922

† At 0845.

‡ Tecolote tunnel diverts water out of Santa Ynez River basin to Santa Barbara and nearby communities for domestic water supply and irrigation.

## SANTA YNEZ RIVER BASIN

11-1260. Santa Ynez River near Santa Ynez, Calif.

Location.--Lat 34°35'30", long 119°59'45", on boundary between Canada de los Pinos and Lomas de la Purification Grants on right bank, 1.1 miles downstream from Cachuma Dam and 5 miles southeast of Santa Ynez, Santa Barbara County.

Drainage area.--422 sq mi.

Records available.--December 1928 to September 1931, October 1932 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 552.9 ft, datum of 1929. Prior to Oct. 1, 1955, at site 2.1 miles downstream at different datum.

Extremes.--Maximum discharge during year, 845 cfs Feb. 25 (gage height, 4.45 ft); no flow for many days.

1928-31, 1932-62: Maximum discharge, 43,700 cfs Mar. 2, 1938 (gage height, 17.90 ft, site and datum then in use), from rating curve extended above float measurement of 34,100 cfs; no flow at times in some years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir and Lake Cachuma (see pp. 227, 228, 233). Water diverted out of basin from Jameson Lake and Gibraltar and Cachuma Reservoirs to cities of Montecito, Santa Barbara, and to the Santa Ynez valley for municipal supply. Some water pumped from wells along river banks for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.6	1.6	0.1	0	3 50	55	11	11	6.5	0	
2	* 0	.4	6.1	.1	.1	3 44	52	11	12	7.2	0	
3	0	.6	1.6	.1	.7	3 38	55	11	11	7.6	0	
4	0	.5	1.0	0	1.0	3 08	57	10	9.9	7.2	0	
5	0	.6	.7	0	1.1	2 42	71	9.9	8.7	* 6.8	0	
6	0	.7	.5	0	.8	2 63	102	9.1	8.3	6.5	0	
7	0	.6	.5	* 0	.9	3 38	120	8.7	* 7.1	6.5	0	
8	0	.5	* .5	0	9.4	* 4 12	127	9.1	8.0	6.2	0	
9	0	.5	.4	0	88	4 28	118	7.2	8.7	5.6	0	
10	0	.5	.4	0	54	4 12	* 96	5.3	9.1	1.9	.2	(*)
11	0	.4	.4	0	1 13	3 17	75	* 4.2	8.3	1.2	.6	
12	0	.1	.3	0	39	1 86	59	4.0	8.0	.8	1.2	
13	0	0	.3	0	14	1 27	47	4.4	6.8	.6	1.2	
14	0	0	.3	0	7.6	* 1 92	46	4.2	6.2	.5	.2	
15	0	0	.3	0	36	2 82	39	4.0	6.5	.5	0	
16	0	0	.3	0	20	1 50	40	4.0	8.7	.5	4.1	
17	0	0	.2	0	11	1 23	41	4.2	6.8	* .4	1.5	
18	0	0	.2	0	13	2 21	37	4.7	5.0	.2	.2	
19	0	0	.2	0	41	1 79	37	5.0	1.5	0	.1	
20	0	0	.2	0	18	1 80	25	5.3	* 1.0	0	.1	
21	0	0	.2	0	13	* 1 98	15	5.6	.7	.7	* 0	
22	0	* .2	* .2	0	11	1 98	14	9.3	.2	.8	0	
23	0	2.2	.2	0	* 11	2 08	13	19	.2	1.0	.1	
24	0	3.2	.1	* 0	* 6 77	2 08	12	21	.2	.2	.3	
25	0	4.5	.1	0	* 8 01	2 02	12	* 22	2.2	.1	.6	
26	* 0	4.5	.1	0	5 52	1 95	* 11	21	7.6	0	1.0	
27	1.5	* 4.2	.1	0	* 3 80	23	12	20	7.6	0	1.0	
28	2.4	3.0	.1	0	3 50	75	10	18	7.6	0	.2	
29	2.6	2.8	.1	0	-	2 08	10	14	8.0	* 0	1.9	
30	2.4	1.7	.1	0	-----	* 1 79	10	13	6.8	0	1.4	
31	1.0	-----	.1	0	-----	79	-----	12	-----	0	.1	-----
Total	9.9	32.3	17.4	0.3	32 63.6	71 65	14 18	3 11.2	19 3.7	69.5	16.0	0
Mean	0.32	1.08	0.56	0.01	117	231	47.3	10.0	6.46	2.24	0.52	0
Max	2.6	4.5	6.1	0.1	801	428	127	22	12	7.6	4.1	0
Min	0	0	0.1	0	0	23	10	4.0	0.2	0	0	0
Ac-ft	20	64	35	0.6	6,470	14,210	2,810	617	384	138	32	0

Calendar year 1961: Max 16 Min 0 Mean 1.06 Ac-ft 767  
 Water year 1961-62: Max 801 Min 0 Mean 34.2 Ac-ft 24,780

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



## SANTA YNEZ RIVER BASIN

235

11-1265. Santa Agueda Creek near Santa Ynez, Calif.

Location.--Lat 34°35'40", long 120°01'30", in Canada de los Pinos Grant, on left downstream wingwall of highway bridge, 0.8 mile upstream from mouth and 3.5 miles southeast of Santa Ynez, Santa Barbara County.

Drainage area.--55.8 sq mi (revised).

Records available.--October 1940 to September 1962. Monthly discharge only for January 1941 and yearly estimate for water year 1941 (incomplete) published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 520 ft (from topographic map). Prior to Oct. 1, 1955, at datum 1.0 ft higher.

Average discharge.--22 years, 3.67 cfs (2,660 acre-ft per year); median of yearly mean discharges, 1.0 cfs (720 acre-ft per year).

Extremes.--Maximum discharge during year, 2,470 cfs Feb. 9 (gage height, 4.88 ft); no flow Oct. 1-28, Jan. 29 to Feb. 6, July 5 to Sept. 30.

1940-62: Maximum discharge, 5,760 cfs Feb. 19, 1958 (gage height, 6.14 ft), from rating curve extended above 2,000 cfs; no flow at times in most years.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0.1	0.1	0	0.9	0.4	0.6	0.3	0.2		
2	* 0	.1	.4	.1	0	.9	.4	.6	.3	* .1		
3	0	.1	.2	.1	0	.8	.4	.6	.3	.1		
4	0	.1	.2	.1	0	.8	.4	.6	.3	.1		
5	0	.1	* .2	.1	0	.9	* .4	.5	.2	0		
6	0	.1	.2	.1	0	1.7	.4	.5	.2	0		
7	0	.1	.2	.1	.1	.9	.4	.4	* .1	0		
8	0	.1	.2	.1	* .48	.5	.4	.4	.1	0		
9	0	.1	.2	* .1	4 28	.5	.4	.4	.2	0		
10	0	.1	.2	.1	* 3 56	.5	.4	.4	.2	0		(*)
11	0	.1	.2	.1	* 5 69	.5	.4	* .4	.2	0		
12	0	.1	.2	.1	.50	.5	.4	.4	.3	0		
13	0	.1	.2	.1	* .16	.5	.4	.3	.4	0	(*)	
14	0	.1	.2	.1	7.3	* .5	.4	.3	.6	0		
15	0	.1	.1	.1	* .59	.5	.4	.3	.4	0		
16	0	.1	.1	.1	.58	.5	.4	.3	.4	0		
17	0	.1	.1	.1	* 6.1	.5	.4	.3	.6	* 0		
18	0	.1	.1	.1	8.0	.5	.4	.2	.5	0		
19	0	.1	.1	.1	183	.5	.4	.2	.4	0		
20	0	.2	.1	.1	* 50	.5	.4	.2	* .6	0		
21	0	.1	.1	.1	* 21	.5	.4	.2	.6	0		
22	0	* .1	* .1	.1	15	.5	.4	.2	.6	0		
23	0	.1	.1	* .1	10	* .5	.4	.2	.8	0		
24	0	.1	.1	.1	7.2	.5	.4	.2	.4	0		
25	0	.1	.1	.1	5.1	.5	* .5	* .3	.4	0		
26	* 0	.1	.1	.1	3.0	.5	.5	.3	.4	0		
27	0	.1	.1	.1	2.0	.5	.4	.3	.4	0		
28	0	* .1	.1	.1	* .9	.5	.6	.3	.4	0		
29	.1	.1	.1	0	-	.4	.6	.3	.4	0		
30	.1	.1	.1	0	-----	.4	.6	.3	.3	* 0		
31	.1	-----	.1	0	-----	.4	-----	.3	-----	0		-----
Total	0.3	3.1	4.6	2.8	1.902.7	18.6	12.8	10.8	11.3	0.5	0	0
Mean	0.01	0.10	0.15	0.09	68.0	0.60	0.43	0.35	0.38	0.02	0	0
Max	0.1	0.2	0.4	0.1	569	1.7	0.6	0.6	0.8	0.2	0	0
Min	0	0.1	0.1	0	0	0.4	0.4	0.2	0.1	0	0	0
Ac-ft	0.6	6.1	9.1	5.6	3,770	37	25	21	22	1.0	0	0

Calendar year 1961: Max 8.6 Min 0 Mean 0.06 Ac-ft 42  
 Water year 1961-62: Max 569 Min 0 Mean 5.39 Ac-ft 3,900

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1800	4.88	2,470	2-19	0100	3.01	487
2-15	0700	2.45	205				

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

Note.--No gage-height record Nov. 4-21, Feb. 12, 18.

11-1280. Santa Ynez River at Grand Avenue, near Santa Ynez, Calif.

Location.--Lat 34°35'06", long 120°06'00", in Canada de los Pinos Grant, on downstream side of first pier from right bank of highway bridge, 0.2 mile downstream from Zanja de Cota Creek, and 2.2 miles southwest of Santa Ynez, Santa Barbara County.

Drainage area.--513 sq mi.

Records available.--October 1954 to September 1962.

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

Extremes.--Maximum discharge during year, 2,240 cfs Feb. 9 (gage height, 7.38 ft); no flow for many days.  
1954-62: Maximum discharge, about 6,000 cfs Mar. 21, 1958; no flow at times in most years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir and Lake Cachuma (see pp. 227, 228, 233). Water diverted out of basin from Jameson Lake and Gibraltar and Cachuma Reservoirs to cities of Montecito, Santa Barbara and Goleta for municipal supply. Some water for irrigation pumped from wells along banks of river in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.1	0.9	1.6	3 65	72	17	7.6	1.4	0	0
2	(*)	0	4.1	1.0	1.6	3 61	67	17	7.6	1.2	1.2	0
3		0	2.3	1.0	1.9	3 53	69	17	7.6	* 7	0	0
4		0	1.7	1.0	1.6	3 29	69	17	7.6	1.2	0	0
5		0	1.4	1.0	1.6	2 84	* 76	15	6.6	.9	0	0
6		0	1.2	1.0	1.7	2 84	94	13	6.6	.4	0	0
7		0	1.2	1.1	2.7	3 45	101	13	* 6.6	.6	0	0
8		0	* 1.5	1.2	3.6	3 73	109	9.8	5.7	.3	.1	0
9		0	1.3	* 1.3	3 88	3 97	107	* 8.1	6.1	.1	.1	.2
10		0	1.0	1.3	* 7 59	3 93	103	7.6	6.1	.3	1.0	* 0
11		0	.9	1.3	* 1 320	3 33	80	7.1	6.6	.4	.6	0
12		0	1.2	1.5	3 88	2 51	67	6.6	5.7	.8	1.3	0
13		0	.8	1.5	1 33	1 50	58	6.6	5.7	1.3	1.8	0
14		0	1.0	1.5	7 4	* 2 18	53	7.1	5.7	1.3	2.8	0
15		0	.8	1.9	* 2 27	2 79	51	6.6	5.7	1.3	.6	.2
16		0	.8	1.8	1 67	1 88	48	6.6	5.7	1.8	0	0
17		0	.8	1.7	* 65	1 55	48	6.6	5.7	1.5	0	0
18		0	1.1	1.5	5 4	2 00	46	7.1	5.3	* 2.5	0	0
19		0	.9	1.3	4 92	1 64	46	6.6	4.5	1.8	0	0
20		.3	.8	2.3	1 52	1 64	39	7.6	* 3.7	1.4	0	0
21		0	.8	2.5	* 98	1 76	28	6.6	2.0	.1	* 0	0
22		* 0	* .6	2.5	70	1 76	24	8.1	1.2	.8	0	0
23		0	.9	* 2.2	5 4	* 1 82	21	10	.6	.6	0	0
24		0	.9	2.1	5 18	1 82	20	10	1.5	.1	0	0
25		.2	.9	1.9	7 20	1 79	* 21	* 1.6	1.2	.1	0	0
26	(*)	.2	.9	1.8	5 44	1 86	19	17	.6	.1	0	0
27		.2	1.1	1.8	3 91	56	19	16	.2	.1	0	0
28		.1	.9	1.7	* 3 73	58	19	13	.3	.6	0	0
29		.4	1.0	1.6	-	1 64	17	9.8	.3	.5	0	.8
30		.3	1.0	1.6	-----	1 58	17	8.1	.1	1.5	0	0
31		-----	.9	1.6	-----	9 8	-----	7.6	-----	* 0	0	-----
Total	0	1.7	35.8	48.4	7 003.3	7 201	1 608	3 25.2	1 30.4	25.7	9.5	1.2
Mean	0	0.06	1.15	1.56	250	232	53.6	10.5	4.35	0.83	0.31	0.04
Max	0	0.4	4.1	2.5	1,320	397	109	17	7.6	2.5	2.8	0.8
Min	0	0	0.6	0.9	1.6	56	17	6.6	0.1	0	0	0
Ac-ft	0	3.4	71	96	13,890	14,280	3,190	645	259	51	19	2.4

Calendar year 1961: Max 6.9 Min 0 Mean 0.82 Ac-ft 595  
Water year 1961-62: Max 1,320 Min 0 Mean 44.9 Ac-ft 32,510

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

## SANTA YNEZ RIVER BASIN

237

11-1284. Alisal Creek near Solvang, Calif.

Location.--Lat 34°34'55", long 120°08'40", in Nojoqui Grant, on right bank at footbridge, 0.3 mile upstream from mouth and 1.1 miles southwest of Solvang, Santa Barbara County.

Drainage area.--11.5 sq mi.

Records available.---October 1954 to September 1955, October 1955 to September 1956 (monthly discharge only), October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map). Prior to Dec. 25, 1955, at site 50 ft upstream at different datum (destroyed by flood). Oct. 1, 1956, to Jan. 23, 1961, at datum 1.0 ft higher.

Average discharge.--8 years, 6.34 cfs (4,590 acre-ft per year).

Extremes.--Maximum discharge during year, 2,960 cfs Feb. 9 (gage height, 8.15 ft), from rating curve extended above 1,000 cfs; no flow for several months.

1954-62: Maximum discharge, that of Feb. 9, 1962; no flow for several months in each year.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion. At times waste irrigation water pumped from Santa Ynez River causes minor flow.

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

Oct. 1 to Feb. 19					Feb. 20 to Sept. 30				
1.5	0	2.0	6.8	3.0	115	1.8	0	2.3	9.2
1.6	.3	2.1	11	3.5	250	1.9	.2	2.5	25
1.7	.9	2.4	29	4.0	420	2.0	.9	2.8	65
1.8	2.2	2.7	62	5.0	840	2.1	2.4	3.2	145
1.9	4.0					2.2	5.0		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.4	0	1.4	21	5.8	1.8	0.3	0.1		
2	(*)	0	* 2.4	0	1.1	20	* 5.8	1.6	.3	.1		
3		0	* 1.2	0	1.0	18	5.4	1.5	.3	* .1		
4		0	4.1	0	1.0	16	5.0	1.4	.3	.1		
5		0	* 2.0	0	.9	18	5.0	1.3	* .3	.1		
6		0	1.0	0	.9	48	4.4	1.2	.3	.1		
7		0	.6	0	3.5	23	4.1	1.1	.3	.1		
8		0	.4	0	* 1.33	* 20	4.1	1.0	.2	0		
9		0	.2	* 0	839	19	3.8	* .9	.2	0		
10		0	.1	0	* 472	16	* 3.8	.9	.2	0		
11		0	* .1	0	* 674	15	3.5	.9	.2	0		
12		0	0	0	265	15	3.2	.9	.2	0		
13		0	0	0	150	13	3.2	.8	.2	0		
14		0	0	0	60	* 12	3.0	.8	.2	0		
15		0	0	0	* 638	12	3.0	.8	.2	0		
16		0	0	0	188	11	3.0	.8	.1	0		
17		0	0	0	80	9.9	2.8	.7	.1	0		
18		0	0	0	187	9.2	2.6	.7	* .1	* 0		
19		0	0	0	* 378	9.2	2.6	.6	.1	0		
20		1.8	0	7.2	* 145	8.8	2.6	.6	.1	0		
21		0	0	* 3.0	104	8.4	2.6	.6	.1	0	(*)	
22		* 0	* 0	5.5	72	7.9	2.4	.6	.1	0		
23		0	0	* 6.8	58	* 7.9	2.2	.5	.1	0		
24		0	0	5.1	* 46	7.5	2.2	.5	.1	0		
25		0	0	* 4.0	38	7.1	* 2.2	* .4	.1	0		
26	(*)	0	0	3.2	35	7.1	2.2	.4	.1	0		
27		0	0	2.6	28	6.7	2.2	.4	.1	0		
28		0	0	2.3	* 24	6.7	2.2	.4	.1	0		
29		0	0	2.0	-	6.7	2.2	.4	.1	0		
30		0	0	1.7	-----	6.3	2.0	.4	.1	0		
31		-----	0	1.6	-----	5.8	-----	.3	-----	0	-----	-----
Total	0	1.8	278.5	45.0	4623.8	412.2	99.1	25.2	5.2	0.7	0	0
Mean	0	0.06	8.98	1.45	165	13.3	3.30	0.81	0.17	0.02	0	0
Max	0	1.8	224	7.2	839	48	5.8	1.8	0.3	0.1	0	0
Min	0	0	0	0	0.9	5.8	2.0	0.3	0.1	0	0	0
Ac-ft	0	3.6	552	89	9,170	818	197	50	10	1.4	0	0

Calendar year 1961: Max 224 Min 0 Mean 0.89 Ac-ft 641  
 Water year 1961-62: Max 839 Min 0 Mean 15.0 Ac-ft 10,890

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0200	6.30	1,480	2-18	2330	6.15	1,400
2- 9	1600	8.15	2,500	3- 6	0100	3.11	122
2-15	0400	6.86	1,760				

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

Note.--No gage height record Apr. 30 to June 4.

## SANTA YNEZ RIVER BASIN

11-1285. Santa Ynez River at Solvang, Calif.

Location.--Lat 34°35'05", long 120°08'35", in San Carlos de Jonata Grant, on downstream side of right abutment of Mission Bridge, 25 ft downstream from Alisal Creek and 0.9 mile south of Solvang, Santa Barbara County.

Drainage area.--579 sq mi.

Records available.--October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Various datums used during period of record. July 29 to Sept. 30, 1953, auxiliary water-stage recorder 750 ft upstream at different datum. Oct. 1, 1953, to Jan. 26, 1955, water-stage recorder on center bridge pier at same datum.

Extremes.--Maximum discharge during year, 3,600 cfs Feb. 11 (gage height, 7.20 ft); no flow for many days.

1928-36, 1946-62: Maximum discharge, 37,000 cfs Jan. 15, 1952 (gage height, 14.80 ft, datum then in use), from rating curve extended above 10,000 cfs; no flow for several months in many years.

Remarks.--Records good. Discharge measurements made two or more times a month. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-3,233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water for irrigation pumped from wells along banks of river in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.1	0	3.7	425	84	12	8.9			
2		0	182	0	3.3	420	78	10	8.1			
3		0	12	0	3.5	415	75	9.7	8.5			
4		0	3.0	0	3.9	390	75	9.7	9.7			
5		0	.4	0	3.5	345	84	8.9	9.3			
6		0	0	0	3.5	370	103	8.5	9.7			
7		0	0	0	6.9	410	118	8.5	8.5			
8		0	0	0	99	435	130	8.5	6.6			
9		0	0	0	1320	450	130	8.5	6.3			
10		0	0	0	1530	450	116	8.1	8.1			
11		0	0	0	2410	390	103	9.3	8.1			
12		0	0	0	761	284	82	10	8.1			
13		0	0	0	232	188	70	12	8.1			
14		0	0	0	149	240	61	12	8.1			
15		0	0	0	1210	280	58	12	7.7			
16		0	0	0	407	213	55	12	6.9			
17		0	0	0	192	176	51	12	8.5			
18		0	0	0	309	221	48	12	8.5			
19		0	0	0	1070	215	47	12	6.9			
20		.5	0	2.4	199	210	41	12	5.1			
21		0	0	1.4	276	224	32	12	3.1			
22		0	0	3.5	199	220	27	10	1.1			
23		0	0	6.0	161	228	26	9.7	.2			
24		0	0	6.0	607	228	23	11	.3			
25		.1	0	5.1	854	228	22	11	1.4			
26		0	0	4.6	664	236	18	13	.1			
27		0	0	4.4	474	109	17	14	0			
28		0	0	4.4	440	93	17	14	0			
29		0	0	4.1	-	182	15	12	0			
30		0	0	3.7	-----	188	13	9.7	0			
31		-----	0	3.7	-----	118	-----	9.3	-----			
Total	0	0.6	203.5	49.3	13591.3	8581	1819	333.4	165.9	0	0	0
Mean	0	0.02	6.56	1.59	485	277	60.6	10.8	5.53	0	0	0
Max	0	0.5	182	6.0	2,410	450	130	14	9.7	0	0	0
Min	0	0	0	0	3.3	93	13	8.1	0	0	0	0
Ac-ft	0	1.2	404	98	26,960	17,020	3,610	661	329	0	0	0

Calendar year 1961: Max 182 Min 0 Mean 1.29 Ac-ft 935  
 Water year 1961-62: Max 2,410 Min 0 Mean 67.8 Ac-ft 49,080

## SANTA YNEZ RIVER BASIN

239

11-1300. Zaca Creek at Buellton, Calif.

Location.--Lat 34°36'50", long 120°11'30", in San Carlos de Jonata Grant, on right bank upstream from culvert on State Highway 150 in Buellton, Santa Barbara County, 1 mile upstream from mouth.

Drainage area.--39.4 sq mi (revised).

Records available.--January 1941 to September 1962. Prior to October 1960, published as La Zaca Creek at Buellton.

Gage.--Water-stage recorder. Altitude of gage is 340 ft (from topographic map). Prior to Nov. 10, 1959, at site 11 ft downstream at same datum.

Average discharge.--21 years, 0.47 cfs (340 acre-ft per year); median of yearly mean discharges, 0.03 cfs (22 acre-ft per year).

Extremes.--Maximum discharge during year, 560 cfs Feb. 11 (gage height, 5.65 ft), from rating curve extended above 200 cfs; no flow for most of year.

1941-62: Maximum discharge, 874 cfs Mar. 3, 1941, from rating curve extended above 300 cfs on basis of velocity-area study; maximum gage height, 6.80 ft Mar. 4, 1941; no flow for most of each year.

Remarks.--Records good. Waste water from large cafe nearby not included in these records when there is no natural flow.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.2	0	0	1.0						
2	(*)	0	.6	0	0	.8						
3		0	0	0	0	.2						
4		0	0	0	0	0						
5		0	0	0	0	.4			(*)			
6		0	0	0	0	6.6						
7		0	0	0	*.2	1.0						
8		0	0	*0	.4	.2						
9		0	0	0	*.41	.1						
10		0	0	0	*1.64	.1	(*)					
11		0	0	0	3.58	0						
12		0	0	0	*1.38	0						
13		0	0	0	.25	0						
14		0	0	0	.10	0						
15		0	0	0	*.32	0						
16		0	0	0	.32	0						
17		0	0	0	2.1	0						
18		0	0	0	.33	0				(*)		
19		0	0	0	*1.03	0						
20		*.1	0	*.4	*.36	0						
21		0	0	0	.16	0					(*)	
22		0	*0	0	.12	.3						
23		0	0	*0	*9.0	*.2		(*)				
24		*0	0	0	7.6	0						
25		*.1	0	0	4.2	0	(*)					
26	(*)	0	0	0	7.5	0						
27		0	0	0	*1.9	0						
28		0	0	0	1.2	0						
29		0	0	0	-	0						
30		0	0	0	-----	0						
31		-----	0	0	-----	0	-----					-----
Total	0	0.2	2.0	0.4	1034.1	10.9	0	0	0	0	0	0
Mean	0	0.007	0.06	0.01	36.9	0.35	0	0	0	0	0	0
Max	0	0.1	1.2	0.4	358	6.6	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0.4	4.0	0.8	2,050	22	0	0	0	0	0	0

Calendar year 1961: Max 1.2 Min 0 Mean 0.007 Ac-ft 5.0

Water year 1961-62: Max 358 Min 0 Mean 2.87 Ac-ft 2,080

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0030	2.69	11	2-16	0100	3.38	99
2- 9	1900	4.85	320	2-18	2300	5.15	392
2-11	2000	5.65	560	3- 6	1500	2.78	17

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

## SANTA YNEZ RIVER BASIN

11-1305. Santa Ynez River near Buellton, Calif.

Location.--Lat 34°36'50", long 120°14'30", in Santa Rosa Grant, on left bank 0.5 mile downstream from Canada de los Palos Blancos and 3 miles west of Buellton, Santa Barbara County.

Drainage area.--668 sq mi.

Records available.--June 1948 to September 1952 (irrigation seasons only); October 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map). Prior to Apr. 25, 1950, at same site at different datum. Apr. 25, 1950, to Sept. 22, 1957, at site 200 ft upstream at datum 3 ft higher. Sept. 23, 1957, to Mar. 28, 1962, at site 200 ft upstream at datum 1 ft higher.

Extremes.--Maximum discharge during year, 5,500 cfs (estimated) Feb. 11 (gage height, 7.91 ft, from floodmark); no flow Oct. 1 to Dec. 1, Aug. 26 to Sept. 30.

1952-62: Maximum discharge, 10,600 cfs Mar. 22, 1958 (gage height, 10.10 ft), from rating curve extended above 400 cfs on basis of peak flows for station at Buellton; no flow for many days in each year.

Remarks.--Records good except those for Feb. 8 to Mar. 28, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp. 227-8, 233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

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

Discharge, in cubic feet per second, water year October 1961 to September 1962													
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1			0	0.4	0.7	e 4 50	108	17	3.2	1.1	0.6		
2	(*)		* 2 42	.4	.7	e 4 20	* 94	17	3.2	1.1	.6		
3			* 5.0	.4	.8	e 4 10	88	17	3.6	* 1.1	.6		
4			.3	.4	.8	e 3 80	86	* 16	3.4	1.0	.6		
5			.2	.4	.8	e 3 50	92	14	3.8	1.1	.6		
6			.1	.4	.8	e 4 50	108	12	* 3.4	1.1	.6		
7			.1	.4	.9	e 4 50	135	10	* 3.6	1.0	.6		
8			.1	* .5	a 100	e 4 20	149	8.2	3.0	1.0	.6		
9			.1	.5	a 1000	e 4 80	149	* 6.8	3.0	1.0	.6		
10			.1	.5	a 2000	e 4 80	* 125	5.6	3.4	1.0	.6		
11			.1	.5	a 4000	e 4 50	106	4.0	4.3	1.0	.7		
12			.1	.5	a 1500	e 300	88	3.8	4.0	1.0	.7		
13			.1	.6	a 400	e 2 50	75	3.6	3.4	1.0	.7		
14			.1	.6	a 200	* e 2 60	68	3.4	3.6	1.0	.6		
15			.1	.6	a 1500	e 3 60	64	3.2	3.6	1.0	.6		
16			.1	.6	a 700	e 300	62	2.8	3.6	1.0	* .5		
17			.1	.6	* a 300	e 2 50	61	2.6	3.6	1.0	.5		
18			.1	.6	a 300	e 2 50	56	2.6	4.0	* 1.0	.3		
19			.1	.7	a 2000	e 2 70	55	2.6	3.8	1.0	.2		
20			.2	.8	a 750	e 2 50	52	2.4	* 2.8	.8	.3		
21			.2	.7	a 400	e 2 80	45	2.2	2.4	.7	.4		
22			* .2	.7	a 250	* e 2 60	40	2.0	2.0	.7	.4		
23			.2	* .7	* a 230	e 300	37	1.8	1.8	.6	.4		
24		(*)	.2	.7	a 600	e 300	* 31	* 1.8	1.6	.4	.3		
25			.2	.6	e 1000	e 300	29	1.9	1.6	.4	.2		
26	(*)		.2	.6	e 800	e 2 50	26	2.0	1.6	.4	0		
27			.2	.7	e 600	a 200	24	2.4	1.8	.4	* 0		
28			.2	.7	e 500	a 1 60	22	3.0	1.6	.4	0		
29			.3	.7	-	2 11	20	3.0	1.5	.4	0		
30			.4	.7	-----	2 25	19	3.0	1.4	* .4	0		
31			.4	.7	-----	1 59	-----	3.2	-----	.6	0	-----	
Total	0	0	251.8	17.9	19.1	35.5	9.875	2.114	180.9	87.6	25.7	12.8	0
Mean	0	0	8.12	0.58	683	319	70.5	5.84	2.92	0.83	0.41	0	0
Max	0	0	242	0.8	4,000	480	149	17	4.3	1.1	0.7	0	0
Min	0	0	0	0.4	0.7	159	19	1.8	1.4	0.4	0	0	0
Ac-ft	0	0	499	36	37,950	19,590	4,190	359	174	51	25	0	0

Calendar year 1961: Max 242 Min 0 Mean 0.96 Ac-ft 692  
 Water year 1961-62: Max 4,000 Min 0 Mean 86.9 Ac-ft 62,870

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

a No gage-height record.

e Stage-discharge relation indefinite.

11-1310. Santa Ynez River at Santa Rosa damsite, near Buellton, Calif.

Location.--Lat  $34^{\circ}36'35''$ , long  $120^{\circ}18'20''$ , in Santa Rosa Grant, on left bank 1.1 miles downstream from Santa Rosa Creek and  $6\frac{1}{2}$  miles west of Buellton, Santa Barbara County.

Drainage area.--700 sq mi (revised).

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Oct. 1, 1957, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, 5,920 cfs Feb. 11 (gage height, 9.45 ft); no flow Oct. 1 to Dec. 1, Dec. 4 to Feb. 7, July 12 to Sept. 30.

1954-62: Maximum discharge, about 7,500 cfs Mar. 22, 1958 (gage height, 9.09 ft), from rating curve extended above 400 cfs on basis of peak discharge for station at Buellton; no flow for several months in each year.

Remarks.--Records good except those above 300 cfs, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp. 227-8, 233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 17, 18)

Oct. 1 to Feb. 18						Feb. 19 to Sept. 30					
1.4	0	2.2	31	4.0	480	2.1	0	2.7	12	4.0	270
1.5	.2	2.5	62	5.0	1,070	2.2	.1	2.9	26	4.5	520
1.6	2.2	2.9	127	6.0	1,970	2.3	.8	3.2	59	5.0	880
1.8	8.1	3.5	290	7.7	4,400	2.4	2.4	3.5	115	6.0	1,800
2.0	17					2.5	4.8				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	400	142	18	4.0	1.2		
2	(*)		* 37		0	400	125	17	3.2	1.0		
3			* 4		0	405	* 120	16	3.2	* 1.0		
4			0		0	390	120	16	3.2	1.0		
5			0		0	335	118	14	3.2	.9		
6			0		0	466	125	14	2.6	.9		
7			0		0	450	150	12	* 2.4	.8		
8			0	(*)	10	478	158	11	1.6	.7		
9			0		1,180	520	158	10	1.6	.7		
10			0		2,210	514	* 140	* 9.4	1.6	.4		
11			0		a 4,400	466	125	8.6	1.6	.1		
12			0		a 1,800	340	109	7.4	1.6	0		
13			0		a 500	195	94	7.0	2.4	0		
14			0		a 250	* 278	86	6.6	2.4	0		
15			0		a 1,800	335	81	6.0	2.4	0		
16			0		a 900	290	77	5.7	2.4	0		
17			0		* 346	226	73	4.8	2.6	0		
18			0		313	254	69	4.2	2.6	* 0		
19			0		1,790	302	67	3.5	2.6	0		
20			0		728	242	64	3.0	* 2.4	0		
21			* 0		415	242	55	2.4	1.9	0	(*)	
22			0		212	266	49	2.2	1.2	0		
23			0	(*)	150	* 274	43	2.1	.8	0		
24		(*)	0		486	274	* 36	* 1.9	.8	0		
25			0		936	270	31	1.6	.9	0		
26	(*)		0		776	266	28	1.7	.7	0		
27			0		484	177	24	1.9	.6	0		
28			0		410	111	23	2.1	1.2	0		
29			0		-	206	21	2.8	1.2	0		
30			0		-----	262	20	4.0	1.2	0		
31			0		-----	186	-----	4.2	-----	0		
Total	0	0	37.4	0	20,096	9,820	2,531	2,211	60.1	8.7	0	0
Mean	0	0	1.21	0	718	317	84.4	7.13	2.00	0.28	0	0
Max	0	0	37	0	4,400	520	158	18	4.0	1.2	0	0
Min	0	0	0	0	0	111	20	1.6	0.6	0	0	0
Ac-ft	0	0	74	0	39,860	19,480	5,020	439	119	17	0	0

Calendar year 1961: Max 37 Min 0 Mean 0.23 Ac-ft 168  
Water year 1961-62: Max 4,400 Min 0 Mean 89.8 Ac-ft 65,010

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SANTA YNEZ RIVER BASIN

11-1315. Santa Ynez River at Cooper's Reef, near Lompoc, Calif.

Location.--Lat  $34^{\circ}36'48''$ , long  $120^{\circ}21'20''$ , near boundary of Canada de Salsipuedes Grant, on right bank 0.6 mile upstream from Canada de la Vina and 6 miles east of Lompoc, Santa Barbara County.

Drainage area.--708 sq mi.

Records available.--October 1954 to September 1962.

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

Extremes.--Maximum discharge during year, 6,020 cfs Feb. 11 (gage height, 8.75 ft); no flow Oct. 1 to Dec. 1, Dec. 5 to Jan. 19. 1954-62: Maximum discharge, 6,260 cfs Mar. 22, 1958 (gage height, 8.44 ft); maximum stage, that of Feb. 11, 1962; no flow for several months in some years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-8, 233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20-30, Dec. 14 to Jan. 20, Feb. 9-13,  
Feb. 24 to Mar. 1, Mar. 10 to Apr. 26, May 21-23, Sept. 7-30)

1.3	0	1.8	6.2	2.7	175
1.4	.1	1.9	11	3.0	330
1.5	.5	2.0	17	4.0	1,110
1.6	1.4	2.2	37	6.0	3,140
1.7	3.2	2.4	76	7.4	4,910

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.1	4 70	1 33	19	2.4	0.7	0.3	0.1
2	(*)		0	0	.1	4 35	1 20	19	2.6	.7	.3	.1
3			.1	0	.1	4 07	* 1 10	18	2.6	.6	.3	.1
4			.1	0	.1	3 79	1 10	16	2.4	.6	.3	.1
5			0	0	.2	3 51	1 13	15	2.2	* .7	.3	.1
6			0	0	.2	4 63	1 16	13	* 2.6	.7	.3	.1
7			0	0	.2	4 49	1 23	12	2.4	.7	.2	.1
8			* 0	* 0	.4	* 4 56	1 36	11	2.0	.7	.2	.1
9			0	0	9 79	5 10	1 44	9.8	2.0	.6	.2	.1
10			0	0	* 2.4 30	5 10	* 1 36	* 9.4	2.2	.6	.2	.1
11			0	0	4.7 90	4 86	1 29	8.4	1.8	.6	.2	* .2
12			0	0	* 2.1 60	3 18	1 23	8.0	1.8	.5	.2	.2
13			0	0	4 78	2 45	1 16	6.6	1.8	.4	.2	.2
14			0	0	2 60	* 3 00	1 06	6.2	2.0	.4	.2	.2
15			0	0	2.1 10	3 30	98	5.1	2.2	.4	.2	.2
16			0	0	9 40	3 65	92	4.5	2.2	.4	* .2	.2
17			0	0	* 4 00	2 76	81	3.9	2.2	.4	.2	.2
18			0	0	3 46	2 76	74	3.4	2.4	* .4	.2	.2
19			0	0	2.4 80	3 24	72	2.8	* 1.7	.4	.2	.2
20			0	.1	9 50	3 12	65	2.6	1.6	.4	.2	.2
21			* 0	.1	5 74	3 00	54	2.6	1.6	.4	.2	.1
22			0	.2	3 30	3 16	46	2.6	1.3	.4	.2	.1
23			0	* .2	2 70	* 3 37	42	* 2.5	1.3	.3	.1	.1
24		(*)	0	.1	6 15	3 24	* 3 6	2.2	.9	.3	.1	.1
25			0	.1	1.2 50	3 12	34	2.0	.9	.3	.1	.1
26	(*)		0	.1	1.1 00	3 00	31	2.0	1.0	.3	.1	.1
27			0	.1	6 70	2 25	28	2.2	1.0	.3	* .1	.1
28			0	.1	* 5 10	1 56	26	2.4	.9	.3	.1	.1
29			0	.1	-	2 06	23	2.4	.8	.3	.1	.1
30			0	.1	-----	2 55	21	2.4	.7	* .3	.1	.1
31			0	.1	-----	1 93	-----	2.4	-----	.3	.1	-----
Total	0	0	0.3	1.4	2 3.6 4 3.4	10.5 86	2.5 38	2 19.4	53.5	14.4	5.9	4.0
Mean	0	0	0.01	0.05	844	341	84.6	7.08	1.78	0.46	0.19	0.13
Max	0	0	0.1	0.2	4,790	510	144	19	2.6	0.7	0.3	0.2
Min	0	0	0	0	0.1	156	21	2.0	0.7	0.3	0.1	0.1
Ac-ft	0	0	0.6	2.8	46,900	21,000	5,030	435	106	29	12	7.9

Calendar year 1961: Max 0.6 Min 0 Mean 0.10 Ac-ft 74  
Water year 1961-62: Max 4,790 Min 0 Mean 102 Ac-ft 73,520

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



11-1320. Santa Ynez River below Santa Rita Creek, near Lompoc, Calif.

Location.--Lat 34°38'00", long 120°23'30", on boundary of Santa Rita Grant, on right bank at white shale outcrop, half a mile downstream from Santa Rita Creek, and 3-3/4 miles east of Lompoc, Santa Barbara County.

Drainage area.--733 sq mi (revised).

Records available.--October 1954 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map).

Extremes.--Maximum discharge during year, about 5,500 cfs Feb. 11, estimated on basis of maximum discharge for station at Cooper's Reef; no flow Oct. 1 to Feb. 8.

1954-62: Maximum discharge, about 6,000 cfs Mar. 22, 1958, on basis of maximum discharge for station at Cooper's Reef; no flow at times in some years.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-8,233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	500	130	25	1.7	1.0	0.6	0.4
2	(*)				0	450	*119	20	1.6	1.0	.6	.4
3					0	400	113	20	1.5	*1.0	.7	.4
4					0	400	112	*19	1.5	1.0	.7	.4
5					0	350	111	17	1.5	1.0	.7	.4
6					0	450	115	16	*1.5	1.0	.6	.4
7					0	450	129	15	1.7	.9	.6	.4
8			(*)	(*)	0	500	142	13	2.0	.9	.6	.3
9					900	500	147	12	1.9	.9	.5	.3
10					2500	500	*138	*10	1.9	.9	.4	.3
11					4800	500	125	8.7	2.0	.8	.4	*.3
12					2200	350	116	8.2	2.0	.8	.4	.3
13					500	250	115	7.2	2.0	.8	.4	.3
14					250	300	110	6.7	2.0	.7	.4	.3
15					2100	350	100	6.1	2.0	.7	.4	.3
16					950	350	90	5.5	2.0	.7	*.4	.3
17					400	300	80	4.9	2.0	*.7	.4	.3
18					350	300	75	4.4	2.0	.7	.5	.3
19					2500	300	70	4.0	*2.0	.7	.5	.3
20					1000	300	60	3.4	1.6	.7	.6	.3
21					600	300	50	3.1	1.4	.7	.6	.3
22			(*)	(*)	350	325	45	2.8	1.3	.6	.6	.3
23					300	325	40	*2.8	1.1	.6	.6	.3
24		(*)			650	325	*40	2.6	1.0	.6	.5	.3
25					1300	300	35	2.2	1.0	.6	.5	.3
26					1100	250	30	2.4	1.0	.6	.5	.3
27					700	*189	30	2.4	1.0	.6	*.4	.3
28					500	162	30	2.2	1.0	.6	.4	.3
29					-	163	25	2.8	1.0	.6	.4	.3
30					-----	196	25	2.9	1.0	*.6	.4	.3
31					-----	174	-----	1.8	-----	.6	-----	-----
Total	0	0	0	0	23,950	10,509	2,547	2,541	47.2	23.6	15.7	9.7
Mean	0	0	0	0	855	339	84.9	8.20	1.57	0.76	0.51	0.32
Max	0	0	0	0	4,800	500	147	25	2.0	1.0	0.7	0.4
Min	0	0	0	0	0	162	25	1.8	1.0	0.6	0.4	0.3
Ac-ft	0	0	0	0	47,500	20,840	5,050	504	94	47	31	19

Calendar year 1961: Max 1.0 Min 0 Mean 0.01 Ac-ft 7.6  
 Water year 1961-62: Max 4,800 Min 0 Mean 102 Ac-ft 74,080

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

Note.--No gage-height record Feb. 1 to Mar. 26, Apr. 14 to May 3, June 1-5, June 25 to July 2.

11-1325. Salsipuedes Creek near Lompoc, Calif.

Location.--Lat  $34^{\circ}35'20''$ , long  $120^{\circ}24'27''$ , in  $W\frac{1}{2}$  sec.24, T.6 N., R.34 W., on right bank at highway bridge on Jalama Road, 0.4 mile downstream from El Jaro Creek and 4.4 miles southeast of Lompoc.

Drainage area.--47.1 sq mi (revised).

Records available.--January 1941 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 240 ft (from topographic map).

Average discharge.--21 years, 8.64 cfs (6,260 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

Extremes.--Maximum discharge during year, 7,400 cfs Feb. 11 (gage height, 14.90 ft); no flow Oct. 1 to Nov. 19.

1941-62: Maximum discharge, 11,400 cfs Mar. 15, 1952 (gage height, 20.8 ft); no flow at times in some years.

Remarks.--Records good. Discharge measurements made twice monthly. Small diversions for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-10, Oct. 13 to Nov. 20,  
Mar. 10-28, Apr. 4-26, Sept. 24-30)

1.0	0	2.0	67
1.1	.3	2.5	158
1.2	1.6	3.0	274
1.3	4.9	4.0	560
1.4	10	5.0	1,040
1.5	16	6.0	1,690
1.7	33		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	58	0.6	1.4	38	15	5.8	2.0	2.1	1.2	0.6
2		0	262	.6	1.6	42	14	5.3	2.5	2.1	1.2	.5
3		0	7.8	.6	1.4	33	14	5.3	3.0	2.1	1.4	.4
4		0	1.6	.6	1.4	30	14	5.3	3.0	2.1	1.4	.4
5		0	1.2	.5	1.8	385	14	4.9	3.0	2.1	1.6	.5
6		0	1.0	.5	1.6	403	12	4.9	3.0	2.1	1.6	.5
7		0	.9	.5	9.4	70	12	4.9	2.7	2.1	1.6	.6
8		0	.7	.5	471	59	11	4.9	2.7	2.1	1.6	.7
9		0	.7	.5	1670	48	11	4.9	2.4	2.1	1.6	.9
10		0	.7	.5	1060	43	11	4.9	2.4	2.4	1.6	.9
11		0	.7	.5	1650	39	10	4.5	2.4	2.4	1.6	.9
12		0	.7	.5	233	37	9.4	4.5	2.4	2.1	1.4	1.0
13		0	.7	.6	91	36	9.4	4.5	2.4	1.4	1.2	.9
14		0	.7	.6	96	33	9.4	4.5	2.1	1.4	.9	.7
15		0	.6	.6	920	32	9.4	4.5	2.1	1.6	.7	.7
16		0	.6	.6	144	27	8.8	4.5	2.1	1.8	.6	.7
17		0	.6	.6	72	24	8.8	4.5	2.4	2.1	.6	.7
18		0	.6	.6	454	26	8.2	4.5	2.4	2.1	.5	.6
19		0	.6	.6	424	27	7.7	4.1	2.7	1.8	.5	.5
20		2.2	.6	95	283	26	7.7	4.1	2.7	1.6	.5	.7
21		2.1	.6	10	197	23	7.2	4.1	2.7	1.4	.6	.7
22		1.8	.6	88	87	27	7.2	4.1	3.0	1.4	.9	.7
23		1.6	.6	68	68	25	7.2	4.1	3.0	1.4	.7	.7
24		1.4	.6	12	64	20	7.2	4.1	3.0	1.2	.7	.7
25		5.1	.6	6.2	58	20	7.2	4.1	2.7	1.2	.7	.7
26		9.2	.6	4.1	72	19	7.2	4.1	2.4	1.2	.6	.7
27		4.5	.6	3.0	46	18	6.7	4.1	2.4	1.0	.6	.7
28		3.7	.6	2.4	46	18	6.7	4.1	2.4	1.0	.3	.8
29		3.7	.6	2.1	-	16	6.7	3.7	2.4	1.0	.3	.5
30		3.4	.5	1.6	-----	16	6.2	2.7	2.1	1.0	.5	.6
31		-----	.5	1.6	-----	15	-----	2.1	-----	1.0	.6	-----
Total	0	38.7	347.4	304.6	8224.6	1675	286.3	136.6	76.5	52.4	29.8	20.2
Mean	0	1.29	11.2	9.83	294	54.0	9.54	4.41	2.55	1.69	0.96	0.67
Max	0	9.2	262	95	1,670	403	15	5.8	3.0	2.4	1.6	1.0
Min	0	0	0.5	0.5	1.4	15	6.2	2.1	2.0	1.0	0.3	0.4
Ac-ft	0	77	689	604	16,310	3,320	568	271	152	104	59	40

Calendar year 1961: Max 262 Min 0 Mean 1.46 Ac-ft 1,060

Water year 1961-62: Max 1,670 Min 0 Mean 30.7 Ac-ft 22,190

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0200	5.97	1,670	2-15	0400	8.70	3,210
1-20	0900	3.34	356	2-18	2130	8.70	3,210
1-22	2130	3.28	341	2-20	2300	4.40	720
2-9	1530	14.90	7,400	3-5	2330	8.25	2,940

11-1330. Santa Ynez River at narrows, near Lompoc, Calif.

Location.--Lat 34°38'15", long 120°25'30", in Canada de Salsipuedes Grant, on left bank 0.5 mile upstream from State Highway 150, 1.9 miles east of Lompoc, Santa Barbara County, and 2.0 miles downstream from Salsipuedes Creek.

Drainage area.--789 sq mi (revised).

Records available.--April 1947 to September 1952 (irrigation seasons only); October 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 90 ft (from topographic map). Prior to Mar. 23, 1953, at site 200 ft upstream at different datum. Mar. 23, 1953, to Feb. 10, 1962, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, 8,560 cfs Feb. 11 (gage height, 10.80 ft); no flow Oct. 1 to Dec. 1, Dec. 6 to Jan. 19, Jan. 31 to Feb. 7.

1952-62: Maximum discharge, that of Feb. 11, 1962; no flow at times in each year.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-8,233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	580	166	29	2.6	2.4	1.0	0.6
2	(*)		* 2 34	0	0	550	139	28	2.4	2.4	1.0	.6
3			* 8.5	0	0	515	* 130	26	2.2	* 2.4	1.0	.6
4			2.2	0	0	468	124	24	2.6	2.2	.8	.6
5			* .4	0	0	* 520	120	22	3.2	2.2	.8	.6
6			0	0	0	1070	122	21	* 2.9	2.2	.8	.6
7			0	0	0	575	137	20	3.2	2.2	.8	.6
8			0	* 0	407	535	150	18	3.5	1.8	.8	.6
9			0	0	* 1770	590	152	17	3.8	1.8	.8	.6
10			0	0	* 3120	595	* 141	* 16	3.8	1.8	.8	.6
11			0	0	5210	570	126	15	3.5	1.8	.8	.6
12			0	0	* 2900	a 470	110	14	3.8	1.8	.8	* .6
13			0	0	834	*a410	97	13	4.2	1.8	.7	.6
14			0	0	* 488	a 380	85	11	4.2	1.8	.5	.6
15			0	0	2290	a 350	78	11	4.2	1.8	.4	.6
16			0	0	951	* 322	76	10	4.5	1.6	* .3	.5
17			0	0	* 500	233	71	9.0	4.5	* 1.4	.3	.5
18			0	0	a 450	215	66	7.5	4.2	1.4	.3	.5
19			0	0	* 2370	323	62	6.6	* 4.5	1.6	.3	.5
20			0	* 63	* 1180	272	60	6.2	4.2	1.6	.2	.5
21			* 0	11	900	260	56	6.2	4.2	1.4	.4	.5
22			0	* 49	590	278	54	6.2	4.2	1.2	.5	.5
23			0	87	*a 450	* 294	49	* 6.2	4.2	1.2	.5	.5
24		(*)	0	18	a 500	281	* 46	6.2	3.8	1.2	.5	.5
25			0	* 6.1	996	278	45	5.7	4.2	1.2	.5	.4
26			0	3.9	1040	266	42	5.7	4.2	1.2	.5	.4
27			0	2.4	* 745	245	39	6.6	3.5	1.2	* .5	.4
28			0	2.1	625	152	38	7.0	2.9	1.2	.4	.4
29			0	1.0	-	190	34	6.6	2.9	1.2	.5	.4
30			0	.9	-----	260	31	4.9	2.9	* 1.1	.6	.4
31			0	0	-----	227	-----	3.5	-----	1.0	.6	-----
Total	0	0	245.1	244.4	28316	12274	2646	389.1	109.0	51.1	18.7	15.9
Mean	0	0	7.91	7.88	1,010	396	88.2	12.6	3.63	1.65	0.60	0.53
Max	0	0	234	87	5,210	1,070	166	29	4.5	2.4	1.0	0.6
Min	0	0	0	0	0	152	31	3.5	2.2	1.0	0.2	0.4
Ac-ft	0	0	486	485	56,160	24,350	5,250	772	216	101	37	32

Calendar year 1961: Max 234 Min 0 Mean 0.76 Ac-ft 549  
 Water year 1961-62: Max 5,210 Min 0 Mean 121 Ac-ft 87,890

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

a No gage-height record.

11-1340. Santa Ynez River at H Street, near Lompoc, Calif.

Location.--Lat 34°40'06", long 120°27'25", in Lompoc Grant, near left bank on downstream side of H Street Bridge on State Highway 1, 2 miles north of Lompoc, Santa Barbara County.

Drainage area.--815 sq mi (revised).

Records available.--October 1946 to September 1962 (discontinued). Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 56.74 ft above mean sea level, datum of 1929. Since Apr. 26, 1947, supplementary water-stage recorder at same datum on third pier from right bank. Nov. 19, 1952, to May 31, 1954, supplementary water-stage recorders at various sites and datums near bridge.

Extremes.--Maximum discharge during year, 7,020 cfs Feb. 11 (gage height, 8.95 ft), from rating curve extended above 600 cfs; no flow for many days.

1946-62: Maximum discharge, 37,900 cfs Jan. 16, 1952 (gage height, 17.4 ft), from rating curve extended above 2,900 cfs; no flow for most of each year.

Remarks.--Records good except those for period Feb. 8 to Mar. 8, which are poor. Discharge measurements made two or more times a month. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-8,233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	620	165	20				
2			145	0	0	580	137	18				
3			5.3	0	0	550	122	18				
4			.1	0	0	532	122	17				
5			0	0	0	499	119	16				
6			0	0	0	1180	119	16				
7			0	0	0	630	137	13				
8			0	0	160	610	149	12				
9			0	0	1070	672	157	11				
10			0	0	2520	650	145	9.7				
11			0	0	3960	672	129	7.4				
12			0	0	1920	469	110	6.2				
13			0	0	738	348	89	5.2				
14			0	0	478	312	81	3.8				
15			0	0	1780	324	73	3.4				
16			0	0	1520	384	65	2.8				
17			0	0	820	259	54	2.1				
18			0	0	688	232	59	.8				
19			0	0	1890	336	52	.1				
20			0	58	1370	282	50	0				
21			0	12	1290	254	48	0				
22			0	5.5	844	254	42	0				
23			0	104	532	264	40	0				
24			0	12	618	259	36	0				
25			0	2.1	1260	254	34	0				
26			0	0	1230	259	32	0				
27			0	0	820	237	31	0				
28			0	0	640	133	29	0				
29			0	0	-	133	26	0				
30			0	0	-----	205	24	0				
31		-----	0	0	-----	220	-----	0	-----			-----
Total	0	0	150.4	193.6	26148	12613	2476	182.5	0	0	0	0
Mean	0	0	4.85	6.25	934	407	82.5	5.89	0	0	0	0
Max	0	0	145	104	3,960	1,180	165	20	0	0	0	0
Min	0	0	0	0	0	133	24	0	0	0	0	0
Ac-ft	0	0	298	384	51,860	25,020	4,910	362	0	0	0	0
Calendar year 1961: Max			145	Min 0	Mean 0.42	Ac-ft 300						
Water year 1961-62: Max			3,960	Min 0	Mean 114	Ac-ft 82,830						

## SANTA YNEZ RIVER BASIN

247

11-1345. Santa Ynez River at 13th Street, near Lompoc, Calif.

Location.--Lat 34°40'06", long 120°28'29", in Lompoc Grant, on right bank at 13th Street crossing, 2.3 miles northwest of Lompoc, Santa Barbara County.

Drainage area.--820 sq mi.

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 60 ft (from topographic map). Prior to Nov. 27, 1956, at various sites within 300 ft at same datum.

Extremes.--Maximum discharge during year, 6,670 cfs Feb. 11 (gage height, 7.92 ft), from rating curve extended above 500 cfs on basis of measurements at station at H Street one mile upstream; no flow for much of year.

1954-62: Maximum discharge, that of Feb. 11, 1962; no flow for several months in each year.

Remarks.--Records fair except those for period of no gage-height record and those above 500 cfs, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.227-8,233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along bank of river for irrigation in valley upstream.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	584	160	26				
2	(*)		* 120	0	0	536	124	a 22				
3			* 4.2	0	0	520	* 124	a 19				
4			* 0	0	0	512	120	a 18				
5			0	0	0	512	124	a 17				
6			0	0	0	1040	127	a 16	(*)			
7			0	0	0	a 650	134	a 15				
8			0	* 0	e 160	a 620	152	a 13				
9			0	0	e 1070	a 680	164	* 7.8				
10			0	0	e 2520	a 660	* 156	4.0				
11			0	0	e 3960	a 680	141	a 3.6				
12			0	0	e 1920	a 470	120	a 3.3				
13			0	0	a 738	337	111	a 2.8				
14			0	0	a 478	306	102	a 2.5				
15			0	0	e 1780	312	93	a 2.3				
16			0	0	a 1520	* 364	84	* 2.2				
17			0	0	e 820	260	79	.6	(*)			
18			0	0	e 688	a 230	71	0				
19			0	0	e 1890	336	69	0				
20			0	2.8	e 1400	a 290	66	0				
21			* 0	* 9.4	a 1290	a 250	60	0			(*)	
22			0	* a .5	a 844	a 250	51	0				
23			0	* 97	a 532	* 324	49	* 0				
24	(*)		0	3.1	524	312	* 44	0				
25			0	* a .6	1180	300	40	0				
26			0	0	1300	276	37	0				
27			0	0	860	249	33	0				
28			0	0	640	a 150	33	0				
29			0	0	-	a 150	31	0				
30			0	0	-----	230	29	0				
31			0	0	0	220	-----	0	-----			-----
Total	0	0	124.2	113.4	2611.4	12610	2728	175.1	0	0	0	0
Mean	0	0	4.01	3.66	933	407	90.9	5.65	0	0	0	0
Max	0	0	120	97	3,960	1,040	164	26	0	0	0	0
Min	0	0	0	0	0	150	29	0	0	0	0	0
Ac-ft	0	0	246	225	51,800	25,010	5,410	347	0	0	0	0

Calendar year 1961: Max 120 Min 0 Mean 0.34 Ac-ft 246  
 Water year 1961-62: Max 3,960 Min 0 Mean 115 Ac-ft 83,040

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

a No gage-height record.

e Stage-discharge relation indefinite.

## SANTA YNEZ RIVER BASIN

11-1355. Santa Ynez River at barrier, near Surf, Calif.

Location.--Lat 34°41'20", long 120°35'05", in Lompoc Grant, on upstream side at center of salt-water barrier, 1.0 mile upstream from mouth and 1.2 miles east of Surf, Santa Barbara County.

Drainage area.--895 sq mi.

Records available.--October 1946, April 1947 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and compound broad-crested weir. Datum of gage is 5.5 ft above mean sea level, datum of 1929.

Average discharge.--15 years (1947-62), 50.9 cfs (36,850 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 4,260 cfs Feb. 11 (gage height, 3.26 ft), from rating curve extended above 200 cfs on basis of weir formula; no flow Oct. 1 to Dec. 1, Aug. 17 to Sept. 30.

1947-62: Maximum discharge, 36,000 cfs Jan. 16, 1952 (gage height, 6.50 ft), from rating curve extended above 200 cfs on basis of weir formula; no flow for several months in each year.

Remarks.--Records good except those for periods of backwater and those for period of no gage-height record, which are poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp. 227, 228, 233). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream. Flow from Arguello drainage ditch bypasses station; this flow amounted to more than 200 acre-ft during current year.

Rating table, except for period of backwater (gage height, in feet, and discharge, in cubic feet per second)

0.5	0	1.5	16	2.3	580
.6	.5	1.6	25	2.6	1,330
.8	2.4	1.8	79	3.0	2,900
1.0	5.1	2.0	205	3.5	5,800
1.4	13				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)		0		0.2	548	175	15	0.5	0.7	0.2	
2			c 10		2	532	144	14	.4	1.3	.1	
3			c 5		.3	516	132	13	.3	* 1.6	.1	
4			c 3		.3	484	120	11	.3	1.5	.1	
5			*c 2		.3	452	114	9.6	.4	1.2	.1	
6			c 1		.3	1010	114	8.2	.4	2.1	.1	
7			c .5		.7	580	120	a 7.5	.3	1.6	.1	
8				(*)	52	564	132	a 7	.2	.7	.1	
9			c .4		391	580	144	a 6.5	1.0	.7	.1	
10					700	620	144	a 6	1.6	.6	.1	
11					3150	580	138	a 5.5	1.5	.4	.1	
12			c .3		2460	484	120	a 5	1.5	.9	.1	(*)
13				c .3	930	370	108	a 4.5	1.2	.5	.1	
14			c .5		548	286	90	a 4	1.1	.4	.1	
15			c .5		1510	320	79	a 3.5	1.8	.5	.1	
16			c .4		1150	370	79	a 3	1.8	.5	* .1	
17			c .4		680	286	74	a 2.5	1.5	* .3	0	
18					468	241	70	a 2	1.1	.2	0	
19					1790	308	62	a 1.5	* 1.0	.1	0	
20					1270	277	55	a 1	.5	.2	0	
21		(*)	(*)		1030	268	51	a .5	.4	.5	0	
22					640	268	42	a .5	1.0	.8	0	
23				70	484	277	38	a .5	1.1	.7	0	
24			c .3	* 38	408	268	34	* .5	1.5	.7	0	
25				6.7	880	259	30	.4	1.5	.7	0	
26				1.8	955	259	27	.4	1.4	.3	0	
27				1.0	740	250	* 25	.4	.7	.5	* 0	
28				.8	580	162	24	.4	.4	.3	0	
29				.8	-	144	20	.4	.3	.2	0	
30				* .6	-----	214	17	.4	.3	* .5	0	
31				.3	-----	232	-----	.8	-----	.3	0	-----
Total	0	0	29.6	126.6	20818.3	12009	2522	135.5	27.0	21.5	1.7	0
Mean	0	0	0.95	4.08	744	387	84.1	4.37	0.90	0.69	0.05	0
Max	0	0	10	70	3,150	1,010	175	15	1.8	2.1	0.2	0
Min	0	0	0	-	0.2	144	17	0.4	0.2	0.1	0	0
Ac-ft	0	0	59	251	41,290	23,820	5,000	269	54	43	3.4	0
(†)	6.1	9.7	19	34	-	-	0	17	22	41	9.1	0

Calendar year 1961: Max 10 Min 2 Mean 0.16 Ac-ft 120  
 Water year 1961-62: Max 3,150 Min 0 Mean 97.8 Ac-ft 70,790

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

† Flow, in acre-feet, from Arguello drainage ditch; this is not included in flow that passes station.

a No gage-height record.

c Backwater.

11-1361. San Antonio Creek near Casmalia, Calif.

Location.--Lat 34°46'56", long 120°31'47", in Jesus Maria Grant, on Camp Cook Military Reservation on downstream side of left center pile bent of San Antonio road bridge, 0.7 mile east of junction of San Antonio road with Lompoc-Casmalia road, and 3.8 miles south of Casmalia, Santa Barbara County.

Drainage area.--134 sq mi.

Records available.--October 1955 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map). Prior to June 27, 1958, at datum 2.00 ft higher.

Average discharge.--7 years, 7.29 cfs (5,280 acre-ft per year).

Extremes.--Maximum discharge during year, 1,300 cfs Feb. 19 (gage height, 9.35 ft); minimum daily, 0.8 cfs Oct. 15, 16, Aug. 29. 1955-62: Maximum discharge, that of Feb. 19, 1962; minimum daily, 0.1 cfs June 19, 20, 1957.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow affected by pumpage from wells along stream for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.9	3.8	3.9	5.5	1.8	4.6	2.5	2.1	1.5	1.3	1.1
2	1.0	2.5	* 6.6	4.0	5.5	1.7	4.8	2.5	2.1	1.5	1.3	1.2
3	* 1.0	2.5	* 2.5	4.0	5.5	1.6	4.6	2.5	2.0	* 1.5	1.3	1.2
4	.9	2.9	7.9	4.0	5.7	1.5	4.6	* 2.4	* 2.0	1.4	1.3	1.2
5	1.0	2.5	4.7	3.8	* 5.7	a 4.5	4.6	2.3	2.0	1.4	1.2	1.3
6	1.3	1.9	4.0	3.8	5.7	a 4.0	4.3	2.3	2.0	2.1	1.2	1.4
7	1.3	1.8	4.0	3.9	8.3	a 7	4.2	2.4	2.0	1.7	1.2	1.5
8	1.3	1.9	3.8	3.9	4.8	a 6	4.0	2.4	2.0	1.3	1.2	1.7
9	1.3	2.1	3.6	* 3.8	1.77	a 6	4.0	2.4	2.0	1.3	1.1	1.6
10	1.3	2.4	3.8	3.6	* 5.68	a 6	* 4.0	2.3	2.1	1.3	1.1	1.5
11	1.3	2.4	3.5	3.5	10.00	a 6	3.9	2.2	2.2	1.3	1.2	1.8
12	1.3	2.1	3.5	3.6	4.70	a 6	3.8	2.2	2.2	1.3	1.2	* 1.8
13	* 1.1	1.9	* 3.6	5.0	1.10	* 5.6	3.5	2.2	3.1	1.3	1.2	1.5
14	1.0	2.0	4.2	4.2	5.8	5.5	3.4	2.3	2.4	1.3	1.0	1.6
15	.8	* 2.2	4.0	3.8	2.85	5.6	3.3	2.3	2.3	1.3	* .9	1.7
16	.8	2.6	3.9	3.9	1.44	5.4	3.2	2.4	2.2	1.3	.9	1.7
17	.9	2.5	3.8	3.9	7.0	5.4	3.1	2.5	2.1	* 1.4	1.2	1.7
18	1.3	2.6	3.9	3.8	1.30	5.5	2.9	2.4	* 2.0	1.6	1.0	1.7
19	1.4	2.8	3.9	4.0	* 6.67	6.6	2.8	2.4	1.8	1.3	1.1	1.8
20	1.7	2.4	3.9	3.9	2.58	* 6.3	* 2.6	2.3	1.8	1.3	1.1	1.8
21	1.6	* 9.7	3.9	2.2	2.14	5.5	2.4	* 2.2	1.6	1.3	1.1	1.8
22	1.0	3.2	3.9	* 1.6	8.6	6.0	2.3	2.3	1.6	1.3	1.2	1.8
23	1.6	2.5	3.9	2.0	* 5.1	8.4	2.3	2.3	1.5	1.3	1.2	1.6
24	1.3	2.3	3.8	9.3	4.1	6.0	2.4	2.4	1.5	1.2	1.0	1.5
25	1.2	2.9	3.8	6.7	3.6	5.2	2.4	2.2	1.5	1.3	1.2	1.9
26	1.4	1.0	3.8	6.1	6.1	4.9	2.4	2.1	1.5	1.3	1.0	1.8
27	1.4	4.8	3.8	5.9	* 2.9	4.9	2.4	2.3	1.5	1.3	* 1.0	1.8
28	1.4	3.5	* 3.8	5.9	1.9	5.2	2.5	2.4	1.5	1.3	.9	1.8
29	1.4	3.2	3.8	5.9	-	5.2	2.4	2.3	1.5	1.3	.8	1.8
30	1.4	* 3.8	3.8	5.9	-----	* 4.9	2.4	2.2	1.4	* 1.3	.9	1.8
31	1.4	-----	3.8	5.7	-----	4.6	-----	2.1	-----	1.3	1.2	-----
Total	58.2	113.4	206.9	222.8	456.3	294.7	100.1	72.0	57.5	42.6	34.5	48.4
Mean	1.23	3.78	6.67	7.19	163	9.51	3.34	2.32	1.92	1.37	1.11	1.61
Max	1.7	24	66	39	1,000	45	4.8	2.5	3.1	2.1	1.3	1.9
Min	0.8	1.8	3.5	3.5	5.5	4.6	2.3	2.1	1.4	1.2	0.8	1.1
Ac-ft	76	225	410	442	9,050	585	199	143	114	84	68	96

Calendar year 1961: Max 66 Min 0.5 Mean 2.67 Ac-ft 1,940  
 Water year 1961-62: Max 1,000 Min 0.8 Mean 15.9 Ac-ft 11,490

Peak discharge (base, 50 cfs)

\* Discharge measurement made on this day.  
 a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1330	3.84	51	2-15	1100	6.80	545
12- 2	0400	5.19	141	2-19	0430	9.35	1,300
1-20	0900	4.16	66	3- 6	10030	4.72	158
2-11	1900	9.22	1,250				

† About.

11-1368. Cuyama River below Buckhorn Canyon, near Santa Maria, Calif.

Location.--Lat 35°01'20", long 120°13'10", in SW $\frac{1}{4}$  sec.14, T.11 N., R.32 W., on downstream side of second pier from right abutment of bridge on State Highway 166, 0.7 mile downstream from Buckhorn Canyon and 13 miles northeast of Santa Maria.

Drainage area.--884 sq mi.

Records available.--October 1903 to December 1905 (published as Santa Maria River near Santa Maria), October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 760 ft (from topographic map). Prior to October 1959, at different site and datum.

Extremes.--Maximum discharge during year, 8,730 cfs Feb. 11 (gage height, 10.85 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; no flow for several months.

1903-05, 1959-62: Maximum discharge observed, about 10,000 cfs Mar. 13, 1905 (gage height, 10.0 ft, site and datum then in use); no flow for most of 1960, 1961 and part of 1962.

Remarks.--Records good. Pumpage from wells along stream for irrigation in upper Cuyama Valley.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	5.0	2.1	5.2	3.0	1.6	0.8	0.5
2			* 1.1	0	0	* 4.9	* 2.0	5.2	2.4	* 1.6	.8	.5
3			* 2.8	0	0	4.6	1.9	4.8	2.2	1.6	.8	.5
4			4.7	0	0	4.2	1.8	4.8	2.2	1.6	.8	.5
5			8.4	0	0	4.0	1.7	4.8	* 2.4	1.6	.8	.5
6			* 2.4	0	* 0	* 5.9	1.6	4.8	2.4	1.4	.8	.5
7			.4	0	0	8.4	1.4	4.8	2.4	1.4	.7	.5
8			.1	0	* 1.8	7.6	1.4	4.8	2.4	1.4	.7	.5
9			0	* 0	3.43	6.6	1.2	* 4.8	2.4	1.4	.7	.5
10			0	0	* 1.770	5.6	* 1.2	4.8	2.2	1.2	.7	.5
11			0	0	* 6.390	4.8	1.2	4.8	2.0	1.2	.7	.5
12			0	0	* 2.220	4.5	1.1	4.8	2.0	1.2	.6	.5
13			* 0	0	* 4.95	4.2	1.1	5.2	2.2	1.2	* .6	* .5
14		(*)	0	0	* 1.88	* 3.9	1.0	5.2	2.2	1.2	* .6	.4
15			0	0	* 1.45	3.7	9.7	5.5	2.2	1.2	.5	.3
16	(*)		0	0	1.51	3.5	* 9.7	5.9	2.0	1.2	.5	.3
17			0	0	* 1.32	3.3	9.2	5.5	2.0	1.2	.5	.3
18			0	0	1.28	3.1	8.7	5.2	* 1.8	* 1.2	.5	.3
19			0	0	* 5.42	3.2	8.2	4.4	1.8	1.1	.5	.3
20			0	.4	* 4.65	3.5	7.7	4.1	1.6	1.1	.5	.3
21			0	.4	2.83	* 3.1	7.2	3.8	1.6	1.1	.5	.3
22			0	* 0	1.78	3.8	7.2	* 3.8	1.6	1.1	.5	.3
23			0	0	* 1.22	3.8	7.2	3.2	1.6	1.1	.5	.3
24			0	0	1.08	3.5	6.7	3.2	1.6	1.0	.5	.3
25			0	0	9.2	3.1	6.3	3.2	1.6	1.0	.5	.3
26			0	0	* 8.6	2.8	6.3	3.2	1.6	1.0	.5	.3
27			0	0	* 6.6	2.6	6.3	3.2	1.6	1.0	.5	.4
28			0	0	5.6	2.4	5.9	3.2	1.6	1.0	* .5	.4
29		(*)	* 0	0	-	2.4	5.5	3.2	1.6	1.0	.5	.3
30			0	0	-----	2.2	5.5	3.2	1.6	1.0	.5	.3
31			0	0	-----	2.1	-----	3.0	-----	* 1.0	.5	-----
Total	0	0	97.3	0.8	13.978	12.63	32.43	135.6	59.8	37.9	18.6	11.9
Mean	0	0	3.14	0.03	4.99	40.7	10.8	4.37	1.99	1.22	0.60	0.40
Max	0	0	4.7	0.4	6,390	84	21	5.9	3.0	1.6	0.8	0.5
Min	0	0	0	0	0	21	5.5	3.0	1.6	1.0	0.5	0.3
Ac-ft	0	0	193	1.6	27,720	2,510	643	269	119	75	37	24

Calendar year 1961: Max 47 Min 0 Mean 0.27 Ac-ft 197  
 Water year 1961-62: Max 6,390 Min 0 Mean 43.6 Ac-ft 31,590

Peak discharge (base, 200 cfs).--Feb. 11 (1300) 8,730 cfs (10.85 ft); Feb. 19 (1800) 688 cfs (5.43 ft).

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



11-1370. Cuyama River near Santa Maria, Calif.

Location.--Lat 35°00'42", long 120°16'43", in Suey Grant, on right bank 60 ft downstream from highway bridge, 2.6 miles upstream from Alamo Creek, and 8.9 miles northeast of Santa Maria, Santa Barbara County.

Drainage area.--904 sq mi.

Records available.--October 1929 to September 1962 (discontinued). Monthly discharge only for October to December 1929, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 608.93 ft above mean sea level, unadjusted. Prior to Oct. 3, 1936, at same site at different datum. Oct. 3, 1936, to Feb. 2, 1945, at site 200 ft upstream at datum 1.31 ft higher. Feb. 3 to June 21, 1945, at same site at datum 0.78 ft higher. June 21, 1945, to July 8, 1947, at same site at datum 1.00 ft higher.

Average discharge.--33 years, 20.0 cfs (14,480 acre-ft per year); median of yearly mean discharges, 8.6 cfs (6,200 acre-ft per year).

Extremes.--Maximum discharge during year, 8,800 cfs Feb. 11 (gage height, 7.90 ft), from rating curve extended above 2,900 cfs on basis of peak discharge at station below Buckhorn Canyon; no flow for several months.

1929-62: Maximum discharge, 17,300 cfs Mar. 3, 1938 (gage height, 16.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 5,000 cfs on basis of slope-area measurement of peak flow; no flow at times in some years.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Some pumpage from wells along stream for irrigation above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	60	24	6.5				
2			0	0	0	55	* 23	6				
3			0	0	0	50	22	6				
4			105	0	0	45	21	6				
5			30	0	0	45	20	5.5	2.5	1.5	0.8	0.3
6			* 6.2	0	* 0	55	19	5.5				
7		(*)	.7	0	0	90	18	5.5				
8			0	0	1.1	80	17	5.5				
9			0	* 0	3.55	70	16	* 5.5				
10			0	0	1.790	60	* 16	5				
11			0	0	6.430	55	15	5				
12			0	0	2.600	50	14	5				
13			* 0	0	500	45	14	5.5				
14			0	0	200	* 45	13	6				
15			0	0	150	40	12	6	2	1.2	.6	
16	(*)		0	0	150	35	12	6				
17			0	0	* 180	35	11	6				
18			0	0	350	30	10	5.5				
19			0	0	500	30	10	5				
20			0	1.6	450	35	10	4.5				.2
21			0	0	300	* 35	9.5	4				
22			0	* 0	200	40	9	4				
23			0	0	150	40	8.5	3.5				
24			0	0	120	40	8	3.5				
25			0	0	100	35	8	3.5	1.5	1	.4	
26			0	0	90	32	7.5	3.5				
27			0	0	80	30	7.5	3.5				
28			0	0	70	28	7	3				
29		(*)	* 0	0	-	28	7	3				
30			0	0	-----	26	6.5	3				
31			0	0	-----	25	-----	3				
Total	0	0	141.9	1.6	14,766.3	13,69	3,955	14,90	60.0	38.0	18.4	7.0
Mean	0	0	4.58	0.05	527	44.2	13.2	4.81	2.00	1.23	0.59	0.23
Max	0	0	105	1.6	6,430	90	24	6.5	-	-	-	-
Min	0	0	0	0	0	25	6.5	3	-	-	-	-
Ac-ft	0	0	281	3.2	29,290	2,720	784	296	119	75	36	14

Calendar year 1961: Max 105 Min 0 Mean 0.44 Ac-ft 315  
 Water year 1961-62: Max 6,430 Min 0 Mean 46.4 Ac-ft 33,620

Peak discharge (base, 200 cfs)--Feb. 11 (1430) 8,800 cfs (7.90 ft).

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

Note.--No gage-height record Feb. 12 to Sept. 30.

## SANTA MARIA RIVER BASIN

11-1374. Alamo Creek near Nipomo, Calif.

Location.--Lat 35°02'55", long 120°18'05", in Huasna Grant, on right bank 3.2 miles upstream from mouth and 10 miles east of Nipomo, San Luis Obispo County.

Drainage area.--83.3 sq mi.

Records available.--March 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,630 cfs Feb. 9 (gage height, 4.80 ft); no flow Oct. 1 to Feb. 7, May 13 to Sept. 30. 1959-62: Maximum discharge, that of Feb. 9, 1962; no flow for all or part of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 11-13)

0.13	0	0.8	35
.2	.4	1.1	76
.3	2.0	1.5	150
.4	5.2	2.0	280
.5	10	3.0	640
.6	16	4.0	1,140

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	34	6.9	0.5				
2					0	* 32	6.9	.5				
3					0	29	6.0	.4				
4					0	24	5.2	.4				
5					0	23	4.4	.3	(*)			
6					* 0	* 113	4.0	.3				
7					0	114	3.7	.3				
8					124	79	3.4	.2				
9					618	58	* 3.1	* .2				
10					830	45	2.5	.2				
11					* 992	39	2.2	.1				
12					* 332	31	2.0	.1				
13			(*)		* 98	27	1.8	0				
14		(*)			* 46	* 23	1.5	0			(*)	
15					* 112	20	1.5	0				
16	(*)				123	19	* 1.5	0				
17					* 81	17	1.4	0				
18					73	16	1.2	0		(*)		
19					280	16	1.2	0				
20					* 212	15	1.2	0				
21					205	* 14	1.0	0				
22				(*)	146	15	.8	* 0				
23					* 112	19	.8	0				
24					92	14	.8	0				
25					76	12	.8	0				
26					* 62	11	.8	0				
27					* 47	10	.7	0				
28					41	10	.7	0				
29			(*)		-	8.9	.7	0				
30					-----	* 8.4	.6	0				
31					-----	7.9	-----	0				
Total	0	0	0	0	4,702	904.2	69.3	3.5	0	0	0	0
Mean	0	0	0	0	168	29.2	2.31	0.11	0	0	0	0
Max	0	0	0	0	992	114	6.9	0.5	0	0	0	0
Min	0	0	0	0	0	7.9	0.6	0	0	0	0	0
Ac-ft	0	0	0	0	9,330	1,790	137	6.9	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
Water year 1961-62: Max 992 Min 0 Mean 15.6 Ac-ft 11,260

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1900	4.80	1,630	2-19	0300	2.50	440
2-15	0900	1.80	232	3- 6	1700	1.90	250

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

## SANTA MARIA RIVER BASIN

253

11-1375. Alamo Creek near Santa Maria, Calif.

Location.--Lat 35°01'20", long 120°18'10", in Suey Grant, on downstream side of center pier of highway bridge, 1.2 miles upstream from mouth and 9 miles northeast of Santa Maria, Santa Barbara County.

Drainage area.--86.6 sq mi.

Records available.--October 1943 to September 1962 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 579.14 ft above mean sea level, datum of 1929. Prior to May 12, 1958, at datum 2.00 ft higher.

Average discharge.--19 years, 6.38 cfs (4,620 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,620 cfs Feb. 9 (gage height, 7.50 ft); minimum daily, 0.3 cfs Oct. 15-17.

1943-62: Maximum discharge, 3,120 cfs Apr. 3, 1958 (gage height, 9.65 ft, present datum); minimum daily, less than 0.1 cfs in 1949 and 1950.

Remarks.--Records good prior to Feb. 8, poor thereafter. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.4	0.7	0.7	0.9	40						
2	.4	.4	1.4	.7	.9	35	(*)					
3	*.4	.4	1.0	.7	.8	30						
4	.4	.4	.9	.7	.8	25	8					
5	.4	.4	.8	.7	.7	25						
6	.4	.4	.8	.7	*.7	115						
7	.4	*.4	.8	.7	.8	120		4				
8	.4	.5	.8	.7	90	90						
9	.4	.5	.8	*.7	762	70		(*)				
10	.4	.5	.8	.7	805	60	(*)6					
11	.4	.5	.8	.7	1180	50						
12	.4	.4	.7	.7	350	40						
13	.4	.4	*.7	.7	100	35						
14	.4	.4	.7	.7	50	*30						
15	.3	.5	.7	.7	110	25			2.5	2	1.5	1
16	*.3	.5	.7	.7	125	20						
17	.3	.5	.7	.7	*.95	19						
18	.4	.5	.7	.7	80	18						
19	.4	.5	.7	.7	300	18						
20	.4	*1.1	.7	2.0	225	17						
21	.4	.8	.7	1.8	215	*17						
22	.4	.8	.7	*1.6	150	16						
23	.4	.6	.6	1.5	120	20	5	3				
24	.4	.6	.6	1.4	95	17						
25	.4	.6	.6	1.3	80	16						
26	.4	.6	.6	1.2	65	15						
27	.4	.6	.6	1.2	50	14						
28	.4	.6	.6	1.0	45	13						
29	.4	*.6	*.6	1.0	-	12						
30	.4	.6	.6	1.0	-	11						
31	.4	.6	.6	1.0	-	10						
Total	12.1	16.0	22.7	29.3	50 97.6	1043	179	108	75.0	62	46.5	30
Mean	0.39	0.53	0.73	0.95	182	33.6	5.97	3.48	2.50	2.00	1.50	1.00
Max	0.4	1.1	1.4	2.0	1,180	120	-	-	-	-	-	-
Min	0.3	0.4	0.6	0.7	0.7	10	-	-	-	-	-	-
Ac-ft	24	32	45	58	10,110	2,070	355	214	149	123	92	60

Calendar year 1961: Max 1.6 Min 0.3 Mean 0.68 Ac-ft 496

Water year 1961-62: Max 1,180 Min 0.3 Mean 18.4 Ac-ft 13,330

Peak discharge (base, 50 cfs)

\* Discharge measurement made on this day.

Note.--No gage-height record Feb. 12 to Sept. 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1930	7.50	1,620	2-19	†0400	unknown	†450
2-15	†1000	unknown	†250	3-6	†1800	unknown	†250

† About.

## SANTA MARIA RIVER BASIN

11-1379. Huasna River near Arroyo Grande, Calif.

Location.--Lat 35°04'40", long 120°22'15", in Huasna Grant, on right bank 300 ft downstream from mouth of Huasna Creek and 12 miles southeast of Arroyo Grande, San Luis Obispo County.

Drainage area.--104 sq mi.

Records available.--June 1959 to September 1962.

Gage.--Water-stage recorder actuated by bubbler gage, and crest-stage gage. Altitude of gage is 640 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,100 cfs Feb. 10 (gage height, 6.90 ft, from crest-stage gage); no flow Oct. 1 to Jan. 19, Jan. 26 to Feb. 7, Sept. 1, 19-23.  
1959-62: Maximum discharge, that of Feb. 10, 1962; no flow for many days in each year.

Remarks.--Records fair except those for period of no gage-height record, which are poor. No regulation. Some diversions above station by pumping for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	71	19	2.3	1.7	1.2	0.3	0
2				0	0	*68	18	2.0	1.7	1.4	.3	.1
3				0	0	58	16	1.7	2.3	1.4	.3	.1
4				0	0	50	16	1.4	2.6	1.4	.3	.1
5				0	0	45	15	1.4	2.6	1.7	.3	.1
6				0	*0	*249	15	1.7	*2.0	1.0	.3	.1
7		(*)		0	0	158	14	2.3	1.4	.3	.3	.2
8				0	*a 25	104	12	2.3	1.4	.1	.3	.3
9				0	*a 500	86	*12	2.3	1.4	.8	.3	.3
10				0	a 1800	79	11	*2.3	1.4	.8	.3	.4
11				*0	*a1300	71	10	2.3	1.4	1.0	.3	.2
12	(*)			0	a 500	67	11	2.3	1.4	1.0	.3	.1
13			(*)	0	*a 300	62	9.4	2.3	1.7	.8	.3	*.2
14		(*)		0	*195	56	9.4	2.3	1.0	.8	*.3	.2
15				0	582	*49	8.8	2.3	1.2	.8	.3	.1
16				0	*540	46	*8.8	2.3	1.4	1.0	.3	.2
17				0	300	42	8.2	2.3	1.4	1.0	.2	.2
18				0	222	40	8.2	2.3	*1.4	*1.0	.2	.2
19				0	761	39	7.7	2.3	1.4	.8	.2	0
20				61	*492	37	7.2	2.6	1.4	.8	.2	0
21				3.1	498	33	8.2	2.3	1.0	.4	.2	0
22				*.2	275	*38	8.2	*2.3	1.0	.3	.2	0
23				.1	*187	41	7.2	2.3	.6	.3	.2	0
24				.1	157	32	6.2	2.3	.6	.3	.2	.1
25				.1	125	28	6.2	2.3	.6	.3	.2	.3
26				0	118	26	5.8	2.0	.4	.3	.2	.3
27				0	*98	22	*4.8	2.0	.4	.3	.2	*.3
28				0	86	22	4.4	1.7	*.8	.3	*.2	.3
29		(*)	(*)	0	-	21	3.7	1.2	.8	.4	.1	.3
30				0	-----	*20	2.9	*1.2	1.0	.4	.1	.3
31		-----	-----	0	-----	19	-----	1.4	-----	*.3	.1	-----
Total	0	0	0	64.6	9061	1779	294.3	64.0	39.4	22.7	7.5	5.0
Mean	0	0	0	2.08	324	57.4	9.81	2.06	1.31	0.73	0.24	0.17
Max	0	0	0	61	1,800	249	19	2.6	2.6	1.7	0.3	0.4
Min	0	0	0	0	0	19	2.9	1.2	0.4	0.1	0.1	0
Ac-ft	0	0	0	128	17,970	3,530	584	127	78	45	15	9.9

Calendar year 1961: Max 0.6 Min 0 Mean 0.06 Ac-ft 44

Water year 1961-62: Max 1,800 Min 0 Mean 31.1 Ac-ft 22,490

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	1300	4.02	276	2-19	0300	5.84	1,220
2-11	unknown	6.90	2,100	3-6	1700	4.53	438
2-15	1000	5.35	900				

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

a No gage-height record.

11-1380. Huasna River near Santa Maria, Calif.

Location.--Lat 35°01'16", long 120°19'18", in Suey Grant, at State Highway 166 bridge, on downstream side of first pier from right bank, 0.3 mile upstream from mouth and 8 miles northeast of Santa Maria, Santa Barbara County.

Drainage area.--119 sq mi.

Records available.--December 1929 to December 1961 (discontinued). Monthly discharge only for December 1929 and yearly estimate for water year 1930 (incomplete), published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 525 ft (from topographic map). Prior to Oct. 1, 1959, at sites within 0.1 mile upstream and 50 ft downstream at different datums.

Average discharge.--32 years (1929-61), 17.8 cfs (12,890 acre-ft per year); median of yearly mean discharges, 6.1 cfs (4,400 acre-ft per year).

Extremes.--No flow during period October to December 1961.

1929-62: Maximum discharge, 11,400 cfs Feb. 11, 1938 (gage height, 11.26 ft, site and datum then in use), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; no flow for parts of several years.

Remarks.--No flow since Apr. 28, 1961. Observations of no flow generally made twice a month. Figures for calendar year 1961 are as follows: maximum daily discharge, 12 cfs; minimum daily, zero; mean, 0.46 cfs; runoff, 330 acre-ft. No regulation. Some diversion by pumping along channel for irrigation above station.

## SANTA MARIA RIVER BASIN

11-1381. Cuyama River below Twitchell Dam, Calif.

Location.--Lat 34°56'40", long 120°17'30", in Suey Grant, on left bank 3.5 miles upstream from mouth, 4 miles northeast of Garey, Santa Barbara County, and 4.4 miles downstream from Twitchell Dam.

Drainage area.--1,132 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 548 cfs Feb. 10 (gage height, 5.76 ft); no flow Oct. 1 to Feb. 8.  
1958-62: Maximum discharge, that of Feb. 10, 1962; no flow for part of each year.

Remarks.--Records good. Flow regulated by Twitchell Reservoir (capacity, 240,000 acre-ft) since February 1959. Some pumpage from wells along stream for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 25 to July 21)

2.2	0	2.9	8.8
2.3	.1	3.1	18
2.4	.4	3.3	31
2.5	1.0	3.6	63
2.6	1.9	4.0	125
2.7	3.4	4.5	225
2.8	5.6	5.1	370

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	3.0	2.3	3 35	282	275	25	0.5
2					0	3.0	* 2.3	3 50	282	* 275	25	.5
3					0	3.0	2.2	3 50	282	272	25	.4
4					0	2.8	2.0	3 48	* 282	268	25	.4
5					* 0	* 3.0	1.9	3 45	280	265	25	.4
6		(*)			0	7.5	1.8	3 45	280	262	24	.4
7					0	5.1	1.8	3 42	280	258	24	.3
8					0	3.2	1.8	3 42	275	252	23	.3
9					97	2.8	* 1.8	* 3 45	270	250	23	.3
10					270	2.8	1.8	3 45	270	245	23	.3
11					25	2.7	1.9	3 32	270	239	36	.3
12					* 12	2.7	1.9	3 20	270	235	73	.3
13	(*)		(*)		5.8	2.7	3.8	3 15	270	231	68	.3
14					4.8	2.7	8.9	3 15	270	225	68	* .3
15					6.1	3.4	9.8	3 15	270	221	* 86	.2
16					6.4	6.3	10.7	3 15	270	213	92	.2
17					5.4	8.3	15.5	3 15	270	* 211	52	.2
18					4.8	8.0	15.5	3 15	* 275	207	56	.1
19					10	* 6.8	2.27	3 15	275	201	7.6	.1
20					7.3	9.6	* 2.27	3 08	275	192	2.8	.1
21					7.6	4.2	2.50	* 2.98	275	98	1.8	.1
22					5.4	* 5.1	2.58	2.98	275	83	1.2	.1
23					4.6	4.8	2.58	2.98	275	80	.8	.1
24					4.8	3.6	2.58	2.98	275	124	.7	.1
25					4.2	3.4	2.62	2.98	275	252	.7	.1
26					4.0	3.0	2.88	2.98	275	197	6.5	.1
27					3.2	3.0	3.12	2.95	275	55	* 10	.1
28			(*)		3.0	2.8	3.25	2.90	275	46	2.3	.1
29					-	2.7	3.22	2.90	275	33	.9	.1
30		(*)			-----	2.4	3.20	2.88	275	* 25	.7	.1
31					-----	2.4	-----	2.85	-----	25	.6	-----
Total	0	0	0	0	4 91.4	3 34.7	3 972.5	9 848	8 248	5 815	8 096	6.9
Mean	0	0	0	0	17.6	10.8	132	318	275	188	26.1	0.23
Max	0	0	0	0	270	83	325	350	282	275	92	0.5
Min	0	0	0	0	0	2.4	1.8	285	270	25	0.6	0.1
Ac-ft	0	0	0	0	975	664	7,880	19,530	16,360	11,530	1,610	14
Calendar year 1961: Max	0.8	Min	0	Mean	0.03	Ac-ft	22					
Water year 1961-62: Max	350	Min	0	Mean	80.9	Ac-ft	58,560					

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

## SANTA MARIA RIVER BASIN

257

11-1385. Sisquoc River near Sisquoc, Calif.

Location.--Lat 34°50'25", long 120°10'00", in sec.20, T.9 N., R.31 W., on left bank 2.2 miles upstream from La Brea Creek and 7 miles east of Sisquoc.

Drainage area.--281 sq mi.

Records available.--October 1943 to September 1962. October 1929 to September 1933 at site 0.2 mile downstream; low-flow records not equivalent owing to diversion immediately upstream. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 624.30 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 24, 1951, at site 0.2 mile downstream at datum 3.70 ft lower; during this period, a supplementary gage at site 200 ft downstream from present site at different datums was generally used for periods of low flow.

Average discharge.--19 years (1943-62), 29.1 cfs (21,070 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--Maximum discharge during year, 5,360 cfs Feb. 9 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement at gage height 10.08 ft; minimum daily, 0.5 cfs Nov. 4-19.

1929-33, 1943-62: Maximum discharge, 7,640 cfs Apr. 3, 1958 (gage height, 10.62 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 10.08 ft; minimum daily since 1943, 0.4 cfs on several days in 1947, 1951, 1957 and 1961.

Maximum discharge known, 11,000 cfs Mar. 2, 1938 (gage height, 8.1 ft, from high-water mark in gage well at site in use 1929-33), from rating curve extended above 2,800 cfs.

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

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

Drainage, in cubic feet per second, water from October 1902 to September 1902															
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	0.6	0.6	0.9	1.0	1.4	162	100	38	15	5.2	2.4	1.8			
2	.6	.6	* 67	1.0	1.4	150	* 97	37	14	* 5.0	2.3	1.8			
3	.6	.6	68	1.0	1.2	141	95	36	13	5.0	2.3	1.8			
4	.6	.5	9.4	1.2	1.2	135	91	35	* 13	4.8	2.2	1.8			
5	.6	.5	2.0	1.2	* 1.2	* 129	86	34	12	4.6	2.2	1.8			
6	.6	* .5	1.0	1.2	1.2	213	80	32	12	4.4	2.0	1.8			
7	.6	.5	1.0	1.2	1.8	287	77	31	12	4.2	2.0	1.8			
8	.6	.5	1.0	1.2	668	228	73	* 29	11	4.2	2.0	1.8			
9	.6	.5	1.0	* 1.2	* 1600	195	* 71	29	10	4.0	2.0	1.8			
10	.6	.5	1.0	1.2	3020	182	66	28	9.8	3.8	1.8	1.8			
11	.6	.5	1.0	1.2	3250	170	63	28	9.0	3.8	1.8	1.8			
12	.6	.5	1.0	1.4	1700	162	59	27	8.7	3.8	1.8	1.6			
13	* .6	.5	* 1.0	1.4	766	* 160	56	27	8.4	3.6	1.8	1.6			
14	.6	.5	1.0	1.4	477	148	54	27	8.7	3.5	1.8	* 1.6			
15	.6	.5	1.0	1.4	550	137	53	27	9.0	3.5	* 1.8	1.6			
16	.6	.5	.8	1.4	493	133	53	27	9.0	3.5	1.8	1.6			
17	.6	.5	.8	1.4	417	127	50	27	8.7	* 3.4	1.8	1.4			
18	.6	.5	1.0	1.4	345	123	49	26	* 8.4	3.4	1.8	1.4			
19	.6	.5	1.0	1.4	661	121	49	24	7.8	3.4	1.8	1.4			
20	.6	1.4	1.0	3.7	560	115	* 48	24	7.2	3.4	1.8	1.3			
21	.6	* .6	1.0	1.8	* 461	113	49	* 22	6.9	3.2	1.8	1.3			
22	.6	.6	1.0	* 1.8	361	* 111	48	22	6.9	3.2	1.8	1.3			
23	.6	.6	1.0	1.4	312	125	46	21	6.6	3.2	1.8	1.3			
24	.6	.6	1.0	1.4	279	113	44	20	6.4	3.2	1.8	1.3			
25	.6	.8	1.0	* 1.4	243	109	44	20	6.2	3.2	1.8	1.4			
26	.6	.7	1.0	1.4	* 213	111	44	19	5.9	3.0	1.6	1.4			
27	.6	.6	1.0	1.4	195	113	44	19	5.6	2.9	* 1.6	1.4			
28	.6	.6	* 1.0	1.4	182	115	42	18	5.6	2.9	1.6	1.4			
29	.6	.7	1.0	1.4	-	115	41	18	5.4	2.8	1.6	1.4			
30	.6	* .7	1.0	1.4	-----	111	40	17	5.4	* 2.8	1.8	1.4			
31	.6	-----	1.0	1.4	-----	104	-----	16	-----	2.6	1.8	-----			
Total	18.6	17.7	172.9	43.7	16.7	62.4	4.4	58	1.8	12	80.5	267.6	113.5	58.2	46.9
Mean	0.60	0.59	5.58	1.41	599	144	60.4	26.0	8.92	3.66	1.88	1.56			
Max	0.6	1.4	68	3.7	3,250	287	100	38	15	5.2	2.4	1.8			
Min	0.6	0.5	0.8	1.0	1.2	104	40	16	5.4	2.6	1.6	1.3			
Ac-ft	37	35	343	87	33,250	8,840	3,590	1,600	531	225	115	93			

Calendar year 1961: Max 68 Min 0.4 Mean 1.39 Ac-ft 1,010  
 Water year 1961-62: Max 3,250 Min 0.5 Mean 67.3 Ac-ft 48,750

Peak discharge (base, 100 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1700	4.50	310	2-19	1100	4.55	850
2- 9	2230	9.00	5,360	3- 7	0100	3.50	345
2-15	1300	4.35	730				

## SANTA MARIA RIVER BASIN

11-1390. La Brea Creek near Sisquoc, Calif.

Location.--Lat 34°51'10", long 120°11'55", in SE $\frac{1}{4}$  sec.13, T.9 N., R.32 W., on right bank 2,100 ft upstream from mouth and 5.5 miles east of Sisquoc.

Drainage area.--93.8 sq mi.

Records available.--October 1943 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map).

Average discharge.--19 years, 4.65 cfs (3,370 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 1,360 cfs Feb. 11 (gage height, 4.90 ft); no flow Oct. 1 to Feb. 8, May 8 to Sept. 30. 1943-62: Maximum discharge, 3,320 cfs Jan. 15, 1952 (gage height, 5.94 ft); no flow for most of each year.

Remarks.--Records good. Perennial low flow from basin above sinks beneath stream bed before reaching station. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	34	14	0.7				
2					0	32	* 13	.7				
3					0	31	12	.5				
4					0	29	11	.1	(*)			
5					* 0	* 27	10	.1				
6		(*)			0	41	8.9	.1				
7					0	64	8.4	.1				
8					0	54	7.7	* 0				
9				(*)	77	47	* 6.8	0				
10					376	42	5.8	0				
11					683	36	5.5	0				
12					317	35	4.9	0				
13	(*)		(*)		121	* 32	4.5	0				
14					70	29	4.3	0				
15					80	27	4.3	0			(*)	
16					* 111	25	4.3	0				
17					97	24	3.5	0		(*)		
18					73	22	3.5	0				
19					210	24	3.5	0				
20					207	22	* 3.5	0				
21					* 163	19	3.1	* 0				
22				(*)	117	* 22	2.7	0				
23					84	31	1.8	0				
24					66	24	1.6	0				
25					57	22	1.4	0				
26					* 52	18	1.4	0				
27					43	17	1.4	0				
28			(*)		39	16	1.4	0				
29					-	16	1.1	0				
30		(*)			-----	15	1.0	0				
31					-----	14	-----	0	-----			-----
Total	0	0	0	0	3,043	891	1,563	2.3	0	0	0	0
Mean	0	0	0	0	109	28.7	5.21	0.07	0	0	0	0
Max	0	0	0	0	683	64	14	0.7	0	0	0	0
Min	0	0	0	0	0	14	1.0	0	0	0	0	0
Ac-ft	0	0	0	0	6,040	1,770	310	4.6	0	0	0	0
Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0												
Water year 1961-62: Max 683 Min 0 Mean 11.2 Ac-ft 8,120												

Peak discharge (base, 30 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	1730	4.90	1,360	2-19	1200	3.22	240
2-16	1800	2.91	138	3-22	2300	2.45	39



## SANTA MARIA RIVER BASIN

259

11-1395. Tepusquet Creek near Sisquoc, Calif.

Location.--Lat 34°52'20", long 120°14'35", in NE $\frac{1}{4}$  sec. 9, T. 9 N., R. 32 W., on downstream wingwall of right bridge abutment, 1.1 miles upstream from mouth and 3 miles east of Sisquoc.

Drainage area.--28.6 sq mi.

Records available.--October 1943 to September 1962.

Gage.--Water-stage recorder. Concrete control since July 1957. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 9, 1948, at same site at datum 0.9 ft higher.

Average discharge.--19 years, 1.27 cfs (919 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 500 cfs Feb. 9 (gage height, 4.25 ft), from rating curve extended above 220 cfs; no flow Oct. 1 to Dec. 1, Dec. 3 to Jan. 19.

1943-62: Maximum discharge, that of Feb. 9, 1962; no flow at times in some years.

Remarks.--Records good. No regulation. Some diversion by pumping from wells along stream to irrigate about 100 acres above gage.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20, Dec. 1-3, Jan. 12 to Feb. 8, May 18 to June 29, Aug. 15 to Sept. 30)

1.5	0	2.1	5.5
1.6	.1	2.2	18
1.7	.3	2.5	72
1.8	.6	3.0	167
1.9	1.2	3.5	282
2.0	2.3		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.1	4.9	2.6	0.9	0.9	0.6	0.4	0.3
2			* .4	0	.1	4.9	* 2.6	.9	.9	* .7	.5	.2
3			.1	0	.1	4.4	2.6	.9	.9	.6	.5	.2
4			0	0	.1	4.4	2.6	1.0	* .9	.6	.5	.2
5			0	0	* .1	4.4	2.3	.9	.9	.6	.5	.2
6		(*)	0	0	.1	7.7	2.2	.9	.9	.6	.5	.2
7			0	0	.1	7.7	1.9	1.1	.9	.6	.5	.2
8			0	0	6.3	5.5	1.9	* 1.1	.9	.6	a .5	.3
9			0	* 0	1 11	5.5	* 2.0	1.1	.9	.6	a .5	.3
10			0	0	2 35	4.9	1.9	1.1	.9	.6	a .5	.2
11			0	0	2 58	4.4	1.9	1.1	.9	.6	a .5	.3
12			0	0	* 63	4.4	1.6	1.1	.8	.7	a .4	.2
13	(*)		* 0	0	13	* 4.4	1.6	1.1	.8	.7	a .4	.2
14			0	0	11	a 4.5	1.5	1.0	.8	.7	a .4	* .2
15			0	0	24	a 4	1.6	1.0	.8	.7	* .4	.2
16			0	0	* 30	a 4	1.6	1.0	.7	.6	.4	.2
17			0	0	24	a 4	1.5	1.0	.7	* .6	.4	.1
18			0	0	20	a 4	1.5	1.0	* .7	.6	.3	.2
19			0	0	* 54	a 3.5	1.5	1.0	.7	.6	.4	.1
20			0	.6	30	a 3.5	1.5	1.0	.7	.6	.4	.1
21			0	.3	21	a 3.5	1.5	* 1.0	.7	.6	.4	.1
22			0	* .2	13	* 4.4	1.4	1.0	.7	.5	.4	.1
23			0	.2	12	4.9	1.4	1.0	.7	.6	.3	.1
24			0	.2	9.0	4.0	1.4	1.0	.7	.5	.3	.1
25			0	.2	7.7	3.6	1.4	1.0	.7	.6	.3	.1
26			0	.1	* 6.5	3.3	1.3	1.0	.7	.6	.2	.1
27			0	.1	6.5	3.3	1.3	1.0	.7	.6	* .2	.2
28			* 0	.1	4.9	3.3	1.2	1.0	.7	.5	.1	.1
29			0	.1	-	3.1	1.1	1.0	.7	.5	.2	.1
30		(*)	0	.1	-----	2.6	1.0	1.0	.6	* .5	.3	.1
31		-----	0	.1	-----	2.6	-----	1.0	-----	.5	.3	-----
Total	0	0	0.5	2.3	9 60.6	1 33.6	51.4	31.2	23.5	18.5	11.9	5.2
Mean	0	0	0.02	0.07	34.3	4.31	1.71	1.01	0.78	0.60	0.38	0.17
Max	0	0	0.4	0.6	258	7.7	2.6	1.1	0.9	0.7	0.5	0.3
Min	0	0	0	0	0.1	2.6	1.0	0.9	0.6	0.5	0.1	0.1
Ac-ft	0	0	1.0	4.6	1,910	265	102	62	47	37	24	10

Calendar year 1961: Max 0.4 Min 0 Mean 0.05 Ac-ft 35  
Water year 1961-62: Max 258 Min 0 Mean 3.39 Ac-ft 2,460

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1800	4.25	500	2-19	0600	2.50	72
2-14	1330	2.90	147				

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SANTA MARIA RIVER BASIN

11-1400. Sisquoc River near Garey, Calif.

Location.--Lat 34°53'38", long 120°18'20", in SW<sup>1</sup>/<sub>4</sub> sec.36, T.10 N., R.33 W., near right bank on downstream side of county road bridge, 0.6 mile northeast of Garey and 3.7 miles downstream from Tepusquet Creek.

Drainage area.--472 sq mi.

Records available.--October 1940 to September 1962. Records for water year 1941 incomplete, yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 360.8 ft above mean sea level (Santa Barbara County bench mark). Prior to Aug. 27, 1954, at site 3 miles upstream at different datum. Aug. 28, 1954, to Nov. 1, 1956, at site 0.7 mile upstream at different datum. Nov. 1, 1956, to Sept. 30, 1959, at same site at different datums. Since Oct. 1, 1959, supplementary gage near left bank at same datum.

Average discharge.--22 years, 34.0 cfs (24,610 acre-ft per year); median of yearly mean discharges, 8.2 cfs (5,900 acre-ft per year).

Extremes.--Maximum discharge during year, 7,200 cfs Feb. 10 (gage height, 7.80 ft), from rating curve extended above 2,300 cfs; no flow for many months.

1940-62: Maximum discharge, 13,000 cfs Jan. 23, 1943 (gage height, 8.46 ft, site and datum then in use), from rating curve extended above 2,000 cfs on basis of records for upstream stations; no flow for several months in each year.

Remarks.--Records good. Some diversion above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	97	65		0	0		
2					0	85	* 65		0	0		
3					0	85	62		0	.6		
4					0	72	59		* 0	0		
5					* 0	* 66	51		0	0		
6		(*)			0	142	43		0	2.3		
7					0	231	36	(*)	0	1.7		
8					181	181	33		0	0		
9					* 1.300	150	* 29		0	0		
10					4,780	123	25		0	2.3		
11					5,400	114	22		0	2.7		
12					* 2,210	110	17		0	2.9		
13	(*)		(*)		900	102	16		2.3	2.2		
14					300	* 94	12		4.4	0		
15					350	88	12		4.7	0	(*)	
16					* 409	77	11		1.0	0		
17					346	74	6.4		0	* 0		
18					307	70	2.9		.8	0		
19					820	* 77	0		3.0	0		
20					* 660	70	* 5.8		3.9	0		
21					454	67	5.0	(*)	4.2	0		
22					330	77	2.2		4.6	0		
23					* 270	102	1.2		.4	0		
24					234	84	.8		0	0		
25					200	77	.4		0	0		
26					178	74	1.2		0	0		
27					* 140	74	.6		0	0		
28			(*)		114	77	0		1.8	0		
29					-	77	0		3.0	0		
30					-	77	0		0	0		
31		(*)			-----	77	0		-----	0		
		-----			-----	67	-----		-----	0		
Total	0	0	0	0	19,883	2,961	5,845	0	34.1	14.7	0	0
Mean	0	0	0	0	710	95.5	19.5	0	1.14	0.47	0	0
Max	0	0	0	0	5,400	231	65	0	4.7	2.9	0	0
Min	0	0	0	0	0	66	0	0	0	0	0	0
Ac-ft	0	0	0	0	39,440	5,870	1,160	0	68	29	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0

Water year 1961-62: Max 5,400 Min 0 Mean 64.3 Ac-ft 46,570

Peak discharge (base, 100 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0100	7.80	7,200	3-7	0030	4.16	258
2-19	1200	5.18	920	3-22	1830	5.02	114

11-1410. Santa Maria River at Guadalupe, Calif.

Location.--Lat 34°58'35", long 120°34'15", in Guadalupe Grant, on downstream side of fifth bridge pier from left bank on State Highway 1, 0.5 mile north of Guadalupe, Santa Barbara County, and 4.5 miles upstream from mouth.

Drainage area.--1,742 sq mi.

Records available.--October 1940 to September 1962. Monthly discharge only, October 1940 to January 1941, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 64.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1934 (Corps of Engineers bench mark). Supplementary water-stage recorder near right bank at same datum. Jan. 19, 1941, to Aug. 11, 1955, at site 100 ft upstream at same datum. Oct. 5, 1945, to Aug. 11, 1955, supplementary gage near right bank 100 ft upstream at same datum.

Average discharge.--22 years, 35.2 cfs (25,480 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

Extremes.--Maximum discharge during year, 7,300 cfs Feb. 11 (gage height, 5.75 ft); no flow most of year.

1940-62: Maximum discharge, 32,800 cfs Jan. 16, 1952 (gage height, 8.18 ft); no flow for several months of each year.

Remarks.--Records fair. Several small surface diversions and extensive pumpage from wells for irrigation along stream above station.

Since February 1959, flow of Cuyama River regulated by Twitchell Reservoir (capacity, 240,000 acre-ft).

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

Feb. 9.....	7.1	Feb. 16.....	*43	Feb. 21.....	*175
10.....	*2,430	17.....	*27	Mar. 18.....	a1
11.....	5,450	18.....	1.1	19.....	a2
12.....	3,160	19.....	*385	20.....	*a2
13.....	a100	20.....	*378	21.....	a1
15.....	81				

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1962.....	12,237.2	5,450	0	437	24,270
March.....	6	2	0	.19	12
Calendar year 1961.....	—	0	0	0	0
Water year 1961-62.....	—	5,450	0	33.5	24,280

\* Discharge measurement made on this day.

a No gage-height record.

Note.---Flow occurred only on days listed above.

## ARROYO GRANDE BASIN

11-1413. Arroyo Grande near Arroyo Grande, Calif.

Location.--Lat 35°11'10", long 120°29'55", in NW $\frac{1}{4}$  sec.32, T.31 S., R.14 E., on downstream side of county road bridge, 0.9 mile downstream from Lopez Canyon Creek, and  $6\frac{1}{4}$  miles northeast of Arroyo Grande.

Drainage area.--68.3 sq mi.

Records available.--July 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,280 cfs Feb. 9 (gage height, 4.50 ft); no flow for several months.  
1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for most of each year.

Remarks.--Records good except those for Jan. 20, 21, which are poor. No regulation or diversion.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20 to Feb. 18, May 14-24)

0.56	0	1.3	19
.6	.1	1.6	43
.7	.5	1.9	82
.8	1.5	2.5	210
.9	3.1	3.0	380
1.0	5.6	3.5	610
1.1	9.0		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	31	10	0.8				
2			(*)	0	0	* 30	9.4	.7				
3				0	0	27	9.0	.6				
4				0	0	24	8.6	.4				
5				0	0	23	8.6	.4				
6				0	* 0	* 48	8.2	.4	(*)			
7		(*)		0	0	42	7.8	.4				
8				0	64	36	7.4	.4				
9				0	4 23	32	* 6.8	.3				
10				0	* 5 61	28	6.5	*.3				
11				* 0	3 56	25	6.2	.3				
12				0	* 1 40	24	5.9	.3				
13			(*)	0	* 7 2	22	5.0	.3				
14				0	1 53	20	5.0	.2			(*)	
15				0	* 4 07	* 19	5.0	.2				
16	(*)			0	* 2 00	18	* 5.0	.2				
17				0	1 48	17	5.0	.2				
18				0	1 49	17	4.6	.2				
19				0	* 2 90	16	3.6	.1		(*)		
20		(*)		38	1 88	15	3.6	.1				
21				1.7	1 58	14	3.6	.1				
22				* 0	1 18	* 20	3.6	*.1				
23				0	* 7 9	23	3.6	0				
24				0	67	18	3.3	0				
25				0	54	15	2.7	0				
26				0	* 53	14	2.0	0				
27				0	* 38	13	1.9	0				
28				0	33	12	1.6	0				
29			(*)	0	-	11	1.2	0				
30				0	-----	* 11	1.0	0				
31				0	-----	10	-----	0				
Total	0	0	0	39.7	3.7 51	67.5	1 55.7	7.0	0	0	0	0
Mean	0	0	0	1.28	134	21.8	5.19	0.23	0	0	0	0
Max	0	0	0	38	561	48	10	0.8	0	0	0	0
Min	0	0	0	0	0	10	1.0	0	0	0	0	0
Ac-ft	0	0	0	79	7,440	1,340	309	14	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
Water year 1961-62: Max 561 Min 0 Mean 12.7 Ac-ft 9,180

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	0800	3.89	252	2-19	0100	3.16	460
2- 9	1800	4.50	1,280	2-26	0300	2.28	156
2-15	0530	3.87	822	3- 6	1200	1.72	54

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

11-1415. Arroyo Grande at Arroyo Grande, Calif.

Location.--Lat 35°07'30", long 120°34'05", in Pismo Grant, on left bank at Arroyo Grande, San Luis Obispo County, 0.7 mile upstream from U.S. Highway 101.

Drainage area.--102 sq mi.

Records available.--October 1939 to September 1962. Records for water year 1940 incomplete, yearly estimate published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 97.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1934. Prior to July 10, 1947, at datum 0.50 ft higher.

Average discharge.--23 years, 20.9 cfs (15,130 acre-ft per year); median of yearly mean discharges, 9.8 cfs (7,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,130 cfs Feb. 9 (gage height, 6.95 ft); no flow Oct. 1 to Nov. 19.  
1939-62: Maximum discharge, 5,370 cfs Jan. 15, 1952 (gage height, 11.97 ft); no flow for several days in some years.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Many small and intermittent diversions by pumping from stream for irrigation above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.4	2.9	6.3	67	28	12	8.9	a5.0	4.1	1.9
2		0	7.1	3.3	6.3	* 74	28	12	9.2	a5.0	2.4	1.8
3	(*)	0	* 8.6	2.5	6.1	65	26	11	9.5	* 4.8	2.8	1.8
4		0	4.5	2.7	6.1	59	25	12	9.8	7.2	4.3	1.7
5		0	3.7	3.4	6.3	59	25	11	7.7	6.3	5.4	1.3
6		0	3.6	2.8	* 5.9	* 130	25	12	* 7.5	6.0	3.4	.9
7		* 0	3.4	2.6	6.5	94	24	12	7.7	5.2	3.3	.9
8		0	3.4	2.8	1.11	80	22	11	7.1	5.7	2.8	1.8
9	(*)	0	3.3	2.7	742	71	* 22	12	6.3	5.6	1.8	2.9
10		0	3.4	2.4	1.020	64	22	* 12	6.7	3.8	1.1	1.4
11		0	3.6	* 3.0	664	60	20	11	6.3	3.9	1.5	1.4
12		0	3.6	3.1	291	56	20	13	6.2	3.4	1.1	.6
13		0	* 3.6	4.0	117	50	19	13	7.7	4.2	1.0	* .9
14		0	3.6	3.5	157	45	19	12	7.1	3.6	* .6	1.1
15		0	3.1	3.9	601	* 43	19	11	6.4	4.2	.8	.6
16		0	3.0	3.6	* 352	40	17	10	6.8	3.0	1.4	1.9
17		0	3.1	3.6	198	39	16	10	7.0	2.5	2.7	3.8
18		0	3.3	4.0	202	39	16	11	* a6.5	* 2.1	1.9	2.9
19		0	3.6	4.3	416	38	16	11	a6.5	3.1	1.3	.9
20		* .3	3.7	88	347	36	17	12	a6.5	3.6	2.0	1.1
21		.9	3.6	18	287	* 36	16	11	a6.5	3.8	2.9	2.1
22		1.2	2.8	* 1.1	195	39	17	10	a6.0	3.5	1.4	3.0
23		1.4	2.3	7.9	* 151	45	15	* 9.2	a6.0	6.8	1.3	2.7
24		1.7	2.8	7.2	124	39	15	8.1	a6.0	5.5	1.5	2.1
25		1.9	2.6	7.0	104	36	15	8.6	a6.0	4.5	1.3	2.1
26		2.2	1.8	6.8	* 107	34	14	9.8	a5.5	3.3	5.0	2.7
27		2.5	1.7	6.3	83	31	* 14	9.7	a5.5	3.4	3.0	2.5
28		2.4	1.5	6.3	75	31	14	8.6	a5.5	5.3	* 1.8	3.9
29		* 2.8	* 2.1	6.1	-	31	15	7.3	a5.5	2.9	1.4	2.8
30		2.8	3.4	6.1	-----	* 31	13	7.8	a5.0	4.3	1.6	1.2
31		-----	2.5	6.1	-----	28	-----	8.6	-----	* 3.3	1.9	-----
Total	0	20.1	105.7	237.9	6387.5	1590	574	329.7	204.9	134.8	68.8	56.7
Mean	0	0.67	3.41	7.67	228	51.3	19.1	10.6	6.83	4.35	2.22	1.89
Max	0	2.8	8.6	88	1,020	130	28	13	9.8	7.2	5.4	3.9
Min	0	0	1.5	2.4	5.9	28	13	7.3	5.0	2.1	0.6	0.6
Ac-ft	0	40	210	472	12,670	3,150	1,140	654	406	267	136	112

Calendar year 1961: Max 9.8 Min 0 Mean 1.88 Ac-ft 1,360

Water year 1961-62: Max 1,020 Min 0 Mean 26.6 Ac-ft 19,260

Peak discharge (base, 40 cfs)

\* Discharge measurement made on this day.  
a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1200	2.40	85	2-15	0430	5.09	1,010
1-20	1300	3.54	302	3-6	0200	3.15	248
2-9	1600	6.95	2,130				

## SANTA ROSA CREEK BASIN

11-1422. Santa Rosa Creek near Cambria, Calif.

Location.--Lat 35°34'35", long 120°59'50", in NE¼ sec.21, T.27 S., R.9 E., on left bank 4.8 miles east of Cambria.

Drainage area.--12.5 sq mi.

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map).

Average discharge.--5 years, 9.19 cfs (6,650 acre-ft per year).

Extremes.--Maximum discharge during year, 2,250 cfs Feb. 9 (gage height, 8.19 ft), from rating curve extended above 930 cfs; no flow for several months.

1957-62: Maximum discharge, 2,520 cfs Feb. 1, 1960 (gage height, 10.36 ft), from rating curve extended above 390 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Flood of December 1955 reached a stage of 15.2 ft (from floodmarks).

Remarks.--Records good except those for period of no gage-height record, which are poor. Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 21 to July 9)

Oct. 1 to Jan. 19

Jan. 20 to Sept. 30

1.9	0	2.5	6.4	2.0	0	3.0	31
2.0	.1	2.7	14	2.1	.1	3.3	60
2.1	.3	3.1	38	2.2	.3	3.6	103
2.2	.8	3.5	76	2.3	.8	4.0	195
2.3	2.0	4.0	147	2.4	2.0	5.0	520
				2.5	4.2	6.0	950
				2.7	12		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		*0	80	0.8	3.8	25	11	3.3	2.0	0.5		
2		0	90	.7	3.3	27	11	3.3	1.7	.5		
3		0	19	*.7	3.1	23	*10	3.3	1.6	.5		
4	(*)	0	*8.6	.7	3.1	21	9.9	3.1	1.6	.4		
5		0	5.9	.7	3.1	43	9.5	2.9	*1.4	.4		
6		0	4.2	.7	*3.1	158	9.1	2.9	1.6	.4		
7		0	3.8	.7	12	*63	8.6	3.1	1.6	.4	(*)	
8		0	3.2	.7	269	38	8.6	*3.1	1.4	.3	0.2	
9		0	2.8	.7	*698	33	8.6	2.9	1.4	*.2		
10		0	2.2	.7	461	29	8.2	2.7	1.4	.3		(*)
11		0	2.2	.7	161	26	7.4	2.7	1.4	.3		
12		0	1.8	.7	67	25	7.1	2.2	1.4	.3		
13		0	1.7	1.0	201	23	7.1	2.4	1.4	.3		
14		0	1.7	.8	358	22	6.7	2.4	1.4	.2		
15		0	1.4	.7	392	23	6.7	2.9	1.3	.3		
16		0	1.3	.7	*174	21	6.4	2.9	1.3	.3		
17		0	1.3	.7	87	20	6.0	2.9	1.2	.3		
18		0	*1.3	.7	97	19	5.6	2.9	1.2	.2		
19		0	1.3	12	164	17	5.6	3.3	.9	.1		
20		0	1.1	318	113	19	5.6	3.3	.8	.3		
21		0	1.1	23	69	19	4.9	3.3	.8	.3		
22		0	1.0	17	*53	39	4.6	3.1	.8	.3		
23		0	.8	12	49	24	4.2	3.3	.8	.3	.1	
24		0	.9	9.9	47	19	4.2	3.1	.9	.3		
25		0	.9	8.6	39	17	4.0	2.9	.9	.2		
26		8.2	.9	7.4	33	16	4.0	2.9	.8	.3		
27		3.2	.9	6.0	29	15	4.0	3.1	.6	.3		
28		1.5	.9	5.6	27	14	4.0	2.9	.6	.2		(*)
29		1.5	.9	4.6	-----	13	3.8	2.7	.6	.2		
30		4.0	.9	4.0	-----	13	3.5	2.4	.6	.2		
31		-----	.8	4.0	-----	12	-----	2.4	-----	-----		-----
TOTAL	0	18.4	244.8	445.2	3,619.5	876	199.9	90.6	35.4	9.3	4.6	0
MEAN	0	0.61	7.90	14.4	129	28.3	6.66	2.92	1.18	0.30	0.15	0
MAX	0	8.2	90	318	698	158	11	3.3	2.0	0.5	-	0
MIN	0	0	0.8	0.7	3.1	12	3.5	2.2	0.6	0.1	-	0
AC-FT	0	36	486	883	7,180	1,740	396	180	70	18	9.1	0

CALENDAR YEAR 1961: MAX 90 MIN 0 MEAN 1.53  
WATER YEAR 1961-62: MAX 698 MIN 0 MEAN 15.2AC-FT 1,110  
AC-FT 11,000

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	2000	4.67	412	2-15	0200	6.50	1,200
1-20	0100	6.98	1,480	2-19	0400	4.50	345
2- 9	0500	8.19	2,250	3- 5	2400	4.68	408

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

Note.--No gage-height record July 30 to Sept. 30.

11-1425. Arroyo de la Cruz near San Simeon, Calif.

Location.--Lat 35°43'25", long 121°17'00", in Piedra Blanca Grant, on right bank 1.7 miles upstream from mouth and 7 miles northwest of town of San Simeon, San Luis Obispo County.

Drainage area.--41.4 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 22 ft (from topographic map).

Average discharge.--12 years, 50.2 cfs (36,340 acre-ft per year); median of yearly mean discharges, 35 cfs (25,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,750 cfs Feb. 9 (gage height, 9.50 ft); no flow for several months.

1950-62: Maximum discharge, 17,700 cfs Dec. 23, 1955 (gage height, 12.40 ft), from rating curve extended above 7,600 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20 to Feb. 8)

Oct. 1 to Feb. 8

Feb. 9 to Sept. 30

1.0	0	2.0	61	2.3	0	3.5	148
1.1	.1	2.5	148	2.4	.3	4.0	288
1.2	1.0	3.0	280	2.5	3.3	4.5	500
1.3	3.2	3.5	450	2.6	9.2	5.0	830
1.4	6.8	4.0	690	2.8	28	6.0	1,750
1.6	18	5.0	1,360	3.0	56	8.0	4,660
1.8	36	6.0	2,210				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		*0	1,320	3.8	17	84	36	8.6	3.3			
2		0	1,880	3.8	16	87	35	8.4	3.3			
3		0	237	*3.5	14	79	*32	8.0	2.8			
4	(*)	0	*96	3.2	14	69	31	7.7	2.3			
5		0	58	2.9	13	*188	28	7.5	*1.8			
6		0	40	2.9	*12	760	26	7.2	1.4			
7		0	29	2.7	246	232	24	7.2	1.4		(*)	
8		0	24	2.7	1,730	167	22	*6.6	1.4			
9		0	20	2.7	*3,240	137	21	6.6	1.4		(*)	
10		0	17	2.7	3,770	119	20	6.0	1.4			(*)
11		0	16	2.7	787	106	19	6.0	1.4			
12		0	14	2.7	278	98	18	6.0	1.4			
13		0	13	2.7	1,390	89	17	6.0	1.4			
14		0	12	2.9	1,900	81	16	5.4	1.4			
15		0	11	2.9	2,390	84	15	5.4	1.4			
16		0	10	2.9	*785	74	15	5.4	1.4			
17		0	9.5	2.9	432	67	14	4.8	1.4			
18		0	*9.0	2.9	735	62	13	4.8	1.4			
19		0	8.5	3.5	935	58	13	4.8	1.1			
20		0	8.1	1,690	546	61	12	4.8	1.1			
21		0	7.6	235	349	64	12	4.3	1.1			
22		0	7.2	127	*247	201	12	3.8	.8			
23		0	6.8	85	195	132	11	3.8	.6			
24		0	6.0	66	165	82	11	3.8	.5			
25		*0	6.0	52	137	69	10	3.8	.4			
26		233	5.6	41	119	61	10	3.8	.2			
27		19	4.8	34	103	55	9.7	3.8	.1			
28		.2	4.5	28	92	49	9.5	3.8	0			
29		93	4.2	24	-	46	9.2	3.8	0			
30		99	4.2	21	-----	41	9.0	3.8	0			
31		-----	4.2	20	-----	38	-----	3.8	-----			
Total	0	444.2	3,893.2	2,480.0	20,657	3,540	530.4	169.5	37.6	0	0	0
Mean	0	14.8	126	80.0	738	114	17.7	5.47	1.25	0	0	0
Max	0	233	1,880	1,690	3,770	760	36	8.6	3.3	0	0	0
Min	0	0	4.2	2.7	12	38	9.0	3.8	0	0	0	0
Ac-ft	0	881	7,720	4,920	40,970	7,020	1,050	336	75	0	0	0

Calendar year 1961: Max 1,880 Min 0 Mean 17.9 Ac-ft 12,980  
Water year 1961-62: Max 3,770 Min 0 Mean 87.0 Ac-ft 62,970

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0300	8.76	6,120	2-15	0200	9.38	7,450
1-20	0500	8.48	5,600	2-18	2100	6.58	2,470
2- 9	0600	9.50	7,750	3- 5	2400	6.83	2,820

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

Note.--Stage-discharge relation indefinite Apr. 15 to May 5.

## RAT CREEK BASIN

11-1428. Rat Creek near Lucia, Calif.

Location.--Lat 36°05'32", long 121°37'03", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.22, T.21 S., R.3 E., on left bank at culvert on State Highway 1 and 6.2 miles northwest of Lucia.

Drainage area.--0.82 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 190 ft (from topographic map).

Extremes.--Maximum discharge during year, 10 cfs Feb. 10 (gage height, 1.40 ft); from rating curve extended above 2 cfs on basis of computation of flow through culvert at gage height 2.16 ft; no flow for several months.

1960-62: Maximum discharge, that of Feb. 10, 1962; no flow for several months in each year.

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

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

0.4	0
.5	.1
.6	.4
.8	2.3
1.0	4.6
1.4	10

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)			0	0.7	0.2	0.1	0	0.1	0.1	
2					0	.6	.2	.1	0	.1	.1	
3				(*)	0	.5	*.2	.1	0	.1	0	
4	(*)		(*)		0	.5	.2	.1	0	.1	0	
5					0	*.4	.2	.1	*0	.1	0	
6					*0	2.5	.2	.1	.1	.1	*0	
7					0	1.8	.2	.1	.1	.1	0	
8					0	1.4	.2	**1	.1	.1	0	
9					2.8	1.2	.2	.1	.1	*.1	0	
10					9.0	1.0	.2	.1	.1	.1	0	(*)
11					6.9	.9	.2	.1	.1	.1	0	
12					3.0	.8	.2	.1	.1	.1	0	
13					2.0	.7	.2	.1	.1	.1	0	
14					3.0	.6	.2	.1	.1	.1	0	
15					8.6	.6	.1	.1	.1	.1	0	
16					6.7	.5	.1	.1	.1	.1	0	
17					5.9	.5	.1	.1	.1	.1	0	
18			(*)		4.5	.4	.1	.1	.1	.1	0	
19					3.5	.4	.1	.1	.1	.1	0	
20					3.0	.4	.1	.1	.1	.1	0	
21					2.5	.4	.1	.1	.1	.1	0	
22					2.0	.5	.1	.1	.1	.1	0	
23					1.6	.4	.1	.1	.1	.1	0	
24					1.4	.3	.1	.1	.1	.1	0	
25					1.2	.3	.1	.1	.1	.1	0	
26					1.0	.3	.1	.1	.1	.1	0	
27					.9	.3	.1	.1	.1	.1	0	
28					.6	.3	.1	.1	.1	.1	0	
29					-	.2	.1	.1	.1	.1	0	
30					-	.2	.1	.1	.1	.1	0	
31					-	.2	.1	.1	.1	.1	0	
Total	0	0	0	0	70.3	19.8	4.4	3.1	2.5	3.1	0.2	0
Mean	0	0	0	0	2.51	0.64	0.15	0.10	0.08	0.10	0.006	0
Max	0	0	0	0	9.0	2.5	0.2	0.1	0.1	0.1	0.1	0
Min	0	0	0	0	0	0.2	0.1	0.1	0	0.1	0	0
Ac-ft	0	0	0	0	1.39	3.9	8.7	6.1	5.0	6.1	0.4	0
(†)	0	5.1	1.7	3.0	14.7	1.9	0.3	0	0	0	0	0
Calendar year 1961: Max 0.1 Min 0 Mean 0.002 Ac-ft 1.4												
Water year 1961-62: Max 9.0 Min 0 Mean 0.28 Ac-ft 204												

Peak discharge (base, 15 cfs).--No peak above base.

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

\*\* Field estimate made on this day.

† Precipitation, in inches.

Note.--No gage-height record Feb. 12-14, Feb. 18 to Mar. 13, Mar. 15 to Apr. 2, Apr. 4 to May 7, May 9 to June 4.



11-1430. Big Sur River near Big Sur, Calif.

Location.--Lat 36°14'45", long 121°46'20", in SW 1/4 sec. 29, T.19 S., R.2 E., on right bank at downstream side of bridge, 0.4 mile upstream from Post Creek and 2.6 miles southeast of Big Sur.

Drainage area.--46.5 sq mi.

Records available.--March 1950 to September 1962. Prior to October 1959, published as Sur River at Big Sur.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Prior to Oct. 1, 1951, wire-weight gage at site 0.9 mile downstream at different datum.

Average discharge.--12 years, 88.4 cfs (64,000 acre-ft per year); median of yearly mean discharges, 60 cfs (43,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,160 cfs Feb. 15 (gage height, 8.80 ft), from rating curve extended above 1,400 cfs as explained below; minimum, 3.7 cfs Oct. 7.

1950-62: Maximum discharge, 5,680 cfs Apr. 2, 1958 (gage height, 11.56 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 11.05 ft; minimum that of Oct. 7, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-7, Oct. 17 to Dec. 1, June 14-20,  
Aug. 7-12, Sept. 20-30)

Oct. 1 to Feb. 9

Feb. 10 to Sept. 30

2.4	2.4	3.5	92	2.3	6.2	4.0	230
2.5	5.0	4.0	185	2.4	11	4.5	380
2.6	8.5	4.5	325	2.7	32	5.0	590
2.7	13	5.5	790	3.0	61	6.0	1,080
3.0	34	6.5	1,390	3.5	128	8.0	2,500

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	*6.1	183	14	20	171	100	48	31	20	12	9.6
2	4.5	6.4	*224	14	19	194	96	46	30	19	12	9.6
3	4.5	6.4	102	*14	18	181	*94	47	29	20	12	9.6
4	*4.5	6.1	*60	13	18	167	91	46	28	19	13	9.6
5	4.5	6.1	43	13	17	*257	85	44	*28	19	13	10
6	4.5	6.1	35	13	*17	637	83	43	29	20	*13	12
7	4.5	6.1	31	13	40	509	80	42	28	19	13	11
8	4.5	6.1	26	13	106	416	78	*42	28	19	13	11
9	5.4	6.1	24	12	1,190	352	78	42	27	*19	13	12
10	5.7	6.1	23	12	2,190	307	76	41	26	19	13	*13
11	5.7	6.1	21	12	*810	273	73	41	26	18	13	12
12	5.4	5.7	20	14	444	248	72	41	27	19	13	12
13	6.4	5.7	20	15	555	225	71	41	27	19	13	12
14	6.4	5.7	20	14	896	205	68	42	27	19	12	12
15	6.4	5.7	19	13	2,010	194	67	42	28	18	12	11
16	6.4	5.7	19	13	1,120	179	66	42	27	18	12	11
17	6.1	6.4	19	13	785	165	63	39	26	18	11	11
18	5.7	6.1	*19	13	701	156	61	39	23	18	12	11
19	5.7	7.1	18	22	653	149	61	38	22	18	13	11
20	5.7	21	17	239	545	147	60	38	21	17	12	11
21	5.7	9.0	17	67	452	137	59	37	21	16	11	11
22	6.4	6.8	17	46	370	197	57	37	21	16	11	11
23	6.1	6.1	16	39	310	159	56	34	21	15	11	11
24	6.1	6.1	15	34	280	143	54	34	21	15	12	11
25	6.1	8.5	15	31	250	133	53	35	20	14	11	11
26	5.7	18	15	29	223	127	52	35	20	14	9.6	11
27	5.7	11	15	27	198	119	51	35	20	15	9.6	11
28	6.1	8.5	14	25	183	115	56	35	20	13	9.6	11
29	6.1	15	14	23	-----	110	51	35	20	13	9.6	11
30	6.1	81	14	22	-----	106	50	33	21	12	9.6	11
31	6.1	-----	14	21	-----	102	-----	32	-----	12	9.6	-----
TOTAL	173.2	306.8	1,109	863	14,420	6,580	2,062	1,226	743	530	363.6	331.4
MEAN	5.59	10.2	35.8	27.8	515	212	68.7	39.5	24.8	17.1	11.7	11.0
MAX	6.4	81	224	239	2,190	637	100	48	31	20	13	13
MIN	4.5	5.7	14	12	17	102	50	32	20	12	9.6	9.6
AC-FT	344	609	2,200	1,710	28,600	13,050	4,090	2,430	1,470	1,050	721	657

CALENDAR YEAR 1961: MAX 224 MIN 4.3 MEAN 17.0 AC-FT 12,270  
WATER YEAR 1961-62: MAX 2,190 MIN 4.5 MEAN 78.7 AC-FT 56,930

Peak discharge (base, 700 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0200	8.67	3,040	3-5	2300	5.48	820
2-15	0200	8.80	3,160				

## CARMEL RIVER BASIN

11-1432. Carmel River at Robles del Rio, Calif.

Location.--Lat 36°28'28", long 121°43'40", in Los Laureles Grant, on downstream side of county road bridge at Robles del Rio, Monterey County, 0.2 mile downstream from Hitchcock Canyon and 11 miles southeast of town of Carmel.

Drainage area.--193 sq mi.

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map).

Average discharge.--5 years, 64.2 cfs (46,480 acre-ft per year).

Extremes.--Maximum discharge during year, 2,490 cfs Feb. 10 (gage height, 7.70 ft); no flow for several months.

1957-62: Maximum discharge, 7,100 cfs Apr. 2, 1958 (gage height, 10.50 ft), from rating curve extended above 2,700 cfs; no flow at times each year.

Flood of Dec. 23, 1955, reached a stage of 11.7 ft, from floodmarks (discharge, 6,930 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records poor. Flow regulated by Los Padres Reservoir (capacity, 3,000 acre-ft) and San Clemente Reservoir (capacity, 1,600 acre-ft).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 21 to Feb. 11, Feb. 13-20, Mar. 5-7,  
Apr. 5-10)

2.2	0	2.9	7.6	4.0	160
2.4	.2	3.0	13	4.5	300
2.5	.4	3.1	20	5.0	510
2.6	.9	3.4	55	6.0	1,090
2.7	1.9	3.7	100	7.0	1,900
2.8	4.1				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	1.0	165	106	24	8.0	0.5		
2			(*)	0	*1.0	178	100	22	7.0	.4		
3				0	1.2	175	97	21	6.0	.3		
4	(*)			0	1.4	163	92	20	5.5	.3		
5				0	1.4	160	88	18	5.2	.3		
6				0	1.4	862	83	17	4.9	.3		
7				0	1.6	622	79	15	4.6	.3		
8				0	1.8	500	77	*14	4.5	.3		
9				0	330	424	76	19	4.2	.2		
10		(*)		0	1,820	360	72	27	4.0	.2		
11				*0	*717	312	*67	28	3.7	.1		
12			(*)	0	352	273	63	27	3.4	*.1		
13				0	275	243	60	28	*3.0	.1		
14				0	457	222	57	31	3.0	.1	(*)	
15				0	1,740	210	53	31	3.4	0		
16				0	1,200	193	51	30	3.4	0		
17				0	778	180	48	28	3.7	0		
18				0	674	173	45	27	1.9	0		
19				0	640	156	42	25	1.4	0		(*)
20				0	520	*152	40	22	.9	0		
21				.9	424	144	38	19	.7	0		
22				4.8	344	163	36	18	.7	0		
23				1.9	282	190	33	17	.6	0		
24				.4	267	163	31	15	.6	0		
25				.4	246	152	28	13	.5	0		
26				.5	225	142	26	12	.5	0		
27				.7	*193	136	24	10	.4	0		
28				.4	178	132	24	10	.4	0		
29				.9	-	124	24	9.5	.5	0		
30				.6	-----	118	24	9.1	.5	0		
31				1.0	-----	112	-----	8.7	-----	0		
Total	0	0	0	13.2	11,672.8	7,299	1,684	615.3	87.1	3.5	0	0
Mean	0	0	0	0.43	417	235	56.1	19.8	2.90	0.11	0	0
Max	0	0	0	4.8	1,820	862	106	31	8.0	0.5	0	0
Min	0	0	0	0	1.0	112	24	8.7	0.4	0	0	0
Ac-ft	0	0	0	26	23,150	14,480	3,340	1,220	173	6.9	0	0

Calendar year 1961: Max 18 Min 0 Mean 1.34 Ac-ft 968  
Water year 1961-62: Max 1,820 Min 0 Mean 58.6 Ac-ft 42,400

Peak discharge (base, 1,000 cfs).--Feb. 10 (0500) 2,490 cfs (7.70 ft); Feb. 15 (0500) 2,340 cfs (7.58 ft).

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

Note.--No gage-height record Apr. 11 to May 8, May 20 to June 12.

11-1435. Salinas River near Pozo, Calif.

Location.--Lat 35°18'20", long 120°24'20", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.18, T.30 S., R.15 E., on right bank 0.4 mile downstream from highway bridge, 1.5 miles downstream from Pozo Creek, 1.7 miles west of Pozo, and 7 miles upstream from Salinas Dam.

Drainage.--74.1 sq mi.

Records available.--July 1942 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,350 ft (from topographic map).

Average discharge.--20 years, 14.2 cfs (10,280 acre-ft per year); median of yearly mean discharge, 6.2 cfs (4,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,960 cfs Feb. 9 (gage height, 9.90 ft); no flow Oct. 1 to Nov. 12.

1942-62: Maximum discharge, 7,210 cfs Jan. 21, 1943 (gage height, 13.35 ft), from rating curve extended above 4,800 cfs; no flow at times.

Remarks.--Records fair. No storage or diversion above station. Water is stored in Salinas Reservoir below station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20)

Oct. 1 to Feb. 7

Feb. 8 to Sept. 30

3.1	0	3.5	12	2.9	0.1	4.0	140
3.2	.3	3.7	34	3.0	1.4	5.0	350
3.3	1.9	4.0	82	3.1	6.4	6.0	640
3.4	5.8	4.5	196	3.3	27	7.0	980
				3.6	70	8.0	1,500

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.0	1.1	a1.7	37	10	2.7	2.3	0.7	0.4	0.2
2		0	26	.9	a1.6	35	9.2	2.7	2.0	.7	.2	.2
3	(*)	*0	4.2	1.1	a1.5	31	8.2	2.3	1.7	.7	.2	.2
4		0	2.3	*1.1	a1.4	26	*8.2	2.3	1.7	.5	.2	.2
5		0	*1.9	1.1	a1.4	25	8.2	2.3	1.7	.5	.2	.2
6		0	1.6	1.3	a1.3	*179	7.3	2.0	*1.4	.5	.4	.2
7		0	1.6	1.3	*3.1	146	6.4	2.0	1.4	.5	.4	.2
8		0	1.6	1.4	*702	96	6.4	2.0	1.1	.4	*.4	.2
9		0	1.4	1.3	*1,260	76	5.5	2.0	1.1	.4	.2	.2
10		0	1.4	1.3	977	61	5.5	2.3	1.1	*.4	.2	.2
11		0	1.1	1.3	917	49	4.8	*2.3	1.1	.4	.2	*.1
12		0	1.1	1.4	389	43	4.8	2.7	.9	.4	.2	.1
13		*.1	1.1	1.6	186	37	4.8	2.7	1.1	.7	.2	.1
14		.2	1.3	1.6	157	32	4.2	2.7	1.4	.7	.2	.1
15		.2	1.4	1.6	*403	30	4.2	2.7	1.4	.7	.2	.1
16		.3	1.1	1.6	397	25	4.2	2.7	1.1	.5	.2	.1
17		.3	1.1	1.6	226	23	4.2	2.7	.9	.4	.1	.1
18		.5	1.3	1.6	237	19	3.7	2.7	.7	.2	.1	.1
19		.8	1.3	1.7	415	19	3.7	2.7	.7	.2	.1	.1
20		1.7	1.3	190	*256	17	3.7	2.7	.7	.2	.1	.1
21		1.4	1.3	16	214	16	3.7	3.2	.7	.2	.1	.1
22		1.6	.9	7.0	156	19	3.7	3.2	.7	.2	.1	.1
23		1.6	.9	5.0	117	35	3.2	3.2	.5	.2	.1	.1
24		1.6	.9	3.9	95	24	3.2	3.2	.7	.2	.1	.1
25		3.1	.9	3.5	78	19	3.2	3.2	.7	.2	.1	.1
26		3.9	.9	3.1	66	17	3.2	3.2	*.7	.2	.1	.1
27		3.5	.8	a2.6	52	14	3.2	3.2	.9	.2	.1	.1
28		3.1	.9	a2.4	43	14	3.2	3.2	*.9	.2	.1	.1
29		3.5	.9	a2.2	-	13	2.7	2.7	.9	.2	.1	.1
30		3.1	1.1	a2.0	-----	12	2.7	2.7	.7	.2	.1	.1
31		-----	1.1	a1.8	-----	11	-----	2.3	-----	.4	.1	-----
Total	0	30.5	69.7	265.4	7,355.0	1,200	149.2	82.5	32.9	12.1	5.5	4.0
Mean	0	1.02	2.25	8.56	26.3	38.7	4.97	2.66	1.10	0.39	0.18	0.13
Max	0	3.9	26	190	1,260	179	10	3.2	2.3	0.7	0.4	0.2
Min	0	0	0.8	0.9	1.3	11	2.7	2.0	0.5	0.2	0.1	0.1
Ac-ft	0	60	138	526	14,590	2,380	296	164	65	24	11	7.9

Calendar year 1961: Max 26 Min 0 Mean 0.80 Ac-ft 577  
Water year 1961-62: Max 1,260 Min 0 Mean 25.2 Ac-ft 18,260

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0200	4.15	116	2-15	0700	5.86	598
1-20	1000	5.52	496	2-19	0100	6.12	676
2- 9	1900	9.90	2,960	3- 6	1500	4.77	294

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SALINAS RIVER BASIN

11-1440. Toro Creek near Pozo, Calif.

Location.--Lat 35°19'20", long 120°25'20", in SE $\frac{1}{4}$  sec.12, T.30 S., R.14 E., on left bank 300 ft upstream from mouth and 3 miles north-west of Pozo. Prior to Dec. 8, 1961, at site 250 ft downstream.

Drainage area.--9.61 sq mi.

Records available.--June 1942 to September 1962. Prior to October 1961 low-water records only. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,320 ft (from topographic map). Prior to Dec. 8, 1961, at site 250 ft downstream at datum 11.83 ft lower.

Extremes.--Maximum discharge during year, 31 cfs Feb. 9 (gage height, 4.24 ft); no flow at times.  
1942-62: No flow at times in most years.

Remarks.--Records fair. Small diversions above station for irrigation and stock reservoir.

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

Oct. 1 to Dec. 7				Dec. 8 to Sept. 30			
1.3	0.1	1.8	1.4	3.1	0	3.4	1.7
1.4	.3	1.9	2.0	3.2	.1	3.5	3.1
1.6	.7			3.3	.7	3.7	7.6

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.9	0.2	0.3	1.1	0.4	0.2	0.2	0.1	0.1	a 0.1
2	.1	*.2	1.9	.3	.3	1.0	.4	.2	.2	.1	.1	a.1
3	*.1	.2	.4	.3	.3	1.0	.4	.2	.2	.1	.1	a.1
4	.1	.3	.4	*.3	.3	1.0	*.4	.2	.2	.1	.1	a.1
5	.1	.3	*.4	.3	.2	1.8	.4	.2	.2	.1	.1	a.1
6	.1	.3	.4	.3	.3	*.4.4	.4	.2	*.2	.1	.1	a.1
7	.1	.3	.3	.3	*.4	1.1	.4	.2	.2	.1	.1	a.1
8	.1	.3	.3	.3	*1.4	1.1	.4	.2	.2	.1	*.1	a.1
9	.1	.3	.3	.3	*7.2	1.0	.4	.2	.2	.1	.1	a.1
10	.2	.3	.3	.2	5.0	1.0	.8	*.2	.2	*.1	.1	a 0
11	.2	.3	.3	.3	5.2	1.0	.4	.2	.2	.1	.1	* a 0
12	.1	.3	.3	.3	1.7	1.0	.4	.2	.2	.1	.1	0
13	.1	.3	.3	.3	1.3	.9	.4	.2	.2	.1	0	0
14	.2	.3	.3	.2	1.7	.4	.4	.2	.2	.1	0	.1
15	.2	.3	.3	.2	*6.5	.7	.4	.2	.2	.1	.1	0
16	.3	.4	.3	.2	3.6	.8	.3	.2	.2	.1	.1	0
17	.2	.3	.3	.2	1.5	.7	.6	.2	.2	.1	.1	.1
18	.1	.3	.3	.2	3.8	.7	.4	.2	.2	.1	.1	0
19	.2	.3	.3	.3	2.3	.7	.4	.2	.1	.1	.1	0
20	.2	1.2	*.3	1.5	1.5	.7	.3	.2	.1	.1	.1	0
21	.2	.4	.3	.6	1.3	.6	.3	.2	.1	.1	.1	0
22	.2	.3	.3	.6	1.2	.7	.3	.2	.1	.1	a.1	.1
23	.2	.3	.3	.4	1.2	.6	.3	.2	.2	.1	a.1	.1
24	.2	.3	.3	.4	1.2	.5	.2	.2	.2	.1	a.1	.1
25	.2	.4	.3	.3	1.1	.5	.2	.2	.2	.1	a.1	.1
26	.2	.3	.3	.3	1.1	.3	.2	.2	.2	0	a.1	.1
27	.3	.4	.3	.3	1.1	.3	.2	.2	.2	.1	a.1	.1
28	.2	.4	.3	.3	1.1	.3	.2	.2	*.2	.1	a.1	.1
29	.2	.4	.3	.3	-	.3	.2	.2	.2	.1	a.1	0
30	.3	.4	.3	.3	-----	.3	.2	.2	.1	.1	a.1	0
31	.2	-----	.2	.3	-----	.3	-----	.2	-----	.1	a.1	-----
Total	5.3	10.8	12.4	10.6	54.1	28.4	10.7	6.2	5.5	3.0	2.9	1.8
Mean	0.17	0.36	0.40	0.34	1.93	0.92	0.36	0.20	0.18	0.10	0.09	0.06
Max	0.3	1.2	1.9	1.5	7.2	4.4	0.8	0.2	0.2	0.1	0.1	0.1
Min	0.1	0.1	0.2	0.2	0.2	0.5	0.2	0.2	0.1	0	0	0
Ac-ft	11	21	25	21	107	56	21	12	11	6.0	5.8	3.6

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 7.2 Min 0 Mean 0.42 Ac-ft 300

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0100	2.25	10	2-18	2200	4.03	20
2- 9	1500	4.24	31	3- 6	0800	3.98	18
2-15	0200	4.14	25				

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

11-1445. Salinas Reservoir near Pozo, Calif.

Location.--Lat 35°20'15", long 120°30'05", in NW 1/4 sec. 8, T.30 S., R.14 E., at left end of dam on Salinas River, 2 miles upstream from Pilitas Creek and 7.5 miles northwest of Pozo.

Drainage area.--112 sq mi.

Records available.--December 1941 to September 1962.

Gage.--Water-stage-recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Mar. 9, 1942, staff gage at same site and datum.

Extremes.--Maximum contents during year, 27,100 acre-ft Feb. 19 (elevation, 1,302.30 ft); minimum, 7,390 acre-ft Jan. 17, 18.  
1941-62: Maximum contents, 30,900 acre-ft Apr. 3, 1958 (elevation, 1,306.92 ft); minimum, 1,730 acre-ft Nov. 6-10, 1943.

Remarks.--Reservoir is formed by concrete-arch dam, outlet closed Dec. 6, 1941. Usable capacity, 26,000 acre-ft between elevations 1,220.3 (bottom of outlet pipe) and 1,301.0 ft (spillway crest) above mean sea level. Water diverted at dam into pipeline to small reservoir 10 miles below, from which it is pumped to Camp San Luis Obispo and city of San Luis Obispo for water supply; water is also released down natural channel of river. Figures given herein represent usable contents.

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

1,266	7,950
1,280	12,800
1,303	27,600

Contents, in acre-feet at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,260	7,690	7,540	7,530	8,340	26,100	26,100	25,700	25,100	22,200	21,200	20,200
2	8,250	7,680	7,720	7,520	8,340	26,100	26,100	25,700	25,100	22,200	21,200	20,200
3	8,230	7,670	7,730	7,510	8,340	26,100	26,100	25,700	25,000	22,200	21,200	20,100
4	8,210	7,660	7,720	7,500	8,340	26,200	26,100	25,700	25,000	22,100	21,100	20,100
5	8,190	7,650	7,720	7,500	8,340	26,300	26,100	25,700	25,000	22,100	21,100	20,100
6	8,170	7,630	7,720	7,490	8,340	26,600	26,100	25,700	25,000	22,100	21,100	20,000
7	8,150	7,610	7,710	7,480	8,350	26,400	26,100	25,600	25,000	22,000	21,000	20,000
8	8,140	7,590	7,700	7,470	10,200	26,200	26,100	25,600	24,900	22,000	21,000	20,000
9	8,110	7,570	7,690	7,470	13,900	26,100	26,100	25,600	24,900	22,000	21,000	19,900
10	8,090	7,550	7,690	7,460	17,100	26,200	26,000	25,600	24,900	22,000	20,900	19,900
11	8,080	7,530	7,680	7,450	20,100	26,300	26,000	25,500	24,800	21,900	20,900	19,900
12	8,060	7,510	7,680	7,440	21,300	26,300	26,000	25,500	24,800	21,900	20,900	19,900
13	8,040	7,490	7,670	7,430	22,000	26,300	26,000	25,500	24,800	21,900	20,800	19,800
14	8,020	7,470	7,660	7,420	22,600	26,300	26,000	25,500	24,800	21,800	20,800	19,800
15	8,000	7,460	7,660	7,410	23,200	26,300	26,000	25,500	24,800	21,800	20,800	19,800
16	7,980	7,450	7,650	7,400	25,100	26,200	26,000	25,400	24,700	21,800	20,700	19,800
17	7,960	7,430	7,650	7,390	25,700	26,200	26,000	25,400	24,700	21,700	20,700	19,700
18	7,940	7,420	7,650	7,390	26,500	26,200	26,000	25,400	24,700	21,700	20,700	19,700
19	7,920	7,410	7,630	7,420	27,100	26,200	25,900	25,400	24,700	21,700	20,600	19,700
20	7,900	7,480	7,620	8,060	26,900	26,200	25,900	25,300	24,700	21,600	20,600	19,600
21	7,890	7,470	7,620	8,170	26,600	26,200	25,900	25,300	24,600	21,600	20,600	19,600
22	7,870	7,460	7,600	8,220	26,200	26,200	25,900	25,300	24,600	21,600	20,500	19,600
23	7,840	7,450	7,590	8,250	26,100	26,200	25,900	25,300	24,100	21,500	20,500	19,600
24	7,830	7,450	7,590	8,270	26,100	26,200	25,900	25,300	23,400	21,500	20,500	19,500
25	7,810	7,490	7,580	8,280	26,100	26,200	25,800	25,200	22,800	21,500	20,400	19,500
26	7,790	7,490	7,570	8,290	26,100	26,200	25,800	25,200	22,500	21,400	20,400	19,500
27	7,780	7,480	7,560	8,300	26,100	26,200	25,800	25,200	22,300	21,400	20,400	19,400
28	7,760	7,470	7,550	8,300	26,100	26,200	25,800	25,200	22,300	21,400	20,300	19,400
29	7,740	7,470	7,550	8,310	-	26,200	25,800	25,200	22,300	21,300	20,300	19,400
30	7,730	7,480	7,540	8,320	-----	26,200	25,800	25,100	22,300	21,300	20,300	19,400
31	7,710	-----	7,530	8,330	-----	26,200	-----	25,100	-----	21,300	20,200	-----
(+)	1,267.31	1,266.65	1,266.80	1,269.08	1,301.16	1,301.19	1,300.70	1,299.88	1,295.79	1,294.39	1,292.90	1,291.68
(#)	- 550	- 230	+ 50	+ 800	+ 17,800	+ 100	- 400	- 700	- 2,800	- 1,000	- 1,100	- 800
(+)	414	304	198	241	145	159	323	425	437	468	550	451

Calendar year 1961..... +4,970      ++ 4,200

Water year 1961-62..... +11,170      ++ 4,120

+ Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

++ Diversion, in acre-feet, for municipal supply; furnished by county of San Luis Obispo.

11-1450. Salinas River above Pilitas Creek, near Santa Margarita, Calif.

Location.--Lat 35°20'55", long 120°30'40", in NE $\frac{1}{4}$  sec.6, T.30 S., R.14 E., on downstream side of right bank bridge pier, 200 ft upstream from Pilitas Creek, 2 miles downstream from Salinas Dam, and 6 miles southeast of Santa Margarita.

Drainage area.--114 sq mi.

Records available.--July 1942 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,150 ft (from topographic map).

Average discharge.--20 years, 13.4 cfs (9,700 acre-ft per year).

Extremes.--Maximum discharge during year, 431 cfs Feb. 20 (gage height, 2.87 ft); no flow during several months.  
1942-62: Maximum discharge, 4,720 cfs Apr. 3, 1958 (gage height, 8.68 ft); no flow at times during 1944, 1947-62.

Remarks.--Records fair. Flow regulated by Salinas Reservoir beginning in 1941 and water diverted to Camp San Luis Obispo and city of San Luis Obispo (see preceding page).

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

0.4	0	1.0	11
.5	.1	1.2	30
.6	.4	1.5	72
.7	1.2	2.0	180
.8	2.9	2.8	410
.9	5.8		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.4	0	0.1	59	11	0.1	0	0	0.2	
2			4.2	0	.1	37	11	.1	0	.1	.2	
3	(*)	(*)	.9	0	0	6.2	12	0	0	.4	.2	
4			.4	* 0	0	14	* 9.5	0	0	.4	.2	
5			* 2	0	0	20	7.4	0	0	.4	.3	
6			.2	0	0	* 116	6.5	0	* 0	.4	.4	
7			.1	0	* 2	243	5.0	0	0	.4	.3	
8			.1	0	* 4.7	191	4.1	0	0	.4	.2	
9			.1	0	53	110	3.5	0	0	.5	.3	
10			.1	0	30	20	2.9	0	0	* .5	.3	
11			.1	0	25	35	2.3	* 0	0	.4	.3	(*)
12			.1	0	7.4	46	1.5	0	0	.2	.3	
13			.1	0	3.8	44	5.2	0	0	.1	.2	
14			.1	0	6.1	40	.8	0	0	.2	.2	
15			.1	0	33	39	.4	0	0	.2	.2	
16			0	0	16	43	.3	0	0	.2	.2	
17			0	0	5.7	34	.2	0	0	.2	.2	
18			0	0	20	26	.2	0	0	.2	.1	
19			0	0	359	27	.2	0	0	.1	0	
20			0	9.9	* 396	30	.1	0	0	1.0	0	
21			0	1.3	365	* 25	.1	0	0	.4	0	
22			0	.9	320	27	.1	0	0	.2	0	
23			0	.6	171	34	.1	0	* 211	.2	0	
24			0	.4	119	33	.1	0	326	.1	0	
25			0	.3	74	27	.1	0	262	.1	0	
26			0	.2	71	26	.1	0	122	.1	0	
27			0	.2	37	19	.1	0	108	.1	0	
28			0	.2	47	18	.1	0	.5	.1	0	
29			0	.2	-	16	.1	0	.2	.1	0	
30			0	.1	-----	14	.1	0	.1	.1	0	
31			0	.1	-----	13	-----	0	-----	.2	0	-----
Total	0	0	7.2	14.4	2,164.1	1,432.2	85.1	0.2	1,029.8	8.0	4.3	0
Mean	0	0	0.23	0.46	77.3	46.2	2.84	0.006	34.3	0.26	0.14	0
Max	0	0	4.2	9.9	396	243	12	0.1	326	1.0	0.4	0
Min	0	0	0	0	0	6.2	0.1	0	0	0	0	0
Ac-ft	0	0	14	29	4,290	2,840	169	0.4	2,040	16	8.5	0

Calendar year 1961: Max 4.2 Min 0 Mean 0.03 Ac-ft 25  
Water year 1961-62: Max 396 Min 0 Mean 13.0 Ac-ft 9,410

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

11-1470. Jack Creek near Templeton, Calif.

Location---Lat 35°34', long 120°48', in Paso de Robles Grant, on left bank 1.4 miles upstream from mouth, 1.8 miles northwest of Oakdale School, and 5.6 miles west of Templeton, San Luis Obispo County.

Drainage area---25.3 sq mi.

Records available---October 1949 to September 1962.

Gage---Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

Average discharge---13 years, 12.8 cfs (9,270 acre-ft per year); median of yearly mean discharges, 7.5 cfs (5,400 acre-ft per year).

Extremes---Maximum discharge during year, 4,320 cfs Feb. 9 (gage height, 9.08 ft); no flow for several months.

1949-62: Maximum discharge, 5,040 cfs Jan. 25, 1956 (gage height, 9.56 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks---Records good. No regulation. Small diversions above station for irrigation.

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

Oct. 1 to Feb. 8

Feb. 9 to Sept. 30

1.3	0	2.4	10	1.4	0	2.3	9.0
1.6	.3	2.5	14	1.5	.1	2.5	18
1.8	.9	2.7	25	1.6	.2	2.8	39
1.9	1.4	2.9	41	1.7	.5	3.3	100
2.0	2.3	3.2	74	1.8	.9	4.0	250
2.1	3.5	3.5	120	1.9	1.6	4.5	400
2.2	5.0	4.0	232	2.0	2.6	5.0	615
2.3	7.0	4.5	390	2.1	4.1	6.0	1,150
		5.0	615	2.2	6.2	7.0	1,910

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			62	0.6	4.0	30	12	2.4	0.9	0.4		
2			210	.6	3.5	34	11	2.2	.9	.4		
3	(*)	(*)	32	.5	3.1	30	11	2.1	.9	.4		
4			11	.5	2.9	27	9.8	2.0	.8	.4		
5			* 5.4	* .5	2.7	29	* 9.4	1.8	.7	.4		
6			3.5	.5	2.4	364	8.7	1.7	*.2	.4		
7			2.4	.5	7.2	*121	8.4	1.6	.4	.3		
8			1.9	.5	406	78	7.9	1.6	.4	.3		
9			1.4	.5	1,540	60	7.0	*1.5	.4	.3	(*)	
10			1.2	.5	813	48	6.8	1.4	.3	*.3		(*)
11			1.0	.5	363	39	6.2	1.4	.5	.3		
12			.9	.5	161	34	5.8	1.4	.6	.3		
13			.8	.5	176	30	5.4	1.4	.6	.3		
14			.8	.5	* 450	27	5.4	1.4	.7	.3		
15			.7	.5	829	26	5.2	1.3	.8	.2		
16			.7	.5	247	23	4.7	1.4	.8	.2		
17			.6	.5	142	21	4.5	1.3	.8	.2		
18			.5	.5	159	19	4.1	1.3	.7	.2		
19			.6	.7	245	18	4.0	1.3	.6	.2		
20			.5	596	208	18	4.0	1.3	.5	.1		
21			.5	47	142	18	3.7	1.3	.5	.1		
22			.6	28	100	39	3.5	1.3	.5	.1		
23			.6	21	78	31	3.2	1.3	.5	.1		
24			.7	20	69	22	3.1	1.2	.5	.1		
25			.6	14	56	20	3.1	1.3	.5	0		
26			.6	* 10	46	18	2.9	1.2	.4	0		
27			.6	8.8	37	17	2.8	1.2	.4	0		
28			.6	7.0	33	15	2.6	1.3	.4	0		
29			.6	6.0	-	15	2.5	1.2	.4	0		
30			.6	5.0	-----	14	2.4	1.1	.5	0		
31			.6	4.6	-----	12	-----	1.0	-----	0		
Total	0	0	344.5	777.3	6,325.8	1,297	171.1	45.2	17.1	6.3	0	0
Mean	0	0	11.1	25.1	226	41.8	5.70	1.46	0.57	0.20	0	0
Max	0	0	210	596	1,540	364	12	2.4	0.9	0.4	0	0
Min	0	0	0.5	0.5	2.4	12	2.4	1.0	0.2	0	0	0
Ac-ft	0	0	683	1,540	12,550	2,570	339	90	34	12	0	0

Calendar year 1961: Max 210 Min 0 Mean 1.84 Ac-ft 1,330

Water year 1961-62: Max 1,540 Min 0 Mean 24.6 Ac-ft 17,820

Peak discharge (base, 500 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	2300	5.17	700	2-15	0200	7.37	2,240
1-20	0400	7.62	2,490	3- 6	0800	4.83	530
2- 9	0700	9.08	4,320				

## SALINAS RIVER BASIN

11-1470.7. Santa Rita Creek near Templeton, Calif.

Location.--Lat 35°31'26", long 120°45'54", in Asuncion Grant, on left bank 1.6 miles upstream from Paso Robles Creek and 4 miles west of Templeton, San Luis Obispo County.

Drainage area.--18.2 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,320 cfs Feb. 9 (gage height, 9.15 ft); no flow for several months.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion.

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

3.4	0	4.5	67
3.5	.1	5.0	146
3.6	.7	5.5	265
3.7	3.4	6.0	415
3.9	11	7.0	840
4.2	34	8.0	1,440

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			60	0.7	6.3	20	9.4	2.9	1.0	0.1		
2			170	.7	5.6	28	9.0	2.9	.7	.1		
3			25	.7	5.2	21	8.6	2.6	.7	.1		
4			10	.7	5.2	17	* 8.2	2.6	.6	.1		
5			5.0	.6	4.8	24	7.8	2.3	.6	0		
6			3.2	.6	4.8	307	7.4	2.1	* .6	0		
7			2.2	.6	19	117	7.0	2.3	.7	0		
8			1.8	.6	* 447	74	6.6	2.3	.6	0		
9			1.4	.6	1080	55	6.3	* 2.1	.6	0	(*)	
10			1.2	.6	* 761	42	5.6	2.1	.6	* 0		
11			1.0	.6	425	33	5.6	2.1	.6	.1		(*)
12			.9	.5	182	28	5.2	2.1	.6	.1		
13				.6	170	24	5.2	2.1	.6	.1		
14				.5	488	* 22	4.8	2.1	.6	.1		
15			.7	.5	* 626	22	4.8	2.1	.7	.1		
16				.5	325	18	4.5	2.1	.6	.1		
17				* .5	161	16	4.5	2.1	.5	.1		
18				.5	216	14	4.1	1.8	.4	.1		
19				.8	281	12	4.1	1.8	.3	.1		
20			(*)	480	176	14	3.8	1.8	.2	0		
21				50	112	12	3.8	1.5	.1	0		
22				31	* 75	45	3.4	1.5	.1	0		
23			.6	23	56	27	3.4	1.5	.2	0		
24				* 18	51	19	3.4	1.5	.1	0		
25				15	38	16	3.4	1.5	.1	0		
26				* 11	32	15	3.1	1.5	.1	0		
27				9.8	26	12	3.1	1.5	0	0		
28				8.6	22	12	3.1	1.5	0	0		
29				7.8	-	11	3.1	1.5	.1	0		
30			.6	7.0	-----	10	2.9	1.5	.1	0		
31			.6	6.6	-----	9.8	-----	1.2	-----	0		
Total	0	0	293.5	679.2	5800.9	1096.8	155.2	60.5	12.7	1.3	0	0
Mean	0	0	9.47	21.9	207	35.4	5.17	1.95	0.42	0.04	0	0
Max	0	0	170	480	1080	307	9.4	2.9	1.0	0.1	0	0
Min	0	0	-	0.5	4.8	9.8	2.9	1.2	0	0	0	0
Ac-ft	0	0	582	1350	11510	2180	308	120	25	2.6	0	0

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 1080 Min 0 Mean 22.2 Ac-ft 16080

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	0400	8.48	1,780	2-18	1900	6.45	580
2-9	1300	9.15	2,320	3-6	1000	6.39	556
2-15	0300-0400	7.79	1,290				

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

Note.--No gage-height record Oct. 1 to Dec. 29.



11-1475. Salinas River at Paso Robles, Calif.

Location.--Lat 35°37'40", long 120°41'05", in Paso de Robles Grant, on downstream side of left pier of bridge on State Highway 41 at Paso Robles, San Luis Obispo County, 3.5 miles upstream from Huerfano Creek.

Drainage area.--389 sq mi.

Records available.--October 1939 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 670.61 ft above mean sea level (levels by Corps of Engineers). Prior to June 14, 1951, wire-weight gage at same site and datum.

Average discharge.--23 years, 96.8 cfs (70,080 acre-ft per year); median of yearly mean discharges, 46 cfs (33,300 acre-ft per year).

Extremes.--Maximum discharge during year, 9,460 cfs Feb. 9 (gage height, 15.18 ft); no flow for several months.

1939-62: Maximum discharge, 14,200 cfs Mar. 9, 1943 (gage height, 16.2 ft, from stage graph), from rating curve extended above 6,000 cfs on basis of velocity-area studies; maximum gage height, 17.24 ft Apr. 3, 1958; no flow for several months in each year.

Remarks.--Records poor. Flow regulated by Salinas Reservoir beginning in 1941 (see p. 271). Small diversions above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 8, 9, 12-15, June 26-29, July 2-11)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

6.1	0	6.9	39	7.0	0	8.0	180
6.2	.2	7.1	74	7.1	2.0	8.5	390
6.3	.8	7.4	152	7.2	10	9.0	705
6.4	2.4	7.9	365	7.3	21	10.0	1,620
6.5	5.4	8.5	740	7.4	35	12.0	4,190
6.6	10	10.0	2,100	7.6	75		
6.7	17	13.0	5,950				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.2	283	128	*10	0	3.7		
2				0	.1	279	120	4.4	0	*2.2		
3	(*)			0	.1	255	112	4.4	0	1.5		
4				0	.2	208	110	5.1	0	.6		
5			(*)	0	.2	198	*105	8.3	0	.3		
6				0	.3	1,270	103	7.4	*0	.2		
7				0	*.5	*1,090	96	7.4	0	.3		
8		(*)		0	*677	844	91	6.6	0	.1		
9				0	*4,590	622	86	8.3	0	.4		
10				0	5,430	469	82	5.1	0	.2		
11				0	3,630	360	75	3.1	0	*.3		
12				0	1,870	331	68	1.0	0	0		
13				0	*945	304	62	.1	0	0		
14				0	1,870	*271	53	1.5	0	0		
15				0	3,980	259	49	3.7	0	0		
16				0	2,260	239	46	0	0	0		
17				0	1,200	227	39	*0	0	0		
18				0	965	205	35	0	0	0		
19				*0	2,200	191	*32	0	0	0		
20				585	1,750	187	32	0	0	0		
21				121	1,520	177	31	0	0	0		
22				38	1,130	*175	31	0	0	0		
23				21	*940	251	28	0	0	0		
24				*16	649	191	27	0	0	0		
25				13	557	174	20	0	0	0		
26				*5.9	429	162	20	0	62	0		
27				2.7	360	153	20	0	*73	0		
28				.4	295	144	18	0	*51	0		
29				.3	-	142	16	0	*15	0		
30				.3	-----	133	14	0	6.6	0		
31				.2	-----	130	-----	0	-----	0		
Total	0	0	0	804.2	37,248.6	9,924	1,749	76.4	207.6	9.8	0	0
Mean	0	0	0	25.9	1,330	320	58.3	2.46	6.92	0.32	0	0
Max	0	0	0	585	5,430	1,270	128	10	73	3.7	0	0
Min	0	0	0	0	0.1	130	14	0	0	0	0	0
Ac-ft	0	0	0	1,600	73,880	19,680	3,470	152	412	19	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
Water year 1961-62: Max 5,430 Min 0 Mean 137 Ac-ft 99,210

Peak discharge (base, 1,100 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	1100	10.02	2,120	2-18	2400	10.72	2,470
2-9	2200	15.18	9,460	3-6	1600	10.38	2,050
2-15	0900	13.44	6,330				

## SALINAS RIVER BASIN

11-1476. Huerhuero Creek near Creston, Calif.

Location.--Lat 35°35'00", long 120°33'15", in NE¼ sec.15, T.27 S., R.13 E., on left bank 1 mile northwest of Geneseo School and 4.6 miles northwest of Creston.

Drainage area.--101 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 930 ft (from topographic map).

Extremes.--Maximum discharge during year, 808 cfs Feb. 9 (gage height, 5.75 ft), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow for several months.  
1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for several months in each year.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9 to Mar. 6)

Oct. 1 to Feb. 9				Feb. 10 to Sept. 30			
2.37	0	2.7	16	1.9	0	2.4	10
2.4	.1	2.9	43	2.0	.1	2.6	27
2.5	1.3	3.1	78	2.1	.7	2.8	51
2.6	6.0			2.2	2.2	3.2	113
				2.3	5.0		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.1	0.4	0.8	*0.2				
2		(*)		0	.1	.4	.7	.2				
3				0	.2	.3	.6	.2				
4				0	.2	.2	.6	.2				
5				0	.2	.2	*.6	.1				
6			(*)	0	.2	*66	.5	.1		(*)		
7				0	.5	24	.6	.1				
8				0	1.0	14	.5	.1				
9				0	*70	9.2	.5	.1				
10				0	*50	4.6	.5	.1				
11				0	82	2.8	.4	.1				
12				0	16	2.2	.4	.1				(*)
13				0	5.4	1.4	.4	.1				
14				0	3.3	1.1	.4	.2				
15				0	*36	1.0	.4	.1				
16				0	74	.9	.4	.1				
17				0	24	.8	.4	.1				
18				0	92	.8	.4	*.1				
19				0	87	.9	.4	.1				
20				0	89	1.0	*.4	.1				
21				0	*56	1.1	.4	.1				
22				.1	23	*1.4	.4	0				
23				.1	*11	1.4	.4	0			(*)	
24				*.1	10	1.1	.3	0				
25				.1	7.4	1.0	.3	.1		(*)		
26				.1	2.8	.9	.4	.1				
27				.1	.8	.9	.3	.1				
28				.1	5	.9	.4	.1				
29				.1	-	.9	.3	.1				
30				.1	-	.8	.3	0				
31				.1	-	.8	-	0				
Total	0	0	0	1.0	742.7	143.4	13.4	3.1	0	0	0	0
Mean	0	0	0	0.03	26.5	4.63	0.45	0.10	0	0	0	0
Max	0	0	0	0.1	92	66	0.8	0.2	0	0	0	0
Min	0	0	0	0	0.1	0.2	0.3	0	0	0	0	0
Ac-ft	0	0	0	2.0	1,470	284	27	6.1	0	0	0	0

Calendar year 1961: Max 1.6 Min 0 Mean 0.05 Ac-ft 39  
Water year 1961-62: Max 9.2 Min 0 Mean 2.51 Ac-ft 1,790

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1500	5.75	808	2-18	2200	5.37	681
2-11	1600	3.56	182	2-20	2200	4.47	411
2-16	0900	3.57	184	3-6	1200	3.86	250

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

11-1477. Cholame Creek tributary near Cholame, Calif.

Location.--Lat 35°45'10", long 120°15'50", in Cholame Grant, on right bank at culvert on State Highway 41, 2.8 miles northeast of Cholame, San Luis Obispo County.

Drainage area.--9.32 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Datum of gage is 1,213 ft above mean sea level (by vertical angles).

Extremes.--Maximum discharge during year, 109 cfs Feb. 9 (gage height, 4.99 ft), by indirect measurement of peak flow through culvert; no flow for several months.

1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for most of each year.

Remarks.--Records fair. No regulation. Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 5 to Nov. 1)

2.4	0	2.8	2.0
2.5	.1	3.0	4.5
2.6	.5	3.2	8.0
2.7	1.1	3.5	15

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.3	0.1	0	0.6	0.2	0	0			
2	0	*0	.4	0	0	.6	.2	0	0			
3	*0	0	0	0	0	.4	.2	0	0			
4	0	0	0	0	0	.4	.2	0	0			
5	0	0	0	0	0	.5	a.2	0	0			
6	0	0	*0	0	0	1.4	a.2	0	0			
7	.1	0	0	0	.1	3.5	a.2	0	0			
8	.1	0	0	0	.1	1.6	a.2	.1	0			
9	.1	0	0	0	*8.6	1.1	a.2	.1	0			
10	0	0	0	0	8.6	.9	a.2	.1	0			
11	0	.1	0	0	1.4	.8	a.2	.1	0			
12	0	0	.1	0	4.2	.7	a.2	.1	0			
13	0	0	.1	0	1.6	.6	a.1	.1	.1			
14	0	0	.1	0	*1.1	.5	a.1	.1	.1			
15	0	0	0	.1	3.4	.5	a.1	.1	.1			
16	0	0	0	.1	2.4	.5	a.1	.1	.1			
17	.1	0	0	0	1.0	.4	a.1	.1	.1			
18	0	0	0	0	4.9	.5	a.1	*.1	.1			
19	0	0	0	.1	7.8	.5	*a.1	.1	.1			
20	0	.1	0	.5	5.8	*a.7	.1	.1	.1			
21	0	0	.1	.1	*6.4	a1.2	a.1	.1	*0			
22	0	0	.1	0	3.0	a.3	a.1	0	0			
23	0	0	.1	0	2.2	.4	a.1	0	0			
24	0	0	.1	0	1.7	.5	a.1	0	0			
25	0	.1	.1	0	1.4	.3	.1	.1	0	(*)	(*)	
26	0	0	.1	*0	1.0	.3	.1	.1	0			
27	0	.1	.1	0	.8	.2	0	.1	0			(*)
28	0	.1	.1	0	.6	.2	0	0	0			
29	0	.1	.1	0	-	.2	0	0	0			
30	0	.1	.1	0	-----	.2	0	0	0			
31	0	-----	.1	0	-----	.2	-----	0	-----			
Total	0.4	0.7	2.1	1.0	80.7	33.1	3.8	1.7	0.8	0	0	0
Mean	0.01	0.02	0.07	0.03	2.88	1.07	0.13	0.05	0.03	0	0	0
Max	0.1	0.1	0.4	0.5	1.4	1.4	0.2	0.1	0.1	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0.8	1.4	4.2	2.0	160	66	7.5	3.4	1.6	0	0	0
(†)	0	1.3	1.4	1.4	6.6	1.3	0	0.6	0	0	0	0

Calendar year 1961: Max 0.4 Min 0 Mean 0.01 Ac-ft 6.8  
Water year 1961-62: Max 1.4 Min 0 Mean 0.34 Ac-ft 24.7

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1400	4.99	109	2-18	2100	3.85	28
2-11	1600	4.22	47	2-21	0200	3.66	20
2-15	0500	4.07	39	3-6	2000	4.08	39

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

† Precipitation, in inches.

a No gage-height record.

## SALINAS RIVER BASIN

11-1478. Cholame Creek near Shandon, Calif.

Location.--Lat 35°41'20", long 120°20'03", in SE¼ sec.3, T.26 S., R.15 E., on left bank 500 ft upstream from highway bridge, 2.6 miles downstream from White Canyon, and 3.5 miles northeast of Shandon.

Drainage area.--227 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,080 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,100 cfs Feb. 9 (gage height, 6.90 ft); no flow for several months.

1958-62: Maximum discharge, that of Feb. 9, 1962, but may have been higher Feb. 16, 1959; no flow for many months in each year.

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

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

2.8	0	3.3	6.0	4.3	105
2.9	.1	3.4	10	4.6	170
3.0	.3	3.6	22	5.0	280
3.1	1.1	3.8	40	6.0	660
3.2	3.0	4.0	63		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0.1						
2		(*)		0	0	0						
3	(*)			0	0	.3						
4				0	0	0						
5				0	0	0						
6			(*)	0	0	201						
7				0	0	43						
8				0	0	*14						
9				0	*360	6.0						
10				0	*466	4.2						
11				0	392	1.5						
12				0	128	.9						
13				0	10	.9						
14				0	*55	.6						
15				0	69	*.3						
16				0	80	.2						
17				0	15	.2						
18				0	92	.2		(*)	(*)			
19				0	180	.2	(*)					
20				0	146	.3						
21				3.1	*60	.9			(*)			
22				1.1	18	.3						
23				0	92	.5						
24				0	6.4	.2				(*)	(*)	
25				0	5.1	0						
26				*0	3.9	0						
27				0	2.2	0						(*)
28				0	1.5	0						
29				0	-	0						
30				0	-----	0	-----					
31		-----		0	-----	0	-----					
Total	0	0	0	4.2	2,016.5	275.8	0	0	0	0	0	0
Mean	0	0	0	0.14	72.0	8.90	0	0	0	0	0	0
Max	0	0	0	3.1	466	201	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	8.3	4,000	547	0	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
 Water year 1961-62: Max 466 Min 0 Mean 6.29 Ac-ft 4,560

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2030	6.90	1,100	2-15	1300	4.63	178
2-11	2100	5.62	508	2-20	0100	5.27	370

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

## SALINAS RIVER BASIN

279

11-1485. Estrella Creek near Estrella, Calif.

Location.--Lat 35°42'35", long 120°38'20", in NW 1/4 sec. 36, T.25 S., R.12 E., on right bank 0.2 mile downstream from mouth of Ranchito Canyon and 1.9 miles northwest of Estrella.

Drainage area.--922 sq mi, not including Carrizo Plains.

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 710 ft (from topographic map).

Average discharge.--8 years, 15.8 cfs (11,440 acre-ft per year).

Extremes.--Maximum discharge during year, 3,140 cfs Feb. 12 (gage height, 5.02 ft); no flow for several months.

1954-62: Maximum discharge, 8,850 cfs Apr. 6, 1958 (gage height, 7.20 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records fair. Pumpage from wells along creek for irrigation affects flow at this station.

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

1.8	0	2.2	29	2.9	320
1.9	1.1	2.3	50	3.4	700
2.0	6.8	2.5	110	4.1	1,560
2.1	15	2.7	200		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1				0	3.4	29	6.1	0.4				
2		(*)		0	3.4	24	5.4	.4				
3	(*)			0	4.0	19	5.4	.1				
4				0	4.0	15	4.7	0				
5				0	3.4	12	4.7	0				
6			(*)	0	3.4	600	4.7	0				
7				0	4.0	300	4.7	0				
8				0	6.1	*104	4.7	0				
9				0	201	58	4.7	0				
10				0	944	27	4.7	0				
11				0	1,500	19	4.7	0		(*)		
12				0	1,450	11	3.4	0				
13				0	*206	11	3.4	0				
14				0	*66	9.8	3.4	0				
15				0	123	*9.0	2.8	0				
16				0	198	9.0	2.8	0				
17				0	235	8.2	2.2	0				
18				0	140	8.2	2.2	*0				
19				*0	838	8.2	*2.2	0				
20				0	546	9.0	2.2	0				
21				0	290	9.0	1.7	0				
22				2.2	160	9.0	1.4	0				
23				4.0	100	9.0	1.4	0			(*)	
24				*4.7	84	9.0	1.7	0				
25				3.4	72	6.8	1.4	0				
26				2.8	58	6.8	1.4	0				
27				2.8	45	6.8	1.4	0				
28				2.8	37	6.8	1.4	0				
29		(*)		2.8	-----	6.8	1.1	0				
30				2.8	-----	6.8	1.4	0				
31				2.8	-----	6.8	-----	0	-----			-----
TOTAL	0	0	0	31.1	7,324.7	1,374.0	93.4	0.9	0	0	0	0
MEAN	0	0	0	1.00	262	44.3	3.11	0.03	0	0	0	0
MAX	0	0	0	4.7	1,500	600	6.1	0.4	0	0	0	0
MIN	0	0	0	0	3.4	6.8	1.1	0	0	0	0	0
AC-FT	0	0	0	62	14,530	2,730	185	1.8	0	0	0	0

Calendar year 1961: Max 5.2 Min 0 Mean 0.68 Ac-ft 494  
 Water year 1961-62: Max 1,500 Min 0 Mean 24.2 Ac-ft 17,510

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2300	3.32	628	2-19	1300	4.22	1,730
2-12	0400	5.02	3,140	3-6	unknown	-	unknown
2-16	0600	3.13	474				

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

11-1488. Nacimiento River near Bryson, Calif.

Location.--Lat 35°48'06", long 121°06'50", in NW $\frac{1}{4}$  sec.33, T.24 S., R.8 E., on right bank 0.6 mile upstream from Turtle Creek, 1.6 miles west of Bryson, and 10 miles southwest of Lockwood.

Drainage area.--140 sq mi.

Records available.--October 1955 to September 1962. Records for February to April 1901, published in WSP 66 and 75, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map).

Average discharge.--7 years, 155 cfs (112,200 acre-ft per year).

Extremes.--Maximum discharge during year, 17,500 cfs Feb. 15 (gage height, 18.45 ft); no flow for several months.

1955-62: Maximum discharge, 30,300 cfs Dec. 23, 1955 (gage height, 24.63 ft), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; no flow for several months each year.

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

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1961, superseding figures published in Basic Data Release, are given herewith:

Nov. 13, 1960..... 15

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
November 1960.....	545.6	358	0	18.2	1,080
Calendar year 1960.	-	3,640	0	76.0	55,150
Water year 1960-61.	-	2,810	0	33.1	23,980

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

Oct. 1 to Jan. 19				Jan. 20 to Sept. 30			
3.9	0	4.7	76	3.6	0	4.9	118
4.0	.3	5.3	265	3.7	.2	5.4	265
4.1	1.0	6.0	560	3.8	.8	6.0	500
4.2	6.0	7.0	1,110	3.9	2.6	7.0	1,040
4.3	13	8.0	1,840	4.0	5.3	8.0	1,760
4.4	22	10.0	4,160	4.2	13	11.0	5,020
4.5	34			4.4	27	15.0	11,200
				4.6	53		

11-1488. Nacimiento River near Bryson, Calif.--Continued.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1580	16	75	297	139	35	12	1.4		
2	(*)	0	3,290	15	67	417	131	32	11	1.4		
3		0	* 602	15	64	403	123	30	10	1.0		
4		0	269	15	58	347	* 116	29	9.0	.9		
5		0	173	14	57	544	108	26	* 9.0	.9		
6		0	123	14	53	2,970	101	25	9.0	.9		
7		* 0	95	13	130	1,370	93	24	8.6	.8		
8		0	76	13	1,420	* 872	89	22	8.3	.7		
9		0	60	13	10,200	665	84	22	7.9	.6		
10		0	51	12	9,940	532	80	22	6.8	.6	(*)	
11		0	45	12	2,790	439	75	22	6.4	.4		
12		0	38	12	1,350	379	69	22	6.0	* .3		(*)
13		0	34	13	1,320	332	67	21	5.7	.3		
14		0	32	14	* 2,790	293	64	22	6.4	.2		
15		0	30	12	8,140	290	60	22	7.2	.2		
16		0	29	12	2,480	255	58	21	7.9	.1		
17		0	27	12	1,550	230	57	21	7.2	0		
18		0	26	12	1,400	209	53	20	6.4	0		
19		0	* 26	15	1,530	191	50	19	5.0	0		
20		0	23	2,230	1,180	197	49	18	4.4	0		
21		0	22	411	914	197	47	18	3.5	0		
22		0	21	233	725	338	46	17	3.0	0		
23		.2	20	* 179	610	432	44	16	2.6	0		
24		2.0	19	164	550	300	41	15	2.3	0		
25		8.1	19	139	469	259	40	15	2.1	0		
26		370	18	126	415	230	40	15	1.9	0		
27		112	18	118	359	212	38	15	1.5	0		
28		44	18	111	325	194	37	15	1.4	0		
29		90	17	98	-	179	37	15	1.4	0		
30		436	17	89	-----	164	* 35	14	1.4	0		
31		-----	16	80	-----	150	-----	13	-----	0		
Total	0	1,062.3	6,834	4,232	50,961	13,887	2,071	643	175.3	10.7	0	0
Mean	0	35.4	220	137	1,820	448	69.0	20.7	5.84	0.35	0	0
Max	0	436	3,290	2,230	10,200	2,970	139	35	12	1.4	0	0
Min	0	0	16	12	53	150	35	13	1.4	0	0	0
Ac-ft	0	2,110	13,560	8,390	101,100	27,540	4,110	1,280	348	21	0	0

Calendar year 1961: Max 3,290 Min 0 Mean 39.8 Ac-ft 28,850

Water year 1961-62: Max 10,200 Min 0 Mean 219 Ac-ft 158,500

Peak discharge (base, 4,000 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0400	12.14	6,900	2-15	0300	18.45	17,500
1-20	0400	11.60	5,900	3- 6	0100	10.88	4,860
2- 9	1100	18.02	16,600				

## SALINAS RIVER BASIN

11-1494. Nacimiento River below Nacimiento Dam, near Bradley, Calif.

Location.--Lat 35°45'41", long 120°51'16", in NE 1/4 sec. 14, T.25 S., R.10 E., on left bank 2.2 miles below Nacimiento Dam and 7.6 miles southwest of Bradley.

Drainage area.--322 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 597 ft above mean sea level (Corps of Engineers bench mark).

Extremes.--Maximum discharge during year, 564 cfs July 10, 11 (gage height, 6.11 ft); no flow Oct. 1 to Apr. 9.  
1957-62: Maximum discharge, 5,220 cfs Apr. 7, 1958 (gage height, 10.28 ft); no flow many days each year.

Remarks.--Records fair. Flow regulated by Nacimiento Dam (usable capacity, 340,000 acre-ft). No diversion.

Cooperation.--Five discharge measurements furnished by Monterey County Flood Control and Water Conservation District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 10-24, June 27-30)

Oct. 1 to June 30

July 1 to Sept. 30

2.7	0	3.4	14	5.7	430
2.8	.1	3.6	29	6.1	560
2.9	.4	3.8	47		
3.0	1.2	4.0	70		
3.1	2.9	4.5	150		
3.2	5.5	5.0	270		
3.3	9.5	5.7	510		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	* 384	462	472	550	530
2	(*)						0	381	462	472	550	530
3							0	* 442	462	472	550	530
4							0	494	466	472	550	530
5							* 0	490	* 466	475	540	530
6							0	490	462	478	540	530
7		(*)					0	490	458	475	540	530
8							0	490	454	475	540	530
9							0	* 490	450	445	540	530
10							57	490	454	* 478	540	530
11							132	494	454	560	540	530
12							134	490	421	557	540	530
13							136	486	357	553	540	530
14							136	453	357	523	540	530
15					(*)		136	372	357	487	540	530
16							* 136	372	360	490	540	530
17							136	372	363	494	540	530
18							169	402	390	497	540	530
19			(*)				245	470	458	534	540	530
20							* 245	470	454	550	540	530
21							245	466	454	550	540	530
22							250	462	458	550	540	530
23							253	466	458	550	540	530
24							255	462	458	550	540	525
25							260	458	462	550	540	* 498
26							310	439	462	550	540	457
27		(*)					372	366	462	550	530	454
28							372	366	470	550	530	* 448
29							375	366	474	550	530	436
30							381	366	474	550	530	430
31								399		550	530	
Total	0	0	0	0	0	0	4,735	13,638	13,199	16,009	16,730	15,438
Mean	0	0	0	0	0	0	158	440	440	516	540	515
Max	0	0	0	0	0	0	381	494	474	560	550	530
Min	0	0	0	0	0	0	0	366	357	445	530	430
Ac-ft	0	0	0	0	0	0	9,390	27,050	26,180	31,750	33,180	30,620
Calendar year 1961: Max	480	Min 0	Mean	499	Ac-ft	36,130						
Water year 1961-62: Max	560	Min 0	Mean	218	Ac-ft	158,200						

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

Note.--Stage-discharge relation indefinite July 20 to Sept. 23.



11-1497. San Antonio River at Sam Jones Bridge, near Lockwood, Calif.

Location.--Lat 35°54'45", long 121°07'50", in Los Ojitos Grant, on downstream side of Sam Jones Bridge, 300 ft downstream from China Gulch and 3.5 miles southwest of Lockwood, Monterey County.

Drainage area.--211 sq mi.

Records available.--June 1958 to September 1959, February 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,040 cfs Feb. 9 (gage height, 7.01 ft); no flow Oct. 1 to Nov. 1. 1958-59, 1961-62: Maximum discharge, that of Feb. 9, 1962; no flow July 15 to Nov. 1, 1961.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.6	6.5	18	209	108	32	12	1.2	1.0	0.4
2	(*)	.1	*568	6.5	17	209	100	29	11	1.3	1.0	.4
3		.1	*181	6.5	16	209	103	29	11	1.3	1.0	.4
4		.2	80	6.2	16	194	*95	25	9.8	1.3	1.1	.5
5		.2	51	*5.9	15	194	88	24	*8.9	1.2	1.1	.6
6		.2	36	5.9	14	737	a85	26	8.1	1.2	1.1	.5
7		*.2	27	5.9	16	562	a83	25	7.2	1.2	1.1	.5
8		.3	22	5.9	220	*430	a78	21	7.2	1.2	1.0	.6
9		.3	18	5.9	3,060	375	a73	21	5.1	1.3	1.0	.6
10		.3	17	5.9	3,560	345	a67	21	5.1	1.3	*1.0	.6
11		.3	14	5.9	*1,510	317	a63	22	4.7	*1.2	.9	.6
12		.3	13	5.9	823	299	a59	22	5.1	1.3	.8	*.6
13		.3	12	5.9	688	261	a56	21	5.1	1.3	.8	.5
14		.3	12	5.9	951	237	a54	24	5.1	1.3	.8	.6
15		.3	11	5.9	2,880	229	a52	26	5.1	1.1	.7	.5
16		.3	11	5.9	1,390	205	a52	25	5.5	1.1	.7	.5
17		.3	11	5.9	922	184	51	*25	5.5	1.1	.7	.4
18		.4	10	5.6	752	167	47	22	5.1	1.1	.7	.4
19		.4	9.3	6.2	805	158	44	22	4.3	1.1	.7	.4
20		1.0	*9.3	17.3	652	*143	*44	21	3.9	1.2	.6	.5
21		.6	8.9	100	544	140	40	19	*3.0	1.0	.5	.4
22		.6	8.9	68	425	146	40	19	2.6	1.0	.5	.4
23		.6	8.4	*49	*340	191	39	18	2.2	1.0	*.5	.4
24		.6	8.4	39	312	167	37	16	1.8	*1.1	.5	.3
25		.9	8.4	33	285	161	34	15	1.4	1.0	.4	.3
26		.9	8.0	28	261	146	34	15	1.3	1.0	.4	.4
27		.8	7.5	26	241	137	32	16	1.3	1.0	.4	.4
28		.8	7.2	23	221	134	31	16	1.3	1.0	.4	*.6
29		.8	6.9	22	-	134	31	16	1.3	1.0	.4	.5
30		.6	6.9	21	-----	128	*32	15	1.3	1.0	.4	.5
31		-----	6.9	19	-----	113	-----	13	-----	1.0	.4	-----
Total	0	13.3	1,200.6	715.2	20,954	7,261	1,752	661	1,523	354	22.6	14.3
Mean	0	0.44	38.7	23.1	748	234	58.4	21.3	5.08	1.14	0.73	0.48
Max	0	1.0	568	173	3,560	737	108	32	12	1.3	1.1	0.6
Min	0	0	1.6	5.6	14	113	31	13	1.3	1.0	0.4	0.3
Ac-ft	0	26	2,380	1,420	41,560	14,400	3,480	1,310	302	70	45	28

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 3,560 Min 0 Mean 89.8 Ac-ft 65,020

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1000	4.24	796	2-15	0600	6.71	5,840
1-20	1100	3.70	430	3- 6	0600	4.57	1,010
2- 9	1500	7.01	7,040				

\* Discharge measurement or observation of no flow made on this day.  
 a No gage-height record.

## SALINAS RIVER BASIN

11-1500. San Antonio River at Pleyto, Calif.

Location.--Lat 35°51'55", long 120°59'30", in Pleyto Grant, on downstream side of left abutment of highway bridge at old townsite of Pleyto, Monterey County, 1.1 miles downstream from Cooperhead Creek, and 15 miles west of Bradley.

Drainage area.--284 sq mi.

Records available.--April to September 1922, October 1929 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 720 ft (from topographic map). Prior to May 10, 1939, at datum 1.00 ft higher. April to September 1922, staff gage at same site at different datum.

Average discharge.--33 years (1929-62), 86.5 cfs (58,570 acre-ft per year); median of yearly mean discharges, 46 cfs (33,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,200 cfs Feb. 15 (gage height, 5.50 ft); no flow for several months.

1929-62: Maximum discharge, 19,100 cfs Apr. 3, 1958 (gage height, 6.44 ft), from rating curve extended above 4,500 cfs; no flow several months each year except possibly 1942-43.

Remarks.--Records poor. Diversion for irrigation of about 500 acres above station.

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

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
0.3	0	0.9	18	0.5	0	1.1	26
.4	.3	1.0	29	.6	.2	1.3	57
.5	1.0	1.2	63	.7	1.2	1.6	128
.6	2.4	1.5	145	.8	3.6	2.0	255
.7	5.2	1.9	310	.9	8.0	2.5	460
.8	10			1.0	16	3.0	780

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	3.5	12	252	118	34	11	0.2		
2	(*)		25	3.5	12	245	112	33	10	.1		
3			*300	3.2	11	248	105	33	8.8	.1		
4			68	3.0	11	229	*100	32	7.6	.1		
5			40	*2.7	10	219	95	29	*7.1	0		
6			26	3.0	9.5	604	85	26	6.7	0		
7		(*)	18	3.0	*10	540	76	26	5.8	0		
8			12	3.0	72	406	72	26	4.9	0		
9			10	3.0	2,450	349	70	25	4.0	0		
10			8.6	3.0	3,360	301	63	23	3.4	0	(*)	
11			7.6	3.0	1,510	276	61	22	3.1	0		
12			6.2	3.0	748	266	59	22	3.1	*0		(*)
13			5.2	3.0	510	248	57	22	3.1	0		
14			4.9	3.0	969	232	55	23	3.1	0		
15			4.6	3.0	2,870	*206	55	23	3.1	0		
16			4.6	3.0	1,540	209	55	24	2.9	0		
17			4.4	2.7	1,080	184	52	*21	2.2	0		
18			4.4	2.7	716	187	50	21	1.9	0		
19			*4.4	3.2	844	187	50	21	1.7	0		
20			4.6	53	679	180	*49	20	1.0	0		
21			4.6	127	588	180	47	19	*.9	0		
22			4.4	77	470	168	45	17	.9	0		
23			4.4	*55	*401	216	42	16	.8	0		
24			4.4	44	365	196	40	15	.7	*0		
25			4.4	37	337	174	39	14	.5	0		
26			4.4	28	311	164	37	14	.4	0		
27			4.4	24	287	155	36	14	.4	0		
28			4.1	19	266	146	34	14	.4	0		
29			4.1	16	-	137	34	14	.3	0		
30			3.8	15	-----	128	*34	13	.2	0		
31			3.8	13	-----	120	-----	12	-----	0		
Total	0	0	605.3	565.5	20,448.5	7,352	1,827	668	100.0	0.5	0	0
Mean	0	0	19.5	18.2	730	237	60.9	21.5	3.33	0.02	0	0
Max	0	0	300	127	3,360	604	118	34	11	0.2	0	0
Min	0	0	0	2.7	9.5	120	34	12	0.2	0	0	0
Ac-ft	0	0	1,200	1,120	40,560	14,580	3,620	1,320	198	1.0	0	0

Calendar year 1961: Max 300 Min 0 Mean 6.82 Ac-ft 4,940  
Water year 1961-62: Max 3,360 Min 0 Mean 86.5 Ac-ft 62,600

Peak discharge (base, 470 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1800	5.44	6,710	2-19	0400	3.20	940
2-15	1000	5.50	7,200	3-6	1100	3.13	884

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

11-1505. Salinas River near Bradley, Calif.

Location.--Lat 35°55'40", long 120°52'00", in NE¼ sec.15, T.23 S., R.10 E., on left bank 6 miles northwest of Bradley and 7 miles downstream from San Antonio River.

Drainage area.--2,535 sq mi.

Records available.--October 1948 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

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

Average discharge.--14 years, 371 cfs (268,600 acre-ft per year), unadjusted for storage.

Extremes.--Maximum discharge during year, 11,700 cfs Feb. 10 (gage height, 9.78 ft); minimum, not determined.

1948-62: Maximum discharge, 28,400 cfs Apr. 3, 1958 (gage height, 12.53 ft); no flow at times in 1951, 1954-55, 1957.

Remarks.--Records poor. Flow partly regulated by Salinas Reservoir (see p. 271), and Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft). Several small diversions above station.

Rating tables, except period of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 6-10, Mar. 6-13, Mar. 26 to Apr. 5)

Dec. 6 to Feb. 14				Feb. 15 to Apr. 4		Apr. 5 to Sept. 30	
3.6	5.0	4.8	240	4.1	190	4.2	200
3.7	9.0	5.3	520	4.5	460	4.9	630
3.8	15	6.0	1,170	5.0	880		
3.9	23	6.8	2,400	6.0	2,100		
4.1	47	8.0	5,200	7.0	4,000		
4.4	105	9.4	10,200	8.0	6,600		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				9.0	38	a 650	252	*406	454	448	553	532
2	(*)			9.0	35	a 580	245	406	472	448	560	532
3		(*)	e 14	9.0	33	a 520	240	412	472	454	574	532
4				* 9.0	32	a 490	229	442	472	460	574	539
5				9.0	31	* 460	* 233	442	478	460	574	539
6			* 14	9.6	30	898	a 220	448	* 484	454	581	532
7			14	9.6	30	2,800	a 220	448	484	454	567	525
8			13	9.0	38	* 1,830	a 210	454	484	454	560	518
9			13	7.8	175	1,460	a 210	454	484	448	553	518
10			13	7.8	* 9,940	1,170	a 200	454	478	400	* 553	518
11			12	7.8	8,450	890	a 200	448	490	* 511	546	518
12			12	8.2	* 5,200	736	a 220	448	490	553	546	518
13		(*)	11	7.8	1,750	660	a 250	454	442	560	546	525
14			11	7.4	1,710	620	a 270	454	430	553	553	* 525
15	e 3	e 5	11	7.0	4,630	580	a 280	436	424	504	553	518
16			11	6.6	6,440	540	288	418	418	484	560	525
17			10	6.2	4,340	508	294	412	418	484	553	525
18			10	6.2	2,770	484	299	* 412	412	484	560	525
19			* 9.0	7.0	3,820	452	* 305	424	448	472	560	532
20			7.0	9.0	4,250	* 428	305	448	472	539	553	532
21			7.4	9.0	* 3,160	396	310	448	472	546	546	532
22			7.4	36	a 2,600	366	310	454	* 472	546	539	518
23			7.8	55	a 2,000	366	310	454	466	546	525	504
24			7.4	52	a 1,700	428	310	454	466	546	* 525	497
25			7.8	50	a 1,200	404	310	454	466	* 553	525	504
26			8.2	* 47	a 1,000	359	310	460	466	546	532	472
27			8.2	44	a 850	310	370	430	472	546	532	* 460
28			8.6	43	a 730	291	394	412	472	546	532	466
29			8.6	42	-	278	400	412	472	546	539	472
30			8.6	39	-----	265	406	424	472	546	532	472
31			8.6	38	-----	258	-----	418	-----	546	539	-----
Total	93	150	329.6	617.0	66,982	20,477	8,400	13,540	13,902	15,637	17,045	15,425
Mean	3	5	10.6	19.9	2,392	661	280	437	463	504	550	514
Max	-	-	-	55	9,940	2,800	406	460	490	560	581	539
Min	-	-	7.0	6.2	30	258	200	406	412	400	525	460
Ac-ft	184	298	654	1,220	132,900	40,620	16,660	26,860	27,570	31,020	33,810	30,600

Calendar year 1961: Max 484 Min - Mean 61.1 Ac-ft 44,210  
Water year 1961-62: Max 9,940 Min - Mean 47.3 Ac-ft 342,400

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

## SALINAS RIVER BASIN

11-1508. Cow Creek near San Ardo, Calif.

Location.--Lat 36°10'40", long 120°47'45", in San Lorenzo Grant, on right bank at culvert on Peach Tree Valley Road and 12.5 miles northeast of San Ardo, Monterey County.

Drainage area.--4.80 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,340 ft (from topographic map).

Extremes.--Maximum discharge during year, 213 cfs Feb. 15 (gage height 6.96 ft), by indirect measurement of peak flow through culvert; no flow most of year.

1960-62: Maximum discharge, that of Feb. 15, 1962; no flow most of each year.

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

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

0.4	0
.5	.9
.6	3.0
1.2	21

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0						
2					0	0						
3		(*)			0	0						
4				(*)	0	0						
5			(*)		0	.5						
6					*0	1.0						
7					0	.2						
8					0	0						
9					1.3	0					(*)	
10	(*)				*18	0						
11					8.6	0				(*)		
12					0	0						
13					0	0						
14					3.7	0						
15					*21	0						
16					5.3	0		(*)				
17					.6	0						
18					.7	0						
19					5.6	0						
20					.6	0						
21					.2	0						
22					*.1	0						
23					0	0						
24					0	0						
25					0	0						
26					0	0						
27					0	0						
28					0	0						
29					-	0						
30					-----	*0						
31		-----			-----	0	-----		-----			-----
Total	0	0	0	0	77.4	10.7	0	0	0	0	0	0
Mean	0	0	0	0	2.76	0.35	0	0	0	0	0	0
Max	0	0	0	0	21	10	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	0	15.4	21	0	0	0	0	0	0
(†)	0	2.6	1.8	1.0	7.0	1.9	0	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
 Water year 1961-62: Max 21 Min 0 Mean 0.24 Ac-ft 175

Peak discharge (base, 5 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1600	2.69	66	2-19	0300	0.93	13
2-15	0200	6.96	213	3- 6	0030	1.47	29

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

† Precipitation, in inches.

11-1513. San Lorenzo Creek below Bitterwater Creek, near King City, Calif.

Location.--Lat 36°16'05", long 121°03'50", in NW¼ sec. 24, T.19 S., R.8 E., on left bank 1.2 miles downstream from Bitterwater Creek, 5 miles northeast of King City, and 10 miles upstream from mouth.

Drainage area.--233 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 480 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,050 cfs Feb. 9 (gage height, 8.02 ft, from floodmarks), from rating curve extended above 800 cfs; no flow Oct. 1-4.

1958-62: Maximum discharge, that of Feb. 9, 1962; no flow Sept. 15 to Oct. 4, 1961.

Revisions.--The maximum discharge for the water year 1961 has been revised to 294 cfs Dec. 1, 1960 (gage height, 4.91 ft), superseding figure published in Basic Data Release.

Remarks.--Records poor. Small diversions above station.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1961, superseding those published in Basic Data Release, are given herewith:

1960  
Dec. 1..... 35  
2..... 99

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
December 1960.....	199.3	99	1.2	6.43	395
Calendar year 1960.	-	99	0.1	2.09	1,520
Water year 1960-61.	-	99	0	1.39	1,010

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0.1	1.4	0.8	0.8	7.8	1.9	0.3	0.2	0.2	0.2	0.1
2	0	.1	126	.9	.7	*7.8	1.6	.3	.2	.1	.2	.2
3	0	.1	36	.9	.7	8.3	1.5	.3	.2	.1	.2	.2
4	0	.1	8.3	.8	.8	7.0	1.5	.3	.2	.1	.2	.2
5	.1	.1	*3.3	*.7	.9	7.0	1.3	.3	.2	.1	.2	.2
6	.1	.1	2.0	.7	.9	*222	1.2	.3	.2	.1	.1	.2
7	.1	.1	1.5	.7	*1.3	74	1.0	.3	.2	.2	.1	.2
8	.1	*.1	1.2	.7	2.0	24	1.0	.3	.2	.1	.1	.2
9	.1	.1	1.0	.7	786	17	1.0	.3	.2	*.1	*.2	.2
10	*.1	.1	1.0	.7	*633	14	1.0	.3	.2	.1	.2	.2
11	.1	.1	.9	.7	465	12	.9	.3	.2	.1	.2	.2
12	.1	.1	.7	1.0	125	10	.9	.3	.2	.2	.1	.2
13	.1	.1	.6	1.2	36	8.7	.8	.3	.2	.1	.1	*.2
14	.1	.1	.6	.6	*98	7.4	.7	.3	.2	.1	.1	.2
15	.1	.1	.6	1.0	630	7.0	.6	.3	.2	.1	.1	.2
16	.1	.1	.6	.9	167	7.8	.6	*.3	.2	.1	.1	.2
17	.1	.1	.6	.9	69	6.5	.6	.3	.2	.1	.2	.2
18	.1	.1	.7	.9	34	6.1	.6	.3	.2	.2	.1	.1
19	.1	.1	.7	1.2	140	5.6	.6	.3	.1	.2	.2	.2
20	.1	2.1	.7	2.2	120	4.9	.5	.2	.1	.2	.2	.2
21	.1	.2	.6	2.0	79	5.2	.5	.2	*.1	.1	.2	.2
22	.1	.1	.6	1.5	*33	4.4	.4	.2	.2	.1	.2	.2
23	.1	.1	.6	1.2	18	11	.4	.2	.1	.1	.2	.2
24	.1	.1	.6	1.0	14	7.0	.4	.2	.1	.1	.1	.2
25	.1	.3	.6	1.0	13	4.4	.4	.2	.2	.1	.2	.2
26	.1	.2	.6	1.0	13	3.3	.4	.2	.2	.1	.2	.2
27	.1	.1	.6	1.0	11	2.5	.4	.2	.2	.1	.2	.2
28	.1	.1	.7	1.0	8.7	2.2	.4	.2	.2	.1	.2	.2
29	.1	.2	.8	.9	-----	1.9	.3	.2	.2	.1	.2	.2
30	.1	.2	.7	.9	-----	*1.9	.3	.2	.2	.1	.1	.2
31	.1	-----	.7	.8	-----	2.0	-----	.2	-----	.1	.1	-----
TOTAL	2.7	5.6	195.5	30.8	3,500.8	510.7	23.7	8.1	5.5	3.7	5.0	5.8
MEAN	0.09	0.19	6.31	0.99	125	16.5	0.79	0.26	0.18	0.12	0.16	0.19
MAX	0.1	2.1	126	2.2	786	222	1.9	0.3	0.2	0.2	0.2	0.2
MIN	0	0.1	0.6	0.7	0.7	1.9	0.3	0.2	0.1	0.1	0.1	0.1
AC-FT	5.4	11	388	61	6,940	1,010	47	16	11	7.3	9.9	12

CALENDAR YEAR 1961: MAX 126 MIN 0 MEAN 1.27 AC-FT 922  
WATER YEAR 1961-62: MAX 786 MIN 0 MEAN 11.8 AC-FT 8,520

Peak discharge (base, 200 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0600	5.03	290	2-19	0800	4.69	222
2- 9	unknown	8.02	2,050	3- 6	1000	5.44	498
2-15	0700	7.70	1,830				

## SALINAS RIVER BASIN

1518.7. Arroyo Seco near Greenfield, Calif.

Location.--Lat 36°14'15", long 121°28'50", in NE 1/4 sec. 36, T.19 S., R.4 E., on right bank 0.6 mile downstream from Rocky Creek and 14.5 miles southwest of Greenfield.

Drainage area.--113 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 780 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,910 cfs Feb. 9 (gage height, 10.23 ft); no flow Oct. 1-5.

Remarks.--Records fair. Small diversion for fishponds above station by pumping.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 28-30, Aug. 29 to Sept. 30)

Oct. 1 to Feb. 13

Feb. 14 to Sept. 30

1.3	0	2.8	76	1.3	0.7	3.0	127
1.4	.1	3.3	158	1.4	1.5	3.5	235
1.5	.2	3.9	310	1.5	2.8	4.0	390
1.6	.7	4.5	560	1.6	4.6	5.0	840
1.7	1.7	5.0	820	1.8	10	6.0	1,540
1.8	3.5	6.0	1,540	2.0	19	7.0	2,550
1.9	6.2	7.0	2,550	2.3	39	9.0	5,460
2.0	10	9.0	5,460	2.6	69		
2.4	36						

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 0	1.3	*692	15	32	235	150	58	37	11	2.5	1.6
2	a 0	1.6	*1,070	15	30	315	*146	56	35	11	2.5	1.5
3	a 0	1.8	*234	15	30	290	140	54	33	10	2.5	1.5
4	a 0	2.0	109	15	28	255	131	52	32	10	2.8	1.5
5	a 0	1.4	74	14	27	595	124	49	32	9.7	2.6	1.6
6	a .2	1.0	57	14	*26	1,500	120	47	30	9.1	3.3	1.6
7	a .2	1.3	48	13	52	900	115	*46	30	7.3	3.6	1.6
8	a .2	1.8	41	13	332	690	110	44	29	7.6	4.0	1.4
9	*.2	1.8	36	12	4,270	572	106	44	27	6.5	4.2	1.5
10	.2	*2.0	33	12	4,490	493	103	46	25	6.3	3.8	1.5
11	.2	2.0	30	12	1,430	429	98	46	23	7.6	3.5	1.5
12	.2	2.9	28	*13	*722	383	92	46	24	*7.3	3.3	1.4
13	.3	2.0	27	15	818	341	91	46	23	7.9	3.1	1.2
14	.5	2.0	26	14	1,470	308	85	47	26	7.9	*2.6	*1.3
15	.6	2.2	25	13	3,880	293	84	47	29	7.3	2.2	1.5
16	.5	2.3	24	13	2,100	269	81	47	27	6.5	2.0	1.6
17	.4	2.3	23	13	1,130	250	79	46	25	6.3	1.9	1.6
18	.5	2.5	22	12	1,010	235	75	44	24	5.8	1.6	1.6
19	.5	2.7	21	15	906	221	73	43	21	5.3	1.6	1.6
20	.5	52	*21	668	735	216	74	41	19	5.3	1.6	1.5
21	.5	19	20	127	605	206	71	40	17	3.8	1.6	1.5
22	.6	7.2	20	80	505	314	69	41	16	3.8	1.6	1.6
23	.6	5.6	19	*63	433	290	67	41	15	4.0	1.6	1.8
24	.5	5.0	18	56	397	248	65	41	15	3.8	1.6	1.8
25	.7	5.6	18	50	341	225	65	42	13	3.5	1.6	1.8
26	.9	50	17	46	305	209	62	43	13	3.1	1.5	1.8
27	1.0	24	17	43	*272	197	61	44	13	2.8	1.3	1.9
28	1.0	14	16	41	250	186	62	*44	12	2.8	1.2	1.9
29	1.0	27	16	38	-	178	61	41	11	2.8	1.3	1.9
30	1.0	216	16	35	-----	167	61	40	12	2.8	1.4	2.1
31	1.1	-----	15	33	-----	159	-----	38	-----	2.8	1.5	-----
Total	14.1	462.3	2,833	1,538	26,626	11,169	2,721	1,404	688	191.7	71.4	48.2
Mean	0.46	15.4	91.4	49.6	951	360	90.7	45.3	22.9	6.18	2.30	1.61
Max	1.1	216	1,070	668	4,490	1,500	150	58	37	11	4.2	2.1
Min	0	1.0	15	12	26	159	61	38	11	2.8	1.2	1.2
Ac-ft	28	917	5,620	3,050	52,810	22,150	5,400	2,780	1,360	380	142	96

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 4,490 Min 0 Mean 131 Ac-ft 94,730

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0500	6.50	2,030	2-15	0200	9.90	7,200
1-20	0200	6.77	2,300	3- 5	2400	7.30	2,910
2- 9	0900	10.23	7,910				

\* Discharge measurement made on this day.  
a No gage-height record.

11-1520. Arroyo Seco near Soledad, Calif.

Location.--Lat 36°16'50", long 121°19'20", in sec.16, T.19 S., R.6 E., on left bank just downstream from bridge, 1.5 miles downstream from Vaquero Creek, and 10 miles south of Soledad.

Drainage area.--244 sq mi.

Records available.--November 1901 to September 1962. Records for water year 1902 incomplete, yearly estimate published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 342.20 ft above mean sea level (Corps of Engineers benchmark). Prior to June 16, 1929, staff gage, and June 16, 1929, to Dec. 2, 1941, water-stage recorder, at site 1 mile upstream at different datum. Dec. 3, 1941, to Sept. 30, 1959, at datum 2.00 ft higher.

Average discharge.--61 years, 161 cfs (116,600 acre-ft per year); median of yearly mean discharges, 122 cfs (88,300 acre-ft per year).

Extremes.--Maximum discharge during year, 10,300 cfs Feb. 9 (gage height, 12.77 ft); no flow during several months.

1901-62: Maximum discharge, 28,300 cfs Apr. 3, 1958 (gage height, 14.40 ft, datum then in use), from rating curve extended above 4,600 cfs on basis of slope-area measurement at gage height 14.30 ft; no flow at times during several years.

Remarks.--Records good except those for period of no gage-height record, which are poor. No storage or large diversion above station.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	585	16	37	256	168	66	30	7.7	0.3	
2		0	1.180	16	*35	304	*159	64	27	7.0	.3	
3		0	*349	16	32	320	153	62	27	6.3	.3	
4		0	158	15	31	276	146	60	28	5.8	.3	
5		0	104	*15	30	319	140	57	28	5.2	.2	
6		0	78	15	29	1,650	133	54	28	4.7	.2	
7		0	63	15	32	1,010	127	51	28	4.3	.2	
8		0	53	15	266	770	122	50	27	3.9	.2	
9		0	45	14	4,270	644	118	48	26	3.4	.2	
10		*0	40	14	5,380	557	114	50	25	3.0	.2	
11		0	36	13	1,690	479	109	51	24	2.7	.1	
12		0	33	14	*911	428	103	51	22	2.5	.1	
13		0	31	15	752	380	100	51	21	2.3	.1	
14		0	29	16	1,290	340	98	52	23	2.0	.1	(*)
15		0	28	14	3,890	316	92	52	26	1.8	.1	
16	(*)	0	26	13	2,260	294	90	50	29	1.6	.1	
17		0	25	13	1,400	276	87	48	27	1.5	.1	
18		0	24	13	1,070	256	83	44	24	1.3	.1	
19		0	23	14	1,000	237	82	44	19	1.2	0	
20		1.3	22	514	826	231	82	44	17	1.1	0	
21		1.1	*22	183	698	222	78	43	15	1.0	0	
22		7.9	21	110	593	282	75	40	12	.9	0	
23		3.8	21	83	503	326	72	39	12	.8	0	
24		2.6	20	69	450	264	68	37	13	.7	0	
25		3.8	19	60	393	237	68	37	12	.7	0	
26		20	19	54	353	224	68	37	12	.6	0	
27		40	18	51	*306	210	67	36	11	.6	0	
28		20	18	47	280	201	68	*36	10	.5	0	
29		15	18	44	-	192	68	36	*94	.5	0	
30		14.3	17	41	-----	183	*68	33	8.6	*.4	0	
31		-----	17	38	-----	176	-----	32	-----	.4	0	-----
Total	0	258.5	3,142	1,570	28,807	11,860	3,006	1,455	621.0	76.5	3.2	0
Mean	0	8.62	101	50.6	1,029	383	100	46.9	20.7	2.47	0.10	0
Max	0	14.3	1,180	514	5,380	1,650	168	66	30	7.7	0.3	0
Min	0	0	17	13	29	176	67	32	8.6	0.4	0	0
Ac-ft	0	51.3	6,230	3,110	57,140	23,520	5,960	2,890	1,230	152	6.3	0

Calendar year 1961: Max 1,180 Min 0 Mean 246 Ac-ft 17,790

Water year 1961-62: Max 5,380 Min 0 Mean 139 Ac-ft 100,800

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0800	8.48	1,880	2-15	0500	12.08	8,240
1-20	0800	8.08	1,530	3- 6	0200	9.22	2,680
2- 9	1200	12.77	10,300				

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

Note.--No gage-height record Nov. 20, 21, June 27 to Sept. 30.

## SALINAS RIVER BASIN

11-1525. Salinas River near Spreckels, Calif.

Location.--Lat 36°37'50", long 121° 40'40", in El Toro Grant, on right bank 80 ft upstream from bridge on Salinas-Monterey highway, 0.5 mile upstream from Toro Creek, 2 miles west of Spreckels, Monterey County, and 4 miles south of Salinas. Auxiliary gage on first pier near left end of bridge.

Drainage area.--4,156 sq mi.

Records available.--January 1900 to August 1901, October 1929 to September 1962. Records for water year 1930 incomplete, yearly estimate published in WSP 1315-B. Published as "near Salinas" 1900-1901.

Gage.--Water-stage recorder. Datum of gage is 19.87 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1955. 1900-1901, May 10 to July 29, 1940, staff gages at same site at different datum. Mar. 17, 1941, to June 30, 1961, supplementary wire-weight or staff gages and since July 1, 1961, auxiliary water-stage recorder at highway bridge 80 ft downstream at same datum.

Average discharge.--33 years (1929-62), 420 cfs (304,100 acre-ft per year); median of yearly mean discharges, 160 cfs (116,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,550 cfs Feb. 17 (gage height, 13.30 ft); minimum daily, 0.7 cfs Oct. 3-21, 23-30, Nov. 1. 1900-1901, 1929-62: Maximum discharge, 75,000 cfs Feb. 12, 1938 (gage height, 25.0 ft), from rating curve extended above 26,000 cfs on basis of velocity-area studies; maximum gage height, 26.85 ft Jan. 16, 1952, from floodmarks; no flow at times in 1929-40.

Remarks.--Records poor. Large withdrawals from ground water and small surface-water diversions for municipal use and irrigation of about 95,000 acres above station. Low flow represents waste water from Spreckels sugar refinery. Flow partly regulated by Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.7	1.8	2.0	1.3	*440	32	2.6	1.5	1.4	1.5	1.1
2	.5	.5	2.4	2.0	1.2	338	24	2.4	1.5	1.5	1.4	1.1
3	.7	.5	2.3	2.0	1.2	290	19	2.4	1.5	1.4	1.4	1.1
4	.7	.5	2.1	2.0	1.2	274	13	2.3	1.5	1.5	1.2	1.1
5	.7	.5	2.1	2.0	*1.2	238	9.5	2.2	1.5	1.4	.8	1.1
6	.7	.5	2.2	2.0	1.2	325	*6.9	2.2	1.5	1.4	1.3	1.1
7	.7	.5	2.2	2.0	1.4	1,260	5.9	2.0	1.6	1.5	1.3	1.1
8	.7	.5	2.3	*2.1	1.5	1,300	5.0	2.0	*1.6	1.5	1.3	1.1
9	.7	.5	2.4	2.3	2.3	*1,710	4.1	2.0	1.5	1.5	1.2	1.1
10	.7	*.5	2.4	2.1	1.48	1,340	3.8	1.8	1.6	1.5	1.2	1.1
11	.7	.5	2.4	2.0	*3,360	1,060	3.6	1.8	1.6	1.5	1.2	1.1
12	.7	.5	*2.2	1.9	*4,460	824	3.5	1.7	1.6	1.4	1.2	*1.1
13	.7	.5	2.0	2.0	3,290	644	3.4	1.7	1.5	1.5	1.1	1.2
14	.7	.5	2.0	1.7	*2,140	518	3.3	*1.7	1.5	1.6	*1.1	1.2
15	.7	.5	2.0	1.7	2,460	460	3.2	1.7	1.5	1.5	1.1	1.2
16	.7	.5	2.0	1.7	*4,860	400	3.2	1.8	1.5	1.6	1.1	1.2
17	.7	.5	2.0	1.7	5,290	346	3.1	1.8	1.4	1.6	1.1	1.3
18	*.7	.5	2.0	1.7	3,590	310	3.1	1.9	1.5	1.6	1.1	1.3
19	.7	.5	2.0	1.7	*2,530	270	3.1	1.9	1.4	1.6	1.1	1.3
20	.7	.5	2.0	3.0	2,080	234	3.0	1.8	1.4	1.7	1.1	1.3
21	.7	.9	2.0	2.3	2,940	199	3.0	1.7	1.4	1.7	1.1	1.3
22	.8	1.0	2.0	2.0	2,420	171	3.0	1.7	1.4	1.6	1.1	1.3
23	.7	1.0	2.0	1.8	2,040	*151	3.0	1.5	1.4	1.6	1.1	1.3
24	.7	1.0	2.0	1.8	1,610	192	3.0	1.6	1.3	1.5	1.1	1.4
25	.7	1.0	2.0	1.6	1,240	139	*3.0	1.7	1.4	1.5	1.1	1.4
26	.7	1.0	2.0	1.6	*978	130	2.8	1.7	*1.3	1.5	1.1	1.4
27	.7	1.1	2.0	1.4	710	115	2.8	1.7	1.4	1.4	1.1	1.4
28	.7	1.1	2.0	1.4	542	84	2.8	1.7	1.4	1.5	1.1	1.3
29	.7	1.5	2.0	1.3	-	69	2.7	1.7	1.4	1.4	1.1	1.4
30	.7	1.5	2.0	1.3	-----	53	2.6	1.7	1.4	*1.5	1.1	1.3
31	.8	-----	2.0	1.3	-----	40	-----	1.7	-----	1.5	1.1	-----
Total	22.1	27.0	64.8	57.4	46,700.5	13,924	58.1	44.0	46.9	35.9	36.7	
Mean	0.71	0.90	2.09	1.85	1,668	449	6.15	1.87	1.47	1.51	1.16	1.22
Max	0.8	1.5	2.4	3.0	5,290	1,710	32	2.6	1.6	1.7	1.5	1.4
Min	0.7	0.7	1.8	1.3	1.2	40	2.6	1.5	1.3	1.4	0.8	1.1
Ac-ft	44	54	129	114	92,630	27,620	366	115	87	93	71	73

Calendar year 1961: Max - Min - Mean 1.09 Ac-ft 786  
 Water year 1961-62: Max 5.290 Min 0.7 Mean 168 Ac-ft 121,400

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 13-21, Dec. 13 to Jan. 7, Jan. 15-22, Apr. 7-24, Aug. 16 to Sept. 11.



## SALINAS RIVER BASIN

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11-1525.4. Toro Creek near Spreckels, Calif.

Location.--Lat 36°35'00", long 121°42'50", in El Toro Grant, on right bank 0.3 mile downstream from San Benancio Gulch and 4.7 miles southwest of Spreckels.

Drainage area.--31.9 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 210 ft (from topographic map).

Extremes.--Maximum discharge during year, 73 cfs Mar. 6 (gage height, 3.72 ft), from rating curve extended above 1 cfs; no flow for several months.

Remarks.--Records good except those above 1 cfs, which are poor. No regulation or diversion except for minor stock ponds.

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

3.05	0	3.4	7.8
3.1	.1	3.5	19
3.2	.5	3.6	38
3.3	2.6	3.7	69

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	* 0.1	0.1	0.1	0.2	0.1	0.1	0.1	0		0
2	0	0	.1	.1	*.1	.2	.1	.1	.1	0		0
3	0	0	.1	.1	.1	.2	.1	.1	.1	.1		0
4	0	0	.1	.1	.1	.1	.1	.1	.1	0		0
5	.1	0	.1	.1	.1	.4	.1	.1	.1	0		0
6	0	0	.1	.1	.1	40	.1	.1	.1	0		0
7	0	0	.1	.1	.1	14	.1	.1	.1	0		0
8	0	0	.1	.1	.1	3.3	.1	*.1	.1	0		0
9	0	0	.1	.1	2.1	.5	.1	.1	.1	0		0
10	0	*.1	.1	.1	.6	.2	.2	.1	.1	0		0
11	0	.1	.1	*.1	*.2	.2	*.1	.1	.1	0		0
12	0	.1	*.1	.2	.2	.2	.1	.1	.1	0		0
13	0	.1	.1	.2	1.3	.1	.1	*.1	.1	0		0
14	0	.1	.1	.2	.5	.1	.2	.1	.1	0	(*)	* 0
15	0	.1	.1	.2	.4	.1	.1	.1	.1	0		0
16	0	.1	.1	.2	.4	.1	.1	.1	.1	0		0
17	0	.1	.1	.2	.4	.1	.1	.1	.1	0		0
18	0	.1	.1	.2	2	.3	.1	.1	.1	0		0
19	.1	.1	.1	.2	.6	*.5	.1	.1	0	0		0
20	.1	.2	.1	.5	.4	.2	.2	.1	0	0		0
21	0	.1	.1	.5	.2	.2	.1	.1	0	0		0
22	0	.1	.1	.1	.2	.2	.1	.1	0	0		0
23	0	.1	.1	.1	.2	.2	.1	.1	0	0		0
24	0	.1	.1	.1	.2	.2	.1	.1	0	0		0
25	0	.1	.1	.1	.4	.2	.2	.1	0	0		0
26	0	.1	.1	.1	.6	.1	.2	.1	.1	0		0
27	0	.1	.1	.1	.2	.2	.2	.1	.1	0		.1
28	0	.1	.1	.1	.2	.2	.1	.1	.1	0		0
29	0	.1	.1	.1	-	.2	.1	.1	0	0		0
30	0	.1	.1	.1	-----	.1	.1	.1	.1	* 0		0
31	0	-----	.1	.1	-----	.2	-----	.1	-----	0		0
Total	0.3	2.2	3.1	4.3	11.9	63.0	3.6	3.1	2.2	0.1	0	0.1
Mean	0.01	0.07	0.10	0.14	0.43	2.03	0.12	0.10	0.07	0.003	0	0.003
Max	0.1	0.2	0.1	0.3	2.1	40	0.2	0.1	0.1	0.1	0	0.1
Min	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
Ac-ft	0.6	4.4	6.1	8.5	24	125	7.1	6.1	4.4	0.2	0	0.2

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 40 Min 0 Mean 0.26 Ac-ft 187

Peak discharge (base, 5 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0600	3.43	10	2-18	1600	3.39	7.1
2-13	1900	3.37	5.8	3-6	0400	3.72	73

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

## PAJARO RIVER BASIN

11-1529. Cedar Creek near Bell Station, Calif.

Location.--Lat 37°03'00", long 121°19'35", in San Luis Gonzaga Grant, on left bank 0.5 mile upstream from Hagerman Canyon and 1.3 miles northwest of Bell Station, Santa Clara County.

Drainage area.--12.8 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 760 cfs Feb. 15 (gage height, 4.30 ft), from rating curve extended above 110 cfs; no flow for several months.

Remarks.--Records fair except those above 200 cfs, which are poor. No regulation or diversion.

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

1.1	0	1.9	13
1.2	.2	2.2	30
1.3	.6	2.5	62
1.4	1.3	2.8	110
1.5	2.6	3.2	210
1.6	4.3	3.7	400
1.7	6.5		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	*0.1	0	0.1	2.6	1.2	*0.2				
2		0	.2	0	.1	17	1.2	.2				
3		0	.1	0	.1	9.4	1.2	.2				
4		0	*0	0	.1	6.5	1.2	.1				
5		0	0	*0	.1	24	1.1	.1				
6		0	0	0	.1	*116	1.0	.1				
7		0	0	0	*.3	*47	1.0	.1				
8		0	0	0	.2	23	1.0	.1		(*)		(*)
9	(*)	0	0	0	98	13	.9	.1				
10		0	0	0	138	8.8	.9	.1				
11		0	0	0	58	7.4	.7	.1				(*)
12		0	0	0	16	6.3	.7	.1				
13		0	0	0	*47	5.6	.7	.1				
14		0	*0	0	64	5.0	.7	.1				
15		*0	0	0	369	4.1	.5	.1				
16		0	0	0	113	3.8	.5	.1				
17		0	0	0	34	3.3	.4	.1				
18		0	0	0	22	3.1	.4	.1				
19		0	0	.2	22	2.8	.4	.1				
20		.1	0	*4.5	16	2.6	.4	.1				
21		0	0	.4	10	2.5	.4	.1				
22		0	0	*.2	7.4	3.3	.3	.1				
23		0	0	.1	6.3	2.6	.3	.1				
24		0	0	.1	5.4	2.0	.3	0				
25		0	0	.1	4.3	1.8	.3	0				
26		0	0	.1	3.8	1.7	.2	0				
27		0	0	.1	2.9	1.6	.2	0				
28		0	0	.1	2.6	1.4	.2	0		(*)		
29		0	0	.1	-----	*1.4	.2	0				
30		0	0	.1	-----	1.4	.2	0				
31		-----	0	.1	-----	1.3	-----	0	-----			-----
TOTAL	0	0.1	0.4	6.2	1,040.8	332.3	18.7	2.6	0	0	0	0
MEAN	0	0.003	0.01	0.20	37.2	10.7	0.62	0.08	0	0	0	0
MAX	0	0.1	0.2	4.5	369	116	1.2	0.2	0	0	0	0
MIN	0	0	0	0	0.1	1.3	0.2	0	0	0	0	0
AC-FT	0	0.2	0.8	12	2,060	659	37	5.2	0	0	0	0

CALENDAR YEAR 1961: MAX - MIN - MEAN - AC-FT -  
 WATER YEAR 1961-62: MAX 369 MIN 0 MEAN 3.84 AC-FT 2,770

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0200	3.94	524	3-5	2300	3.50	315
2-15	1500	4.30	760				

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

11-1530. Pacheco Creek near Dunneville, Calif.

Location.--Lat 36°58'50", long 121°22'45", in Ausaymas y San Felipe Grant, on right bank 350 ft (revised) downstream from private road bridge and 3.3 miles northeast of Dunneville, Santa Clara County.

Drainage area.--146 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only prior to January 1940, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 230.70 ft above mean sea level, datum of 1947. Prior to Nov. 17, 1950, staff gage, at site 350 ft (revised) upstream at datum 6.00 ft higher. Nov. 17, 1950, to Aug. 18, 1960, staff gage, at site 350 ft (revised) upstream at datum 4.00 ft higher.

Average discharge.--23 years, 33.9 cfs (24,540 acre-ft per year).

Extremes.--Maximum discharge during year, 1,080 cfs Feb. 15 (gage height, 8.11 ft); no flow for several months.

1940-62: Maximum discharge, 12,600 cfs Dec. 23, 1955 (gage height, 21.0 ft, present site and datum, from floodmarks), from rating curve extended above 820 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft). Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 11-13, May 19 to Aug. 1)

4.0	0	4.4	5.9	5.0	51
4.1	.2	4.5	9.9	6.0	240
4.2	1.0	4.6	15	6.5	390
4.3	2.9	4.8	31	7.5	790

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1					0	9.9	15	*9.5	13	16	3.5	
2					0	26	14	9.5	14	13	2.9	
3					0	75	14	9.5	17	11	2.5	
4			(*)		0	48	13	9.1	14	9.1	2.1	
5				(*)	0	36	13	9.1	14	*8.7	1.8	
6					0	*495	14	9.5	15	12	1.8	
7					0	333	14	9.5	16	13	*1.4	
8					0	178	16	9.9	13	14	1.2	
9	(*)				0	108	16	10	9.9	14	1.0	
10					121	72	12	9.9	15	14	.9	
11					*155	55	9.5	11	17	14	.8	(*)
12					51	43	12	10	16	14	.7	
13					*152	33	13	10	20	14	.6	
14					343	29	13	10	20	13	.4	
15					756	21	13	12	17	12	.4	
16					595	17	13	14	16	9.9	.3	
17					a194	14	13	13	16	9.5	.2	
18					a87	13	13	13	16	7.5	.1	
19					a103	11	13	13	17	6.7	0	
20					a95	18	13	13	19	6.7	0	
21					a80	15	13	12	18	6.3	0	
22					a70	20	13	12	17	6.3	0	
23					a55	23	13	10	17	6.3	0	
24					a45	16	12	9.9	16	8.3	0	
25					a38	15	10	9.9	16	7.5	0	
26					29	14	9.5	9.9	17	7.9	0	
27					21	15	10	10	17	7.9	0	
28					*16	16	10	10	19	7.9	0	
29					-----	*15	9.5	*9.9	19	8.3	0	
30					-----	15	9.1	10	19	7.5	0	
31		-----			-----	14	-----	12	-----	5.6	0	-----
TOTAL	0	0	0	0	3,006	1,812.9	375.6	330.1	489.9	311.9	22.6	0
MEAN	0	0	0	0	107	58.5	12.5	10.6	16.3	10.1	0.73	0
MAX	0	0	0	0	756	495	16	14	20	16	3.5	0
MIN	0	0	0	0	0	9.9	9.1	9.1	9.9	5.6	0	0
AC-FT	0	0	0	0	5,960	3,600	745	655	972	619	45	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0  
Water year 1961-62: Max 756 Min 0 Mean 17.4 Ac-ft 12,600

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## PAJARO RIVER BASIN

11-1535. Llagas Creek near Morgan Hill, Calif.

Location.--Lat 37°06'50", long 121°41'25", in Las Uvas Grant, on right bank 500 ft upstream from Llagas Avenue Bridge, 0.3 mile downstream from Chesbro Dam, 0.3 mile upstream from small tributary, and 2.3 miles west of Morgan Hill, Santa Clara County.

Drainage area.--19.6 sq mi.

Records available.--October 1951 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 445 ft (from topographic map).

Average discharge.--10 years, 14.1 cfs (10,210 acre-ft per year); median of yearly mean discharges, 7.5 cfs (5,400 acre-ft per year).

Extremes.--Maximum discharge during year, 302 cfs Mar. 7 (gage height, 3.10 ft); no flow during several months.

1951-62: Maximum discharge, 3,190 cfs Apr. 2, 1958 (gage height, 8.45 ft), from rating curve extended above 1,600 cfs on basis of computation of peak flow over dam; no flow at times in most years.

Remarks.--Records good. Flow regulated by Chesbro Reservoir (see p. 307).

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

0.82	0	1.4	17
.9	.6	1.7	44
1.0	2.2	2.0	82
1.1	4.3	2.5	166
1.2	7.5	3.0	276

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1					0	0	13	30	43	39	11	0.6
2					0	.5	11	30	44	38	4.6	.6
3					0	.1	10	30	45	38	2.6	.8
4	(*)				0	0	10	30	45	38	1.8	.6
5					0	.8	9.3	30	45	44	1.8	.6
6		(*)			0	87	7.5	30	46	52	1.8	.6
7					0	*233	8.4	30	45	53	2.0	.6
8			(*)		0	*139	9.3	30	45	53	2.2	.6
9					5.1	89	7.2	34	43	53	2.2	.6
10					1.1	78	5.9	36	41	47	2.0	.6
11					.1	67	9.3	36	43	44	1.8	.6
12					0	*52	6.2	36	45	45	1.8	.6
13					1.2	43	4.3	36	47	46	1.7	.6
14					1.9	38	5.6	36	50	43	1.5	.6
15					3.8	*35	5.9	36	50	42	1.5	.6
16					1.7	45	*4.3	36	48	42	1.5	.6
17					.6	31	4.6	36	47	42	1.5	.6
18				(*)	.8	24	4.5	36	46	42	1.4	.6
19					.5	21	5.9	36	45	41	1.4	.6
20					.2	21	5.3	36	44	41	1.4	.6
21					.2	18	3.8	*37	44	42	1.2	.6
22					.1	29	4.3	37	*42	42	*1.1	.6
23					.1	25	4.1	37	41	41	1.1	.6
24					.1	19	4.6	37	40	40	1.1	.6
25					.1	17	3.3	38	38	*38	1.1	.6
26					*0	16	19	39	37	34	.8	.6
27					0	15	30	40	36	31	.6	.6
28					0	14	30	39	38	26	.6	.6
29					-----	14	30	40	40	23	.6	.9
30					-----	13	*30	40	40	22	.6	1.1
31		-----			-----	13	-----	42	-----	17	.6	-----
TOTAL	0	0	0	0	17.6	1,197.4	306.6	1,096	1,303	1,239	56.9	19.0
MEAN	0	0	0	0	0.63	38.6	10.2	35.4	43.4	40.0	1.84	0.63
MAX	0	0	0	0	5.1	233	30	42	50	53	11	1.1
MIN	0	0	0	0	0	0	3.3	30	36	17	0.6	0.6
AC-FT	0	0	0	0	35	2,380	608	2,170	2,580	2,460	113	38

CALENDAR YEAR 1961: MAX 2.7 MIN 0 MEAN 0.37 AC-FT 267  
 WATER YEAR 1961-62: MAX 233 MIN 0 MEAN 14.3 AC-FT 10,380

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

11-1537. Pajaro River near Gilroy, Calif.

Location.--Lat 36°56'55", long 121°30'40", on boundary between Las Animas and Llano del Tequisquita Grants, on center pier on downstream side of highway bridge on Bolsa Road, 0.9 mile downstream from Llagas Creek, and 4.7 miles southeast of Gilroy, Santa Clara County.

Drainage area.--399 sq mi.

Records available.--March 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 130 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,120 cfs Feb. 15 (gage height, 9.00 ft); no flow for many days.  
1959-62: Maximum discharge, that of Feb. 15, 1962; no flow for many days in 1962.

Remarks.--Records poor. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft), Chesbro Reservoir (see p. 307), and San Felipe Lake. Many diversions above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.1	0.2	0	0.3	25	1.2	3.8	2.1	1.0	1.3	0.9
2	1.0	.1	.7	0	.3	60	1.1	3.8	2.2	1.4	1.6	.7
3	.7	.1	1.1	0	.2	150	1.0	4.3	1.8	*2.3	1.7	.7
4	.6	.1	.7	0	.2	70	1.0	3.1	1.8	1.7	1.4	.8
5	.4	.1	.4	*0	.2	50	.9	1.6	2.3	1.4	1.3	1.0
6	.7	.1	.3	0	.2	150	.9	1.9	3.0	1.4	*1.4	.6
7	.7	.1	.2	0	.3	*600	.9	3.1	2.3	1.4	1.5	.4
8	.5	.1	*.1	0	.4	430	.4	4.7	2.3	1.9	1.9	.3
9	.4	.1	.1	0	.67	288	.9	4.4	2.6	1.8	2.0	.3
10	*.3	.1	.1	.3	178	163	.4	5.0	1.2	1.7	1.1	*.4
11	.2	.1	0	.2	105	101	1.2	2.2	1.2	1.4	1.4	.6
12	.3	.1	0	.2	57	65	2.0	1.9	1.7	1.1	1.2	.8
13	.3	.1	0	.3	157	48	2.0	2.3	1.2	1.7	1.0	.6
14	.3	.1	0	.3	246	38	3.3	2.5	1.5	1.7	1.7	.4
15	.3	.1	0	.3	750	30	3.6	2.0	1.5	1.3	2.4	.5
16	.3	.1	0	.4	*698	24	3.3	1.4	1.6	1.3	1.3	.4
17	.3	.1	0	.3	624	25	2.5	2.4	1.0	1.7	1.2	.4
18	.3	.1	0	.3	519	16	2.0	2.0	.7	1.4	1.0	.4
19	.6	.1	0	.4	465	*9.4	3.7	1.7	.8	1.4	1.4	.4
20	.6	.1	0	24	*418	6.6	4.0	1.6	1.2	1.5	1.3	.3
21	.6	*.2	0	2.6	348	3.8	2.7	1.6	2.0	1.3	1.0	1.0
22	.6	.1	0	.5	250	3.3	2.2	1.7	2.0	.9	1.5	1.0
23	.6	0	0	.5	180	7.0	2.2	1.9	2.6	1.5	1.8	.7
24	.5	0	0	.4	140	4.4	2.7	2.0	1.5	2.1	1.4	.5
25	.5	0	0	.3	90	2.2	3.4	2.7	1.8	2.2	1.4	1.4
26	.4	.1	0	.3	50	2.0	5.1	2.8	1.5	1.9	.9	.6
27	.3	.1	0	.4	40	2.0	3.6	2.1	1.3	1.3	.6	.3
28	.2	.1	0	1.0	30	1.8	2.9	1.7	1.5	1.3	.4	.3
29	.2	.1	0	1.2	-	1.6	3.0	*1.4	1.3	1.5	.4	.3
30	.1	.2	0	.4	-----	1.6	*3.6	1.9	1.5	1.3	.8	.2
31	.1	-----	0	.3	-----	1.4	-----	2.8	-----	1.2	.6	-----
Total	14.6	2.9	3.9	35.3	5,414.1	2,380.1	68.5	78.3	51.0	47.0	39.9	17.2
Mean	0.47	0.10	0.13	1.14	193	76.8	2.28	2.53	1.70	1.52	1.29	0.57
Max	1.1	0.2	1.1	24	750	600	5.1	5.0	3.0	2.3	2.4	1.4
Min	0.1	0	0	0	0.2	1.4	0.8	1.4	0.7	0.9	0.4	0.2
Ac-ft	29	5.8	7.7	70	10,740	4,720	136	155	101	93	79	34

Calendar year 1961: Max 6.8 Min 0 Mean 1.68 Ac-ft 1,210  
Water year 1961-62: Max 750 Min 0 Mean 22.3 Ac-ft 16,170

Peak discharge (base, 300 cfs)---Feb. 15 (1400) 1,120 cfs (9.00 ft); Mar. 6 (about 1400) 644 cfs (7.28 ft).

\* Discharge measurement or observation of no flow made on this day.  
Note.--No gage-height record Oct. 26 to Nov. 21, Feb. 22 to Mar. 7.

## PAJARO RIVER BASIN

11-1539. Uvas Creek above Uvas Reservoir, near Morgan Hill, Calif.

Location.--Lat 37°05'34", long 121°43'02", in Las Uvas Grant on left bank 0.6 mile downstream from Little Uvas Creek, 0.9 mile upstream from Hay Canyon and 4.4 miles southwest of Morgan Hill, Santa Clara County.

Drainage area.--21.0 sq mi.

Records available.--July 1961 to September 1962.

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

Extremes.--1961: No flow July 12 to Sept. 30.

1961-62: Maximum discharge during water year, 3,390 cfs Feb. 9 (gage height, 11.59 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement at gage height 13.5 ft; no flow Oct. 1-22.

Remarks.--Records good. Small diversions above station by local ranchers.

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

July 12, 1961, to Feb. 14, 1962

Feb. 15 to Sept. 30, 1962

2.3	0	3.4	15	2.3	0.1	3.3	16
2.4	.1	3.8	35	2.4	.2	3.8	39
2.5	.2	4.4	85	2.5	.4	4.4	84
2.6	.4	5.0	156	2.6	1.0	5.0	156
2.7	1.1	6.0	355	2.7	2.2	6.0	355
2.8	2.1	8.0	970	3.0	8.0	8.0	970
3.0	5.1						

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0.1	17	0.3	1.5	51	24	8.4	4.0	1.2	0.4	0.1
2	0	.1	15	.3	1.4	225	22	8.2	4.2	.9	.3	.2
3	0	.2	9.1	.4	1.3	95	22	8.0	4.2	.7	.3	.2
4	*0	.2	4.1	.3	1.3	66	20	7.6	4.0	.5	.5	.2
5	0	.2	2.7	.3	1.2	201	19	7.4	4.0	.6	.8	.2
6	0	.1	2.1	.3	1.2	675	10	7.2	3.5	.7	.0	.3
7	0	.1	1.8	.4	6.1	273	17	6.8	3.3	.7	.3	.3
8	0	.1	*1.5	.6	7.7	159	17	7.0	3.5	.7	.4	.4
9	0	.1	1.3	.8	*893	113	16	6.8	2.7	.6	.4	.3
10	0	.1	1.2	.8	421	86	15	6.8	2.4	.4	.4	.3
11	0	.1	1.1	.8	*136	70	15	6.6	2.9	.4	.3	.3
12	0	.2	1.0	.8	64	61	14	6.2	2.9	.7	.2	.4
13	0	*.1	1.0	.7	*401	52	13	7.0	2.9	.8	.3	.3
14	0	.2	1.0	.3	*524	46	13	7.0	3.6	.6	.3	.3
15	0	.3	1.0	.6	944	43	13	6.4	3.5	.5	.1	.3
16	0	.3	1.0	.8	396	39	*12	6.4	3.1	.5	.1	.3
17	0	.3	1.0	.8	106	36	12	6.2	3.3	.6	.1	.2
18	0	.2	1.0	*.8	163	33	12	6.2	2.4	.5	.1	.3
19	0	.4	1.0	6.3	128	31	12	5.6	1.6	.3	.3	.3
20	0	*2.1	1.0	*.5	89	31	11	5.6	1.8	.4	.1	.2
21	0	1.1	1.0	9.4	69	28	11	*5.2	1.1	.2	.1	.2
22	0	.6	1.0	*5.1	57	64	11	5.0	*1.2	.2	*.1	.2
23	.1	.4	.9	3.8	49	49	10	4.8	1.1	.3	.2	.3
24	.1	.4	.9	3.1	43	39	9.6	4.6	1.4	.3	.2	.3
25	.1	.6	.9	2.5	38	35	9.6	4.6	1.5	*.4	.3	.2
26	.1	1.1	.6	2.4	34	33	9.4	4.8	1.2	.5	.1	.2
27	.1	1.1	.4	2.0	31	31	9.2	5.4	1.6	.1	.3	.2
28	.1	.4	.3	1.9	29	28	9.2	5.2	1.2	.4	.2	.1
29	.1	.7	.3	1.8	-----	*27	8.8	4.8	.8	.4	.1	.2
30	.1	11	.5	1.7	-----	25	8.6	4.4	.6	.3	.1	.2
31	.1	-----	.3	1.6	-----	24	-----	4.4	-----	.3	.1	-----
TOTAL	0.9	22.9	72.8	106.7	4,716.7	2,788	413.4	190.6	75.5	15.7	8.3	7.5
MEAN	0.03	0.76	2.35	3.44	168	89.9	13.8	6.15	2.52	0.51	0.27	0.25
MAX	0.1	11	17	55	944	675	24	8.4	4.2	1.2	0.8	0.4
MIN	0	0.1	0.3	0.3	1.2	24	8.6	4.4	0.6	0.1	0.1	0.1
AC-FT	1.8	45	144	212	9,360	5,530	820	378	150	31	16	15
(+)	0	4.1	1.2	2.8	15.1	6.2	0.1	0	0	0	0	0

CALENDAR YEAR 1961: MAX - MIN - MEAN - AC-FT -  
WATER YEAR 1961-62: MAX 944 MIN 0 MEAN 23.1 AC-FT 16,700

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0630	11.59	3,390	3-6	0630	8.70	1,250
2-14	2300	11.21	3,010	3-22	1100	5.59	261
3-2	0830	6.56	498				

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

+ Precipitation, in inches.

## 11-1541. Bodfish Creek near Gilroy

Location.--Lat 37°00'15", long 121°40'00", in Las Animas Grant, on left bank just upstream from Whitehurst Creek, 2.7 miles upstream from mouth and 5.1 miles west of west city limits of Gilroy, Santa Clara County.

Drainage area.--7.40 sq mi.

Records available.--December 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 332 cfs Feb. 13 (gage height, 5.36 ft); no flow for many days.

1959-62: Maximum discharge, 585 cfs Feb. 1, 1959 (gage height, 6.35 ft); no flow for many days in each year.

Remarks.--Records good. No regulation.

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

2.3	0	3.0	17
2.4	.3	3.3	35
2.5	1.0	3.6	60
2.6	2.7	4.0	103
2.7	5.5		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	1.1	0.1	0.3	2.7	1.8	0.6	0.1	0.1	0	
2		0	1.5	.1	.3	9.0	1.7	.5	0	*.1	.1	
3		0	.4	*.1	.2	5.5	1.7	.5	.1	.1	.1	
4		0	.2	.1	.2	4.4	1.5	.5	.1	.1	.1	
5		0	.2	.1	.2	6.3	1.5	.4	.2	0	0	
6		0	.1	.1	.2	24	1.3	.3	.2	.1	*0	
7		0	*.1	.1	1.0	*15	1.1	.3	.2	.1	0	
8		0	.1	.1	*1.0	9.8	1.0	.3	.2	.1	0	
9		0	.1	.1	68	8.0	.9	.3	.2	0	0	
10		0	.1	.1	53	6.2	.9	.4	.2	0	0	(*)
11	(*)	0	.1	.1	16	4.9	.8	.3	.2	.1	0	
12		0	.1	.1	6.6	4.4	.8	.4	.2	.1	0	
13		0	.1	.1	96	3.8	.8	.5	.2	.1	0	
14		0	.1	.1	44	3.3	.8	.3	.2	.1	0	
15		0	.1	.1	102	3.0	.7	.4	.2	.1	0	
16		0	.1	.1	61	2.7	.7	.4	.2	.1	0	
17		0	.1	.1	29	2.5	.7	.4	.2	.1	0	
18		0	.1	.1	25	2.4	.7	.4	.2	.1	0	
19		0	.1	2.4	23	2.2	.8	.4	.1	.1	0	
20		0	.1	*6.2	16	2.4	.8	.3	.1	.1	0	
21		*0	.1	1.0	9.0	2.2	.7	.3	.1	0	0	
22		0	.1	.7	6.6	9.1	.7	.3	.1	0	0	
23		0	.1	.5	5.5	4.7	.7	.3	.1	0	0	
24		0	.1	.4	5.5	3.3	.7	.3	.1	0	0	
25		0	.1	.4	4.7	2.7	.7	.1	.1	0	0	
26		.1	.1	.3	3.8	2.5	.7	.3	.1	0	0	
27		.1	.1	.3	3.3	2.4	.7	.3	.1	0	0	
28		.1	.1	.3	3.0	*2.4	.9	.3	.1	0	0	
29		.2	.1	.3	-----	2.2	.7	*.3	.1	0	0	
30		.6	.1	.2	-----	2.0	*.6	.2	.1	0	0	
31		-----	.1	.3	-----	1.8	-----	.2	-----	0	0	-----
TOTAL	0	1.1	6.0	15.1	584.4	157.8	28.1	10.8	4.3	1.7	0.3	0
MEAN	0	0.04	0.19	0.49	20.9	5.09	0.94	0.35	0.14	0.05	0.01	0
MAX	0	0.6	1.5	6.2	102	24	1.8	0.6	0.2	0.1	0.1	0
MIN	0	0	0.1	0.1	0.2	1.8	0.6	0.1	0	0	0	0
AC-FT	0	2.2	12	30	1.160	313	56	21	8.5	3.4	0.6	0

CALENDAR YEAR 1961: MAX 3.6 MIN 0 MEAN 0.25 AC-FT 179  
WATER YEAR 1961-62: MAX 102 MIN 0 MEAN 2.22 AC-FT 1.610

Peak discharge (base, 150 cfs).--Feb. 9 (0600) 205 cfs (4.70 ft); Feb. 13 (1700) 332 cfs (5.36 ft).

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

11-1542. Uvas Creek near Gilroy, Calif.

Location.--Lat 36°59'35", long 121°34'20", in Las Animas Grant, on left bank 400 ft upstream from county road bridge, 0.4 mile south-west of Gilroy, Santa Clara County, and 3.9 miles downstream from Bodfish Creek.

Drainage area.--71.2 sq mi.

Records available.--January 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 190 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,540 cfs Mar. 6 (gage height, 7.83 ft); no flow for several months.

1959-62: Maximum discharge, 2,700 cfs Feb. 8, 1960 (gage height, 9.11 ft), from rating curve extended above 400 cfs; no flow for several months in each year.

Remarks.--Records good except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor. Flow regulated by Uvas Reservoir (see p. 307). Diversion above station for irrigation and municipal supply of city of Gilroy.

Rating table, except period of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

2.7	0	3.3	2.3	4.0	41
2.8	.1	3.4	3.6	4.5	125
2.9	.2	3.5	5.8	5.0	255
3.0	.4	3.6	9.0	6.0	640
3.1	.7	3.8	20	7.0	1,120
3.2	1.3				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	4.9	14					
2					0	140	13					
3				(*)	0	134	11			(*)	e 7	
4					0	56	8.0					
5					0	24	6.4					
6					0	1,020	5.4				* 0	
7			(*)		0	* 713	4.9		(*)		0	
8					* 0	394	4.3				0	
9					67	258	3.3	(*)			0	
10					234	170	3.1				0	(*)
11	(*)				* 45	123	2.6				0	
12					* 1.5	93	3.3				0	
13					256	80	6.4				0	
14					262	61	7.4				0	
15					726	41	8.4	e 12	e 15	e 16	0	
16					442	35	8.4				0	
17					270	29	7.1				0	
18					398	25	6.4				0	
19					386	20	6.8				0	
20				(*)	* 246	15	6.4				0	
21		(*)			140	13	6.1				0	
22					97	a 53	5.8				0	
23					71	a 40	4.6				0	
24					45	a 31	0				0	
25					16	a 26	0	(*)			0	
26					10	a 23	0				0	
27					7.1	a 21	3.8				0	
28					5.6	a 20	e 5.2				0	
29					-	* 20	e 4.9				0	
30					-----	15	* e 4.8				0	
31					-----	15	-----				0	-----
Total	0	0	0	0	3,725.2	3,712.9	171.8	372	450	496	35	0
Mean	0	0	0	0	133	120	5.73	12	15	16	1.1	0
Max	0	0	0	0	726	1,020	14	-	-	-	-	0
Min	0	0	0	0	0	4.9	2.6	-	-	-	-	0
Ac-ft	0	0	0	0	7,390	7,360	341	738	893	984	69	0

Calendar year 1961: Max 0.1 Min 0 Mean 0.0003 Ac-ft 0.2

Water year 1961-62: Max 1,020 Min 0 Mean 24.6 Ac-ft 17,780

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

a No gage-height record.

e Stage-discharge relation indefinite.



11-1560. San Benito River below McCoy Creek, near Hernandez, Calif.

Location.--Lat 36°23'22", long 120°53'42", in SW $\frac{1}{4}$  sec. 4, T.18 S., R.10 E., on right bank 0.7 mile upstream from Lorenzo Vasquez Canyon, 3.1 miles downstream from McCoy Creek, 4.3 miles downstream from Hernandez Dam, and 6 miles west of Hernandez.

Drainage area.--108 sq mi.

Records available.--October 1949 to September 1953, June 1959 to September 1962. Monthly discharge only prior to January 1950, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map).

Average discharge.--7 years, 12.3 cfs (8,900 acre-ft per year).

Extremes.--Maximum discharge during year, 470 cfs Feb. 9 (gage height, 4.32 ft); no flow for many days.

1949-53, 1959-62: Maximum discharge, 3,600 cfs Jan. 14, 1952 (gage height, 7.5 ft, from floodmarks), from rating curve extended above 630 cfs on basis of slope-area measurements at gage heights 7.03 and 8.93 ft; no flow at times in 1950-51, 1953, 1961-62.

Flood of Apr. 2, 1958, reached a stage of 8.93 ft, from floodmarks (discharge, 6,690 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records poor. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Some diversion above station for irrigation.

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

Oct. 1 to May 21				May 22 to Sept. 30			
1.9	0	2.6	26	2.0	0.7	2.6	16
2.0	.6	2.9	47	2.1	1.6	2.8	31
2.1	2.5	3.2	83	2.2	2.9	3.1	66
2.2	5.4	3.5	147	2.3	4.8	3.4	123
2.3	9.2	3.9	280	2.4	7.5		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.2	0.2	13	0	0	66	16	9.7	85	105	4.2	1.4
2	.3	.2	181	0	.1	66	16	9.7	85	105	4.4	1.4
3	.2	.3	161	0	.4	66	16	9.7	86	102	4.4	1.4
4	.2	.3	120	*0	.4	64	16	9.7	86	102	4.2	1.4
5	.1	.2	*17	0	.4	52	16	8.8	86	102	4.0	1.4
6	.1	.3	7.1	0	*.5	*71	16	8.8	85	100	3.9	1.4
7	.1	.2	5.4	0	.8	23	16	8.8	91	75	3.7	1.4
8	.1	*.3	4.8	0	1.7	19	55	8.8	98	19	3.7	1.4
9	.1	.3	4.0	0	267	17	112	9.2	98	*11	*3.5	1.4
10	*.1	.3	4.0	0	227	16	114	9.2	98	9.0	7.0	1.4
11	.1	.3	3.1	0	49	16	114	9.2	*97	9.8	6.4	1.4
12	.1	.4	3.1	0	22	15	114	9.7	100	12	6.2	1.4
13	0	.4	3.1	0	20	33	73	9.7	100	13	5.6	*1.4
14	0	.3	3.1	0	23	79	9.7	9.7	100	14	5.1	1.3
15	0	.3	2.8	0	98	80	9.2	10	100	12	4.6	1.4
16	0	.3	2.5	0	28	80	9.2	*10	98	14	4.4	1.5
17	.1	.3	2.1	0	10	80	8.8	10	97	9.4	4.2	1.4
18	0	.5	2.3	0	8.4	80	8.8	10	95	5.6	3.9	1.4
19	0	1.0	.3	0	10	80	9.2	10	95	5.6	3.5	1.4
20	0	11	.2	2.9	11	80	9.2	10	95	5.6	3.3	1.4
21	0	3.7	.1	.6	8.1	57	8.8	26	97	5.6	2.9	1.3
22	0	3.4	0	.4	*6.2	18	8.8	42	97	5.6	2.5	1.2
23	.2	3.1	0	.3	5.1	17	8.8	51	97	5.3	1.9	1.3
24	.2	2.8	0	.1	5.4	16	9.7	73	95	5.3	1.6	1.4
25	.2	5.0	0	.1	5.1	16	9.7	73	95	5.3	1.5	1.6
26	.2	4.5	0	.1	6.2	16	9.7	73	93	5.3	1.5	1.7
27	.2	3.4	0	.1	25	16	9.7	79	93	5.3	1.4	1.6
28	.2	3.4	0	0	70	16	9.7	86	93	5.3	1.4	1.6
29	.2	4.9	0	0	-----	16	9.7	86	100	5.3	1.4	1.5
30	.2	4.0	0	0	-----	*16	9.7	86	105	5.1	1.4	1.5
31	.2	-----	0	0	-----	16	-----	86	-----	4.6	1.4	-----
TOTAL	3.6	55.6	540.0	4.6	908.8	1,303	852.4	951.7	2,840	889.0	109.1	42.7
MEAN	0.12	1.85	17.4	0.15	32.5	42.0	28.4	30.7	94.7	28.7	3.52	1.42
MAX	0.3	11	181	2.9	267	80	114	86	105	105	7.0	1.7
MIN	0	0.2	0	0	0	15	8.8	8.8	85	4.6	1.4	1.2
AC-FT	7.1	110	1,070	9.1	1,800	2,580	1,690	1,890	5,630	1,760	216	85

CALENDAR YEAR 1961: MAX 181 MIN 0 MEAN 2.75 AC-FT 1,990  
 WATER YEAR 1961-62: MAX 267 MIN 0 MEAN 23.3 AC-FT 16,850

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

11-1565. San Benito River near Willow Creek School, Calif.

Location.--Lat 36°36'50", long 121°12'50", in SW $\frac{1}{4}$  sec.21, T.15 S., R.7 E., on right bank 1.7 miles downstream from Willow Creek, 1.8 miles northwest of Willow Creek School, and 10.4 miles northwest of San Benito.

Drainage area.--251 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 878.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Jan. 28, 1948, at same site at different datum. Jan. 28, 1948, to Nov. 10, 1955, at site 0.9 mile upstream at different datum.

Average discharge.--23 years, 24.3 cfs (17,590 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,090 cfs Feb. 15 (gage height, 4.42 ft); no flow for many days.

1939-62: Maximum discharge, 8,210 cfs Apr. 3, 1958 (gage height, 8.35 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow at times in 1947, 1956, 1959, 1961-62.

Flood of February 1938 reached a stage of about 9.0 ft (former datum) from floodmarks.

Remarks.--Records poor. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 17 to Dec. 2, Dec. 8-11,  
Feb. 15, May 16 to July 29)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

1.1	0	1.7	54	1.3	0.1	1.9	20
1.2	.2	2.4	185	1.4	.2	2.1	45
1.3	1.8	3.1	380	1.5	1.0	2.4	98
1.4	11	3.9	760	1.6	2.9	2.8	190
				1.7	6.4	3.3	370
				1.8	12		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.6	0.2	0.2	73	14	5.7	87	100	0.3	0.2
2	0	0	98	.2	.1	*75	14	5.0	85	100	.3	.2
3	0	0	a200	.2	.1	75	14	4.3	85	100	.3	.2
4	0	0	a125	*.2	.1	75	14	4.3	85	100	.4	.1
5	0	0	a80	.2	.1	81	14	3.6	84	100	.4	.2
6	0	0	a38	.2	.1	*185	*14	2.7	84	96	.3	.2
7	0	0	a15	.2	*1.0	94	14	2.9	82	94	.4	.2
8	0	*0	*7.0	.2	1.5	50	14	2.7	87	75	*.4	.2
9	*0	a.1	2.1	.2	25.7	41	54	2.5	91	*33	.4	.2
10	.1	a.1	1.5	.2	736	35	104	2.0	91	19	.3	.2
11	.1	a.1	.8	.2	417	31	106	2.0	*89	11	.3	.2
12	.1	a.1	.6	.2	171	28	108	2.0	89	8.6	.2	*.2
13	.1	a.1	.3	.2	125	25	108	2.0	89	6.4	.2	.2
14	0	a.1	.2	.2	125	49	53	2.1	93	5.7	.2	.2
15	0	a.1	.2	.2	328	78	25	*2.5	94	4.7	.1	.2
16	0	a.1	.2	.2	a150	84	17	2.7	93	3.6	.1	.2
17	0	*.1	.2	.2	a90	84	13	2.5	91	1.8	.1	.1
18	0	.1	.1	.2	a60	84	9.2	2.0	89	2.1	.1	.1
19	0	.1	.2	.2	a150	*84	7.5	2.3	89	2.1	.1	.1
20	0	.8	.1	24	a50	82	6.4	2.1	87	2.1	.1	.2
21	0	.2	.1	3.9	a35	85	8.6	2.3	85	1.6	.1	.2
22	0	.2	.1	3.9	28	52	8.6	2.1	89	1.4	.1	.2
23	0	.2	.1	3.2	*21	32	7.5	13	89	1.0	.1	.2
24	0	.2	.1	1.8	20	24	6.1	44	89	.7	.1	.1
25	0	.4	.1	1.0	20	19	6.1	85	89	.5	.1	.1
26	0	.8	.1	.6	20	18	6.4	85	91	.4	.1	.2
27	0	.4	.1	.4	19	16	6.4	85	91	.3	.1	.2
28	0	.3	.1	.2	36	16	6.1	85	89	.3	.1	.2
29	0	.6	.2	.2	-	15	6.1	91	89	.3	.1	.2
30	0	.6	.2	.2	-----	15	6.1	91	91	.4	.2	.2
31	0	-----	.2	.2	-----	15	-----	91	-----	.3	.2	-----
Total	0.4	5.8	571.5	49.0	2861.2	1720	791.1	732.3	2656	872.3	6.3	5.4
Mean	0.01	0.19	18.4	1.58	102	55.5	26.4	23.6	88.5	28.1	0.20	0.18
Max	0.1	0.8	200	24	736	185	108	91	94	100	0.4	0.2
Min	0	0	0.1	0.2	0.1	15	6.1	0.6	82	0.3	0.1	0.1
Ac-ft	0.8	12	1,130	97	5,680	3,410	1,570	1,450	5,270	1,730	12	11

Calendar year 1961: Max 200 Min 0 Mean 2.50 Ac-ft 1,810  
Water year 1961-62: Max 736 Min 0 Mean 28.1 Ac-ft 20,370

\* Discharge measurement made on this day.

a No gage-height record.

11-1567. Pescadero Creek near Paicines, Calif.

Location.--Lat 36°41'40", long 121°18'35", in SE $\frac{1}{4}$  sec. 21, T.14 S., R.6 E., on left bank just downstream from Cienega Valley Road bridge, 1.5 miles upstream from mouth and 3 miles southwest of Paicines.

Drainage area.--38.3 sq mi.

Records available.--July 1959 to September 1962.

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

Extremes.--Maximum discharge during year, 9.8 cfs Feb. 15 (gage height, 4.59 ft); no flow for several months.  
1959-62: Maximum discharge, 15 cfs Feb. 9, 1960 (gage height, 4.68 ft); no flow at times in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 24 to Jan. 10, Apr. 15 to June 6)

4.0	0	4.3	2.0
4.1	.2	4.4	3.7
4.2	.9		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.3	0.5	0.7	0.6	0				
2			0	.3	.5	.8	.6	0				
3			0	.3	.5	.7	.6	0				
4			* 0	* .3	.5	.7	.5	0				
5			0	.3	.6	1.3	.5	0				
6			0	.3	.6	* 1.9	* .5	0				
7			0	.3	* .8	.8	.3	0				
8			* 0	.2	.8	.7	.3	0		(*)		(*)
9	(*)		.2	.2	2.8	.7	.2	0				
10			.2	.2	2.0	.6	.2	0		(*)		
11			.3	.2	1.7	.6	.2	0				
12			.3	.3	.9	.6	.1	0				(*)
13			.3	.3	* 1.0	.6	.1	0				
14			.3	.3	1.1	.5	.1	0				
15			.3	.3	3.3	.5	.1	* 0				
16			.3	.3	3.2	.6	.1	.1				
17		(*)	.3	.4	1.5	.6	.1	.1				
18			.3	.5	3.3	.5	.1	.1				
19			.3	.8	2.3	.5	.1	.1				
20			.3	* 1.5	1.2	.5	.1	.1				
21			.3	.6	1.1	.5	.1	.1				
22			.3	.6	.9	.6	0	.1				
23			.3	.5	* .8	.6	0	.1				
24			.4	.6	1.0	.6	0	.1				
25			.4	.5	.9	.6	.1	.1				
26			.3	.4	.8	.6	.1	.1				
27			.3	.4	.7	.6	.1	0				
28			.3	.4	.7	.6	.1	0				
29			.3	.4	-	.6	.1	0				
30			.3	.4	-----	.5	0	0				
31			.3	.4	-----	.5	-----	0	-----			-----
Total	0	0	6.9	12.8	36.0	20.7	5.8	1.1	0	0	0	0
Mean	0	0	0.22	0.41	1.29	0.67	0.19	0.04	0	0	0	0
Max	0	0	0.4	1.5	3.3	1.9	0.6	0.1	0	0	0	0
Min	0	0	0	0.2	0.5	0.5	0	0	0	0	0	0
Ac-ft	0	0	1.4	2.5	7.1	4.1	1.2	2.2	0	0	0	0

Calendar year 1961: Max 1.8 Min 0 Mean 0.36 Ac-ft 264  
Water year 1961-62: Max 3.3 Min 0 Mean 0.23 Ac-ft 165

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

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

11-1575. Tres Pinos Creek near Tres Pinos, Calif.

Location.--Lat 36°45'13", long 121°17'03", in Santa Ana y Quien Sabe Grant, on right bank 3.5 miles southeast of Tres Pinos, San Benito County, and 6.2 miles upstream from mouth.

Drainage area.--206 sq mi.

Records available.--October 1939 to September 1962. Yearly estimate only for 1940 and monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Concrete control since June 3, 1954 (control ineffective since 1955 due to gravel fill). Altitude of gage is 570 ft (from topographic map).

Average discharge.--23 years, 14.2 cfs (10,280 acre-ft per year); median of yearly mean discharges, 5.1 cfs (3,700 acre-ft per year).

Extremes.--Maximum discharge during year, 978 cfs Feb. 15 (gage height, 5.08 ft); minimum daily, 0.2 cfs many days in August and September.

1939-62: Maximum discharge, 8,060 cfs Apr. 4, 1941 (gage height, 7.75 ft), from rating curve extended above 3,500 cfs; no flow at times in 1952, 1957-61.

Flood in February 1938 reached a stage of about 9.0 ft, from floodmarks.

Remarks.--Records poor. Diversions above station for irrigation can divert total flow in summer months.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.6	0.9	1.3	0.9	1.6	1.5	1.0	0.3		1.7	0.2
2	.6	.6	1.2	1.4	.9	1.6	1.5	1.0	.3		1.7	.2
3	.6	.6	1.0	1.4	.9	2.2	*1.5	.9	.3		1.6	.2
4	.6	.6	*.9	*1.4	.9	1.6	1.5	.8	.3		1.6	.2
5	.6	.5	.9	1.4	.9	2.1	1.5	.8	.3	1	1.6	.4
6	.4	.6	.9	1.4	.8	*194	1.5	.9	.3		1.6	.3
7	.7	.6	.9	1.4	*.9	76	1.4	1.2	.3		1.6	.3
8	.6	.6	.9	1.4	.9	18	1.5	1.2	.3		*1.6	.3
9	*.6	.6	.9	1.5	131	8.2	1.5	1.2	.3		1.7	.3
10	.6	.5	.9	1.5	223	4.1	1.5	*1.2	.4	*2.1	1.6	.3
11	.6	.5	.4	1.5	185	1.5	1.4	1.3	*.4	1.9	1.7	.3
12	.6	.6	.7	1.6	37	1.3	1.4	1.4	.4	1.9	1.5	*.2
13	.6	.6	.8	1.6	*4.4	1.4	1.4	1.4	.4	1.9	1.5	.2
14	.6	.6	.8	1.6	1.5	1.4	1.4	1.5	.5	1.9	1.5	.3
15	.6	.6	.8	1.6	336	1.4	1.4	1.5	.5	1.9	1.5	.3
16	.6	.7	.8	1.6	284	1.4	1.5	1.6	.4	1.9	1.6	.3
17	.6	*.6	.9	1.6	71	1.4	1.6	1.6	.4	2.1	1.6	.3
18	.7	.6	.9	1.5	83	1.4	1.6	1.6	.4	2.2	1.6	.3
19	.7	.6	.9	1.6	198	*1.4	1.6	1.6	.4	2.2	1.5	.3
20	.7	.9	.8	1.6	49	1.4	1.6	1.6	.4	2.2	.6	.3
21	.6	.9	.9	1.3	24	1.4	1.5	1.6	1.0	2.4	.3	.2
22	.7	.9	.9	1.2	71	1.5	1.4	1.6		2.6	.3	.3
23	.6	.9	.9	1.0	1.9	1.5	1.3	1.6		2.6	.3	.3
24	.6	.9	.9	.9	8.5	1.5	1.3	1.5		2.4	.2	.3
25	.5	.9	1.0	.9	30	1.5	1.3	.4		2.2	.2	.3
26	.5	.8	1.0	.9	14	1.5	1.5	.4	1	2.2	.2	.4
27	.6	.8	1.2	.9	3.8	1.5	1.5	.3		2.1	.2	.3
28	.5	.8	1.2	.9	*1.6	1.5	1.2	.3		2.1	.2	.3
29	.5	.8	1.3	.9	-	1.5	1.0	.3		1.9	.2	.3
30	.5	.8	1.3	.9	-----	1.5	1.0	.3		1.9	.2	.3
31	.5	-----	1.3	.9	-----	1.5	-----	.3	-----	1.9	.2	-----
Total	18.7	20.6	29.5	40.6	1700.9	339.8	42.8	33.9	17.3	55.5	33.4	8.5
Mean	0.60	0.69	0.95	1.31	60.7	11.0	1.43	1.09	0.58	1.79	1.08	0.28
Max	0.8	0.9	1.3	1.6	336	194	1.6	1.6	-	2.6	1.7	0.4
Min	0.5	0.5	0.7	0.9	0.8	1.3	1.0	0.3	0.3	-	0.2	0.2
Ac-ft	37	41	59	81	3,370	674	85	67	34	110	66	17

Calendar year 1961: Max 2.6 Min 0 Mean 0.74 Ac-ft 536  
 Water year 1961-62: Max 336 Min 0.2 Mean 6.42 Ac-ft 4,640

Peak discharge (base, 450 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0830	4.73	607	2-18	2400	4.79	661
2-15	0500	5.08	978	3-6	0500	4.68	564

11-1585. San Benito River near Hollister, Calif.

Location.--Lat 36°47'17", long 121°22'11", in SW $\frac{1}{4}$  sec.24, T.13 S., R.5 E., on left bank 1,500 ft downstream from Bird Creek, 0.9 mile downstream from Tres Pinos Creek, 2.7 miles west of Tres Pinos, and 4.8 miles southeast of Hollister.

Drainage area.--586 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 370 ft (from topographic map).

Average discharge.--13 years, 29.7 cfs (21,500 acre-ft per year); median of yearly mean discharges, 6.5 cfs (4,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,350 cfs Feb. 15 (gage height, 6.21 ft); no flow for many months.

1949-62: Maximum discharge, 11,600 cfs Apr. 3, 1958 (gage height, 16.30 ft), from rating curve extended above 1,200 cfs on basis of flood-routing study; no flow for parts of each year.

Remarks.--Records poor. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Several small diversions above station for irrigation.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			0		0	6.6	26	36	46	11		
2			0		0	15	25	5.2	46	19		
3			19		0	34	24	.8	44	21		
4			*90		0	32	25	.6	44	23		
5			70	(*)	0	30	26	.6	46	*25		
6			40		0	235	*26	.6	42	23		
7			9.1		*0	*167	26	.6	39	39	(*)	
8			1.7		0	31	28	.6	*39	39		
9	(*)		1.0		32	3.0	28	.6	40	31		
10			.5		720	.4	8.4	*.6	47	11		
11			*.1		*392	5.1	19	.6	49	1.7		(*)
12			.1		105	10	42	.6	53	.3		
13			.1		*11	28	46	.8	50	.1		
14			.1		7.0	32	49	1.2	50	0		
15			.1		543	75	32	1.2	54	0		
16			.1		426	14	28	1.4	56	0		
17		(*)	.1		174	14	28	1.2	50	0		
18			0		71	15	29	1.0	46	0		
19			0		253	11	30	.8	42	0		
20			0		74	11	26	.8	34	0		
21			0		40	12	28	.5	19	0		
22			0		28	8.4	31	.6	6.6	0		
23			.1		*28	2.1	32	.5	12	0		
24			0		46	10	34	.5	13	0		
25			0		63	11	34	.4	12	0		
26			.1		18	7.0	34	.2	12	0		
27			.1		*3.0	19	34	18	11	0		
28			.1		2.3	32	37	30	11	0		
29			.1		-----	32	37	32	11	0		
30			.1		-----	30	34	42	11	0		
31		-----	0		-----	28	-----	46	-----	0		-----
TOTAL	0	0	232.6	0	3,036.3	960.6	906.4	226.5	1,035.6	244.1	0	0
MEAN	0	0	7.50	0	108	31.0	30.2	7.31	34.5	7.87	0	0
MAX	0	0	90	0	720	235	49	46	56	39	0	0
MIN	0	0	0	0	0	0.4	8.4	0.2	6.6	0	0	0
AC-FT	0	0	461	0	6,020	1,910	1,800	449	2,050	484	0	0

CALENDAR YEAR 1961: MAX 90 MIN 0 MEAN 0.72 AC-FT 517

WATER YEAR 1961-62: MAX 720 MIN 0 MEAN 18.2 AC-FT 13,170

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

11-1590. Pajaro River at Chittenden, Calif.

Location.--Lat 36°54'01", long 121°35'48", in Salsipuedes Grant, on downstream side of right bank pier of State highway bridge, 0.6 mile downstream from Pescadero Creek, 0.6 mile southeast of Chittenden, Santa Cruz County, and 2.3 miles downstream from San Benito River.

Drainage area.--1,186 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "near Chittenden."

Gage.--Water-stage recorder. Datum of gage is 81.81 ft above mean sea level (levels by U. S. Weather Bureau). Prior to May 13, 1949, wire-weight gage on former bridge 100 ft downstream at same datum except that water-stage recorder, also 100 ft downstream and at same datum, was used Dec. 20, 1946, to June 11, 1947, June 21 to Sept. 23, 1947, and Dec. 19, 1947, to May 6, 1948.

Average discharge.--23 years, 151 cfs (109,300 acre-ft per year); median of yearly mean discharges, 76 cfs (55,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,910 cfs Feb. 15 (gage height, 12.58 ft); minimum daily, 0.1 cfs for many days.

1939-62: Maximum discharge, 24,000 cfs Dec. 24, 1955, from rating curve extended above 8,300 cfs on basis of slope-conveyance study; maximum gage height, 33.11 ft Apr. 3, 1958; no flow at times in July, August 1948.

Flood in February 1938 reached a stage of 31.3 ft, from floodmarks.

Remarks.--Records fair, except those for periods of no gage-height record, which are poor. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft), Chesbro and Uvas Reservoirs (see p. 307), and San Felipe Lake. Many diversions above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.7	0.6	2.3	4.2	1.6	6.9	6.3			0.2
2	.1	.2	1.1	.6	2.2	7.1	1.5	6.9	6.5			.2
3	.1	.2	.7	.6	2.0	27.4	1.5	6.9	3.8	(*)		.2
4	.1	.2	.6	.6	1.9	13.6	1.3	7.2	a3.5			.3
5	.1	.2	.5	*.6	1.7	8.6	1.1	7.6	a3.3			.3
6	.1	.1	.5	.6	1.9	1,060	9.6	7.6	a3.2		(*)	.4
7	.1	.1	.5	.7	2.9	*1,670	8.8	7.6	a3.0			.5
8	.1	.1	*.6	.7	2.9	92.4	8.2	7.2	a2.9			.6
9	.1	.1	.6	.7	3.4	61.3	7.6	7.1	a2.8			1.1
10	*.1	.2	.6	.6	58.5	44.0	7.4	5.6	a2.7			.8
11	.1	.2	.6	.6	*72.2	31.2	7.0	5.6	a2.6			*.7
12	.1	.2	.6	.7	35.8	22.6	7.6	5.0	a2.5			.5
13	.1	.2	.6	.7	36.1	14.5	8.2	5.5	a2.5			.4
14	.1	.2	.6	.6	99.0	11.5	8.4	5.8	a2.4			.4
15	.1	.2	.6	.6	1,970	9.2	9.2	5.6	a2.3	a0.5	a0.4	.3
16	.1	.2	.5	.6	2,300	8.5	9.0	5.6	a2.3			.3
17	.1	.2	.5	.6	1,720	7.4	8.2	4.5	2.3			.3
18	.1	.2	.6	.6	1,160	6.2	7.2	4.5	2.7			.3
19	.1	.2	.6	1.9	1,310	5.1	6.7	5.3	2.6			.3
20	.1	.2	.6	7.2	86.5	4.0	6.7	5.5	2.8			.3
21	.2	*.4	.6	1.4	*59.5	3.4	6.5	5.3	2.6			.3
22	.1	.4	.5	10	43.5	3.9	5.8	5.0	2.3			.3
23	.1	.5	.6	6.1	31.6	8.5	5.3	4.7	2.7			.3
24	.1	.5	.6	4.3	24.4	6.9	5.6	4.2	2.7			.3
25	.1	.6	.6	3.1	a16.1	5.4	5.1	4.1	2.4			.3
26	.1	.4	.6	2.5	a9.1	4.5	5.1	4.4	2.1			.4
27	.1	.4	.6	2.2	*6.7	3.9	6.3	6.1	a1.6			.4
28	.1	.4	.6	2.0	5.1	3.3	7.6	6.3	a1.2			.4
29	.1	.7	.6	1.9	-	*2.7	6.9	*5.6	a1.0		*.1	.3
30	.1	.6	.6	2.0	-----	2.1	*6.9	5.1	a.7		.1	.3
31	.1	-----	.6	2.3	-----	1.8	-----	6.1	-----		.2	-----
Total	3.2	8.8	18.7	70.8	14,352.8	6,982	250.9	180.4	82.3	15.5	11.6	11.7
Mean	0.10	0.29	0.60	2.28	51.3	22.5	8.36	5.82	2.74	0.50	0.37	0.39
Max	0.2	0.7	1.1	1.4	2,300	1,670	1.6	7.6	6.5	-	-	1.1
Min	0.1	0.1	0.5	0.6	1.7	1.8	5.1	4.1	0.7	-	0.1	0.2
Ac-ft	6.3	1.7	3.7	14.0	28,470	13,850	498	358	163	31	23	23
Calendar year 1961: Max 21 Min 0.1 Mean 3.49 Ac-ft 2,530												
Water year 1961-62: Max 2,300 Min 0.1 Mean 60.2 Ac-ft 43,620												

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	2000	9.50	1,180	2-19	0900	10.30	1,550
2-15	1900	12.58	2,910	3-6	2200	11.76	2,360

\* Discharge measurement made on this day.  
a No gage-height record.

11-1591.5. Corralitos Creek near Corralitos, Calif.

Location.--Lat 37°00'20", long 121°48'25", in Los Corralitos Grant, on left bank 0.5 mile downstream from Mormon Gulch, 1.2 miles upstream from Corralitos, Santa Cruz County, and 7 miles northwest of Watsonville.

Drainage area.--10.6 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 310 ft (from topographic map).

Average discharge.--5 years, 7.72 cfs (5,590 acre-ft per year).

Extremes.--Maximum discharge during year, 800 cfs Feb. 14 (gage height, 5.55 ft); no flow at times.

1957-62: Maximum discharge, 1,970 cfs Apr. 2, 1958 (gage height, 7.55 ft), from rating curve extended above 280 cfs on basis of estimate of peak flow over dam; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Approximately 3.9 cfs diverted daily above station for municipal supply of city of Watsonville.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 7-28, May 2-5)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

0.7	0	1.3	6.8	0.5	0	1.5	28
.8	.2	1.6	18	.6	.2	2.0	61
.9	.5	2.0	42	.7	.6	2.5	104
1.0	1.1	2.5	84	.8	1.8	3.0	162
1.1	2.2	3.0	147	.9	3.7	4.0	325
1.2	4.2	3.5	227	1.0	6.5	5.0	600
				1.2	14		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	6.6	0.1	0.2	19	9	2.8	0.3	0.1	0	0.1
2	.1	.1	4.0	.1	.2	53	8	*2.5	.3	*.1	0	.1
3	.1	.1	2.4	*.1	.2	29	8	2.3	.2	.1	.1	.1
4	.1	.1	.8	.1	.2	23	8	2.1	.2	.1	.1	.1
5	.1	.1	.2	.1	.2	38	7	1.6	.2	.1	.1	.1
6	.2	.1	.4	.1	.2	223	7	1.4	.2	.1	*.1	.1
7	.2	.1	*.1	.1	6.8	*130	6	1.3	*.2	.1	.2	.1
8	.2	.1	.1	.1	*8.4	69	5	1.3	.2	.1	.1	.1
9	.1	*.1	.1	.1	191	40	4.5	1.2	.2	.1	.1	.1
10	.1	.1	.1	.1	106	25	4.5	1.2	.1	.1	.1	*.1
11	*.1	.1	.1	.1	35	22	4.0	1.2	.1	.1	.1	.1
12	.1	.1	.1	.2	25	19	3.8	1.2	.1	0	.1	0
13	.1	.1	.1	.2	179	17	3.7	1.2	.1	0	.1	0
14	.1	.1	.1	.2	164	16	3.6	1.1	.1	0	0	.1
15	.1	.1	.1	.2	350	15	3.5	1.1	.1	0	0	.1
16	.1	.1	.1	.2	134	14	3.5	1.1	.1	0	0	.1
17	.1	.1	.1	.2	70	12	3.5	1.1	.1	.1	0	0
18	.1	.1	.1	.2	55	12	3.5	1.1	.1	.1	.1	.1
19	.1	.3	.1	7.5	40	11	3.5	1.0	.1	.1	.1	.1
20	.1	2.5	.1	*21	30	14	3.5	.9	.2	.1	.1	.1
21	.1	.1	.1	6.8	*25	13	3.5	.8	.1	.1	.1	0
22	.1	.1	.1	2.7	23	38	3.5	.7	.1	.1	.1	.1
23	.1	.1	.1	.4	21	21	3.5	.7	.1	.1	.1	.1
24	.1	.1	.1	.2	20	16	3.5	.6	.1	.1	.1	.1
25	.1	.3	.1	.2	16	14	3.5	*.5	.1	0	.1	.1
26	.1	.8	.1	.2	14	12	3.5	.5	.1	.1	.1	.1
27	.1	.1	.2	.2	13	12	3.5	.5	.1	.1	.1	.1
28	.1	.1	.1	.2	13	*12	4.0	.4	.1	0	.1	.1
29	.1	1.6	.1	.2	-	11	3.5	.4	.1	0	.1	.1
30	.1	7.8	.1	.2	-----	10	3.0	.4	.1	0	.1	.1
31	.1	-----	.1	.2	-----	9	-----	.3	-----	0	.1	-----
Total	3.4	15.7	16.7	42.5	1540.4	969	138.1	34.5	4.2	2.1	2.6	2.6
Mean	0.11	0.52	0.54	1.37	55.0	31.3	4.60	1.11	0.14	0.07	0.08	0.09
Max	0.2	7.8	6.6	21	350	223	9	2.8	0.3	0.1	0.2	0.1
Min	0.1	0.1	0.1	0.1	0.2	9	3.0	0.3	0.1	0	0	0
Ac-ft	6.7	31	33	84	3,060	1,920	274	68	8.3	4.2	5.2	5.2

Calendar year 1961: Max 13 Min 0 Mean 0.68 Ac-ft 495  
Water year 1961-62: Max 350 Min 0 Mean 7.59 Ac-ft 5,500

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0600	4.79	537	3-6	0500	3.90	306
2-14	2300	5.55	800				

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 1-6, Feb. 17-20, Mar. 29 to May 1, May 6 to June 18.

11-1592. Corralitos Creek at Freedom, Calif.

Location.--Lat 36°56'22", long 121°46'10", in Los Corralitos Grant, on right bank just upstream from Green Valley Road bridge, 0.25 mile north of Freedom, Santa Cruz County, and 2.3 miles north of Watsonville.

Drainage area.--27.8 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 80 ft (from topographic map).

Average discharge.--6 years, 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 1,050 cfs Feb. 14 (gage height, 6.66 ft); no flow for several months.

1956-62: Maximum discharge, 2,680 cfs Apr. 2, 1958 (gage height, 12.59 ft), from rating curve extended above 610 cfs on basis of contracted-opening measurement at gage height 15.6 ft; no flow at times.

Flood of Dec. 22, 1955, reached a stage of 15.6 ft, from floodmarks (discharge, 3,620 cfs on basis of contracted-opening measurement of peak flow).

Remarks.--Records fair. Approximately 3.9 cfs diverted daily above station for municipal supply of city of Watsonville.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 2-29)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
1.8	0	2.2	8.0	1.3	0	2.2	23
1.9	.3	2.4	17	1.4	.1	2.5	45
2.0	1.8	2.6	32	1.5	.4	3.0	102
2.1	4.4			1.6	1.4	3.5	184
				1.7	3.2	4.0	287
				1.8	5.6	5.0	540
				1.9	8.8		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.9	0	0	22	11	0.2				
2		0	5.1	0	0	59	10	*.2		(*)		
3		0	2.1	*0	0	47	8.8	.2				
4		0	0	0	0	36	8.0	.1				
5		0	0	0	0	50	6.8	.1				
6		0	0	0	0	292	6.5	.1		(*)		
7		0	*0	0	2.1	*165	4.0	.1				
8		0	0	0	*3.1	84	2.8	.2				
9		*0	0	0	250	58	2.1	.1				
10		0	0	0	*206	43	1.5	.1				(*)
11	(*)	0	0	0	61	35	1.2	.1				
12		0	0	0	34	29	1.0	.1				
13		0	0	0	256	23	.8	.1				
14		0	0	0	210	20	.7	.1				
15		0	0	0	528	19	.6	.1				
16		0	0	0	225	16	.5	.1				
17		0	0	0	110	15	.5	.1				
18		0	0	0	102	13	.4	.1				
19		0	0	6.1	83	11	.4	0				
20		0	0	*31	64	16	.4	0				
21		*0	0	4.8	*48	14	.4	0				
22		0	0	*1.2	41	64	.3	0				
23		0	0	0	36	38	.3	0				
24		0	0	0	34	28	.3	.1				
25		0	0	0	29	23	.3	0				
26		0	0	0	24	19	.3	0				
27		0	0	0	22	16	.2	0				
28		0	0	0	20	*16	.3	*0				
29		0	0	0	-	14	.2	.1				
30		1.6	0	0	-----	12	.2	0				
31		-----	0	0	-----	12	-----	0				
Total	0	1.6	14.1	43.1	2,388.2	1,309	70.8	2.4	0	0	0	0
Mean	0	0.05	0.45	1.39	85.3	42.2	2.36	0.08	0	0	0	0
Max	0	1.6	6.9	31	528	292	11	0.2	0	0	0	0
Min	0	0	0	0	0	12	0.2	0	0	0	0	0
Ac-ft	0	3.2	28	85	4,740	2,600	140	4.8	0	0	0	0

Calendar year 1961: Max 17 Min 0 Mean 0.51 Ac-ft 367  
Water year 1961-62: Max 528 Min 0 Mean 10.5 Ac-ft 7,600

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0700	5.66	738	3-6	0600	4.60	435
2-14	2400	6.66	1,050				

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

Note.--No gage-height record Jan. 17-20, Feb. 10-12, Apr. 7 to May 1.



## Reservoirs in Pajaro River basin, Calif.

11-1534.8. Chesbro Reservoir.--Lat 37°07'00", long 121°41'34", near southwest boundary of Ojo de Agua de la Coche Grant, at left end of dam on Llagas Creek and 2.5 miles west of Morgan Hill, Santa Clara County. Drainage area, 19.4 sq mi. Records available, December 1955 to September 1962. Monthly contents prior to October 1959 published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by South Santa Clara Valley Water Conservation District). Maximum contents observed during year, 7,750 acre-ft Mar. 7 (elevation, 526.0 ft); no contents Oct. 1 to Feb. 8. Maximum contents observed during period 1955-62, 7,950 acre-ft Apr. 3, 1958 (elevation, 526.8 ft); no contents at times in 1957, 1960-62.

Reservoir is formed by earth- and rock-fill dam completed in 1955. Capacity, 7,500 acre-ft between elevations 465 (elevation of outlet gates) and 525 ft (crest of spillway). Reservoir is used for flood control and water released down Llagas Creek for irrigation. Record of contents furnished by South Santa Clara Valley Water Conservation District.

11-1540.2. Uvas Reservoir.--Lat 37°04'02", long 121°41'25", in Las Uvas Grant, at center of dam on Uvas Creek and 4.8 miles southwest of Morgan Hill, Santa Clara County. Drainage area, 30.2 sq mi. Records available, December 1957 to September 1962. Monthly contents prior to October 1959 published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by South Santa Clara Valley Water Conservation District). Maximum contents observed during year, 10,100 acre-ft Feb. 17 (elevation, 487.8 ft); no contents Oct. 1 to Nov. 30. Maximum contents observed during period 1957-62, 10,500 acre-ft Apr. 1, 1958 (elevation, 488.9 ft); no contents May 18 to Nov. 30, 1961.

Reservoir is formed by earth- and rock-fill dam completed in 1957. Capacity, 10,000 acre-ft between elevations 410 (hydraulic gate valves) and 487.5 ft (crest of spillway). Water released down Uvas Creek for irrigation; at times, diverted into Llagas Creek 3.6 miles below Chesbro Reservoir for ground-water recharge by percolation. Record of contents furnished by South Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1961 to September 1962

Date	Chesbro Reservoir	Uvas Reservoir
Sept. 30.....	0	0
Oct. 31.....	0	0
Nov. 30.....	0	40
Dec. 31.....	0	140
Jan. 31.....	0	415
Feb. 28.....	6,280	9,820
Mar. 31.....	7,500	10,000
Apr. 30.....	7,280	7,730
May 31.....	5,240	5,840
June 30.....	2,850	3,620
July 31.....	470	740
Aug. 31.....	382	578
Sept. 30.....	340	496

Note.--Contents at 0800 on first day of following month.

## APTOS CREEK BASIN

11-1597. Aptos Creek at Aptos, Calif.

Location.--Lat 36°58'35", long 121°54'05", in Aptos Grant, on left bank at Aptos, Santa Cruz County, 0.6 mile upstream from mouth.

Drainage area.--12.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map).

Extremes.--Maximum discharge during year, 560 cfs Feb. 14 (gage height, 6.02 ft); minimum, 0.3 cfs Oct. 8.

1958-62: Maximum discharge, that of Feb. 14, 1962; minimum, 0.3 cfs July 25, 1959, Oct. 8, 1961.

Remarks.--Records good except those above 100 cfs, which are poor. Small diversions above station for irrigation.

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

(Shifting-control method used Oct. 1 to Dec. 11, Jan. 18, 19, Feb. 13,

Mar. 6, Mar. 22 to Apr. 2)

2.8	0.4	3.4	25
2.9	1.0	3.7	52
3.0	2.2	4.0	91
3.1	5.4	4.5	184
3.2	11	5.0	305

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.7	0.9	*4.4	1.0	1.4	8.8	6.0	3.1	1.7	1.2	1.0	0.8
2	*.6	1.0	4.4	1.0	1.4	24	6.0	2.9	1.5	1.2	1.0	.8
3	.7	1.0	2.5	1.0	1.3	19	6.0	2.9	1.5	1.2	1.1	.8
4	.7	.9	1.8	1.0	1.3	15	6.0	2.7	1.5	1.1	1.2	.8
5	.6	.9	1.5	1.0	*1.3	28	6.0	2.7	1.5	1.1	1.2	.8
6	.7	.8	1.4	1.0	1.4	187	6.0	2.3	1.5	1.1	1.1	.8
7	.7	.8	1.3	1.0	5.8	85	5.4	2.1	1.5	1.1	1.1	.8
8	.7	.8	1.3	1.0	4.8	33	5.4	2.1	1.5	1.1	1.0	.9
9	.7	.7	1.2	1.0	*96	27	5.4	2.3	1.5	1.1	1.2	1.0
10	.8	.7	1.2	1.0	77	21	5.4	2.1	1.4	1.1	1.2	1.0
11	.8	.7	1.2	1.0	*20	18	5.4	2.1	1.4	1.1	1.1	1.0
12	1.0	.7	*1.0	1.0	12	16	5.4	2.0	1.4	1.1	1.0	1.0
13	1.0	.7	1.0	1.0	*109	*12	4.9	2.0	1.5	1.0	1.0	1.0
14	.9	*.7	1.0	1.0	106	11	4.4	2.0	1.7	1.0	.9	1.0
15	.8	.7	1.0	1.0	*220	10	4.4	2.0	1.7	1.0	.9	1.0
16	.8	.7	1.0	1.0	78	9.3	4.0	2.0	1.5	1.0	.9	1.0
17	.9	.8	1.0	1.0	35	8.8	*3.7	2.0	1.5	1.0	.8	1.0
18	.9	.8	1.0	*1.0	29	7.6	3.7	*2.0	*1.3	1.0	.8	1.0
19	1.0	.9	1.0	6.7	*29	7.1	4.4	2.0	1.3	1.0	.8	1.0
20	.9	2.1	1.0	11	21	8.8	4.0	2.0	1.2	1.0	.8	1.0
21	.9	.9	1.0	3.1	18	9.3	4.0	2.0	1.2	1.0	.8	1.0
22	.9	.7	1.0	2.2	14	29	4.0	2.0	1.2	1.0	.8	1.0
23	.8	.7	1.0	2.1	12	10	3.7	2.0	1.2	1.0	.8	1.0
24	.9	.7	1.0	1.8	10	7.1	3.4	2.0	1.2	1.0	.8	1.0
25	.9	.9	1.0	1.8	8.2	7.1	3.4	2.0	1.2	1.0	.8	1.1
26	.8	1.3	1.0	1.8	7.1	7.1	3.4	2.0	1.2	*1.0	.8	1.1
27	.9	1.1	1.0	1.7	6.0	6.5	4.0	2.0	1.2	1.0	*.7	1.1
28	1.0	.9	1.0	1.5	5.4	6.5	4.4	2.0	1.2	1.0	.7	1.2
29	.9	2.0	1.0	1.5	-----	6.5	3.1	2.0	1.2	1.0	.7	1.2
30	.9	4.8	1.0	1.5	-----	6.5	3.1	1.8	1.2	1.0	.7	1.1
31	.9	-----	1.0	1.5	-----	6.0	-----	1.7	-----	1.0	.7	-----
TOTAL	25.7	31.3	42.2	56.2	931.4	658.0	138.4	66.8	41.6	32.5	28.4	29.3
MEAN	0.83	1.04	1.36	1.81	33.3	21.2	4.61	2.15	1.39	1.05	0.92	0.98
MAX	1.0	4.8	4.4	11	220	187	6.0	3.1	1.7	1.2	1.2	1.2
MIN	0.6	0.7	1.0	1.0	1.3	6.0	3.1	1.7	1.2	1.0	0.7	0.8
AC-FT	51	62	84	111	1850	1310	273	132	83	64	56	58

CALENDAR YEAR 1961: MAX 10 MIN 0.4 MEAN 1.32 AC-FT 954  
WATER YEAR 1961-62: MAX 220 MIN 0.6 MEAN 5.70 AC-FT 4,140

## Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0630	4.75	244	3-6	0430	5.72	398
2-14	2400	6.02	560				

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 12 to Jan. 17.

11-1598. West Branch Soquel Creek near Soquel, Calif.

Location.--Lat 37°03'05", long 121°56'20", in NW¼ sec.23, T.10 S., R.1 W., on left bank 0.5 mile upstream from Soquel Creek and 4.5 miles north of Soquel.

Drainage area.--12.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 220 ft (from topographic map).

Extremes.--Maximum discharge during the year, 1,620 cfs Feb. 14 (gage height, 7.00 ft), from rating curve extended above 740 cfs on basis of slope-area measurement at gage height 8.20 ft; minimum daily, 0.7 cfs Oct. 1, 6, 9.

1958-62: Maximum discharge, 1,880 cfs Feb. 16, 1959 (gage height, 7.05 ft), from rating curve extended above 740 cfs; minimum, 0.4 cfs July 16, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 11-29, May 9 to Sept. 30)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

2.7	0.4	3.4	26
2.8	.9	3.7	63
2.9	2.1	4.0	122
3.0	4.2	4.5	265
3.1	7.3	5.0	460

2.3	0.6	3.0	21
2.4	1.2	3.2	39
2.5	2.2	3.5	75
2.6	3.8	4.0	165
2.7	6.2	4.5	300
2.8	9.7	5.0	480

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.7	0.9	*16	1.0	1.3	33	8.3	3.8	2.2	1.6	1.4	1.1
2	*.8	.9	19	1.0	1.3	74	8.3	3.6	2.1	1.5	1.3	1.1
3	.8	.9	4.2	1.0	1.1	34	8.0	3.5	2.0	1.5	1.3	1.5
4	.8	.9	2.7	1.0	1.1	26	8.0	3.5	1.9	1.4	1.3	1.2
5	.8	.9	2.1	1.0	1.1	84	7.6	3.3	1.9	1.5	1.3	1.2
6	.7	.8	2.0	1.1	1.1	219	7.3	3.2	1.9	1.5	1.3	1.2
7	.8	.8	1.9	1.0	7.9	86	6.2	3.2	1.9	1.5	1.2	1.2
8	.8	.8	1.7	1.1	7.3	50	6.2	3.2	2.0	1.5	.9	1.2
9	.7	.9	1.7	1.1	251	39	6.2	3.2	2.0	1.6	1.0	1.3
10	.8	.9	1.6	1.1	*219	32	6.0	3.2	1.9	1.6	1.0	1.3
11	.9	.8	1.6	1.1	22	27	5.7	3.0	1.8	1.6	.9	1.2
12	.9	.8	*1.5	1.3	8.7	24	5.7	2.8	1.8	1.5	.8	1.2
13	.9	.8	1.5	1.4	222	*20	5.5	2.8	1.9	1.4	1.0	1.1
14	.9	*.8	1.6	1.3	*327	18	5.2	2.8	2.1	1.3	.8	1.1
15	.8	.8	1.6	1.3	293	16	5.0	2.7	2.1	1.3	.8	1.1
16	.8	.9	1.5	1.3	172	15	5.0	2.7	2.0	1.2	.8	1.0
17	.8	.9	1.6	*1.3	74	14	*4.8	2.4	2.0	1.3	.9	1.0
18	.8	.9	1.6	1.3	81	13	4.8	*2.5	*1.9	1.4	.9	1.0
19	.8	1.1	1.6	37	*68	12	4.8	2.5	1.6	1.5	1.0	1.0
20	.8	3.8	1.5	14	42	12	4.8	2.5	1.5	1.3	.8	1.0
21	.9	1.7	1.5	3.8	32	12	4.5	2.5	1.6	1.3	.8	1.0
22	.9	1.5	1.5	2.9	25	35	4.3	2.5	1.5	1.3	1.0	1.0
23	.9	1.5	1.4	2.3	21	18	4.0	2.5	1.7	1.2	1.1	1.0
24	.8	1.6	1.4	2.0	20	14	4.0	2.5	1.6	1.2	1.1	1.0
25	.8	2.5	1.4	1.9	17	13	4.0	2.5	1.5	1.2	1.1	1.0
26	.8	3.8	1.4	1.7	14	12	4.0	2.5	1.4	*1.3	1.0	1.0
27	.8	2.7	1.4	1.7	13	11	4.0	2.5	1.5	1.3	*1.0	1.0
28	.9	2.1	1.3	1.5	12	10	4.5	2.5	1.5	1.4	.9	1.0
29	.9	11	1.3	1.5	-----	9.7	4.0	2.5	1.6	1.3	1.0	1.0
30	.8	19	1.3	1.4	-----	9.4	3.8	2.4	1.6	1.3	1.0	1.0
31	.8	-----	1.1	1.4	-----	8.7	-----	2.2	-----	1.4	1.1	-----
TOTAL	25.4	67.7	83.5	93.8	1,955.9	1,000.8	164.5	87.5	54.0	43.2	31.8	33.0
MEAN	0.82	2.26	2.69	3.03	69.9	32.3	5.48	2.82	1.80	1.39	1.03	1.10
MAX	0.9	19	19	37	327	219	8.3	3.8	2.2	1.6	1.4	1.5
MIN	0.7	0.8	1.1	1.0	1.1	8.7	3.8	2.2	1.4	1.2	0.8	1.0
AC-FT	50	134	166	186	3,880	1,990	326	174	107	86	63	65

CALENDAR YEAR 1961: MAX 27 MIN 0.5 MEAN 2.12 AC-FT 1,540  
WATER YEAR 1961-62: MAX 327 MIN 0.7 MEAN 9.98 AC-FT 7,230

Peak discharge (base, 300 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0600	5.40	665	3-6	0200	4.85	420
2-14	2230	7.00	1,620				

## SOQUEL CREEK BASIN

11-1600. Soquel Creek at Soquel, Calif.

Location.--Lat 36°59'29", long 121°57'17", in NE $\frac{1}{4}$  sec.10, T.11 S., R.1 W., on left bank 0.2 mile upstream from highway bridge in town of Soquel and 0.4 mile downstream from Bates Creek.

Drainage area.--40.2 sq mi.

Records available.--May 1951 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 40 ft (from topographic map).

Average discharge.--11 years, 42.1 cfs (30,480 acre-ft per year); median of yearly mean discharges, 30 cfs (21,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,940 cfs Feb. 14 (gage height, 10.20 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 13.3 ft; minimum daily, 0.8 cfs Aug. 1.  
1951-62: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 22.33 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Oct. 9, 1955.

Remarks.--Records fair prior to May 27, poor thereafter. Small diversion above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.2	*38	4.0	5.2	93	28	13	7.3	3.5	0.8	2.7
2	*1.2	1.3	45	4.0	5.2	266	27	14	7.1	3.6	.9	3.0
3	1.2	1.2	19	4.2	5.0	148	26	14	6.9	3.6	1.0	3.0
4	1.3	1.5	10	4.2	5.0	100	25	12	6.7	3.7	1.1	2.5
5	1.2	1.2	7.9	4.0	*5.0	208	24	12	6.4	3.7	1.3	2.8
6	1.1	1.0	6.4	4.0	4.8	706	23	11	6.2	3.8	1.5	2.7
7	1.3	1.1	5.8	4.0	2.7	324	22	11	6.0	3.9	1.5	2.3
8	1.5	1.0	5.2	4.0	3.0	182	21	10	5.8	4.0	1.5	2.5
9	1.6	1.0	4.8	3.8	65.7	133	22	10	5.6	3.5	1.8	2.7
10	2.5	1.1	4.5	3.5	*72.9	106	22	9.3	5.4	3.5	2.0	2.5
11	2.7	1.1	4.2	3.8	16.2	88	20	8.9	5.2	3.2	1.8	2.5
12	2.7	1.3	*4.2	3.8	7.3	76	20	8.5	5.0	3.2	1.5	2.3
13	2.3	1.3	4.2	4.0	67.8	*66	20	8.2	4.8	3.2	1.3	2.3
14	2.0	*1.3	4.2	3.8	72.1	59	19	8.2	4.6	3.0	1.2	2.2
15	1.6	1.5	4.0	3.5	*1.180	55	18	7.9	4.4	2.8	1.1	2.2
16	1.5	1.5	4.0	3.5	57.1	50	17	7.9	4.2	2.8	1.0	2.0
17	1.6	1.5	4.2	*3.0	27.5	47	*16	7.9	4.0	2.8	1.0	2.2
18	1.6	1.3	4.2	3.5	25.9	47	16	*8.2	*3.8	2.7	1.1	2.2
19	2.0	1.3	4.2	2.3	*23.4	46	15	7.9	3.0	2.7	1.6	2.2
20	1.8	7.0	4.2	6.7	15.3	47	15	7.9	2.8	2.7	1.3	2.2
21	1.6	5.0	4.2	18	11.1	42	15	7.3	2.8	2.8	2.0	2.3
22	1.2	3.5	4.2	12	8.6	104	15	7.3	2.8	2.0	2.7	2.3
23	1.3	3.0	4.5	8.9	7.0	66	15	7.0	3.0	1.2	2.0	2.5
24	1.2	3.2	4.2	7.9	5.9	50	15	7.9	3.2	2.0	2.0	2.5
25	1.1	4.2	4.2	7.3	5.0	45	15	7.9	3.0	2.0	2.0	2.7
26	.9	6.4	4.5	6.7	4.5	43	15	8.5	3.2	*1.8	1.8	2.7
27	1.0	5.5	4.2	6.4	*3.7	37	15	8.3	3.3	2.0	*1.5	2.7
28	1.1	4.2	4.2	6.1	3.5	36	16	8.1	3.3	1.6	1.6	2.7
29	1.1	12	4.2	5.8	-	33	15	7.9	3.4	1.6	1.3	2.7
30	1.1	2.7	4.0	5.5	-----	31	14	7.7	3.5	1.3	1.8	2.3
31	1.1	-----	4.0	5.5	-----	29	-----	7.5	-----	1.0	2.5	-----
Total	46.5	104.7	234.6	248.7	6,272.2	3,363	566	283.2	136.7	85.2	47.5	74.4
Mean	1.50	3.49	7.57	8.02	224	108	18.9	9.14	4.56	2.75	1.53	2.48
Max	2.7	2.7	4.5	6.7	1,180	706	28	14	7.3	4.0	2.7	3.0
Min	0.9	1.0	4.0	3.0	4.8	29	14	7.0	2.8	1.0	0.8	2.0
Ac-ft	92	208	465	493	12,440	6,670	1,120	562	271	169	94	148

Calendar year 1961: Max 45 Min 0.9 Mean 4.35 Ac-ft 3,150  
Water year 1961-62: Max 1,180 Min 0.8 Mean 31.4 Ac-ft 22,740

Peak discharge (base, 750 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0800	8.61	1,860	3-6	0600	6.89	1,030
2-14	2400	10.20	2,940				

\* Discharge measurement made on this day.

Note.--Stage-discharge relation indefinite May 27 to June 17, June 27 to July 7.

11-1603. Zayante Creek at Zayante, Calif.

Location.--Lat 37°05'10", long 122°02'45", in SE $\frac{1}{4}$  sec.2, T.10 S., R.2 W., on left bank at Zayante Road bridge in town of Zayante, 0.4 mile upstream from Lompico Creek, 2.0 miles east of Ben Lomond, and 3.2 miles upstream from mouth.

Drainage area.--11.1 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Average discharge.--5 years, 8.94 cfs (6,470 acre-ft per year).

Extremes.--Maximum discharge during year, 1,010 cfs Feb. 14 (gage height, 5.07 ft), from rating curve extended above 230 cfs as explained below; no flow Oct. 3, caused by filling of pools upstream.

1957-62: Maximum discharge, 3,700 cfs Apr. 2, 1958 (gage height, 7.70 ft), from rating curve extended above 350 cfs on basis of slope-area measurement of peak flow; no flow at times, caused by filling of pools upstream.

Remarks.--Records fair. No known regulation; only small diversion for individual use.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.3	1.2	0.7	1.0	1.6	3.5	2.1	1.8	0.7	0.5	0.4
2	.1		1.6	.7	1.0	2.9	3.3	2.0	1.5	.7	.5	.5
3	*0	.4	3.8	.7	1.0	2.2	3.0	1.9	1.5	.7	.5	.7
4	.1	.4	2.1	.7	1.0	1.7	2.9	1.8	1.5	.7	.5	.7
5	.1	.4	1.8	.7	.9	6.3	2.7	1.7	1.4	.7	.5	.7
6	.2	.3	1.5	.7	*1.0	19.2	2.6	1.7	1.4	.7	.5	.7
7	.5	.3	1.2	.7	6.9	7.4	2.4	1.7	1.5	.7	.7	.7
8	.2	.3	1.1	.7	8.0	4.5	2.4	1.8	1.4	.7	.7	.8
9	.1	.3	1.0	.6	*21.0	3.4	3.5	1.7	1.3	.7	.7	1.0
10	.2	.4	.9	.6	*18.3	2.7	3.3	1.7	1.2	.7	.6	.8
11	.3	.3	.9	.6	*3.8	2.3	3.3	1.7	1.2	.7	.4	.7
12	.3	.3	.9	.7	1.8	2.0	3.1	1.7	1.2	.7	.5	.7
13	.3	.3	*.9	.7	21.8	1.7	3.1	1.8	1.3	.7	.5	.6
14	.3	.2	.9	.7	25.0	1.5	2.9	1.9	1.4	.6	.5	.6
15	.1	*.3	.9	.6	23.8	*1.3	2.9	1.9	1.2	.6	.5	.5
16	.1	.3	.9	*.6	*11.3	1.1	2.9	1.9	1.1	.6	.5	.5
17	.1	.3	.9	.6	5.6	1.0	2.9	*2.0	1.1	.7	.5	.4
18	.1	.3	.8	.6	5.5	9.0	*2.9	2.0	1.0	.9	.4	.4
19	.1	.5	.8	6.4	4.9	8.0	2.9	2.0	*.9	1.0	.5	.4
20	.1	2.0	.8	1.0	3.4	8.0	2.9	2.0	.8	1.0	.4	.4
21	.2	.7	.8	2.3	*2.6	6.9	2.5	1.9	.8	.9	.3	.5
22	.2	.4	.8	1.5	2.0	1.3	2.5	1.9	.9	.7	.3	.4
23	.2	.4	.7	1.3	1.7	8.0	2.4	1.9	.9	.6	.4	.3
24	.3	.5	.7	1.3	1.4	6.6	2.4	1.9	.9	.5	.3	.3
25	.3	.7	.7	1.2	1.2	6.2	2.4	2.0	.8	.6	.3	.3
26	.3	1.2	.7	1.1	9.8	5.5	2.4	2.0	.8	.6	.3	.3
27	.3	.7	.7	1.1	8.3	5.0	2.4	2.0	.8	*.6	.2	.4
28	.4	.5	.7	1.1	8.0	4.8	2.4	2.0	.8	.5	*.1	.5
29	.3	3.0	.7	1.0	-	4.5	2.1	1.9	.8	.5	.2	.4
30	.2	7.7	.7	1.0	-----	4.0	2.1	1.9	.8	.5	.3	.3
31	.2	-----	.7	1.0	-----	3.8	-----	1.9	-----	.5	.4	-----
Total	6.4	24.1	58.0	42.2	1597.9	721.3	83.0	58.3	34.0	21.0	13.5	15.9
Mean	0.21	0.80	1.87	1.36	5.71	23.3	2.77	1.88	1.13	0.68	0.44	0.53
Max	0.5	7.7	1.6	1.0	25.0	19.2	3.5	2.1	1.8	1.0	0.7	1.0
Min	0	0.2	0.7	0.6	0.9	3.8	2.1	1.7	0.8	0.5	0.1	0.3
Ac-ft	1.3	4.8	11.5	8.4	3,170	1,430	1.65	1.16	6.7	4.2	2.7	3.2

Calendar year 1961: Max 20 Min 0 Mean 1.05 Ac-ft 758

Water year 1961-62: Max 250 Min 0 Mean 7.33 Ac-ft 5,310

Peak discharge (base, 450 cfs).--Feb. 9 (0600) 580 cfs (4.15 ft); Feb. 14 (2200) 1,010 cfs (5.07 ft).

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

## SAN LORENZO RIVER BASIN

11-1605. San Lorenzo River at Big Trees, Calif.

Location.--Lat 37°01'40", long 122°03'30", in Canada del Rincon Grant, on right bank 0.5 mile south of Big Trees station on Southern Pacific Railroad, 1.6 miles downstream from Zayante Creek, and 4 miles north of Santa Cruz, Santa Cruz County.

Drainage area.--111 sq mi.

Records available.--October 1936 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 217.0 ft above mean sea level (levels by Topographic Division).

Average discharge.--26 years, 135 cfs (97,740 acre-ft per year); median of yearly mean discharges, 97 cfs (70,200 acre-ft per year).

Extremes.--Maximum discharge during year, 6,090 cfs Feb. 14 (gage height, 10.98 ft); minimum, 7.4 cfs Oct. 14.

1937-62: Maximum discharge, 30,400 cfs Dec. 23, 1955 (gage height, 22.55 ft), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.8 cfs June 25, 1939.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Many small diversions above station for domestic supply.

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

0.3	7.4	2.5	192
.5	12	3.0	330
1.0	29	4.0	715
1.5	59	5.0	1,180
2.0	106	7.0	2,450

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	10	235	17	22	334	90	44	27	18	14	12
2	10	11	401	17	21	369	88	44	26	19	14	12
3	*8.9	10	133	17	20	288	a86	42	23	18	14	12
4	8.9	10	56	17	20	237	a84	41	24	18	14	12
5	12	10	41	17	20	662	a81	40	25	18	14	13
6	11	9.8	34	17	20	1,540	a80	40	26	18	14	13
7	9.3	9.8	28	17	99	*816	a77	38	26	18	14	13
8	8.9	9.5	26	17	132	536	a74	38	26	17	13	13
9	8.7	9.5	24	16	1,750	404	a73	39	25	17	14	13
10	8.5	10	21	16	1,300	324	a71	38	25	17	14	13
11	12	9.8	20	16	473	279	a69	37	24	18	14	14
12	12	9.3	19	a16	299	245	a67	36	24	16	14	13
13	8.9	9.3	*18	a16	2,110	219	a65	33	26	16	13	14
14	8.7	8.9	18	a15	1,700	197	a63	35	26	17	12	13
15	8.7	*9.3	18	a15	2,370	183	a61	36	27	17	12	12
16	8.7	9.3	19	*15	1,090	168	a59	32	26	17	12	12
17	8.7	9.3	a18	15	663	157	a57	*32	24	17	12	12
18	8.7	9.8	a19	15	763	144	*a55	33	23	17	12	13
19	8.9	11	19	160	581	136	55	33	*22	17	11	13
20	9.3	52	19	245	435	133	54	29	20	17	12	14
21	9.5	30	19	69	*330	128	52	31	20	16	12	15
22	9.5	20	19	47	279	247	51	30	20	16	12	14
23	10	18	19	38	234	164	50	30	20	15	13	15
24	10	19	18	33	214	139	47	30	22	15	12	15
25	11	25	18	30	188	128	47	31	20	15	12	15
26	10	36	18	27	164	121	46	31	19	15	12	16
27	11	27	17	26	146	a115	49	31	19	*15	12	16
28	11	22	18	25	137	a107	57	30	19	15	*11	16
29	11	55	17	24	-	a102	49	30	19	15	12	17
30	11	90	18	23	-----	98	46	29	20	14	11	18
31	10	-----	17	22	-----	92	-----	27	-----	14	12	-----
Total	303.9	579.6	1,384	1,060	15,580	8,812	1,903	1,070	693	512	394	413
Mean	9.80	19.3	44.6	34.2	556	284	63.4	34.5	23.1	16.5	12.7	13.8
Max	12	90	401	245	2,370	1,540	90	44	27	19	14	18
Min	8.5	8.9	17	15	20	92	46	27	19	14	11	12
Ac-ft	603	1,150	2,750	2,100	30,900	17,480	3,770	2,120	1,370	1,020	781	819

Calendar year 1961: Max 401 Min 7.6 Mean 24.8 Ac-ft 17,990  
 Water year 1961-62: Max 2,370 Min 8.5 Mean 89.6 Ac-ft 64,870

Peak discharge (base, 1,400 cfs)

\* Discharge measurement made on this day.  
 a No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0900	7.83	3,090	3-5	2200	6.61	2,180
2-14	2400	10.98	6,090				

11-1615. Branciforte Creek at Santa Cruz, Calif.

Location.--Lat 36°58'00", long 122°01'00", on right bank in Santa Cruz, Santa Cruz County, 15 ft downstream from Market Street bridge and 1.0 mile upstream from mouth.

Drainage area.--17.3 sq mi.

Records available.--January 1940 to September 1943, March 1952 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 11.22 ft above mean sea level (levels by Corps of Engineers). Jan. 3 to Nov. 14, 1940, staff gage at site 15 ft upstream at datum 3.90 ft higher. Nov. 15, 1940, to Nov. 25, 1941, staff gage at site 150 ft downstream and Nov. 26, 1941, to Sept. 30, 1943, water-stage recorder at site 75 ft downstream, both at datum 4.52 ft higher. Mar. 16 to July 27, 1952, staff gages at site 150 ft downstream at present datum.

Average discharge.--13 years, 21.0 cfs (15,200 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,640 cfs Feb. 13 (gage height, 10.81 ft); minimum, 0.8 cfs Aug. 28-30, Sept. 14. 1940-43, 1952-62: Maximum discharge, 8,100 cfs Dec. 22, 1955 (gage height, 22.04 ft), from rating curve extended above 530 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs Aug. 18, 1954, Sept. 17, 1955.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 20-25, Nov. 27 to Mar. 7, Mar. 10-22)

Oct. 1 to Dec. 1

Dec. 2 to Sept. 30

5.5	0.5	4.7	0.4	5.4	21	7.0	253
5.6	1.4	4.8	1.1	5.7	40	7.5	395
5.7	5.2	4.9	2.5	6.0	67	8.0	545
5.8	17	5.0	5.0	6.3	104	8.5	710
5.9	36	5.2	12	6.6	158		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.8	2.2	*35	2.1	2.8	82	10	3.0	1.5	2.1	1.2	1.0
2	1.8	2.2	89	2.2	2.8	79	9.8	3.0	1.5	2.1	1.1	1.0
3	*1.4	2.2	12	2.1	2.8	41	9.1	2.8	1.4	2.1	1.2	1.0
4	1.3	2.2	5.9	2.1	2.8	29	8.7	2.8	1.4	1.9	1.2	1.1
5	1.3	1.8	5.0	2.1	3.0	126	8.0	2.8	1.2	1.9	1.4	1.0
6	1.3	1.8	4.0	1.9	*3.8	*365	7.4	2.4	1.2	1.8	1.4	1.0
7	1.3	1.4	3.5	2.1	70	*97	7.1	2.4	1.4	1.8	1.2	1.0
8	1.2	1.8	3.3	2.1	*66	62	6.5	2.5	1.5	1.8	1.2	1.0
9	1.2	1.8	3.3	1.9	*529	44	5.9	2.5	1.4	1.7	1.4	1.1
10	1.3	1.8	3.0	1.9	372	35	5.9	2.4	1.4	1.5	1.4	1.2
11	1.4	1.8	3.0	1.9	53	31	5.6	2.2	1.4	1.5	1.2	1.1
12	1.4	1.8	*2.8	2.1	30	26	5.0	2.2	1.4	1.7	1.4	1.1
13	1.4	1.8	*2.5	2.4	586	23	4.5	2.4	1.7	1.7	1.1	.9
14	1.3	1.8	2.4	2.2	*337	*19	4.3	2.4	1.8	1.7	1.0	1.0
15	1.2	*1.4	2.2	2.2	388	18	4.5	2.5	1.9	1.7	.9	.9
16	1.1	1.4	2.2	2.2	*287	17	4.3	2.4	1.8	1.7	.9	.9
17	1.3	1.8	3.9	*2.4	94	16	*4.3	2.2	1.5	1.7	1.0	1.0
18	1.3	1.8	3.3	2.2	185	15	4.5	*2.2	1.5	1.8	1.0	1.1
19	1.4	2.5	2.8	145	*213	14	4.8	2.1	*1.4	1.8	1.2	1.0
20	1.4	15	2.5	101	91	16	4.5	2.1	1.2	1.7	1.4	1.0
21	1.4	5.2	2.4	13	61	13	4.3	1.9	1.4	1.4	1.2	1.0
22	1.4	4.8	2.2	8.1	45	61	4.0	1.9	1.5	1.2	1.1	1.0
23	1.4	4.8	2.2	7.4	35	31	4.0	1.9	1.7	1.5	1.2	1.0
24	1.4	4.8	2.4	5.6	33	23	3.8	1.9	1.8	1.5	1.0	1.1
25	1.8	5.2	2.4	4.5	25	20	3.8	2.1	1.8	1.5	1.0	1.0
26	1.8	8.7	2.4	3.5	20	18	3.5	2.1	1.8	1.7	1.0	1.1
27	2.2	5.2	2.4	2.8	*17	17	4.8	1.9	1.8	*1.4	1.0	1.1
28	2.5	4.8	2.4	2.5	16	15	5.3	1.9	1.8	1.1	*.8	1.2
29	1.8	33	2.4	2.2	-----	13	3.3	1.8	2.1	1.1	.8	1.4
30	1.4	24	2.2	2.2	-----	12	3.3	1.7	2.1	1.2	.8	1.1
31	1.4	-----	2.2	2.5	-----	11	-----	1.7	-----	1.2	.9	-----
TOTAL	45.6	150.8	217.2	338.4	3,571.0	1,389	164.8	70.1	47.3	50.5	34.6	31.4
MEAN	1.47	5.03	7.01	10.9	128	44.8	5.49	2.26	1.58	1.63	1.12	1.05
MAX	2.5	33	89	145	586	365	10	3.0	2.1	2.1	1.4	1.4
MIN	1.1	1.4	2.2	1.9	2.8	11	3.3	1.7	1.2	1.1	0.8	0.9
AC-FT	90	299	431	671	7,080	2,760	327	139	94	100	69	62

CALENDAR YEAR 1961: MAX 185 MIN 0.6 MEAN 6.34  
WATER YEAR 1961-62: MAX 586 MIN 0.8 MEAN 16.7

AC-FT 4,590  
AC-FT 12,120

Peak discharge (base, 600 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	2130	8.95	763	2-13	1600	10.81	1,640
2-9	0600	10.22	1,290	3-6	0300	9.54	987

11-1619. Scott Creek above Little Creek, near Davenport, Calif.

Location.--Lat 37°03'50", long 122°13'45", in Agua Puerco y las Trancas Grant, on right bank 600 ft upstream from Little Creek, 2.0 miles upstream from mouth, and 4.2 miles north of Davenport, Santa Cruz County.

Drainage area.--25.0 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,970 cfs Feb. 13 (gage height, 9.36 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 7.45 ft; minimum, 0.2 cfs Sept. 16.  
1958-62: Maximum discharge, that of Feb. 13, 1962; minimum, that of Sept. 16, 1962.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 11 to Nov. 18, Feb. 15-18)

Oct. 1 to Feb. 15				Feb. 16 to Sept. 30			
1.7	0.1	2.7	24	1.7	0.4	2.7	36
1.8	.4	3.0	42	1.8	1.0	3.0	63
1.9	.9	3.5	86	1.9	2.4	3.5	124
2.0	1.6	4.0	150	2.0	4.2	4.0	212
2.1	2.6	5.0	330	2.1	6.7	5.0	445
2.2	4.8	6.0	590	2.4	18		
2.4	11	7.0	890				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.5	0.5	11	A1.5	5.6	120	34	15	8.0	3.7	1.8	0.9
2	.5	.5	43	A1.5	5.1	116	33	14	7.7	3.7	2.0	.9
3	*.6	.6	20	A1.5	4.6	100	31	14	7.4	3.3	1.7	.9
4	.5	.6	10	A1.5	4.6	87	30	13	7.4	3.1	1.6	.9
5	.4	.5	5.9	A1.5	*4.8	139	29	13	7.0	3.1	1.7	.9
6	.3	.5	4.1	A1.5	3.5	*250	27	12	7.0	2.9	1.6	.9
7	.3	.4	3.3	A1.5	14	*198	26	12	6.7	2.9	1.3	.8
8	.3	.4	2.5	A1.5	26	148	25	12	6.5	2.9	1.3	.8
9	.3	.4	2.3	A1.4	*211	121	24	13	6.2	2.9	1.4	.8
10	.4	.4	2.2	A1.4	*226	105	23	12	6.2	2.8	1.6	.8
11	.4	.5	2.1	A1.3	118	92	23	12	6.2	2.6	1.3	.7
12	.4	.5	1.9	A1.3	*89	83	22	11	6.2	2.6	1.1	.6
13	.4	.5	*1.9	A1.3	637	76	21	11	6.5	2.8	.9	.6
14	.4	.4	A2.1	A1.3	417	*69	21	11	7.4	2.4	.9	.6
15	.4	*.5	A2.1	A1.3	*455	64	20	11	7.4	2.4	.9	.6
16	.4	.5	A4.7	A1.3	346	58	20	11	7.0	2.3	.9	.4
17	.3	.6	A2.1	*1.5	258	55	19	*11	6.7	2.4	.9	.4
18	.3	.7	A2.1	1.5	226	51	*18	10	6.2	2.6	.9	.5
19	.4	1.2	A2.1	32	181	49	20	10	*5.7	2.4	1.6	.8
20	.4	4.8	A2.1	70	*153	50	19	10	5.0	2.4	1.3	.8
21	.4	3.0	A2.0	21	124	46	18	10	4.7	2.3	1.0	.8
22	.4	2.5	A1.9	14	104	76	17	9.7	4.5	2.1	1.1	.9
23	.4	2.0	A1.9	11	87	66	17	9.3	4.5	1.8	1.3	.9
24	.5	2.2	A1.9	9.6	81	56	16	9.3	4.2	1.7	1.1	.9
25	.5	3.3	A1.8	9.0	74	51	16	9.3	4.0	1.8	1.3	.8
26	.5	5.6	A1.8	7.9	65	47	16	9.7	3.8	*1.8	.9	.8
27	.5	4.6	A1.8	7.6	59	42	17	9.3	3.7	1.8	*.9	.9
28	.6	3.9	A1.7	7.0	56	39	20	9.3	3.7	2.0	.8	.9
29	.5	5.4	A1.7	6.5	-----	38	17	9.0	3.8	2.0	.6	1.3
30	.5	6.8	A1.7	6.5	-----	38	16	8.7	3.8	2.0	.9	.9
31	.4	-----	A1.7	5.6	-----	36	-----	8.4	-----	1.8	.9	-----
TOTAL	13.1	54.3	147.4	233.3	4,035.2	2,566	655	340.0	175.1	77.3	37.5	23.7
MEAN	0.42	1.81	4.75	7.53	144	82.8	21.8	11.0	5.84	2.49	1.21	0.79
MAX	0.6	6.8	43	70	637	250	34	15	8.0	3.7	2.0	1.3
MIN	0.3	0.4	1.7	1.3	3.5	36	16	8.4	3.7	1.7	0.6	0.4
AC-FT	26	108	292	463	8,000	5,090	1,300	674	347	153	74	47

CALENDAR YEAR 1961: MAX 47 MIN 0.3 MEAN 5.13 AC-FT 3,720  
WATER YEAR 1961-62: MAX 637 MIN 0.3 MEAN 22.9 AC-FT 16,570

## Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0730	5.27	398	3-5	2300	4.59	342
2-13	1530	9.36	1,970				

\* Discharge measurement made on this day.  
A No gage-height record.



11-1625. Pescadero Creek near Pescadero, Calif.

Location.--Lat 37°15'40", long 122°19'40", in SW $\frac{1}{4}$  sec.5, T.8 S., R.4 W., on left bank at downstream side of highway bridge, 3.0 miles east of Pescadero and 5.3 miles upstream from mouth.

Drainage area.--45.9 sq mi.

Records available.--April 1951 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 62.3 ft above mean sea level, datum of 1929.

Average discharge.--11 years, 40.8 cfs (29,540 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,720 cfs Feb. 15 (gage height, 10.80 ft); no flow Sept. 16, 20, 21.

1951-62: Maximum discharge, 9,420 cfs Dec. 23, 1955 (gage height, 21.27 ft), from rating curve extended above 2,700 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records fair. Small diversions above station by pumping. Small logging pond in headwaters can cause regulation during flushing operations.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1961, superseding those published in Basic Data Release 1961, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1961		1961-Con.		1961-Con.		1961-Con.	
July 31	0.3	Aug. 16	0.2	Sept. 1	0.2	Sept. 17	0.4
Aug. 1	.3	17	.2	2	.2	18	.4
2	.2	18	.3	3	.1	19	.4
3	.3	19	.2	4	.1	20	.3
4	.3	20	.2	5	.4	21	.3
5	.3	21	.2	6	.2	22	.2
6	.4	22	.1	7	.1	23	.2
7	.5	23	.1	8	.1	24	.2
8	.4	24	.2	9	0	25	.3
9	.1	25	.2	10	.1	26	.2
10	.2	26	.1	11	.5	27	.2
11	.1	27	.2	12	.3	28	.2
12	.1	28	.2	13	.2	29	.2
13	.2	29	.2	14	.1	30	.2
14	.2	30	.2	15	.2		
15	.2	31	.2	16	.2		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
July 1961.....	15.3	0.9	0.2	0.49	30
August.....	6.8	.5	.1	.22	13
September.....	6.7	.5	0	.22	13
Water year 1960-61.....	-	84	0	5.47	3,950

## PESCADERO CREEK BASIN

1625. Pescadero Creek near Pescadero, Calif.--Continued

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.6	4.3	2.9	4.0	7.0	2.5	* 9.0	6.2	2.6	1.4	0.8
2	*.2	.8	* 6.8	2.6	3.7	11.6	2.3	9.0	5.9	2.3	1.4	1.1
3	.3	.6	3.3	2.6	3.4	11.0	* 2.2	9.0	5.5	2.1	1.6	1.1
4	.3	.8	1.3	2.6	3.2	8.6	2.1	8.7	5.5	2.1	2.3	1.6
5	.3	.8	8.7	2.6	3.4	17.6	1.9	8.3	5.5	2.3	2.3	.3
6	.3	.8	7.0	2.3	* 3.4	44.3	1.9	8.3	5.0	2.1	2.5	.2
7	.3	*.8	5.9	2.3	7.5	24.6	1.7	8.3	4.8	2.1	1.9	.3
8	.3	.5	4.9	2.3	1.5	17.1	1.7	8.0	1.0	2.1	1.9	.2
9	.3	.5	4.5	2.1	* 3.63	13.3	1.7	8.0	4.3	2.1	2.5	.4
10	.2	.5	4.5	1.8	2.97	10.6	1.7	8.0	4.0	1.6	3.0	.3
11	.2	.5	4.0	1.8	1.34	8.9	1.6	8.0	* 3.8	1.7	3.5	.3
12	.3	.5	3.7	2.6	* 8.1	7.6	1.5	8.0	4.0	2.5	3.2	.2
13	.3	.6	3.4	3.4	4.65	6.5	1.5	8.0	4.3	2.6	2.6	.2
14	.3	.8	3.4	3.2	4.90	5.8	1.4	7.6	4.8	3.0	1.9	.1
15	.4	1.0	3.2	2.3	7.36	5.2	1.3	7.6	5.3	2.6	1.9	.1
16	.4	1.0	5.0	2.3	3.27	4.7	1.3	7.6	5.0	2.5	2.1	0
17	.4	1.0	3.4	2.1	2.16	4.3	* 1.1	7.3	4.5	1.9	1.2	.1
18	.4	1.0	* 3.2	2.3	2.26	4.0	1.1	7.6	3.5	2.1	.9	.1
19	.3	1.3	3.4	5.8	1.81	3.7	1.2	7.6	2.8	2.1	.3	.1
20	.4	8.0	3.4	7.8	* 1.48	3.7	1.2	7.3	2.5	2.1	3.8	0
21	.3	8.0	4.2	3.6	1.19	* 3.2	1.1	7.3	2.5	1.9	2.3	0
22	.4	4.0	4.9	2.0	.96	5.0	1.1	6.9	2.1	1.2	.9	.1
23	.4	2.1	4.0	1.4	.80	4.6	1.0	6.9	2.3	.7	.5	.1
24	.4	2.1	3.4	1.1	.76	3.7	1.0	6.6	2.3	.5	*.3	.1
25	*.4	3.2	3.4	.94	.65	3.4	9.8	6.6	2.5	.6	.3	.1
26	.5	5.9	3.2	8.0	.56	3.2	9.8	7.1	2.3	.7	.5	.1
27	.6	6.3	3.2	6.6	.49	3.0	9.8	7.3	2.3	.7	1.0	.1
28	.8	3.7	2.9	5.6	.45	2.8	1.3	7.3	* 2.5	1.2	.8	.1
29	.6	5.9	2.9	* 4.9	-	2.7	1.1	* 4.5	2.5	.7	.6	.9
30	.6	1.5	2.9	4.5	-----	2.6	9.8	5.4	2.8	.7	.7	.8
31	.6	-----	2.9	4.0	-----	2.6	-----	6.6	-----	* 1.0	.5	-----
Total	11.7	78.6	266.5	251.9	4,293.6	2,569	434.2	233.7	112.3	54.4	50.6	9.9
Mean	0.38	2.62	8.60	8.13	153	82.9	14.5	7.54	3.74	1.75	1.63	0.33
Max	0.8	1.5	6.8	7.8	7.36	44.3	2.5	9.0	6.2	3.0	3.8	1.6
Min	0.2	0.5	2.9	1.8	3.2	2.6	9.8	4.5	1.0	0.5	0.3	0
Ac-ft	23	156	529	500	8,520	5,100	861	464	223	108	100	20

Calendar year 1961: Max 8.4 Min 0 Mean 5.20 Ac-ft 3,760  
 Water year 1961-62: Max 7.36 Min 0 Mean 2.29 Ac-ft 16,600

Peak discharge (base, 500 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2000	7.72	780	3-5	2400	7.83	808
2-15	0030	10.80	1,720				

## PURISIMA CREEK BASIN

317

11-1626. Purisima Creek near Half Moon Bay, Calif.

Location.--Lat 37°26'06", long 122°22'23", in Canada de Verde y Arroyo de la Purisima Grant, on left bank 15 ft downstream from county road bridge, 3.6 miles southeast of Half Moon Bay, San Mateo County, and 4.0 miles upstream from mouth.

Drainage area.--4.83 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map).

Extremes.--Maximum discharge during year, 85 cfs Feb. 13 (gage height, 4.71 ft), from rating curve extended above 29 cfs on basis of slope-area measurement at gage-height 5.28 ft; minimum, 0.3 cfs several days in October, November, and August.  
1958-62: Maximum discharge, that of Feb. 13, 1962; minimum, 0.2 cfs Dec. 29, 30, 1959, Sept. 3-5, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9, 10)

Oct. 1 to Feb. 9

Feb. 10 to Sept. 30

3.2	0.1	3.6	3.8	3.3	0.2	3.8	12
3.3	.4	3.8	9.2	3.4	1.2	4.0	21
3.4	.9	4.1	22	3.5	2.8	4.2	32
3.5	2.0			3.6	5.1		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.3	0.4	2.2	0.6	0.7	*10	2.6	1.1	0.8	0.6	0.6	0.5
2	*.3	.4	*3.6	.6	.7	16	2.4	1.1	.8	.6	.6	.6
3	.3	.4	1.1	.6	.7	14	2.4	1.1	.8	.6	.6	.6
4	.3	.4	.8	.6	.7	11	2.4	1.0	.8	.6	.6	.6
5	.3	.3	.7	.5	.7	13	2.3	1.0	.7	.6	.6	.7
6	.3	.3	.6	.5	.7	24	2.1	1.0	.7	.6	.6	.7
7	.3	*.3	.6	.5	1.2	19	1.9	1.0	.7	.5	.6	.7
8	.3	.3	.6	.5	1.4	14	1.9	1.0	.7	.5	.6	.7
9	.3	.3	.5	.5	18	11	1.8	1.0	.7	.5	.7	.7
10	.3	.3	.5	.5	*9.7	9.1	1.8	1.0	.7	.5	.6	.6
11	.4	.3	.6	.5	6.4	7.4	1.6	.8	.7	.5	.6	.6
12	.4	.3	.6	.8	*5.4	6.1	1.6	.8	.7	.5	.5	.6
13	.4	.4	.6	.7	26	5.4	1.5	.8	.8	.5	.5	.6
14	.3	.4	.6	.6	23	4.6	1.5	.8	.8	.5	.4	.6
15	.3	.4	.6	.5	*27	4.4	1.5	.8	.8	.5	.4	.6
16	.3	.4	.6	.5	19	4.0	1.5	.8	.8	.5	.4	.6
17	.3	.4	.7	.5	14	3.7	*1.3	.8	.8	.5	.4	.5
18	.3	.4	*.7	.5	16	3.3	1.3	.8	.7	.5	.4	.5
19	.3	.4	.6	4.1	.17	3.0	1.6	.8	.6	.5	.4	.5
20	.3	1.1	.7	9.8	*14	3.0	1.3	.8	.6	.5	.4	.5
21	.3	.4	.8	3.0	15	*2.8	1.3	.7	.6	.5	.4	.5
22	.3	.4	.7	1.9	9.1	5.8	1.2	.7	.6	.5	.4	.5
23	.3	.4	.7	1.4	7.4	5.4	1.2	.7	.6	.5	.4	.5
24	.3	.4	.6	1.3	6.1	4.9	1.1	.7	.6	.5	*.5	.5
25	.3	.7	.6	1.1	5.1	4.4	1.1	.7	.6	.5	.4	.5
26	.3	.8	.6	1.0	4.4	4.2	1.1	.7	.6	.5	.4	.6
27	.3	.5	.6	.9	4.0	3.7	1.5	.8	.6	.5	.3	.6
28	.3	.4	.6	.8	4.7	3.5	1.6	.8	*.6	.5	.3	.7
29	.3	1.2	.6	*.8	-----	3.3	1.3	*1.0	.6	.5	.4	.6
30	.3	1.3	.6	.8	-----	3.0	1.2	1.0	.6	.5	.5	.6
31	.3	-----	.6	.8	-----	2.8	-----	1.0	-----	*.6	.5	-----
TOTAL	9.6	14.4	24.5	37.7	258.1	229.8	48.9	27.1	20.7	16.3	15.0	17.8
MEAN	0.31	0.48	0.79	1.19	9.22	7.41	1.63	0.87	0.69	0.53	0.48	0.59
MAX	0.4	1.3	3.6	9.8	27	24	2.6	1.1	0.8	0.6	0.7	0.6
MIN	0.3	0.3	0.5	0.5	0.7	2.8	1.1	0.7	0.6	0.5	0.3	0.5
AC-FT	19	29	49	75	512	456	97	54	41	32	30	35

CALENDAR YEAR 1961: MAX 9.0 MIN 0.2 MEAN 0.88 AC-FT 636  
WATER YEAR 1961-62: MAX 27 MIN 0.3 MEAN 1.97 AC-Ft 1,430

Peak discharge (base, 20 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1700	4.50	57	2-18	2100	4.01	22
2-13	1530	4.71	85	3-5	2100	4.16	30

## REDWOOD CREEK BASIN

11-1628. Redwood Creek at Redwood City, Calif.

Location.--Lat 37°26'58", long 122°13'57", in Pulgas Grant, at Menlo Country Club, on right bank, 200 ft upstream from Alameda de las Pulgas bridge and 2.5 miles south of Redwood City Post Office, San Mateo County.

Drainage area.--1.82 sq mi (revised).

Records available.--September 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 83.92 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 360 cfs Mar. 5 (gage height, 6.68 ft); no flow for many days.  
1959-62: Maximum discharge, that of Mar. 5, 1962; no flow many days in each year.

Remarks.--Records good. Low flow at times affected by return flow from urban irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-3, June 15-20)

Oct. 1 to Feb. 13

Feb. 14 to Sept. 30

0.9	0	1.4	2.4	0.9	0	1.4	2.7
1.0	.1	1.5	4.0	1.0	.1	1.5	4.0
1.1	.3	2.0	16	1.1	.3	2.0	16
1.2	.7	3.0	50	1.2	.9	3.0	50
1.3	1.4			1.3	1.7		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	2.3	0	0	6.0	0.4	0.1				
2	.1	0	2.5	.1	0	12	.4	0				
3	*0	0	.1	0	0	2.3	.3	0				
4	0	0	0	.1	.1	1.6	.3	0	(*)			
5	0	0	0	.1	.1	34	.2	0				
6	0	*0	0	.1	.1	*14	.2	0				
7	0	0	0	.1	.8	*3.8	.2	0				
8	0	0	0	.1	.7	2.2	.2	0				
9	0	0	0	.1	26	1.7	.2	0				
10	0	0	0	.1	5.6	1.4	.2	0				
11	0	0	0	0	2.0	1.1	.2	0				
12	.1	0	0	0	1.6	1.1	.2	0				
13	.1	0	.1	0	*37	.9	.2	0				
14	.1	0	.1	0	*36	.8	.2	0				
15	0	0	.1	0	15	.9	.2	0				
16	0	0	0	0	9.5	.8	.2	0				
17	.1	0	0	0	3.7	.7	.2	0				
18	.1	0	0	0	21	.7	.2	0				
19	0	.2	0	4.0	4.8	.7	*.2	0				
20	0	*1.1	.1	4.9	4.2	.7	.2	0				
21	0	0	*0	.4	*1.8	.6	.1	0				
22	0	0	0	.1	1.4	4.1	.1	0				
23	0	0	0	.1	1.1	*1.1	.1	0				
24	0	0	0	0	1.2	.8	.1	0				
25	0	.2	0	*0	.9	.7	.1	0				
26	0	0	0	0	.7	.6	.1	0				
27	0	0	.1	0	.6	.6	.1	0				
28	0	0	.1	0	2.9	.6	.1	0				
29	0	.8	0	0	-	.5	.1	0				
30	0	.8	0	0	-----	.4	.1	0				
31	0	-----	0	0	-----	.4	-----	0		(*)		-----
Total	0.6	3.1	5.5	10.3	178.8	97.8	5.6	0.1	0	0	0	0
Mean	0.02	0.10	0.18	0.33	6.39	3.15	0.19	0.003	0	0	0	0
Max	0.1	1.1	2.5	4.9	37	34	0.4	0.1	0	0	0	0
Min	0	0	0	0	0	0.4	0.1	0	0	0	0	0
Ac-ft	1.2	6.1	11	20	355	194	1.1	0.2	0	0	0	0

Calendar year 1961: Max 2.7 Min 0 Mean 0.09 Ac-ft 66  
Water year 1961-62: Max 37 Min 0 Mean 0.83 Ac-ft 598

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1600	4.02	105	3-2	0700	2.88	45
2-13	1400	5.38	223	3-5	2000	6.68	360
2-18	0830	3.70	85				

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

11-1629. Sharon Creek near Menlo Park, Calif.

Location.--Lat 37°25'45", long 122°13'02", in Pulgas Grant, at Atherton City boundary, 900 ft upstream from Atherton drainage channel and 2.6 miles southwest of Menlo Park, San Mateo County.

Drainage area.--0.38 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 146.18 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 56.0 cfs Mar. 5 (gage height, 3.10 ft, from floodmarks), from rating curve extended above 18 cfs on basis of slope-area measurement of peak flow; no flow for many days.

1958-62: Maximum discharge, that of Mar. 5, 1962; no flow for many months in each year.  
Flood of Apr. 2, 1958, reached a stage of about 4.2 ft, from floodmarks.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.13	0.27	0	* 0	0.32	.01	0.01	0.01	a0.01	0.06	0.04
2	* 0	.15	.06	0	0	.50	.16	0	.01	a0	.01	.04
3	0	.12	.02	0	0	.09	.01	0	.01	.01	.01	.04
4	0	.10	.02	0	0	.05	.01	0	.01	.02	.01	.04
5	0	.08	.01	* 0	0	* 3.90	.01	0	.10	.02	.04	.04
6	0	.07	.01	0	0	1.89	0	0	.01	0	.01	.04
7	0	.06	.01	0	.11	.27	.07	0	.01	.01	.02	.03
8	0	.06	0	* 0	.01	.06	0	0	.01	.01	.06	.02
9	0	.06	0	0	* 1.93	.03	0	0	.01	.01	.01	.02
10	0	.06	0	.05	.42	.02	0	0	.01	0	.01	.02
11	0	.05	* 0	.01	.06	.02	.01	0	.01	.21	.02	.03
12	0	.05	0	0	.04	.02	0	0	0	.01	.01	.02
13	0	.04	0	0	* 2.00	.01	0	0	0	.01	.01	.03
14	0	.77	0	0	4.71	.03	.01	* 0	0	.01	.02	.04
15	0	.05	0	* 0	1.41	.05	.01	0	.03	.01	.02	.02
16	0	0	0	0	.60	.05	0	0	.18	.01	.03	.03
17	0	0	0	* 0	.28	.01	0	0	0	.01	.01	.04
18	0	0	0	0	2.00	.01	.01	0	0	0	.01	.03
19	0	.01	0	.95	.27	.01	.01	0	.01	0	.02	.04
20	0	.75	0	.20	.40	.01	0	0	.01	0	.02	.03
21	.06	.02	0	.01	.07	.01	.01	0	.02	.01	.03	.03
22	.08	.02	* 0	.01	.03	.60	.01	.16	.01	.02	.03	.03
23	.10	.02	0	0	.02	.01	.01	.01	.10	.02	.04	.03
24	.10	.02	0	0	.02	.01	.01	.01	.19	.01	.03	.03
25	.12	.04	0	.04	.02	.01	.01	.01	.02	.02	.06	.03
26	.13	.01	0	.01	.01	.01	0	.01	.02	.01	.04	.05
27	.13	.01	* 0	0	.01	.01	.03	0	a.02	.03	.05	.04
28	.12	.02	0	.01	.28	.01	0	0	a.02	0	.03	.03
29	.14	.59	0	* 0	-	.02	0	.01	a.02	.01	.04	.02
30	.14	.31	0	0	-----	.01	.01	.01	a.01	0	.04	.02
31	.14	-----	0	0	-----	.01	-----	.01	-----	.01	.04	-----
Total	1.26	3.65	0.40	1.29	14.70	7.86	0.41	0.24	0.86	0.50	0.84	0.95
Mean	0.041	0.122	0.013	0.042	0.525	0.254	0.014	0.008	0.029	0.016	0.027	0.032
Max	0.14	0.77	0.27	0.95	4.71	3.90	0.16	0.16	0.19	0.21	0.06	0.05
Min	0	0	0	0	0	0.01	0	0	0	0	0.01	0.02
Cfsm	0.108	0.321	0.034	0.111	1.382	0.668	0.037	0.021	0.076	0.042	0.071	0.084
In.	0.12	0.36	0.04	0.13	1.44	0.77	0.04	0.02	0.08	0.05	0.08	0.09
Ac-ft	2.5	7.2	0.8	2.6	29.2	15.6	0.8	0.5	1.7	1.0	1.7	1.9

Calendar year 1961: Max	0.77	Min	0	Mean	0.015	Cfsm	0.039	In.	0.52	Ac-ft	10.5
Water year 1961-62: Max	4.71	Min	0	Mean	0.090	Cfsm	0.237	In.	3.22	Ac-ft	65.5

Peak discharge (base, 9 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0345	1.90	9.10	2-13	1330	2.42	25.8
11-29	0545	1.94	10.3	2-14	1800	2.60	32.8
2- 9	1430	1.95	10.4	3- 5	†1945	3.10	56.0

† About.

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SAN FRANCISQUITO CREEK BASIN

11-1629.4. San Francisquito Creek below Ladera damsite, Calif.

Location.--Lat 37°24'24", long 122°12'11", on north boundary of El Corte de Madera Grant, 1.2 miles upstream from Los Trancos Creek, 0.5 mile northwest of Ladera School and 2.3 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--28.5 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 180 ft (from topographic map).

Extremes.--Maximum discharge during year, 958 cfs Mar. 5 (gage height, 7.99 ft); no flow for several months.

Remarks.--Records good. Flow regulated by Searsville Lake (capacity, 952 acre-ft). Small diversions from Searsville Lake for irrigation on Stanford University Campus.

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

2.2	0	3.0	11
2.4	.1	3.3	28
2.5	.4	3.6	56
2.6	1.2	4.0	116
2.7	2.7	5.0	320
2.8	4.9	6.0	520

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	0.1	0	0	103	0.9	0.2	0.1		(*)	
2		0	1.3	0	0	144	1.3	.2	.1			
3	(*)	0	.4	0	0	49	2.0	.2	.1			
4		0	*.1	0	0	22	*2.0	.2	*.1			
5		0	.1	0	0	185	2.0	.1	0			
6		*0	0	0	0	*274	2.1	.1	0			
7		0	0	0	.1	*89	1.8	.1	.1			
8		0	0	0	.2	39	1.8	.2	.1			
9		0	0	0	*89	18	1.5	.1	.1			
10		0	0	0	*29	17	1.1	.1	.1			
11		0	0	0	8.7	13	.7	.1	.1			
12		0	0	0	6.5	11	.4	.1	.1			
13		0	0	0	*195	10	.3	.1	.1			
14		0	0	0	173	9.0	.1	.2	.1			
15		0	0	0	328	8.4	.1	.2	.1			
16		0	0	0	125	*8.0	.4	.1	.1			
17		0	0	0	47	7.1	.4	.1	.1			
18		0	0	0	181	7.1	.4	.1	.1			
19		0	0	0	102	6.6	.4	.1	0			
20		0	0	*16	*52	7.1	.3	.1	0			
21		0	*0	*.9	23	6.3	.4	.1	0			
22		0	0	.6	7.4	31	.3	.1	0			
23		0	0	.2	4.5	17	*.4	.1	0			
24		0	0	*.2	5.5	10	.4	.1	0			
25		0	0	.1	8.7	8.0	.3	.1	0		(*)	
26		0	0	.1	8.0	7.1	.2	.1	*0			
27		0	0	.1	6.6	6.6	.2	.1	0			
28		0	0	0	16	6.0	.4	.1	0			
29		.1	0	0	-----	5.2	.4	.1	0			
30		.1	0	0	-----	4.9	.2	.1	0			
31		-----	0	0	-----	3.6	-----	.1	-----			-----
TOTAL	0	0.2	2.0	18.2	1,416.2	1,133.0	23.2	3.8	1.6	0	0	0
MEAN	0	0.007	0.06	0.59	50.6	36.5	0.77	0.12	0.05	0	0	0
MAX	0	0.1	1.3	16	328	274	2.1	0.2	0.1	0	0	0
MIN	0	0	0	0	0	3.6	0.1	0.1	0	0	0	0
AC-FT	0	0.4	4.0	36	2,810	2,250	46	7.5	3.2	0	0	0

CALENDAR YEAR 1961: MAX - MIN - MEAN - AC-FT -  
 WATER YEAR 1961-62: MAX 328 MIN 0 MEAN 7.12 AC-FT 5,160

Peak discharge (base, 350 cfs)--Feb. 14 (2400) 868 cfs (7.63 ft); Mar. 5 (2200) 958 cfs (7.99 ft).

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

## SAN FRANCISQUITO CREEK BASIN

321

11-1629.5. San Francisquito Creek tributary near Stanford University, Calif.

Location.--Lat 37°24'43", long 122°11'52", in Pulgas Grant, on left bank 130 ft upstream from mouth, 200 ft downstream from ranch road bridge, 0.4 mile west of gate at Alpine Road, and 1.8 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--0.26 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 174.73 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 39.2 cfs Mar. 5 (gage height, 2.98 ft), from rating curve extended above 16 cfs on basis of slope-area measurement of peak flow; no flow for most of year.

1958-62: Maximum discharge, that of Mar. 5, 1962; no flow for many months in each year.

Flood of Apr. 2, 1958, reached a stage of 3.2 ft, from floodmarks.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		0	0	0.15						
2	(*)	0		0	0	.60						
3		0		0	0	.03					(*)	(*)
4		0	(*)	0	*0	.02						
5		0		0	0	*3.94						
6		0		0	0	1.24						
7		0		0	0	.33		(*)				
8		0		*0	0	.10						
9	(*)	0		0	.13	.02						
10		0		0	.02	.01						
11		0	(*)	0	.01	.01			(*)			
12		0		0	*.01	.01						
13		0		0	*1.16	.01					(*)	
14		*0		0	*2.43	.01		(*)				
15		0		*0	1.01	.01						
16		0		0	.68	.01						
17		0		0	.31	.01						(*)
18		0	(*)	0	1.20	.01						
19		0		.01	.30	.01						
20		.12		.01	.48	.01					(*)	
21		0		0	.10	.01		(*)				
22		0	(*)	*0	.05	.01						
23	(*)	0		0	.02	.01	(*)			(*)		
24		0		0	.02	.01						
25		0		0	.01	.01			(*)			
26		0		0	.01	0						
27		*0	(*)	0	.01	0						
28		0		0	.10	0						
29		0		*0	-	0						
30	(*)	0		0	-----	0	(*)		-----			
31		-----		0	-----	0	-----		-----			-----
Total	0	0.12	0	0.02	8.06	6.59	0	0	0	0	0	0
Mean	0	0.004	0	0.0006	0.288	0.213	0	0	0	0	0	0
Max	0	0.12	0	0.01	2.43	3.94	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Cfsm	0	0.015	0	0.004	1.11	0.819	0	0	0	0	0	0
In.	0	0.02	0	0	1.15	0.94	0	0	0	0	0	0
Ac-ft	0	0.2	0	0	.16	.13	0	0	0	0	0	0

Calendar year 1961: Max 0.12 Min 0 Mean 0.0004 Cfsm 0.002 In. 0.02 Ac-ft 0.3  
 Water year 1961-62: Max 3.94 Min 0 Mean 0.041 Cfsm 0.158 In. 2.1 Ac-ft 29

Peak discharge (base, 5 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-13	1330	2.09	10.7	2-18	†0800	1.9	6.5
2-14	1815	2.39	19.0	3- 5	0745	2.98	39.2

† About.

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

## SAN FRANCISQUITO CREEK BASIN

11-1632. Los Trancos Creek tributary near Stanford University, Calif.

Location.--Lat 37°24'18", long 122°11'09", in El Corte de Madera Grant, on right bank 350 ft east of wooden water tanks, 0.4 mile east of Ladera, 0.6 mile upstream from mouth, and 1.7 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--0.47 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 269.13 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 56.8 cfs Mar. 5 (gage height, 2.53 ft), from rating curve extended above 8 cfs on basis of slope-area measurement of peak flow; no flow for most of year.

1958-62: Maximum discharge, that of Mar. 5, 1962; no flow for many months in each year.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			(*)	0	0	0.02		(*)				
2	(*)		(*)	0	0	*.06						
3				0	0	.01						(*)
4			(*)	0	0	.01						
5				0	* 0	* 4.64						
6				0	0	1.64						
7		(*)		0	0	.23		(*)				
8				* 0	0	.05						
9				0	.08	.02	(*)					
10				* 0	.01	.01						(*)
11			(*)	0	0	.01			(*)			
12				0	* 0	.01						
13				0	*.74	.01					(*)	
14				0	3.61	0		(*)				
15				* 0	* 1.19	0						
16				0	.62	.01						
17				0	.21	.01						(*)
18			(*)	0	.82	.01						
19				.02	*.13	0						
20		(*)		.01	*.16	0						
21				0	.04	0		(*)				
22			(*)	* 0	.02	.02						
23	(*)			0	.01	.01	(*)			(*)		
24				0	.02	0						
25				0	.01	0			(*)			
26				0	.01	0						
27		(*)	(*)	0	0	0						
28				0	.01	0						
29		(*)		* 0	-	0						
30	(*)			0	-----	0						
31		-----		0	-----	0	-----	(*)	-----			-----
Total	0	0	0	0.03	7.69	6.78	0	0	0	0	0	0
Mean	0	0	0	0.001	0.275	0.219	0	0	0	0	0	0
Max	0	0	0	0.02	3.61	4.64	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Cfsm	0	0	0	0.002	0.585	0.466	0	0	0	0	0	0
In.	0	0	0	0.00	0.61	0.54	0	0	0	0	0	0
Ac-ft	0	0	0	0.1	15.3	13.4	0	0	0	0	0	0

Calendar year 1961: Max 0.01 Min 0 Mean 0.0001 Cfsm 0.000 In. 0.00 Ac-ft 0.1  
 Water year 1961-62: Max 4.64 Min 0 Mean 0.040 Cfsm 0.085 In. 1.15 Ac-ft 28.8

Peak discharge (base, 6 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-13	1330	1.70	8.30	3-5	2000	2.53	56.8
2-14	1900	2.17	29.4				

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



11-1645. San Francisquito Creek at Stanford University, Calif.

Location---Lat 37°25'24", long 122°11'18", in San Francisquito Grant at golf course, on right bank 1.1 miles downstream from Los Trancos Creek and 1.1 miles west of Stanford University Post Office, Santa Clara County.

Drainage area---37.5 sq mi.

Records available---October 1930 to September 1941, October 1950 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage---Water-stage recorder and concrete control. Altitude of gage is 120 ft (from topographic map).

Average discharge---23 years, 17.4 cfs (12,600 acre-ft per year).

Extremes---Maximum discharge during year, 996 cfs Mar. 5 (gage height, 5.04 ft); no flow for several months.

1930-41, 1950-62: Maximum discharge, 5,560 cfs Dec. 22, 1955 (gage height, 13.60 ft); no flow at times in each year.

Remarks---Records good. Flow regulated by Searsville Lake (capacity, 952 acre-ft). Diversions above station to Los Trancos and Lagunita Canals for irrigation on Stanford University campus below station.

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

0.15	0	0.7	7.2
.2	.1	1.0	19
.3	.4	1.3	37
.4	1.1	1.6	64
.5	2.4	2.0	118
.6	4.4	3.0	320

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	0.5	0	0.1	102	0.3	0.1	A0.1	0	(*)	
2		0	.3	0	.1	132	.3	.2	A.1	0		
3	(*)	0	.2	.1	.1	50	.2	.2	A.1	.1		
4		0	*.1	.1	.1	21	.2	.2	*.1	.1		
5		0	.1	.1	.2	173	.2	.1	.1	0		
6		*0	.1	.1	.2	*286	.2	.1	.1	0		
7		0	.1	.1	.2	98	.2	.2	.1	0		
8		0	.1	.1	.2	44	.3	.2	.1	0		
9		0	.1	0	89	18	.3	.2	0	0		
10		0	.1	0	20	17	.3	.1	.1	.1		
11		0	.1	.1	.6	9.5	.3	.1	0	.1		
12		0	.1	.1	.3	4.4	.3	.1	0	.1		
13		0	.1	.2	167	5.9	.2	.1	0	.1		
14		0	.1	.2	*182	7.2	.2	.1	0	.1		
15		0	.1	.1	318	6.9	.2	.1	0	.1		
16		0	.1	.2	109	*5.8	.2	.1	0	0		
17		0	.1	.1	42	4.4	.2	.1	0	0		(*)
18		0	.1	.1	156	4.4	.2	.1	0	0		
19		0	.1	.4	85	3.1	.2	.1	0	0		
20		0	0	*10	38	1.5	.2	.1	0	0		
21		0	*.1	.3	12	3.3	.2	.1	0	0		
22		0	.1	.2	.4	29	.1	A.1	0	0		
23		0	.1	.2	*.3	17	*.2	A.1	0	0		
24		0	.1	*.2	1.7	6.8	.2	A.1	0	0	(*)	
25		0	0	.1	4.9	3.1	.2	A.1	.1	0		
26		0	0	.2	3.7	2.4	.1	A.1	*.1	0		
27		0	.1	.2	1.3	2.1	.2	A.1	0	0		
28		0	.1	.2	5.1	2.0	.2	A.1	0	0		
29		.1	.1	.2	-----	2.4	.2	A.1	.1	0		
30		.4	.1	.1	-----	3.5	.2	A.1	0	0		
31		-----	.1	.1	-----	1.8	-----	A.1	-----	0		-----
TOTAL	0	0.5	3.5	14.1	1,237.5	1,067.5	6.5	3.7	1.2	0.8	0	0
MEAN	0	0.02	0.11	0.45	44.2	34.4	0.22	0.12	0.04	0.03	0	0
MAX	0	0.4	0.5	10	318	286	0.3	0.2	0.1	0.1	0	0
MIN	0	0	0	0	0.1	1.5	0.1	0.1	0	0	0	0
AC-FT	0	1.0	6.9	28	2,450	2,120	13	7.3	2.4	1.6	0	0

CALENDAR YEAR 1961: MAX 3.1 MIN 0 MEAN 0.05 AC-FT 33

WATER YEAR 1961-62: MAX 318 MIN 0 MEAN 6.40 AC-FT 4,630

Peak discharge (base, 700 cfs).--Feb. 14 (2400) 799 cfs (4.54 ft); Mar. 5 (2030) 996 cfs (5.04 ft).

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

\*\* Field estimate made on this day.

A No gage-height record.

11-1660. Matadero Creek at Palo Alto, Calif.

Location.--Lat 37°25'10", long 122°08'10", in Rinconada de San Francisquito Grant, on right bank on Ash Street, 150 ft upstream from Lambert Avenue Bridge and 2.1 miles southeast of post office at Palo Alto, Santa Clara County.

Drainage area.--7.24 sq mi.

Records available.--July 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 25 ft (from topographic map). Prior to Sept. 25, 1958, at site 150 ft downstream at different datum.

Average discharge.--10 years, 1.25 cfs (905 acre-ft per year); median of mean annual discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 365 cfs Mar. 5 (gage height, 2.94 ft), from rating curve extended above 60 cfs on basis of critical-depth determination at gage height 2.85 ft; no flow for most of year.

1952-62: Maximum discharge, 854 cfs Dec. 22, 1955, from rating curve extended above 390 cfs on basis of slope-area measurement of peak flow; maximum gage height, 9.88 ft Dec. 23, 1955 (backwater from culvert); no flow for many months in each year.

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

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

Oct. 1 to Nov. 28				Nov. 29 to Sept. 30			
0.1	0	0.4	2.1	0.1	0	0.6	6.9
.2	.1	.5	4.5	.2	.1	.8	16
.3	.6	.6	7.8	.3	.5	1.1	37
				.4	1.7	1.3	56
				.5	3.9		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.4	0	0	*0.2	0					
2		0	*3.6	0	0	2.3	0					
3	(*)	0	0	0	0	.2	0					
4		0	0	0	0	0	0					
5		0	0	0	0	47	0			(*)		
6		*0	0	0	1	*31	0					
7		0	0	0	5	*5.4	0					
8		0	0	0	1	1.9	0					
9		0	0	.5	20	1.0	0					
10		0	0	0	2	.2	0					(*)
11		0	0	0	1	.1	0					
12		0	0	0	.5	0	0					
13		*0	0	0	*31	0	0					
14		0	0	0	50	0	0					
15		0	0	0	*52	0	0					
16		0	0	0	17	*0	*0					
17		0	0	0	3	0	0					
18		0	0	0	10	0	0					
19		.7	*0	0	5	0	.1					
20		*6.6	0	3	1.5	.1	0					
21		0	0	1	.3	0	0					
22		0	0	0	0	.6	0					
23		0	0	0	*0	0	0					(*)
24		0	0	*0	.2	0	0					
25		1.3	0	0	0	0	0					
26		0	0	0	0	0	0		(*)			
27		0	0	0	0	0	0			(*)		
28		0	0	0	0	0	.1					
29		1.9	0	0	-	0	0					
30		1.6	0	0	-	0	0					
31		-	0	0	-	0	-					
Total	0	12.1	6.0	4.5	200.5	90.0	0.2	0	0	0	0	0
Mean	0	0.40	0.19	0.15	7.16	2.90	0.007	0	0	0	0	0
Max	0	6.6	3.6	3	52	47	0.1	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	24	12	8.9	398	179	0.4	0	0	0	0	0

Calendar year 1961: Max 6.6 Min 0 Mean 0.09 Ac-ft 67  
 Water year 1961-62: Max 52 Min 0 Mean 0.86 Ac-ft 622

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	unknown	1.51	82	2-18	unknown	1.65	102
2-14	1930	2.58	275	3- 5	2100	2.94	365

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

Note.--No gage-height record Jan. 11-24, Jan. 26 to Feb. 12, Feb. 17-19, 28, Mar. 1, Apr. 17 to June 4.

11-1664.8. Stevens Creek Reservoir near Monte Vista, Calif.

Location.--Lat 37°17'55", long 122°04'34", in NW $\frac{1}{4}$  sec.27, T.7 S., R.2 W., at center of dam on Stevens Creek, 2.0 miles southwest of Monte Vista.

Drainage area.--17.3 sq mi.

Records available.--December 1935 to September 1962. Monthly contents prior to October 1959 published in WSP 1735.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District).

Extremes.--Maximum contents observed during year, 3,890 acre-ft Mar. 8 (elevation, 537.40 ft); no contents for several months.  
1935-62: Maximum contents observed, 4,100 acre-ft Dec. 26, 1955 (elevation, 538.61 ft); no contents for part of most years.

Remarks.--Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,860 acre-ft (revised) between elevations 444.9 (invert of outlet tunnel) and 537.14 ft (crest of spillway). Water released down Stevens Creek for irrigation and ground-water recharge by percolation.

Cooperation.--Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1961 to September 1962

Date	Contents†
Sept.30.....	0
Oct. 31.....	0
Nov. 30.....	0
Dec. 31.....	64
Jan. 31.....	138
Feb. 28.....	3,000
Mar. 31.....	3,860
Apr. 30.....	3,860
May 31.....	3,680
June 30.....	3,190
July 31.....	2,740
Aug. 31.....	2,180
Sept.30.....	1,790

† Contents at 0800 on first day of following month.

## GUADALUPE RIVER BASIN

11-1669. Alamitos Creek near New Almaden, Calif.

Location.--Lat 37°13'21", long 121°51'00", in Pueblo Lands of San Jose Grant, on left bank at Greystone bridge, 1.1 miles downstream from Arroyo Calero, 3.4 miles southwest of Edenvale, and 3.5 miles northwest of New Almaden, Santa Clara County.

Drainage area.--31.9 sq mi.

Records available.--April 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 247 ft (from topographic map). Prior to July 15, 1958, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 690 cfs Feb. 16 (gage height, 4.95 ft); no flow for several months.

1958-62: Maximum discharge, 4,300 cfs Apr. 2, 1958 (gage height, 9.67 ft), from rating curve extended above 330 cfs on basis of computed outflow from Almaden and Calero Reservoirs; no flow for parts of each year.

Remarks.--Records fair. Flow regulated by Calero and Almaden Reservoirs (see p. 331); water released during summer. Small diversions above station.

Cooperation.--Five discharge measurements furnished by Santa Clara Valley Water Conservation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	5.2	a2.6	24	25	27	33	g36
2					0	7.5	*a2.6	26	26	27	33	a36
3			(*)		0	5.9	a2.6	31	25	27	34	a35
4					0	4.6	a2.2	39	25	28	37	g35
5	(*)				0	7.7	1.9	41	25	25	39	g36
6					0	193	1.6	42	25	27	41	g35
7		(*)			0	51	9.5	40	24	26	39	g34
8					0	25	1.6	18	24	*27	39	g34
9					145	17	15	21	*25	28	39	a33
10					*86	13	8.5	18	25	27	41	g31
11					*25	11	13	21	25	28	*42	g31
12					9.9	9.4	23	21	25	22	41	g34
13					*47	7.8	33	22	27	7.8	39	g45
14					*92	7.5	36	20	26	6.9	39	g42
15			(*)	(*)	*301	*7.2	29	22	27	6.9	*42	g41
16					396	7.2	21	33	28	6.5	45	g37
17					120	6.2	20	33	31	3.8	42	g35
18					50	6.2	20	37	34	2.9	41	*19
19					27	5.9	1.9	31	27	13	41	*1.7
20					14	5.5	1.7	31	22	26	39	.1
21					12	4.9	1.5	*33	23	27	39	0
22					9.9	5.9	1.6	34	24	28	39	0
23					8.5	4.6	1.6	30	21	29	*41	0
24					7.5	4.6	*1.7	27	15	*29	38	0
25					6.9	4.3	1.2	28	16	29	38	0
26					5.9	4.3	1.4	27	21	33	37	0
27					5.5	4.3	1.4	27	*26	34	37	0
28					*6.5	4.3	1.7	*25	25	34	g37	0
29					-	4.3	1.9	25	25	33	g37	0
30					-----	4.0	2.5	25	25	*31	g37	0
31					-----	a3.2	-----	25	-----	33	a30	-----
Total	0	0	0	0	1,375.6	521.8	458.5	877	742	732.8	1,196	630.8
Mean	0	0	0	0	491	16.8	15.3	28.3	24.7	23.6	38.6	21.0
Max	0	0	0	0	396	193	36	42	34	34	45	45
Min	0	0	0	0	0	3.2	1.6	18	15	2.9	30	0
Ac-ft	0	0	0	0	2,730	1,030	909	1,740	1,470	1,450	2,370	1,250
Calendar year 1961: Max	4.9	Min	0	Mean	0.22	Ac-ft	157					
Water year 1961-62: Max	396	Min	0	Mean	17.9	Ac-ft	12,950					

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

a No gage-height record.

g Computed from once-daily staff gage readings.

GUADALUPE RIVER BASIN

327

11-1676.6. Ross Creek at San Jose, Calif.

Location.--Lat 37°14'55", long 121°54'49", in SE¼ sec.12, T.8 S., R.1 E., on left bank, 100 ft downstream from Lone Hill Creek, 500 ft upstream from Harwood Avenue, and at south city limits of San Jose.

Drainage area.--5.70 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 210 ft (from topographic map).

Extremes.--Maximum discharge during year, 350 cfs Feb. 14 (gage height, 5.72 ft); no flow at times.

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

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

2.14	0	2.9	6.0
2.3	.1	3.2	17
2.4	.4	3.5	35
2.5	.8	4.0	75
2.6	1.5	4.5	133
2.7	2.6		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0	*5.2	0	0	5.7	0	0	0	0	0	0
2	.1	0	*21	0	0	8.4	0	0	0	0	0	.1
3	.1	0	.3	0	0	1.8	0	0	0	0	0	0
4	.1	0	.1	*0	0	1.1	0	0	.3	0	0	.3
5	.1	0	.1	0	0	4.2	0	0	1.0	0	0	0
6	0	*0	.1	0	0	58	0	0	1.0	0	.1	0
7	0	0	0	0	1.1	9.6	0	0	1.0	.1	.1	0
8	0	0	0	0	.1	4.7	0	0	1.1	0	.1	0
9	.1	0	0	0	103	3.4	0	0	1.0	0	.1	0
10	.1	0	0	0	*49	2.3	0	*0	.5	0	.1	0
11	.1	0	0	.1	8.6	1.9	0	0	.6	0	.1	.2
12	*.1	0	0	.2	4.0	1.3	0	0	.6	0	.3	.6
13	*.2	*0	0	0	*34	.5	0	.2	0	0	.1	.2
14	0	0	0	0	*67	.5	0	.1	0	0	.1	1.1
15	0	0	0	*0	*52	.4	0	0	.1	0	0	0
16	0	0	0	0	39	.4	*0	0	.1	0	0	0
17	0	0	0	0	11	.4	0	0	.1	0	0	0
18	0	0	0	0	14	.5	0	0	0	0	0	0
19	0	.3	0	6.1	4.1	.4	0	0	0	0	0	.1
20	0	*1.9	0	1.9	4.4	.5	0	0	0	0	0	.1
21	0	0	0	.1	3.6	.5	0	*0	0	0	0	0
22	0	0	0	0	2.4	3.5	0	0	.4	0	.8	.1
23	0	0	0	0	1.8	.2	0	0	.3	0	*.1	0
24	0	0	0	0	2.7	.1	0	0	0	0	0	0
25	0	.2	0	0	1.0	.1	0	0	0	0	.1	0
26	0	0	0	0	*.7	.1	0	0	0	0	.1	0
27	0	0	0	0	.5	.1	0	0	0	0	0	.1
28	0	0	0	0	.5	.2	0	*0	0	0	0	0
29	0	5.2	0	0	-	.5	.1	0	0	0	0	0
30	0	*1.3	0	0	-----	0	0	0	0	0	0	0
31	0	-----	0	0	-----	0	-----	0	-----	0	0	-----
Total	1.1	20.6	26.8	8.4	404.5	148.7	0.1	0.3	8.1	0.1	2.2	2.9
Mean	0.04	0.69	0.86	0.27	14.4	4.80	0.003	0.01	0.27	0.003	0.07	0.10
Max	0.2	1.3	21	6.1	103	58	0.1	0.2	1.1	0.1	0.8	1.1
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	2.2	41	53	17	802	295	0.2	0.6	16	0.2	4.4	5.8

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 103 Min 0 Mean 1.71 Ac-ft 1,240

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-30	0500	3.82	60	2-14	2000	5.72	350
12-2	0700	5.29	263	2-18	0830	3.77	56
1-19	1800	3.56	39	3-5	2030	5.52	309
2-9	0600	5.27	259				

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

## GUADALUPE RIVER BASIN

11-1680. Los Gatos Creek at Los Gatos, Calif.

Location.--Lat 37°12'30", long 121°59'15", in NE $\frac{1}{4}$  sec.29, T.8 S., R.1 W., on left bank 0.3 mile downstream from Trout Creek, 0.5 mile downstream from Lexington Reservoir, and 1.0 mile south of Los Gatos.

Drainage area.--38.6 sq mi.

Records available.--October 1929 to September 1944, October 1953 to September 1962. Yearly estimate for water year 1930 (incomplete) and monthly discharge only for June to September 1944, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 460 ft (from topographic map). Prior to Oct. 1, 1943, water-stage recorder, with concrete control after October 1934, at site 1 mile downstream and October 1943 to May 1944 at site 0.5 mile downstream at different datums.

Average discharge.--24 years, 45.0 cfs (32,580 acre-ft per year), adjusted for diversion.

Extremes.--Maximum discharge during year, 181 cfs July 6 (gage height, 5.05 ft); minimum daily, 0.1 cfs Oct. 1-20, Oct. 29 to Nov. 14. 1929-44, 1953-62: Maximum discharge, 7,110 cfs Feb. 27, 1940 (gage height, 14.71 ft, site and datum then in use), from rating curve extended above 2,300 cfs; no flow for part of most years.

Remarks.--Records fair. Flow regulated by Lexington Reservoir and Lake Elsmar (see p.331). Several diversions for irrigation above station and diversion by San Jose Water Works.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-4, Oct. 26 to Nov. 13,  
Apr. 17-23, July 29 to Aug. 6)

2.9	0.1	3.9	30
3.0	.5	4.3	64
3.1	1.4	4.7	115
3.3	4.5	5.0	170
3.5	10		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.1	0.1	5.8	1.5	2.4	12	28	64	83	73	83	4.8
2	.1	.1	8.3	1.4	2.4	*16	28	72	82	72	85	5.5
3	.1	.1	2.7	1.4	2.4	10	28	70	82	76	96	5.5
4	*.1	.1	6.2	5.6	2.4	19	21	65	81	82	94	5.5
5	.1	.1	65	1.7	2.2	32	15	67	81	97	79	5.0
6	.1	.1	88	1.4	2.2	31	15	67	81	141	75	4.8
7	.1	.1	79	1.3	2.8	20	16	68	81	114	44	3.8
8	.1	.1	91	1.1	2.7	13	16	70	85	109	3.7	2.1
9	.1	.1	18	1.0	45	12	14	68	87	125	3.5	1.0
10	.1	.1	2.8	1.3	26	9.7	14	73	88	132	3.3	.9
11	.1	.1	2.1	1.2	8.6	9.4	14	77	88	124	3.0	.9
12	.1	.1	2.2	1.3	3.7	9.1	14	80	91	96	2.8	.9
13	.1	.1	2.2	1.3	19	9.1	14	79	90	92	2.5	.9
14	.1	*.1	*2.2	1.1	35	12	14	80	86	96	2.5	.9
15	.1	.2	2.1	1.1	52	39	13	81	80	95	2.4	.9
16	.1	.4	2.0	*1.2	26	52	11	81	79	97	2.5	.9
17	.1	.5	2.1	1.1	15	46	*11	82	77	95	2.7	.9
18	.1	.6	2.1	1.1	13	44	11	81	49	68	2.5	*.9
19	.1	.8	2.0	2.1	9.7	43	12	81	57	49	2.7	.9
20	.1	2.6	1.8	2.0	8.2	43	15	80	137	55	2.5	.9
21	.2	1.5	1.8	1.7	6.3	42	16	79	109	74	2.7	.9
22	.2	1.0	1.7	1.4	6.0	44	16	*80	79	80	2.4	.9
23	.2	.8	1.5	1.4	5.8	25	25	80	71	100	*1.8	.9
24	.2	.8	1.7	2.4	5.8	39	31	57	68	106	1.7	.8
25	.2	2.1	1.5	3.1	5.5	52	27	67	70	115	5.1	.8
26	.2	3.0	1.7	3.1	5.5	28	23	70	76	105	9.4	.7
27	.3	1.7	1.7	3.1	7.0	17	22	72	*76	83	9.7	.6
28	.2	1.1	1.5	3.0	10	24	25	75	76	76	8.2	.5
29	.1	11	1.5	3.0	-----	28	37	79	74	82	7.6	.4
30	.1	18	1.7	3.0	-----	28	52	80	73	*79	7.3	.4
31	.1	-----	1.5	2.7	-----	28	-----	83	-----	83	7.3	-----
TOTAL	4.0	47.5	405.4	59.1	332.6	836.3	598	2,318	2,437	2,871	655.8	54.8
MEAN	0.13	1.58	13.1	1.91	11.9	27.0	19.9	74.8	81.2	92.6	21.2	1.83
MAX	0.3	18	91	5.6	52	52	52	83	137	141	96	5.5
MIN	0.1	0.1	1.5	1.0	2.2	9.1	11	64	49	49	1.7	0.4
AC-FT	7.9	94	804	117	660	1,660	1,190	4,600	4,830	5,690	1,300	109
(†)	0	4.6	74	62	321	996	719	1,020	1,160	1,350	1,350	1,250

Calendar year 1961: Max 91

Water year 1961-62: Max 141

Min 0

Min 0.1

Mean 3.62

Mean 29.1

Ac-ft 2,620

Ac-ft 21,060

†1,910

†8,310

\* Discharge measurement made on this day.

† Diversion, in acre-feet, furnished by San Jose Water Works.

## GUADALUPE RIVER BASIN

329

11-1690. Guadalupe River at San Jose, Calif.

Location.--Lat 37°20'00", long 121°54'00", at San Jose, Santa Clara County, on right bank 100 ft downstream from Los Gatos Creek.

Drainage area.--146 sq mi.

Records available.--October 1929 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Prior to 1945, published as Guadalupe Creek at San Jose.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 80 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,380 cfs Feb. 15 (gage height, 4.10 ft); no flow for many days.

1929-62: Maximum discharge, 9,150 cfs Apr. 2, 1958 (gage height, 16.55 ft); no flow for many days each year.

Remarks.--Records fair except those for periods of fragmentary gage-height record, which are poor. Flow regulated by Calero, Almaden, Guadalupe and Lexington Reservoirs, and Lake Elsmar (see p. 331) with water released during summer for percolation in spreading basins on tributaries. Diversions by San Jose Water Works for urban use (see Los Gatos Creek at Los Gatos, preceding page). Diversions from Coyote Creek (see Coyote Creek near Edenvale, p. 334).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 21 to Mar. 5)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
0.45	0	1.4	19	0.45	0	1.6	36
.5	.1	1.6	32	.5	.1	1.8	64
.6	.8	1.8	53	.6	1.2	2.1	136
.8	3.1	2.0	92	1.0	8.6	2.5	305
1.0	6.2	2.2	156	1.4	21	3.5	940
1.2	10						

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	*12	0	0.5	15	0.7	6.8	0	0	0	
2	(*)	0	*96	0	.5	26	2.4	3.4	0	0	0	
3		0	.5	.5	.5	7.6	3.1	3.4	0	0	0	
4		0	*0	.8	0	2.9	8.2	5.7	0	0	0	
5		0	*0	.1	0	153	6.8	.4	0	0	0	
6		0	0	0	0	491	.6	.5	0	0	0	
7		0	5.0	0	2.4	146	2.6	6.0	.6	0	0	
8		0	.1	0	1.4	104	3.3	5.7	*1.4	0	0	
9		*0	0	0	381	74	1.5	3.7	0	F.5	0	
10		0	0	0	*345	48	1.2	1.7	0	F3.8	0	
11		0	0	0	*71	27	3.0	1.6	0	F2.1	0	
12		0	0	0	*11	20	3.6	3.9	0	0	0	
13		0	.6	0	*107	*21	.6	6.0	0	0	0	
14		0	0	0	253	15	0	5.3	0	0	0	
15		0	0	0	657	14	0	1.0	0	0	0	
16		0	0	.7	627	9.6	*0	.3	0	0	0	
17		0	0	.7	200	8.4	0	.7	0	0	0	
18		0	0	0	120	8.4	0	.2	.9	0	0	
19		4.6	*0	14	*60	8.4	2.3	2.2	2.4	0	0	
20		*32	0	16	48	7.8	2.8	9.6	2.2	0	0	
21		.2	0	1.7	38	7.8	0	8.6	.1	0	0	
22		0	0	.7	9.6	13	0	2.3	0	0	*0	
23		0	0	.8	6.8	5.5	0	4.0	0	0	0	
24		0	0	*.7	17	2.3	0	2.5	0	0	0	
25		2.6	0	.7	6.3	.1	0	.1	0	F.8	.1	
26		.4	0	.6	9.2	0	0	.7	0	F1.5	0	
27		0	.3	.4	5.7	2.3	0	0	*0	0	0	
28		0	.6	0	4.4	6.8	5.5	*0	0	0	0	
29		17	.7	.4	-----	6.0	6.0	0	0	0	.1	
30		*48	0	.6	-----	3.6	6.8	0	0	*0	.1	
31		-----	0	.6	-----	2.8	-----	0	-----	0	0	-----
TOTAL	0	104.8	115.8	40.0	2,982.3	1,257.3	61.0	86.3	7.6	8.7	0.3	0
MEAN	0	3.49	3.74	1.29	107	40.6	2.03	2.78	0.25	0.28	0.01	0
MAX	0	48	96	16	657	491	8.2	9.6	2.4	3.8	0.1	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	208	230	79	5,920	2,490	121	171	15	17	0.6	0

CALENDAR YEAR 1961: MAX 96 MIN 0 MEAN 1.21 AC-FT 878  
WATER YEAR 1961-62: MAX 657 MIN 0 MEAN 12.8 AC-FT 9,250

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

F Fragmentary gage-height record.

## GUADALUPE RIVER BASIN

11-1695. Saratoga Creek at Saratoga, Calif.

Location.--Lat 37°15'15", Long 122°02'25", in Quito Grant, on right bank on downstream side of private road bridge, 0.5 mile southwest of Saratoga, Santa Clara County, and 0.7 mile downstream from diversion dam.

Drainage area.--9.22 sq mi.

Records available.--October 1933 to September 1962. Prior to October 1951, published as Campbell Creek at Saratoga.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 500 ft (from topographic map).

Average discharge.--29 years, 9.40 cfs (6,810 acre-ft per year), combined flow of Saratoga Creek and diversion by San Jose Water Works.

Extremes.--Maximum discharge during year, 432 cfs Feb. 14 (gage height, 4.12 ft); no flow for several months.

1933-62: Maximum discharge, 2,730 cfs Dec. 22, 1955 (gage height, 6.40 ft), from rating curve extended above 510 cfs on basis of slope-area measurement of peak flow; no flow for part of each water year except possibly 1941, 1943, 1945.

Remarks.--Records good. Water is diverted for municipal use by San Jose Water Works at diversion dam above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 30 to Dec. 2)

1.32	0	1.8	7.0	2.4	49
1.4	.2	1.9	12	2.7	85
1.5	.6	2.0	17	3.0	129
1.6	1.8	2.2	30	3.6	267
1.7	4.0				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	* 26	0	0	23	1.3	0.1	0.1	0		
2	(*)	0	* 43	0	0	35	1.7	.2	.1	0		
3		0	11	0	0	26	.9	.2	.1	0		
4		0	5.2	0	0	21	.6	.2	*.1	0		
5		0	2.8	0	0	64	.5	.2	0	.1		
6		0	2.2	0	0	124	.3	.2	0	.1		
7		0	1.2	0	2.6	76	.3	.5	.1	.1		
8		0	.1	0	6.6	52	.3	.2	0	.1		
9		* 0	.1	0	197	41	.3	.2	.2	.1		
10		0	.1	0	*105	30	.4	.2	.2	0		
11		0	0	0	41	25	.4	.2	.1	0		
12		0	.2	0	*26	21	.3	.2	.1	.3		
13		0	.3	0	118	18	1.0	.2	.1	0		
14		0	.1	0	165	18	.3	.1	.1	0		
15		0	0	0	245	17	.3	.2	.1	0		
16		0	.1	0	146	15	*.2	0	.1	0		
17		0	0	0	77	14	.2	.1	.1	0		
18		0	0	0	65	13	.2	.1	.1	0		
19		0	*.1	5.6	*46	12	.9	0	0	0		
20		1.1	0	*10	36	9.3	1.9	.1	.1	0		
21		.3	0	4.0	27	4.9	.7	.5	.1	0		
22		0	0	2.6	22	14	.8	1.1	.1	0		
23		* 0	0	1.0	21	7.5	1.1	.3	.1	0		
24		0	0	*.1	21	4.6	.4	.2	.1	0		(*)
25		.2	0	.1	18	4.0	.5	.1	.1	0		
26		.3	0	0	15	4.0	.4	.2	.1	0		
27		0	0	0	13	4.6	.4	.1	*.1	0		
28		0	0	0	* 9.3	6.4	1.6	.1	.1	0		
29		1.7	0	0	-	5.2	.2	.1	.1	0		
30		1.6	0	0	-----	1.7	.2	.2	.1	* 0		
31		-----	0	0	-----	1.7	-----	.1	-----	0		
Total	0	19.6	92.5	23.4	1422.5	712.9	18.6	6.4	2.8	0.8	0	0
Mean	0	0.65	2.98	0.75	50.8	23.0	0.62	0.21	0.09	0.03	0	0
Max	0	16	43	10	245	124	1.9	1.1	0.2	0.3	0	0
Min	0	0	0	0	0	1.7	0.2	0	0	0	0	0
Ac-ft	0	39	183	46	2820	1410	37	13	5.6	1.6	0	0
(†)	5.2	12	58	62	28	158	283	168	92	49	28	21
Calendar year 1961:	Max	43	Min	0	Mean	0.70	Ac-ft	506	† 550			
Water year 1961-62:	Max	245	Min	0	Mean	6.30	Ac-ft	4,560	† 964			

Peak discharge (base, 110 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	0600	3.96	377	2-18	0800	2.99	127
2-14	2200	4.12	432	3- 5	2000	3.47	234

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

† Diversion, in acre-feet, furnished by San Jose Water Works.



## Reservoirs in Guadalupe River basin, Calif.

11-1666.7. Almaden Reservoir.--Lat 37°09'54", long 121°49'39", in San Vicente Grant, at center of dam on Alamitos Creek, 0.7 mile southwest of New Almaden, Santa Clara County, and 7 miles south of Edenvale. Drainage area, 12.0 sq mi. Records available, January 1936 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 1,990 acre-ft Feb. 16 (elevation, 607.49 ft); no contents at times. Maximum contents observed during period 1936-62, 2,080 acre-ft Apr. 1, 1941, Dec. 23, 1955 (elevation, 609.0 ft); no contents for part of each year except 1942, 1943.

Reservoir is formed by earth-fill dam completed in 1936. Capacity, 1,960 acre-ft between elevations 533.1 (invert of outlet tunnel) and 607 ft (crest of spillway). Water released down Alamitos Creek for ground-water recharge by percolation and minor irrigation. Up to 100 cfs diverted to Calero Reservoir at times. Record of contents furnished by Santa Clara Valley Water Conservation District.

11-1667.4. Calero Reservoir.--Lat 37°11'00", long 121°47'28", in San Vicente Grant, at center of dam on Arroyo Calero, 1.7 miles northeast of New Almaden, Santa Clara County, and 6 miles southeast of Edenvale. Drainage area, 6.95 sq mi. Records available, January 1936 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents during year, 9,330 acre-ft Mar. 28 to Apr. 4 (elevation, 482.93 ft); no contents at times. Maximum contents observed during period 1936-62, 9,610 acre-ft Apr. 3, 1958 (elevation, 483.82 ft); no contents for part of each year except 1942-45.

Reservoir is formed by earth-fill dam completed to crest elevation 482.55 ft in 1936 and raised to 483.90 ft in 1962. Capacity, 9,630 acre-ft between elevations 393.7 (center of outlet tunnel) and 483.90 ft (crest of spillway). Water released down Arroyo Calero for ground-water recharge by percolation and minor irrigation. Up to 100 cfs diverted from Almaden Reservoir to Calero Reservoir at times. Record of contents furnished by Santa Clara Valley Water Conservation District.

11-1673.7. Guadalupe Reservoir.--Lat 37°11'57", long 121°52'42", in Los Capitancillos Grant, at center of dam on Guadalupe Creek, 3.6 miles northwest of New Almaden, Santa Clara County, and 5.0 miles southeast of Los Gatos. Drainage area, 5.94 sq mi. Records available, January 1936 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 3,510 acre-ft Mar. 8 (elevation, 617.70 ft); no contents at times. Maximum contents observed during period 1936-62, 3,560 acre-ft Feb. 23, 1956 (elevation, 618.60 ft); no contents for part of each year except 1941-43.

Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,460 acre-ft between elevations 506.8 (invert of outlet tunnel) and 617.00 ft (crest of spillway). Water released down Guadalupe Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.

11-1679.5. Lake Elsman.--Lat 37°07'51", long 121°55'47", in SE $\frac{1}{4}$  sec.23, T.9 S., R.1 W., at center of Austrian Dam on Los Gatos Creek and 7.3 miles southeast of Los Gatos. Drainage area, 9.78 sq mi. Records available, February 1951 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by San Jose Water Works). Maximum contents observed during year, 6,400 acre-ft Apr. 9-29 (elevation, 1,112.5 ft); minimum observed, 368 acre-ft Oct. 1 (elevation, 1,009.4 ft). Maximum contents observed during period 1951-62, 6,410 acre-ft Jan. 12, 1952 (elevation, 1,112.6 ft); minimum observed, 169 acre-ft Dec. 29, 1956 (elevation, 996.8 ft).

Reservoir is formed by earth-fill dam completed in 1951. Usable capacity, 6,090 acre-ft between elevations 944 (elevation of outlet gates) and 1,110 ft (crest of spillway). Dead storage, 60 acre-ft. Water released down Los Gatos Creek for domestic and industrial use. Record of contents furnished by San Jose Water Works.

11-1679.8. Lexington Reservoir.--Lat 37°12'06", long 121°59'17", in SE $\frac{1}{4}$  sec.29, T.8 S., R.1 W., at center of dam on Los Gatos Creek and 1.7 miles south of Los Gatos. Drainage area, 37.0 sq mi. Records available, December 1952 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 17,000 acre-ft Mar. 29 (elevation, 638.74 ft); no contents at times. Maximum contents observed during period 1952-62, 22,760 acre-ft Apr. 13, 1958 (elevation, 652.96 ft); no contents for part of each year.

Reservoir is formed by earth-fill dam completed in 1952. Capacity, 21,430 acre-ft (revised) between elevations 519 (invert at outlet tunnel) and 650 ft (crest of spillway). Dead storage, 31 acre-ft. Water released down Los Gatos Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1961 to September 1962

Date	Almaden Reservoir	Calero Reservoir	Guadalupe Reservoir	Lake Elsman	Lexington Reservoir
Sept. 30.....	0	0	0	368	0
Oct. 31.....	0	0	0	401	0
Nov. 30.....	15	0	0	530	40
Dec. 31.....	85	50	28	711	0
Jan. 31.....	124	0	40	886	96
Feb. 28.....	699	5,260	2,860	5,950	11,000
Mar. 31.....	479	9,330	3,460	6,200	16,940
Apr. 30.....	613	8,710	2,970	6,200	16,540
May 31.....	672	7,340	1,890	6,130	12,070
June 30.....	563	5,420	858	5,500	7,410
July 31.....	365	3,870	56	4,420	1,590
Aug. 31.....	115	1,600	45	3,300	140
Sept. 30.....	70	192	36	2,340	17

Note.--Contents at 0800 on first day of following month.

## COYOTE CREEK BASIN

11-1698. Coyote Creek near Gilroy, Calif.

Location.--Lat 37°04'27", long 121°29'55", in SW $\frac{1}{4}$  sec. 11, T.10 S., R.4 E., on right bank 1.1 miles downstream from Bear Creek, 4.6 miles upstream from Coyote Creek Dam, and 6 miles northeast of Gilroy.

Drainage area.--110 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 870 ft (from topographic map).

Extremes.--Maximum discharge during year, 4,450 cfs Feb. 15 (gage height, 8.99 ft); no flow Oct. 1 to Dec. 9, Aug. 15 to Sept. 30. 1960-62: Maximum discharge, that of Feb. 15, 1962; no flow for several months in each year.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20, Mar. 8-12)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

3.1	0	3.8	20	3.9	0	5.2	89
3.2	.2	4.0	42	4.0	.1	5.5	165
3.3	.7	4.3	90	4.1	1.0	6.0	390
3.4	1.8	4.6	168	4.2	3.9	6.5	790
3.5	4.0	5.0	325	4.4	11	7.0	1,340
3.6	7.4	5.6	685	4.7	29	8.0	2,700
3.7	12			5.0	57	9.0	4,470

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.4	1.8	25	16	3.9	1.5	0.4	0.2	
2			0	.4	1.6	546	* 15	3.6	1.2	* .4	.3	
3			0	.4	1.6	262	14	3.6	1.2	.3	* .1	
4			0	.4	1.5	141	13	3.0	1.5	.2	.1	
5	(*)		0	.4	1.5	201	12	2.7	1.8	.2	.1	
6			0	.4	1.6	1,230	11	2.4	1.5	.2	.2	
7			0	.4	2.7	* 645	10	2.1	1.8	.1	.2	(*)
8			* 0	.4	5.9	* 330	10	2.1	2.4	.1	.2	
9			0	.5	764	208	9.9	1.8	2.4	.2	.2	
10			.2	.5	910	141	9.5	1.8	2.4	.1	.1	
11			.3	.5	* 536	108	8.7	1.8	2.7	.1	.1	
12			.3	.5	152	* 80	8.3	1.8	3.0	.1	.1	
13		(*)	.3	.5	* 370	63	8.0	1.8	3.0	.3	.1	
14			.3	.5	* 638	50	7.6	1.8	2.7	.3	.1	
15			.3	.5	* 2,980	44	7.2	2.1	3.0	.1	0	
16			.3	.5	1,190	40	7.2	2.4	3.3	.1	0	
17			.3	.5	379	35	6.9	2.1	3.3	.1	0	
18			.3	* .5	240	31	6.9	2.1	3.0	.1	0	
19			.3	.6	216	28	6.9	2.1	3.3	.1	0	
20			.3	* 80	159	27	6.9	1.5	3.0	.1	0	
21			.3	29	125	27	6.5	1.5	3.3	.1	0	
22			.4	* 13	87	42	6.2	1.5	3.0	.1	0	
23			.4	7.9	65	45	5.9	1.5	2.7	.1	0	
24			.4	5.5	54	31	5.6	1.2	2.7	.1	0	
25			.4	4.3	45	26	5.2	1.2	2.4	.2	0	
26			.4	3.2	42	23	4.9	1.2	1.8	.2	0	
27			.4	2.7	31	21	4.9	1.2	1.5	.2	0	
28			.4	2.3	* 26	20	4.9	1.2	1.2	.2	0	
29			.4	2.1	-	18	4.9	1.2	1.0	.3	0	
30			.4	1.9	-----	17	* 4.2	1.2	.5	.3	0	
31			.4	1.9	-----	16	-----	* 1.2	-----	.2	0	-----
Total	0	0	7.5	162.6	9,027.2	4,521	248.2	60.6	68.1	5.6	2.1	0
Mean	0	0	0.24	5.25	322	146	8.27	1.95	2.27	0.18	0.07	0
Max	0	0	0.4	80	2,980	1,230	16	3.9	3.3	0.4	0.3	0
Min	0	0	0	0.4	1.5	16	4.2	1.2	0.5	0.1	0	0
Ac-ft	0	0	15	323	17,910	8,970	492	120	135	11	4.2	0

Calendar year 1961: Max 35 Min 0 Mean 1.58 Ac-ft 1,140  
Water year 1961-62: Max 2,980 Min 0 Mean 38.6 Ac-ft 27,980

Peak discharge (base, 90 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	0630	5.03	268	3-2	1100	6.91	1,230
2-9	1100	6.69	1,620	3-6	1500	7.27	1,660
2-15	0930	8.99	4,450				

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

11-1700. Coyote Creek near Madrone, Calif.

Location.--Lat 37°10'06", long 121°38'55", near southeast corner of La Laguna Seca Grant, on right bank 1.2 miles downstream from Anderson Dam and 1.8 miles northeast of Madrone, Santa Clara County.

Drainage area.--195 sq mi.

Records available.--October 1902 to September 1912, December 1916 to September 1962. Records for water years 1917-19 incomplete, yearly estimates published in WSP 1315-B. Published as Coyote River near Madrone 1902-12, 1916-26.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 375 ft (from topographic map). Prior to Mar. 1, 1950, staff gages and water-stage recorders at various sites within 1.4 miles upstream at different datums.

Average discharge.--56 years, 68.4 cfs (49,520 acre-ft per year); median of yearly mean discharges, 57 cfs (41,300 acre-ft per year).

Extremes.--Maximum discharge during year, 183 cfs Feb. 22 (gage height, 2.79 ft); no flow for several months.

1902-12, 1916-62: Maximum discharge, 25,000 cfs probably Mar. 7, 1911 (record furnished by Duryea, Haehl & Gilman); no flow at times.

Remarks.--Records good. Flow regulated by Coyote and Anderson Lakes (see p.336); water released during summer. Water is diverted to Main Avenue percolation ponds by Santa Clara Valley Water Conservation District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 16 to July 18, July 29 to Aug. 4)

1.0	0	2.0	9.2
1.2	.4	2.1	16
1.4	.8	2.2	28
1.5	1.0	2.3	45
1.7	1.8	2.5	95
1.8	2.8	2.8	186
1.9	4.6		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	62	33	*95	107	127	0.1	
2					0	64	33	118	87	*124	0	
3					0	62	33	112	87	127	*0	
4					0	74	62	112	85	124	0	
5	(*)				0	66	82	110	79	124	0	
6					0	20	82	110	79	*127	0	
7		(*)			0	5.9	85	110	82	124	0	(*)
8			(*)		0	45	87	112	79	124	0	
9					.2	74	87	121	77	107	0	
10					0	77	87	124	77	101	0	
11					0	77	101	133	77	104	0	
12					0	67	107	133	87	104	0	
13		(*)			0	55	90	133	98	107	0	
14					.1	55	87	133	104	110	0	
15				(*)	.6	55	87	139	104	110	0	
16					.1	62	87	154	107	112	0	
17					0	35	87	160	104	112	0	
18					0	20	95	167	107	110	0	
19					.9	20	104	167	110	115	0	
20					12	20	104	167	112	*115	0	
21					49	24	107	157	115	115	0	
22					108	24	112	148	115	112	0	
23					67	20	112	145	112	38	0	
24					101	20	112	145	110	.7	0	
25					101	20	118	145	112	.5	0	
26					130	20	121	145	118	.4	0	
27					139	36	121	145	118	.4	0	
28					*85	69	118	139	127	.3	0	
29					-	67	118	139	130	.2	0	
30					-----	55	118	136	130	.1	0	
31					-----	40	-----	*136	-----	.1	0	
Total	0	0	0	0	793.9	1,410.9	2,777	4,190	3,036	2,575.7	0.1	0
Mean	0	0	0	0	28.4	45.5	92.6	135	101	83.1	0.003	0
Max	0	0	0	0	139	77	121	167	130	127	0.1	0
Min	0	0	0	0	0	5.9	33	95	77	0.1	0	0
Ac-ft	0	0	0	0	1,570	2,800	5,510	8,310	6,020	5,110	0.2	0
(+)	0	0	0	0	0	180	301	316	185	5	0	0
Calendar year 1961: Max124 Min 0 Mean 15.1 Ac-ft 10,890 +1,240												
Water year 1961-62: Max167 Min 0 Mean 40.5 Ac-ft 29,320 +987												

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

+ Diversion, in acre-feet, to Main Avenue percolation ponds, furnished by Santa Clara Valley Water Conservation District.

## COYOTE CREEK BASIN

11-1715. Coyote Creek near Edenvale, Calif.

Location.--Lat 37°16'15", long 121°47'47", at east boundary of Santa Teresa Grant, on left bank at "The Narrows," 1.5 miles northeast of Edenvale, Santa Clara County, and 7 miles south of San Jose.

Drainage area.--229 sq mi.

Records available.--October 1916 to September 1962 (discontinued). Published as Coyote River near Edenvale 1916-26.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 190 ft (from topographic map). Prior to Dec. 14, 1934, staff gage at site 250 ft upstream at same datum.

Extremes.--Maximum discharge during year, 159 cfs Mar. 7 (gage height, 3.33 ft); no flow for several months.

1916-62: Maximum discharge, 10,000 cfs Feb. 10, 1922 (gage height, 12.8 ft, from floodmarks), from rating curve extended above 4,900 cfs parallel to 1917 curve defined by current-meter measurements to 8,400 cfs; no flow at times during each year.

Remarks.--Records good. Water pumped from wells along creek above station for irrigation. Flow regulated by Coyote and Anderson Reservoirs (see p.336) and by detention in percolating reservoir 6 miles above station; water released during summer. Water is diverted between stations near Madrone and near Edenvale to Alamitos Percolation Ponds in Guadalupe River basin and to Evergreen area by Santa Clara Valley Water Conservation District.

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

2.16	0	2.6	12
2.2	.1	2.7	20
2.3	.6	2.9	45
2.4	2.2	3.1	85
2.5	5.5		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1					0	0	2.7	12	15	6.5		
2					0	0	*.1	13	16	*6.5		
3					0	0	0	13	15	12		
4	(*)				0	0	0	11	14	12		
5					0	0	0	8.7	14	12		
6					0	11	0	8.1	10	11		
7					0	80	0	8.1	8.7	13		(*)
8			(*)		0	3.6	0	12	9.3	17		
9					0	0	0	14	10	18		
10					0	0	0	13	11	19		
11					0	0	.7	11	10	17		(*)
12					0	0	1.6	9.3	12	15		
13		(*)			0	0	0	2.0	15	14		
14					*0	0	3.3	0	12	13		
15				(*)	23	0	.8	0	12	12		
16					74	.5	.4	5.3	11	13		
17					14	6.0	.1	24	11	14		
18					.1	.5	4.1	19	11	15		
19					0	0	7.5	19	10	17		
20					0	0	7.5	25	9.3	20		
21					0	0	14	24	8.1	19		
22					0	0	16	14	7.0	17		
23					0	0	15	10	7.0	18		
24					0	0	14	5.0	8.7	17		
25					0	0	14	12	12	12		
26					0	0	23	12	10	.4		
27					0	0	18	14	12	0		
28					*0	0	14	17	3.7	0		
29					-----	2.1	12	15	1.0	0		
30					-----	14	*10	15	11	0		
31		-----			-----	6.5	-----	*14	-----	0		-----
TOTAL	0	0	0	0	111.1	124.2	178.8	379.5	316.8	360.4	0	0
MEAN	0	0	0	0	3.97	4.01	5.96	12.2	10.6	11.6	0	0
MAX	0	0	0	0	74	80	23	25	16	20	0	0
MIN	0	0	0	0	0	0	0	0	1.0	0	0	0
AC-FT	0	0	0	0	220	246	355	753	628	715	0	0
(+)	0	0	0	0	0	0	55	283	351	372	0	0
(#)	0	0	0	0	0	0	480	930	900	790	0	0

Calendar year 1961: Max 15 Min 0 Mean 1.21 Ac-ft 872 +2,470 #1,380  
 Water year 1961-62: Max 80 Min 0 Mean 4.03 Ac-ft 2,920 +1,060 #3,100

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

† Diversion, in acre-feet, to Alamitos Percolation Ponds, furnished by Santa Clara Valley Water Conservation District.

# Diversion, in acre-feet, to Evergreen, furnished by Santa Clara Valley Water Conservation District.

11-1721. Upper Penitencia Creek at San Jose, Calif.

Location.--Lat 37°23'43", long 121°49'38", on north boundary of San Jose Pala Grant, on left bank at downstream side of county road bridge, 0.1 mile upstream from Dutard Creek, near northeast limits of San Jose, Santa Clara County. Prior to Aug. 3, 1962, at site 0.4 mile downstream.

Drainage area.--21.5 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map). Prior to Aug. 3, 1962, at site 0.4 mile downstream at different datum.

Extremes.--Maximum discharge during year, 198 cfs Feb. 16 (gage height, 2.25 ft, site and datum then in use); no flow most of year.

Maximum stage known since at least 1935, 5.37 ft Apr. 2, 1958, site and datum in use prior to Aug. 3, 1962, from information furnished by Santa Clara Valley Water Conservation District.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Flow partly regulated by Cherry Flat Reservoir (capacity, 500 acre-ft). Prior to Aug. 3, 1962, water diverted 600 ft upstream to Penitencia Percolation Pond was included in figures of discharge.

Cooperation.--Record of diversions furnished by Santa Clara Valley Water Conservation District.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	*0	0	0	5.2	1.3	0.4	0	0	0	0.1
2	(*)	0	*.3	0	0	20	1.3	.4	0	0	0	0
3		0	0	0	0	15	1.1	.4	0	0	*0	0
4		0	0	*1.0	0	10	1.1	.4	0	0	.1	0
5		0	0	.9	0	14	1.0	.3	0	.1	.1	.1
6		0	0	.8	0	91	1.0	.3	0	0	.1	.2
7		0	0	.7	0	40	1.0	.3	0	0	0	0
8		0	0	.6	0	*27	1.0	.3	.1	0	0	2.4
9		0	0	.5	5.3	22	.9	.2	.2	0	0	5.4
10		0	0	.5	*32	16	.7	.2	.2	0	0	4.8
11		0	0	.5	19	13	.8	.2	.1	0	.1	4.3
12		0	0	.5	*7.6	*10	.6	.2	.1	0	0	3.4
13		0	0	.5	*20	8.0	.7	.2	.1	0	0	3.5
14		0	0	.5	*35	6.3	.6	.2	.2	0	0	3.0
15		0	0	.5	94	5.2	.6	.2	.1	0	0	2.0
16		0	0	.5	*94	4.7	*.5	.2	.1	0	0	1.0
17		*0	0	.5	34	4.0	.4	.2	.1	0	0	.5
18		0	0	.5	21	3.8	.4	.2	.1	0	0	.1
19		0	*0	.5	*20	3.4	.7	.1	0	0	0	.1
20		0	0	*.4	14	3.4	.9	.2	0	0	0	.1
21		0	0	.4	12	3.1	.8	.2	0	0	0	.1
22		0	0	.3	8.2	4.2	.5	0	0	0	*0	.1
23		0	0	.2	6.3	4.2	.6	0	0	0	0	.1
24		0	0	*.2	8.3	3.0	.8	.1	0	0	0	.1
25		0	0	.2	5.9	2.3	.6	.1	0	0	0	.1
26		0	0	.2	5.2	2.2	.4	.1	0	0	0	.1
27		0	0	.2	4.2	2.0	.4	.1	*0	0	0	.1
28		0	0	.1	3.6	1.8	1.0	*0	0	0	0	.1
29		0	0	.1	-	1.6	.8	0	0	0	0	.1
30		*.1	0	.1	-----	1.4	.6	0	0	*0	0	.1
31		-----	0	0	-----	1.4	-----	.1	-----	0	.1	-----
Total	0	0.1	0.3	11.9	449.6	349.2	23.1	5.8	1.4	0.1	0.5	32.0
Mean	0	0.003	0.01	0.38	16.1	11.3	0.77	0.19	0.05	0.003	0.02	1.07
Max	0	0.1	0.3	1.0	94	91	1.3	0.4	0.2	0.1	0.1	5.4
Min	0	0	0	0	0	0	1.4	0.4	0	0	0	0
Ac-ft	0	0.2	0.6	24	892	693	46	12	2.8	0.2	1.0	63

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 94 Min 0 Mean 2.39 Ac-ft 1,730

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0130	1.70	53	3-2	1100	1.58	46
2-16	0330	2.25	198	3-6	1300	2.00	126

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

Note.--No gage-height record Oct. 1 to Nov. 16, Jan. 5-19, 26-31, Feb. 12, Sept. 14-30.

## COYOTE CREEK BASIN

## Reservoirs in Coyote Creek basin, Calif.

11-1698.5. Coyote Lake.--Lat 37°07'06", long 121°32'55", in SE $\frac{1}{4}$  sec.29, T.9 S., R.4 E., at center of dam on Coyote Creek, 3.8 miles northeast of San Martin. Drainage area, 120 sq mi. Records available, February 1936 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 15,030 acre-ft Mar. 8 (elevation, 760.62 ft); no contents at times. Maximum contents observed during period 1936-62, 28,120 acre-ft Dec. 8, 1950 (elevation, 782.5 ft); no contents at times.

Reservoir is formed by rock- and earth-fill dam completed in 1936. Capacity, 24,510 acre-ft (revised) between elevations 693.3 (revised) (invert of outlet tunnel) and 777 ft (crest of spillway). Water released down Coyote Creek for storage in Anderson Lake. Record of contents furnished by Santa Clara Valley Water Conservation District.

11-1699.2. Anderson Lake.--Lat 37°09'56", long 121°37'42", in southeast corner of La Laguna Seca Grant, at center of dam on Coyote Creek, 2.5 miles northeast of Madrone, Santa Clara County. Drainage area, 194 sq mi. Records available, December 1950 to September 1962. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 15,670 acre-ft Mar. 18 (elevation, 526.94 ft); no contents at times. Maximum contents observed during period 1950-62, 94,130 acre-ft Apr. 6, 1958 (elevation, 627.21 ft); no contents at times in 1960-62.

Reservoir is formed by earth- and rock-fill dam completed in 1950. Capacity, 91,310 acre-ft between elevations 439 (invert of outlet tunnel) and 625 ft (crest of spillway). Water released down Coyote Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1961 to September 1962

Date	Coyote Lake†	Anderson Lake†
Sept.30.....	0	0
Oct. 31.....	0	0
Nov. 30.....	0	0
Dec. 31.....	0	0
Jan. 31.....	205	0
Feb. 28.....	11,240	8,080
Mar. 31.....	12,260	14,920
Apr. 30.....	11,360	11,010
May 31.....	6,790	6,780
June 30.....	1,440	4,810
July 31.....	526	410
Aug. 31.....	506	392
Sept.30.....	520	297

† Contents at 0800 on first day of following month.

11-1740. San Antonio Creek near Sunol, Calif.

Location.--Lat 37°34'39", long 121°51'24", in Valle de San Jose Grant, on right bank 0.4 mile upstream from Calaveras Road Bridge, 0.85 mile above mouth, and 2 miles southeast of Sunol, Alameda County.

Drainage area.--37.0 sq mi.

Records available.--January 1912 to September 1930, February 1960 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Datum of gage is 271.56 ft above mean sea level (levels by city of San Francisco). Prior to Feb. 8, 1960, at site 0.6 mile upstream at different datum.

Average discharge.--20 years, 10.4 cfs (7,530 acre-ft per year).

Extremes.--Maximum discharge during year, 537 cfs Feb. 15 (gage height, 5.11 ft); no flow Oct. 1 to Feb. 8, June 10 to Sept. 30. 1912-30, 1960-62: Maximum daily discharge, 1,460 cfs Jan. 3, 1916; no flow for part of most years. Flood of Dec. 23, 1955, 5,810 cfs (by slope-area measurement of peak flow).

Remarks.--Records excellent except those above 300 cfs, which are fair. No regulation or diversion.

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

2.52	0	3.1	3.0	3.8	57
2.6	.1	3.2	5.0	4.0	90
2.7	.2	3.3	8.8	4.2	135
2.8	.5	3.4	15	4.5	235
2.9	1.0	3.6	32	5.0	470
3.0	1.7				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	6.1	3.4	*0.8	0.2			
2					0	25	3.2	.7	.2			
3					0	34	3.0	.7	.2			
4	(*)				0	23	2.9	.6	.1			
5					0	39	2.7	.6	.1			
6					0	274	2.6	.5	.1			
7					0	108	2.2	.5	*.1			
8					0	55	2.2	.4	.1			
9					29	*35	2.1	.4	.1			
10					*138	26	2.0	.4	0	(*)		
11			(*)		85	21	1.7	.4	0			
12					*35	15	1.6	.4	0			
13					88	13	1.6	.4	0			
14					121	*10	1.6	.4	0			
15				(*)	325	8.8	1.5	.4	0			
16		(*)			*170	7.7	*1.4	.4	0			
17					75	6.9	1.4	.3	0			
18					61	6.1	1.3	.3	0			
19					*45	5.4	1.3	.3	0			
20					*30	5.4	1.3	.3	0			
21					23	4.8	1.3	*.3	0			
22					17	6.1	1.1	.3	0			
23					13	7.3	1.0	.3	0			
24				(*)	14	5.0	1.0	.3	0			
25					11	4.6	.9	.3	0			
26					8.4	4.4	.9	.3	0			
27					6.9	4.2	.9	.3	0			
28					*5.8	4.0	1.0	.2	0			
29					-	3.8	1.0	.2	0		(*)	
30					-----	3.6	.9	.2	0			
31					-----	3.6	-----	.2	-----			
Total	0	0	0	0	1,301.1	775.8	51.0	12.1	1.2	0	0	0
Mean	0	0	0	0	46.5	25.0	1.70	0.39	0.04	0	0	0
Max	0	0	0	0	325	274	3.4	0.8	0.2	0	0	0
Min	0	0	0	0	0	3.6	0.9	0.2	0	0	0	0
Ac-ft	0	0	0	0	2,580	1,540	101	24	2.4	0	0	0

Calendar year 1961: Max 14 Min 0 Mean 0.66 Ac-ft 478  
 Water year 1961-62: Max 325 Min 0 Mean 5.87 Ac-ft 4,250

Peak discharge (base, 20 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1400	4.39	197	3-2	1300	3.91	75
2-15	0100	5.11	537	3-6	0800	4.89	410

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

## ALAMEDA CREEK BASIN

11-1765. Arroyo Valle near Livermore, Calif.

Location.--Lat 37°37'24", long 121°45'28", in Valle de San Jose Grant, on right bank 900 ft downstream from highway bridge, 1.1 miles upstream from Dry Creek, 4.1 miles south of Livermore, Alameda County, and 6.9 miles southeast of Pleasanton.

Drainage area.--147 sq mi.

Records available.--January 1912 to September 1930, October 1957 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Published as Arroyo del Valle near Livermore, 1912-29.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 500 ft (from topographic map). Prior to November 1914, at site 900 ft upstream at different datum. Nov. 1, 1914, to Sept. 30, 1930, at site 300 ft upstream at different datum.

Average discharge.--23 years, 30.8 cfs (22,300 acre-ft per year); median of yearly mean discharges, 21 cfs (15,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,590 cfs Feb. 15 (gage height, 6.05 ft); no flow for many days.

1912-30, 1957-62: Maximum discharge, 12,200 cfs Apr. 2, 1958 (gage height, 10.91 ft); no flow at times each year.

Flood of Dec. 23, 1955, reached a stage of 13.93 ft, from floodmarks (discharge, 18,200 cfs on basis of contracted-opening and slope-area measurement of peak flow).

Remarks.--Records good except those for period of indefinite stage-discharge relation, which are fair. No regulation or diversion.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 15 to Mar. 2, Mar. 6-9)

Oct. 1 to Mar. 31				Apr. 1 to Sept. 30			
2.1	0	3.0	63	2.07	0		
2.2	.6	3.3	117	2.1	.1		
2.3	2.4	3.6	203	2.2	1.0		
2.4	6.0	4.0	390	2.3	3.6		
2.5	11	4.5	740	2.4	7.8		
2.6	18	5.0	1,210	2.5	13		
2.8	37	6.0	2,510				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.2	0.1	0.1	25	12	*3.0	1.2	0.5	*0.2	
2		0	0.2	.1	.1	*50	12	3.3	1.2	.6	.2	
3		0	.1	.1	.1	68	*11	2.4	1.2	.5	.1	
4	(*)	0	.1	.1	.1	47	11	2.7	1.2	.5	.1	
5		0	.1	.1	.1	43	11	2.1	1.2	.3	.2	
6		0	.1	.1	.1	*961	9.9	1.8	1.2	.3	.2	
7		*0	.1	.1	.2	*670	9.4	1.8	*1.2	.2	.1	
8		0	.1	.1	.1	*276	8.8	2.4	1.2	.4	.2	
9		0	.1	.1	200	164	8.3	1.6	1.2	.3	.1	
10		0	.1	.1	948	115	7.8	1.2	1.4	*.3	0	
11		0	.1	.1	.1	515	8.6	6.8	1.2	1.4	.3	0
12		0	.1	.1	*230	69	6.4	1.0	.8	.3	0	
13		*0	.1	.1	192	55	6.4	.8	.5	.4	0	
14		0	.1	.1	520	*47	6.0	.8	.6	.3	0	
15		0	.1	*.1	e1950	*38	5.5	1.0	.6	.4	.1	
16		0	.1	.1	e1530	34	5.1	.7	.5	.4	0	
17		0	.1	.1	e421	31	*4.7	.8	.7	.3	0	
18		0	.1	.1	214	29	4.3	.5	.4	.2	0	
19		0	.1	.2	247	25	5.1	.6	.4	.2	0	
20		.1	.1	.3	*144	24	5.1	.6	.3	.2	0	
21		.1	.1	.2	101	24	5.1	.6	.3	.1	0	
22		.1	.1	.1	71	25	4.7	*1.7	.3	.1	0	
23		.1	.1	.1	57	36	4.7	1.2	.4	.2	0	
24		.1	.2	.1	50	28	4.0	.7	.6	.2	0	
25		.1	.2	.1	42	23	3.6	.7	.6	.2	0	
26		.1	.2	.1	36	21	3.6	.7	.4	.2	0	
27		.1	.1	.1	*30	20	4.0	.6	.4	.2	0	
28		.1	.1	.1	26	18	3.6	2.0	.4	.2	0	
29		.1	.1	.1	-	17	3.6	1.6	.4	.2	0	
30		.2	.1	.1	-----	15	3.6	.7	.4	.2	*0	
31		-----	.1	.1	-----	14	-----	1.2	-----	.2	0	-----
Total	0	1.2	3.6	3.5	7524.9	3098	197.1	42.0	22.6	8.9	1.5	0
Mean	0	0.04	0.12	0.11	269	99.9	6.57	1.35	0.75	0.29	0.05	0
Max	0	0.2	0.2	0.3	1950	961	12	3.3	1.4	0.6	0.2	0
Min	0	0	0.1	0.1	0.1	14	3.6	0.5	0.3	0.1	0	0
Ac-ft	0	2.4	7.1	6.9	14930	6140	391	83	45	18	3.0	0

Calendar year 1961: Max 13 Min 0 Mean 1.12 Ac-ft 810  
Water year 1961-62: Max 1950 Min 0 Mean 299 Ac-ft 21630

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0830	5.20	1,450	3-6	1800	5.23	1,610
2-15	0700	6.05	2,590				

\* Discharge measurement or observation of no flow made on this day.  
e Stage-discharge relation indefinite.



## ALAMEDA CREEK BASIN

339

11-1766. Arroyo Valle at Pleasanton, Calif.

Location.--Lat 37°40'02", long 121°53'02", in Valle de San Jose Grant, on right bank 0.4 mile northwest of Pleasanton, Alameda County, and 5.8 miles west of Livermore.

Drainage area.--171 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map).

Average discharge.--5 years, 32.0 cfs (23,170 acre-ft per year).

Extremes.--Maximum discharge during year, 2,180 cfs Feb. 15 (gage height, 14.90 ft); no flow Oct. 1 to Feb. 9, Mar. 30 to Sept. 30. 1957-62: Maximum discharge, 11,300 cfs Apr. 3, 1958 (gage height, 25.36 ft); no flow for several months in each year.

Remarks.--Records good. Pumping for irrigation above station during periods of low flow.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10 to Feb. 16)

5.6	0	6.3	22
5.7	.7	6.6	49
5.8	2.0	7.0	109
5.9	4.0	8.0	328
6.0	7.0	10.0	880
6.1	11	13.0	1,820

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	19						
2					0	20						
3					0	49	(*)					
4	(*)				0	45						
5					0	38						
6					0	* 671						
7					0	880						
8					0	* 322		(*)				
9					0	182						
10					* 67	122				(*)		
11					* 476	85						
12					258	65						
13					111	50						
14					423	41						
15		(*)	(*)	(*)	* 1,540	* 31						
16					* 1,640	24						
17					601	20	(*)					
18					261	16						
19					247	16						
20					* 186	13						
21					122	9.0		(*)				
22					88	10						
23					62	11						
24					51	14						
25					40	10						
26					32	* 9.4						
27					* 26	5.8						
28					21	2.8						
29					-	.6						
30					-----	0					(*)	
31					-----	0	-----					-----
Total	0	0	0	0	6,252	2,781.6	0	0	0	0	0	0
Mean	0	0	0	0	223	89.7	0	0	0	0	0	0
Max	0	0	0	0	1,640	880	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	0	12,400	5,520	0	0	0	0	0	0
Calendar year 1961: Max	0	0	0	0	0	0	0	0	0	0	0	0
Water year 1961-62: Max	1,640	0	0	0	0	24.7	17,920	0	0	0	0	0

Peak discharge (base, 200 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	0300	9.12	523	3-6	2200	12.34	1,610
2-15	1030	14.90	2,180				

11-1790. Alameda Creek near Niles, Calif.

Location.--Lat 37°35'14", long 121°57'35", in NW $\frac{1}{4}$  sec.15, T.4 S., R.1 W., on right bank 0.3 mile downstream from railroad bridge and 1.2 miles northeast of Niles.

Drainage area.--633 sq mi.

Records available.--January 1891 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Niles Dam" 1891-1900, and as "at Sunol Glen" 1901-21.

Gage.--Water-stage recorder and concrete control. Datum of gage is 85.65 ft above mean sea level, datum of 1929. Prior to 1901, staff gage at site 1 mile upstream at different datum. 1901 to Sept. 30, 1916, staff gage to 1914 and water-stage recorder thereafter at site 4.5 miles upstream at different datum. Oct. 1, 1916, to Dec. 17, 1923, at site 800 ft upstream at different datum.

Average discharge.--71 years, 123 cfs (89,050 acre-ft per year).

Extremes.--Maximum discharge during year, 3,340 cfs Feb. 15 (gage height, 6.96 ft); no flow Oct. 1 to Dec. 31. 1891-1962: Maximum discharge, 29,000 cfs Dec. 23, 1955 (gage height, 14.9 ft); no flow at times.

Remarks.--Records good. Flow regulated by Calaveras Reservoir (usable capacity, 96,800 acre-ft, most of which is diverted for San Francisco water supply) beginning in 1916 although dam not completed until 1925. Other diversions from ground water basin for irrigation of 9,000 acres above station.

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

Oct. 1 to July 31

Aug. 1 to Sept. 30

1.87	0	2.5	5.6	3.7	180	2.1	0.7	2.6	8.5
2.0	.2	2.6	8.0	4.0	300	2.2	1.5	2.8	16
2.1	.6	2.8	16	4.5	600	2.3	2.5	3.0	33
2.2	1.4	3.0	33	5.0	980	2.4	4.0	3.2	58
2.3	2.3	3.2	58	6.0	1,980	2.5	6.0		
2.4	3.6	3.4	96	7.0	3,400				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0.1	1.0	3.5	6.1	9.8	8.0	2.8	*12	11
2				.2	1.0	9.9	5.4	9.8	8.0	3.8	12	34
3				.2	.9	9.4	4.8	9.4	7.5	1.9	13	40
4	(*)			.4	.8	7.5	4.4	9.4	7.5	1.4	13	40
5				.2	.8	5.5	4.4	9.0	7.5	3.2	3.6	18
6				.3	.8	1.090	4.2	9.0	7.5	1.9	4.0	*4.6
7				.3	1.3	1.380	4.4	9.0	7.5	1.3	1.9	9.1
8				.1	1.8	9.32	4.0	9.0	7.8	3.5	1.5	12
9				.1	4.8	2.87	4.8	9.0	8.0	3.8	1.2	32
10				.1	1.66	1.84	3.5	9.0	7.0	1.9	1.2	37
11				.1	5.80	1.91	3.5	9.0	7.3	1.3	1.3	16
12				.1	4.07	.96	3.5	9.0	7.3	1.1	3.2	4.0
13				.3	3.54	.73	3.1	8.7	7.0	1.3	4.1	9.0
14				.4	6.98	.60	2.8	8.7	6.8	1.0	1.8	12
15		(*)	(*)	.2	2.370	.45	2.7	8.7	8.6	3.0	4.8	11
16				.4	*2.350	.36	*2.3	8.7	1.6	3.7	2.2	32
17				.3	9.61	.30	2.7	8.7	1.6	1.9	1.3	3.6
18				.2	5.43	.25	2.8	8.7	2.7	1.2	2.3	1.5
19				.4	6.45	.22	3.6	8.4	2.5	9.4	3.0	4.2
20				1.8	2.96	*.23	3.6	7.8	1.4	1.1	3.8	1.0
21				9.0	1.74	.18	2.3	*7.8	1.3	1.1	1.6	1.1
22				3.8	1.20	.23	2.2	7.8	1.0	3.1	4.2	1.2
23				2.7	.86	.26	2.6	7.8	8.4	3.6	8.6	3.2
24				1.6	.72	.22	6.1	7.8	1.0	1.8	9.8	3.4
25				1.2	.55	.20	9.4	7.8	*.25	1.3	1.0	1.7
26				1.0	.44	.15	9.0	8.7	1.7	1.3	2.8	4.2
27				1.1	.34	.14	9.4	9.0	7.7	1.2	2.9	9.6
28				1.1	.27	.11	9.8	8.4	9.1	1.1	1.5	1.2
29				.8	-	.90	9.8	8.4	1.2	3.2	5.9	1.2
30				.7	-----	7.3	9.8	8.4	1.2	4.1	1.1	3.0
31				.8	-----	6.8	-----	8.4	-----	1.9	1.2	-----
Total	0	0	0	30.0	9.995.2	5.004.1	147.0	269.1	335.5	657.4	516.1	560.7
Mean	0	0	0	0.97	357	161	4.90	8.68	11.2	21.2	16.6	18.7
Max	0	0	0	9.0	2,370	1,380	9.8	9.8	27	41	41	40
Min	0	0	0	0.1	0.8	6.8	2.2	7.8	6.8	9.4	1.3	4.0
Ac-ft	0	0	0	60	19,830	9,930	292	534	665	1,300	1,020	1,110

Calendar year 1961: Max 8.7 Min 0 Mean 0.68 Ac-ft 490  
 Water year 1961-62: Max 2,370 Min 0 Mean 48.0 Ac-ft 34,740

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

11-1805. Dry Creek at Union City, Calif.

Location.--Lat 37°36'22", long 122°01'22", in Arroyo de la Alameda Grant, on right bank 900 ft downstream from bridge on State Highway 9 in Decoto District in Union City, Alameda County, and 1.7 miles upstream from mouth.

Drainage area.--9.41 sq mi.

Records available.--October 1916 to September 1919 (published as "near Decoto"), April 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 80 ft (from topographic map). Prior to Apr. 1, 1959, at site 1.4 miles downstream at different datum.

Average discharge.--6 years, 0.90 cfs (652 acre-ft per year).

Extremes.--Maximum discharge during year, 296 cfs Feb. 14 (gage height, 3.50 ft); no flow most of year.

1916-19, 1959-62: Maximum discharge, 480 cfs Feb. 10, 1919 (gage height, 7.1 ft, site and datum then in use); no flow most of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 30 to Apr. 1)

1.1	0	1.8	5.6
1.2	.1	1.9	8.6
1.3	.3	2.0	13
1.4	.6	2.2	28
1.5	1.1	2.4	49
1.6	2.0	2.7	95
1.7	3.6		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0	0	6.4	0.5					
2		0	.1	0	0	15	.5					
3		0	0	0	0	8.0	.5					
4	(*)	0	0	0	0	6.2	.4					
5		0	0	0	0	15	.4					
6		0	0	0	0	25	.4				(*)	
7		0	0	0	0	14	.3					
8		0	0	0	0	9.9	.3					
9		0	0	0	.6	7.7	.3					
10		0	0	0	2.3	5.6	.3			(*)		
11		0	* 0	0	1.0	5.0	.3					
12		0	0	0	.5	4.0	.2					
13		0	0	0	36	3.3	.2					
14		0	0	0	92	2.6	.1					
15		* 0	0	* 0	* 57	2.3	.1					
16		0	0	0	44	2.0	* .1					
17		0	0	0	20	1.7	0					
18		0	0	0	47	1.6	0					
19		0	0	.1	28	1.4	.1					
20		.2	0	0	13	1.4	.1					
21		0	0	0	* 7.7	1.1	.1	(*)				
22		0	0	0	6.2	3.6	.1					
23		0	0	0	4.4	2.0	0					
24		0	0	* 0	6.3	1.3	0					
25		.1	0	0	3.8	1.0	0					
26		0	0	0	3.1	.9	0					
27		0	0	0	2.2	.8	.1					
28		0	0	0	2.2	.7	.1					
29		.1	0	0	-	.6	.1				(*)	
30		0	0	0	-----	.6	0					
31		-----	0	0	-----	.5	-----					
Total	0	0.4	0.2	0.1	377.3	151.2	5.6	0	0	0	0	0
Mean	0	0.01	0.006	0.003	13.5	4.88	0.19	0	0	0	0	0
Max	0	0.2	0.1	0.1	92	25	0.5	0	0	0	0	0
Min	0	0	0	0	0	0.5	0	0	0	0	0	0
Ac-ft	0	0.8	0.4	0.2	748	300	1.1	0	0	0	0	0

Calendar year 1961: Max 0.6 Min 0 Mean 0.01 Ac-ft 7.8  
Water year 1961-62: Max 9.2 Min 0 Mean 1.47 Ac-ft 1,060

Peak discharge (base, 10 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-14	2000	3.50	296	3-2	0800	2.34	42
2-18	1800	3.10	185	3-5	2100	2.55	70

## ALAMEDA CREEK BASIN

11-1807. Patterson Creek at Union City, Calif.

Location.--Lat 37°35'03", long 122°02'56", in Portero de Los Cerritos Grant, on right bank 75 ft upstream from bridge on State Highway 17 (Nimitz Freeway), 0.3 mile below effluence, and 1.9 miles southeast of Alvarado District in Union City, Alameda County.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4.90 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 3,030 cfs Feb. 15 (gage height, 12.66 ft); no flow most of year.  
1958-62: Maximum discharge, 3,700 cfs Feb. 16, 1959 (gage height, 13.55 ft); no flow for most of each year.

Remarks.--Records good above 100 cfs and fair below. This stream is a distributary of Alameda Creek (see Remarks for Alameda Creek near Niles).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 26-28, Mar. 14-17)

4.1	0	4.7	4.6	7.0	294
4.2	.1	4.8	8.0	8.0	565
4.3	.3	5.0	17	9.0	940
4.4	.7	5.5	55	10.0	1,420
4.5	1.4	6.0	112	12.0	2,570
4.6	2.6	6.5	190		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1					0	5.6						
2					0	23						
3					0	13						
4	(*)				0	23						
5					0	14						
6					0	683						
7					0	*1,380						
8					0	538						
9					0	235						
10					0	137				(*)		
11			(*)		131	83						
12					*138	50						
13					174	26						
14					631	.6						
15		(*)		(*)	2,150	.1						
16					*2,340	*0	(*)					
17					970	0						
18					468	0						
19					*590	0						
20					288	0						
21					143	0		(*)				
22					85	0						
23					49	0						
24					29	0						
25					8.9	0						
26					2.2	0						
27					7.5	0						
28					*.2	0						
29					-----	0						
30					-----	0					(*)	
31					-----	0						-----
TOTAL	0	0	0	0	8,204.8	3,211.3	0	0	0	0	0	0
MEAN	0	0	0	0	293	104	0	0	0	0	0	0
MAX	0	0	0	0	2,340	1,380	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	16,270	6,370	0	0	0	0	0	0

CALENDAR YEAR 1961: MAX 0 MIN 0 MEAN 0 AC-FT 0  
WATER YEAR 1961-62: MAX 2,340 MIN 0 MEAN 31.3 AC-FT 22,640

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

## ALAMEDA CREEK BASIN

343

11-1807.5. Alameda Creek at Union City, Calif.

Location.--Lat 37°35'46", long 122°03'15", in Arroyo de la Alameda Grant, on left bank 5 ft downstream from bridge on Baker Road, 1 mile downstream from Dry Creek, and 1.4 miles east of Alvarado District in Union City, Alameda County.

Drainage area.--654 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Alameda County Flood Control and Water Conservation District).

Extremes.--Maximum discharge during year, 394 cfs Feb. 15 (gage height, 13.08 ft); no flow for most of year.  
1958-62: Maximum discharge, that of Feb. 15, 1962; no flow for most of each year.

Remarks.--Records fair. For total flow in Alameda Creek, add flow of Patterson Creek at Union City (see Remarks for Alameda Creek near Niles). Diversion of 3,050 acre-ft to percolation ponds during the year between stations near Niles and at Union City.

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

Feb. 15.....	*222	Mar. 6.....	19
16.....	*283	7.....	*98
17.....	*33	8.....	.2
19.....	*.1		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1962.....	538.1	283	0	19.2	1,070
March.....	117.2	98	0	3.78	232
Calendar year 1961.....	-	0	0	0	0
Water year 1961-62.....	-	283	0	1.80	1,300

\* Discharge measurement made on this day.

Note.--Flow occurred only on days listed above. Observations of no flow generally made once a month.

## SAN LORENZO CREEK BASIN

11-1810. San Lorenzo Creek at Hayward, Calif.

Location.--Lat 37°41'11", long 122°03'44", in San Lorenzo Grant, on right bank at bridge on B Street, just outside city limits of Hayward, Alameda County, 0.5 mile downstream from Crow Creek.

Drainage area.--37.5 sq mi.

Records available.--October 1939 to September 1940, October 1946 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control (control ineffective since 1952 due to gravel fill). Datum of gage is 133.16 ft above mean sea level, datum of 1929. January to September 1940 wire-weight gage on bridge at present site and datum.

Average discharge.--17 years, 13.8 cfs (9,990 acre-ft per year); median of yearly mean discharges, 5.2 cfs (3,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,030 cfs Feb. 15 (gage height, 8.17 ft); no flow Oct. 1 to Nov. 18, July 16 to Sept. 30. 1939-40, 1946-62: Maximum discharge, 5,100 cfs Apr. 2, 1958 (gage height, 17.45 ft), from rating curve extended above 1,400 cfs on the basis of records for nearby streams; maximum gage height, 20.82 ft, from floodmarks, Dec. 22, 1955; no flow at times each year.

Flood of Jan. 24, 1942, reached a stage of 15.7 ft, from floodmarks (discharge, about 4,200 cfs).

Remarks.--Records good except those for period of no gage-height record, which are poor. A few very small diversions above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 19 to Feb. 13, May 28 to July 5)

4.1	0	4.5	3.3	5.5	104
4.2	.1	4.6	7.2	6.0	204
4.3	.4	4.8	19	7.0	535
4.4	1.2	5.1	46		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	7.4	0.1	0.3	21	8.9	2.9	1.1	0.2		
2		0	19	.1	.3	62	8.9	*2.9	1.1	.3		
3		0	.7	.1	.3	24	8.4	2.7	1.0	.2		
4		0	.2	.1	.3	20	8.4	2.5	1.0	.1		
5	(*)	0	.1	.1	.3	69	7.8	2.5	.9	.1		(*)
6		0	.1	.1	.6	*119	7.8	2.3	*.9	.1	(*)	
7		0	.1	.1	3.7	56	7.2	2.0	.9	.1		
8		0	.1	.1	2.5	42	6.8	1.8	.8	.1		
9		0	.1	.1	.99	34	6.4	2.0	.8	.1		
10		0	.1	.1	*69	27	6.0	2.0	.9	.1		
11		0	.1	.1	26	25	5.6	1.8	.8	.1		
12		0	.2	.9	18	21	5.6	1.8	.9	.1		
13		*0	.1	.2	231	19	5.3	1.8	1.0	.1		
14		0	.1	.1	261	18	5.3	1.8	.9	.1		
15		0	.1	.1	*351	17	5.3	1.8	.7	.1		
16		0	.1	*.1	*174	*15	4.9	1.8	.6	0		
17		0	.1	.1	75	14	*4.5	1.6	.6	0		
18		0	.1	.1	275	12	4.5	1.6	.4	0		
19		.8	.1	7.1	*138	12	5.3	1.6	.3	0		
20		2.9	.1	*21	58	12	4.9	1.6	.3	0		
21		.1	.1	1.8	40	10	4.1	1.6	.2	0		
22		.1	.1	.9	31	38	3.7	*1.6	.1	0		
23		.1	.1	*.5	25	15	3.1	2.0	.1	0		
24		.1	.1	.5	28	12	2.7	1.8	.2	0		
25		2.9	.1	.4	21	11	3.1	1.8	.3	0		
26		1.0	.1	.4	17	11	3.1	1.8	.3	0		
27		.1	.1	.3	15	10	4.5	1.8	.3	0		
28		.1	.1	.3	*15	10	5.6	1.8	.3	0		
29		5.7	.1	.3	-----	9.5	3.3	1.8	.2	0		
30		11	.1	.3	-----	8.9	3.1	1.8	.3	0		
31		-----	.1	.3	-----	8.4	-----	1.6	-----	0		-----
TOTAL	0	24.9	30.1	36.8	1,975.3	782.8	164.1	60.2	18.2	1.9	0	0
MEAN	0	0.83	0.97	1.19	70.5	25.3	5.47	1.94	0.61	0.06	0	0
MAX	0	11	19	21	351	119	8.9	2.9	1.1	0.3	0	0
MIN	0	0	0.1	0.1	0.3	8.4	2.7	1.6	0.1	0	0	0
AC-FT	0	49	60	73	3,920	1,550	325	119	36	3.8	0	0

CALENDAR YEAR 1961: MAX 47 MIN 0 MEAN 1.11 AC-FT 797  
WATER YEAR 1961-62: MAX 351 MIN 0 MEAN 8.48 AC-FT 6,140

## Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1830	6.90	495	2-18	1900	7.75	843
2-15	0130	8.17	1,030	3- 5	2230	6.68	413

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

Note.--No gage-height July 6 to Aug. 6.

11-1820.3. Rheem Creek at San Pablo, Calif.

Location.--Lat 37°58'32", long 122°21'00", in San Pablo Grant, on left bank 0.6 mile downstream from San Pablo Avenue in San Pablo, Contra Costa County, and 0.9 mile upstream from mouth.

Drainage area.--1.35 sq mi.

Records available.--December 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 21.37 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 270 cfs Feb. 14 (gage height, 2.95 ft); no flow at times.

1960-62: Maximum discharge, 294 cfs (revised) Dec. 1, 1960 (gage height, 3.14 ft), from rating curve extended above 140 cfs on basis of slope-area measurements at gage heights 2.74 and 3.30 ft; no flow at times in each year.

Revisions.--The maximum discharge for the water year 1961 has been revised to 294 cfs Dec. 1, 1960 (gage height, 3.14 ft), superseding figure published in Basic Data Release.

Remarks.--Records fair. Continuous leakage and infrequent releases from off-stream North Reservoir affect flow.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 13)

0.0	0	0.4	10
.1	.3	.6	21
.2	1.8	1.0	52
.3	5.3		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	*18	0.1	0.1	0.8	0.1	0	0.1	0.1	0.1	0
2	0	.1	8.5	.1	.1	4.4	.1	.1	.1	.1	0	0
3	a.0	.1	a.2	.1	.1	.1	.1	0	.1	.1	.1	0
4	a.0	.1		.1	.1	.1	.1	0	.1	.1	.1	0
5	a.0	.1		.1	.1	17	0	0	.1	.1	.1	*0
6	*0	.1		.1	.2	23	0	.1	.1	.1	*.1	0
7	0	.1		.1	5.9	a.2	0	.1	*.1	.1	.1	0
8	0	.1		.1	.1	a.2	.1	.1	.1	.1	.1	0
9	0	.1		.1	*35	.2	0	.1	.1	.1	.3	0
10	0	.1	a.1	.1	.5	.2	.1	.1	.1	.1	0	0
11	0	.1		.1	.1	.1	.1	.1	.1	.1	0	0
12	0	.1		.5	6.3	.1	.1	.1	.1	.1	0	0
13	0	**1		.1	*37	.1	.1	.1	.1	.1	0	0
14	0	.1		.1	50	.1	.1	.1	.1	.1	0	0
15	0	.1		.1	5.7	.1	0	.1	.1	.1	0	0
16	0	0			9.4	*.1	.1	.1	.1	.1	0	0
17	.1	0		*.1	a.4	.1	.1	.1	.1	.1	0	0
18	0	.1	*.1	.1	5.0	.1	*.1	.1	.1	.1	0	0
19	0	2.8	.1	10	a.2	.1	.2	.1	.1	.1	0	0
20	0	14	.1	.2	a.2	.6	.1	.1	.1	.1	0	0
21	0	.1	.1	.1	.1	.1	.1	.1	0	.1	0	0
22	0	.1	.1	.1	.1	6.0	.1	.1	0	0	0	0
23	0	.2	.1	.1	.1	.1	.1	*.1	.1	.1	.1	0
24	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	0
25	.1	4.3	.1	.1	.1	.1	.1	.1	.1	0	.1	0
26	.1	.5	.1	.1	.1	.1	0	.1	.1	.1	0	0
27	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	0
28	.1	.1	.1	.1	.4	.1	.1	.1	.1	.1	.1	0
29	0	21	.1	.1	-	.1	.1	.1	.1	.1	0	.1
30	0	3.0	.1	.1	-----	.1	*.1	.1	.1	.1	0	0
31	0	-----	.1	.1	-----	.1	-----	.1	-----	0	.1	-----
Total	0.6	47.7	29.5	13.3	157.6	54.7	2.5	2.7	2.8	2.8	1.6	0.1
Mean	0.02	1.59	0.95	0.43	5.62	1.76	0.08	0.09	0.09	0.09	0.05	0.003
Max	0.1	21	18	10	50	23	0.2	0.1	0.1	0.1	0.3	0.1
Min	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0
Ac-ft	1.2	95	59	26	312	108	5.0	5.4	5.6	5.6	3.2	0.2

Calendar year 1961: Max 21 Min 0 Mean 0.89 Ac-ft 644  
Water year 1961-62: Max 50 Min 0 Mean 0.87 Ac-ft 626

Peak discharge (base, 90 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0430	1.56	103	2-9	0500	1.59	106
11-29	1200	1.62	109	2-14	1800	2.95	270
12-1	1200	1.53	100	3-6	0700	2.34	193

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

\*\* Field estimate made on this day.

a No gage-height record.

## PINOLE CREEK BASIN

11-1821. Pinole Creek at Pinole, Calif.

Location.--Lat 37°58'21", long 122°14'43", in Pinole Grant, on left bank 0.2 mile downstream from county bridge on Pinole Valley Road, 0.8 mile upstream from Pinole city boundary, Contra Costa County.

Drainage area.--10.0 sq mi.

Records available.--December 1938 to September 1962. Monthly discharge only for water years 1939-59, published in WSP 1735.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 170 ft (from topographic map).

Average discharge.--23 years (1939-62), 3.42 cfs (2,480 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,010 acre-ft per year).

Extremes.--Maximum discharge during year, 554 cfs Feb. 14 (gage height, 5.96 ft); no flow for several months.  
1938-62: Maximum discharge, 1,660 cfs Apr. 2, 1958 (gage height, 11.63 ft); no flow at times.

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

Cooperation.--Records furnished by East Bay Municipal Utility District and reviewed by Geological Survey.

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

0.8	0	1.6	2.6	2.6	49
1.0	.2	1.8	4.7	2.8	68
1.2	.6	2.0	9.8	3.0	96
1.4	1.3	2.3	26	4.0	259

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0	0	1.4	0.8	0.3	0.1			
2		0	.1	0	0	13	.8	.4	.1			
3		0	0	0	0	2.0	.7	.3	.1			
4		0	0	0	0	1.4	.7	.3	0			
5		0	0	0	0	59	.6	.2	0			
6		0	0	0	0	75	.6	.2	0			
7		0	0	0	.5	12	.6	.2	0			
8		0	0	0	.1	6.0	.5	.2	0			
9		0	0	0	80	4.2	.5	.3	0			
10		0	0	0	11	3.0	.5	.2	0			
11		0	0	0	3.4	2.6	.4	.2	0			
12		0	0	0	4.9	2.0	.4	.2	.1			
13		0	0	0	81	1.7	.4	.2	.1			
14		0	0	0	145	1.6	.4	.2	.1			
15		0	0	0	72	1.5	.4	.3	.1			
16		0	0	0	33	1.4	.4	.2	.1			
17		0	0	0	8.0	1.2	.4	.2	.1			
18		0	0	0	14	1.1	.4	.2	0			
19		0	0	.1	5.4	1.1	.6	.2	0			
20		0	0	1.0	3.6	1.3	.5	.2	0			
21		0	0	.1	2.3	1.1	.4	.1	0			
22		0	0	0	1.7	4.7	.4	.1	0			
23		0	0	0	1.3	1.6	.4	.1	0			
24		0	0	0	1.1	1.1	.4	.1	0			
25		0	0	0	1.0	1.1	.4	.1	0			
26		0	0	0	.8	1.0	.4	.2	0			
27		0	0	0	.6	1.0	.4	.2	0			
28		0	0	0	.7	.9	.6	.2	0			
29		.1	0	0	-	.8	.4	.2	0			
30		0	0	0	-----	.8	.4	.1	0			
31		-----	0	0	-----	.8	-----	.1	-----			
Total	0	0.1	0.2	1.2	471.2	207.4	14.8	6.2	0.9	0	0	0
Mean	0	0.003	0.006	0.04	16.8	6.69	0.49	0.20	0.03	0	0	0
Max	0	0.1	0.1	1.0	145	75	0.8	0.4	0.1	0	0	0
Min	0	0	0	0	0	0.8	0.4	0.1	0	0	0	0
Ac-ft	0	0.2	0.4	2.4	935	411	29	1.2	1.8	0	0	0

Calendar year 1961: Max 3.0 Min 0 Mean 0.08 Ac-ft 58  
Water year 1961-62: Max 145 Min 0 Mean 1.92 Ac-ft 1,390

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1600	4.50	344	3-2	0300	2.78	66
2-14	1930	5.96	554	3-5	1930	5.15	440
2-18	0900	2.63	51				



## PACHECO CREEK BASIN

347

11-1825. San Ramon Creek at San Ramon, Calif.

Location.--Lat 37°46'20", long 121°59'40", in sec.8, T.2 S., R.1 W., on right bank 0.2 mile downstream from Bollinger Creek and 1.0 mile southwest of San Ramon.

Drainage area.--5.89 sq mi.

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder, tipping-bucket rain gage, and concrete control. Altitude of gage is 530 ft (from topographic map).

Average discharge.--10 years, 2.46 cfs (1,780 acre-ft per year); median of mean annual discharges, 1.0 cfs (720 acre-ft per year).

Extremes.--Maximum discharge during year, 343 cfs Feb. 14 (gage height, 5.32 ft), from rating curve extended above 80 cfs on basis of indirect measurement of peak flow through culvert at gage heights 12.3 and 16.98 ft; no flow for several months.

1952-62: Maximum discharge, 1,490 cfs Apr. 2, 1958 (gage height, 15.30 ft), from rating curve extended above 140 cfs on basis of computation of peak flow through culvert at gage height 14.2 ft; no flow for several months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 19 to Feb. 9, Mar. 5, 6,  
May 7 to June 30)

1.1	0	1.9	2.1	2.5	25
1.4	.1	2.0	3.4	3.0	61
1.5	.2	2.1	5.4	3.5	109
1.7	.8	2.2	9.0		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	0.2	0	0	4.0	2.8	0.9	0.4			
2		0	*1.5	0	0	11	2.9	*.9	.4			
3		0	0	0	0	4.4	2.8	.8	.4			
4		0	0	0	0	3.8	2.8	.8	.4			
5	(*)	0	0	0	0	13	2.5	.8	.3			(*)
6		0	0	0	0	*19	2.5	.8	*.3			
7		0	0	0	.6	7.6	2.2	.7	.2			
8		0	0	0	.1	5.2	2.2	.7	.2			
9		0	0	0	34	4.2	2.1	.7	.2			
10		0	0	0	*42	3.3	1.9	.7	.2	(*)		
11		0	0	0	13	3.3	1.8	.6	.3			
12		0	0	0	10	3.0	1.7	.6	.3			
13		*0	0	0	66	2.9	1.7	.6	.2			
14		0	0	0	*83	2.8	1.5	.6	.3			
15		*0	*0	0	*83	2.8	1.5	.6	.2			
16		0	0	*0	35	*2.8	1.5	.6	.2			
17		0	0	0	*17	2.6	*1.4	.6	.2			
18		0	0	0	31	2.5	1.5	.6	.1			
19		0	0	2.5	15	2.4	1.5	.6	.1			
20		0	0	*4.9	12	2.4	1.4	.5	.1			
21		0	0	.1	7.9	2.1	1.2	.5	0			
22		0	0	0	5.8	6.3	1.2	*.5	0			
23		0	0	0	5.0	2.6	1.1	.5	0			
24		0	0	0	5.2	2.5	1.1	.5	.1			
25		0	0	0	4.4	2.5	1.0	.5	0			
26		0	0	0	*4.2	2.5	1.0	.5	0			
27		0	0	0	3.4	2.5	1.2	.4	0			
28		0	0	0	3.4	2.6	1.2	.4	0			
29		0	0	0	-----	2.6	.9	.5	0			
30		.1	0	0	-----	2.8	.9	.4	0		(*)	
31		-----	0	0	-----	2.8	-----	.4	-----			-----
TOTAL	0	0.1	1.7	7.5	481.0	134.8	51.0	18.8	5.1	0	0	0
MEAN	0	0.003	0.05	0.24	17.2	4.35	1.70	0.61	0.17	0	0	0
MAX	0	0.1	1.5	4.9	83	19	2.9	0.9	0.4	0	0	0
MIN	0	0	0	0	0	2.1	0.9	0.4	0	0	0	0
AC-FT	0	0.2	3.4	15	954	267	101	37	10	0	0	0
(†)	0.3	3.7	1.8	2.2	11.2	3.2	0.6	0	0	0	0	0
CALENDAR YEAR	1961: MAX 3.2			MIN 0		MEAN 0.13		AC-FT 95				
WATER YEAR 1961-62:	MAX 83			MIN 0		MEAN 1.92		AC-FT 1,390				

Peak discharge (base, 100 cfs).--Feb. 9 (1700) 233 cfs (4.54 ft); Feb. 14 (1930) 343 cfs (5.32 ft).

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

† Precipitation, in inches.

11-1830. San Ramon Creek at Walnut Creek, Calif.

Location.--Lat 37°53'04", long 122°03'00", on boundary between Arroyo de Las Nueces y Bolbones and San Ramon Grants, on left bank 0.3 mile downstream from small tributary, 1.1 miles south of town of Walnut Creek, Contra Costa County, and 1.2 miles upstream from confluence with Las Trampas Creek.

Drainage area.--50.8 sq mi.

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Average discharge.--10 years, 12.0 cfs (8,690 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

Extremes.--Maximum discharge during year, 1,550 cfs Feb. 14 (gage height, 6.53 ft); no flow for many days.

1952-62: Maximum discharge, 6,890 cfs Dec. 23, 1955 (gage height, 14.55 ft), from rating curve extended above 570 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good except those above 100 cfs, which are poor. Pumping for irrigation above station during periods of low flow.

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

0.8	0	1.2	5.4	2.9	119
.9	.3	1.4	13	3.5	257
1.0	1.2	2.0	38	4.5	580
1.1	2.9	2.4	63		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	*12	0.4	0.5	6.8	3.3	0.8	0.9	0.3	0	0.1
2		0	*19	.3	.5	46	4.4	*.8	.9	.2	0	0
3		0	5.4	.3	.7	18	4.4	.8	.9	.3	0	0
4		0	2.4	.3	.7	15	4.2	1.0	.7	.3	0	*.2
5	(*)	0	1.2	.3	.6	85	3.9	1.0	.7	.3	0	.4
6		0	.7	.3	.7	190	3.9	.9	*.7	.2	*.5	.3
7		0	.6	.3	2.7	38	3.4	1.0	.7	.2	.3	.1
8		0	.5	.3	2.7	A22	2.7	.9	.7	.2	.1	.3
9		0	.3	.3	166	A14	2.9	1.0	.6	*.1	.1	0
10		0	.3	.3	*166	A10	2.9	.8	.6	.1	.1	.1
11		0	.3	.3	72	A8.1	2.9	.8	.7	.1	.1	.3
12		0	.3	.3	29	A7.1	2.9	.8	.7	.1	.2	.6
13		*0	.3	.5	309	A6.1	2.6	.9	.6	.1	.1	.3
14		0	.2	.7	*484	A5.7	2.2	1.0	.5	.1	.9	.1
15		0	.2	.5	514	A5.7	2.2	.9	.5	.1	.9	.3
16		0	.3	*.4	198	*5.4	2.0	.9	.4	.1	.4	0
17		0	.3	.4	*51	5.2	2.0	.8	.4	.1	.4	.1
18		0	*.2	.4	249	4.7	*1.9	.8	.3	.1	.3	.6
19		0	.2	2.8	116	4.2	1.9	.8	.3	.1	.3	.1
20		0	.7	18	61	3.4	1.7	.8	.2	.1	.4	.1
21		.2	.8	8.8	44	3.2	1.7	.7	.3	.1	.3	.1
22		.4	.7	3.7	A22	6.7	1.5	.9	.3	.1	.4	.1
23		.3	.7	2.0	A13	11	1.7	*1.0	.3	.2	.6	0
24		.3	.5	1.1	A11	8.8	1.7	1.0	.3	.2	.6	0
25		.7	.5	.7	A8.8	7.1	1.3	1.1	.3	.1	.3	0
26		.7	.3	.7	*8.1	5.4	1.2	1.0	.3	.3	.1	0
27		.2	.3	.6	7.1	4.4	1.3	1.2	.2	.2	0	0
28		.2	.3	.6	6.4	4.2	1.5	1.1	.2	.1	.3	0
29		.7	.4	.6	-----	3.9	1.1	1.0	.2	0	.8	0
30		8.5	.4	.5	-----	3.7	.9	1.1	.3	0	.8	0
31		-----	.4	.6	-----	3.7	-----	1.0	-----	.1	.1	-----
TOTAL	0	12.2	50.7	47.4	2,544.5	562.5	72.2	28.6	14.7	4.6	9.4	4.2
MEAN	0	0.41	1.64	1.53	90.9	18.1	2.41	0.92	0.49	0.15	0.30	0.14
MAX	0	8.5	19	18	514	190	4.4	1.2	0.9	0.3	0.9	0.6
MIN	0	0	0.2	0.3	0.5	3.2	0.9	0.7	0.2	0	0	0
AC-FT	0	24	101	94	5,050	1,120	143	57	29	9.1	19	8.3

CALENDAR YEAR 1961: MAX 21 MIN 0 MEAN 0.90 AC-FT 654

WATER YEAR 1961-62: MAX 514 MIN 0 MEAN 9.18 AC-FT 6,650

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-14	2330	6.53	1,550	3-5	2400	4.54	594
2-18	2130	5.10	810				

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

A No gage-height record.

11-1835. Walnut Creek at Walnut Creek, Calif.

Location.--Lat 37°54'21", long 122°03'22", in Arroyo de las Nueces y Bolbones Grant, on right bank at Southern Pacific Railroad bridge at town of Walnut Creek, Contra Costa County, 0.7 mile downstream from confluence of San Ramon and Las Trampas Creeks.

Drainage area.--79.2 sq mi.

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 120 ft (from topographic map). Prior to June 20, 1957, at site 0.6 mile upstream at different datum.

Average discharge.--10 years, 24.8 cfs (17,950 acre-ft per year); median of yearly mean discharges, 7.5 cfs (5,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,200 cfs Feb. 14 (gage height, 7.55 ft); minimum, 0.1 cfs Sept. 26, 28-30.

1952-62: Maximum discharge, 12,200 cfs Apr. 2, 1958 (gage height, 20.2 ft); no flow July 29 to Nov. 7, 1954, part of July 10, 1957.

Remarks.--Records good. Flow slightly regulated by storage in Lafayette Reservoir. Some small diversions for irrigation above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 5-26)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

1.6	0.4	2.7	34	1.3	0	2.2	11
1.7	.5	3.0	67	1.4	.2	2.4	23
1.8	.8	3.3	120	1.5	.5	2.7	47
1.9	1.6	3.6	192	1.6	1.0	3.0	83
2.0	3.0	4.0	340	1.7	1.6	3.5	181
2.1	5.0	4.5	665	1.8	2.4	4.0	355
2.3	11	5.0	1,170	1.9	3.4	4.5	665
2.5	20			2.0	5.0	5.0	1,170

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.5	1.4	*96	4.2	1.5	28	10	5.0	4.7	1.8	1.0	1.7
2	.5	.8	*98	3.8	1.5	142	12	5.0	3.1	1.4	1.0	1.2
3	1.0	.7	12	3.4	1.6	38	11	4.8	2.8	2.3	.9	1.2
4	.7	.6	6.1	3.6	3.0	24	15	5.0	2.9	2.1	1.3	*.9
5	*.5	.6	4.0	3.0	2.6	196	14	4.2	2.8	1.5	.7	1.8
6	.4	.6	2.7	2.6	3.0	304	12	4.4	2.6	1.6	*1.4	1.8
7	.6	.6	2.9	3.2	38	81	14	4.5	*2.6	1.6	1.4	1.5
8	.6	1.3	2.6	3.6	11	53	9.7	4.5	2.2	1.4	2.2	1.1
9	.5	1.2	2.2	3.6	670	42	8.4	4.0	2.1	*2.0	1.7	.4
10	1.1	.8	2.4	3.6	*261	33	7.8	3.7	2.2	2.0	1.5	.4
11	1.2	.7	2.3	2.8	92	28	8.4	4.8	2.4	1.3	1.3	.4
12	1.2	.9	2.0	3.2	58	24	7.8	4.5	2.4	1.4	2.0	.7
13	1.0	*.7	A2.0	2.4	583	24	7.2	4.8	2.3	1.2	1.1	.7
14	1.0	1.5	A2.2	1.5	*1,030	22	7.2	5.3	2.2	1.7	1.6	.5
15	1.0	.9	A2.2	1.4	860	20	6.7	4.0	2.2	1.0	1.7	.4
16	1.4	.7	A2.2	*1.4	307	*19	6.1	4.2	2.2	1.0	2.1	.3
17	.7	.6	A3.4	1.4	95	17	7.5	4.2	1.8	1.6	1.5	.2
18	.5	1.4	*A3.4	2.5	339	15	*7.0	4.7	1.7	1.0	1.2	.7
19	.8	3.8	2.2	124	168	14	8.4	4.7	2.2	1.0	1.1	.4
20	.7	29	3.4	*102	103	14	6.7	4.7	1.5	1.3	2.0	.3
21	.5	1.4	5.8	15	67	14	8.4	4.8	1.4	.9	1.2	.3
22	1.1	1.4	3.4	7.5	43	69	8.4	5.3	1.5	.4	.9	.2
23	.7	1.4	2.7	4.2	34	26	8.4	*5.0	1.9	.8	1.2	.2
24	1.2	.9	2.4	3.6	29	22	7.8	5.0	1.7	1.4	1.8	.2
25	1.5	13	2.2	2.3	26	17	7.8	4.8	1.3	1.6	1.4	.2
26	.8	5.9	2.2	2.2	*22	17	7.2	4.7	5.2	1.3	.6	.1
27	2.4	2.0	2.3	2.7	18	14	14	4.7	1.8	1.0	.6	.2
28	1.5	.9	2.6	1.6	17	14	11	4.8	1.8	1.2	1.6	.1
29	.7	23	2.7	1.6	-----	14	4.8	4.4	1.5	1.4	1.8	.1
30	.7	107	2.7	1.5	-----	13	*5.0	4.5	2.0	3.8	1.6	.1
31	.7	-----	3.6	1.5	-----	12	-----	3.9	-----	2.0	1.2	-----
TOTAL	27.7	205.7	286.8	320.9	4,884.2	1,370	269.7	142.9	69.0	46.0	42.6	18.3
MEAN	0.89	6.86	9.25	10.4	174	44.2	8.99	4.61	2.30	1.48	1.37	0.61
MAX	2.4	107	98	124	1,030	304	15	5.3	5.2	3.8	2.2	1.8
MIN	0.4	0.6	2.0	1.4	1.5	12	4.8	3.7	1.3	0.4	0.6	0.1
AC-FT	55	408	559	636	9,690	2,720	535	283	137	91	84	36

CALENDAR YEAR 1961: MAX 107 MIN 0.4 MEAN 5.29 AC-FT 3,830  
WATER YEAR 1961-62: MAX 1,030 MIN 0.1 MEAN 21.1 AC-FT 15,240

Peak discharge (base, 600 cfs)

\* Discharge measurement made on this day.  
A No gage-height record.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	2030	4.44	617	2-14	2000	7.55	3,200
2- 9	1700	5.67	1,750	2-18	2100	4.82	962
2-13	1700	5.55	1,660	3- 5	2130	5.22	1 400

11-4560. Napa River near St. Helena, Calif.

Location.--Lat 38°29'40", long 122°25'50", in SE $\frac{1}{4}$  sec.32, T.8 N., R.5 W., on right bank 0.2 mile upstream from highway bridge, 1.3 miles northeast of Zinfandel, and 2.5 miles east of St. Helena.

Drainage area.--81.1 sq mi (revised).

Records available.--October 1929 to September 1932, October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 200 ft (from topographic map). Prior to Nov. 22, 1958, at datum 1.00 ft higher.

Average discharge.--26 years, 86.7 cfs (62,770 acre-ft per year); median of yearly mean discharges, 63 cfs (45,600 acre-ft per year).

Extremes.--Maximum discharge during year, 7,730 cfs Feb. 13 (gage height, 11.60 ft); no flow for several days.

1929-32, 1939-62: Maximum discharge, 12,600 cfs Dec. 22, 1955 (gage height, 16.17 ft, present datum); no flow at times in 1947-49, 1952-57, 1959-62.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Dec. 1, May 5 to June 3, Sept. 9-30)

Oct. 1 to Jan. 19

Jan. 20 to Sept. 30

0.1	0	1.0	17	0.3	0	0.9	8.2	3.0	300
.2	.6	1.2	28	.4	.4	1.0	12	3.5	460
.3	1.4	1.5	55	.5	1.1	1.2	22	4.0	675
.4	2.5	2.0	120	.6	2.2	1.6	52	5.0	1,200
.6	5.5	2.5	225	.7	3.6	2.0	91	6.0	1,870
.8	10	3.0	360	.8	5.5	2.5	178	8.0	3,600

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	* 352	9.1	12	568	54	* 17	* 5.1	1.2	0.9	0
2	.5	.5	225	8.6	11	787	52	15	4.7	1.1	1.0	0
3	.5	.5	91	8.6	11	366	49	15	4.1	1.6	1.0	.1
4	* .2	.5	37	8.4	11	270	46	14	3.9	1.4	.8	0
5	.1	.5	21	8.2	10	553	43	13	3.9	1.1	.8	.1
6	.1	.4	15	8.2	13	1,070	41	13	3.8	1.3	.9	.4
7	0	.4	12	8.2	73	580	40	13	3.6	1.1	1.0	.3
8	0	.4	10	* 8.2	189	363	38	13	3.6	1.2	1.1	.1
9	0	.4	9.3	8.4	1,010	280	38	13	3.6	1.2	1.2	0
10	.2	.4	8.6	8.2	380	222	36	13	3.3	1.2	1.4	.1
11	.4	.5	8.2	8.2	182	182	35	12	3.2	1.2	1.1	* .1
12	.5	.5	7.9	8.6	354	154	34	11	3.0	1.3	.4	.1
13	.7	* .5	7.7	9.1	* 3,230	131	33	11	2.9	1.2	.8	0
14	.6	.5	7.7	8.4	* 2,240	114	32	11	* 2.7	1.4	.3	.1
15	.4	.6	7.7	8.2	2,550	101	32	11	2.6	1.1	.1	.2
16	.5	.8	7.5	8.4	1,000	104	31	9.4	2.3	1.3	.1	.1
17	.2	.8	8.6	8.4	468	89	30	9.4	2.3	1.2	.6	0
18	.1	.8	9.1	8.6	580	82	29	9.1	2.2	.9	.5	.1
19	.1	.9	* 12	229	436	78	30	8.8	2.2	1.2	.4	0
20	.1	1.1	18	* 290	327	75	28	8.5	2.3	1.0	.8	0
21	.1	.9	57	73	278	* 69	27	8.2	2.3	1.0	.9	0
22	0	3.5	30	43	205	204	25	8.2	2.3	1.0	.6	0
23	0	6.6	20	32	156	104	23	7.9	2.3	.8	.8	0
24	.1	7.5	16	28	129	90	22	7.6	2.2	.8	.2	0
25	.1	13	13	23	110	84	21	7.0	2.0	.8	.1	0
26	.2	22	12	20	97	79	19	8.2	1.9	* .8	.3	0
27	.1	16	11	18	88	74	20	7.3	1.6	1.0	.1	0
28	.1	12	10	16	104	69	25	6.4	1.4	.8	0	0
29	.3	13	9.8	15	-	64	20	6.0	1.2	1.2	0	0
30	.4	25	9.5	14	-----	60	18	5.5	1.2	1.1	0	.1
31	.4	-----	9.3	* 13	-----	56	-----	5.3	-----	.8	0	-----
Total	7.1	131.0	1,072.9	966.0	14,254	7,122	971	317.8	83.7	34.3	18.2	1.9
Mean	0.23	4.37	34.6	31.2	509	230	32.4	10.3	2.79	1.11	0.59	0.06
Max	0.7	25	352	290	3,230	1,070	54	17	5.1	1.6	1.4	0.4
Min	0	0.4	7.5	8.2	10	56	18	5.3	1.2	0.8	0	0
Ac-ft	14	260	2,130	1,920	28,270	14,130	1,930	630	166	68	36	3.8

Calendar year 1961: Max 1,020 Min 0 Mean 38.3 Ac-ft 27,710  
Water year 1961-62: Max 3,230 Min 0 Mean 68.4 Ac-ft 49,560

Peak discharge (base, 2,300 cfs).--Feb. 13 (1300) 7,730 cfs (11.60 ft).

\* Discharge measurement made on this day.

11-4560. Napa River near St. Helena, Calif.--Continued

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

Extremes.--Maximum temperature during year, 79°F June 19-21; minimum, 41°F Jan. 22.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	54	52	53	52	48	48	51	49	50	49	62	60	68	60	75	65	76	69	74	70	71	69
2	-	-	54	53	52	52	49	48	51	49	51	50	62	60	70	62	72	63	76	69	74	71	71	69
3	-	-	54	53	53	52	50	49	51	49	50	49	63	59	69	62	73	61	73	67	73	70	70	69
4	-	-	54	53	52	51	50	49	50	50	51	50	66	59	70	62	73	60	75	68	74	72	70	69
5	59	57	53	52	51	51	49	48	51	50	51	51	67	59	70	61	74	62	77	68	73	71	69	68
6	58	57	52	51	51	50	49	49	51	51	51	50	69	60	70	63	74	63	75	68	73	71	70	68
7	58	52	52	52	50	48	50	49	52	51	51	50	69	61	73	63	75	64	75	68	73	71	69	68
8	53	51	52	52	49	49	52	50	53	52	53	50	68	61	65	62	74	64	74	69	72	71	69	68
9	54	51	52	52	49	47	52	50	53	53	52	50	67	59	67	62	74	65	75	69	73	71	69	68
10	56	54	53	52	48	47	52	51	53	53	51	50	67	58	66	60	73	63	74	68	74	71	68	67
11	59	56	53	53	47	46	51	49	54	53	53	51	69	59	67	59	73	64	74	68	74	72	68	66
12	59	58	53	52	46	46	49	49	54	54	54	50	70	62	69	59	72	64	73	68	74	71	68	66
13	58	58	53	51	46	46	49	47	54	53	55	50	71	63	66	60	70	65	74	69	75	72	68	66
14	58	58	51	50	47	46	47	46	53	53	54	51	70	64	64	60	71	64	74	70	74	70	68	67
15	59	58	50	50	47	47	46	46	53	53	55	52	70	62	67	59	74	64	77	70	75	70	69	67
16	59	58	50	49	47	47	46	46	54	53	54	52	69	61	70	58	74	65	75	70	75	71	69	67
17	59	58	49	46	49	47	46	46	53	53	54	52	70	61	70	63	76	66	75	71	75	73	68	66
18	58	58	47	46	49	49	47	46	53	53	59	52	66	62	71	63	78	67	75	71	74	71	67	66
19	58	58	48	47	50	49	49	47	53	53	58	52	64	61	70	61	79	68	75	71	74	72	67	65
20	58	56	48	48	52	50	49	46	53	52	56	55	66	57	70	59	79	68	75	70	75	73	66	65
21	56	53	48	47	52	50	46	44	53	51	58	54	69	59	73	61	79	69	76	72	75	73	65	65
22	53	51	50	47	50	47	44	41	54	52	57	54	70	61	71	63	77	69	76	72	74	73	65	65
23	52	50	51	50	49	48	45	42	53	52	58	52	70	62	71	63	75	68	76	72	74	72	65	64
24	52	51	53	51	48	48	46	43	53	51	59	52	69	61	70	61	75	68	76	72	74	72	65	64
25	54	52	53	52	49	48	46	44	51	50	60	53	68	59	70	62	76	67	77	73	74	71	65	65
26	56	54	53	53	49	49	47	46	51	47	63	56	68	58	68	64	76	68	75	72	74	71	66	65
27	56	54	53	52	49	49	49	46	51	46	63	56	64	61	72	64	76	67	75	72	74	70	65	64
28	54	52	52	51	49	49	49	47	50	48	63	59	65	57	71	66	76	68	75	72	72	69	64	64
29	52	50	52	51	49	49	49	48	-	-	64	59	66	57	74	66	76	69	74	71	72	70	64	64
30	50	50	52	52	49	49	51	49	-----	-----	64	57	68	58	75	64	75	69	74	71	71	69	64	63
31	52	51	-----	-----	49	48	51	49	-----	-----	64	58	-----	-----	76	65	-----	-----	74	71	71	69	-----	-----
Avg	-	-	52	51	49	49	48	47	52	51	56	52	67	60	70	62	75	66	75	70	74	71	67	66

11-4570. Dry Creek near Napa, Calif.

Location.--Lat 38°21'23", long 122°21'50", in Napa Grant, on right bank 3.7 miles upstream from mouth and 5.5 miles northwest of Napa, Napa County.

Drainage area.--17.4 sq mi.

Records available.--January 1951 to September 1962.

Gage.--Water-stage recorder. Concrete control since June 14, 1955. Altitude of gage is 190 ft (from topographic map). Prior to June 14, 1955, at site 350 ft downstream at different datum.

Average discharge.--11 years, 20.3 cfs (14,700 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,400 cfs Feb. 13 (gage height, 5.96 ft); no flow for many days.  
1951-62: Maximum discharge, 3,460 cfs Feb. 24, 1958 (gage height, 8.11 ft); no flow for many days in each year.

Remarks.--Records good. Several small diversions for irrigation above station. Occasional diversion around station through 6-inch pipe for domestic use on farm below station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 9-20, Dec. 23 to Jan. 13,  
Feb. 13-18, Mar. 5-7, June 16 to July 15)

2.1	0	3.0	25
2.2	.8	3.2	38
2.3	2.0	3.6	80
2.4	3.7	4.0	170
2.5	5.7	4.5	390
2.7	12	5.0	675

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

DAY	OCT.	NOV.	DÉC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	(*)	0	132	2.3	4.5	64	15	4.5	1.1	0.1		
2		0	*79	2.2	3.9	70	15	4.3	.9	0		
3		0	35	2.2	3.7	55	14	4.3	1.0	0		
4		0	17	2.0	3.5	50	13	3.9	1.1	0		
5		0	11	2.0	3.5	*114	12	3.7	1.1	0		
6		0	7.7	1.9	*3.7	304	11	3.3	1.0	.2		
7		0	6.0	1.9	27	184	10	3.1	1.0	.2		
8		0	5.1	1.9	33	120	10	*3.1	1.0	0		
9		0	4.1	1.7	212	91	9.5	3.1	.8	0		
10		0	3.3	1.6	79	68	8.8	2.9	.7	0		(*)
11		0	2.9	1.6	53	57	8.5	2.9	.6	.1		
12		0	2.5	2.0	80	50	7.7	2.9	.8	.2		
13		0	2.3	2.0	626	43	7.7	2.8	.8	.1		
14		*0	2.2	1.9	*529	39	7.4	2.8	*.7	.2		
15		0	2.0	1.9	557	35	7.1	2.6	.5	.1		
16		0	1.9	1.9	259	32	6.5	2.5	.5	0		
17		.1	2.9	1.9	145	29	6.3	2.3	.4	0		
18		.1	*2.9	2.0	153	27	6.0	2.3	.3	0		
19		.3	3.5	91	125	25	6.0	2.2	.3	0		
20		1.2	4.1	81	98	24	6.0	2.0	.3	0		
21		.7	8.2	31	79	22	5.5	1.9	.3	0		
22		.8	6.0	19	63	*41	5.3	1.7	.2	0		
23		1.0	4.7	14	52	27	5.1	1.7	.2	0		
24		1.0	3.9	11	46	24	5.1	1.7	.1	0		
25		1.4	3.5	9.2	41	23	4.9	1.7	.1	0		
26		1.6	3.1	7.9	37	21	4.9	1.7	.1	*0		
27		1.3	2.9	6.8	33	20	5.7	1.9	0	0		
28		1.3	2.5	6.0	35	19	6.0	1.7	0	0		
29		3.3	2.5	5.5	-----	18	5.1	1.7	.1	0		
30		13	2.5	5.1	-----	17	4.7	1.6	.1	0		
31		-----	2.3	4.7	-----	16	-----	1.3	-----	0		-----
TOTAL	0	27.1	369.5	327.1	3,384.8	1,729	239.8	80.1	16.1	1.2	0	0
MEAN	0	0.90	11.9	10.6	121	55.8	7.99	2.58	0.54	0.04	0	0
MAX	0	13	132	91	626	304	15	4.5	1.1	0.2	0	0
MIN	0	0	1.9	1.6	3.5	16	4.7	1.3	0	0	0	0
AC-FT	0	54	733	640	6,710	3,430	476	159	32	2.4	0	0

CALENDAR YEAR 1961: MAX 136 MIN 0 MEAN 6.70 AC-FT 4,840  
WATER YEAR 1961-62: MAX 626 MIN 0 MEAN 16.9 AC-FT 12,250

Peak discharge (base, 450 cfs).--Feb. 9 (0600) 472 cfs (4.65 ft); Feb. 13 (1200) 1,400 cfs (5.96 ft).

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

11-4580. Napa River near Napa, Calif.

Location.--Lat 38°22'06", long 122°18'08", in Yajome Grant, on left bank at downstream side of Oak Knoll Avenue bridge, 0.4 mile downstream from Dry Creek and 5 miles north of Napa, Napa County.

Drainage area.--218 sq mi.

Records available.--October 1929 to September 1932, October 1959 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (from topographic map).

Average discharge.--6 years, 95.8 cfs (69,360 acre-ft per year).

Extremes.--Maximum discharge during year, 9,090 cfs Feb. 15 (gage height, 20.26 ft); no flow for several months.

1929-32, 1959-62: Maximum discharge, 12,300 cfs Feb. 8, 1960 (gage height, 23.10 ft); no flow at times in each year.

Remarks.--Records good except those for period of no gage-height record, which are fair. Numerous diversions for irrigation above station. Flow slightly regulated by Lake Hennessey beginning in December 1945 (capacity, 31,000 acre-ft).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 4 to Feb. 7, Mar. 8-29, July 4-14)

3.9	0	4.5	9.0	7.0	412
4.0	.2	4.7	24	8.0	720
4.1	.5	5.0	54	11.0	2,070
4.2	1.0	5.5	122	14.0	3,700
4.3	2.2	6.0	202	17.0	5,900
4.4	4.7				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	691	10	32	770	120	*34	13	0.4		
2		0	725	10	31	1,370	114	33	10	.2		
3		0	270	9.7	29	657	108	33	9.0	.1		
4	(*)	0	106	9.0	29	462	101	30	8.1	.1		
5		0	55	8.6	28	808	96	28	5.6	0		
6		0	38	8.1	30	3,000	90	28	4.0	0		
7		0	29	8.1	111	2,000	86	27	4.2	.1		
8		0	24	7.7	233	1,260	a83	27	5.1	0		
9		0	18	7.3	1,870	918	a82	27	5.6	0		
10		0	15	6.9	1,050	682	a80	27	4.5	.1		(*)
11		0	13	6.9	507	540	a76	26	3.7	0		
12	(*)	0	11	8.1	554	446	a73	25	2.1	.1		
13		0	10	8.1	5,110	371	a71	23	2.7	0		
14		*0	9.7	7.7	*3,660	324	a70	23	*4.2	.1		(*)
15		0	9.0	7.3	5,690	288	a69	24	3.7	0		
16		0	8.6	7.3	2,450	272	a67	23	3.0	0		
17		0	9.7	7.3	1,220	244	a65	22	2.7	0		
18		0	13	7.3	1,330	218	a63	21	2.5	0		
19		0	*14	257	1,080	204	a63	20	1.6	0		
20		0	19	*845	752	195	a61	18	.9	0		
21		0	67	185	629	182	a58	18	.8	0		
22		0	58	109	468	*386	a54	18	1.6	0		
23		1.1	34	78	378	274	a50	18	1.0	0		
24		1.5	27	65	331	207	a47	18	.9	0		
25		3.2	21	56	298	190	a45	15	1.2	0		
26		14	18	49	272	180	a42	15	.9	*0		
27		15	15	43	252	171	a43	16	.6	0		
28		9.7	14	39	252	154	a52	15	.6	0		
29		15	13	37	-----	148	a44	15	.5	0		
30		46	13	34	-----	136	a38	14	.7	0		
31		-----	11	33	-----	127	-----	13	-----	0		-----
TOTAL	0	105.5	2,379.0	1,975.4	28,676	17,184	2,111	694	105.0	1.2	0	0
MEAN	0	3.52	76.7	63.7	1,024	554	70.4	22.4	3.50	0.04	0	0
MAX	0	46	725	845	5,690	3,000	120	34	13	0.4	0	0
MIN	0	0	8.6	6.9	28	127	38	13	0.5	0	0	0
AC-FT	0	209	4,720	3,920	56,880	34,080	4,190	1,380	208	2.4	0	0

CALENDAR YEAR 1961: MAX 1,600 MIN 0 MEAN 57.3 AC-FT 41,500  
WATER YEAR 1961-62: MAX 5,690 MIN 0 MEAN 146 AC-FT 105,600

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1300	12.68	2,910	3-6	0100	13.61	3,470
2-15	0200	20.26	9,090				

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

a No gage-height record.

## NAPA RIVER BASIN

11-4582. Redwood Creek near Napa, Calif.

Location.--Lat 38°19'05", long 122°20'35", in Napa Grant, on right bank 2.9 miles upstream from confluence with Browns Valley Creek and 3.4 miles northwest of Napa, Napa County.

Drainage area.--9.81 sq mi.

Records available.--July 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,120 cfs Feb. 13 (gage height, 8.83 ft, from recorded range in stage), from rating curve extended above 270 cfs on basis of slope-area measurement at gage height 8.60 ft; no flow for many days.  
1958-62: Maximum discharge, that of Feb. 13, 1962; no flow for many days in each year.

Remarks.--Records good except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor.  
Small storage and release affects summer flow.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 29 to Jan. 19, Apr. 25, 26,  
Apr. 30 to May 5)

1.6	0	2.5	10
1.7	.1	2.7	19
1.8	.3	3.0	36
1.9	.7	3.5	96
2.0	1.3	4.0	186
2.1	2.1	5.0	366
2.3	4.6		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	51	0.9	5.6	36	7.4	1.7	0.4			
2		0	* 37	.9	2.9	55	7.0	1.7	.4			
3		0	7.7	.8	2.5	28	6.5	1.6	.4			
4		0	3.3	.8	2.4	23	6.1	1.5	.4			
5		0	2.2	.8	2.4	* 81	5.7	1.4	.4			
6		0	1.8	.7	a 2.7	176	5.2	1.3	.3			
7		0	1.4	.7	a 1.4	83	5.0	1.2	.3			
8		0	1.2	.6	a 1.7	52	4.8	* 1.2	.3			
9		0	1.1	.6	a 1.05	43	4.6	1.2	.2			
10		0	.9	.6	a 4.0	38	4.2	1.1	.2			(*)
11		0	.8	.5	a 2.6	30	4.0	1.1	.1			
12	(*)	0	.8	.6	a 4.0	24	3.8	1.1	.1			
13		0	.7	.8	a 3.00	21	3.6	1.1	.1			
14		* 0	.6	.7	a 2.50	19	3.5	1.1	* .1			
15		0	.6	.6	a 2.70	18	3.3	1.0	.1			
16		0	.6	.6	100	16	3.1	1.0	.1			
17		0	1.5	.6	56	14	3.1	.9	.1			
18		0	* 1.5	.7	80	13	3.1	.9	.1			
19		0	2.4	1.31	60	12	3.1	.8	.1			
20		0	3.0	* 56	44	12	3.0	.8	.1			
21		0	5.2	16	35	11	2.8	.7	.1			
22		0	3.2	9.3	26	* 54	2.4	.7	.1			
23		0	2.3	7.0	21	21	2.3	.7	0			
24		0	1.9	6.1	18	16	2.2	.6	0			
25		0	1.6	5.2	16	14	1.9	.6	0			
26		0	1.4	4.5	13	12	1.9	.7	0	(*)		
27		0	1.3	4.0	12	11	2.4	.7	0			
28		0	1.2	3.8	12	10	3.1	.6	0			
29		.4	1.1	3.5	-	9.7	2.1	.6	0			
30		6.3	1.1	4.3	-----	9.0	1.9	.6	0			
31		-----	1.0	6.6	-----	8.0	-----	.5	-----			
Total	0	6.7	141.4	269.8	1573.5	969.7	113.1	30.7	4.5	0	0	0
Mean	0	0.22	4.56	8.70	56.2	31.3	3.77	0.99	0.15	0	0	0
Max	0	6.3	5.1	13.1	300	176	7.4	1.7	0.4	0	0	0
Min	0	0	0.6	0.5	2.4	8.0	1.9	0.5	0	0	0	0
Ac-ft	0	1.3	280	535	3,120	1,920	224	61	8.9	0	0	0

Calendar year 1961: Max 137 Min 0 Mean 3.21 Ac-ft 2,320  
Water year 1961-62: Max 300 Min 0 Mean 8.52 Ac-ft 6,160

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	1800	5.93	543	3-5	2000	4.87	343
2-13	unknown	8.83	1,120				

\* Discharge measurement made on this day.

a No gage-height record.

Note.--Stage-discharge relation indefinite May 6 to Sept. 30.



11-4585. Sonoma Creek at Boyes Hot Springs, Calif.

Location.--Lat 38°18'49", long 122°29'09", in Agua Caliente Grant, on left bank 10 ft downstream from county highway bridge at Boyes Hot Springs, Sonoma County, and 2.2 miles northwest of Sonoma.

Drainage area.--62.2 sq mi.

Records available.--February 1955 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 75 ft (from topographic map).

Average discharge.--7 years, 69.1 cfs (50,030 acre-ft per year).

Extremes.--Maximum discharge during year, 5,550 cfs Feb. 13 (gage height, 13.25 ft); no flow for many days.

1955-62: Maximum discharge, 8,880 cfs Dec. 22, 1955 (gage height, 17.10 ft), from rating curve extended above 4,100 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good except those for period of no gage-height record, which are fair. Some regulation during summer months at swimming pools above station.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	771	3.8	11	242	36	11	2.5	0.8	0.6	0.1
2		0	*397	3.8	10	270	36	10	2.1	.8	.6	.1
3		0	85	3.6	9.0	149	31	10	2.0	.8	.7	.2
4	(*)	0	40	3.6	8.6	122	31	9.0	2.0	.7	.7	.2
5		0	25	3.4	7.8	489	28	7.8	2.1	.7	.7	.1
6		0	17	3.4	11	*999	27	6.4	2.4	.7	.6	.2
7		0	12	3.4	*135	470	25	6.0	2.4	.7	.6	.3
8		0	9.0	3.2	116	*295	23	5.7	2.7	.7	.7	.3
9		0	7.1	2.7	975	213	23	6.4	3.2	.7	1.1	.1
10		0	6.4	2.5	273	165	20	7.4	3.2	.7	.8	*.1
11		0	4.7	2.4	140	138	19	7.4	3.2	.7	.6	.1
12		0	3.6	3.2	489	114	18	6.7	3.0	.6	.5	.1
13		*0	3.4	3.6	2,610	98	17	6.0	*2.8	.6	.3	.1
14		0	3.2	2.9	1,970	87	16	5.2	2.5	.6	.1	.1
15		*0	*3.0	2.5	*1,870	78	16	4.9	2.3	.6	.1	0
16		0	2.9	2.4	888	74	15	4.9	2.1	.6	.1	0
17	(*)	0	5.2	2.4	449	69	13	4.4	2.0	.5	.1	0
18		0	5.7	2.7	602	60	13	4.9	1.8	.5	.1	.1
19		0	13	598	358	55	15	5.4	1.7	.5	.1	0
20		.6	18	*403	260	*55	13	4.4	1.6	.5	0	0
21		1.1	34	91	215	50	13	4.2	1.5	.5	.1	0
22		1.0	17	57	170	167	13	3.6	1.4	.5	.1	0
23		1.1	11	45	140	83	11	3.6	1.3	.5	.1	0
24		1.2	8.2	37	116	64	11	3.6	1.2	.4	.1	0
25		3.6	7.1	31	100	98	11	3.6	1.1	.4	.1	0
26		4.0	5.7	26	89	54	10	3.6	1.0	.4	.1	0
27		1.6	5.2	22	78	50	13	4.4	.9	*.3	.1	0
28		1.1	4.7	20	89	47	19	3.8	.9	.5	.1	.2
29		4.4	4.4	18	-----	43	13	2.9	.8	.5	.1	0
30		16	4.2	16	-----	41	*11	2.9	.8	.4	.1	0
31		-----	4.0	*14	-----	37	-----	3.4	-----	.6	.1	-----
TOTAL	0	35.7	1,537.7	1,433.5	12,189.4	4,932	560	173.5	58.5	18.0	10.2	2.4
MEAN	0	1.19	49.6	46.2	435	159	18.7	5.60	1.95	0.58	0.33	0.08
MAX	0	16	771	598	2,610	995	36	11	3.2	0.8	1.1	0.3
MIN	0	0	2.9	2.4	7.8	37	10	2.9	0.8	0.3	0	0
AC-FT	0	71	3,050	2,840	24,180	9,780	1,110	344	116	36	20	4.8

CALENDAR YEAR 1961: MAX 858 MIN 0 MEAN 28.7 AC-FT 20,740  
 WATER YEAR 1961-62: MAX 2,610 MIN 0 MEAN 57.4 AC-FT 41,550

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1800	7.05	1,560	2-13	1200	13.25	5,550
1-19	1900	8.50	2,350	3- 5	2000	8.02	2,190
2- 9	0600	8.66	2,440				

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

Note.--No gage-height record June 13 to July 25.

## PETALUMA RIVER BASIN

11-4590. Petaluma River at Petaluma, Calif.

Location.--Lat 38°15'40", long 122°39'35", in Roblar de la Miseria Grant, on right bank 70 ft downstream from county highway bridge in Petaluma, Sonoma County, and 1.3 miles downstream from Lichau Creek.

Drainage area.--30.9 sq mi.

Records available.--October 1948 to September 1962. Prior to October 1958, published as Petaluma Creek near Petaluma.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--14 years, 16.8 cfs (12,160 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,530 cfs Feb. 14 (gage height, 11.55 ft); no flow for several months.

1948-62: Maximum discharge, 1,860 cfs Dec. 22, 26, 1955, Jan. 14, 1956; maximum gage height, 13.55 ft Dec. 22, 1955; no flow for several months in each year.

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

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

Oct. 1 to Feb. 14				Feb. 15 to Sept. 30			
1.8	0	3.0	18	1.7	0	2.6	13
2.0	.1	3.3	31	1.8	.1	3.0	29
2.1	.4	3.6	50	1.9	.2	3.5	59
2.2	1.1	4.0	84	2.0	.9	4.0	103
2.3	1.9	5.0	204	2.1	2.0	5.0	231
2.4	3.0	7.0	565	2.2	3.6	6.0	405
2.6	6.3	9.0	965	2.4	7.7	8.0	775
2.8	12						

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			4.5	0	0.1	19	1.9	0.2				
2			29	0	.1	83	2.0	.2				
3			11	0	.1	27	1.8	.2		(*)		
4			2.1	0	.1	14	1.6	.2				
5			.8	0	.1	152	1.3	.1				
6			.3	0	.2	*490	1.2	.1				
7			.2	0	12	160	1.3	.1				
8		(*)	.1	0	*7.9	*45	.9	.1				
9			.1	0	185	23	.8	.1				
10			0	0	*47	13	.7	.1				
11			0	0	17	9.5	.6	.1				
12	(*)		0	0	63	8.4	.6	.1				
13			0	0	799	7.0	.5	.1				
14			0	0	*585	5.9	.4	0				
15			0	0	*754	5.9	.3	0				
16			0	0	*197	6.6	.3	0				
17			0	0	77	7.9	.3	0				
18			0	0	313	5.7	*.2	0				
19			.1	.8	204	4.7	.2	0				
20			*.6	17	52	5.3	.2	0				
21			.9	3.2	28	4.9	.2	0				
22			1.0	1.2	17	21	.2	0				
23			.4	.5	13	19	.2	0		(*)		
24			.3	.3	10	7.3	.2	0				
25			.2	.3	7.9	5.1	.1	0				
26			.1	*.3	*6.2	4.4	.1	0				
27			.1	.2	4.2	*3.3	.2	0				
28			.1	.2	4.6	3.3	.2	0				
29			.1	.1	-----	2.8	.2	0			(*)	
30			.1	.1	-----	2.2	.2	0				
31			.1	.1	-----	1.9	-----	*0	-----			-----
TOTAL	0	0	52.2	24.3	3,404.5	1,168.1	18.9	1.7	0	0	0	0
MEAN	0	0	1.68	0.78	122	37.7	0.63	0.05	0	0	0	0
MAX	0	0	29	17	799	490	2.0	0.2	0	0	0	0
MIN	0	0	0	0	0.1	1.9	0.1	0	0	0	0	0
AC-FT	0	0	104	48	6,750	2,320	37	3.4	0	0	0	0

CALENDAR YEAR 1961: MAX 382 MIN 0 MEAN 5.15 AC-FT 3,730  
 WATER YEAR 1961-62 MAX 799 MIN 0 MEAN 12.8 AC-FT 9,260

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0700	6.91	547	2-18	1600	6.60	508
2-13	1400	10.33	1,230	3-5	2300	8.24	821
2-14	2300	11.55	1,530				

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

11-4595. Novato Creek near Novato, Calif.

Location.--Lat 36°06'45", long 122°35'05", in Novato Grant, on right bank 500 ft downstream from highway bridge and 1 mile west of U. S. Highway 101 in Novato, Marin County.

Drainage area.--17.5 sq mi.

Records available.--October 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 45 ft (from topographic map).

Average discharge.--16 years, 9.34 cfs (6,760 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 710 cfs Feb. 9 (gage height, 5.85 ft); no flow for several months.

1946-62: Maximum discharge, 1,190 cfs Feb. 24, 1958 (gage height, 8.24 ft); no flow for several months in each year.

Remarks.--Records fair. Flow regulated by Stafford Lake beginning Dec. 1, 1951 (capacity, 4,500 acre-ft since Oct. 18, 1954); contents, 700 acre-ft Sept. 30, 1961, and 2,300 acre-ft Sept. 30, 1962. Diversion from Stafford Lake for municipal water supply began Apr. 25, 1952, and amounted to 1,720 acre-ft for water year 1962.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 29 to Dec. 1, Feb. 14-21, Feb. 26 to Mar. 3)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

0.38	0	1.4	20	0.4	0	1.3	25
.5	.2	1.6	31	.5	.5	1.6	46
.6	.8	1.8	46	.6	1.5	2.0	84
.7	1.7	2.0	63	.7	3.2	2.5	148
.8	2.8	2.5	117	.8	5.5	3.0	220
1.0	6.4	3.0	180	1.0	11		
1.2	12	4.0	341				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	35	0.3	0.4	12	3.0	0.9	0.4			
2		0	28	.3	.4	16	3.2	.8	.4			
3		0	5.1	.3	.4	8.8	3.0	.7	.4	(*)		
4		0	2.0	.3	.4	7.8	2.7	.9	.3			
5		0	1.2	.3	.3	7.9	2.9	.6	.4			
6		0	1.0	.2	.4	*143	2.7	.5	.3			
7		0	.8	.2	3.7	*60	2.2	.6	.4			
8		*0	.7	.2	*2.2	57	2.0	.6	.3			
9		0	.7	.2	145	31	1.5	.6	.3			
10		0	.6	.2	*30	25	1.5	.6	.3			
11		0	.5	.2	12	20	1.4	.5	.3			
12	(*)	0	.5	.3	37	17	1.5	.5	.3			
13		0	.4	.3	*195	14	1.7	.5	.3			
14		0	.4	.2	*218	12	1.4	.6	.3			
15		0	.4	.2	*160	10	1.5	.5	.3			
16		0	.3	.2	*61	8.3	1.4	.7	.3			
17		0	.5	.2	41	7.3	1.2	.6	.3			
18		0	.5	.2	110	6.5	*1.1	.6	.1			
19		0	.7	6.9	61	6.0	1.3	.5	.1			
20		0	*.7	4.7	41	5.8	1.2	.6	.1			
21		0	.7	1.1	30	5.5	1.2	.5	0			
22		0	.6	.8	25	10	1.1	.5	0			
23		0	.5	.7	20	5.3	1.2	.5	0	(*)		
24		0	.4	.7	16	5.0	1.1	.5	.1			
25		0	.4	.7	13	4.4	1.1	.6	.1			
26		0	.4	*.6	*11	4.4	1.0	.5	.1			
27		0	.4	.5	8.9	*3.9	1.1	.5	0			
28		0	.4	.5	9.2	3.0	1.1	.5	0			
29		0	.4	.5	-	2.4	1.0	.5	0		(*)	
30		1.0	.4	.5	-----	2.0	1.0	.5	0			
31		-----	.3	.4	-----	2.4	-----	*.4	-----			
Total	0	1.0	84.9	22.9	1252.3	594.8	49.3	17.9	5.7	0	0	0
Mean	0	0.03	2.74	0.74	44.7	19.2	1.64	0.58	0.19	0	0	0
Max	0	1.0	35	6.9	218	14.3	3.2	0.9	0.4	0	0	0
Min	0	0	0.3	0.2	0.3	2.0	1.0	0.4	0	0	0	0
Ac-ft	0	2.0	168	45	2480	1180	98	36	11	0	0	0
Calendar year 1961: Max			44	Min	0	Mean	0.96	Ac-ft	695			
Water year 1961-62: Max			218	Min	0	Mean	5.56	Ac-ft	4,020			

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

## CORTE MADERA CREEK BASIN

11-4600. Corte Madera Creek at Ross, Calif.

Location.--Lat 37°57'45", long 122°33'20", in Punta de Quentin Grant, on left bank behind fire station at Ross, Marin County, 1.7 miles southwest of San Rafael and 4 miles upstream from mouth.

Drainage area.--18.1 sq mi (revised).

Records available.--February 1951 to September 1962.

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

Average discharge.--11 years, 26.4 cfs (19,110 acre-ft per year); median of yearly mean discharges, 18 cfs (13,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,690 cfs Feb. 13 (gage height, 16.01 ft); no flow Oct. 1-11, 13-17, Sept. 16, 17, 26.

1951-62: Maximum discharge, 3,620 cfs Dec. 22, 1955 (gage height, 17.45 ft), from rating curve extended above 1,600 cfs; no flow at times in most years.

Remarks.--Records fair except those for periods of no gage-height record, which are poor.. Flow regulated by Phoenix Lake (capacity, 612 acre-ft). Diversion on tributary above station by Marin Municipal Water District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 1-3, Jan. 19-21, Feb. 7, Feb. 13 to Mar. 5)

4.2	0	4.8	21
4.3	.2	5.0	42
4.4	1.0	5.5	112
4.5	3.0	6.0	198
4.6	7.0	9.0	820
4.7	13	12.0	1,570

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	*133	2.4	3.4	221	10	9.8	1.2	0.7	0.4	0.2
2	*0	.1	95	2.4	3.0	133	9.4	6.2	1.2	.6	.4	.1
3	0	.1	16	2.4	3.0	75	8.2	6.6	1.3	*.4	.5	.2
4	0	.1	5.8	2.7	3.0	53	8.2	6.2	1.2	.4	.4	.2
5	0	.1	4.6	2.7	3.0	364	7.6	6.2	1.3	.4	.3	.1
6	0	.1	3.4	2.7	4.2	464	7.0	5.8	1.0	.4	.3	.2
7	0	.1	3.4	2.7	4.5	182	6.6	5.8	1.2	.4	.3	.1
8	0	*.1	3.4	2.7	*26	*98	6.5	5.8	1.2	.4	.3	.1
9	0	.1	3.0	2.7	622	62	6.2	5.4	1.0	.5	.4	.1
10	0	.1	3.0	2.4	*145	44	5.9	5.4	1.0	.4	.4	.2
11	0	.1	3.0	2.4	57	34	5.7	5.0	1.0	.4	.3	.1
12	.1	.1	3.0	3.4	228	28	5.4	5.0	1.2	.5	.2	.1
13	0	.1	3.0	2.7	*1,400	23	5.0	4.6	1.0	.5	.2	.1
14	0	.1	3.0	2.4	786	21	5.0	4.6	1.3	.4	.2	.1
15	0	.1	3.0	2.4	419	19	4.6	4.2	1.0	.3	.1	.1
16	0	.2	3.0	2.4	*153	16	4.2	4.2	1.0	.4	.1	0
17	0	.2	3.4	2.4	82	14	3.8	3.8	.9	.4	.1	0
18	.1	.3	3.4	2.4	165	12	*3.8	3.8	.8	.4	.2	.1
19	.1	4.3	2.7	154	98	12	4.2	3.4	.7	.5	.2	.1
20	.1	16	*2.0	*84	64	16	3.8	3.4	.6	.4	.2	.1
21	.1	.6	2.2	19	42	94	4.2	3.0	.7	.3	.2	.1
22	.1	.5	2.2	10	34	100	4.2	3.0	.7	.3	.2	.1
23	.1	.6	2.2	7.0	26	*35	5.0	2.7	.7	*.4	.2	.1
24	.1	3.1	2.2	5.8	21	26	5.4	2.7	.8	.4	.2	.1
25	.1	15	2.2	5.4	18	22	5.8	2.4	.7	.4	.2	.1
26	.1	2.0	2.2	*4.2	*13	19	5.8	2.2	.7	.4	.2	0
27	.1	.5	2.4	3.8	11	12	8.8	2.0	.7	.3	.1	.1
28	.1	.4	2.4	3.4	95	11	6.2	1.8	.6	.4	.1	.1
29	.1	22	2.4	3.4	-	12	6.2	1.6	.7	.4	*.1	.1
30	.1	23	2.4	3.4	-----	12	6.2	1.5	.8	.4	.1	.1
31	.1	-----	2.4	3.4	-----	12	-----	*1.3	-----	.3	.2	-----
Total	1.5	90.2	325.3	353.1	4,569.6	2,161.4	178.9	129.4	28.2	12.8	7.3	3.2
Mean	0.05	3.01	10.5	11.4	163	69.7	5.96	4.17	0.94	0.41	0.24	0.11
Max	0.1	23	133	154	1,400	464	10	9.8	1.3	0.7	0.5	0.2
Min	0	0.1	2.0	2.4	3.0	94	3.8	1.3	0.6	0.3	0.1	0
Ac-ft	3.0	179	645	700	9,060	4,290	355	257	56	25	14	6.3

Calendar year 1961: Max 229 Min 0 Mean 8.09 Ac-ft 5,870

Water year 1961-62: Max 1,400 Min 0 Mean 21.5 Ac-ft 15,590

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0530	13.75	2,040	3-5	1930	11.46	1,430
2-13	1230	16.01	2,690				

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

Note.--No gage-height record Apr. 7-17, May 4-30.

## WALKER CREEK BASIN

359

11-4608. Walker Creek near Tomales, Calif.

Location.--Lat 38°12'35", long 122°51'35", in Nicasio Grant, on left bank 1,300 ft upstream from Chileno Creek, and 3.5 miles south-east of Tomales, Marin County.

Drainage area.--37.1 sq mi.

Records available.--June 1959 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 70 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,430 cfs Feb. 13 (gage height, 17.72 ft); no flow for several months.

1959-62: Maximum discharge, 3,430 cfs Jan. 31, 1961, Feb. 13, 1962; maximum gage height, 18.18 ft Jan. 31, 1961; no flow for several months in each year.

Remarks.--Records fair. No storage. Small diversions for irrigation and stock watering above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 1-30)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
4.26	0	4.8	20	3.5	0	5.2	84
4.3	.2	5.0	38	3.7	.2	6.0	210
4.4	1.6	5.5	106	3.8	1.7	7.0	400
4.5	4.4	6.0	183	4.0	6.5	9.0	840
4.6	8.4			4.4	19	12.0	1,650
				4.8	42	14.0	2,250

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			1.6	0.7	3.5	62	19	3.5	*0.3			
2			14	.7	2.9	81	18	3.3	.2			
3			13	.6	2.1	52	16	3.1	.1	(*)		
4			4.8	.6	1.6	45	14	2.6	.1			
5			2.6	.6	1.3	342	13	2.4	.1			
6			1.6	.5	2.1	719	12	2.2	0			
7			1.1	.5	19	*431	11	2.2	0			
8		(*)	.9	.5	*29	226	11	2.2	0			
9			.7	.4	604	147	9.3	1.9	0			
10			.7	.4	*242	102	8.8	1.9	0			
11			.6	.3	131	78	8.0	1.7	.1			
12	(*)		.5	.3	194	60	7.5	1.6	*.1			
13			.5	.3	2,040	48	6.5	1.3	.2			
14			.5	.3	*1,480	44	6.0	1.3	.2			
15			.6	.2	*1,140	44	5.8	1.3	.2			
16			.6	.2	366	44	5.5	1.1	.1			
17			2.3	.2	185	41	5.3	1.1	.1	(*)		
18			2.6	.3	511	33	4.8	1.1	0			
19			3.2	51	302	29	*5.0	1.1	0			
20			*4.1	166	183	28	4.8	1.0	0			
21			5.2	65	128	25	4.5	1.0	0			
22			4.8	35	91	92	4.3	.8	0			
23			3.5	25	67	49	4.3	.8	0			
24			2.9	19	58	39	4.3	.8	0			
25			2.6	15	46	34	3.8	.7	0			
26			2.1	*11	35	33	3.5	.7	0			
27			1.6	8.0	*33	*31	5.8	.7	0			
28			1.3	7.2	36	29	8.3	.7	0			
29			1.1	6.0	-----	27	4.8	.8	0			
30			1.1	4.8	-----	23	3.8	.8	0		(*)	
31		-----	.9	4.1	-----	21	-----	.7	-----			-----
TOTAL	0	0	83.6	424.7	7,933.5	3,059	238.7	46.4	1.8	0	0	0
MEAN	0	0	2.70	13.7	283	98.7	7.96	1.50	0.06	0	0	0
MAX	0	0	14	166	2,040	719	19	3.5	0.3	0	0	0
MIN	0	0	0.5	0.2	1.3	21	3.5	0.7	0	0	0	0
AC-FT	0	0	166	842	15,740	6,070	473	92	3.6	0	0	0

CALENDAR YEAR 1961: MAX 1,100 MIN 0 MEAN 18.0 AC-FT 13,060  
WATER YEAR 1961-62: MAX 2,040 MIN 0 MEAN 32.3 AC-FT 23,390

## Peak Discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0730	10.34	1,180	2-18	1100	10.12	1,120
2-13	1200	17.72	3,430	3-5	2000	10.86	1,320

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

## RUSSIAN RIVER BASIN

11-4610. Russian River near Ukiah, Calif.

Location.--Lat 39°12'07", long 123°11'55", in Yokayo Rancho Grant, on left bank 200 ft downstream from York Creek, 0.7 mile upstream from East Fork, and 3.6 miles north of Ukiah, Mendocino County.

Drainage area.--99.6 sq mi.

Records available.--August 1911 to September 1913, October 1952 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 612.02 ft above mean sea level (levels by Corps of Engineers). Prior to October 1952, staff gage at bridge 0.6 mile downstream at different datum. Oct. 1, 1952, to Feb. 16, 1959, at datum 2.00 ft higher. Feb. 17, 1959, to Sept. 30, 1961, at datum 1.00 ft higher.

Average discharge.--12 years, 173 cfs (125,200 acre-ft per year).

Extremes.--Maximum discharge during year, 8,320 cfs Feb. 13 (gage height, 12.85 ft); no flow Oct. 15-18.

1911-13, 1952-62: Maximum discharge, 18,900 cfs Dec. 21, 1955 (gage height, 21.0 ft, present datum), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; no flow at times in 1911, 1952-53, 1960-61.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	1.670	39	25	1.110	106	31	10	1.5	0.1	0.1
2	.1	.1	487	37	22	1.300	100	29	9.5	1.4	**g.1	.1
3	.1	.3	166	35	19	985	93	26	9.0	1.2	.1	.1
4	.1	.3	104	*34	18	621	78	25	8.6	1.2	.1	.1
5	.1	.4	77	32	17	1.480	71	22	8.1	1.1	.1	.1
6	.1	.4	55	30	45	1.930	67	21	7.6	1.0	.1	.1
7	.1	.4	46	29	145	1.020	63	20	7.2	1.0	.1	.1
8	.1	.4	39	28	*439	601	61	20	6.7	1.0	.1	.1
9	.1	.5	34	27	957	416	60	*23	6.2	.9	.1	.1
10	.1	.5	29	27	754	317	56	24	5.8	.8	**g.1	.1
11	.2	.5	27	26	329	303	54	22	5.4	.8	.1	.1
12	.1	.6	24	28	723	251	49	20	5.0	.8	.1	.1
13	.1	.4	23	28	*3.780	217	46	18	4.7	.7	.1	*g.1
14	.1	.3	22	28	1.920	192	45	17	4.4	.7	.1	.1
15	0	.3	20	27	2.380	182	42	16	4.0	.6	.1	.1
16	0	.3	19	25	2.020	168	42	16	3.7	.6	.1	.1
17	0	.3	55	24	1.150	156	39	15	3.4	.5	.1	.1
18	0	.4	84	25	1.560	140	37	14	3.0	.5	.1	g.1
19	.1	.5	571	*1.520	796	132	37	13	2.7	.5	.1	.1
20	.1	.9	802	967	471	124	37	12	2.6	.4	.1	.1
21	.1	.6	*555	260	317	116	35	12	2.1	.4	.1	.1
22	.1	.8	232	132	228	404	33	11	*2.6	.3	.1	.1
23	.1	1.2	144	90	180	314	31	11	2.4	.3	.1	.1
24	.1	108	104	73	149	228	30	11	2.4	.3	.1	.1
25	*.1	668	87	59	124	196	29	11	2.6	.2	.1	.1
26	.1	171	74	52	105	174	27	12	2.2	.2	.1	.1
27	.1	*76	65	46	92	*154	52	12	2.1	.2	.1	.2
28	.1	52	53	41	151	140	64	12	2.0	.2	.1	.3
29	.1	107	47	36	-	129	39	11	1.8	.1	.1	.3
30	.1	633	44	31	-----	118	33	10	1.6	.1	.1	.3
31	.1	-----	41	28	-----	112	-----	10	-----	.1	.1	-----
Total	2.8	1.825.5	5.800	3.864	18.916	13.730	1.556	527	1.394	1.96	31	3.7
Mean	0.09	60.9	187	125	676	443	51.9	17.0	4.65	0.63	0.10	0.12
Max	0.2	668	1.670	1.520	3.780	1.930	106	31	10	1.5	0.1	0.3
Min	0	0.1	19	24	17	112	27	10	1.6	0.1	0.1	0.1
Ac-ft	5.6	3.620	11.500	7.660	37.520	27.230	3.090	1.050	276	39	6.1	7.3

Calendar year 1961: Max 3.310 Min 0 Mean 142 Ac-ft 102.900

Water year 1961-62: Max 3.780 Min 0 Mean 127 Ac-ft 92.000

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	8.94	4,190	2-13	1100	12.85	8,320
1-19	1700	9.40	4,600				

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

g Computed from once-daily staff gage readings.

Note.--No gage-height record May 10 to June 19, June 27 to Sept. 26.

11-4615. East Fork Russian River near Calpella, Calif.

Location.--Lat 39°14'35", long 123°08'10", in NW¼ sec.13, T.16 N., R.12 W., on left bank 0.5 mile downstream from Cold Creek and 3.6 miles east of Calpella.

Drainage area.--93.0 sq mi.

Records available.--October 1941 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map). Prior to May 28, 1957, at site 0.9 mile downstream at different datum.

Average discharge.--21 years, 326 cfs (236,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,490 cfs Feb. 13 (gage height, 11.17 ft); minimum daily, 8.3 cfs Nov. 16.  
1941-62: Maximum discharge, 13,300 cfs Dec. 21, 1955 (gage height, 15.06 ft, site and datum then in use), from rating curve extended above 8,600 cfs; minimum daily, 3.8 cfs Oct. 30, 31, 1959.

Remarks.--Records good. Flow greatly affected by diversion from Eel River through Potter Valley powerhouse (see p. 384). Small diversion for irrigation above station.

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

0.4	7.9	2.0	216
.5	12	3.0	495
.6	18	4.0	900
.8	31	5.0	1,400
1.1	58	8.0	3,500
1.5	119		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	287	313	1,690	328	343	1,330	385	160	152	208	172	202
2	300	313	471	325	343	1,220	385	154	119	194	*176	202
3	289	313	313	325	340	963	382	141	104	186	188	192
4	284	313	334	*328	340	754	373	147	107	184	198	184
5	277	313	325	325	322	2,160	364	188	105	190	204	178
6	282	316	322	325	355	1,840	361	182	111	178	198	174
7	294	316	313	325	453	1,050	361	156	117	176	190	178
8	302	316	313	325	*620	766	358	145	124	186	200	180
9	300	316	310	325	1,060	638	358	*75	132	182	204	186
10	302	316	307	325	742	562	358	88	164	180	198	186
11	313	316	307	303	509	538	355	85	170	178	200	186
12	310	316	307	328	974	499	358	94	170	180	206	*190
13	310	316	305	325	3,100	471	355	124	188	190	188	190
14	310	279	305	325	1,540	451	355	132	188	192	176	212
15	313	89	305	325	1,990	445	352	126	178	198	182	223
16	307	*8.3	302	325	1,800	415	352	109	139	184	174	220
17	307	29	322	325	1,010	424	352	85	145	188	178	194
18	307	164	334	328	1,330	412	331	69	130	178	180	180
19	307	168	495	1,310	790	406	337	72	117	176	182	184
20	310	192	570	709	634	403	328	59	119	172	182	190
21	313	170	513	439	558	400	325	94	107	180	178	190
22	316	170	322	388	513	675	325	192	*132	184	186	186
23	316	172	361	370	478	516	325	179	105	186	186	184
24	316	239	358	358	451	457	325	104	111	180	190	63
25	297	520	352	337	433	424	325	124	121	172	184	33
26	*319	210	346	358	418	427	310	156	168	172	194	16
27	316	*178	334	355	403	*415	307	251	176	174	200	9.9
28	316	172	337	352	478	391	196	180	182	176	184	48
29	313	379	334	343	-----	403	178	168	180	188	180	169
30	313	647	334	337	-----	394	168	202	188	178	194	184
31	313	-----	331	343	-----	388	-----	192	-----	164	198	-----
TOTAL	9,459	7,879.3	12,172	11,839	22,327	20,637	9,944	4,233	4,249	5,654	5,850	4,913.9
MEAN	305	263	393	382	797	666	331	137	142	182	189	164
MAX	319	647	1,690	1,310	3,100	2,160	385	251	188	208	206	223
MIN	277	8.3	302	303	322	388	168	59	104	164	172	9.9
AC-FT	18,760	15,630	24,140	23,480	44,280	40,930	19,720	8,400	8,430	11,210	11,600	9,750

CALENDAR YEAR 1961: MAX 2,460 MIN 8.3 MEAN 332 AC-FT 240,300  
WATER YEAR 1961-62: MAX 3,100 MIN 8.3 MEAN 326 AC-FT 236,300

Peak discharge (base, 3,300 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	8.70	4,080	3-5	1800	9.38	4,690
2-13	1100	11.17	6,490				

## RUSSIAN RIVER BASIN

11-4620. East Fork Russian River near Ukiah, Calif.

Location.--Lat 39°11'45", long 123°11'30", in Yokayo Rancho Grant, on right bank of outlet channel, 500 ft downstream from Coyote Dam, 1,300 ft upstream from mouth, and 3.2 miles northeast of Ukiah, Mendocino County.

Drainage area.--105 sq mi.

Records available.--August 1911 to September 1913, October 1951 to June 1956, October 1957 to September 1962.

Gage.--Water-stage recorder (digital). Datum of gage is 614.43 ft above mean sea level (levels by Corps of Engineers). Prior to October 1951, staff gage at site half a mile upstream at different datum. October 1951 to June 1956, water-stage recorder at site 1.0 mile upstream at different datum.

Average discharge.--11 years (1911-13, 1951-55, 1957-62), 328 cfs (237,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,840 cfs Apr. 11 (gage height, 8.79 ft); minimum daily, 4.3 cfs Dec. 2. 1911-13, 1951-56, 1957-62: Maximum discharge, 13,300 cfs Dec. 21, 1955 (gage height, 16.86 ft, site and datum then in use), from rating curve extended above 1,700 cfs on basis of peak flow at station upstream which was defined to 8,600 cfs; no flow Aug. 13-15, 1913.

Remarks.--Records excellent. Flow affected by diversion from Eel River through Potter Valley powerhouse (see p. 384) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft). Small diversions above station for irrigation.

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

Oct. 1 to Feb. 17				Feb. 18 to Sept. 30			
0.7	2.8	2.0	125	1.2	26	4.0	740
.8	5.0	2.5	230	1.4	47	6.0	1,730
.9	8.0	3.0	365	2.0	145	8.0	3,140
1.0	12	4.0	700	3.0	390		
1.1	17	5.0	1,140				
1.3	30	6.5	1,920				
1.5	52	7.4	2,540				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	392	208	25	87	305	567	33	89	147	189	235	215
2	392	208	4.3	87	303	1,150	33	89	147	189	*232	212
3	389	208	18	87	238	1,630	33	89	147	189	230	212
4	377	208	28	*87	238	991	33	113	147	189	230	212
5	368	208	28	88	400	599	33	130	147	189	230	212
6	368	208	42	88	531	1,040	33	130	110	189	230	215
7	365	208	53	90	531	2,380	33	130	94	189	230	215
8	365	208	53	111	404	2,580	33	130	94	189	225	215
9	338	210	53	125	549	1,570	585	*97	94	189	230	215
10	320	210	53	127	824	512	*2,510	72	94	186	222	215
11	320	210	84	127	824	512	*1,640	72	94	195	218	215
12	317	210	117	127	589	512	33	72	122	195	218	*215
13	317	210	117	127	155	512	33	73	136	195	218	215
14	317	210	117	127	962	512	33	73	159	195	218	215
15	317	166	99	259	881	494	33	112	169	195	218	215
16	320	123	84	374	1,990	465	33	132	169	195	218	215
17	320	130	84	374	2,490	456	33	132	169	195	218	215
18	320	147	84	374	1,610	456	33	105	167	210	218	215
19	320	147	46	270	2,350	390	50	92	165	225	215	215
20	270	147	29	387	2,530	351	58	92	165	228	215	215
21	233	147	29	636	*1,910	351	58	72	163	238	215	215
22	233	147	29	744	1,100	351	58	137	*163	238	212	212
23	220	147	46	824	137	351	58	175	165	238	212	212
24	205	149	76	820	137	351	239	157	165	238	212	212
25	*205	95	87	820	137	351	339	145	165	238	212	212
26	205	40	85	494	476	255	320	145	173	238	212	212
27	205	*104	85	285	748	*43	308	145	189	235	212	212
28	205	142	87	285	816	32	303	145	189	235	215	210
29	205	87	87	285	-----	32	303	141	189	235	215	210
30	208	56	87	303	-----	32	159	147	189	235	215	210
31	208	-----	87	323	-----	32	-----	147	-----	235	212	-----
TOTAL	9,144	4,898	2,003.3	9,342	24,165	19,860	7,483	3,580	4,486	6,518	6,812	6,405
MEAN	295	163	64.6	301	863	641	249	115	150	210	220	214
MAX	392	210	117	824	2,530	2,580	2,510	175	189	238	235	215
MIN	205	40	4.3	87	137	32	33	72	94	186	212	210
AC-FT	18,140	9,720	3,970	18,530	47,930	39,390	14,840	7,100	8,900	12,930	13,510	12,700

CALENDAR YEAR 1961: MAX 1,870 MIN 4.3 MEAN 350 AC-FT 253,300  
 WATER YEAR 1961-62: MAX 2,580 MIN 4.3 MEAN 287 AC-FT 207,700

\* Discharge measurement made on this day.



## RUSSIAN RIVER BASIN

363

11-4625. Russian River near Hopland, Calif.

Location.--Lat 39°01'35", long 123°07'45", in Rancho de Sanel Grant, on right bank at abandoned highway bridge, 0.2 mile downstream from McNab Creek, 4 miles north of Hopland, Mendocino County, and 17 miles upstream from Sulphur Creek.

Drainage area.--362 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 497.43 ft above mean sea level, datum of 1929. Prior to Sept. 9, 1943, wire-weight gage at same site and datum.

Average discharge.--23 years, 700 cfs (506,800 acre-ft per year).

Extremes.--Maximum discharge during year, 14,500 cfs Feb. 13 (gage height, 16.65 ft); minimum daily, 117 cfs June 9-12.

1939-62: Maximum discharge, 45,000 cfs Dec. 22, 1955 (gage height, 27.00 ft); minimum daily, 26 cfs Dec. 18, 1943, June 26, 1949.

Flood in December 1937 reached a stage of 30.0 ft, from floodmarks.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

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

Oct. 1 to Mar. 5

Mar. 6 to Sept. 30

5.0	127	8.0	1,660	4.6	115	5.5	304
5.5	296	10.0	3,650	4.9	148	6.0	500
6.0	500	14.0	9,500	5.2	216		
7.0	1,000						

Note.--Same as preceding table above 6.0 ft.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	383	218	3,400	181	431	2,270	300	205	148	174	213	203
2	383	218	1,160	178	451	3,340	280	180	148	174	213	200
3	383	218	550	165	371	3,510	260	* 163	156	169	* 216	203
4	375	218	387	158	359	2,220	235	169	150	169	219	203
5	371	218	304	* 152	423	3,830	220	183	146	167	222	206
6	367	222	250	146	626	6,050	210	183	135	167	222	200
7	367	222	228	142	795	5,080	205	181	121	165	222	200
8	367	222	201	152	1,240	4,280	200	185	120	167	224	203
9	355	222	188	181	2,500	3,190	220	178	117	165	227	203
10	331	225	168	184	2,550	1,560	1,890	145	117	159	219	206
11	331	225	152	181	1,660	1,440	* 2,190	138	117	165	208	198
12	331	225	201	184	1,810	1,300	420	131	117	169	208	198
13	319	228	205	188	9,020	1,180	260	128	126	167	213	* 200
14	319	225	205	184	5,460	1,100	210	126	132	169	211	200
15	319	218	194	250	7,090	1,050	190	130	148	169	206	200
16	316	142	158	427	6,830	1,010	175	154	154	156	203	200
17	312	130	184	439	5,430	962	165	148	158	163	203	198
18	312	149	225	447	5,210	934	160	142	158	172	206	198
19	312	152	575	1,500	4,380	884	160	127	154	198	206	198
20	289	161	1,040	2,330	3,900	805	160	127	148	200	203	198
21	236	158	956	1,200	* 3,070	785	160	124	145	216	203	198
22	232	158	572	1,050	2,170	1,020	160	127	* 143	216	203	198
23	228	161	411	1,050	1,080	1,050	155	176	143	222	206	198
24	218	218	355	1,020	906	906	160	174	145	213	203	198
25	215	1,360	316	989	795	852	270	156	146	213	203	195
26	* 218	455	274	797	805	* 760	300	158	143	213	203	195
27	232	267	250	504	1,040	540	315	163	163	211	203	203
28	225	* 250	228	468	1,140	460	360	161	163	213	203	208
29	218	292	211	451	-	390	320	152	165	216	206	208
30	218	1,060	198	443	-----	350	290	152	169	216	206	208
31	218	-----	188	468	-----	315	-----	152	-----	213	203	-----
Total	9,300	8,437	13,934	16,209	71,542	53,423	10,600	4,818	4,295	5,766	6,506	6,024
Mean	300	281	449	523	2,555	1,723	353	155	143	186	210	201
Max	383	1,360	3,400	2,330	9,020	6,050	2,190	205	169	222	227	208
Min	215	130	152	142	359	315	155	124	117	156	203	195
Ac-ft	18,450	16,730	27,640	32,150	141,900	106,000	21,020	9,560	8,520	11,440	12,900	11,950

Calendar year 1961: Max 6,470 Min 130 Mean 641 Ac-ft 464,000

Water year 1961-62: Max 9,020 Min 117 Mean 578 Ac-ft 418,300

Peak discharge (base, 9,600 cfs).--Feb. 13 (1500) 14,500 cfs (16.65 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Mar. 27 to Apr. 9, Apr. 12 to May 2.

## RUSSIAN RIVER BASIN

11-4627. Feliz Creek near Hopland, Calif.

Location.--Lat 38°58'20", long 123°08'30", in Rancho de Sanel Grant, on left bank just upstream from county road bridge, 0.1 mile upstream from Johnson Creek, and 1.4 miles west of Hopland, Mendocino County.

Drainage area.--31.1 sq mi (revised).

Records available.--August 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,880 cfs Feb. 13 (gage height, 13.35 ft); no flow for several months.

1958-62: Maximum discharge, that of Feb. 13, 1962; no flow for several months in each year.

Flood of Dec. 23, 1955, reached a stage of 13.60 ft, from floodmarks, present datum (discharge, 2,710 cfs on basis of slope-area measurement of peak flow).

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	821	7.5	5.6	254	29	8.5	2.9	0.9	(*)	
2		0	191	7.0	5.1	336	28	8.0	2.9	.7		
3		0	91	*6.5	4.7	235	26	7.5	2.9	.2		
4		0	49	6.5	4.3	177	24	7.0	2.0	.1		
5		0	31	6.0	4.3	788	23	5.6	1.6	0		
6		*0	23	5.6	7.0	685	22	6.0	3.2	0		
7		0	18	5.6	127	*336	22	5.1	2.9	.3		
8		0	15	5.1	*251	205	21	*5.6	2.7	.5		
9		0	13	4.7	766	146	21	7.0	2.7	.4		
10		0	12	4.3	324	113	20	6.5	2.7	.1		
11		0	10	3.9	167	102	19	6.0	2.4	0		
12		0	9.0	4.3	515	82	18	6.0	2.7	0		
13		0	9.0	3.9	1,420	70	17	5.6	2.4	0		(*)
14		0	8.5	3.5	*787	61	16	5.6	2.4	0		
15		0	7.5	3.5	985	55	15	5.1	2.4	0		
16		0	7.0	3.2	686	53	14	5.1	2.2	0		
17		0	8.5	3.2	376	48	14	4.7	2.2	0		
18		0	10	3.9	536	45	13	4.7	1.8	0		
19		0	19	108	293	40	13	3.9	.3	0		
20		1.6	51	108	201	38	13	2.4	.2	0		
21		1.0	61	31	145	36	12	2.7	*.2	0		
22		1.1	31	18	112	120	12	2.4	.5	0		
23		2.0	23	14	92	69	11	2.2	.1	0		
24		127	18	12	80	52	10	2.2	.9	0		
25	(*)	593	15	10	67	47	10	2.9	1.1	0		
26		87	13	8.5	56	*43	9.5	4.7	1.1	0		
27		24	12	8.0	49	40	13	4.7	.8	0		
28		*15	11	7.0	63	37	13	2.9	.4	0		
29		180	10	6.5	-	35	10	2.2	.3	0		
30		317	9.0	6.0	-----	32	9.0	2.7	.7	0		
31		-----	8.0	6.0	-----	30	-----	2.4	-----	0		
Total	0	1,348.7	1,614.5	431.2	8,129.0	4,410	497.5	147.9	51.6	3.2	0	0
Mean	0	45.0	52.1	13.9	290	142	16.6	4.77	1.72	0.10	0	0
Max	0	593	821	108	1,420	788	29	8.5	3.2	0.9	0	0
Min	0	0	7.0	3.2	4.3	30	9.0	2.2	0.1	0	0	0
Ac-ft	0	2,680	3,200	855	16,120	8,750	987	293	102	6.3	0	0

Calendar year 1961: Max 862 Min 0 Mean 35.7 Ac-ft 25,850

Water year 1961-62: Max 1,420 Min 0 Mean 45.6 Ac-ft 32,990

Peak discharge (base, 2,000 cfs)---Feb. 13 (0900) 2,880 cfs (13.35 ft).

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

## RUSSIAN RIVER BASIN

365

11-4630. Russian River near Cloverdale, Calif.

Location.--Lat 38°52'55", long 123°03'15", in SW $\frac{1}{4}$  sec.14, T.12 N., R.11 W., on left bank at Lambert Ranch, 400 ft downstream from Cumisky Creek and 5 miles northwest of Cloverdale.

Drainage area.--502 sq mi.

Records available.--July 1951 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 373.44 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--11 years, 985 cfs (713,100 acre-ft per year); median of yearly mean discharges, 860 cfs (623,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,400 cfs Feb. 13 (gage height, 19.51); minimum daily, 114 cfs June 12.

1951-62: Maximum discharge, 53,000 cfs Dec. 22, 1955 (gage height, 30.9 ft, from floodmarks), from rating curve extended above 21,000 cfs on basis of determination of peak flow at upstream and downstream stations; minimum daily, 81 cfs Nov. 24, 1958.

Remarks.--Records good. Small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 24, Nov. 27, 28, Dec. 5-19,  
Dec. 24 to Jan. 19)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

6.0	152	10.0	2,950	5.3	99	7.0	660
6.2	206	12.0	5,420	5.5	146	8.0	1,190
6.5	320	15.0	10,300	6.0	285	10.0	2,950
7.0	600	18.0	16,100				
8.0	1,200						

Note.--Same as preceding table  
above 10.0 ft.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	386	206	6,650	206	442	3,080	392	243	* 172	175	193	203
2	381	206	2,580	200	469	4,440	364	220	169	175	193	203
3	376	206	1,080	* 192	376	4,420	340	206	177	172	193	203
4	365	206	666	186	345	3,160	312	201	169	172	198	203
5	345	206	474	181	360	6,320	291	212	167	172	201	203
6	340	206	350	175	684	9,240	279	209	164	167	203	203
7	340	206	288	173	1,250	6,700	261	206	141	167	203	203
8	340	206	256	173	2,240	5,200	252	* 203	128	167	203	203
9	340	206	232	192	5,420	4,080	279	206	125	169	209	209
10	302	206	212	192	4,150	2,200	1,740	182	120	164	206	209
11	306	206	198	189	2,660	1,920	2,750	172	120	167	198	206
12	306	206	212	195	3,530	1,680	472	167	114	169	201	206
13	302	209	219	195	14,800	1,490	306	164	130	169	203	* 206
14	302	206	216	189	9,640	1,370	261	159	138	172	203	206
15	298	206	209	198	12,200	1,270	240	156	154	172	201	206
16	298	173	189	381	* 9,530	1,200	228	180	162	169	198	209
17	298	155	189	420	7,060	1,120	217	180	164	164	198	209
18	298	157	225	436	7,060	1,050	209	177	164	169	201	206
19	298	162	457	1,280	5,430	974	206	162	159	180	203	206
20	298	173	1,270	3,210	4,690	885	212	151	156	185	198	206
21	238	168	1,280	1,630	3,910	835	209	154	* 154	190	198	206
22	228	165	816	1,330	2,930	1,440	206	141	151	195	201	206
23	228	168	558	1,330	1,450	1,420	201	193	151	198	201	206
24	216	409	442	1,280	1,170	1,140	206	198	151	195	201	206
25	209	3,010	381	1,240	998	1,050	357	188	154	195	201	203
26	* 212	984	325	1,090	968	968	392	185	151	193	201	203
27	219	398	293	624	1,260	696	402	188	159	193	201	206
28	219	302	264	534	1,470	* 588	468	185	167	193	201	212
29	209	904	242	492	-	524	413	180	169	195	201	212
30	209	* 2,140	228	464	-----	464	378	175	169	195	203	212
31	206	-----	222	492	-----	416	-----	175	-----	* 193	206	-----
Total	8,912	12,561	21,223	19,069	106,492	71,340	12,843	5,718	4,569	5,551	6,221	6,180
Mean	287	419	685	615	3,803	2,301	428	184	152	179	201	206
Max	386	3,010	6,650	3,210	14,800	9,240	2,750	243	177	198	209	212
Min	206	155	189	173	345	416	201	141	114	164	193	203
Ac-ft	17,680	24,910	42,100	37,820	211,200	141,500	25,470	11,340	9,060	11,010	12,340	12,260

Calendar year 1961: Max 8,990 Min 155 Mean 768 Ac-ft 556,000

Water year 1961-62: Max 14,800 Min 114 Mean 769 Ac-ft 556,700

Peak discharge (base, 12,400 cfs).--Feb. 13 (1200) 19,400 cfs (19.51 ft).

\* Discharge measurement made on this day.

## RUSSIAN RIVER BASIN

11-4632. Big Sulphur Creek near Cloverdale, Calif.

Location.--Lat 38°49'25", long 122°59'05", in NW¼ sec.10, T.11 N., R.10 W., on right bank 500 ft downstream from unnamed tributary, 1.9 miles upstream from mouth, and 3.1 miles northeast of Cloverdale.

Drainage area.--82.3 sq mi (revised).

Records available.--July 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map).

Average discharge.--5 years, 174 cfs (126,000 acre-feet per year).

Extremes.--Maximum discharge during year, 6,860 cfs Feb. 13 (gage height, 12.13 ft), from rating curve extended above 2,900 cfs as explained below; minimum, 3.0 cfs Oct. 8.

1957-62: Maximum discharge, 9,960 cfs Feb. 24, 1958 (gage height, 14.46 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement at gage height 22.2 ft (flood of Dec. 22, 1955); minimum, 2.5 cfs Sept. 1, 2, 1959.

Flood of Dec. 22, 1955, reached a stage of 22.2 ft, from floodmarks, present datum (discharge, 20,000 cfs on basis of slope-area measurement of peak flow).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 24, Mar. 10 to Apr. 8)

2.5	2.5	3.1	26	5.0	450
2.6	3.5	3.4	55	6.0	1,070
2.7	5.3	3.7	94	8.0	2,720
2.8	8.0	4.0	150	10.0	4,550
2.9	12	4.5	270		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.7	4.8	2,680	48	57	537	140	51	23	11	45.6	3.9
2	3.4	4.9	767	47	54	854	131	50	21	9.3	3.6	3.7
3	3.3	5.1	290	*46	52	393	127	47	21	8.9	5.8	3.5
4	3.2	5.1	157	45	50	300	121	45	21	8.0	6.1	3.7
5	3.2	4.9	121	43	47	1,470	114	42	21	7.7	6.1	3.9
6	3.3	4.6	105	42	52	2,040	108	41	21	7.2	6.1	3.9
7	3.3	4.4	90	42	179	1,120	104	40	20	7.2	6.4	3.9
8	3.1	4.6	81	41	561	635	100	*41	20	7.2	7.5	3.9
9	3.2	4.6	76	39	2,810	389	96	45	20	6.9	8.9	3.9
10	3.5	4.8	71	38	1,680	318	93	42	19	6.9	8.4	3.9
11	4.4	5.1	67	37	598	276	88	41	19	6.9	6.9	4.0
12	6.1	5.3	63	39	1,290	250	86	40	19	6.4	5.8	4.0
13	5.8	4.9	59	39	4,270	228	81	38	19	6.4	5.3	*4.0
14	4.9	4.6	57	38	*3,100	210	80	38	20	6.4	4.8	4.0
15	4.2	4.6	55	37	3,210	203	79	37	20	5.8	4.6	4.0
16	4.0	4.6	53	37	1,950	195	75	36	19	5.8	4.4	3.9
17	4.0	4.8	62	37	1,090	184	72	34	19	5.8	4.4	3.5
18	4.0	4.8	62	38	1,180	172	71	33	18	6.1	4.2	3.7
19	4.0	5.6	75	682	711	165	68	32	16	6.7	4.4	3.7
20	4.2	16	102	469	485	161	67	31	14	6.9	4.4	3.9
21	4.8	9.7	140	177	362	152	63	30	*13	6.4	4.0	4.0
22	4.9	7.7	94	131	303	329	62	29	12	5.8	4.0	3.9
23	4.9	12	81	112	268	225	60	28	12	5.8	4.4	3.7
24	4.9	464	74	99	243	200	59	27	13	5.8	4.4	3.7
25	4.9	1,040	68	90	220	186	56	28	12	5.8	4.2	3.7
26	5.1	218	65	83	200	179	55	29	11	6.1	4.0	3.7
27	*6.4	102	60	76	184	168	62	30	11	5.8	3.9	4.4
28	6.9	65	97	71	208	*163	67	27	11	5.8	3.5	6.1
29	6.1	431	55	67	-----	157	55	27	11	5.8	3.4	7.5
30	4.9	*1,240	54	63	-----	150	53	25	11	5.8	3.5	7.2
31	4.6	-----	51	60	-----	144	-----	24	-----	5.8	3.9	-----
TOTAL	137.2	3,697.5	5,852	2,913	25,414	12,153	2,493	1,108	907	208.2	158.9	124.8
MEAN	4.43	123	189	94.0	908	392	83.1	35.7	16.9	6.72	5.13	4.16
MAX	6.9	1,240	2,680	682	4,270	2,040	140	51	23	11	8.9	7.5
MIN	3.1	4.4	51	37	47	144	53	24	11	5.8	3.4	3.5
AC-FT	272	7,330	11,610	5,780	50,410	24,110	4,940	2,280	1,010	413	315	248

CALENDAR YEAR 1961: MAX 3,070 MIN 3.1 MEAN 119 AC-FT 85,830  
WATER YEAR 1961-62: MAX 4,270 MIN 3.1 MEAN 150 AC-FT 108,600

Peak discharge (base, 3,200 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	0900	9.65	4,210	2-13	1100	12.13	6,860
2-9	1100	9.32	3,910	3- 5	2000	9.77	4,320

11-4639. Maacama Creek near Kellogg, Calif.

Location---Lat 38°38'25", long 122°45'45", in SW $\frac{1}{4}$  sec. 9, T. 9 N., R. 8 W., on right bank 0.5 mile downstream from Redwood Creek, 4.4 miles west of Kellogg.

Drainage area---43.4 sq mi.

Records available---Occasional low-flow measurements and annual maximum, water years 1958-60. December 1960 to September 1962.

Gage---Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Dec. 20, 1960, crest-stage gage only at site 700 ft upstream at different datum.

Extremes---Maximum discharge during year, 6,370 cfs Feb. 13 (gage height, 15.82 ft), from rating curve extended above 1,900 cfs; minimum, 0.2 cfs many days in August and September.

1958-62: Maximum discharge, 8,100 cfs Feb. 24, 1958 (gage height, 20.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,900 cfs.

1960-62: Minimum discharge, 0.2 cfs Sept. 26, 1961, many days in August and September 1962.

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

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.4	0.8	*692	18	19	728	48	17	5.7	1.4	0.6	0.3
2	.4	1.1	216	*17	17	683	43	16	5.5	1.2	.5	.3
3	.6	1.4	97	16	17	346	40	16	5.0	1.1	.5	.3
4	.6	1.2	54	15	16	272	38	15	5.0	1.1	.4	.3
5	.5	.8	38	15	16	*853	36	14	*4.8	1.0	.3	.3
6	.5	.7	30	15	20	*930	35	14	4.5	1.0	.3	.3
7	.6	1.1	26	14	*172	523	32	13	4.3	1.0	.4	.3
8	.6	1.2	23	13	532	336	31	14	4.3	1.0	.5	.2
9	.6	.7	20	12	*1,260	256	30	14	3.6	.9	.7	.2
10	.7	.7	18	11	476	203	28	13	3.1	1.0	.7	.2
11	1.4	.9	17	11	251	172	26	13	3.3	1.0	.5	.3
12	*1.4	1.5	15	14	562	146	26	12	3.1	*1.0	.3	.4
13	1.1	1.4	14	13	2,490	126	25	12	2.9	.9	.2	.4
14	.9	1.5	13	12	1,660	109	24	11	3.1	1.0	.3	.3
15	.8	2.0	13	11	*1,160	96	23	11	2.9	1.1	.3	.3
16	.8	2.0	12	11	679	*90	23	10	2.9	1.0	.2	.3
17	.8	1.8	23	11	438	81	22	10	1.5	.9	.2	.3
18	.7	1.8	22	11	582	72	21	9.7	2.2	.9	.2	.3
19	.7	2.2	51	*273	383	66	21	9.7	2.0	.9	.3	.3
20	.7	4.3	92	212	343	63	20	9.4	1.7	.7	.3	.4
21	.7	2.7	103	74	276	58	19	8.2	1.5	.7	*.3	.4
22	.7	2.4	56	46	221	180	19	8.2	1.7	.6	.2	.4
23	.7	3.4	42	37	189	94	18	8.2	1.7	.5	.3	.3
24	.7	38	35	33	165	76	17	7.3	1.5	.8	.3	.3
25	.9	102	30	30	144	67	17	7.0	1.5	.5	.3	.4
26	1.1	38	27	27	126	63	*17	7.3	1.5	.5	.3	.6
27	1.4	16	25	25	111	58	22	7.9	1.4	.5	.3	.7
28	1.4	8.7	23	24	159	55	22	7.0	1.2	1.0	.3	.9
29	1.1	71	21	22	-----	52	17	7.0	1.5	.5	.2	1.2
30	.5	153	20	21	-----	49	17	6.8	1.7	.6	.2	.8
31	.6	-----	19	20	-----	47	-----	6.5	-----	.6	.2	-----
TOTAL	24.6	464.3	1,887	1,084	12,484	6,950	774	333.2	86.6	26.6	10.6	12.0
MEAN	0.79	15.5	60.9	35.0	446	224	25.8	10.8	2.89	0.86	0.34	0.40
MAX	1.4	153	692	273	2,490	930	45	17	5.7	1.4	0.7	1.2
MIN	0.4	0.7	12	11	16	47	17	6.5	1.2	0.5	0.2	0.2
AC-FT	49	921	3,740	2,150	24,760	13,790	1,540	665	172	53	21	24

CALENDAR YEAR 1961: MAX 1,190 MIN 0.2 MEAN 46.0 AC-FT 33,270  
 WATER YEAR 1961-62: MAX 2,490 MIN 0.2 MEAN 66.1 AC-FT 47,880

Peak discharge (base, 1,300 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	0700	8.81	1,420	2-13	1000	15.82	6,370
2-9	0500	10.33	2,240	3- 5	2000	11.07	2,680

11-4640. Russian River near Healdsburg, Calif.

Location.--38°36'48", long 122°50'07", in Sotoyome Grant, on left bank 2 miles east of Healdsburg, Sonoma County, and 3.5 miles upstream from Dry Creek.

Drainage area.--793 sq mi (revised).

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 76.84 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--23 years, 1,396 cfs (1,011,000 acre-ft per year).

Extremes.--Maximum discharge during year, 32,000 cfs Feb. 13 (gage height, 17.35 ft); minimum daily, 120 cfs June 12.

1939-62: Maximum discharge, 67,000 cfs Feb. 28, 1940 (gage height, 30.0 ft); minimum daily, 38 cfs July 2, 1950.

Flood in December 1937 reached a stage of 30.8 ft, from floodmarks.

Remarks.--Records good. Several small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	360	217	9,150	356	640	4,450	788	450	* 192	150	180	185
2	352	217	7,050	* 344	* 615	7,400	752	352	190	* 151	180	190
3	352	217	2,630	332	605	6,040	704	* 324	195	154	185	185
4	344	217	1,510	309	558	5,060	665	306	190	155	185	185
5	344	217	1,110	298	544	7,040	625	295	185	154	190	180
6	332	217	* 896	291	605	17,100	580	295	180	152	190	180
7	328	217	746	281	1,420	11,000	548	288	160	152	195	185
8	324	217	645	271	3,110	7,890	517	284	145	154	200	185
9	324	217	580	268	10,500	6,300	504	284	140	155	205	190
10	320	217	530	271	9,320	4,140	880	274	130	151	210	200
11	316	219	481	274	5,160	3,180	2,580	252	125	153	205	200
12	309	219	445	278	4,790	2,790	* 1,380	238	120	154	205	200
13	302	219	427	278	23,800	2,460	704	230	125	155	200	190
14	295	219	414	274	21,500	2,220	562	224	130	156	185	180
15	291	219	392	268	* 23,100	2,040	499	222	145	156	180	180
16	288	219	380	295	15,600	* 1,910	450	217	150	154	180	178
17	288	210	356	396	11,000	1,810	422	214	155	150	180	178
18	281	196	376	436	11,000	1,660	396	210	155	155	175	176
19	281	193	440	871	8,640	1,580	380	205	150	163	175	176
20	281	202	860	4,270	7,190	1,450	364	200	145	170	180	191
21	278	202	1,370	2,080	6,130	1,360	352	200	145	175	175	174
22	255	198	1,120	1,500	4,660	1,830	340	195	140	178	* 175	172
23	241	196	818	1,360	3,400	2,160	324	230	140	181	175	172
24	* 230	222	660	1,270	2,560	1,750	313	240	135	178	175	174
25	224	3,120	585	1,220	2,180	1,570	* 336	235	140	177	180	174
26	222	1,950	535	1,170	1,910	1,470	450	230	135	176	180	172
27	219	884	490	920	1,960	1,330	486	220	140	176	185	174
28	224	566	468	758	2,160	1,110	548	210	145	177	180	182
29	219	903	436	698	-	1,010	535	200	145	178	175	191
30	217	3,520	414	665	-----	932	508	195	150	178	175	191
31	217	-----	392	645	-----	860	-----	195	-----	* 180	180	-----
Total	8,858	16,046	36,706	22,947	184,657	112,902	18,492	7,714	4,522	5,048	5,740	5,490
Mean	286	535	1,184	740	6,595	3,642	616	249	151	163	185	183
Max	360	3,520	9,150	4,270	23,800	17,100	2,580	450	195	181	210	200
Min	217	193	356	268	544	860	313	195	120	150	175	172
Ac-ft	17,570	31,830	72,810	45,510	366,300	223,900	36,680	15,300	8,970	10,010	11,390	10,890

Calendar year 1961: Max 14,700 Min 193 Mean 1,056 Ac-ft 764,500  
 Water year 1961-62: Max 23,800 Min 120 Mean 1,176 Ac-ft 851,200

Peak discharge (base, 19,000 cfs).--Feb. 13 (2200) 32,000 cfs (17.35 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation indefinite May 19 to Sept. 13

11-4645. Dry Creek near Cloverdale, Calif.

Location.--Lat 38°44'59", long 123°05'28", in NE 1/4 sec. 5, T.10 N., R.11 W., on left bank 500 ft downstream from Smith Creek and 5 miles southwest of Cloverdale.

Drainage area.--87.8 sq mi.

Records available.--October 1941 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 320 ft (from topographic map).

Average discharge.--21 years, 155 cfs (112,200 acre-ft per year); median of yearly mean discharges, 137 cfs (99,200 acre-ft per year).

Extremes.--Maximum discharge during year, 14,100 cfs Feb. 13 (gage height, 15.66 ft); minimum, 0.1 cfs Sept. 23, 24.

1941-62: Maximum discharge, 17,600 cfs Dec. 22, 1955 (gage height, 17.80 ft), from rating curve extended above 9,400 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs several days in 1944, 1949, 1951-53, 1962.

Flood in December 1937 reached a stage of about 18 ft, from floodmarks.

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

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.4	1.3	1,840	37	42	737	78	31	13	2.7	0.8	0.3
2	.5	1.4	800	34	36	765	74	30	12	2.6	.8	.3
3	.5	1.4	393	34	33	600	70	30	12	2.4	.8	.3
4	.4	1.5	279	33	30	524	68	28	10	2.4	.8	.3
5	.5	1.6	205	*31	28	1,430	64	27	*10	2.1	.8	.3
6	.4	1.7	166	28	46	1,770	58	27	9.0	1.9	.9	.3
7	.4	1.8	125	27	436	*1,100	56	27	7.7	1.9	.9	.2
8	.4	1.9	105	27	649	732	54	27	6.6	1.7	1.0	.2
9	.4	1.9	89	27	1,950	542	52	30	6.0	1.8	1.1	.2
10	.4	1.9	80	25	1,190	425	52	27	6.0	1.9	.9	.2
11	.6	1.9	70	24	759	357	49	25	5.5	1.7	.9	.2
12	.6	2.1	66	27	1,170	300	47	24	5.5	*1.8	.9	.3
13	.6	2.1	62	25	6,430	254	46	24	5.5	1.6	.9	.3
14	.8	2.4	60	24	3,350	219	46	23	5.5	1.6	.8	.3
15	.8	2.4	56	23	*3,440	199	44	21	5.5	1.7	.8	.3
16	.7	2.6	49	23	2,110	*193	42	21	5.0	1.6	.7	.3
17	.7	2.7	68	23	1,330	166	39	20	4.6	1.4	.6	.3
18	.6	2.6	70	23	1,270	148	37	20	4.3	1.3	.6	.3
19	.6	3.1	123	504	920	138	37	20	4.0	1.3	.6	.3
20	.6	14	190	533	743	128	37	18	3.7	1.2	.6	.2
21	.7	6.6	237	237	616	115	36	18	3.5	1.1	*.6	.2
22	.7	*4.6	145	157	533	293	34	18	3.5	1.0	.6	.2
23	.8	9.0	108	120	470	166	33	18	3.3	1.0	.6	.1
24	.8	170	85	100	425	140	*33	13	2.9	.9	.6	.1
25	.9	806	72	80	385	128	31	13	2.7	.9	.5	.2
26	.9	286	60	64	357	115	31	27	2.9	.8	.5	.2
27	*1.0	169	54	60	331	108	39	23	2.9	.8	.5	.2
28	1.0	120	47	56	481	100	44	18	2.6	.9	.5	.3
29	1.2	446	44	56	-----	93	36	16	2.7	.9	.4	.3
30	1.4	693	40	52	-----	89	33	16	2.9	.9	.4	.3
31	1.3	-----	39	*47	-----	82	-----	14	-----	.9	.3	-----
TOTAL	21.6	2,762.5	5,827	2,561	29,560	12,156	1,400	694	171.3	46.7	21.7	7.5
MFAN	0.70	92.1	188	82.6	1,056	392	46.7	22.4	5.71	1.51	0.70	0.25
MAX	1.4	806	1,840	533	6,430	1,770	78	31	13	2.7	1.1	0.3
MIN	0.4	1.3	39	23	28	82	31	13	2.6	0.8	0.3	0.1
AC-FT	43	5,480	11,560	5,080	58,630	24,110	2,780	1,380	340	93	43	15

CALENDAR YEAR 1961: MAX 3,220 MIN 0.2 MEAN 117 AC-FT 84,510  
 WATER YEAR 1961-62: MAX 6,430 MIN 0.1 MEAN 151 AC-FT 109,600

Peak discharge (base, 3,300 cfs).--Feb. 13 (1000) 14,100 cfs (15.66 ft).

\* Discharge measurement made on this day.

## RUSSIAN RIVER BASIN

11-4652. Dry Creek near Geyserville, Calif.

Location.--Lat 38°41'55", long 122°57'25", in Tzabaco Grant, on left bank pier of bridge, 0.3 mile downstream from Pena Creek and 3 miles west of Geyserville, Sonoma County.

Drainage area.--162 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder, and staff gage read twice daily. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 22,500 cfs Feb. 13 (gage height, 15.18 ft); no flow Oct. 1 to Nov. 23, Sept. 20-30. 1959-62: Maximum discharge, that of Feb. 13, 1962; no flow at times in each year.

Remarks.--Records good. No regulation. Small diversions for orchard irrigation in summer.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 26, May 2 to Sept. 19)

0.65	0	1.2	26	4.0	1,140
.7	.2	1.4	58	5.0	1,970
.8	1.3	1.6	98	6.0	3,200
.9	3.3	2.0	194	8.0	6,600
1.0	7.0	2.5	355	10.0	10,600
1.1	14	3.0	570	12.0	15,000

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3,420	69	81	1,010	159	64	25	7.0	1.5	1.2
2		0	1,240	64	75	1,320	154	58	20	5.8	1.3	1.3
3		0	625	56	68	986	147	56	16	4.7	1.3	1.3
4		0	387	53	68	825	135	56	20	4.3	1.3	1.3
5		0	274	50	62	2,670	128	53	*17	4.3	1.3	1.3
6		*0	216	48	77	4,100	121	51	17	3.6	1.5	1.3
7		0	182	46	644	2,140	119	50	17	3.3	1.6	1.5
8		0	152	44	1,020	1,350	114	50	16	3.3	2.0	1.5
9		0	130	41	4,310	986	110	56	15	3.1	2.2	1.5
10		0	114	40	2,260	786	110	53	15	3.1	2.0	1.5
11		0	98	37	1,140	665	105	53	14	3.1	1.8	1.5
12		0	88	38	1,750	561	100	50	14	*3.1	1.3	1.3
13		0	79	40	*13,100	489	96	48	14	3.1	1.3	1.0
14		0	75	35	7,050	431	92	46	14	3.1	1.2	.9
15		0	68	32	7,940	*391	92	43	14	3.1	1.2	.9
16		0	62	31	4,010	363	88	43	13	3.1	1.2	.9
17		0	79	29	2,220	318	85	40	13	3.1	1.2	.5
18		0	79	29	2,400	287	81	38	12	3.3	1.0	.3
19		0	126	630	1,650	262	81	37	10	3.3	1.0	.1
20		0	189	835	1,220	240	79	34	8.5	3.3	1.0	0
21		0	294	363	938	222	77	32	7.5	2.8	*1.0	0
22		*0	214	262	775	421	75	32	7.0	2.4	1.2	0
23		0	174	g216	650	308	73	32	6.6	2.2	1.3	0
24		119	149	g186	557	255	*68	32	6.6	2.2	1.3	0
25	(*)	1,220	128	g162	476	234	62	29	6.2	2.2	1.3	0
26		401	114	g135	407	219	62	37	6.2	2.2	1.3	0
27		164	100	g126	355	208	75	53	5.4	2.0	1.2	0
28		96	92	g121	501	194	92	40	5.4	1.8	1.2	0
29		609	*83	g105	-	184	73	34	5.0	1.6	1.2	0
30		1,190	75	g98	-----	174	68	31	5.0	1.5	1.2	0
31		-----	69	*92	-----	167	-----	28	-----	1.5	1.2	-----
Total	0	3,799	9,175	4,113	55,804	22,766	2,921	1,359	365.4	96.5	41.6	21.1
Mean	0	127	296	133	1,993	734	97.4	43.8	12.2	3.11	1.34	0.70
Max	0	1,220	3,420	835	13,100	4,100	159	64	25	7.0	2.2	1.5
Min	0	0	62	29	62	167	62	28	5.0	1.5	1.0	0
Ac-ft	0	7,540	18,200	8,160	110,700	45,160	5,790	2,700	725	191	83	42
Calendar year 1961: Max 6,350 Min 0 Mean 190 Ac-ft 137,500												
Water year 1961-62: Max 13,100 Min 0 Mean 275 Ac-ft 199,300												

Peak discharge (base 4,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	7.55	5,790	2-13	1200	15.18	22,500
2-9	1000	7.95	6,510	3-5	1900	8.27	7,140

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

g Computed from twice-daily staff gage readings.



## RUSSIAN RIVER BASIN

371

11-4658. Santa Rosa Creek near Santa Rosa, Calif.

Location.--Lat 38°27'25", long 122°37'50", in Los Guillicos Grant, on left bank 500 ft downstream from highway bridge, 1,500 ft upstream from unnamed tributary, and 4.6 miles east of Santa Rosa, Sonoma County.

Drainage area.--12.5 sq mi.

Records available.--July 1959 to September 1962.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 335 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,140 cfs Feb. 13 (gage height, 9.24 ft), from rating curve extended above 390 cfs as explained below; no flow for several days.

1959-62: Maximum discharge, 3,200 cfs Feb. 8, 1960 (gage height, 13.35 ft, from floodmarks), from rating curve extended above 390 cfs on basis of slope-area measurements at gage heights 11.0 and 13.35 ft; no flow at times in each year.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.3	87	2.2	3.7	116	11	3.5	1.6	0.1	0.1	0.1
2	0	.3	*50	2.1	3.2	101	10	3.2	1.4	.1	.1	0
3	0	.3	22	2.0	2.9	63	9.5	2.9	1.7	.1	.1	0
4	.1	.3	9.5	1.9	2.8	50	8.8	2.9	2.0	.1	.1	0
5	.1	.2	6.1	1.8	2.5	94	8.1	2.8	1.9	.1	.1	.1
6	.1	.1	4.4	1.7	3.2	152	7.5	2.6	1.6	.1	.1	0
7	.1	.1	3.5	1.7	*19	98	7.2	2.5	1.4	.1	.1	0
8	0	.1	3.1	1.5	36	67	9.7	2.9	1.5	.1	.1	0
9	0	.1	2.6	1.4	*180	52	7.0	2.9	1.3	.1	.1	0
10	0	.1	2.2	1.3	61	42	6.7	2.9	.9	.1	.4	*0
11	.2	.1	2.0	1.2	34	36	5.6	2.8	1.0	.1	.6	.1
12	*.1	.1	1.8	1.4	81	31	5.0	2.6	*1.1	.1	.4	0
13	.1	*.1	1.7	1.4	484	28	4.4	2.8	1.2	.1	.3	0
14	0	.1	1.7	1.4	367	25	4.2	2.9	1.5	.1	.2	0
15	0	.1	1.6	1.3	*429	22	11	2.5	1.1	.1	.1	0
16	0	.1	1.5	1.3	215	22	4.6	2.3	1.1	.1	.1	0
17	0	.1	2.3	1.3	112	20	4.6	2.2	.8	.1	.1	0
18	0	.2	2.5	1.5	119	18	4.4	2.2	.8	.1	.1	0
19	0	.3	3.5	117	81	17	5.8	2.0	.5	.1	.1	0
20	.1	.7	12	*77	74	*16	5.0	2.1	.3	.1	.6	0
21	.1	.5	22	24	63	14	4.6	2.1	.2	.1	.3	.1
22	.1	.5	*9.5	15	47	34	4.6	2.0	.2	.1	.5	.1
23	.1	.7	6.7	11	38	21	4.2	2.1	.2	.1	.2	.1
24	.1	.9	5.0	9.2	33	17	4.2	2.3	.4	.1	.1	0
25	.1	2.1	4.2	7.8	29	16	4.2	2.2	.3	.1	.1	.1
26	.2	2.0	3.7	6.1	25	15	4.2	2.3	.3	.1	.1	.1
27	.3	.8	3.4	5.3	22	14	7.5	2.3	.2	.1	.1	.3
28	.3	.5	3.1	4.8	33	13	5.3	2.2	.1	.1	0	.6
29	.1	1.2	2.8	4.4	-	12	3.8	2.0	.1	.1	0	.4
30	.1	*14	2.6	4.0	-----	11	*3.8	1.9	.2	*.2	0	.2
31	.2	-----	2.5	*3.8	-----	11	-----	1.8	-----	.1	0	-----
Total	2.6	27.0	286.5	317.8	2600.3	1248	186.5	76.7	26.9	3.2	5.3	2.3
Mean	0.08	0.90	9.24	10.3	92.9	40.3	6.22	2.47	0.90	0.10	0.17	0.08
Max	0.3	14	87	117	484	152	11	3.5	2.0	0.2	0.6	0.6
Min	0	0.1	1.5	1.2	2.5	11	3.8	1.8	0.1	0.1	0	0
Ac-ft	5.2	54	568	630	5160	2480	370	152	53	6.3	11	4.6

Calendar year 1961: Max 177 Min 0 Mean 8.01 Ac-ft 5800  
 Water year 1961-62: Max 484 Min 0 Mean 13.1 Ac-ft 9490

Peak discharge (base, 500 cfs).--Feb. 13 (1100) 1,140 cfs (9.24 ft).

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

11-4670. Russian River near Guerneville, Calif.

Location.--Lat 38°30'00", long 122°56'05", in NE¼ sec.35, T.8 N., R.10 W., on left bank 0.6 mile downstream from Hobson Creek and 3.4 miles east of Guerneville.

Drainage area.--1,342 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "at Guerneville."

Gage.--Water-stage recorder. Altitude of gage is 70 ft (from topographic map). Prior to Oct. 1, 1954, wire-weight gage at bridge 5.3 miles downstream at different datum. Supplementary water-stage recorder 2.1 miles downstream used during periods of low flow 1948-54.

Average discharge.--23 years, 2,205 cfs (1,596,000 acre-ft per year); median of yearly mean discharges, 1,830 cfs (1,320,000 acre-ft per year).

Extremes.--Maximum discharge during year, 57,400 cfs Feb. 13 (gage height, 38.91 ft); minimum daily, 94 cfs June 28. 1939-62: Maximum discharge, 90,100 cfs Dec. 23, 1955 (gage height, 49.7 ft, from floodmarks); minimum daily, 61 cfs July 4, 1950.

Remarks.--Records good. Many diversions above station for irrigation. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations), since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft), and by diversion at Wohler pumping plant beginning in May 1959.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 9-19, Dec. 26 to Jan. 19,  
Apr. 12 to Sept. 30)

4.0	90	13.0	6,400
4.2	132	19.0	14,400
4.5	210	26.0	26,000
5.0	385	30.0	33,700
7.0	1,330	37.0	51,900
10.0	3,420		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	216	12,100	493	685	7,080	930	558	199	119	146	151
2	342	219	13,100	477	644	12,500	870	493	185	125	146	156
3	338	216	5,090	457	630	9,870	810	453	179	119	149	159
4	334	216	2,610	441	581	8,540	750	421	179	119	151	154
5	*331	216	1,730	*425	550	10,200	695	401	174	125	156	151
6	324	213	1,300	405	581	28,900	648	389	*166	117	156	151
7	320	210	1,080	397	2,750	22,900	622	381	159	114	156	154
8	320	207	935	385	5,420	14,800	586	377	149	114	166	154
9	320	207	815	369	18,000	*11,000	554	377	139	117	182	156
10	324	213	720	369	18,700	8,120	608	369	123	114	182	161
11	320	216	648	365	10,200	6,190	2,170	353	117	110	179	164
12	320	219	590	373	*8,340	5,170	2,210	331	110	108	169	182
13	310	216	563	381	40,700	4,330	930	306	100	*104	159	182
14	303	213	541	365	49,100	3,730	750	303	96	102	146	182
15	296	216	521	361	49,500	3,290	685	292	96	108	149	164
16	289	216	493	361	34,700	3,000	644	275	102	110	146	159
17	286	207	485	449	21,500	2,770	608	275	114	108	146	164
18	282	196	505	493	18,700	2,450	572	264	125	108	142	174
19	286	190	586	971	16,400	2,210	545	149	119	108	142	166
20	286	213	865	7,220	12,300	2,000	525	219	114	110	146	161
21	289	*210	1,580	3,860	10,300	1,790	505	219	108	117	142	169
22	272	202	1,560	2,320	8,230	2,650	493	207	104	125	*142	156
23	250	199	1,140	1,790	6,510	3,410	481	199	108	130	142	156
24	*237	228	950	1,590	4,740	2,550	465	202	108	139	142	156
25	228	2,770	825	1,440	3,830	2,170	*457	225	110	139	146	156
26	225	3,500	745	1,320	3,190	1,950	513	231	104	142	149	159
27	222	1,300	676	1,140	2,950	1,750	550	237	100	139	151	164
28	222	790	626	910	3,200	1,440	617	258	94	142	146	174
29	225	988	586	810	-	1,240	630	247	108	146	142	185
30	219	4,760	550	750	-----	1,120	572	234	114	146	142	196
31	213	-----	521	700	-----	1,020	-----	216	-----	146	146	-----
Total	8,878	19,182	55,036	32,187	352,931	190,140	21,995	9,461	3,803	3,770	4,704	4,916
Mean	286	639	1,775	1,038	12,600	6,134	733	305	127	122	152	164
Max	345	4,760	13,100	7,220	49,500	28,900	2,210	558	199	146	182	196
Min	213	190	485	361	550	1,020	457	149	94	102	142	151
Ac-ft	17,610	38,050	109,200	63,840	700,000	377,100	43,630	18,770	7,540	7,480	9,330	9,750

Calendar year 1961: Max 25,300 Min 190 Mean 1,570 Ac-ft 1,137,000  
Water year 1961-62: Max 49,500 Min 94 Mean 1,937 Ac-ft 1,402,000

Peak discharge (base, 23,000 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1900	25.08	24,300	3-6	1700	28.61	30,900
2-13	2300	38.91	57,400				

RUSSIAN RIVER BASIN

373

11-4672. Austin Creek near Cazadero, Calif.

Location.--Lat 38°30'05", long 123°04'05", on left bank 0.6 mile downstream from confluence of Big Austin and East Austin Creeks, 2.3 miles southeast of Cazadero, Sonoma County, and 3.4 miles upstream from mouth.

Drainage area.--63.1 sq mi (revised).

Records available.--May 1959 to September 1962.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 40 ft (from topographic map).

Extremes.--Maximum discharge during year, 15,100 cfs Feb. 13 (gage height, 20.6 ft); minimum daily, 0.4 cfs Sept. 21-28.

1959-62: Maximum discharge that of Feb. 13, 1962 (outside gage height, 20.6 ft); no flow Aug. 19 to Sept. 17, 1959.

Remarks.--Records good except those for periods of indefinite stage-discharge relation or no gage-height record, which are poor. No storage or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e1.0	3.5	*1,660	50	55	1,050	128	48	16	e2.1	1.4	0.8
2	e1.0	3.0	470	47	52	1,330	124	42	15	e2.2	1.4	.7
3	e1.0	4.5	186	45	50	774	112	38	14	e2.2	1.3	.7
4	e1.0	3.0	140	42	47	605	107	35	*14	e2.1	1.3	.7
5	e1.2	3.0	120	39	45	2,320	101	32	14	e2.1	1.3	.6
6	e1.2	2.8	110	38	62	2,100	94	31	14	e2.1	1.3	.6
7	e1.2	2.8	90	37	855	1,240	92	31	13	2.1	1.3	.5
8	e1.2	2.8	80	34	1,010	829	84	33	12	2.1	1.3	.5
9	e1.5	3.2	70	33	3,510	595	82	34	12	2.1	1.4	.5
10	e2.0	3.2	60	31	1,380	450	76	29	12	2.1	1.4	.5
11	e4.0	3.4	52	30	620	364	74	28	10	1.9	1.9	.5
12	e3.5	3.5	48	34	2,080	300	70	26	9.9	1.9	2.0	.5
13	e3.0	3.2	45	30	7,970	263	65	25	9.9	*1.9	1.9	.5
14	2.8	3.1	43	29	3,650	243	62	25	9.9	1.8	1.8	.5
15	2.8	2.9	*42	27	*2,580	*218	60	24	8.4	1.8	1.8	.5
16	2.8	2.8	43	26	1,430	209	57	23	6.7	1.8	1.6	.5
17	2.8	2.7	75	25	966	182	55	22	8.9	1.6	1.5	.5
18	3.0	2.8	100	25	1,240	161	52	22	8.0	1.6	1.4	.5
19	3.8	3.1	150	1,340	906	154	55	21	5.3	1.6	1.4	.5
20	3.2	4.5	200	871	675	146	52	20	4.3	1.6	1.4	.5
21	3.0	*6.3	300	339	526	133	49	20	2.1	1.7	1.3	.4
22	3.0	4.9	*170	240	409	711	46	20	1.4	1.6	1.3	.4
23	3.0	10	150	180	336	314	44	19	1.7	1.6	*1.2	.4
24	3.0	366	120	149	294	253	42	18	e1.8	1.6	1.2	.4
25	3.0	1,210	100	126	253	221	*40	18	e2.0	1.6	1.1	.4
26	3.0	550	85	96	224	197	39	19	e2.2	1.6	1.1	.4
27	3.0	250	75	82	200	182	55	21	e2.1	1.6	1.0	.4
28	13	150	*68	77	309	164	94	20	e2.0	1.6	1.0	.4
29	5.2	*600	61	*71	-	154	65	19	e2.0	1.5	1.0	.6
30	*3.5	702	56	62	-----	146	54	18	e2.1	1.5	.9	.8
31	5.1	-----	53	56	-----	136	-----	17	-----	1.5	.8	-----
Total	91.8	3,913.0	5,022	4,311	31,734	16,144	2,130	798	236.7	56.1	42.0	15.7
Mean	2.96	130	162	139	1,133	521	71.0	25.7	7.89	1.81	1.35	0.52
Max	13	1,210	1,660	1,340	7,970	2,320	128	48	16	2.2	2.0	0.8
Min	1.0	2.7	42	25	45	133	39	17	1.4	1.5	0.8	0.4
Ac-ft	182	7,760	9,960	8,550	62,940	32,020	4,220	1,580	469	111	83	31

Calendar year 1961: Max 4,930 Min 0.9 Mean 154 Ac-ft 111,200

Water year 1961-62: Max 7,970 Min 0.4 Mean 177 Ac-ft 127,900

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0500	13.03	6,730	3-5	1700	13.15	6,860
2-13	0900	20.6	15,100				

\* Discharge measurement made on this day.

e Stage-discharge relation indefinite

Note.--No gage-height record Nov. 11-20, 26-29, Dec. 5-15, 18-21, 23-27, Apr. 14-25, Apr. 28 to Mar. 8, Sept. 12-30.

## GUALALA RIVER BASIN

11-4675. South Fork Gualala River near Annapolis, Calif.

Location.--Lat 38°42'14", long 123°25'13", in German Grant, on left bank 2,700 ft downstream from Wheatfield Fork Gualala River and 3.1 miles southwest of Annapolis, Sonoma County. Prior to Aug. 30, 1962, at site 1,700 ft upstream.

Drainage area.--161 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 60 ft (from topographic map). Prior to Aug. 30, 1962, at site 1,700 ft upstream at different datum.

Average discharge.--12 years, 439 cfs (317,800 acre-ft per year).

Extremes.--Maximum discharge during year, 37,700 cfs Feb. 13 (gage height, 20.18 ft, site and datum then in use), from rating curve extended above 13,000 cfs as explained below; minimum, 3.0 cfs Oct. 8-10.

1950-62: Maximum discharge, 55,000 cfs Dec. 22, 1955 (gage height, 24.57 ft, site and datum then in use), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.4 cfs Sept. 13, 1951.

Remarks.--Records fair prior to Aug. 30, good thereafter. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	6.0	4,660	29	45	2,000	210	85	22	24	4.4	5.2
2	3.4	5.1	1,670	24	41	2,700	200	82	22	25	4.7	5.2
3	3.7	4.7	691	21	40	1,550	185	78	30	24	4.4	5.2
4	4.0	4.7	370	17	37	1,250	170	72	* 25	18	4.4	5.2
5	4.4	4.7	196	14	36	4,700	* 161	69	22	18	4.4	5.2
6	3.7	4.7	122	11	40	4,300	153	66	23	14	4.7	5.2
7	3.7	4.4	80	9.9	971	* 2,600	145	66	21	13	4.6	5.2
8	3.4	4.4	64	8.2	* 1,600	1,600	141	67	20	13	4.6	5.2
9	3.0	4.4	50	7.1	7,010	1,200	136	72	19	13	4.6	4.9
10	3.0	4.4	41	5.4	3,230	900	129	66	20	12	4.8	5.2
11	7.1	4.7	32	4.4	1,550	720	122	63	20	12	5.1	5.2
12	22	5.1	26	7.1	2,650	600	115	60	20	13	5.8	5.2
13	19	4.7	20	7.6	20,500	500	108	59	21	12	5.7	5.2
14	10	4.7	17	e 6.0	8,140	* 420	104	57	22	12	5.6	5.2
15	7.1	4.4	13	e 5.0	5,400	400	102	e 53	23	11	5.4	5.2
16	5.4	4.4	11	e 4.5	2,700	370	98	e 50	23	* 8.8	5.4	5.2
17	5.1	4.0	569	e 4.2	2,050	330	93	e 47	20	7.6	5.3	5.2
18	4.7	4.4	240	e 4.5	2,500	300	89	e 45	20	8.2	5.3	5.2
19	4.4	5.4	395	2,640	1,800	280	93	e 42	20	8.2	5.3	5.2
20	4.0	2.4	780	3,100	1,350	260	87	e 41	19	8.8	5.3	4.9
21	3.7	4.4	1,280	740	1,050	250	82	40	19	8.8	5.3	4.9
22	3.4	2.8	576	355	820	1,300	78	40	17	8.8	5.2	5.2
23	3.4	4.5	321	226	670	600	* 77	39	18	7.1	5.2	5.2
24	3.7	800	206	209	560	460	72	34	19	6.5	5.2	5.2
25	3.7	3,710	138	164	500	410	70	30	23	6.0	5.2	5.2
26	4.4	1,040	95	120	450	360	69	29	24	5.4	5.2	5.2
27	7.1	285	72	91	400	320	119	34	23	5.1	5.2	5.2
28	12	141	62	72	650	290	172	32	22	4.7	5.2	5.9
29	12	677	49	59	-	260	102	27	22	4.7	5.2	8.2
30	* 9.9	1,110	41	50	-----	250	91	27	22	5.1	* 5.2	1.2
31	7.6	-----	32	48	-----	230	-----	25	-----	5.1	5.2	-----
Total	195.4	7,993.3	12,919	8,063.9	66,790	31,710	3,573	1,597	641	342.9	157.1	165.6
Mean	6.30	266	417	260	2,385	1,023	119	51.5	21.4	11.1	5.07	5.52
Max	22	3,710	4,660	3,100	20,500	4,700	210	85	30	25	5.8	12
Min	3.0	4.0	11	4.2	36	230	69	25	17	4.7	4.4	4.9
Ac-ft	388	15,850	25,620	15,990	132,500	62,900	7,090	3,170	1,270	680	311	328

Calendar year 1961: Max 8,870 Min 3.0 Mean 341 Ac-ft 246,900  
 Water year 1961-62: Max 20,500 Min 3.0 Mean 368 Ac-ft 266,100

Peak discharge (base, 10,000 cfs).--Feb. 9 (0900) 10,400 cfs (11.34 ft); Feb. 13 (1300) 37,700 cfs (20.18 ft).

\* Discharge measurement made on this day.

e Stage-discharge relation indefinite.

Note.--No gage-height record Aug. 7-29.

11-4678. Rancheria Creek near Boonville, Calif.

Location.--Lat 38°59'35", long 123°26'00", in SE $\frac{1}{4}$  sec.7, T.13 N., R.14 W., on left bank at county road bridge, 100 ft downstream from Minnie Creek and 3.7 miles west of Boonville.

Drainage area.--65.8 sq mi.

Records available.--August 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 427 ft above mean sea level, unadjusted (by Topographic Division).

Extremes.--Maximum discharge during year, 9,230 cfs Feb. 13 (gage height, 14.69 ft), from rating curve extended above 2,800 cfs; minimum, 1.5 cfs Oct. 2-5, 8-10, 21-25.

1959-62: Maximum discharge, 9,990 cfs Feb. 8, 1960 (gage height, 15.30 ft), from rating curve extended above 2,800 cfs; minimum, 0.9 cfs Aug. 31 to Sept. 7, 1959, Nov. 3, 1960.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	2.7	1,290	34	21	461	86	a35	13	5.9	*2.4	1.9
2	1.5	2.7	511	33	19	545	81	a33	13	5.3	2.1	1.9
3	1.5	2.7	251	32	17	403	77	a31	12	4.8	2.4	1.9
4	1.5	2.7	157	31	15	344	71	a29	12	4.4	2.4	1.9
5	1.5	2.7	114	28	14	*1,080	67	a28	12	3.9	2.1	*2.1
6	1.7	2.7	92	26	20	1,540	64	a27	12	3.5	2.1	1.9
7	1.7	2.7	75	25	349	*883	62	a26	11	3.1	2.1	1.9
8	1.5	2.7	64	25	565	553	60	a26	11	3.1	2.4	2.1
9	1.5	2.7	57	24	1,590	407	58	a27	10	3.1	2.4	2.1
10	1.5	3.5	50	23	889	309	57	a26	10	3.1	2.1	2.1
11	1.9	3.5	*44	22	457	278	55	a25	10	3.1	2.1	2.1
12	1.7	3.5	40	23	824	233	53	a24	9.5	3.5	2.1	1.9
13	1.7	3.5	37	23	4,790	203	52	a23	9.5	3.5	1.9	2.1
14	1.9	3.5	36	21	2,350	185	50	a22	9.5	3.5	1.9	2.1
15	1.7	3.9	32	*20	*3,020	*168	49	a21	8.8	3.5	1.9	2.1
16	1.9	3.9	31	21	1,680	160	49	*a20	8.8	3.5	1.9	1.9
17	1.7	3.9	41	21	912	150	49	19	8.8	3.5	1.9	1.9
18	1.7	3.9	41	22	954	135	47	19	8.8	3.5	1.9	1.9
19	1.7	5.3	58	332	641	125	47	15	*8.8	3.1	2.1	1.9
20	1.7	10	96	402	481	121	46	16	7.6	3.1	2.1	1.9
21	1.5	7.6	142	160	372	112	44	16	7.0	2.7	2.1	1.9
22	1.5	7.6	102	104	309	291	43	16	7.0	2.4	2.1	1.7
23	1.5	11	84	77	269	185	43	16	6.4	2.4	2.1	1.7
24	1.5	182	71	62	242	152	41	15	6.4	2.4	2.1	1.7
25	1.5	1,050	62	52	212	140	41	15	6.4	2.4	2.1	1.7
26	4.4	265	57	43	188	*130	40	15	6.4	2.7	1.9	1.9
27	4.4	117	50	36	165	119	41	17	7.0	2.4	1.9	2.4
28	3.9	69	47	32	212	114	46	15	7.0	2.4	1.7	2.7
29	3.5	271	44	28	-	110	40	15	7.0	2.1	1.7	2.7
30	3.1	600	40	25	-----	98	38	14	6.4	2.1	1.7	2.7
31	*2.7	-----	37	23	-----	90	-----	14	-----	2.4	1.7	-----
Total	62.7	2,652.9	3,853	1,830	21,577	9,824	1,597	660	273.1	100.4	63.4	60.7
Mean	2.02	88.4	124	59.0	771	317	53.2	21.3	9.10	3.24	2.05	2.02
Max	4.4	1,050	1,290	402	4,790	1,540	86	35	13	5.9	2.4	2.7
Min	1.5	2.7	31	20	14	90	38	14	6.4	2.1	1.7	1.7
Ac-ft	124	5,260	7,640	3,630	42,800	19,490	3,170	1,310	542	199	126	120

Calendar year 1961: Max 2,550 Min 1.5 Mean 103 Ac-ft 74,540

Water year 1961-62: Max 4,790 Min 1.5 Mean 117 Ac-ft 84,410

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1000	7.77	2,390	2-13	1100	14.69	9,230
2-9	1000	7.67	2,320	3-5	2000	7.52	2,210

\* Discharge measurement made on this day.  
a No gage-height record.

11-4680. Navarro River near Navarro, Calif.

Location.--Lat 39°10'15", long 123°39'55", in SE $\frac{1}{4}$  sec.7, T.15 N., R.16 W., on left bank 2.7 miles downstream from North Fork, 5.4 miles upstream from mouth, and 6.6 miles west of Navarro.

Drainage area.--304 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--12 years, 525 cfs (380,100 acre-ft per year).

Extremes.--Maximum discharge during year, 22,300 cfs Feb. 13 (gage height, 29.00 ft); minimum, 6.0 cfs Oct. 4.

1950-62: Maximum discharge, 64,500 cfs Dec. 22, 1955 (gage height, 40.60 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement of peak flow; minimum, 4.7 cfs Aug. 26, 27, 1959.

Flood in December 1937 reached a stage of 38.2 ft, from floodmarks.

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

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	15	3,860	120	101	1,220	300	99	45	24	9.3	8.5
2	6.5	15	2,050	112	92	2,480	282	95	43	24	9.3	8.5
3	6.5	14	808	108	84	2,020	261	90	42	24	*9.3	8.5
4	6.5	14	462	103	78	1,570	243	88	42	21	10	8.5
5	7.1	14	342	99	74	2,670	225	84	40	20	11	8.5
6	7.1	14	270	92	86	6,450	207	80	40	18	12	8.5
7	7.1	14	225	88	388	3,810	200	78	38	17	14	*8.5
8	6.5	14	192	86	1,130	2,380	187	76	38	17	17	9.3
9	6.5	14	168	84	3,210	1,640	181	64	36	17	18	10
10	6.5	14	153	80	2,920	1,250	174	84	35	17	18	9.3
11	18	15	136	74	1,610	1,060	166	82	33	15	17	9.3
12	17	15	*127	76	1,330	858	156	78	35	17	17	8.5
13	17	17	117	78	12,400	706	148	74	35	17	15	7.8
14	15	17	115	72	*6,390	599	144	70	35	17	14	7.8
15	13	17	108	*68	9,310	546	139	70	35	15	12	7.8
16	11	17	101	66	6,270	508	134	*68	33	15	15	7.8
17	9.3	17	127	64	3,920	462	129	64	32	15	14	7.1
18	8.5	17	148	68	3,810	414	124	63	33	14	11	7.8
19	8.5	18	174	627	2,780	381	127	61	32	13	10	7.8
20	8.5	29	342	2,350	1,990	369	127	57	*29	12	10	7.1
21	8.5	36	539	864	1,420	339	120	57	27	13	11	7.8
22	7.8	40	459	501	1,090	690	115	57	26	12	10	8.5
23	7.8	42	351	557	879	842	110	57	26	12	10	9.3
24	7.8	138	282	288	750	674	108	55	27	11	10	8.5
25	7.8	2,600	231	246	616	592	106	55	26	11	10	8.5
26	12	943	202	205	536	*529	101	55	26	11	10	8.5
27	21	372	179	176	480	476	110	55	29	10	10	10
28	29	205	161	153	494	424	163	55	27	10	9.3	15
29	26	358	148	136	-----	387	124	52	24	10	8.5	23
30	23	1,610	139	122	-----	351	108	48	24	10	9.3	23
31	*18	-----	127	110	-----	321	-----	47	-----	10	9.3	-----
TOTAL	361.3	6,665	12,843	7,673	64,238	37,018	4,819	2,138	993	469	370.3	289.0
MEAN	11.7	222	414	248	2,294	1,194	161	69.0	33.1	15.1	11.9	9.65
MAX	29	2,600	3,860	2,350	12,400	6,450	300	99	45	24	18	23
MIN	6.5	14	101	64	74	321	101	47	24	10	8.5	7.1
AC-FT	717	13,220	25,470	15,220	127,400	73,420	9,560	4,240	1,970	930	734	573

CALENDAR YEAR 1961: MAX 6,650 MIN 6.0 MEAN 324 AC-FT 234,400  
 WATER YEAR 1961-62: MAX 12,400 MIN 6.5 MEAN 378 AC-FT 273,500

Peak discharge (base, 7,000 cfs)

\*Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1600	16.24	7,440	2-15	1600	18.65	9,920
2-13	1600	29.00	22,300	3- 6	1000	16.05	7,250

## ALBION RIVER BASIN

377

11-4680.1. Albion River near Comptche, Calif.

Location.--Lat 39°15'40", long 123°37'00", in SW<sup>1</sup>/<sub>4</sub> sec.11, T.16 N., R.16 W., on right bank 2,000 ft downstream from Morrison Gulch and 1.7 miles west of Comptche.

Drainage area.--14.5 sq mi.

Records available.--July 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map).

Extremes.--1961: Maximum discharge during period July to September, 0.2 cfs, July 12, 13; no flow many days in August and September.  
1961-62: Maximum discharge during water year, 960 cfs Feb. 13 (gage height, 8.30 ft), from rating curve extended above 390 cfs; no flow for many days.

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

Discharge, in cubic feet per second, 1961

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	0.1	0	9	-	*0	0	17	0.1	0	0.1	25	0.1	0	0
2	-	.1	0	10	-	0	0	18	*.1	0	.1	26	.1	0	0
3	-	.1	0	11	-	0	0	19	.1	0	.1	27	.1	0	0
4	-	.1	0	12	0.2	.1	0	20	.1	0	.1	28	.1	0	0
5	-	.1	0	13	.2	.1	0	21	.1	0	*0	29	.1	.1	0
6	-	.1	0	14	.1	.1	0	22	.1	0	0	30	.1	0	0
7	-	0	0	15	.1	.1	0	23	.1	0	0	31	.1	0	-
8	-	0	0	16	.1	0	.1	24	.1	0	0				
Total.....													-	1.1	0.5
Mean.....													-	0.04	0.02
Max.....													-	0.1	0.1
Min.....													-	0	0
Runoff in acre-feet.....													-	2.2	1.0

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

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	*0.1	164	5.3	6.1	52	10	2.0	0.5	0.1	0	0.1
2	0	.1	75	4.5	5.3	117	9.5	1.8	.5	.1	*0	.1
3	0	.1	33	4.3	4.9	100	8.6	1.8	.5	.1	0	.1
4	0	.1	19	3.8	4.5	73	7.5	1.7	.4	.1	0	.1
5	0	.1	13	3.4	4.1	94	6.5	1.5	.4	.1	0	.1
6	0	.1	9.5	3.1	7.8	*182	5.9	1.4	.4	.1	0	*.1
7	0	.1	7.3	3.0	12	121	5.3	1.3	.4	.1	.1	.1
8	0	.1	6.1	2.8	25	75	4.9	1.5	.4	.1	.1	.1
9	0	.1	4.9	2.7	70	51	4.5	1.6	.4	.1	.3	.1
10	0	.1	4.0	2.5	82	38	4.1	1.5	.4	.1	.1	.1
11	.2	.1	3.4	2.3	56	34	3.8	1.4	.3	.1	.1	.1
12	.1	.1	*3.1	2.8	82	25	3.5	1.3	.2	.1	.1	.1
13	.1	.1	3.0	2.5	502	20	3.4	1.2	.2	.1	.1	.1
14	.1	.1	2.8	2.2	230	18	3.1	1.2	.3	.1	.1	.1
15	.1	.1	2.6	2.0	*182	18	3.0	1.1	.3	.1	.1	.1
16	.1	.1	2.4	2.0	162	17	2.7	*1.1	.3	.1	.1	.1
17	.1	.1	16	*2.0	115	14	2.5	.9	.3	.1	.1	.1
18	.1	.1	16	2.8	147	12	2.4	1.0	.3	.1	.1	0
19	.1	.2	32	*173	108	11	2.7	.9	.2	.1	.1	0
20	.1	.4	71	*178	71	13	2.4	.9	*.2	.1	.1	0
21	.1	.4	71	71	49	11	2.2	.8	.2	0	.1	0
22	.1	.6	47	40	36	56	2.1	.8	.2	0	.1	0
23	.1	.9	32	27	28	57	2.0	.8	.2	0	.1	0
24	.1	14	22	20	25	47	1.9	.8	.2	0	.1	0
25	.1	51	17	16	20	39	1.8	.8	.1	0	.1	0
26	.2	*28	13	13	17	31	1.8	.8	.1	0	.1	0
27	.3	14	10	11	15	*24	4.8	.7	.1	0	.1	.1
28	.3	8.3	8.9	9.2	27	20	4.0	.7	.1	0	.1	.1
29	.2	*16	7.8	8.0	-----	17	2.6	.6	.1	0	.1	.2
30	.2	25	6.5	7.3	-----	14	2.2	.6	.1	0	.1	.1
31	.1	-----	5.9	6.5	-----	12	-----	.6	-----	0	.1	-----
TOTAL	2.9	160.6	729.2	634.0	2,093.7	1,413	121.7	35.1	8.3	2.0	2.7	2.2
MEAN	0.09	5.35	23.5	20.5	74.8	45.6	4.06	1.13	0.28	0.06	0.09	0.07
MAX	0.3	51	164	178	502	182	10	2.0	0.5	0.1	0.3	0.2
MIN	0	0.1	2.4	2.0	4.1	11	1.8	0.6	0.1	0	0	0
AC-FT	5.8	319	1,450	1,260	4,150	2,800	241	70	16	4.0	5.4	4.4

CALENDAR YEAR 1961: MAX - MIN - MEAN - AC-FT -  
WATER YEAR 1961-62: MAX 502 MIN 0 MEAN 14.3 AC-FT 10,330

Peak discharge (base, 350 cfs).--Jan. 19 (1600) 384 cfs (6.05 ft); Feb. 13 (1100) 960 cfs (8.30 ft).

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

## BIG RIVER BASIN

11-4680.7. South Fork Big River near Comptche, Calif.

Location.--Lat 39°13'45", long 123°27'55", in sec.19, T.16 N., R.14 W., on left bank 250 ft downstream from Daugherty Creek and 7.2 miles east of Comptche.

Drainage area.--36.3 sq mi.

Records available.--August 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,160 cfs Feb. 13 (gage height, 9.47 ft); minimum, 0.7 cfs many days in October, August, September.

1960-62: Maximum discharge that of Feb. 13, 1962; minimum, 0.6 cfs many days in September 1960.

Revisions.--The maximum discharge for the water year 1961 has been revised to 1,180 cfs Feb. 11, 1961 (gage height, 7.60 ft), superseding figure published in Basic Data Release.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 7-18, Feb. 13-28, Mar. 27 to Apr. 12)

2.3	0.6	3.0	14	5.0	240
2.4	1.2	3.3	27	5.5	360
2.5	2.1	3.6	46	6.0	520
2.6	3.6	4.0	83	7.0	900
2.7	5.6	4.5	150	8.0	1,380

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	*1.5	345	13	20	150	33	9.8	4.0	1.9	0.9	0.7
2	.9	1.4	130	12	19	300	31	9.5	4.0	1.9	*.9	.7
3	.9	1.4	63	12	18	260	28	9.2	4.0	1.8	.9	.7
4	.9	1.4	40	11	17	220	26	8.9	4.0	1.8	1.0	.7
5	.9	1.4	28	10	17	300	24	8.9	3.8	1.8	.9	.7
6	.9	1.5	22	9.8	21	700	22	8.0	3.4	1.7	.9	*.7
7	.9	1.6	18	9.5	32	400	20	8.3	3.3	1.7	1.0	.7
8	.9	1.7	15	9.2	74	280	20	9.8	3.1	1.7	1.2	.7
9	1.0	1.7	12	8.6	146	210	19	9.5	3.1	1.7	1.3	.8
10	1.1	1.9	10	8.0	165	145	18	9.5	3.1	1.6	1.1	.8
11	2.2	2.0	9.8	7.4	120	125	17	9.5	3.1	1.5	1.0	.7
12	1.7	2.0	*9.2	7.4	204	100	16	9.2	3.1	1.5	.9	.7
13	1.4	1.9	9.2	7.2	*1,050	80	15	8.3	3.1	1.5	.9	.7
14	1.4	1.9	9.5	6.7	*625	70	15	7.7	3.1	1.4	.9	.8
15	1.2	1.9	10	6.4	825	65	14	6.9	3.1	1.3	.9	.8
16	1.2	1.8	11	6.2	678	60	13	*6.2	3.1	1.3	.9	.8
17	1.2	1.9	16	*5.9	447	55	12	5.9	3.0	1.3	.9	.8
18	1.2	1.9	17	7.2	486	48	12	5.7	2.7	1.2	.8	.7
19	1.3	2.2	53	289	333	45	13	5.2	2.7	1.2	.8	.7
20	1.4	4.3	125	*253	242	42	12	5.2	*2.7	1.2	.8	.8
21	1.4	2.8	124	117	178	40	11	5.2	2.7	1.2	.8	.8
22	1.5	4.7	84	77	136	90	11	5.2	2.5	1.2	.8	.8
23	1.4	5.4	60	57	114	125	11	4.9	2.4	1.1	.8	.8
24	1.5	66	46	45	95	100	11	4.9	2.2	1.0	.7	.8
25	1.5	164	36	40	78	90	11	4.5	2.2	1.0	.7	.9
26	2.2	*48	29	34	62	70	10	4.7	2.2	1.0	.7	.9
27	3.4	26	25	29	56	*60	19	5.9	2.1	.9	.7	1.2
28	3.0	18	21	27	78	53	15	4.7	2.1	.9	.7	1.9
29	2.1	33	18	24	-----	47	12	4.5	2.0	1.0	.7	1.8
30	1.7	119	16	23	-----	40	10	4.3	2.0	1.0	.7	1.2
31	1.7	-----	14	21	-----	36	-----	4.1	-----	.9	.7	-----
TOTAL	45.0	524.2	1,425.7	1,193.5	6,336	4,406	501	214.1	87.9	42.2	26.9	25.8
MEAN	1.45	17.5	46.0	38.5	226	142	16.7	6.91	2.93	1.36	0.87	0.86
MAX	3.4	164	345	289	1,050	700	33	9.8	4.0	1.9	1.3	1.9
MIN	0.9	1.4	9.2	5.9	17	36	10	4.1	2.0	0.9	0.7	0.7
AC-FT	89	1,040	2,830	2,370	12,570	8,740	994	425	174	84	53	51

CALENDAR YEAR 1961: MAX 859 MIN 0.8 MEAN 35.5 AC-FT 25,720  
WATER YEAR 1961-62: MAX 1,050 MIN 0.7 MEAN 40.6 AC-FT 29,420

## Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1000	7.18	981	2-18	0600	7.00	900
2-13	1000	9.47	2,160	3- 6	unknown	-	unknown

\* Discharge measurement made on this day.

Note.---No gage-height record Mar. 1-26.



11-4685. Noyo River near Fort Bragg, Calif.

Location.--Lat 39°25'41" (revised), long 123°44'10" (revised), in SW $\frac{1}{4}$  sec.10, T.18 N., R.17 W., on right bank 0.7 mile downstream from South Fork and 3.5 miles east of Fort Bragg.

Drainage area.--105 sq mi.

Records available.--August 1951 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 12.1 ft above mean sea level (planetable survey).

Average discharge.--11 years, 223 cfs (161,400 acre-ft per year); median of yearly mean discharges, 190 cfs (138,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,460 cfs Feb. 13 (gage height, 18.60 ft); minimum, 2.8 cfs Sept. 20, 21.

1951-62: Maximum discharge, 22,000 cfs Dec. 22, 1955 (gage height, 25.64 ft), from rating curve extended above 3,600 cfs on basis of slope-conveyance study; minimum, 2.4 cfs several days in August and September 1959.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	* 8.2	513	57	82	394	139	44	22	16	4.3	4.0
2	4.0	7.5	428	52	78	817	130	43	22	15	* 4.3	4.0
3	4.2	6.8	213	51	73	868	116	42	21	13	4.5	5.5
4	3.8	6.8	132	47	70	760	106	39	20	13	5.8	5.8
5	3.5	6.8	95	43	68	748	95	38	20	12	6.2	4.3
6	4.0	6.5	74	40	79	*1,360	87	36	20	11	7.1	* 4.0
7	3.5	6.5	60	38	124	1,260	82	36	20	10	16	4.3
8	3.5	6.2	51	37	468	868	77	36	20	10	4.1	4.3
9	3.0	6.5	46	35	782	634	76	38	19	10	4.4	4.0
10	4.0	6.8	41	34	872	490	71	39	18	10	29	3.8
11	27	7.8	36	32	589	415	67	36	18	10	16	3.8
12	27	9.2	33	34	455	332	64	34	18	9.6	11	3.5
13	14	9.6	* 31	33	3,170	274	60	33	17	10	9.2	3.3
14	9.6	8.9	29	30	2,070	239	58	31	17	10	8.9	3.3
15	7.8	8.2	28	28	1,840	218	57	* 31	17	9.2	7.8	3.3
16	6.8	8.5	26	* 27	1,640	205	54	30	17	8.5	7.1	3.5
17	6.2	9.2	76	27	1,310	187	52	29	17	8.2	6.5	3.8
18	5.2	9.2	91	31	1,180	165	51	29	16	7.5	6.5	3.3
19	5.2	11	155	946	967	153	54	28	14	7.1	6.2	3.0
20	4.3	24	560	1,410	733	147	51	27	14	6.8	5.8	2.8
21	4.3	28	603	600	553	133	49	28	* 13	6.8	5.8	2.8
22	4.8	36	390	346	418	430	47	27	14	5.8	5.2	3.0
23	5.2	52	260	247	332	565	46	27	16	5.5	4.5	3.3
24	5.2	149	189	200	274	503	45	27	16	5.2	5.2	3.3
25	5.5	377	147	166	230	418	44	27	17	5.2	5.2	3.3
26	10	228	117	142	195	342	42	26	17	4.8	5.2	3.0
27	13	144	99	124	170	284	58	26	16	4.8	4.5	4.3
28	21	96	84	112	178	* 240	74	26	16	4.8	4.3	7.5
29	20	123	76	101	-	205	53	24	16	4.5	3.8	13
30	13	200	68	93	-----	176	47	24	15	4.3	3.8	19
31	9.6	-----	61	87	-----	154	-----	23	-----	4.3	4.0	-----
Total	262.2	1,607.2	4,812	5,250	19,000	13,984	2,052	984	523	262.9	298.7	140.1
Mean	8.46	53.6	155	169	679	451	68.4	31.7	17.4	8.48	9.64	4.67
Max	27	377	603	1,410	3,170	1,360	139	44	22	16	4.4	19
Min	3.0	6.2	26	27	68	133	42	23	13	4.3	3.8	2.8
Ac-ft	520	3,190	9,540	10,410	37,690	27,740	4,070	1,950	1,040	521	592	278

Calendar year 1961: Max 3,000 Min 3.0 Mean 153 Ac-ft 110,400

Water year 1961-62: Max 3,170 Min 2.8 Mean 135 Ac-ft 97,540

Peak discharge (base, 2,400 cfs).--Jan. 19 (2000) 2,540 cfs (10.60 ft); Feb. 13 (2000) 7,460 cfs (18.60 ft).

\* Discharge measurement made on this day.

## COITONEVA CREEK BASIN

11-4688.5. Dunn Creek near Rockport, Calif.

Location.--Lat 39°47'56", long 123°49'11", in SE $\frac{1}{4}$  sec.35, T.23 N., R.18 W., on State Highway 1, on right bank just upstream from highway culvert 4.2 miles north of Rockport.

Drainage area.--1.88 sq mi.

Records available.--August 1961 to September 1962.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 350 ft (from topographic map).

Extremes.--1961: Maximum discharge during period August to September, 0.5 cfs Sept. 16 (gage height, 3.89 ft); no flow Aug. 16-26.  
1961-62: Maximum discharge during water year, 46 cfs Jan. 19 (gage height, 5.42 ft), from rating curve extended above 10 cfs on basis of indirect measurement of peak flow through culvert at gage height 4.89 ft; minimum, 0.2 cfs many days in July and August.

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

## Discharge, in cubic feet per second, 1961

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	0.1	7	-	0.1	13	-	0.1	19	0	0.4	25	0	0.4
2	-	.1	8	-	.1	14	-	.1	20	0	.4	26	0	.3
3	-	.1	9	-	.1	15	-	.1	21	0	.4	27	.1	.3
4	-	.1	10	-	.1	16	0	.4	22	0	*.4	28	.1	.3
5	-	.1	11	-	.1	17	0	.4	23	0	.4	29	.1	.3
6	-	.1	12	-	.1	18	0	.4	24	0	.4	30	.1	.3
												31	.1	
Total.....													-	7.0
Mean.....													-	0.23
Max.....													-	0.4
Min.....													-	0.1
Runoff in acre-feet.....													-	14
Precipitation, in inches.....													-	0.8

\* Discharge measurement made on this day.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	a0.4	2.6	0.8	5.9	2.4	2.6	0.9	0.5	0.4	0.2	0.3
2	.3	*.4	2.4	.7	5.9	2.7	2.5	.9	.5	.4	*.2	.3
3	.3	.4	1.9	.8	5.9	3.1	2.4	.9	.5	.4	.2	.3
4	.3	.4	1.6	.7	5.9	3.8	2.4	.9	.5	.3	.2	.3
5	.3	.5	1.5	.6	5.9	4.6	2.3	.8	.5	.3	.2	.3
6	.3	.5	1.3	.6	6.2	10	2.2	.8	.5	.3	.2	*.3
7	.3	.5	1.2	.6	6.6	8.8	2.1	.8	.5	.3	.4	.3
8	.3	.5	1.0	.6	7.8	5.8	2.1	.8	.5	.3	.4	.3
9	.3	.5	.9	.6	*9.7	4.2	1.9	.8	.5	.3	.4	.3
10	.4	.5	.8	.6	12	3.6	1.9	.8	.5	.3	.4	.4
11	.9	.6	.8	.6	10	3.1	1.8	.8	.5	.2	.3	.4
12	.8	.6	.7	.6	9.7	2.5	1.8	.8	.5	.2	.3	.4
13	.8	.6	*.6	.6	*20	2.4	1.7	.7	.4	.2	.3	.4
14	.7	.6	.6	.6	19	2.4	1.8	.7	.4	.2	.3	.4
15	.7	.7	.7	.5	18	2.4	1.8	*.8	.4	.2	.2	.4
16	.6	.8	.7	*.6	19	2.4	1.8	.8	.4	.2	.2	.4
17	a.6	.9	.9	.7	12	2.3	1.7	.8	.4	.2	.2	.4
18	a.6	.9	.9	1.0	9.4	2.3	1.6	.8	.4	.2	.2	.4
19	a.5	.9	1.6	23	7.8	2.3	1.6	.8	.4	.2	.2	.4
20	a.5	.9	7.4	21	6.4	2.3	1.6	.8	.4	.2	.2	.4
21	a.5	.8	6.9	12	5.3	2.4	1.4	.8	*.4	.2	.2	.4
22	a.5	1.1	3.8	8.4	4.6	3.8	1.4	.7	.4	.2	.2	.4
23	a.5	1.0	1.3	7.4	3.7	3.8	1.2	.7	.4	.2	.2	.4
24	a.5	1.8	1.2	6.7	3.1	3.8	1.2	.6	.4	.2	.3	.5
25	a.7	2.6	1.1	6.4	2.7	3.6	1.1	.6	.4	.2	.3	.5
26	a.8	*2.4	1.1	6.2	2.5	3.3	1.1	.6	.4	.2	.3	.5
27	a.7	2.0	1.0	6.2	2.4	3.2	1.0	.6	.4	.2	.3	.5
28	a.6	1.6	.9	6.1	2.4	*3.2	1.2	.6	.4	.2	.3	.7
29	a.5	2.3	.9	6.1	-	3.1	1.0	.6	.4	.2	.3	.8
30	a.5	2.1	.9	6.1	-----	2.8	1.0	.6	.4	.2	.3	.7
31	a.5	-----	.8	6.1	-----	2.8	-----	.6	-----	.2	.3	-----
Total	16.1	29.8	50.0	133.5	229.8	109.2	51.2	23.2	13.2	7.5	8.2	12.5
Mean	0.52	0.99	1.61	4.31	8.21	3.52	1.71	0.75	0.44	0.24	0.26	0.42
Max	0.9	2.6	7.4	23	20	10	2.6	0.9	0.5	0.4	0.4	0.8
Min	0.3	0.4	0.6	0.5	2.4	2.3	1.0	0.6	0.4	0.2	0.2	0.3
Ac-ft	32	59	99	265	456	217	102	46	26	15	16	25
(†)	2.8	7.8	6.9	5.4	9.0	6.2	2.0	0.4	0	0	2.7	1.1

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 23 Min 0.2 Mean 1.87 Ac-ft 1,360

Peak discharge (base, 20 cfs).--Jan. 19 (1400) 46 cfs (5.42 ft); Feb. 13 (1700) 26 cfs (4.89 ft).

\* Discharge measurement made on this day.

† Precipitation, in inches.

a No gage-height record.

MATTOLE RIVER BASIN

381

11-4690. Mattole River near Petrolia, Calif.

Location.--Lat 40°18'40", long 124°16'10", in NW<sup>1</sup> sec.11, T.2 S., R.2 W., on right bank 0.2 mile downstream from Clear Creek, 1.2 miles southeast of Petrolia, and 1.3 miles upstream from North Fork.

Drainage area.--242 sq mi.

Records available.--October 1911 to December 1913, October 1950 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 40 ft (from topographic map). November 1911 to December 1913, staff or chain gages at several sites upstream within 0.7 mile of present site at various datums. Dec. 11, 1950, to July 14, 1955, water-stage recorder at site 0.7 mile upstream at datum 7.48 ft higher.

Average discharge.--14 years, 1,347 cfs (975,200 acre-ft per year).

Extremes.--Maximum discharge during year, 17,800 cfs Feb. 13 (gage height, 15.05 ft); minimum, 27 cfs Oct. 9.

1911-13, 1950-62: Maximum discharge, 90,400 cfs Dec. 22, 1955 (gage height, 29.60 ft), from rating curve extended above 24,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 20 cfs Sept. 1, 2, 15-30, Oct. 27-31, 1913.

Remarks.--Records good.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 23 to Jan. 19)

Oct. 1 to Jan. 19				Jan. 20 to Sept. 30			
3.7	12	5.5	870	4.3	45	6.0	950
3.8	31	6.0	1,330	4.5	80	7.0	2,000
4.0	81	8.0	4,100	4.7	135	8.0	3,440
4.5	260	11.0	9,200	5.0	255	10.0	7,110
5.0	530			5.5	555	14.0	15,300

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34	71	3,220	602	338	1,630	899	322	146	83	56	54
2	36	66	3,320	*560	305	1,670	825	305	142	80	56	54
3	36	64	2,020	536	285	1,770	761	285	139	78	56	53
4	36	61	*1,310	488	260	1,800	698	270	132	76	57	53
5	*36	56	977	452	242	4,830	660	246	132	76	57	51
6	36	*54	790	422	912	6,840	608	242	129	74	57	51
7	36	54	664	400	3,180	4,530	563	237	126	74	90	50
8	31	54	590	380	8,970	3,250	541	270	123	72	182	50
9	29	51	530	360	11,100	2,660	520	440	*117	72	246	50
10	44	51	482	345	*9,390	2,290	479	402	114	72	*163	50
11	232	51	434	330	5,380	2,140	453	327	114	70	108	48
12	184	51	400	360	5,470	1,780	427	295	114	68	90	48
13	98	49	380	340	13,200	1,570	402	275	111	66	80	48
14	71	49	385	305	9,430	1,390	390	260	111	66	76	48
15	61	49	360	290	9,400	1,300	372	246	111	64	70	48
16	56	46	345	280	8,590	1,350	349	242	108	64	68	48
17	51	44	926	265	6,370	1,370	338	224	108	64	64	48
18	49	46	977	300	4,880	1,230	322	219	100	64	62	48
19	46	46	2,450	6,100	3,700	1,130	366	210	98	64	60	48
20	46	61	6,880	6,000	2,870	1,070	349	202	98	64	60	48
21	44	66	7,920	2,520	2,310	1,000	305	198	95	62	59	50
22	41	117	3,890	1,570	1,840	2,030	285	190	95	62	59	50
23	41	1,060	2,500	1,150	1,600	1,880	275	190	95	62	59	50
24	44	2,780	1,770	925	1,390	1,630	*275	186	93	60	59	50
25	41	2,500	1,400	793	1,210	1,650	265	182	90	60	57	48
26	61	1,770	1,150	675	1,070	1,740	251	174	88	60	57	48
27	172	1,010	986	585	942	1,530	649	170	88	59	56	48
28	355	671	870	513	1,160	1,340	737	163	88	57	54	174
29	173	2,580	776	459	-----	1,200	420	160	85	57	54	349
30	107	3,530	706	408	-----	*1,090	349	153	83	57	54	132
31	84	-----	650	372	-----	*986	-----	149	-----	56	54	-----
TOTAL	2,411	17,158	50,058	29,085	115,794	61,676	14,133	7,434	3,273	2,063	2,380	1,995
MEAN	77.8	572	1,615	938	4,136	1,990	471	240	109	66.5	76.8	66.5
MAX	355	3,530	7,920	6,100	13,200	6,840	899	440	146	83	246	349
MIN	29	44	345	265	242	986	251	149	83	56	54	48
AC-FT	4,780	34,030	99,290	57,690	229,700	122,300	28,030	14,750	6,490	4,090	4,720	3,960

CALENDAR YEAR 1961: MAX 27,300 MIN 29 MEAN 1,220 AC-FT 883,400  
WATER YEAR 1961-62: MAX 13,200 MIN 29 MEAN 842 AC-FT 609,800

Peak discharge (base, 10,000 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-20	2400	12.25	11,600	2- 9	2000	13.09	13,300
1-19	1800	12.92	12,900	2-13	1300	15.05	17,800

## EEL RIVER BASIN

11-4700. Lake Pillsbury near Potter Valley, Calif.

Location.--Lat 39°24'30", long 122°57'30", on line between secs.14 and 23, T.18 N., R.10 W., at Scott Dam near right bank of Eel River, 0.3 mile downstream from Rice Fork, and 10.2 miles northeast of town of Potter Valley.

Drainage area.--289 sq mi.

Records available.--October 1922 to September 1928 (daily gage heights only), October 1928 to September 1962. Month-end contents only for some periods, published in WSP 1315-B. Prior to October 1953, published as "at Rullville."

Gage.--Water-stage recorder. Datum of gage is 81.7 ft below mean sea level (river-profile survey). Prior to Jan. 26, 1950, staff gage at same site and datum.

Extremes.--Maximum contents during year, 86,800 acre-ft May 25 to June 4 (gage height, 1,910.00 ft); minimum, 20,400 acre-ft Nov. 22, 23 (gage height, 1,866.59 ft).

1922-62: Maximum contents, 95,600 acre-ft May 13, 16, 1925 (gage height, 1,910.8 ft); minimum, 10 acre-ft Dec. 9, 10, 1931 (gage height, 1,822.5 ft).

Remarks.--Reservoir is formed by concrete overflow type dam; storage began in December 1921. Usable capacity, 86,400 acre-ft between gage heights 1,822.4 (sill of outlet gate) and 1,910.0 ft (top of spillway gates); dead storage, 397 acre-ft; spillway at gage height 1,900.0 ft. Water is released down Eel River to Van Arsdale Reservoir, from which it is diverted through tunnel to Potter Valley powerhouse; part is then used for irrigation and remainder flows into East Fork Russian River. Records given herein represent total contents.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (gage height, in feet, and contents, in acre-feet)

1,866	19,900	1,878	32,100	1,893	53,300
1,867	20,800	1,881	35,800	1,895	56,700
1,868	21,600	1,883	38,400	1,897	60,200
1,869	22,600	1,886	42,500	1,900	65,800
1,872	25,500	1,889	46,900	1,905	75,800
1,875	28,700	1,891	50,000	1,910	86,800

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47.4	29.4	41.0	41.6	43.2	67.3	67.6	81.1	86.8	80.8	67.5	53.8
2	46.8	28.7	41.6	41.6	42.9	67.3	68.0	81.6	86.8	80.4	66.9	53.3
3	46.3	28.1	41.8	41.4	42.6	67.2	69.2	82.0	86.8	80.0	66.4	52.9
4	45.7	27.5	42.0	41.1	42.3	67.2	71.1	82.4	86.8	79.5	65.9	52.5
5	45.1	27.0	41.9	40.6	42.1	69.7	73.0	82.6	86.7	79.1	65.5	52.0
6	44.5	26.4	41.8	39.9	41.9	69.4	74.4	82.9	86.7	78.7	65.0	51.6
7	43.9	25.8	41.7	39.3	41.9	68.5	75.2	83.1	86.6	78.2	64.6	51.2
8	43.3	25.2	41.5	38.6	43.8	68.0	76.1	83.6	86.4	77.7	64.2	50.7
9	42.6	24.7	41.2	38.0	48.4	67.8	76.7	84.0	86.2	77.5	63.8	50.2
10	42.1	24.0	40.9	37.3	58.6	67.5	76.6	84.3	86.0	77.1	63.3	49.8
11	41.5	23.4	40.5	38.4	63.9	67.3	76.3	84.6	85.8	76.7	62.9	49.4
12	40.9	22.8	40.1	38.0	68.0	67.1	76.1	85.0	85.5	76.3	62.4	48.9
13	40.4	22.2	39.8	37.6	72.2	67.1	76.0	85.2	85.3	75.9	62.0	48.5
14	39.9	21.8	39.4	37.2	71.1	67.0	75.9	85.4	85.1	75.5	61.6	48.0
15	39.3	21.8	39.0	36.8	71.5	67.0	75.6	85.7	84.9	75.1	61.1	47.6
16	38.7	21.8	38.7	36.3	70.1	67.0	75.4	85.9	84.8	74.7	60.7	47.1
17	38.1	21.6	38.4	35.9	69.0	67.0	75.5	86.1	84.6	74.2	60.3	46.7
18	37.5	21.3	38.2	35.5	68.7	67.0	75.9	86.3	84.5	73.8	59.9	46.2
19	36.9	21.1	38.7	35.2	68.2	67.0	76.5	86.6	84.2	73.3	59.4	45.8
20	36.3	20.9	40.2	41.6	67.8	67.0	76.9	86.7	84.0	72.9	59.1	45.4
21	35.7	20.6	41.9	42.2	67.6	67.0	77.1	86.7	83.8	72.5	58.6	45.0
22	35.1	20.4	42.7	42.6	67.5	67.7	77.4	86.7	83.6	72.0	58.2	44.6
23	34.5	20.4	43.1	43.0	67.5	67.4	77.7	86.7	83.4	71.6	57.8	44.3
24	33.9	21.6	43.2	43.5	67.4	67.2	78.0	86.7	83.1	71.1	57.4	44.3
25	33.4	24.3	43.2	43.9	67.3	67.2	78.2	86.8	82.7	70.7	56.9	44.3
26	32.8	25.5	43.2	43.9	67.2	67.3	78.4	86.8	82.4	70.2	56.5	44.2
27	32.3	25.9	43.0	43.8	67.1	67.4	79.1	86.8	82.0	69.8	56.1	44.2
28	31.7	25.8	42.8	43.6	67.1	67.5	79.7	86.8	81.6	69.4	55.6	44.0
29	31.1	27.2	42.6	43.5	-	67.6	80.3	86.8	81.2	68.9	55.1	43.7
30	30.5	29.7	42.3	43.3	-	67.7	80.9	86.8	80.8	68.5	54.7	43.5
31	30.0	-	42.1	43.2	-	67.7	-	86.8	-	68.0	54.3	-
(+)	1876.18	1875.90	1885.77	1886.50	1900.67	1900.99	1907.35	1910.00	1907.33	1901.18	1893.60	1886.70
(+)	-18,400	-300	+12,400	+1,100	+23,900	+600	+13,200	+5,900	-6,000	-12,800	-13,700	-10,800

Calendar year 1961..... † -23,400

Water year 1961-62..... † -4,900

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

† Change in contents, in acre-feet.

11-4705. Eel River below Scott Dam, near Potter Valley, Calif.

Location.--Lat 39°24'30", long 122°58'15", in SE $\frac{1}{4}$  sec.15, T.18 N., R.10 W., on left bank 0.4 mile upstream from Soda Creek, 0.7 mile downstream from Scott Dam, and 9.7 miles northeast of town of Potter Valley.

Drainage area.--290 sq mi.

Records available.--October 1922 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Hullville, and October 1929 to September 1953 as "at Hullville."

Gage.--Water-stage recorder. Altitude of gage is 1,740 ft (from topographic map). Prior to Dec. 15, 1930, at datum 3.00 ft higher.

Average discharge.--40 years, 511 cfs (369,900 acre-ft per year).

Extremes.--Maximum discharge during year, 10,900 cfs Feb. 13 (gage height, 13.31 ft); minimum daily, 23 cfs Sept. 26.

1922-62: Maximum discharge, 41,100 cfs Dec. 11, 1937 (gage height, 22.9 ft, from floodmarks), from rating curve extended above 2,900 cfs on basis of computed flow over Scott Dam; minimum daily, 0.1 cfs Sept. 8, 1924.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Lake Pillsbury (see preceding page). No diversion above station.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

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

2.2	20	2.9	79	6.0	940
2.3	28	3.5	170	7.0	1,710
2.4	34	4.0	262	9.0	3,860
2.6	50	5.0	515	12.0	8,380

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	334	334	26	301	301	758	1,330	100	183	238	233	240
2	332	337	65	310	301	982	1,010	100	167	238	233	240
3	332	339	202	313	301	928	610	101	158	237	233	240
4	329	339	260	313	301	892	210	139	148	237	235	238
5	329	337	273	317	*305	1,690	197	165	153	237	237	238
6	334	334	285	322	313	4,090	470	165	170	240	237	238
7	337	332	285	320	286	2,880	719	165	175	246	237	238
8	337	334	290	320	196	2,080	744	105	212	244	237	237
9	334	337	290	317	84	1,690	830	79	231	244	*237	237
10	334	337	290	315	70	1,340	982	77	229	244	237	237
11	332	334	290	317	123	1,120	1,020	75	229	244	237	237
12	322	332	290	325	292	940	970	85	229	242	237	237
13	317	329	293	322	*7,000	845	870	99	228	242	237	237
14	317	230	293	322	5,820	795	865	100	228	242	235	238
15	320	*26	293	320	7,170	771	860	92	207	242	235	244
16	320	26	293	322	5,680	748	785	77	188	240	235	244
17	320	115	293	322	3,700	735	552	68	186	240	235	*244
18	320	173	293	322	2,800	723	331	67	186	240	235	244
19	320	173	263	205	2,250	*731	280	68	184	238	233	235
20	327	173	*178	125	1,750	766	264	71	184	237	233	228
21	337	173	90	233	1,390	762	270	175	183	235	233	228
22	337	162	124	233	1,130	1,100	280	210	181	235	233	228
23	337	155	229	233	1,000	1,160	284	197	181	235	233	124
24	334	131	256	233	880	976	295	175	179	233	237	48
25	334	54	266	258	780	886	297	156	225	233	238	34
26	332	79	276	278	695	940	290	193	258	233	238	23
27	332	131	293	282	620	1,020	175	252	248	233	238	35
28	332	222	301	286	617	1,120	101	184	240	231	237	108
29	334	261	301	286	-	1,280	101	201	*240	231	237	199
30	337	120	301	286	-----	1,370	*100	204	240	231	237	199
31	337	-----	301	293	-----	1,340	-----	188	-----	231	238	-----
Total	10,230	6,759	7,783	8,951	46,155	37,458	16,092	4,133	6,050	7,373	7,307	5,997
Mean	330	225	251	289	1,648	1,208	536	133	202	238	236	200
Max	337	339	301	325	7,170	4,090	1,330	252	258	246	238	244
Min	317	26	26	125	70	723	100	67	148	231	233	23
Ac-ft	20,290	13,410	15,440	17,750	91,550	74,300	31,920	8,200	12,000	14,620	14,490	11,890

Calendar year 1961: Max 5,440 Min 26 Mean 469 Ac-ft 339,500  
 Water year 1961-62: Max 7,170 Min 23 Mean 450 Ac-ft 325,900

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 14 to Dec. 7.

## EEL RIVER BASIN

11-4710. Potter Valley powerhouse tailrace near Potter Valley, Calif.

Location.--Lat 39°21'35", long 123°07'35", in NW 1/4 sec. 6, T.17 N., R.11 W., on right bank 100 ft downstream from powerhouse of Pacific Gas & Electric Co. and 3 miles northwest of town of Potter Valley.

Records available.--December 1909 to September 1962. Prior to October 1922, monthly discharge only, published in WSP 1315-B. Prior to October 1931, published as Snow Mountain Water and Power Co.'s tailrace near Potter Valley.

Gage.--Water-stage recorder and concrete Parshall flume. Altitude of gage is 1,000 ft (from topographic map). No gage prior to Dec. 1, 1922. Dec. 1, 1922, to Sept. 30, 1923, float gage and Oct. 1, 1923, to Apr. 12, 1950, water-stage recorder, at site 50 ft upstream at different datum.

Average discharge.--52 years (1910-62), 193 cfs (139,700 acre-ft per year).

Extremes.--1922-62: Maximum daily discharge, 348 cfs Apr. 24, 1953; no flow at times in several years.

Remarks.--Records excellent. Water is diverted from Eel River above Van Arsdale Dam. After passing through powerhouse, part of it is used for irrigation in Potter Valley and remainder flows into East Fork Russian River. Water for irrigation diverted from tailrace is included in figures of discharge.

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 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	313	311	284	309	310	299	300	* 113	159	214	220	223
2	312	311	295	309	310	298	300	112	133	218	219	223
3	311	312	261	310	306	309	303	114	121	216	222	223
4	312	312	307	310	296	309	300	136	124	216	223	223
5	310	312	307	310	295	307	295	164	124	209	223	223
6	314	311	306	312	* 306	302	296	164	143	209	220	224
7	313	311	307	312	313	293	299	166	144	211	212	223
8	314	311	309	310	307	300	296	150	147	216	220	224
9	314	311	309	312	300	303	300	82	151	216	223	225
10	313	311	309	310	306	302	300	102	191	216	* 224	225
11	314	311	309	292	309	300	306	94	186	217	224	225
12	311	310	309	314	310	303	309	91	191	217	224	225
13	311	310	309	311	284	306	309	104	202	242	223	226
14	313	248	307	312	299	305	309	106	201	230	223	228
15	313	40	309	312	299	307	309	99	195	224	223	228
16	311	* 1.3	309	312	299	279	312	88	162	221	224	228
17	311	60	309	312	296	306	314	80	157	221	222	226
18	310	145	309	314	295	305	305	76	149	222	222	* 225
19	311	145	309	311	295	305	306	72	148	225	224	225
20	312	161	307	307	295	307	303	78	158	220	224	226
21	312	145	* 296	309	298	307	303	126	157	223	225	226
22	312	146	217	303	299	298	304	210	172	225	224	226
23	311	145	307	299	302	307	311	180	158	222	224	194
24	311	213	310	300	298	306	312	147	162	221	224	53
25	293	286	309	290	302	286	311	144	177	219	224	52
26	312	140	301	314	307	306	317	173	216	220	224	2.8
27	311	148	308	313	307	307	266	240	226	219	224	17
28	311	181	309	310	302	284	138	168	* 228	222	224	62
29	311	310	309	306	-	307	130	176	217	223	223	188
30	311	293	309	302	-----	306	126	207	215	221	223	185
31	311	-----	309	310	-----	305	-----	186	-----	221	223	-----
Total	9,649	6,851.3	9,364	9,557	8,445	9,364	8,589	4,148	5,114	6,816	6,901	5,683.8
Mean	311	228	302	308	302	302	286	134	170	220	223	189
Max	314	312	310	314	313	309	317	240	228	242	225	228
Min	293	1.3	217	290	284	279	126	72	121	209	212	2.8
Ac-ft	19,140	13,590	18,570	18,960	16,750	18,570	17,040	8,230	10,140	13,520	13,690	11,270

Calendar year 1961: Max 327 Min 1.3 Mean 259 Ac-ft 187,700  
 Water year 1961-62: Max 317 Min 1.3 Mean 248 Ac-ft 179,500

\* Discharge measurement made on this day.

11-4715. Eel River at Van Arsdale Dam, near Potter Valley, Calif.

Location---Lat 39°23'25", long 123°06'55", in NE $\frac{1}{4}$  sec.30, T.18 N., R.11 W., on left bank 500 ft downstream from Van Arsdale Dam and 5 miles north of town of Potter Valley.

Drainage area---349 sq mi.

Records available---November 1909 to September 1922 (combined monthly discharge only, of Eel River at this station and Snow Mountain Water & Power Co.'s tailrace near Potter Valley), October 1922 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Van Arsdale Dam, near Potter Valley.

Gage---Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map). Nov. 18, 1909, to Mar. 3, 1927, recorder in reservoir 800 ft upstream from Van Arsdale Dam at different datum. Oct. 1, 1927, to Feb. 28, 1937, staff gage at present site and datum.

Average discharge---53 years (1909-62), 610 cfs (441,600 acre-ft per year), combined flow of Eel River at Van Arsdale Dam and Potter Valley powerhouse tailrace.

Extremes---Maximum discharge during year, 11,000 cfs Feb. 13 (gage height, 15.95 ft); minimum daily, 0.7 cfs Apr. 22-26, 30, May 1, 28.

1909-62: Maximum discharge, 48,600 cfs Dec. 22, 1955 (gage height, 31.4 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of computed flow over Van Arsdale Dam; no flow Nov. 1, 1945, Sept. 13, 14, 1953.

Remarks---Records good. Flow regulated by Lake Pillsbury (see p.382). Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley powerhouse (see preceding page), after which part is used for irrigation and remainder flows into East Fork Russian River. Records given herein show only flow passing dam down Eel River.

Cooperation---Water-stage-recorder graph and 11 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

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

5.2	0.6	5.6	11	6.1	72	8.0	1,010
5.3	1.5	5.7	17	6.3	118	9.0	1,910
5.4	3.2	5.8	26	6.6	212	11.0	4,100
5.5	6.2	5.9	38	7.0	380	14.0	8,000

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.5	1.9	616	2.3	3.2	621	1,030	*0.7	1.4	2.5	1.4	2.7
2	2.3	1.9	66	2.0	3.2	898	818	2.7	1.6	2.5	1.4	3.2
3	2.1	2.0	2.5	1.9	3.2	875	481	2.0	1.9	2.3	1.4	3.2
4	2.1	2.1	14	1.7	2.7	818	54	3.4	2.0	2.3	1.4	3.4
5	1.9	2.0	2.7	1.7	*5.9	1,790	26	2.1	2.0	2.3	1.5	3.4
6	1.6	2.1	5.2	1.7	*26	4,660	188	5.5	2.3	2.3	1.4	3.4
7	1.5	2.1	3.7	2.0	72	3,200	470	3.7	1.9	2.5	1.5	3.4
8	1.6	1.7	2.5	2.3	166	2,150	497	2.3	2.9	2.5	1.5	3.9
9	1.6	1.7	2.5	2.5	356	1,690	547	1.3	11	2.7	1.6	4.2
10	1.5	1.9	2.5	2.7	294	1,270	667	2.0	7.8	2.9	*1.6	4.2
11	1.6	1.9	2.3	11	140	1,010	706	2.1	6.6	2.7	2.0	4.2
12	1.5	1.9	2.3	5.5	296	832	667	2.1	5.9	2.9	2.0	4.2
13	4.2	1.9	3.7	7.0	*7,410	712	577	2.3	4.5	3.2	1.9	4.2
14	2.5	1.6	4.2	3.9	6,330	654	571	2.3	2.5	3.2	2.1	4.2
15	2.3	10	3.2	3.2	7,710	621	559	2.0	2.3	3.2	2.1	4.0
16	2.1	*24	2.7	2.9	6,570	615	508	2.0	2.3	3.2	2.1	4.2
17	2.0	14	10	2.9	4,210	577	327	2.0	2.1	3.2	2.1	*4.5
18	2.0	1.2	2.7	2.9	3,060	553	114	2.0	2.3	3.4	2.3	4.8
19	2.1	1.6	84	604	2,380	*553	16	2.0	2.3	3.4	2.3	4.8
20	2.5	1.6	140	373	1,750	577	1.1	2.0	2.5	3.2	2.5	4.5
21	2.5	1.5	110	143	1,310	571	.8	2.0	2.3	3.2	2.5	4.2
22	2.3	1.9	4.2	56	1,020	1,070	.7	1.9	2.3	3.2	2.5	3.7
23	2.3	2.3	3.2	20	860	1,070	.7	1.2	2.3	3.2	2.3	2.9
24	2.1	23	2.5	4.5	745	853	.7	5.2	2.3	3.2	2.3	2.3
25	14	60	2.5	5.9	634	758	.7	2.5	2.3	3.2	2.3	2.9
26	2.0	1.1	2.3	9.2	530	751	.7	1.1	2.5	2.1	2.7	3.9
27	2.1	1.3	2.7	3.2	445	811	.9	.9	2.9	1.3	2.7	4.8
28	1.9	1.8	11	4.2	440	913	.8	.7	*2.7	1.3	2.7	4.8
29	1.7	35	*8.7	4.2	-----	1,010	.8	1.2	2.5	1.2	2.7	4.8
30	1.7	249	5.2	7.4	-----	1,100	*.7	1.9	2.5	1.2	2.7	4.0
31	1.7	-----	2.9	3.2	-----	1,070	-----	1.5	-----	1.1	2.7	-----
TOTAL	75.8	456.0	1,127.9	1,297.9	46,772.2	34,653	8,831.6	66.6	92.7	80.6	64.0	118.5
MEAN	2.45	15.2	36.4	41.9	1,670	1,118	294	2.15	3.09	2.60	2.06	3.95
MAX	14	249	616	604	7,710	4,660	1,030	5.5	11	3.4	2.7	4.8
MIN	1.5	1.1	2.3	1.7	2.7	553	0.7	0.7	1.4	1.1	1.2	2.3
AC-FT	150	904	2,240	2,570	92,770	68,730	17,520	132	184	160	127	235

CALENDAR YEAR 1961: MAX 6,320 MIN 1.1 MEAN 305 AC-FT 220,500  
WATER YEAR 1961-62: MAX 7,710 MIN 0.7 MEAN 257 AC-FT 185,700

\* Discharge measurement made on this day.

## EEL RIVER BASIN

11-4722. Outlet Creek near Longvale, Calif.

Location.--Lat 39°37'05", long 123°21'20", in NE¼ sec.1, T.20 N., R.14 W., on right bank 0.2 mile downstream from Bloody Run Creek, 0.9 mile upstream from mouth, and 8.2 miles downstream from Longvale.

Drainage area.--162 sq mi (corrected).

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,020 ft (from topographic map).

Average discharge.--6 years, 407 cfs (294,700 acre-ft per year).

Extremes.--Maximum discharge during year, 10,500 cfs Feb. 13 (gage height, 12.45 ft); minimum, 0.7 cfs Sept. 22-27.

1956-62: Maximum discharge, 26,500 cfs Feb. 8, 1960 (gage height, 20.27 ft), from rating curve extended above 9,900 cfs; no flow Aug. 15-17, 1959.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	3.5	2,770	94	118	2,230	176	57	14	2.9	1.4	1.0
2	1.7	2.9	1,490	85	110	2,540	162	51	13	2.9	1.4	1.0
3	1.7	2.7	512	80	101	2,570	150	47	12	2.7	1.5	1.0
4	1.7	2.6	247	74	94	1,730	139	44	11	2.9	1.6	1.0
5	1.7	2.6	180	69	90	2,610	125	39	11	2.7	1.8	1.0
6	1.6	2.6	a145	64	160	4,400	118	36	11	2.6	1.9	1.0
7	1.5	2.2	a120	60	1,140	2,530	*110	33	9.8	2.4	2.1	1.0
8	1.5	2.4	a105	57	2,700	1,360	101	36	9.0	2.4	3.6	.9
9	1.6	2.6	a90	54	3,120	752	98	44	8.6	2.4	5.2	.9
10	*1.6	2.7	a76	51	2,200	558	92	47	8.2	2.2	*4.6	.8
11	2.9	2.9	a68	48	1,170	554	89	41	7.8	2.2	3.6	.9
12	3.5	3.1	a60	55	1,280	460	83	36	7.4	2.1	2.9	.9
13	2.9	3.1	a54	68	6,500	359	74	32	7.0	2.1	2.6	.8
14	2.6	3.1	a50	55	4,380	304	71	31	6.7	2.1	2.2	.9
15	2.2	3.3	a47	48	5,180	288	66	30	6.7	2.1	2.1	.8
16	2.2	*2.9	a45	46	4,380	277	63	30	6.7	2.0	1.9	.8
17	2.1	3.1	a140	46	2,750	264	60	26	6.1	1.9	1.8	.8
18	2.0	3.1	a230	48	2,320	229	57	24	5.5	1.9	1.8	*.8
19	2.4	3.5	*a1,500	4,330	*1,580	207	58	*23	5.2	1.9	1.6	.8
20	2.6	5.5	2,340	*3,360	966	194	63	20	5.2	1.9	1.5	.8
21	2.4	5.8	1,760	1,510	695	184	57	20	4.9	1.9	1.4	.8
22	2.4	11	738	539	504	1,540	51	20	4.6	1.8	1.4	.7
23	2.4	27	398	324	406	1,100	48	20	4.3	1.8	1.2	.7
24	2.1	978	277	261	345	554	46	19	4.0	1.8	1.2	.7
25	2.1	1,660	222	226	285	424	44	19	2.1	1.7	1.1	.7
26	2.6	920	186	196	251	348	41	19	*3.3	1.7	1.1	.7
27	3.8	*308	158	174	218	292	94	23	3.5	1.6	1.1	.7
28	7.0	182	140	158	262	256	152	22	3.3	1.6	1.1	1.2
29	5.2	777	127	146	-	233	96	19	3.1	1.5	1.1	2.9
30	3.6	1,750	112	137	-----	207	69	18	2.9	1.5	1.1	1.8
31	4.9	-----	101	125	-----	188	-----	16	-----	1.5	1.0	-----
Total	80.2	6,679.2	14,488	12,588	43,305	29,742	2,653	942	207.9	64.7	59.9	28.8
Mean	2.59	223	467	406	1,547	959	88.4	30.4	6.93	2.09	1.93	0.96
Max	7.0	1,750	2,770	4,330	6,500	4,400	176	57	14	2.9	5.2	2.9
Min	1.5	2.2	45	46	90	184	41	16	2.1	1.5	1.0	0.7
Ac-ft	159	13,250	28,740	24,970	85,890	58,990	5,260	1,870	412	128	119	57

Calendar year 1961: Max 6,760 Min 1.1 Mean 354 Ac-ft 256,500

Water year 1961-62: Max 6,500 Min 0.7 Mean 304 Ac-ft 219,800

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1000	8.85	5,370	2-13	1200	12.45	10,500
1-19	1500	12.12	9,990	3- 6	0600	9.49	6,170
2- 8	0900	8.59	5,010				

\* Discharge measurement made on this day.  
a No gage-height record.



## EEL RIVER BASIN

387

11-4725. Eel River above Dos Rios, Calif.

Location.--Lat 39°41'20", long 123°21'30", in SW $\frac{1}{4}$  sec.7, T.21 N., R.13 W., on left bank 1.8 miles upstream from Middle Fork and 2.1 miles south of Dos Rios.

Drainage area.--705 sq mi.

Records available.--December 1950 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 950 ft (from topographic map).

Average discharge.--11 years (1951-62), 1,448 cfs (1,048,000 acre-ft per year); median of yearly mean discharges, 1,220 cfs (883,000 acre-ft per year).

Extremes.--Maximum discharge during year, 25,600 cfs Feb. 13 (gage height, 22.45 ft); minimum daily, 3.4 cfs Aug. 27.

1950-62: Maximum discharge, 123,000 cfs Dec. 22, 1955 (gage height, 45.4 ft, from floodmarks), from rating curve extended above 27,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.8 cfs Sept. 11, 1955.

Remarks.--Records good except those for period Dec. 21 to Sept. 5, which are fair. Flow regulated by Lake Pillsbury (see p.382) and by diversion through Potter Valley powerhouse (see p.384).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	12	5.710	177	209	3.960	1.830	171	a58	g17	a4.4	a3.9
2	5.6	11	3.080	163	195	5.180	1.740	155	a55	a16	g4.1	a4.1
3	5.6	11	1.070	158	182	5.320	1.160	143	g51	a15	a4.1	a4.3
4	5.7	11	5.18	152	175	4.460	782	134	a50	a14	a4.2	a4.5
5	5.7	11	358	147	*170	6.880	*515	130	a49	g14	a4.5	g4.7
6	5.7	11	278	139	240	12.700	464	126	g48	a13	g4.9	a4.6
7	5.6	11	229	134	1.680	7.720	780	123	a48	a13	a6.6	4.5
8	5.4	11	205	130	4.940	5.140	901	126	a47	a12	*g10	4.7
9	5.2	12	182	127	6.090	3.880	896	134	g46	g12	g15	4.9
10	*5.4	12	166	122	5.220	3.110	978	144	a45	a12	a14	4.9
11	6.6	12	152	121	2.680	2.710	1.080	137	a43	a11	a9.6	5.1
12	7.9	12	142	127	2.950	2.270	1.060	126	g41	a11	a8.3	5.1
13	8.1	12	139	144	18.800	1.890	896	116	a40	g11	a7.8	5.1
14	8.3	12	139	126	14.800	1.670	845	110	a38	a10	g7.5	5.1
15	7.7	*13	137	116	17.400	1.560	821	107	g36	a10	a7.4	6.0
16	7.7	12	134	114	15.700	1.520	793	104	a34	a9.8	a7.2	5.8
17	7.5	12	324	108	9.750	1.420	663	97	a32	g9.5	a6.9	5.5
18	7.5	18	417	118	7.320	1.290	408	*g92	g30	a9.0	a6.3	5.3
19	7.3	19	*1.950	6.700	*5.700	1.220	294	a88	a28	a8.6	g6.0	5.1
20	7.3	18	3.640	*6.500	4.270	1.240	252	g83	a26	a8.2	a5.7	*4.9
21	7.5	17	3.220	2.470	3.380	1.220	218	a80	a24	g7.8	a5.3	4.7
22	7.5	21	1.450	1.140	2.670	3.740	192	g78	a23	a7.7	a4.9	4.7
23	7.9	28	838	689	2.210	3.510	176	a76	a22	a7.5	a4.5	5.1
24	8.3	818	560	511	1.890	2.470	170	g74	a21	a7.3	a4.1	5.3
25	8.3	3.220	422	419	1.580	2.040	162	a78	a20	g7.2	g3.7	4.9
26	9.3	*1.410	342	355	1.330	1.860	158	g83	a19	a7.0	a3.5	4.7
27	11	514	295	315	1.120	1.800	214	g102	g18	a6.7	a3.4	4.7
28	17	252	256	275	1.120	1.830	338	a86	*g19	a6.4	a3.5	9.5
29	16	951	233	252	-	1.870	236	g70	a19	g6.2	a3.5	17
30	13	3.310	215	233	-----	1.940	190	a68	a18	a5.8	a3.6	21
31	12	-----	194	219	-----	1.900	-----	g62	-----	a5.0	g3.7	-----
Total	249.3	10.794	26.995	22.501	133.771	99.320	19.212	3.303	1.048	310.7	188.2	179.7
Mean	8.04	360	871	726	4.778	3.204	640	107	34.9	10.0	6.07	5.99
Max	17	3.310	5.710	6.700	18.800	12.700	1.830	171	58	17	15	21
Min	5.2	11	134	108	170	1.220	158	62	18	5.0	3.4	3.9
Ac-ft	494	21.410	53.540	44.630	265.300	197.000	38.110	6.550	2.080	616	373	336

Calendar year 1961: Max 18.700 Min 5.2 Mean 919 Ac-ft 665,700

Water year 1961-62: Max 18.800 Min 3.4 Mean 871 Ac-ft 630,500

Peak discharge (base, 14,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	2200	18.45	15,300	3-6	0600	18.50	15,400
2-13	1300	22.45	25,600				

\* Discharge measurement made on this day.

a No gage-height record.

g Computed from once-daily staff gage readings.

11-4725. Eel River above Dos Rios, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 76°F Sept. 8; minimum, 40°F Jan. 23-27.

1960-62: Maximum temperature recorded, 83°F June 25, Aug. 8-10, 1961; minimum recorded, that of Jan. 23-27, 1962.

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

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

11-4729. Black Butte River near Covelo, Calif.

Location.--Lat 39°49'10", long 123°04'40", in SE¼ sec.28, T.23 N., R.11 W., on right bank 600 ft upstream from highway bridge, 0.6 mile upstream from mouth, and 9.5 miles east of Covelo.

Drainage area.--162 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-56 and annual maximum, water years 1954-57, October 1958 to September 1962.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,490 ft (from topographic map). Sept. 10, 1953, to Sept. 30, 1957, crest-stage gage only at site 0.1 mile downstream at different datum.

Extremes.--Maximum discharge during year, 3,900 cfs Feb. 13 (gage height, 10.35 ft); minimum, 1.6 cfs Sept. 26, 27.

1953-57, 1958-62: Maximum discharge, 25,000 cfs Dec. 21, 1955 (gage height, 35.8 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of peak flow.

1958-62: Minimum discharge, 1.2 cfs Sept. 11, 1959.

Flood of Dec. 11, 1937, reached a stage of 36.2 ft, from floodmarks at crest-stage gage site (discharge, 26,000 cfs).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 27, 28, Dec. 3 to Feb. 5,  
Mar. 6 to May 8, Aug. 27 to Sept. 30)

2.0	1.6	2.7	31	5.0	520
2.1	3.0	3.0	55	6.0	940
2.2	5.5	3.5	116	7.0	1,460
2.3	9.0	4.0	216	9.0	2,760
2.4	14				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.7	6.2	700	65	102	235	877	288	93	22	5.5	2.3
2	2.7	5.5	398	62	102	245	855	291	90	21	5.3	2.2
3	2.6	5.5	172	61	94	243	832	303	86	21	5.3	2.0
4	2.6	5.3	108	61	86	263	873	291	81	20	5.5	2.0
5	2.6	5.3	86	57	83	630	913	266	76	18	6.2	2.0
6	2.4	5.3	74	55	126	859	*904	258	72	17	6.6	2.4
7	2.4	5.0	62	63	304	596	922	245	68	16	6.9	2.6
8	2.4	5.0	56	68	711	506	922	253	65	16	8.7	2.2
9	2.6	4.8	51	66	1,350	493	886	228	62	15	*10	1.9
10	2.7	4.8	46	63	1,200	408	752	209	60	14	9.5	1.7
11	*4.0	4.5	40	56	619	364	712	192	57	17	8.3	1.7
12	4.3	4.8	40	58	561	321	744	179	54	18	7.3	1.9
13	4.5	4.8	38	53	2,260	312	774	166	52	16	5.5	1.9
14	4.3	4.8	37	44	1,490	312	752	160	50	14	9.3	2.0
15	4.0	*4.5	35	44	1,950	306	676	150	52	13	4.5	2.2
16	3.5	4.3	34	44	1,220	300	600	*145	48	12	4.3	2.0
17	3.3	4.3	40	44	769	306	552	141	44	11	4.0	1.9
18	3.0	4.0	56	49	636	318	517	139	41	11	3.8	1.7
19	3.0	4.5	266	567	517	364	489	134	39	10	3.8	*1.7
20	3.0	6.2	*632	539	*442	392	421	126	37	10	3.3	1.7
21	3.0	6.6	532	*204	373	380	389	118	35	9.9	3.3	1.7
22	3.3	7.6	274	121	339	500	392	116	32	9.0	3.0	1.7
23	3.5	16	190	102	324	438	412	116	31	8.7	2.9	1.7
24	3.8	75	154	97	291	402	408	110	30	8.3	2.9	1.7
25	3.8	438	129	96	263	438	376	108	28	7.6	2.7	1.7
26	4.5	*183	108	92	230	568	339	118	27	7.3	2.6	1.7
27	5.5	*84	97	88	204	628	428	122	*26	7.3	2.3	1.9
28	10	49	86	88	218	744	442	112	26	6.9	2.3	2.7
29	9.5	104	80	96	-----	850	342	106	24	6.9	2.3	4.0
30	7.3	383	74	105	-----	864	300	101	23	6.2	2.3	4.3
31	6.6	-----	68	103	-----	850	-----	97	-----	6.2	2.3	-----
TOTAL	123.6	1,445.6	4,763	3,308	16,862	14,415	18,801	5,388	1,509	396.3	148.5	63.1
MEAN	3.99	48.2	154	107	602	465	627	174	50.3	12.8	4.79	2.10
MAX	10	438	700	567	2,260	864	922	303	93	22	10	4.3
MIN	2.4	4.0	34	44	83	235	300	97	23	6.2	2.3	1.7
AC-FT	245	2,870	9,450	6,560	33,450	28,590	37,290	10,690	2,990	786	295	125

CALENDAR YEAR 1961: MAX 2,470 MIN 2.3 MEAN 203 AC-FT 146,800  
WATER YEAR 1961-62: MAX 2,260 MIN 1.7 MEAN 184 AC-FT 133,300

Peak discharge (base, 5,500 cfs).--No peak above base.

\* Discharge measurement made on this day.

11-4730. Middle Fork Eel River below Black Butte River, near Covelo, Calif.

Location.--Lat 39°49'35", long 123°05'30", in NW $\frac{1}{4}$  sec.28, T.23 N., R.11 W., on right bank 0.2 mile downstream from Black Butte River and 8.6 miles east of Covelo.

Drainage area.--367 sq mi.

Records available.--August 1951 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,430 ft (from river-profile map).

Average discharge.--11 years, 1,037 cfs (750,800 acre-ft per year); median of yearly mean discharges, 870 cfs (630,000 acre-ft per year).

Extremes.--Maximum discharge during year, 9,190 cfs Feb. 13 (gage height, 10.69 ft); minimum, 7.0 cfs Oct. 8, Sept. 24, 25.

1951-62: Maximum discharge, 89,100 cfs Dec. 21, 1955 (gage height, 25.0 ft, from floodmarks), from rating curve extended above 19,000 cfs on basis of slope-area measurement of peak flow; minimum, 4.4 cfs Sept. 22-26, 1951.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.1	18	1,540	231	567	556	2,430	931	432	71	23	11
2	8.1	17	970	218	572	562	2,340	990	428	70	22	11
3	8.1	17	490	222	534	540	2,310	1,040	420	65	22	11
4	8.1	16	340	220	480	550	2,530	1,020	364	60	24	10
5	7.8	15	285	198	440	1,100	2,820	924	328	58	25	10
6	7.8	15	255	200	710	1,410	*2,860	931	310	54	25	10
7	7.8	15	220	285	1,710	1,060	3,020	898	306	52	27	10
8	7.0	15	202	306	2,510	924	3,060	964	296	49	35	10
9	7.4	15	180	324	4,800	938	2,730	892	299	47	*50	8.9
10	7.8	15	165	267	4,690	780	2,170	816	285	44	52	8.5
11	*13	15	141	220	2,550	702	2,060	744	264	47	39	8.5
12	16	15	143	215	2,060	612	2,300	684	246	61	32	8.9
13	14	15	132	182	5,940	606	2,500	636	228	50	29	8.5
14	14	*16	127	146	4,660	642	2,480	594	208	44	27	8.9
15	13	16	120	152	5,440	612	2,170	578	200	40	25	8.9
16	12	15	113	136	3,540	594	1,910	540	185	39	23	8.9
17	13	15	143	133	2,250	594	1,750	540	175	36	22	8.5
18	12	15	202	146	1,840	624	1,620	*556	167	34	21	7.8
19	12	15	1,710	1,050	1,480	750	1,530	550	157	33	20	*7.8
20	12	18	*3,780	1,240	1,250	804	1,270	485	145	32	18	7.4
21	12	18	2,950	567	*1,030	774	1,180	460	138	31	17	7.4
22	12	24	1,240	380	924	983	1,250	470	132	29	17	7.4
23	12	53	840	328	892	840	1,340	465	119	29	16	7.4
24	12	751	648	*324	786	774	1,330	436	110	28	16	7.0
25	13	1,110	512	348	696	822	1,190	408	103	27	14	7.0
26	15	648	412	360	572	1,200	1,090	424	97	26	13	7.4
27	18	*432	348	348	490	1,450	1,360	440	*92	25	13	7.8
28	31	246	310	376	528	1,780	1,450	440	86	25	12	10
29	29	466	288	440	-	2,120	1,110	470	80	25	12	18
30	22	1,150	261	528	-----	2,330	976	465	76	25	12	15
31	20	-----	240	556	-----	2,360	-----	436	-----	23	11	-----
Total	405.0	5,211	19,307	10,646	53,941	30,393	58,136	20,227	6,476	1,279	714	278.9
Mean	13.1	174	623	343	1,926	980	1,938	652	216	41.3	23.0	9.30
Max	31	1,150	3,780	1,240	5,940	2,360	3,060	1,040	432	71	52	18
Min	7.0	15	113	133	440	540	976	408	76	23	11	7.0
Ac-ft	803	10,340	38,290	21,120	107,000	60,280	115,300	40,120	12,840	2,540	1,420	553

Calendar year 1961: Max 9,160 Min 7.0 Mean 704 Ac-ft 509,600

Water year 1961-62: Max 5,940 Min 7.0 Mean 567 Ac-ft 410,600

Peak discharge (base, 10,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

## EEL RIVER BASIN

11-4730. Middle Fork Eel River below Black Butte River, near Covelo, Calif.--Continued.

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Records available.--Water temperatures: July to November 1961.

Extremes.--Maximum temperature during period October to November, 62°F Oct. 1-6; minimum, 44°F Nov. 17-23. 1961: Maximum temperature, 80°F Aug. 4, 5, 7, 9, 1961; minimum, that of Nov. 17-23, 1961.

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

[illegible]

## EEL RIVER BASIN

11-4731. Williams Creek near Covelo, Calif.

Location.--Lat 39°49'30", long 123°08'25", in SW 1/4 sec. 25, T. 23 N., R. 12 W., on right bank 1.0 mile upstream from mouth and 6.1 miles northeast of Covelo.

Drainage area.--30.4 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,480 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,650 cfs Feb. 13 (gage height, 5.32 ft); minimum, 0.1 cfs Sept. 20-29.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.8	418	20	31	116	174	32	13	3.2	0.4	0.4
2	.4	.8	107	18	28	147	161	32	13	3.1	.4	.4
3	.4	.8	49	17	25	145	154	32	13	3.0	.4	.4
4	.4	.8	34	16	22	136	159	31	12	2.8	.4	.3
5	.4	.8	28	15	23	387	157	28	12	2.6	.4	.3
6	.4	.8	23	15	64	585	150	28	11	2.4	.6	.3
7	.4	.8	19	17	612	292	158	27	11	2.3	.9	.3
8	.4	.8	17	16	711	204	147	32	10	2.2	2.4	.3
9	.4	.7	16	16	959	174	124	34	9.8	2.1	5.2	.3
10	.4	.7	14	14	716	134	105	34	9.4	2.1	2.4	.2
11	.4	.7	12	14	306	122	97	30	9.1	1.9	1.9	.2
12	.4	.7	11	15	366	104	98	26	8.7	1.8	1.8	.2
13	.4	.7	11	13	1990	96	99	23	8.3	1.8	1.7	.2
14	.4	.6	11	11	912	90	94	24	7.9	1.7	1.6	.2
15	.5	.6	10	11	1380	84	82	25	7.6	1.6	1.5	.2
16	.5	.6	9.6	11	848	80	70	23	7.2	1.4	1.4	.2
17	.5	.6	19	11	411	76	63	21	6.8	1.3	1.3	.2
18	.6	.6	40	16	327	77	57	21	6.4	1.3	1.2	.2
19	.6	.7	308	660	240	83	56	20	6.2	1.2	1.1	.2
20	.6	.7	778	387	178	84	48	18	5.6	1.1	1.0	.1
21	.6	.7	291	116	137	78	44	17	5.1	1.1	1.0	.1
22	.6	2.4	119	63	118	194	45	17	4.8	1.0	.9	.1
23	.7	9.2	79	54	105	141	46	17	4.4	1.0	.8	.1
24	.7	136	62	55	90	113	45	16	4.3	.9	.7	.1
25	.7	127	49	51	77	123	40	15	4.0	.8	.7	.1
26	.7	52	40	47	65	145	36	16	4.2	.7	.6	.1
27	.8	26	33	40	57	154	62	16	4.0	.7	.6	.1
28	.8	16	30	37	63	170	52	14	3.7	.6	.5	.1
29	.8	63	27	35	-	182	41	15	3.5	.6	.5	1.3
30	.8	206	24	34	-----	184	35	14	3.4	.6	.5	.8
31	.8	-----	21	33	-----	181	-----	14	-----	.5	.4	-----
Total	17.0	652.6	2709.6	1878	10861	4881	2699	712	2294	494	35.2	8.0
Mean	0.55	21.8	87.4	60.6	388	158	90.0	23.0	7.65	1.59	1.14	0.27
Max	0.8	206	778	660	1990	585	174	34	13	3.2	5.2	1.3
Min	0.4	0.6	9.6	11	22	76	35	14	3.4	0.5	0.4	0.1
Ac-ft	34	1290	5370	3720	21540	9680	5350	1410	455	98	70	16

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 1990 Min 0.1 Mean 67.8 Ac-ft 49,030

11-4735.3. Mill Creek below Alder Creek, near Covelo, Calif.

Location.--Lat 39°50'30", long 123°16'35", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.23, T.23 N., R.8 E., on left bank 0.8 mile downstream from Alder Creek and 3.6 miles north of Covelo.

Drainage area.--17.1 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,130 cfs Feb. 13 (gage height, 15.82 ft), from rating curve extended above 370 cfs; minimum, 0.1 cfs Sept. 10.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.7	236	7.5	13	32	40	11	3.8	1.5	0.5	0.3
2	.3	.8	52	20	15	40	37	12	3.7	1.4	.5	.3
3	.3	.8	21	19	14	50	34	12	3.6	1.4	.7	.3
4	.2	.7	12	6.3	11	62	31	12	3.6	1.2	1.1	.3
5	.2	.6	8.7	6.0	11	296	28	11	3.6	1.2	.9	.3
6	.3	.6	6.7	5.7	18	353	26	11	3.4	1.2	.9	.2
7	.4	.5	5.7	5.5	141	200	23	11	3.1	1.2	1.5	.2
8	.4	.5	4.9	5.4	273	152	22	10	2.9	1.2	2.5	.3
9	.4	.4	4.2	5.4	320	115	20	10	2.9	1.0	2.5	.3
10	.6	.5	3.8	5.2	193	84	19	9.8	2.8	1.0	1.4	.2
11	1.7	.5	3.5	5.1	92	76	18	9.3	3.0	1.0	1.1	.3
12	1.1	.5	3.4	6.1	170	62	16	8.9	2.8	1.0	1.0	.4
13	.8	.6	3.1	6.1	586	54	15	8.2	2.7	1.0	.9	.4
14	.6	.6	3.2	5.5	328	51	14	7.8	2.7	1.0	.9	.5
15	.6	.6	3.2	5.2	449	49	13	7.3	2.7	.9	.8	.4
16	.4	.8	3.4	5.2	372	49	12	6.0	2.5	.9	.7	.4
17	.4	.8	11	5.0	205	47	12	5.7	2.4	.8	.6	.3
18	.5	.9	20	7.5	177	46	12	5.7	2.3	.7	.7	.3
19	.5	1.1	81	408	128	45	12	5.4	2.2	.8	.7	.4
20	.5	2.1	135	132	90	44	12	5.4	1.9	.7	.6	.5
21	.6	1.5	79	57	67	45	11	5.3	1.8	.6	.5	.5
22	.7	2.0	40	45	54	132	11	5.2	1.7	.6	.6	.4
23	.8	3.1	26	35	48	87	11	5.1	1.6	.6	.5	.4
24	.8	37	20	29	45	69	11	5.1	1.7	.5	.4	.4
25	.8	65	17	25	43	65	12	5.1	1.6	.6	.4	.3
26	1.3	30	14	21	38	61	11	5.3	1.6	.5	.4	.4
27	2.0	10	12	19	34	55	11	5.3	1.6	.5	.3	.6
28	1.9	5.9	10	17	31	50	12	4.9	1.6	.5	.3	2.0
29	.9	55	9.7	16	-	48	12	4.5	1.5	.5	.3	1.9
30	.7	115	8.6	14	-----	46	12	4.3	1.5	.5	.4	.9
31	.7	-----	8.0	13	-----	44	-----	4.2	-----	.4	.4	-----
Total	21.8	339.1	866.1	962.7	3,966	2,609	530	233.8	74.8	26.9	25.0	14.4
Mean	0.70	11.3	27.9	31.1	142	84.2	17.7	7.54	2.49	0.87	0.81	0.48
Max	2.0	11.5	236	408	586	353	40	12	3.8	1.5	2.5	2.0
Min	0.2	0.4	3.1	5.0	11	32	11	4.2	1.5	0.4	0.3	0.2
Ac-ft	43	673	1,720	1,910	7,870	5,180	1,050	464	148	53	50	29
Calendar year 1961:	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1961-62:	Max	586	Min	0.2	Mean	26.5	Ac-ft	19,190				

## EEL RIVER BASIN

11-4736. Short Creek near Covelo, Calif.

Location.--Lat 39°49'50", long 123°10'50", in NE¼ sec.27, T.23 N., R.12 W., on left bank 0.4 mile downstream from unnamed tributary, 0.7 mile upstream from wooden bridge, and 4.5 miles northeast of Covelo.

Drainage area.--15.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,480 ft (from topographic map).

Extremes.--Maximum discharge during year, 973 cfs Feb. 13 (gage height, 5.92 ft); no flow for several months.

1958-62: Maximum discharge, 1,630 cfs Feb. 8, 1960 (gage height, 7.55 ft); no flow for several months in each year.

Flood of Dec. 21, 1955, reached a stage of 10.56 ft, from floodmarks (discharge, 3,780 cfs on basis of slope-area measurement of peak flow).

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	16.5	4.9	3.5	4.9	1.7	3.1	0.8	0.1		
2		0	3.4	4.7	3.4	7.3	1.5	2.8	.8	.1		
3		0	1.5	4.6	3.3	7.2	1.4	2.7	.7	.1		
4		0	10	4.4	3.6	7.2	1.2	2.5	.7	0		
5		0	7.5	4.1	3.7	19.0	1.1	2.3	.5	0		
6		0	6.5	3.7	7.6	33.6	1.0	2.1	.5	0		
7		0	5.6	3.6	4.3	13.9	9.5	2.2	.4	0		
8		0	5.1	3.5	13.8	8.8	9.1	2.2	.4	0		
9		0	4.6	3.4	12.9	6.6	8.7	2.3	.4	0		
10		0	4.1	3.2	12.6	5.2	8	2.3	.5	0		
11		0	3.6	2.9	5.8	5.0	7.4	2.4	.5	0		
12		0	3.3	3.8	12.4	4.1	6.8	2.2	.2	0		
13		0	3.2	3.3	4.96	3.5	6.4	1.9	.1	0		
14		0	3.0	1.7	2.75	3.1	5.8	1.8	.1	0		
15		0	2.7	1.4	4.28	2.8	5.5	1.9	.2	0		
16		0	2.8	1.3	2.91	2.7	5.1	1.8	.2	0		
17		0	4.7	1.4	1.31	2.3	4.7	1.6	.5	0		
18		0	11	2.4	1.16	2.1	4.3	1.5	.5	0		
19		0	4.9	2.64	8.0	2.1	4.5	1.4	.4	0		
20		0	8.6	8.2	5.5	2.0	4.6	1.3	.4	0		
21		0	5.8	2.8	3.9	1.9	4.3	1.3	.4	0		
22		0	2.4	1.5	3.1	7.9	4.0	1.3	.4	0		
23		0	1.6	1.1	2.7	5.3	3.6	1.2	.4	0		
24		0	1.2	8.8	2.3	3.8	3.3	1.1	.5	0		
25		3.7	9.9	7.4	2.0	3.4	3.1	1.1	.5	0		
26		1.4	8.5	6.3	1.7	3.0	2.7	1.2	.5	0		
27		6.5	7.4	5.4	1.5	2.7	8.2	1.4	.2	0		
28		4.4	6.8	4.9	1.9	2.5	6.8	1.2	.2	0		
29		2.6	6.3	4.6	-	2.2	4.5	1.0	.1	0		
30		6.5	5.9	4.1	-----	1.9	3.6	1.0	.1	0		
31		-----	5.3	3.7	-----	1.8	-----	.9	-----	0		
Total	0	153.7	586.8	503.5	2,706.1	1,798	213.5	55.0	10.7	0.3	0	0
Mean	0	5.12	18.9	16.2	96.6	58.0	7.12	1.77	0.36	0.01	0	0
Max	0	6.5	16.5	26.4	4.96	3.36	1.7	3.1	0.8	0.1	0	0
Min	0	0	2.7	1.3	3.3	1.8	2.7	0.9	0.1	0	0	0
Ac-ft	0	30.5	1,160	999	5,370	3,570	423	109	21	0.6	0	0

Calendar year 1961: Max 510 Min 0 Mean 20.1 Ac-ft 14,540  
 Water year 1961-62: Max 496 Min 0 Mean 16.5 Ac-ft 11,960



## EEL RIVER BASIN

395

11-4737. Mill Creek near Covelo, Calif.

Location.--Lat 39°44'45", long 123°10'15", in SW<sup>1</sup>/<sub>4</sub> sec.23, T.22 N., R.12 W., on right bank 50 ft upstream from unnamed tributary, 0.65 mile downstream from county road bridge, and 5.2 miles southeast of Covelo.

Drainage area.--96.9 sq mi.

Records available.--September 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,280 ft (from topographic map).

Average discharge.--6 years, 136 cfs (98,460 acre-ft per year).

Extremes.--Maximum discharge during year, 4,480 cfs Feb. 13 (gage height, 11.94 ft); no flow Oct. 1 to Nov. 23, July 11 to Sept. 30.  
1956-62: Maximum discharge, 6,970 cfs Feb. 8, 1960 (gage height, 15.15 ft), from rating curve extended above 2,300 cfs; no flow for several months in each year.

Remarks.--No regulation or diversion.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	812	11	16	347	122	39	3.8	0.2		
2		0	188	9.8	14	720	113	34	3.4	.2		
3		0	57	9.8	13	678	105	31	3.2	.2		
4		0	24	9.3	12	568	97	27	3.0	.2		
5		0	11	8.9	12	1,200	89	25	2.8	.1		
6		0	7.5	8.5	29	1,860	84	23	2.6	.1		
7		0	6.9	8.9	241	842	79	23	2.2	.1		
8		0	6.8	9.0	829	509	77	21	1.7	.1		
9		0	6.2	9.0	850	398	73	19	1.6	.1		
10		0	5.5	9.0	754	298	67	17	1.6	.1		
11		0	5.0	9.0	351	284	62	16	1.5	0		
12		0	4.6	11	577	232	57	14	1.3	0		
13		0	4.4	11	2,440	199	52	12	1.1	0		
14		0	4.4	9.5	1,270	184	48	11	1.1	0		
15		0	4.4	9.5	2,180	171	43	10	1.0	0		
16		0	4.4	9.8	1,830	169	39	8.8	.9	0		
17		0	4.4	10	921	157	34	8.3	.8	0		
18		0	15	13	840	145	31	7.6	.6	0		
19		0	186	1,370	538	140	27	7.5	.6	0		
20		0	352	572	411	146	27	7.3	.5	0		
21		0	312	162	356	132	24	6.8	.4	0		
22		0	104	85	234	547	23	6.8	.3	0		
23		0	61	58	206	375	20	6.6	.3	0		
24		5.7	42	47	187	256	20	6.3	.3	0		
25		162	31	41	160	226	18	7.1	.2	0		
26		64	24	37	136	206	18	13	.2	0		
27		20	20	27	119	185	48	9.4	.2	0		
28		8.1	17	23	137	174	72	6.6	.2	0		
29		75	15	21	-	158	52	5.1	.2	0		
30		341	13	19	-----	141	45	4.5	.2	0		
31		-----	12	17	-----	130	-----	4.3	-----	0		
Total	0	675.8	2,360.5	2,655.0	15,663	11,777	1,666	438.0	37.8	1.4	0	0
Mean	0	22.5	76.1	85.6	559	380	55.5	14.1	1.26	0.05	0	0
Max	0	341	812	1,370	2,440	1,860	122	39	3.8	0.2	0	0
Min	0	0	4.4	8.5	12	130	18	4.3	0.2	0	0	0
Ac-ft	0	1,340	4,680	5,270	31,070	23,360	3,300	869	75	2.8	0	0

Calendar year 1961: Max 2,700 Min 0 Mean 109 Ac-ft 79,100  
Water year 1961-62: Max 2,440 Min 0 Mean 96.6 Ac-ft 69,970

## EEL RIVER BASIN

11-4740. Eel River below Dos Rios, Calif.

Location.--Lat 39°44'15", long 123°22'15", in NE¼ sec.25, T.22 N., R.14 W., on left bank 1.1 miles downstream from Burger Creek, 1.7 miles northwest of Dos Rios, and 2.2 miles downstream from Middle Fork.

Drainage area.--1,484 sq mi.

Records available.--October 1911 to December 1913, October 1951 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near Laytonville" 1911 and as "at Two Rivers" 1912-13.

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map). Prior to Dec. 30, 1913, staff gage at bridge 500 ft downstream from Middle Fork at different datum.

Average discharge.--13 years, 3,127 cfs (2,264,000 acre-ft per year); median of yearly mean discharges, 2,630 cfs (1,920,000 acre-ft per year).

Extremes.--Maximum discharge during year, 53,600 cfs Feb. 13 (gage height, 22.60 ft); minimum, 14 cfs Sept. 19-27.

1911-13, 1951-62: Maximum discharge, 283,000 cfs Dec. 22, 1955 (gage height, 49.86 ft), from rating curve extended above 120,000 cfs on basis of a slope-conveyance study; minimum, 5.2 cfs Sept. 13, 1955.

Remarks.--Records good. Flow partly regulated by Lake Pillsbury (see p.382) and by diversion through Potter Valley powerhouse (see p.384).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	50	11,700	760	1,060	5,820	5,600	1,380	590	111	29	17
2	19	44	6,140	704	1,050	7,960	5,420	*1,390	585	104	28	17
3	19	42	2,420	660	984	7,890	4,740	1,440	580	98	27	17
4	19	40	1,490	666	888	6,780	4,460	1,450	540	96	28	17
5	19	39	1,100	625	816	11,100	*4,580	1,300	508	92	28	16
6	20	39	872	595	984	22,200	4,510	1,280	484	84	28	16
7	19	39	718	636	4,490	13,200	4,940	1,220	468	80	32	16
8	19	38	620	690	11,900	8,650	5,200	1,240	446	76	*39	16
9	19	38	564	718	15,000	6,910	5,040	1,290	446	71	59	15
10	*19	38	512	672	15,300	5,600	4,400	1,190	432	67	76	16
11	23	39	480	610	7,860	4,920	4,160	1,120	411	64	75	15
12	25	39	436	595	7,580	4,240	4,290	1,010	390	66	59	15
13	28	39	428	610	37,300	3,680	4,420	936	369	80	44	15
14	31	*39	411	540	27,800	3,400	4,420	896	345	69	38	15
15	28	39	400	484	35,600	3,210	4,050	880	333	62	32	15
16	27	38	381	488	29,300	3,120	3,540	816	319	59	31	15
17	26	37	626	450	17,900	3,020	3,130	792	300	56	29	15
18	25	47	824	480	13,200	2,820	2,680	*784	284	52	26	15
19	24	56	3,050	12,000	9,700	2,880	2,480	776	260	48	25	14
20	24	59	8,930	*11,800	7,290	3,020	2,140	718	234	46	24	*14
21	25	58	*9,040	4,350	*5,900	2,890	1,870	678	224	43	23	14
22	25	66	3,980	2,300	4,830	6,510	1,830	666	206	42	22	14
23	25	96	2,540	1,650	4,210	6,140	1,930	666	188	39	21	14
24	25	1,960	1,950	1,360	3,710	4,620	1,990	636	170	39	20	14
25	26	6,890	1,590	1,240	3,210	4,040	1,800	620	157	37	20	14
26	31	2,950	1,350	1,150	2,800	4,310	1,620	642	147	35	19	14
27	40	1,510	1,190	1,070	2,430	4,510	1,700	697	137	33	18	14
28	62	746	1,050	984	2,440	4,910	2,640	642	130	32	18	17
29	80	1,990	968	1,010	-	5,340	1,830	642	*120	32	18	24
30	75	6,900	896	1,060	-----	5,700	1,530	642	115	31	17	29
31	56	-----	816	1,080	-----	5,640	-----	610	-----	30	17	-----
Total	923	24,005	67,472	52,037	275,532	185,030	102,940	29,049	9,918	1,874	970	479
Mean	29.8	800	2,177	1,679	9,840	5,969	3,431	937	331	60.5	31.3	16.0
Max	80	6,900	11,700	12,000	37,300	22,200	5,600	1,450	590	111	76	29
Min	19	37	381	450	816	2,820	1,530	610	115	30	17	14
Ac-ft	1,830	47,610	133,800	103,200	546,500	367,000	204,200	57,620	19,670	3,720	1,920	950
Calendar year 1961: Max 35,800 Min 19 Mean 2,314 Ac-ft 1,675,000												
Water year 1961-62: Max 37,300 Min 14 Mean 2,055 Ac-ft 1,488,000												

Peak discharge (base, 22,000 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	2200	17.38	26,200	3-6	0700	17.32	25,900
2-13	1500	22.60	53,600				

## EEL RIVER BASIN

397

11-4744. Halls Creek near Covelo, Calif.

Location.--Lat 39°54'50", long 123°14'55", in sec.25, T.24 N., R.13 W., on right bank at downstream side of highway bridge, 6.8 miles southeast of Mina and 8.3 miles north of Covelo.

Drainage area.--25.9 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,570 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,850 cfs Feb. 13 (gage height, 7.76 ft), from rating curve extended above 1,200 cfs; no flow for many days.

Remarks.--No known regulation or diversion.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	515	13	21	52	144	24	7.8	1.1	0	
2		0	172	12	19	50	125	23	7.3	1.1	0	
3		0	69	12	17	51	119	23	7.0	1.0	0	
4		.1	45	11	15	63	115	21	6.7	.9	0	
5		.1	34	10	14	363	112	19	6.3	.8	0	
6		.1	26	10	57	430	103	19	6.0	.8	0	
7		.1	20	12	505	268	107	18	5.6	.8	.1	
8		.1	17	10	557	214	98	23	5.2	.7	.4	
9		.1	15	9.9	862	185	79	25	4.9	.6	.5	
10		0	13	8.9	562	132	68	29	4.7	.6	.2	
11		0	11	8.2	274	117	62	29	4.1	.5	.1	
12		0	10	9.1	347	100	63	22	3.9	.5	.1	
13		0	9.5	8.1	1,440	96	63	20	3.7	.5	0	
14		0	9.2	7.3	830	93	58	19	3.6	.4	0	
15		0	8.2	7.3	1,310	87	52	22	3.4	.4	0	
16		0	7.4	7.2	643	85	45	18	3.3	.3	.1	
17		0	15	7.5	374	88	41	16	3.0	.3	.1	
18		0	26	9.8	301	93	37	15	2.8	.3	.1	
19		.1	180	425	229	101	38	14	2.6	.2	.1	
20		.3	339	204	165	103	33	13	2.3	.2	.1	
21		.5	243	72	123	93	29	12	2.1	.2	.1	
22		.5	94	49	108	140	28	12	2.0	.2	.1	
23		5.4	60	40	95	120	30	12	1.9	.1	.1	
24		289	45	35	77	111	29	11	1.7	.1	.1	
25		280	36	36	67	146	24	11	1.6	.1	.1	
26		124	28	32	57	164	22	11	1.5	.1	.1	
27		49	24	28	51	175	42	12	1.5	.1	0	
28		24	21	26	50	178	36	10	1.4	.1	0	
29		270	18	26	-	178	32	9.9	1.2	0	0	
30		371	16	25	-----	169	26	8.9	1.2	0	0	
31		-----	15	23	-----	155	-----	8.2	-----	0	0	-----
Total	0	1,414.2	2,141.3	1,194.3	9,170	4,400	1,860	530.0	110.3	13.0	2.5	0
Mean	0	47.1	69.1	38.5	328	142	62.0	17.1	3.68	0.42	0.08	0
Max	0	371	515	425	1,440	430	144	29	7.8	1.1	0.5	0
Min	0	0	7.4	7.2	14	50	22	8.2	1.2	0	0	0
Ac-ft	0	2,810	4,250	2,370	18,190	8,730	3,690	1,050	219	26	5.0	0

Calendar year 1961: Max - Min - Mean - Ac-ft -  
 Water year 1961-62: Max 1,440 Min 0 Mean 57.1 Ac-ft 41,340

11-4745. North Fork Eel River near Mina, Calif.

Location.--Lat 39°56'15", long 123°20'45", in SW $\frac{1}{4}$  sec.8, T.24 N., R.13 W., on right bank 1.2 miles upstream from Asbill Creek, 2 miles south of Mina, and 8.8 miles northeast of Nashmead.

Drainage area.--250 sq mi.

Records available.--August 1953 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,030 ft (from topographic map). Aug. 27, 1953, to Jan. 15, 1954, water-stage recorder and Jan. 16 to June 22, 1954, wire-weight gage, at bridge 0.2 mile downstream at different datum.

Average discharge.--9 years, 596 cfs (431,500 acre-ft per year).

Extremes.--Maximum discharge during year, 11,600 cfs Feb. 13 (gage height, 15.18 ft); minimum daily, 1.2 cfs Sept. 25.

1953-62: Maximum discharge, 58,400 cfs Dec. 22, 1955 (gage height, 24.00 ft), from rating curve extended above 8,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs Aug. 30, 31, 1959.

Flood in December 1937 reached a stage of about 30.7 ft (former site and datum), from information by local resident.

Remarks.--Records good except those for period of no gage-height record, which are fair.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	7.6	2,660	98	114	552	668	142	47	11	2.3	2.0
2	2.3	6.7	1,280	88	104	741	604	129	44	10	2.2	1.9
3	2.3	5.8	544	81	93	759	536	122	43	9.7	2.3	1.8
4	2.2	5.5	305	77	82	930	497	117	42	8.9	2.5	1.7
5	2.2	5.3	208	70	76	3,970	479	105	40	8.2	2.7	1.7
6	2.0	5.1	155	65	162	4,690	441	99	39	7.9	2.9	1.7
7	2.0	4.8	120	63	1,640	2,520	*427	95	36	7.3	3.3	1.6
8	2.0	4.8	99	60	3,810	1,770	406	96	34	7.0	6.1	1.6
9	2.0	4.6	83	57	4,340	1,540	353	116	32	6.7	*13	1.6
10	2.2	4.6	73	53	3,510	1,190	300	137	31	6.4	25	1.5
11	2.9	4.8	63	50	1,750	1,080	265	126	31	6.1	15	1.5
12	*3.5	5.1	57	50	1,770	935	250	108	29	5.8	9.7	1.5
13	3.3	5.8	52	55	6,880	844	235	96	27	5.5	7.3	1.4
14	3.0	5.8	50	48	4,360	795	220	91	27	5.3	6.1	1.5
15	2.9	*5.3	49	43	6,380	741	196	99	26	5.3	5.3	1.5
16	3.5	4.8	44	41	5,310	732	177	89	25	5.1	4.6	1.5
17	3.3	4.6	118	39	3,280	750	158	*84	24	4.8	4.2	1.5
18	3.2	4.4	258	47	2,330	700	142	80	22	4.6	4.0	1.5
19	3.0	4.6	1,780	4,380	1,770	718	149	76	21	4.4	3.7	*1.4
20	3.0	6.4	2,860	3,020	*1,340	705	144	72	20	4.2	3.5	1.3
21	3.0	9.3	*2,290	*913	1,040	644	123	68	18	4.0	3.3	1.3
22	3.0	11	945	490	862	1,070	113	66	17	3.5	3.2	1.3
23	3.2	7.4	592	341	759	1,040	104	65	16	3.3	3.2	1.3
24	3.2	6.97	409	273	652	915	99	64	15	3.2	3.0	1.3
25	3.2	1,310	305	248	552	910	95	62	14	3.0	2.9	1.2
26	3.7	960	238	216	465	985	85	62	13	2.9	2.6	1.3
27	5.1	445	194	186	392	950	173	73	13	2.9	2.5	1.4
28	50	183	164	162	402	915	302	60	*13	2.7	2.3	1.8
29	25	868	142	150	-	858	202	57	12	2.6	2.2	5.0
30	14	1,960	123	139	-----	799	164	53	11	2.6	2.0	4.0
31	9.3	-----	107	128	-----	727	-----	50	-----	2.5	2.0	-----
Total	175.8	6,623.7	16,367	11,731	54,225	36,475	8,107	2,759	782	167.4	154.9	51.6
Mean	5.67	221	528	378	1,937	1,177	270	89.0	26.1	54.0	50.0	1.72
Max	50	1,960	2,860	4,380	6,880	4,690	668	142	47	11	25	5.0
Min	2.0	4.4	44	39	76	552	85	50	11	2.5	2.0	1.2
Ac-ft	349	13,140	32,460	23,270	107,600	72,350	16,080	5,470	1,550	332	307	102

Calendar year 1961: Max 8,130 Min 2.0 Mean 455 Ac-ft 329,400  
 Water year 1961-62: Max 6,880 Min 1.2 Mean 377 Ac-ft 273,000

Peak discharge (base, 8,000 cfs).--Jan. 19 (1700) 9,880 cfs (14.50 ft); Feb. 13 (1200) 11,600 cfs (15.18 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Sept. 1-30.

11-4750. Eel River at Alderpoint, Calif.

Location.--Lat 40°10'35", long 123°36'20", in NW $\frac{1}{4}$  sec.27, T.3 S., R.5 E., on left bank at Alderpoint, 600 ft downstream from Carter Creek and 11.4 miles northeast of Garberville.

Drainage area.--2,079 sq mi.

Records available.--September 1955 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 270 ft (from topographic map).

Average discharge.--7 years, 4,654 cfs (3,369,000 acre-ft per year).

Extremes.--Maximum discharge during year, 65,400 cfs Feb. 13 (gage height, 27.10 ft); minimum, 13 cfs Sept. 5-27.

1955-62: Maximum discharge, 376,000 cfs Dec. 22, 1955 (gage height, 72.5 ft, from floodmarks), from rating curve extended above 110,000 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Aug. 17, 1959.

Remarks.--Records good except those below 100 cfs, which are fair. Flow slightly regulated by Lake Pillsbury (see p.382) and by diversion through Potter Valley powerhouse (see p.384).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-18)  
(Stage-discharge relation indefinite Nov. 2-4)

Oct. 1 to Dec. 1 June 9 to Sept. 30				Dec. 2 to Apr. 3		Apr. 4 to June 8	
2.1	7.0	3.5	575	3.0	460	3.4	510
2.2	15	4.0	980	3.5	900	4.0	1,050
2.3	31	5.0	2,100	4.0	1,500	5.2	2,770
2.5	79	7.0	5,350	6.0	4,800	6.6	6,000
2.7	145	11.0	14,600	12.0	18,000		
3.0	280			22.0	47,500		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	131	13,300	940	1,470	5,680	6,780	1,620	687	177	31	15
2	31	110	13,200	870	1,420	10,400	6,560	1,550	660	169	29	14
3	31	90	5,000	800	1,370	10,400	* 6,060	1,600	644	161	28	14
4	29	75	2,870	* 755	1,280	10,000	5,510	1,620	636	153	26	14
5	29	66	2,120	746	1,200	15,700	5,280	1,540	596	145	25	13
6	28	60	1,700	692	1,240	33,000	5,200	1,410	566	138	23	13
7	28	* 57	1,350	656	5,460	21,200	5,380	1,380	531	128	33	13
8	28	55	1,120	719	18,100	13,800	6,000	1,340	* 510	120	55	13
9	28	52	980	755	20,400	11,000	5,840	1,450	484	114	85	13
10	* 29	52	850	764	24,500	8,900	5,020	1,420	477	110	91	13
11	37	52	746	782	13,300	7,700	4,540	1,360	464	107	104	13
12	42	52	701	665	9,740	6,760	4,520	1,240	458	104	117	13
13	46	52	620	674	41,000	5,860	4,720	1,140	439	98	110	13
14	50	52	612	647	38,200	5,420	4,760	1,050	427	98	91	13
15	52	52	564	548	44,700	5,160	4,440	1,010	403	114	75	13
16	63	52	532	492	42,700	5,040	3,910	980	385	104	60	13
17	63	50	701	484	28,200	4,900	3,440	930	374	91	48	13
18	63	48	1,500	476	19,400	4,640	3,020	890	358	82	42	13
19	63	50	3,880	11,900	15,500	4,570	2,730	870	336	79	37	13
20	60	63	12,800	23,800	11,400	4,660	2,540	860	325	74	33	13
21	60	94	14,500	8,280	8,810	4,530	2,140	810	310	71	31	13
22	57	107	6,900	4,440	6,980	7,300	1,990	770	290	68	29	13
23	57	117	4,260	2,920	5,880	9,690	2,000	760	280	60	28	13
24	57	487	3,070	2,330	* 5,220	7,080	2,060	750	265	55	25	13
25	60	7,710	2,440	2,100	4,570	6,140	2,000	741	245	52	23	13
26	68	5,080	2,020	1,960	4,100	6,140	1,830	705	230	50	21	13
27	85	2,340	1,710	1,710	3,400	6,260	1,820	750	216	46	* 23	13
28	104	* 1,180	1,460	1,560	3,250	6,460	* 2,810	780	208	44	23	28
29	145	2,260	1,260	1,470	-	6,760	2,290	732	190	39	21	33
30	165	8,800	1,170	1,460	-----	6,980	1,860	723	185	35	18	37
31	161	-----	1,050	1,500	-----	6,940	-----	705	-----	33	17	-----
Total	1,852	29,446	104,986	77,895	382,790	269,070	117,050	33,486	12,179	2,919	1,402	454
Mean	59.7	98.2	3,387	2,513	13,670	8,680	3,902	1,080	406	94.2	45.2	15.1
Max	165	8,800	14,500	23,800	44,700	33,000	6,780	1,620	687	177	117	37
Min	28	48	532	476	1,200	4,530	1,820	705	185	33	17	13
Ac-ft	3,670	58,400	208,200	154,500	759,300	533,700	232,200	66,420	24,160	5,790	2,780	900

Calendar year 1961: Max 48,900 Min 28 Mean 3,181 Ac-ft 2,303,000  
Water year 1961-62: Max 44,700 Min 13 Mean 2,832 Ac-ft 2,050,000

Peak discharge (base, 41,000 cfs).--Feb. 13 (1900) 65,400 cfs (27.10 ft).

\* Discharge measurement made on this day.

## EEL RIVER BASIN

11-4750. Eel River at Alderpoint, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 81°F July 22, 23, 27; minimum, 38°F Jan. 24.

1960-62: Maximum temperature, 82°F July 11-13, 1961; minimum, 37°F Jan. 5-8, 1961.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	67	63	56	56	49	49	46	45	44	43	42	42	51	51	57	54	67	64	73	68	76	69	76	68
2	68	63	57	56	49	49	46	45	44	44	43	42	51	51	61	57	67	64	73	67	76	68	75	68
3	68	64	57	56	50	49	45	45	44	44	44	43	51	51	61	60	66	64	74	67	72	68	73	68
4	68	64	57	56	50	49	45	45	45	44	44	43	51	51	62	60	66	62	75	68	73	67	74	68
5	67	65	57	57	49	49	45	44	45	44	44	44	51	51	62	61	66	63	74	69	76	66	74	68
6	65	64	57	55	49	49	44	44	45	44	45	44	51	51	62	61	67	64	75	67	74	68	75	69
7	65	62	55	54	49	48	44	44	46	45	45	44	51	51	62	61	69	65	75	67	73	68	73	68
8	62	60	54	53	48	48	45	44	46	46	46	45	51	51	61	61	71	66	75	69	68	67	75	67
9	64	60	54	53	48	47	45	44	47	46	46	46	51	51	61	60	70	68	75	69	72	66	75	68
10	60	60	53	53	47	46	45	44	47	47	46	45	51	51	60	60	69	67	76	68	74	68	73	67
11	62	60	55	53	46	45	44	43	47	47	46	45	52	51	60	58	70	67	75	68	73	63	73	68
12	64	62	55	55	45	45	45	43	47	47	46	45	52	52	59	58	70	67	74	68	79	68	74	67
13	66	64	55	55	45	45	44	43	47	47	46	45	53	52	58	57	69	66	74	66	74	69	75	68
14	67	64	55	53	45	45	44	43	47	46	46	45	54	53	58	57	69	65	75	66	74	69	75	69
15	68	65	53	53	45	45	43	42	47	46	46	46	54	54	58	58	70	66	75	67	76	69	75	69
16	67	65	53	50	45	44	43	42	47	46	47	46	54	54	59	57	70	66	75	67	76	68	77	69
17	67	65	50	48	45	44	42	42	47	46	48	47	54	54	61	59	71	66	75	68	73	69	77	69
18	66	64	49	49	45	45	42	42	47	46	48	48	54	54	61	60	72	67	74	66	73	67	74	69
19	65	63	49	49	45	45	46	42	47	46	48	48	54	54	61	59	73	67	77	67	75	68	73	68
20	63	63	49	49	47	45	46	43	47	46	49	48	54	53	62	59	74	68	77	69	76	69	72	67
21	63	60	49	49	48	47	45	42	47	46	49	48	54	53	62	60	75	69	80	70	74	69	73	67
22	60	58	49	49	48	47	42	39	47	46	49	48	57	54	62	61	77	71	81	70	74	68	73	67
23	58	57	50	49	47	46	39	39	47	46	48	47	60	57	62	61	75	70	81	71	76	68	74	68
24	58	58	51	50	47	46	39	38	47	46	47	47	59	57	62	60	75	70	80	71	76	69	75	68
25	60	58	52	50	47	46	40	39	46	45	48	47	57	56	62	61	76	70	79	71	76	69	71	68
26	60	58	50	50	47	46	41	40	45	44	50	48	56	55	63	61	74	71	80	70	74	68	72	68
27	59	58	50	50	47	46	42	41	44	42	51	50	55	55	66	62	73	69	81	72	77	66	70	67
28	58	58	50	49	46	46	42	42	42	42	51	51	56	54	67	64	75	69	80	72	75	68	67	66
29	58	57	49	49	46	46	43	42	-	-	51	51	54	54	67	65	74	70	80	72	75	69	70	60
30	57	56	49	49	46	46	43	42	-	-	51	51	54	54	67	65	74	70	79	70	76	68	71	66
31	56	56	-	-	46	45	44	43	-	-	51	51	-	-	66	64	-	-	76	70	76	68	-	-
Avg	63	61	53	52	47	46	44	42	46	45	47	46	54	53	62	60	71	67	77	69	75	68	73	68

## EEL RIVER BASIN

401

11-4755. South Fork Eel River near Branscomb, Calif.

Location.--Lat 39°43'09", long 123°39'06", in NW<sup>1</sup> sec.32, T.22 N., R.16 W., on right bank 0.4 mile upstream from Jack of Hearts Creek and 4.7 miles north of Branscomb.

Drainage area.--43.9 sq mi.

Records available.--October 1946 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,380 ft (from topographic map).

Average discharge.--16 years, 170 cfs (123,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,220 cfs Jan. 19 (gage height, 8.14 ft); minimum, 1.3 cfs Oct. 24.

1946-62: Maximum discharge, 20,100 cfs Dec. 22, 1955 (gage height, 16.20 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum, 1.3 cfs Sept. 10, 1959, Oct. 24, 1961.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-17)

0.8	1.3	1.2	19	3.0	470
.9	3.2	1.4	42	4.0	880
1.0	6.4	1.7	94	5.0	1,430
1.1	12	2.0	164	6.0	2,170

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	7.8	348	60	69	467	116	42	16	6.4	3.0	2.5
2	2.7	6.8	286	53	62	537	110	39	15	6.4	2.9	2.5
3	2.5	6.8	167	50	55	572	100	38	15	5.7	2.9	2.5
4	2.5	6.4	112	45	52	512	*94	37	15	5.3	2.8	2.5
5	3.2	5.7	85	42	48	607	85	33	15	5.3	2.8	2.5
6	3.2	5.3	71	39	74	790	80	32	14	5.0	2.9	2.5
7	3.0	5.3	58	37	182	622	74	30	14	4.9	*8.3	2.5
8	2.7	5.0	48	34	363	488	69	33	14	4.8	17	2.5
9	*2.7	5.0	42	33	695	390	65	36	13	4.6	17	2.3
10	4.0	5.7	37	32	722	323	62	33	13	4.5	11	2.5
11	24	6.8	34	29	502	283	58	30	13	4.4	7.3	2.3
12	15	6.0	30	33	435	232	55	29	13	4.3	6.0	2.3
13	9.4	*5.3	29	29	1,660	200	52	28	12	4.2	5.3	2.3
14	7.3	5.0	27	27	1,240	178	48	27	12	4.0	4.6	2.3
15	6.4	4.6	25	26	1,120	167	45	*26	12	3.9	4.3	2.3
16	6.0	4.6	25	25	1,310	161	44	25	11	3.8	4.3	2.3
17	5.7	4.3	121	25	945	148	42	24	11	3.8	4.0	2.3
18	5.0	4.3	*113	29	717	136	42	23	9.9	3.7	4.3	2.3
19	4.6	5.0	458	1,720	526	128	47	22	9.4	3.7	4.0	2.3
20	5.3	8.8	968	1,230	*412	124	42	22	8.3	3.6	4.0	2.3
21	5.0	9.4	920	558	329	114	41	21	7.8	3.6	3.7	*2.1
22	5.0	28	460	361	268	457	38	21	7.8	3.6	3.5	1.9
23	4.6	55	301	265	223	409	37	21	7.8	3.5	3.5	1.9
24	3.5	236	214	203	189	342	36	20	7.8	3.5	3.2	1.9
25	4.3	364	161	*167	161	286	34	20	7.8	3.5	3.2	1.9
26	6.0	186	131	136	138	244	33	18	*7.3	3.4	3.0	1.9
27	29	104	108	114	121	212	111	18	7.3	3.3	3.0	1.9
28	30	71	92	100	141	186	85	17	6.8	3.2	3.0	15
29	16	104	81	89	-----	161	58	17	6.8	3.2	2.7	21
30	11	229	72	80	-----	143	48	17	6.4	3.1	2.7	9.4
31	8.8	-----	65	72	-----	128	-----	16	-----	3.0	2.7	-----
TOTAL	241.4	1,500.9	5,689	5,743	12,759	9,747	1,851	815	329.2	129.2	152.9	106.7
MEAN	7.79	50.0	184	185	456	314	61.7	26.3	11.0	4.17	4.93	3.56
MAX	30	364	968	1,720	1,660	790	116	42	16	6.4	27	21
MIN	2.5	4.3	25	25	48	114	33	16	6.4	3.0	2.7	1.9
AC-FT	479	2,980	11,280	11,390	25,310	19,330	3,670	1,620	653	256	303	212

CALENDAR YEAR 1961: MAX 2,130 MIN 2.5 MEAN 140 AC-FT 101,200  
WATER YEAR 1961-62: MAX 1,720 MIN 1.9 MEAN 107 AC-FT 77,480

Peak discharge (base, 2,000 cfs).--Jan. 19 (1500) 4,220 cfs (8.14 ft); Feb. 13 (1300) 3,100 cfs (7.10 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record July 7-23, July 26 to Aug. 6.

11-4755. South Fork Eel River near Branscomb, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 79°F July 25; minimum, 37°F Nov. 17, 18.

1960-62: Maximum temperature recorded, 82°F Aug. 7, 1961; minimum recorded, that of Nov. 17, 18, 1961.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	61	53	47	45	47	47	43	43	42	41	42	42	54	53	56	52	64	58	73	63	-	-	72	64
2	61	53	49	47	48	47	43	43	42	42	43	42	55	53	60	56	64	59	73	63	-	-	71	65
3	61	54	50	44	48	48	43	43	42	41	44	43	56	53	60	57	63	59	74	63	-	-	70	65
4	61	53	51	48	48	47	43	43	42	41	45	44	56	53	60	57	62	57	76	64	-	-	69	65
5	61	53	48	44	47	47	43	43	42	41	45	45	55	52	60	56	63	56	75	66	-	-	70	65
6	60	53	47	44	47	45	43	42	43	42	46	45	55	52	59	57	67	59	76	65	-	-	70	65
7	56	51	47	43	45	43	42	42	43	43	47	46	55	53	60	57	69	61	-	-	-	-	69	66
8	54	48	45	43	44	43	42	42	44	43	48	47	55	52	60	57	71	63	-	-	66	66	70	64
9	54	47	45	43	44	43	42	42	44	44	48	48	54	52	57	55	72	65	-	-	67	66	69	63
10	51	48	45	44	44	44	42	41	45	44	48	48	54	50	55	55	70	62	-	-	73	67	67	62
11	54	50	46	44	44	42	41	41	45	45	48	48	56	51	55	54	70	62	-	-	74	68	65	61
12	56	51	45	43	42	41	41	41	45	45	48	47	57	52	55	54	72	64	-	-	74	67	64	60
13	57	52	43	42	42	42	41	41	46	45	48	46	57	54	54	52	69	64	-	-	75	69	65	61
14	58	53	42	42	43	42	41	38	46	46	48	46	57	54	57	53	69	62	-	-	75	68	65	61
15	58	53	42	42	43	43	38	38	46	46	48	47	58	54	56	54	70	61	-	-	75	68	67	61
16	58	53	42	39	43	43	38	38	46	46	48	48	57	53	58	53	71	63	-	-	74	67	66	61
17	57	52	39	37	44	43	38	38	46	46	48	47	56	52	59	56	72	63	-	-	74	68	66	61
18	57	51	39	37	44	44	38	38	46	46	49	47	56	54	59	57	74	63	-	-	74	67	65	63
19	54	52	39	39	45	44	43	38	46	46	49	48	54	53	58	55	76	65	-	-	74	67	63	60
20	52	48	39	39	47	45	43	43	46	46	49	48	54	51	58	53	77	67	-	-	75	68	63	57
21	50	46	40	40	47	47	43	43	46	46	49	47	57	52	59	54	77	67	-	-	75	68	65	59
22	48	44	43	40	47	46	43	41	46	46	47	47	58	54	58	55	77	68	-	-	75	69	65	60
23	48	43	45	43	46	46	42	41	46	45	49	47	58	55	58	56	77	67	-	-	74	68	65	58
24	50	47	46	45	46	46	41	41	46	45	49	49	58	56	59	55	75	65	78	-	73	67	64	58
25	49	46	46	46	46	46	41	41	45	44	50	49	57	53	60	56	73	64	79	68	72	65	62	58
26	50	49	47	46	46	45	42	41	44	43	52	50	55	53	60	57	73	65	-	-	72	64	62	58
27	49	49	47	47	45	45	41	41	43	42	53	51	55	53	63	58	73	62	-	-	70	63	60	58
28	49	48	47	47	45	45	41	40	42	42	53	51	53	51	64	60	73	63	-	-	69	61	58	58
29	48	45	47	47	45	45	41	40	-	-	53	52	53	50	64	62	71	63	-	-	68	63	59	58
30	47	44	47	47	45	44	41	40	-	-	53	52	54	50	63	58	73	64	-	-	70	63	61	57
31	47	44	-	-	44	43	41	41	-	-	54	52	-	-	63	57	-	-	-	-	71	64	-	-
Avg	54	49	45	43	45	45	41	41	44	44	48	47	56	53	59	56	71	63	-	-	-	-	66	61



## EEL RIVER BASIN

403

11-4757. Tenmile Creek near Laytonville, Calif.

Location.--Lat 39°45'45", long 123°32'30", in NW¼ sec.16, T.22 N., R.15 W., on right bank 0.1-mile downstream from Step Gulch Creek and 6.0 miles northwest of Laytonville.

Drainage area.--50.3 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map).

Average discharge.--5 years, 148 cfs (107,100 acre-ft per year).

Extremes.--Maximum discharge during year, 5,020 cfs Feb. 13 (gage height, 12.12 ft); no flow Aug. 1-4.

1957-62: Maximum discharge, 12,200 cfs Feb. 8, 1960 (gage height, 19.14 ft, from floodmarks), from rating curve extended above 4,300 cfs on basis of slope-area measurement at gage height 22.9 ft; no flow at times in each year except 1960.

Flood of Dec. 22, 1955, reached a stage of 22.9 ft, from floodmarks (discharge 16,300 cfs by slope-area measurement of peak flow).

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

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.9	3.9	673	32	38	720	91	25	9.9	2.7	0	0.1
2	1.1	3.7	246	29	35	601	84	24	9.5	2.6	0	.1
3	.9	3.5	100	28	32	681	77	23	9.2	2.3	0	.1
4	1.2	3.3	60	25	29	446	69	21	8.5	2.4	0	.1
5	1.2	3.3	44	23	27	892	*65	19	8.5	2.0	.1	.8
6	.9	3.1	35	22	167	1,100	60	19	8.5	2.0	.1	1.2
7	.8	3.3	28	21	656	558	57	19	8.5	2.2	*.3	.6
8	1.0	3.3	23	20	699	401	54	21	8.2	2.0	3.2	.4
9	1.4	3.1	20	19	1,080	312	50	24	8.2	1.7	7.3	.9
10	*1.5	2.9	18	18	645	247	47	21	7.9	1.9	4.3	1.1
11	5.5	3.7	16	17	383	238	46	19	7.6	1.6	2.9	1.2
12	5.1	3.9	16	22	534	187	43	19	7.3	1.5	2.3	1.2
13	3.9	*3.7	15	21	2,210	161	40	19	6.7	1.5	1.9	1.3
14	3.3	3.5	15	19	1,070	145	38	19	6.1	1.3	1.9	.8
15	2.6	3.3	14	16	1,300	141	37	*18	6.7	.8	1.6	1.2
16	2.4	3.1	13	16	1,480	143	34	17	6.1	.6	1.0	2.7
17	2.3	3.1	120	15	698	131	33	16	5.6	.9	.8	2.9
18	2.2	3.1	*152	25	638	119	31	15	5.3	.8	.8	2.9
19	2.0	3.9	607	1,910	395	112	36	15	4.6	.8	.6	3.1
20	1.9	7.3	746	644	*282	106	33	14	4.1	.6	.8	3.1
21	2.2	5.6	539	274	206	102	29	14	3.9	.5	.8	*2.9
22	2.4	7.6	216	159	164	591	28	14	3.9	.4	.6	2.4
23	2.4	18	136	121	142	318	26	14	3.7	.4	.8	2.4
24	2.6	157	100	102	124	222	26	14	3.5	.4	.5	2.3
25	2.6	354	78	*87	106	184	25	13	2.9	.3	.3	1.2
26	3.5	*152	63	72	90	162	23	13	*2.9	.3	.3	.6
27	9.9	53	53	62	77	143	72	13	2.9	.3	.2	.5
28	11	*31	47	55	122	131	48	12	2.7	.2	.1	3.9
29	6.7	285	42	49	-----	121	32	11	2.7	.1	.1	8.8
30	5.1	466	38	44	-----	110	27	11	2.6	.1	.1	4.1
31	4.3	-----	34	41	-----	100	-----	10	-----	.1	.1	-----
TOTAL	94.8	1,601.2	4,307	4,008	13,429	9,625	1,361	526	178.7	35.3	33.8	54.9
MEAN	3.06	53.4	139	129	480	310	45.4	17.0	5.96	1.14	1.09	1.83
MAX	11	466	746	1,910	2,210	1,100	91	25	9.9	2.7	7.3	8.8
MIN	0.8	2.9	13	15	27	100	23	10	2.6	0.1	0	0.1
AC-FT	188	3,180	8,540	7,950	26,640	19,090	2,700	1,040	354	70	67	109

CALENDAR YEAR 1961: MAX 2,560 MIN 0.1 MEAN 126 AC-FT 91,530  
 WATER YEAR 1961-62: MAX 2,210 MIN 0 MEAN 96.6 AC-FT 69,930

Peak discharge (base, 5,000 cfs).--Feb. 13 (1000) 5,020 cfs (12.12 ft).

\* Discharge measurement made on this day.

11-4765. South Fork Eel River near Miranda, Calif.

Location.--Lat 40°10'55", long 123°46'30", in NW $\frac{1}{4}$  sec.30, T.3 S., R.4 E., on right bank at Sylvandale Campgrounds on U. S. Highway 101, 0.5 mile upstream from Rocky Glen Creek, 4.3 miles southeast of Miranda, and 20 miles upstream from mouth.

Drainage area.--537 sq mi.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 217.29 ft above mean sea level (levels by California Division of Highways). Prior to Nov. 2, 1940, staff gage at site 200 ft upstream at datum 0.8 ft higher. Nov. 2, 1940, to Oct. 31, 1944, staff gage at present site and datum.

Average discharge.--23 years, 1,824 cfs (1,321,000 acre-ft per year).

Extremes.--Maximum discharge during year, 25,000 cfs Jan. 19 (gage height, 15.07 ft); minimum, 12 cfs June 12.

1940-62: Maximum discharge, 173,000 cfs Dec. 22, 1955 (gage height, 42.7 ft, from floodmarks), from rating curve extended above 52,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 9 cfs Oct. 17, 1944.

Remarks.--Records good except those for period of no gage-height record, which are fair. No diversion. Occasional storage and release for recreation use during summer months at Benbow Dam.

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

Oct. 1 to Feb. 13				Feb. 14 to July 4			
2.8	45	4.0	900	2.4	32	3.9	960
2.9	70	5.0	2,060	2.5	50	6.0	3,700
3.1	140	8.0	6,900	2.6	75	9.0	8,900
3.3	260	12.0	16,300	2.8	150	12.0	16,300
3.6	500			3.0	260		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	94	4,590	680	900	3,010	1,230	502	195	86		
2	50	85	5,360	620	840	4,500	* 1,230	456	190	86		
3	50	82	2,330	580	790	4,760	1,070	435	185	82	a 50	
4	50	79	1,450	* 540	740	4,810	996	421	180	78		
5	48	73	1,050	500	700	6,400	933	400	170			
6	48	* 70	830	468	940	9,820	879	379	175			
7	48	70	680	436	3,800	7,090	838	372	170		a 55	
8	48	68	560	412	8,630	5,190	798	379	* 170	a 75		a 44
9	48	65	484	396	9,980	4,180	766	486	160			
10	* 52	65	428	372	10,200	3,480	726	463	155		a 135	
11	76	68	380	348	6,070	3,150	694	414	146			
12	116	70	340	356	5,280	2,740	662	379	50			(*)
13	100	68	316	356	16,200	2,380	630	351	122		a 80	
14	88	68	308	332	14,300	2,130	598	342	44			
15	76	65	292	316	15,000	1,960	574	330	48	a 70	(*)	
16	68	68	268	300	15,600	1,910	558	316	126			
17	65	65	590	292	11,300	1,850	534	302	122			
18	62	65	1,100	308	8,160	1,670	518	295	118		a 65	
19	60	65	2,510	8,940	6,060	1,540	566	281	118			a 60
20	60	79	7,700	13,500	4,630	1,480	582	281	114			
21	60	85	9,320	5,330	3,760	1,380	518	267	106			
22	60	91	4,530	3,340	3,130	2,900	486	260	103			
23	62	230	2,790	2,510	2,700	3,600	470	260	100	a 60	a 55	
24	58	1,000	2,020	2,060	* 2,380	2,870	456	260	100			a 41
25	62	3,740	1,610	1,780	2,060	2,520	449	254	96			
26	68	2,300	1,320	1,540	1,830	2,220	421	248	96			(*)
27	100	1,170	1,130	1,380	1,620	1,980	* 590	236	92			
28	218	* 730	1,000	1,250	1,840	1,780	978	230	89	a 50	a 50	a 70
29	206	1,670	900	1,130	-	1,600	686	218	89			
30	136	4,420	810	1,050	-----	1,460	550	212	89			a 85
31	112	-----	740	980	-----	1,330	-----	206	-----			
Total	2,405	16,868	57,736	52,402	159,440	97,690	20,986	10,235	3,718	2,082	2,040	1,440
Mean	77.6	562	1,862	1,690	5,694	3,151	700	330	124	67.2	65.8	48.0
Max	218	4,420	9,320	13,500	16,200	9,820	1,230	502	195	86	-	-
Min	48	65	268	292	700	1,330	421	206	44	-	-	-
Ac-ft	4,770	33,460	114,500	103,900	316,200	193,800	41,630	20,300	7,370	4,130	4,050	2,860

Calendar year 1961: Max 28,200 Min 48 Mean 1,550 Ac-ft 1,122,000  
 Water year 1961-62: Max 16,200 Min - Mean 1,170 Ac-ft 847,000

Peak discharge (base, 28,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

a No gage-height record.

11-4765. South Fork Eel River near Miranda, Calif.--Continued.

Records available.--Water temperatures: November 1960 to June 1962.

Extremes.--Maximum temperature during period October to June, 79°F June 8; minimum, 35°F Nov. 17, Feb. 27.

1960-62: Maximum temperature, 92°F July 10, 1961; minimum recorded, that of Nov. 17, 1961, Feb. 27, 1962.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	71	54	55	51	51	50	47	45	54	46	45	39	55	51	63	54	73	57						
2	72	55	57	49	52	50	47	44	54	46	45	42	54	49	69	60	72	60						
3	71	57	54	48	53	50	52	46	51	47	46	43	57	50	65	58	66	58						
4	72	56	58	51	53	48	50	45	51	47	48	45	59	49	68	58	68	56						
5	69	57	58	49	51	48	49	43	52	48	45	45	62	51	70	57	70	56						
6	63	57	56	47	51	45	51	44	51	49	49	44	62	52	71	57	72	56						
7	60	54	55	47	49	43	52	45	51	50	49	46	62	53	72	59	78	58						
8	63	50	55	45	49	44	53	44	52	50	49	47	58	53	62	58	79	62						
9	60	49	55	45	45	41	51	42	52	51	47	43	56	52	62	58	-	-						
10	58	53	49	46	46	42	51	42	54	51	45	44	59	50	60	55	-	-						
11	62	56	53	49	42	37	48	41	56	52	49	45	65	50	62	54	-	-						
12	66	55	54	46	46	39	46	43	52	51	50	42	67	51	58	54	-	-						
13	71	60	57	45	42	39	47	39	53	50	51	43	66	54	58	50	-	-						
14	73	60	54	44	44	42	46	38	52	49	48	43	63	54	60	50	-	-						
15	74	59	49	43	46	44	46	38	53	49	49	46	61	55	58	54	-	-						
16	72	58	50	39	47	44	45	39	53	49	50	47	64	54	63	51	-	-						
17	69	58	46	35	49	46	45	38	53	49	54	47	65	54	62	55	-	-						
18	71	57	45	40	47	46	42	41	52	48	56	46	61	54	63	55	-	-						
19	58	57	42	41	50	46	48	42	53	47	51	49	54	53	62	53	-	-						
20	60	52	43	39	52	50	47	42	54	47	51	47	57	50	62	52	-	-						
21	55	50	41	38	54	48	44	39	53	46	47	44	63	53	66	54	-	-						
22	56	54	46	41	52	46	44	36	53	46	48	46	66	55	65	55	-	-						
23	54	47	48	46	50	44	45	36	48	45	49	44	68	58	62	56	-	-						
24	59	51	48	43	49	43	46	38	48	45	47	46	63	54	65	55	-	-						
25	56	50	43	42	50	45	49	40	46	42	52	46	58	51	63	55	-	-						
26	59	53	49	43	48	43	50	45	44	38	55	49	63	51	66	56	-	-						
27	55	53	50	45	51	43	51	46	45	35	56	50	56	53	70	59	-	-						
28	56	49	52	49	52	46	50	45	41	38	59	52	56	50	73	60	-	-						
29	57	48	52	50	51	46	53	46	-	-	56	51	59	50	71	62	-	-						
30	58	46	52	50	51	45	53	46	-	-	56	50	60	50	68	57	-	-						
31	57	47	-	-	46	44	52	46	-	-	57	50	-	-	72	56	-	-						
Avg	63	54	51	45	49	45	48	42	51	47	50	46	61	52	65	56	-	-						

## EEL RIVER BASIN

11-4766. Bull Creek near Weott, Calif.

Location.--Lat 40°21'05", long 124°00'10", in NW $\frac{1}{4}$  sec.30, T.1 S., R.1 E., on right bank 0.2 mile downstream from Albee Creek, 4.5 miles northwest of Weott, and 4.6 miles upstream from mouth.

Drainage area.--28.1 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,380 cfs Feb. 9 (gage height, 15.73 ft); minimum daily, 2.2 cfs Sept. 17, 18, 26.  
1960-62: Maximum discharge, 3,400 cfs Feb. 10, 1961 (gage height, 16.88 ft); minimum, that of Sept. 17, 18, 26, 1962.

Remarks.--Records good except those for periods of shifting control, indefinite stage-discharge relation, or no gage-height record, which are poor. Some regulation at low flow by log pond above station. Minor diversions above station for domestic use.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	6.1	270	88	76	109	80	29	11	9.6	6.9	3.2
2	2.8	5.1	240	85	73	121	73	28	11	9.6	6.9	3.2
3	2.5	5.1	210	83	73	148	66	27	11	9.6	7.6	3.4
4	2.8	4.7	*185	80	71	150	60	26	10	9.6	8.2	3.2
5	*2.5	4.4	162	77	69	448	56	25	10	9.6	7.6	3.0
6	2.5	*4.4	145	76	88	488	52	25	10	8.9	8.2	3.4
7	2.5	4.0	129	73	432	337	49	30	10	8.9	15	3.0
8	2.8	4.0	120	73	997	246	47	45	10	8.9	17	3.0
9	*2.8	4.0	112	71	1,140	200	44	37	*10	9.3	*15	3.0
10	4.0	4.0	105	69	*936	172	41	31	10	8.9	9.6	2.8
11	13	4.0	100	68	695	158	39	29	10	9.3	7.9	2.6
12	5.4	4.0	95	71	728	136	37	26	10	8.9	7.2	*3.0
13	4.0	3.0	93	68	981	123	35	24	10	9.3	6.5	2.8
14	3.7	3.0	92	66	800	111	32	23	10	9.6	*5.7	2.6
15	3.4	4.0	88	65	1,090	104	31	21	10	8.9	6.0	2.8
16	2.5	4.0	88	64	1,050	104	30	20	10	8.6	5.5	2.8
17	2.8	4.0	124	63	685	98	31	18	10	8.6	5.5	2.2
18	3.4	4.0	132	68	504	91	35	17	9.6	8.6	5.5	*2.2
19	2.5	5.0	207	239	352	86	31	17	9.3	8.6	4.8	2.6
20	2.8	6.0	313	166	250	84	30	16	9.3	8.2	5.0	2.6
21	3.4	7.0	285	134	190	89	30	15	9.3	7.9	4.8	2.4
22	3.4	33	217	119	153	114	29	15	9.3	7.6	4.5	2.4
23	3.4	98	186	110	134	108	28	14	9.3	7.2	*4.3	3.4
24	3.1	166	162	104	116	105	*28	14	9.3	7.2	4.0	2.6
25	3.1	125	145	99	103	105	26	13	9.3	6.9	4.3	2.4
26	9.0	100	128	*95	88	104	26	13	9.3	6.0	4.3	*2.2
27	52	*80	118	90	81	102	70	12	9.6	6.0	3.4	2.6
28	16	70	110	87	90	99	40	12	9.6	6.0	3.6	12
29	10	180	*103	83	-	96	33	12	9.6	6.5	3.4	8.2
30	7.5	280	97	80	-----	*93	31	11	9.6	6.2	3.4	6.2
31	6.8	-----	93	78	-----	84	-----	11	-----	6.2	3.2	-----
Total	189.5	1,225.8	4,654	2,792	12,045	4,613	1,240	656	295.4	255.2	204.8	101.8
Mean	6.11	40.9	150	90.1	430	149	41.3	21.2	9.85	8.23	6.61	3.39
Max	52	280	313	239	1,140	488	80	45	11	9.6	17	12
Min	2.5	3.0	88	63	69	84	26	11	9.3	6.0	3.2	2.2
Ac-ft	376	2,430	9,230	5,540	23,890	9,150	2,460	1,300	586	506	406	202

Calendar year 1961: Max 2,140 Min 2.5 Mean 111 Ac-ft 80,100

Water year 1961-62: Max 1,140 Min 2.2 Mean 77.5 Ac-ft 56,080

Peak discharge (base, 1,000 cfs).--Feb. 9 (0800) 1,380 cfs (15.73 ft); Feb. 13 (0800) 1,340 cfs (15.65 ft).

\* Discharge measurement made on this day.

Note.--Shifting-control method used Oct. 23 to Nov. 6, Feb. 11 to Mar. 30. Stage-discharge relation indefinite Nov. 7 to Dec. 4.  
No gage-height record Feb. 21, 22, 25-27, Apr. 17, 18, 20-24, May 2-8, May 11 to June 9, June 25 to July 2, Sept. 29, 30.

11-4767. Larabee Creek near Holmes, Calif.

Location.--Lat 40°24'30", long 123°54'00", in SW $\frac{1}{4}$  sec.1, T.1 S., R.2 E., on left bank 50 ft downstream from Balcom Creek, 2.8 miles upstream from mouth and 2.8 miles east of Holmes.

Drainage area.--84.1 sq mi.

Records available.--July 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 5,730 cfs Feb. 13 (gage height, 10.08 ft); minimum, 7.2 cfs Oct. 5-7.

1959-62: Maximum discharge, 10,000 cfs Feb. 8, 1960 (gage height, 12.40 ft), from rating curve extended above 5,000 cfs; minimum, 5.7 cfs Sept. 11-13, 1959.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 4 to Jan. 19)

Oct. 1 to Feb. 8

Feb. 9 to Sept. 30

2.7	4.0	4.5	320	2.3	5.0	3.5	135
2.8	8.0	5.0	530	2.4	9.0	4.0	260
3.0	20	6.0	1,080	2.6	20	5.0	650
3.2	40	7.0	1,810	2.8	36	6.0	1,200
3.5	80	8.0	2,840	3.0	57	7.0	2,000
4.0	170			3.2	82	9.0	4,200

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	12	1,030	106	108	420	195	72	37	18	10	10
2	8.0	12	1,070	100	104	544	*180	69	34	18	10	10
3	7.6	11	434	95	100	*572	162	65	35	17	11	10
4	7.6	12	287	89	95	568	151	63	*33	16	12	10
5	7.6	11	212	84	92	1,640	139	58	32	16	12	10
6	7.2	*10	160	80	349	1,810	129	55	32	16	11	10
7	7.6	10	134	77	1,390	993	119	54	31	16	31	10
8	7.6	10	114	74	2,580	680	115	61	30	16	73	10
9	*7.6	9.8	98	71	2,400	588	110	102	29	16	109	10
10	9.2	10	92	68	1,540	544	102	135	28	15	40	9.5
11	18	12	82	64	936	588	96	119	28	15	26	9.0
12	13	11	76	68	1,370	508	91	91	27	15	21	9.0
13	10	10	70	65	3,260	452	85	81	26	16	20	9.0
14	9.8	10	70	59	1,840	404	82	73	26	15	*18	8.6
15	9.2	9.8	65	58	2,800	372	78	69	26	15	17	8.2
16	8.6	9.8	59	56	2,630	368	76	65	26	15	15	8.2
17	8.0	9.8	160	53	1,630	328	72	63	25	14	15	8.2
18	8.0	9.8	260	70	1,140	296	69	62	24	14	15	7.8
19	8.0	11	798	1,570	815	281	79	58	24	14	14	7.8
20	8.6	16	1,580	1,060	635	254	76	55	23	13	12	7.8
21	8.6	16	1,220	472	520	233	68	53	22	12	13	8.2
22	8.6	43	560	320	436	474	65	50	21	12	14	8.2
23	9.2	9.8	388	266	380	512	63	50	21	12	13	8.2
24	9.8	414	302	230	328	420	63	49	20	12	12	7.8
25	9.8	545	254	199	287	416	61	46	19	12	12	7.8
26	15	476	*203	*168	254	372	57	46	19	12	12	7.8
27	29	*200	168	150	225	320	*126	45	19	11	11	7.8
28	43	118	152	140	248	287	124	43	19	10	11	18
29	19	682	138	132	-	254	91	42	18	10	10	31
30	14	1,060	124	122	-----	228	77	41	18	10	10	15
31	12	-----	114	114	-----	210	-----	38	-----	10	10	-----
Total	357.2	3,866.0	10,474	6,280	28,492	15,936	3,001	1,973	772	433	620	301.9
Mean	11.5	129	338	203	1,018	514	100	63.6	25.7	14.0	20.0	10.1
Max	43	1,060	1,580	1,570	3,260	1,810	195	135	37	18	109	31
Min	7.2	9.8	59	53	92	210	57	38	18	10	10	7.8
Ac-ft	708	7,670	20,770	12,460	56,510	31,610	5,950	3,910	1,530	859	1,230	599

Calendar year 1961: Max 4,860 Min 7.2 Mean 245 Ac-ft 177,500

Water year 1961-62: Max 3,260 Min 7.2 Mean 199 Ac-ft 143,800

Peak discharge (base, 3,000 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-19	1500	8.57	3,520	2-13	1000	10.08	5,730
2-8	0700	8.62	3,580				

## EEL RIVER BASIN

11-4770. Eel River at Scotia, Calif.

Location.--Lat 40°29'30", long 124°05'55", in SW<sup>1</sup>/<sub>4</sub> sec.5, T.1 N., R.1 E., near center of span in left pier of bridge on U. S. Highway 101, 0.5 mile north of Scotia and 6 miles upstream from Van Duzen River.

Drainage area.--3,113 sq mi.

Records available.--October 1910 to September 1962. Monthly discharge only for some periods and yearly estimates for 1915-16, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 36.15 ft above mean sea level, datum of 1929. Prior to September 1934, staff gage at same site and datum. September 1934 to Dec. 12, 1940, wire-weight gage at same site and datum.

Average discharge.--52 years, 6,962 cfs (5,040,000 acre-ft per year).

Extremes.--Maximum discharge during year, 107,000 cfs Feb. 14 (gage height, 29.92 ft); minimum, 90 cfs Sept. 17, 24.  
1910-62: Maximum discharge, 541,000 cfs Dec. 22, 1955 (gage height, 61.90 ft), from rating curve extended above 200,000 cfs; minimum observed, 10 cfs Aug. 12-14, 1924.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow slightly regulated by Lake Pillsbury (see p. 382) and by diversion through Potter Valley powerhouse (see p. 384).

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

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
8.3	50	13.0	8,700	8.1	80	8.7	340
8.6	265	16.0	19,300	8.4	190	9.0	610
9.0	610	23.0	57,000				
9.5	1,230	27.0	84,000.				
11.0	3,800						

Note.--Same as preceding table above 9.0 ft.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	356	19,600	2,830	2,920	9,240	9,240	3,050	1,200	340	136	118
2	* 124	332	30,900	2,760	2,900	16,700	8,970	2,960	1,150	340	136	115
3	124	295	12,700	2,650	2,870	17,900	8,500	a 2,850	1,100	328	136	112
4	118	265	7,040	2,550	2,830	18,600	7,690	a 2,790	1,090	322	136	112
5	113	244	* 4,840	2,380	2,790	23,400	7,200	a 2,690	1,040	298	132	112
6	108	* 230	3,800	2,150	2,810	51,100	7,170	a 2,600	999	292	* 132	112
7	96	209	3,160	1,720	7,770	43,000	6,990	a 2,500	948	286	158	115
8	102	202	2,870	1,620	34,100	26,900	7,380	a 2,400	912	275	245	115
9	102	195	2,660	1,580	41,400	20,300	7,470	a 2,400	864	270	456	112
10	102	189	2,290	1,560	49,200	16,600	7,040	a 2,500	840	265	492	112
11	135	195	2,050	1,550	30,600	14,700	6,310	a 2,400	804	250	380	112
12	165	195	1,860	1,500	21,000	13,000	6,000	a 2,200	780	245	304	112
13	209	195	1,720	1,490	53,300	11,200	6,050	a 2,100	709	235	275	112
14	244	189	1,620	1,440	80,700	9,960	6,080	a 1,900	687	230	265	108
15	216	183	1,550	1,400	75,800	9,270	5,950	a 1,800	632	226	240	108
16	195	183	1,480	1,340	81,900	8,940	5,590	a 1,750	* 610	222	222	104
17	183	183	1,520	1,230	60,500	8,560	5,060	a 1,700	643	226	202	101
18	177	183	2,410	1,190	39,300	7,970	4,660	a 1,650	632	222	194	115
19	171	183	5,540	a 9,020	31,800	7,500	4,340	a 1,550	600	218	186	206
20	159	195	20,100	a 44,600	23,100	7,330	4,180	1,550	570	210	174	150
21	153	216	31,900	a 15,700	17,500	7,170	3,720	1,500	540	202	166	115
22	153	258	19,000	a 9,150	14,300	8,790	3,360	1,420	520	198	162	108
23	147	420	11,000	a 6,780	* 12,200	15,800	3,200	1,420	501	190	158	104
24	147	1,520	7,660	a 5,520	10,700	12,700	3,240	1,380	474	182	* 150	101
25	147	9,080	5,950	a 4,620	9,300	10,800	3,220	1,370	456	174	150	101
26	159	14,100	4,880	a 4,000	8,200	10,000	3,050	1,310	412	162	146	101
27	216	7,380	4,200	a 3,700	7,300	9,810	3,180	1,270	396	158	* 140	101
28	332	4,200	3,620	a 3,400	6,830	9,600	4,140	1,360	388	154	132	136
29	438	4,620	* 3,280	* a 3,260	-	9,600	4,640	1,310	372	146	129	* 186
30	438	14,800	2,970	3,050	-----	9,630	* 3,500	1,240	356	143	126	235
31	404	-----	2,900	2,970	-----	* 9,630	-----	1,230	-----	140	122	-----
Total	5,695	60,995	227,070	148,710	733,920	455,700	167,120	60,150	21,225	7,149	6,182	3,651
Mean	184	2,033	7,325	4,797	26,210	14,700	5,571	1,940	708	231	199	122
Max	438	14,800	31,900	44,600	81,900	51,100	9,240	3,050	1,200	340	492	235
Min	96	183	1,480	1,190	2,790	7,170	3,050	1,230	356	140	122	101
Ac-ft	11,300	121,000	450,400	295,000	+ 1,456	903,900	331,500	119,300	42,100	14,180	12,260	7,240
Calendar year 1961:	Max 94,800		Min 96	Mean 6,335	Ac-ft 4,586,000							
Water year 1961-62:	Max 81,900		Min 96	Mean 5,199	Ac-ft 3,764,000							

Peak discharge (base, 72,000 cfs).--Feb. 14 (0200) 107,000 cfs (29.92 ft); Feb. 16 (1000) 84,800 cfs (27.10 ft).

\* Discharge measurement made on this day.

+ Expressed in thousands.

a No gage-height record.

11-4770. Eel River at Scotia, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 76°F Aug. 16; minimum recorded, 44°F Mar. 1-4.  
 1960-62: Maximum temperature, that of Aug. 16, 1962; minimum recorded, 42°F Jan. 3, 1961.

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

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

## EEL RIVER BASIN

11-4777. South Fork Van Duzen River near Bridgeville, Calif.

Location.--Lat 40°26'40", long 123°39'15", in SE $\frac{1}{4}$  sec.19, T.1 N., R.5 E., on right bank 0.2 mile upstream from Butte Creek, 3 miles upstream from mouth, and 7.8 miles east of Bridgeville.

Drainage area.--36.2 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-58 and annual maximum, water years 1954-57. September 1958 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,350 ft (from topographic map). Sept. 25, 1953, to Aug. 31, 1957, crest-stage gage only, at site 0.1 mile upstream at different datum.

Extremes.--Maximum discharge during year, 2,220 cfs Feb. 13 (gage height, 9.09 ft); minimum, 2.0 cfs Sept. 24, 25.

1953-57, 1958-62: Maximum discharge, 8,990 cfs Dec. 22, 1955 (gage height, 11.91 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of peak flow.

1958-62: Minimum discharge, that of Sept. 24, 25, 1962.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 29 to Dec. 9, Feb. 24 to Mar. 18)

2.1	1.5	4.0	111
2.2	3.0	4.5	179
2.4	7.0	5.0	275
2.7	16	6.0	560
3.0	30	7.0	960
3.5	64	8.0	1,500

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.4	*8.5	*679	64	63	100	271	77	37	12	4.8	4.4
2	4.2	8.0	508	60	59	94	249	77	36	12	4.4	4.2
3	4.0	7.5	267	61	55	97	*233	74	35	11	5.2	4.0
4	3.6	7.0	179	56	51	116	231	70	34	11	6.2	3.8
5	2.9	6.8	138	53	48	374	237	64	*32	11	6.0	3.6
6	*3.2	6.4	111	51	166	356	229	62	29	11	5.2	3.6
7	3.4	6.2	90	50	706	253	231	60	29	11	15	4.0
8	3.8	6.2	78	49	841	213	219	*80	28	10	28	3.8
9	4.0	6.0	68	47	963	197	189	115	28	9.8	31	3.4
10	4.8	6.6	63	42	660	171	162	133	27	9.0	17	3.4
11	9.3	7.5	56	40	407	155	152	128	26	8.8	13	2.9
12	7.3	6.8	52	41	420	142	155	101	25	8.5	11	2.9
13	6.6	6.2	49	38	1,270	*139	153	89	24	8.5	9.0	2.9
14	6.2	6.2	48	35	848	139	143	82	23	8.5	8.3	3.0
15	6.2	6.0	44	35	1,040	138	127	76	22	8.3	7.5	3.0
16	5.6	5.8	42	34	902	150	113	70	22	8.0	7.0	3.0
17	5.4	5.8	124	33	588	159	101	66	21	7.8	6.6	3.0
18	5.0	5.6	160	42	452	163	94	63	19	7.5	6.6	2.9
19	4.6	6.2	592	837	343	171	98	61	18	7.3	6.4	3.4
20	4.6	7.3	1,020	424	273	168	86	58	18	7.3	6.2	3.4
21	5.2	7.5	676	209	223	157	80	55	16	7.0	5.8	3.2
22	5.4	50	362	149	192	233	77	53	16	6.6	5.6	3.0
23	5.4	113	237	*124	174	195	75	52	15	6.4	5.2	2.4
24	5.6	301	181	110	148	187	77	51	16	6.2	5.4	2.1
25	5.8	313	146	100	130	227	70	49	14	6.0	4.8	2.3
26	7.8	417	119	93	121	261	63	47	14	5.8	4.6	2.3
27	50	171	103	85	101	283	139	45	14	5.6	4.6	2.6
28	31	112	*91	78	101	280	119	43	13	5.4	*4.4	6.6
29	15	577	83	75	-----	283	93	42	13	5.2	4.4	10
30	11	809	74	72	-----	283	82	40	13	5.0	4.2	6.4
31	9.5	-----	69	66	-----	285	-----	38	-----	5.0	4.2	-----
TOTAL	250.8	3,003.1	6,509	3,253	11,345	6,169	4,348	2,121	677	252.5	257.6	109.5
MEAN	8.09	100	210	105	405	199	145	68.4	22.6	8.15	8.31	3.65
MAX	50	809	1,020	837	1,270	374	271	133	37	12	31	10
MIN	2.9	5.6	42	33	48	94	63	38	13	5.0	4.2	2.1
AC-FT	497	5,960	12,910	6,450	22,500	12,240	8,620	4,210	1,340	501	511	217

CALENDAR YEAR 1961: MAX 1,810 MIN 2.9 MEAN 142 AC-FT 103,100  
WATER YEAR 1961-62: MAX 1,270 MIN 2.1 MEAN 105 AC-FT 75,960

Peak discharge (base, 2,800 cfs).--No peak above base.

\* Discharge measurement made on this day.



11-4777. South Fork Van Duzen River near Bridgeville, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 77°F July 26-29; minimum, 32°F Feb. 27 to Mar. 1.

1960-62: Maximum temperature, 81°F July 13, 1961; minimum, that of Feb. 27 to Mar. 1, 1962.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	58	53	47	46	43	43	41	41	42	40	35	32	50	44	56	47	62	52	70	61	74	64	68	59
2	58	53	47	45	43	43	41	39	42	40	35	33	50	45	58	50	58	53	70	59	69	59	67	59
3	58	53	48	45	43	42	42	41	42	39	35	34	50	44	53	49	59	52	72	60	65	61	66	58
4	57	52	48	46	43	42	42	39	41	39	37	35	50	45	56	47	59	51	73	61	62	59	66	58
5	57	52	47	44	44	42	41	39	40	38	36	36	51	45	57	47	61	50	72	62	67	57	66	59
6	56	52	46	42	43	41	42	40	41	40	38	36	51	45	55	49	63	53	72	60	63	58	66	59
7	57	52	44	43	41	40	42	40	41	41	38	36	52	46	57	50	65	55	73	61	61	59	65	59
8	52	49	45	43	41	41	41	40	41	41	40	37	48	46	51	50	66	56	73	61	59	57	65	57
9	52	48	45	42	41	39	41	39	41	41	38	35	50	44	51	49	66	58	73	61	60	57	65	59
10	52	50	45	43	39	39	41	40	42	41	36	35	51	44	50	48	65	56	73	61	67	57	63	58
11	55	52	45	44	39	36	41	39	41	41	38	35	51	45	51	47	66	56	73	62	69	61	64	60
12	58	54	44	43	38	37	40	40	41	41	38	34	51	46	49	47	66	58	72	62	70	61	61	58
13	59	54	44	42	39	37	40	39	41	41	44	34	51	47	51	46	66	58	71	60	71	61	64	59
14	59	55	43	41	40	39	39	36	41	40	43	41	52	47	49	46	65	56	72	60	71	60	64	58
15	59	55	43	42	40	40	38	36	40	39	43	42	51	48	49	47	66	56	72	60	70	59	64	57
16	58	55	42	38	40	40	38	36	39	39	44	42	54	46	55	46	67	58	73	61	71	60	64	59
17	57	53	39	36	40	40	37	36	40	39	45	41	54	46	54	48	67	57	73	62	69	62	65	60
18	57	53	40	37	40	40	37	37	40	40	46	40	54	47	54	50	69	58	72	61	69	59	62	59
19	55	53	40	37	42	40	39	37	40	39	46	42	50	46	52	47	70	59	74	62	71	60	61	55
20	55	49	39	39	44	42	39	37	40	40	44	43	51	44	54	46	71	60	75	64	71	61	62	57
21	52	49	39	36	44	42	37	35	40	38	43	41	56	46	58	48	72	61	76	64	71	62	61	55
22	49	47	42	38	42	41	35	34	40	38	42	41	56	46	56	48	73	62	75	64	71	61	61	55
23	48	46	43	42	42	41	36	35	39	38	44	41	55	47	53	50	73	63	76	64	71	61	61	55
24	51	48	43	38	42	41	38	36	38	36	44	43	53	47	56	49	72	61	75	64	71	61	61	55
25	51	49	40	38	43	42	39	37	38	36	45	43	52	44	53	50	70	61	76	65	69	59	59	56
26	51	50	42	40	42	40	40	38	37	34	47	44	53	46	55	50	70	62	77	65	68	59	60	56
27	50	48	43	42	42	40	40	38	35	32	48	43	52	46	60	50	70	59	77	66	67	57	60	58
28	49	48	43	42	42	40	40	38	35	32	48	43	49	45	62	52	72	60	77	67	66	56	58	56
29	49	47	43	43	42	40	41	39	-	-	49	43	53	45	62	54	72	62	77	67	65	57	60	55
30	48	46	43	41	41	39	41	39	-	-	50	44	52	44	60	52	71	62	76	66	66	57	61	55
31	49	47	-----	-----	41	39	41	39	-----	-----	50	44	-----	-----	60	50	-----	-----	74	66	66	57	-----	-----
Avg	54	51	43	41	41	40	40	38	40	39	42	39	52	46	55	49	67	58	74	63	68	59	63	57

## EEL RIVER BASIN

11-4785. Van Duzen River near Bridgeville, Calif.

Location.--Lat. 40°27'50", long 123°51'25", in E $\frac{1}{2}$  sec. 17, T.1 N., R.3 E., on downstream side of right pier of bridge on State Highway 36, 0.3 mile downstream from Pip Creek, 0.5 mile upstream from Rogers Creek, and 4 miles west of Bridgeville.

Drainage area.--216 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 400 ft (from topographic map).

Average discharge.--12 years, 891 cfs (645,100 acre-ft per year).

Extremes.--Maximum discharge during year, 11,800 cfs Feb. 13 (gage height, 11.38 ft); minimum, 7.6 cfs Sept. 26, 27.

1950-62: Maximum discharge, 43,500 cfs Dec. 22, 1955 (gage height, 21.3 ft, from floodmarks), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 5.0 cfs Sept. 13, 1959.

Remarks.--Records good. No storage or large diversion.

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

2.2	7.6	4.0	515
2.3	13	4.5	840
2.5	28	5.0	1,260
2.8	71	6.0	2,300
3.1	136	8.0	5,300
3.5	265	10.0	8,900

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	42	3,580	273	316	718	1,090	303	119	38	12	13
2	11	37	3,470	254	294	805	992	290	117	37	12	13
3	* 10	32	1,440	242	269	* 888	888	273	114	36	12	13
4	10	31	* 888	231	250	601	826	269	110	34	13	13
5	10	28	666	213	231	3,400	856	246	105	32	15	12
6	9.5	25	545	196	576	3,700	812	231	101	32	14	12
7	9.0	* 23	463	190	3,870	2,150	798	220	* 97	31	29	12
8	9.0	22	383	184	6,850	1,630	784	227	92	30	105	12
9	9.5	22	325	175	7,060	1,600	* 712	368	88	28	181	12
10	10	22	290	163	4,710	1,340	601	569	86	28	101	10
11	23	25	246	155	2,460	1,310	539	569	82	27	66	10
12	23	25	220	155	2,620	1,120	533	425	79	25	49	10
13	18	23	203	150	7,550	1,020	521	358	79	25	42	10
14	16	22	203	139	5,040	944	521	321	75	24	37	9.0
15	15	21	193	131	7,220	896	469	294	71	24	* 32	9.0
16	14	20	178	129	5,970	912	425	269	69	23	28	9.5
17	14	20	685	124	3,860	1,000	388	250	68	22	26	9.0
18	14	19	856	218	2,730	920	358	235	65	22	24	9.0
19	14	20	3,380	4,060	2,070	928	368	227	61	20	23	8.5
20	13	24	5,770	3,380	1,610	912	363	217	58	20	22	8.5
21	15	28	4,970	1,310	1,290	826	312	203	55	19	21	9.5
22	15	123	2,070	848	1,080	1,370	294	190	52	18	19	9.5
23	15	430	1,300	679	952	1,300	282	184	49	17	18	9.0
24	16	1,570	944	575	826	1,120	273	181	48	16	18	9.0
25	16	1,520	744	* 527	724	1,220	265	172	45	15	17	8.5
26	21	2,070	608	503	627	1,330	246	160	44	14	15	8.0
27	122	984	510	452	551	1,330	381	155	42	14	* 15	8.0
28	234	575	* 435	408	569	1,280	* 646	144	42	13	15	14
29	110	2,390	383	378	-	1,210	430	139	41	13	14	33
30	68	4,850	339	358	-----	1,160	344	134	40	12	14	28
31	51	-----	303	335	-----	1,120	-----	126	-----	12	14	-----
Total	946.0	15,043	36,590	17,135	72,175	40,060	16,317	7,949	2,194	721	1,023	351.0
Mean	30.5	501	1,180	553	2,578	1,292	544	256	73.1	23.3	33.0	11.7
Max	234	4,850	5,770	4,060	7,550	3,700	1,090	569	119	38	181	33
Min	9.0	19	178	124	231	601	246	126	40	12	12	8.0
Ac-ft	1,880	29,840	72,580	33,990	143,200	79,460	32,360	15,770	4,350	1,430	2,030	696

Calendar year 1961: Max 11,900 Min 9.0 Mean 750 Ac-ft 543,200

Water year 1961-62: Max 7,550 Min 8.0 Mean 578 Ac-ft 417,600

Peak discharge (base, 9,100 cfs).--Feb. 9 (1600) 9,260 cfs (10.18 ft); Feb. 13 (1300) 11,800 cfs (11.38 ft).

\* Discharge measurement made on this day.

11-4785. Van Duzen River near Bridgeville, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 75°F July 23-28, Aug. 12, 14, 15; minimum, 39°F Dec. 11-13, Jan. 22-24.  
 1960-62: Maximum temperature, 80°F July 11, 12, 1961; minimum, that of Dec. 11-13, 1961, Jan. 22-24, 1962.

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

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

## ELK RIVER BASIN

11-4797. Elk River near Falk, Calif.

Location.--Lat 40°42'10", long 124°09'20", in NW¼ sec.26, T.4 N., R.1 W., on left bank 500 ft downstream from Clapp Gulch, 1,300 ft downstream from confluence of North and South Forks, 2 miles northwest of Falk, and 5 miles south of Eureka.

Drainage area.--44.2 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 50 ft (from topographic map).

Average discharge.--5 years, 77.5 cfs (56,110 acre-ft per year).

Extremes.--Maximum discharge during year, 2,120 cfs Jan. 19 (gage height, 22.34 ft); minimum, 0.4 cfs Oct. 6-10, Sept. 14-23, 26-28. 1957-62: Maximum discharge, 3,220 cfs Feb. 14, 1959 (gage height, 27.62 ft); minimum, that of Oct. 6-10, 1961, Sept. 14-23, 26-28, 1962.

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

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

3.4	0.4	4.5	52
3.5	2.6	5.0	89
3.6	5.2	6.0	180
3.7	8.2	9.0	465
3.9	16	14.0	990
4.2	32		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	3.6	237	21	24	117	35	55	7.6	2.4	0.6	0.8
2	.8	3.1	208	20	22	197	*32	46	7.3	2.4	.8	.8
3	.8	3.4	90	19	20	475	30	42	7.9	2.2	1.1	.8
4	.8	4.2	58	19	19	312	28	45	*7.0	1.9	1.1	.8
5	.8	4.2	*44	18	18	390	27	36	6.7	1.9	.8	.6
6	*4.4	3.4	36	17	23	*473	26	30	6.4	1.9	.6	.8
7	.4	2.6	29	16	83	265	25	*26	6.1	1.9	6.6	1.1
8	.4	2.2	25	15	748	158	25	24	5.8	1.7	12	1.1
9	.4	1.9	22	14	469	164	24	25	5.5	1.9	17	1.1
10	1.9	1.9	19	13	385	307	24	41	5.5	1.9	*11	.8
11	6.4	1.7	18	12	217	367	23	56	5.2	1.9	7.3	.8
12	4.9	1.7	15	15	*152	245	23	41	4.9	1.7	5.5	.6
13	3.9	1.7	14	15	470	149	22	33	4.9	1.7	4.4	.6
14	3.1	1.5	15	14	362	104	22	28	4.7	1.7	3.6	.4
15	3.1	1.5	17	13	546	79	21	25	4.7	1.7	3.1	.4
16	2.9	1.3	17	12	525	67	21	22	4.7	1.3	2.6	.4
17	2.6	1.5	130	12	360	57	21	20	4.4	1.1	2.4	.4
18	2.6	1.9	102	18	263	49	20	18	4.2	.8	1.9	.4
19	2.4	2.2	240	968	197	43	28	17	3.9	.8	1.9	.4
20	2.2	2.9	708	924	136	48	26	15	3.6	.6	1.7	.4
21	2.6	2.9	406	277	95	46	22	14	3.4	.6	1.7	.4
22	2.9	5.8	187	147	75	358	20	13	3.1	.6	1.7	.4
23	2.9	72	105	95	65	383	19	14	3.1	.6	1.5	.4
24	2.9	350	72	72	60	202	21	13	3.1	.4	1.5	.6
25	2.9	244	58	60	52	125	21	12	2.9	.4	1.5	.6
26	4.9	139	*46	50	46	90	19	11	2.9	.4	1.3	.4
27	14	74	39	42	40	70	145	11	2.6	.4	1.1	.4
28	26	45	34	36	45	61	150	11	2.4	.4	.8	6.3
29	12	178	30	32	-	53	105	9.8	2.2	.4	.6	*7.3
30	7.0	268	26	29	-----	45	70	9.4	2.4	.4	.6	4.4
31	*4.7	-----	24	26	-----	39	-----	8.2	-----	.4	.6	-----
Total	124.7	1427.1	3,071	3,041	5,517	5,538	1,095	771.4	139.1	38.4	98.9	34.7
Mean	4.02	47.6	99.1	98.1	197	179	36.5	24.9	4.64	1.24	3.19	1.16
Max	26	350	708	968	748	475	150	56	7.9	2.4	17	7.3
Min	0.4	1.3	14	12	18	39	19	8.2	2.2	0.4	0.6	0.4
Ac-ft	247	2,830	6,090	6,030	10,940	10,980	2,170	1,530	276	76	196	69

Calendar year 1961: Max 1,530 Min 0.4 Mean 76.9 Ac-ft 55,710  
 Water year 1961-62: Max 968 Min 0.4 Mean 57.2 Ac-ft 41,430

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-20	0200	15.83	1,200	2-8	0900	15.57	1,170
1-19	2300	22.34	2,120				

\* Discharge measurement made on this day.

Note.--No gage-height record Apr. 3 to May 6, June 27-29.

## JACOBY CREEK BASIN

415

11-4800. Jacoby Creek near Freshwater, Calif.

Location.--Lat 40°47'30", long 124°00'10", in NW¼ sec.30, T.5 N., R.2 E., on left bank 300 ft downstream from unnamed tributary, 3.7 miles northeast of Freshwater, and 6.5 miles southeast of Arcata.

Drainage area.--6.07 sq mi.

Records available.--December 1954 to September 1962.

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

Average discharge.--7 years (1955-62), 14.6 cfs (10,570 acre-ft per year).

Extremes.--Maximum discharge during year, 389 cfs Jan. 19 (gage height, 3.43 ft); minimum, 0.8 cfs Oct. 2, 3.

1954-62: Maximum discharge, 1,670 cfs Dec. 30, 1954 (gage height, 7.20 ft), from rating curve extended above 580 cfs on basis of critical-depth measurement at gage height 6.75 ft; minimum, 0.6 cfs Sept. 24, 1957.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion.

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

Oct. 1 to June 10

June 11 to Sept. 30

0.8	0.8	1.4	18	0.8	1.3
.9	1.4	1.7	43	.9	1.8
1.0	2.4	2.0	88	1.0	2.5
1.1	3.9	3.0	280	1.1	3.9
1.2	7.0			1.2	7.0

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.9	1.2	*23	5.8	5.5	30	8.1	13	2.6	1.9	1.4	1.3
2	.8	1.2	21	5.8	5.1	40	*7.0	11	2.6	1.9	1.4	1.3
3	.8	1.6	14	*5.8	4.8	92	6.7	10	2.4	1.8	1.6	1.3
4	.9	2.0	9.8	5.5	4.8	51	6.4	*11	2.4	1.8	1.5	1.3
5	.9	1.6	7.6	5.1	4.5	*71	5.8	9.2	2.4	1.8	1.4	1.3
6	*.9	1.2	6.4	4.8	4.8	66	5.8	7.6	2.4	1.8	1.4	1.4
7	.9	1.2	5.5	4.5	9.2	37	5.5	6.7	2.2	1.7	5.1	1.4
8	.9	1.1	5.1	4.5	51	27	5.5	6.1	2.2	1.7	3.9	1.4
9	.9	1.1	4.8	4.2	35	24	5.5	7	2.2	1.7	3.6	1.3
10	1.5	1.3	4.5	3.9	27	33	5.5	10	2.2	1.7	2.4	1.3
11	1.2	1.3	4.2	3.9	21	48	5.1	9	*2.2	1.7	1.9	1.3
12	1.1	1.2	4.5	4.2	*18	33	5.1	8	2.2	1.7	1.7	1.3
13	1.1	1.2	3.8	4.2	46	25	4.8	7	2.2	1.7	1.6	1.3
14	1.0	1.1	4.2	3.9	42	20	4.8	6	2.2	1.7	1.5	1.3
15	1.0	1.1	4.8	3.9	67	17	4.8	6	2.2	1.6	1.4	1.3
16	.9	1.1	4.8	3.9	50	15	4.8	5.5	2.1	1.5	1.4	1.3
17	1.0	1.1	23	3.9	40	13	4.5	5	2.0	1.5	1.4	1.3
18	1.0	1.1	17	5.3	31	11	4.5	4.5	2.0	1.5	1.4	1.3
19	1.0	1.2	110	140	25	10	7.0	4.5	1.9	1.5	1.3	1.3
20	1.1	1.5	132	105	20	10	6.4	4.0	1.9	1.5	1.3	1.3
21	1.1	2.0	70	34	16	10	5.1	4.0	1.9	1.4	1.3	1.3
22	1.1	13	35	20	14	31	4.8	3.7	1.9	1.4	1.3	1.3
23	1.2	27	22	15	14	42	4.5	3.7	1.9	1.4	1.3	1.3
24	1.2	94	17	13	13	27	5.1	3.5	1.9	1.3	1.3	1.3
25	1.1	49	14	11	11	20	5.1	3.5	1.8	1.3	1.3	1.3
26	1.7	32	11	9.2	9.8	16	4.5	3.3	1.8	1.3	1.3	1.3
27	18	18	9.2	8.1	9.2	14	35	3.3	1.8	1.3	1.3	1.3
28	6.7	11	8.1	7.0	11	13	36	3.0	1.8	1.3	1.3	3.6
29	3.5	33	7.0	6.4	-----	11	24	3.0	1.9	1.3	1.3	2.7
30	2.0	32	6.7	6.1	-----	9.8	16	2.8	2.0	1.3	*1.3	1.7
31	*1.5	-----	6.4	5.8	-----	8.7	-----	2.8	-----	1.3	1.3	-----
TOTAL	58.9	336.4	616.4	463.7	609.7	875.5	253.7	187.7	63.2	48.3	52.9	43.4
MEAN	1.90	11.2	19.9	15.0	21.8	28.2	8.46	6.05	2.11	1.56	1.71	1.45
MAX	18	94	132	140	67	92	36	13	2.6	1.9	5.1	3.6
MIN	0.8	1.1	3.8	3.9	4.5	8.7	4.5	2.8	1.8	1.3	1.3	1.3
AC-FT	117	667	1,220	920	1,210	1,740	503	372	125	96	105	86

CALENDAR YEAR 1961: MAX 206 MIN 0.8 MEAN 14.4 AC-FT 10,450

WATER YEAR 1961-62: MAX 140 MIN 0.8 MEAN 9.89 AC-FT 7,160

Peak discharge (base, 300 cfs).--Dec. 19 (2000) 368 cfs (3.35 ft); Jan. 19 (1900) 389 cfs (3.43 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record May 9 to June 10.

## MAD RIVER BASIN

11-4805. Mad River near Forest Glen, Calif.

Location.--Lat 40°27'30", long 123°30'35", in SW $\frac{1}{4}$  sec.16, T.1 N., R.6 E., on right bank 0.7 mile downstream from Lamb Creek and 7.0 miles northwest of Forest Glen.

Drainage area.--143 sq mi (revised).

Records available.--June 1953 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,410 ft (from topographic map). Prior to Dec. 22, 1955, water-stage recorder at site 0.7 mile upstream at different datum. Jan. 13 to June 18, 1956, wire-weight gage at former site at datum 4.17 ft lower than former datum.

Average discharge.--9 years, 345 cfs (249,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,380 cfs Feb. 18 (gage height, 5.18 ft); minimum daily, 1.5 cfs Oct. 8. 1953-62: Maximum discharge, 39,200 cfs Dec. 22, 1955 (gage height, 24.5 ft, from floodmarks, present datum), from rating curve extended above 8,100 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.6 cfs Sept. 15, 1961.

Remarks.--Records good except those below 10 cfs, which are fair. Flow regulated by Ruth Reservoir beginning in July 1961 (capacity, 42,000 acre-ft). No diversion.

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

Oct. 1 to Nov. 25				Nov. 26 to Sept. 30			
2.1	1.0	2.5	32	2.2	4.0	3.5	280
2.2	3.0	2.8	88	2.3	12	4.0	530
2.3	9.1	3.1	155	2.4	25	5.0	1,240
				2.7	76	5.5	1,670
				3.0	135		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.0	*3.5	*440	260	22	410	632	133	15	8.8	12	16
2	3.5	3.5	360	256	21	313	572	123	13	8.0	12	13
3	*2.5	*3.5	292	252	20	179	512	115	15	8.0	13	17
4	2.5	2.2	272	248	19	425	455	111	13	8.0	13	17
5	2.5	1.9	264	*248	17	716	*425	105	*12	8.0	15	17
6	2.5	2.2	252	240	48	737	390	99	11	7.2	15	17
7	1.7	3.0	248	240	284	912	360	93	10	7.2	20	17
8	1.5	3.5	240	237	440	933	340	*95	11	7.2	19	16
9	1.7	4.0	234	234	506	898	316	99	12	22	17	17
10	1.9	4.6	231	228	268	821	288	97	12	56	15	17
11	3.5	5.2	225	159	151	737	268	95	13	15	15	17
12	3.0	4.6	219	9.6	166	618	248	87	15	22	15	17
13	2.5	4.0	167	7.2	720	*560	231	84	15	87	15	17
14	1.9	3.5	22	6.4	446	518	216	80	13	65	15	19
15	1.9	4.0	8.8	6.4	630	500	198	80	13	11	15	19
16	2.2	3.5	7.2	5.6	828	399	186	76	13	10	15	17
17	1.9	3.5	15	4.8	1,030	248	175	74	13	10	15	17
18	1.7	3.5	34	5.6	1,360	375	165	72	12	10	13	17
19	2.2	4.0	144	168	1,280	450	160	69	12	9.6	13	19
20	2.2	5.2	343	131	1,060	494	151	63	12	10	13	19
21	3.0	6.4	470	58	863	512	145	218	11	10	12	17
22	3.0	9.1	360	84	716	597	141	253	11	10	13	17
23	2.2	10	325	28	604	618	133	20	11	10	13	17
24	2.2	35	312	28	512	604	125	17	10	10	13	17
25	2.5	133	304	*28	450	604	117	19	9.6	10	13	17
26	3.5	195	296	28	415	674	113	20	9.6	10	12	17
27	7.7	178	288	28	405	758	139	16	8.8	11	13	17
28	7.0	173	171	28	405	793	158	22	8.8	11	*15	21
29	4.0	351	80	28	-----	779	151	125	8.8	11	15	16
30	3.0	380	268	27	-----	744	141	98	8.8	12	15	16
31	3.0	-----	268	24	-----	695	-----	16	-----	12	15	-----
TOTAL	88.4	1,543.4	7,160.0	3,335.6	13,686	18,621	7,651	2,674	352.4	507.0	444	514
MEAN	2.85	51.4	231	108	489	601	255	86.3	11.7	16.4	14.3	17.1
MAX	7.7	380	470	260	1,360	933	632	253	15	87	20	21
MIN	1.5	1.9	7.2	4.8	17	179	113	16	8.8	7.2	12	13
AC-FT	175	3,060	14,200	6,620	27,150	36,930	15,180	5,300	699	1,010	881	1,020

CALENDAR YEAR 1961: MAX 3,950 MIN 0.6 MEAN 284 AC-FT 205,700  
 WATER YEAR 1961-62: MAX 1,360 MIN 1.5 MEAN 155 AC-FT 112,200

\* Discharge measurement made on this day.

11-4805. Mad River near Forest Glen, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 75°F July 21-23, 25-28; minimum, 35°F Jan. 24.  
1960-62: Maximum temperature recorded, 79°F June 25, 1961; minimum, that of Jan. 24, 1962.

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

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

## MAD RIVER BASIN

11-4808. North Fork Mad River near Korbel, Calif.

Location.--Lat 40°53'10", long 123°56'30", in SW¼ sec.22, T.6 N., R.2 E., on left bank 0.5 mile downstream from Bald Mountain Creek, 1.2 miles northeast of Korbel, and 2.5 miles east of town of Blue Lake.

Drainage area.--40.5 sq mi.

Records available.--October 1957 to September 1962.

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

Average discharge.--5 years, 130 cfs (94,120 acre-ft per year).

Extremes.--Maximum discharge during year, 5,760 cfs Dec. 19 (gage height, 13.20 ft), from rating curve extended above 1,600 cfs; minimum, 1.4 cfs Oct. 7-10.

1957-62: Maximum discharge, 7,170 cfs Feb. 8, 1960 (gage height, 16.17 ft); minimum, 1.0 cfs Sept. 12, 1959.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 24-27)

Oct. 1 to Dec. 19

Dec. 20 to Sept. 30

2.1	0.8	3.2	36	2.3	3.2	4.5	140
2.2	2.2	3.7	79	2.5	5.1	5.0	235
2.3	3.7	4.2	160	2.7	8.0	5.5	355
2.4	5.3	5.0	380	3.0	14	6.0	540
2.5	7.2	6.5	960	3.3	26	7.0	1,020
2.7	12	8.0	1,800	3.7	53	9.0	2,400
2.9	19	10.0	3,200	4.0	75		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	1.2	* 24.3	6.7	5.6	399	100	103	20	9.8	4.1	4.1
2	1.6	1.0	209	6.5	5.3	*484	91	89	20	9.0	4.1	4.0
3	1.6	1.0	140	7.2	5.0	755	83	82	20	8.6	4.5	4.0
4	*1.5	1.3	102	6.4	4.7	548	*75	78	19	8.0	5.4	4.1
5	1.5	1.0	86	5.9	4.5	460	69	69	18	7.7	4.7	4.1
6	1.5	9.0	76	5.5	6.3	396	65	62	18	7.7	4.4	4.2
7	1.4	*8.1	61	5.3	7.5	269	62	57	18	7.5	2.4	4.4
8	1.4	7.4	55	5.1	24.3	217	61	54	*1.7	7.4	5.2	4.4
9	1.4	7.0	50	4.7	*265	201	60	73	1.7	7.4	*4.8	4.1
10	3.1	11	47	4.5	25.1	259	56	89	16	7.2	1.9	3.8
11	2.2	1.4	4.2	4.3	17.3	436	52	78	16	6.9	1.3	3.9
12	9.4	11	40	4.5	15.4	288	50	67	15	6.9	11	4.0
13	6.1	9.0	37	4.1	49.5	223	46	62	15	7.0	9.2	3.8
14	4.7	8.1	49	3.8	36.1	185	45	57	14	6.7	8.2	3.7
15	4.2	7.6	52	3.8	32.3	155	4.3	52	14	6.3	7.5	3.7
16	3.4	6.8	48	3.6	39.6	146	40	47	13	6.0	6.7	3.7
17	3.3	6.6	403	3.5	42.8	134	39	45	13	5.8	6.4	3.6
18	3.1	6.4	362	5.8	30.5	119	38	43	13	5.8	6.1	3.4
19	3.0	6.8	2,060	1,200	23.5	110	54	39	12	5.5	5.9	3.4
20	2.8	9.0	1,670	769	18.5	103	52	36	12	5.4	5.8	3.5
21	3.1	1.4	797	300	14.9	107	43	33	11	5.1	5.5	3.6
22	3.3	37.2	38.5	207	13.1	34.3	40	32	11	4.9	5.5	3.5
23	3.6	72.4	257	157	12.1	37.6	38	33	11	4.7	5.4	3.5
24	5.0	94.7	199	131	11.0	25.3	58	31	11	4.6	5.1	3.5
25	4.2	57.4	159	110	9.5	23.9	*57	30	10	4.5	4.9	3.5
26	6.4	40.1	*13.1	9.3	8.5	21.9	46	28	10	4.4	4.7	3.5
27	240	22.4	11.3	8.2	7.8	18.7	26.2	26	9.6	4.3	4.5	4.0
28	8.4	13.6	9.7	7.3	12.1	15.9	25.9	26	9.6	4.2	4.3	8.0
29	3.4	30.2	8.6	6.8	-	14.0	19.7	25	9.4	4.1	4.3	2.4
30	2.0	29.6	7.9	6.4	-----	12.5	13.4	23	9.8	4.0	4.3	1.3
31	1.4	-----	7.2	5.9	-----	11.0	-----	2.2	-----	4.0	4.2	-----
Total	496.5	4,172.8	8,207	4,225	5,093	8,145	2,315	1,591	422.4	191.4	302.7	148.0
Mean	16.0	139	265	136	182	263	77.2	51.3	14.1	6.17	9.76	4.93
Max	240	94.7	2,060	1,200	49.5	75.5	26.2	103	20	9.8	5.2	2.4
Min	1.4	6.4	3.7	3.5	4.5	10.3	3.8	2.2	9.4	4.0	4.1	3.4
Ac-ft	98.5	8,280	16,280	8,380	10,100	16,160	4,590	3,160	838	380	600	294

Calendar year 1961: Max 2,060 Min 1.4 Mean 151 Ac-ft 109,300

Water year 1961-62: Max 2,060 Min 1.4 Mean 96.7 Ac-ft 70,050

Peak discharge (base, 1,500 cfs).--Dec. 19 (2000) 5,760 cfs (13.20 ft); Jan. 19 (1200) 2,360 cfs (8.95 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 21 to Feb. 5, June 9-28, Sept. 22-30.



11-4810. Mad River near Arcata, Calif.

Location.--Lat 40°54'35", long 124°03'35", in NW 1/4 sec.15, T.6 N., R.1 E., on right bank 100 ft upstream from bridge on U. S. Highway 299, 1.0 mile downstream from Warren Creek, and 2.8 miles northeast of Arcata. Auxiliary gage 0.5 mile downstream.

Drainage area.--484 sq mi (revised).

Records available.--October 1910 to September 1913, August 1950 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 17.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. December 1910 to September 1913 staff gage at site 0.1 mile upstream at different datum. Aug. 15, 1950, to July 23, 1956, water-stage recorder at site 0.6 mile upstream at datum 6.00 ft higher. Aug. 29 to Oct. 26, 1961, auxiliary water-stage recorder at site 0.5 mile downstream at different datum.

Average discharge.--15 years, 1,516 cfs (1,098,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,500 cfs Dec. 19 (gage height, 12.26 ft); minimum daily, 22 cfs Oct. 2, 3.  
1910-13, 1950-62: Maximum discharge, 77,800 cfs Dec. 22, 1955 (gage height, 27.30 ft, site and datum then in use), from rating curve extended above 34,000 cfs on basis of slope-area measurement of peak flow; minimum, 16 cfs Sept. 8, 9, 1951, Sept. 11, 1959.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, shifting control, or no gage-height record, which are fair. Flow regulated by Ruth Reservoir beginning in July 1961 (usable capacity, 42,000 acre-ft). Since 1938, approximately 5.4 cfs diverted daily above station for municipal supply of city of Eureka.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	96	*3,340	720	550	2,020	2,180	1,040	252	80	25	37
2	22	80	4,360	684	495	2,490	1,950	947	225	78	26	37
3	22	*76	2,400	*684	450	3,430	1,820	810	222	76	28	37
4	*24	75	1,570	636	400	2,860	1,640	846	213	72	32	37
5	23	73	1,200	595	364	*4,510	1,610	744	201	70	29	37
6	24	68	1,000	565	385	5,960	1,510	660	195	66	28	37
7	25	61	868	545	1,040	3,940	1,440	610	189	64	70	36
8	24	57	796	520	6,110	3,170	1,370	580	*175	62	152	36
9	23	55	730	495	5,700	2,930	1,280	642	168	61	*312	36
10	32	56	690	470	5,160	2,950	1,110	884	165	60	180	36
11	41	57	645	450	2,900	3,450	1,010	898	155	59	115	35
12	40	62	610	420	*2,130	2,730	961	774	151	90	88	35
13	43	57	590	252	5,880	2,280	905	684	147	80	74	*35
14	41	50	585	195	5,750	2,020	864	630	145	70	70	35
15	39	45	474	180	6,540	1,830	822	580	139	104	64	34
16	36	44	414	170	6,500	1,760	744	540	135	80	60	34
17	34	42	1,270	160	5,730	1,680	696	510	129	70	56	33
18	33	42	1,570	178	4,850	1,590	648	490	125	55	52	33
19	32	42	7,700	4,740	4,050	1,660	696	455	115	47	50	32
20	31	45	12,100	*6,760	3,240	1,710	684	415	111	40	47	32
21	31	56	7,380	2,750	2,560	1,670	620	390	108	36	45	32
22	31	e 400	3,890	1,630	2,100	2,740	590	505	104	34	44	32
23	32	e 5,600	2,550	1,180	1,830	3,420	565	535	99	32	43	31
24	34	e 6,500	1,900	961	1,640	2,680	575	380	97	31	42	31
25	34	e 4,500	1,530	858	1,440	2,550	*580	324	94	30	41	31
26	41	3,100	1,310	822	1,260	2,720	500	308	92	29	40	*31
27	e 450	2,220	1,070	780	1,120	2,770	1,180	294	90	27	*39	31
28	e 580	1,350	1,040	726	1,160	2,660	2,120	276	85	26	38	45
29	328	2,380	940	684	-	*2,560	1,610	261	84	26	37	69
30	178	4,680	858	648	-----	2,450	1,230	297	82	25	37	74
31	126	-----	774	595	-----	2,300	-----	390	-----	25	37	-----
Total	2,482	31,969	66,154	31,053	81,334	83,490	33,510	17,699	4,292	1,705	2,001	1,111
Mean	80.1	1,066	2,134	1,002	2,905	2,693	1,117	571	143	55.0	64.5	37.0
Max	580	6,500	12,100	6,760	6,540	5,960	2,180	1,040	252	104	312	74
Min	22	42	414	160	364	1,590	500	261	82	25	25	31
Ac-ft	4,920	63,410	131,200	61,590	161,300	165,600	66,470	35,110	8,510	3,380	3,970	2,200

Calendar year 1961: Max 18,900 Min 22 Mean 1,300 Ac-ft 941,200

Water year 1961-62: Max 12,100 Min 22 Mean 978 Ac-ft 707,700

Peak discharge (base, 14,000 cfs).--Dec. 19 (2200) 23,500 cfs (12.26 ft).

\* Discharge measurement made on this day.

Note.--Shifting-control method used Oct. 29 to Nov. 21, Nov. 26 to Jan. 21. No gage-height record July 1-11, 13, 14, July 16 to Aug. 7, Aug. 14 to Sept. 28.

## MAD RIVER BASIN

11-4810. Mad River near Arcata, Calif.--Continued

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 68°F June 7, 11, 14, 19-22, 24, 25; minimum, 39°F Jan. 22-24.

1960-62: Maximum temperature recorded, 72°F June 15, 16, 1961; minimum, that of Jan. 22-24, 1962.

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

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

## LITTLE RIVER BASIN

421

11-4812. Little River at Crannell, Calif.

Location.--Lat 41°00'40", long 124°04'50", in NE $\frac{1}{4}$  sec.8, T.7 N., R.1 E., on right bank at Crannell, 0.5 mile upstream from Coon Creek and 9.1 miles north of Arcata.

Drainage area.--44.3 sq mi.

Records available.--October 1955 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 17.62 ft above mean sea level, datum of 1929.

Average discharge.--7 years, 139 cfs (100,600 acre-ft per year).

Extremes.--Maximum discharge during year, 6,120 cfs Dec. 19 (gage height, 8.26 ft), from rating curve extended above 1,600 cfs; minimum, 5.6 cfs Oct..7-9.

1955-62: Maximum discharge, 9,300 cfs Mar. 11, 1957 (gage height, 9.96 ft), from rating curve extended above 2,700 cfs; minimum, 2.8 cfs Sept. 9, 1959.

Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

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

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

0.8	5.2	1.8	150
.9	9.6	2.4	335
1.0	16	3.0	600
1.1	25	4.0	1,200
1.4	68	5.0	2,000

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.1	11	184	71	54	335	99	62	21	13	7.0	7.0
2	6.1	10	173	66	51	*469	93	62	21	12	7.4	7.0
3	6.1	*12	123	*77	48	530	83	60	21	12	8.3	7.4
4	6.1	15	117	66	46	443	*78	*65	20	11	9.6	7.8
5	6.1	13	82	62	45	314	71	54	20	11	8.3	7.8
6	*6.1	11	70	57	76	279	68	48	19	11	7.8	7.8
7	6.1	9.6	62	54	111	220	65	43	19	11	26	8.3
8	6.1	9.6	55	52	342	181	63	45	18	10	39	8.3
9	6.1	9.2	49	49	*428	173	62	58	18	10	*41	7.8
10	13	12	46	46	363	217	57	83	18	10	19	7.4
11	43	16	42	43	226	311	54	71	*17	9.6	13	7.4
12	15	13	39	46	199	238	52	58	17	9.6	12	7.4
13	11	12	36	43	646	184	49	52	17	10	11	7.4
14	8.7	11	46	40	466	158	48	46	16	9.6	10	7.0
15	8.3	10	48	39	435	135	46	42	16	9.2	9.6	7.0
16	7.8	9.6	45	37	525	123	43	39	15	8.7	9.2	6.5
17	7.4	9.6	243	36	551	113	42	36	15	8.3	8.7	6.5
18	7.4	9.6	214	46	383	101	40	35	15	8.3	8.3	6.1
19	7.4	9.6	1,730	1,250	283	95	51	32	14	8.3	8.3	6.1
20	7.4	11	1,370	699	223	93	49	30	14	8.3	8.3	6.1
21	7.4	14	769	275	175	93	42	29	13	8.3	8.3	6.5
22	7.8	202	395	178	150	259	37	27	13	7.8	8.3	6.5
23	8.7	736	265	138	135	311	36	27	13	7.8	8.3	6.5
24	9.2	959	199	115	123	217	43	26	13	7.4	8.3	6.5
25	8.7	417	160	99	111	214	42	26	13	7.4	8.3	6.5
26	14	359	133	89	101	211	36	25	13	7.4	7.8	6.5
27	138	202	117	78	93	175	146	24	12	7.0	7.4	6.5
28	69	128	105	71	124	155	140	24	12	7.0	7.4	24
29	27	304	93	65	-----	135	97	24	12	7.0	7.4	25
30	17	*229	83	62	-----	117	73	22	13	7.0	7.4	12
31	13	-----	77	57	-----	107	-----	21	-----	7.0	7.4	-----
TOTAL	511.1	3,773.8	7,170	4,106	6,513	6,706	1,905	1,296	478	282.0	358.1	250.6
MEAN	16.5	126	231	132	233	216	63.5	41.8	15.9	9.10	11.6	8.35
MAX	138	959	1,730	1,250	646	530	146	83	21	13	41	25
MIN *	6.1	9.2	36	36	45	93	36	21	12	7.0	7.0	6.1
AC-FT	1,010	7,490	14,220	8,140	12,920	13,300	3,780	2,570	948	559	710	497

CALENDAR YEAR 1961: MAX 1,800 MIN 5.6 MEAN 142 AC-FT 103,000

WATER YEAR 1961-62: MAX 1,730 MIN 6.1 MEAN 91.4 AC-FT 66,140

Peak discharge (base, 1,500 cfs).--Dec. 19 (2000) 6,120 cfs (8.26 ft); Jan. 19 (1900) 2,980 cfs (5.98 ft).

\* Discharge measurement made on this day.

## MAD RIVER BASIN

11-4810. Mad River near Arcata, Calif.--Continued

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 68°F June 7, 11, 14, 19-22, 24, 25; minimum, 39°F Jan. 22-24.  
 1960-62: Maximum temperature recorded, 72°F June 15, 16, 1961; minimum, that of Jan. 22-24, 1962.

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

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

## LITTLE RIVER BASIN

421

11-4812. Little River at Crannell, Calif.

Location.--Lat 41°00'40", long 124°04'50", in NE $\frac{1}{4}$  sec.8, T.7 N., R.1 E., on right bank at Crannell, 0.5 mile upstream from Coon Creek and 9.1 miles north of Arcata.

Drainage area.--44.3 sq mi.

Records available.--October 1955 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 17.62 ft above mean sea level, datum of 1929.

Average discharge.--7 years, 139 cfs (100,600 acre-ft per year).

Extremes.--Maximum discharge during year, 6,120 cfs Dec. 19 (gage height, 8.26 ft), from rating curve extended above 1,600 cfs; minimum, 5.6 cfs Oct..7-9.

1955-62: Maximum discharge, 9,300 cfs Mar. 11, 1957 (gage height, 9.96 ft), from rating curve extended above 2,700 cfs; minimum, 2.8 cfs Sept. 9, 1959.

Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

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

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

0.8	5.2	1.8	150
.9	9.6	2.4	335
1.0	16	3.0	600
1.1	25	4.0	1,200
1.4	68	5.0	2,000

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.1	11	184	71	54	335	99	62	21	13	7.0	7.0
2	6.1	10	173	66	51	*469	93	62	21	12	7.4	7.0
3	6.1	*12	123	*77	48	530	83	60	21	12	8.3	7.4
4	6.1	15	117	66	46	443	*78	*65	20	11	9.6	7.8
5	6.1	13	82	62	45	314	71	54	20	11	8.3	7.8
6	*6.1	11	70	57	76	279	68	48	19	11	7.8	7.8
7	6.1	9.6	62	54	111	220	65	43	19	11	26	8.3
8	6.1	9.6	55	52	342	181	63	45	18	10	39	8.3
9	6.1	9.2	49	49	*428	173	62	58	18	10	*41	7.8
10	13	12	46	46	363	217	57	83	18	10	19	7.4
11	43	16	42	43	226	311	54	71	*17	9.6	13	7.4
12	15	13	39	46	199	238	52	58	17	9.6	12	7.4
13	11	12	36	43	646	184	49	52	17	10	11	7.4
14	8.7	11	46	40	466	158	48	46	16	9.6	10	7.0
15	8.3	10	48	39	435	135	46	42	16	9.2	9.6	7.0
16	7.8	9.6	45	37	525	123	43	39	15	8.7	9.2	6.5
17	7.4	9.6	243	36	551	113	42	36	15	8.3	8.7	6.5
18	7.4	9.6	214	46	383	101	40	35	15	8.3	8.3	6.1
19	7.4	9.6	1,730	1,250	283	95	51	32	14	8.3	8.3	6.1
20	7.4	11	1,370	699	223	93	49	30	14	8.3	8.3	6.1
21	7.4	14	769	275	175	93	42	29	13	8.3	8.3	6.5
22	7.8	202	395	178	150	259	37	27	13	7.8	8.3	6.5
23	8.7	736	265	138	135	311	36	27	13	7.8	8.3	6.5
24	9.2	959	199	115	123	217	43	26	13	7.4	8.3	6.5
25	8.7	417	160	99	111	214	42	26	13	7.4	8.3	6.5
26	14	359	133	89	101	211	36	25	13	7.4	7.8	6.5
27	138	202	117	78	93	175	146	24	12	7.0	7.4	6.5
28	69	128	105	71	124	155	140	24	12	7.0	7.4	24
29	27	304	93	65	-----	135	97	24	12	7.0	7.4	25
30	17	*229	83	62	-----	117	73	22	13	7.0	7.4	12
31	13	-----	77	57	-----	107	-----	21	-----	7.0	7.4	-----
TOTAL	511.1	3,773.8	7,170	4,106	6,513	6,706	1,905	1,296	478	282.0	358.1	250.6
MEAN	16.5	126	231	132	233	216	63.5	41.8	15.9	9.10	11.6	8.35
MAX	138	959	1,730	1,250	646	530	146	83	21	13	41	25
MIN	6.1	9.2	36	36	45	93	36	21	12	7.0	7.0	6.1
AC-FT	1,010	7,490	14,220	8,140	12,920	13,300	3,780	2,570	948	559	710	497

CALENDAR YEAR 1961: MAX 1,800 MIN 5.6 MEAN 142 AC-FT 103,000

WATER YEAR 1961-62: MAX 1,730 MIN 6.1 MEAN 91.4 AC-FT 66,140

Peak discharge (base, 1,500 cfs).--Dec. 19 (2000) 6,120 cfs (8.26 ft); Jan. 19 (1900) 2,980 cfs (5.98 ft).

\* Discharge measurement made on this day.

## REDWOOD CREEK BASIN

11-4825. Redwood Creek at Orick, Calif.

Location.--Lat 41°17'20", long 124°03'30", in NE $\frac{1}{4}$  sec. 4, T.10 N., R.1 E., on downstream side of left pier of bridge on U. S. Highway 101 at Orick, 0.9 mile downstream from Prairie Creek.

Drainage area.--278 sq mi.

Records available.--September 1911 to September 1913, October 1953 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map). Sept. 10, 1911, to Aug. 28, 1912, chain gage and Aug. 29, 1912, to Aug. 9, 1913, staff gage, at same site at different datum.

Average discharge.--11 years, 1,044 cfs (755,800 acre-ft per year).

Extremes.--Maximum discharge during year, 21,800 cfs Dec. 19 (gage height, 17.81 ft); minimum, 22 cfs Oct. 5-10. 1911-13, 1953-62: Maximum discharge, 50,000 cfs Dec. 22, 1955 (gage height, 23.95 ft); minimum, 10 cfs Sept. 22-24, 1911. Flood of Jan. 18, 1953, reached a stage of 23.95 ft, from floodmarks (discharge, 50,000 cfs).

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

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

Oct. 1 to Nov. 24

Nov. 25 to Sept. 30

5.0	18	8.0	1,060	5.6	26	8.5	1,370
5.3	50	9.0	1,780	5.9	64	10.0	3,270
5.8	140	10.0	2,900	6.3	145	13.0	8,540
6.5	345	12.0	6,300	6.8	320	15.0	13,200
				7.5	645		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	102	2,020	662	580	1,530	1,240	700	222	98	35	38
2	24	95	2,020	605	550	2,280	1,120	645	219	96	35	37
3	23	*98	1,440	635	527	2,730	1,020	600	222	93	37	37
4	23	110	1,080	560	509	2,920	939	585	212	89	42	36
5	22	93	890	500	491	* 3,830	890	536	* 202	87	38	36
6	22	84	754	450	608	4,670	841	500	196	84	39	36
7	22	77	645	419	886	3,300	808	478	187	84	*108	36
8	22	70	570	388	2,810	2,640	790	468	175	82	272	35
9	22	67	504	360	3,260	2,520	766	500	172	* 78	365	34
10	83	82	464	338	3,160	2,300	700	532	169	77	205	33
11	* 235	102	406	312	2,250	2,530	645	500	166	75	128	33
12	118	89	360	347	2,010	2,250	615	468	160	69	98	32
13	77	79	334	312	3,910	1,970	605	446	157	69	86	* 32
14	58	72	374	280	3,930	1,760	590	424	151	68	77	31
15	46	68	370	272	3,870	1,600	575	406	148	66	71	29
16	42	65	334	260	4,130	1,510	540	392	145	62	66	29
17	38	62	1,480	244	4,640	1,390	514	374	142	61	62	29
18	36	62	1,650	268	3,820	1,270	491	365	138	58	56	29
19	32	64	8,130	3,390	3,060	1,210	527	352	132	56	55	29
20	32	65	11,200	4,670	2,550	1,170	532	329	125	54	55	29
21	34	74	6,880	* 2,280	2,080	1,110	473	320	120	50	52	29
22	38	932	4,020	1,550	1,750	1,960	450	304	118	49	50	30
23	40	4,210	2,740	1,240	1,550	2,290	432	308	114	48	49	30
24	44	4,900	2,020	1,050	1,390	1,960	468	304	112	45	48	30
25	46	3,390	1,600	946	1,210	2,300	* 468	292	108	43	47	30
26	82	2,740	1,320	869	1,060	2,330	419	280	106	42	45	29
27	724	1,900	* 1,160	796	939	2,070	859	268	104	41	* 43	29
28	849	1,270	1,020	730	980	1,870	1,250	260	102	38	41	68
29	310	1,890	911	684	-	* 1,680	1,040	248	102	37	39	170
30	182	* 2,560	820	635	-----	1,490	808	240	100	36	39	95
31	136	-----	736	605	-----	1,340	-----	233	-----	36	38	-----
Total	3,486	25,472	58,252	26,657	58,510	65,780	21,415	12,657	4,526	1,971	2,421	1,200
Mean	112	849	1,879	860	2,090	2,122	714	408	151	63.6	78.1	40.0
Max	849	4,900	11,200	4,670	4,640	4,670	1,250	700	222	98	365	170
Min	22	62	334	244	491	1,110	419	233	100	36	35	29
Ac-ft	6,910	50,520	115,500	52,870	116,100	130,500	42,480	25,100	8,980	3,910	4,800	2,380

Calendar year 1961: Max 11,200 Min 22 Mean 1,095 Ac-ft 792,400

Water year 1961-62: Max 11,200 Min 22 Mean 774 Ac-ft 560,000

Peak discharge (base, 7,000 cfs).--Dec. 19 (2300) 21,800 cfs (17.81 ft); Jan. 19 (2200) 8,540 cfs (13.00 ft).

\* Discharge measurement made on this day.

LOWER KLAMATH LAKE BASIN

423

11-4095: Antelope Creek near Tennant, Calif.

Location.--Lat 41°32'45", long 121°55'05", in NW¼ sec.25, T.43 N., R.1 W., on right bank 2.5 miles south of Tennant, 4 miles downstream from Frog Lake, and 17 miles southeast of town of Mount Hebron.

Drainage area.--18.8 sq mi.

Records available.--May 1952 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Average discharge.--10 years, 36.3 cfs (26,280 acre-ft per year).

Extremes.--Maximum discharge during year, 186 cfs May 8 (gage height, 2.52 ft); minimum daily, 11 cfs many days in October and September.

1952-62: Maximum discharge, 422 cfs Dec. 22, 1955 (gage height, 3.93 ft), from rating curve extended above 200 cfs; minimum daily, 3.6 cfs Jan. 5, 1960.

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

Rating table, except periods of ice effect (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 24 to May 1)

0.8	7.2	1.5	53
.9	11	1.8	85
1.0	16	2.3	154
1.2	28		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	17	b 21	15	16	b 16	17	70	*118	50	16	13
2	11	17	b 21	15	18	b 17	20	78	123	46	16	13
3	11	16	b 19	15	18	18	21	84	124	* 42	16	12
4	11	16	b 18	b 14	19	16	23	92	104	42	18	12
5	11	15	b 16	b 15	20	15	24	96	95	40	17	12
6	11	15	b 15	15	21	16	25	101	92	38	17	12
7	11	15	b 14	15	22	15	30	113	92	36	22	12
8	12	15	b 14	16	23	* 15	33	146	96	34	* 22	11
9	*14	14	b 13	16	24	14	34	138	110	33	20	11
10	15	14	b 13	16	26	13	33	120	117	31	19	11
11	20	15	b 13	b 14	24	13	34	107	116	30	17	11
12	18	14	b 12	15	23	13	39	104	116	30	17	* 12
13	17	14	b 12	b 15	23	12	42	93	110	28	16	12
14	17	14	b 13	b 15	23	12	51	87	* 100	27	16	12
15	17	* 14	b 13	b 14	24	12	60	83	97	25	15	11
16	16	b 13	b 13	b 14	24	12	60	*83	98	24	15	11
17	16	b 13	b 14	b 14	23	12	59	90	97	24	15	11
18	16	b 13	*b 14	b 15	21	13	63	106	96	23	15	11
19	16	b 13	b 15	b 16	20	13	62	95	95	23	15	11
20	17	b 12	b 19	b 14	19	14	57	84	95	22	14	11
21	17	b 12	b 24	b 11	18	14	56	82	92	21	14	11
22	17	12	b 21	11	17	14	60	85	90	20	14	11
23	16	b 13	19	12	15	14	65	91	86	20	14	12
24	16	b 14	18	12	15	14	72	83	80	20	13	12
25	16	b 16	17	13	b 14	14	*72	80	76	20	13	11
26	17	b 17	b 17	13	b 14	16	67	82	70	19	13	11
27	20	b 20	b 17	13	b 13	18	78	86	64	18	13	11
28	19	b 24	17	13	b 14	17	70	91	59	18	13	22
29	18	b 23	16	14	-	16	62	107	56	18	13	17
30	17	b 22	b 15	14	-----	17	62	121	53	18	13	14
31	17	-----	b 15	15	-----	18	-----	117	-----	17	13	-----
Total	478	462	498	439	551	453	1,451	2,995	2,817	857	484	364
Mean	15.4	15.4	16.1	14.2	19.7	14.6	48.4	96.6	93.9	27.6	15.6	12.1
Max	20	24	24	16	26	18	78	146	124	50	22	22
Min	11	12	12	11	13	12	17	70	53	17	13	11
Ac-ft	948	916	988	871	1,090	899	2,880	5,940	5,590	1,700	960	722
Calendar year 1961:	Max 179	Min 11	Mean 34.0	Ac-ft 24,600								
Water year 1961-62:	Max 146	Min 11	Mean 32.5	Ac-ft 23,500								

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Jan. 22 to Feb. 21.

## KLAMATH RIVER BASIN

11-5107. Klamath River below John C. Boyle powerplant, near Keno, Oreg.  
(Formerly published as Klamath River below Big Bend powerplant, near Keno)

Location.--Lat 42°05'05", long 122°04'20", in SE 1/4 sec. 14, T.40 S., R.6 E., on right bank 0.7 mile downstream from John C. Boyle powerplant, 8 miles downstream from Spencer Creek, and 8.5 miles southwest of Keno.

Drainage area.--4,080 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--January 1959 to September 1962. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

Gage.--Water-stage recorder. Datum of gage is 3,274.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1956 (levels by Pacific Power & Light Co.).

Extremes.--Maximum discharge during year, 3,080 cfs Dec. 6 (gage height, 5.84 ft); minimum, 348 cfs Feb. 24; minimum daily, 532 cfs June 3.

1959-62: Maximum discharge, 3,320 cfs Apr. 25, 1961 (gage height, 5.95 ft); minimum, that of Feb. 24, 1962; minimum daily, 458 cfs Apr. 10, 1960.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Flow regulated by Upper Klamath Lake (capacity, 584,000 acre-ft). Large diurnal fluctuation caused by John C. Boyle powerplant and 2 powerplants below Upper Klamath Lake. Large diversions for irrigation above station.

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

3.2	490
3.5	655
4.0	1,000
5.0	1,950
6.0	3,310

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.190	2.220	2.840	2.330	1.490	1.380	892	1.400	1.050	705	840	970
2	1.540	2.500	2.850	2.340	1.380	1.300	1.720	1.530	590	700	1.240	1.010
3	1.550	2.560	2.840	2.340	1.050	1.190	2.010	1.730	532	712	1.050	740
4	1.550	2.700	2.810	2.340	1.040	792	2.230	1.420	992	714	837	1.490
5	1.540	2.750	2.310	2.210	1.460	1.370	2.420	1.170	872	707	766	1.310
6	1.600	2.810	2.400	2.010	1.260	1.290	2.850	850	804	600	972	1.590
7	1.270	2.780	2.330	1.970	1.230	1.330	2.840	1.360	790	708	876	1.290
8	1.160	2.770	*2.480	1.940	1.110	1.390	2.820	1.060	740	707	862	870
9	1.540	2.800	2.650	1.890	1.140	1.550	2.840	1.500	698	724	786	690
10	1.590	2.630	2.640	1.880	1.560	1.190	2.710	1.570	688	720	788	1.220
11	1.720	1.690	2.710	1.880	2.120	1.080	2.820	1.230	728	*689	746	1.290
12	1.680	2.300	2.610	1.880	2.480	1.320	2.820	1.190	711	722	755	*1.320
13	1.730	2.770	2.280	1.870	1.430	1.250	2.810	824	708	720	854	1.360
14	1.600	2.810	2.330	1.880	1.380	1.310	2.760	1.460	716	718	852	1.330
15	1.420	2.800	2.340	1.800	1.230	1.300	2.750	1.540	716	704	880	928
16	1.800	2.800	2.210	1.760	1.360	1.420	2.800	1.580	720	706	785	758
17	1.890	2.180	2.160	1.740	1.190	1.130	2.810	*1.420	705	686	785	1.780
18	1.990	2.290	2.150	1.390	769	942	2.820	1.420	702	710	740	1.470
19	2.020	2.820	1.730	1.490	1.490	1.380	1.950	950	706	707	733	1.390
20	2.130	2.820	1.370	1.300	1.310	1.400	1.750	632	701	700	759	1.340
21	1.910	2.850	1.060	1.570	1.350	*1.470	1.820	950	698	704	778	1.360
22	1.760	2.400	1.440	2.150	1.330	1.240	1.580	971	702	700	950	1.390
23	2.180	1.370	1.640	2.330	747	1.460	1.990	1.040	702	687	980	1.040
24	2.300	1.490	1.620	2.240	616	1.150	2.030	1.060	656	670	920	1.650
25	2.220	1.440	1.610	2.220	851	860	1.870	978	721	689	650	1.650
26	2.110	1.530	1.960	2.180	1.510	1.410	1.720	546	727	706	650	1.450
27	2.280	2.150	2.360	1.620	1.310	1.570	1.740	796	714	713	880	676
28	2.090	2.400	2.340	1.380	1.400	1.690	1.240	1.110	697	714	930	623
29	2.170	2.850	2.340	1.630	-	1.740	756	1.090	684	701	1.170	2.190
30	*2.420	2.840	2.330	1.580	-----	1.860	1.480	738	680	712	1.120	1.420
31	2.190	-----	2.320	1.580	-----	1.410	-----	1.090	-----	747	980	-----
Total	56.140	73.120	69.060	58.720	36.593	41.174	65.648	36.205	21.850	21.802	26.914	37.595
Mean	1.811	2.437	2.228	1.894	1.307	1.328	2.188	1.168	728	703	868	1.253
Max	2.420	2.850	2.850	2.340	2.480	1.860	2.850	1.730	1.050	747	1.240	2.190
Min	1.160	1.370	1.060	1.300	616	792	756	546	532	600	650	623
Ac-ft	111.400	145.000	137.000	116.500	72.580	81.670	130.200	71.810	43.340	43.240	53.380	74.570

Calendar year 1961: Max 2,850 Min 557 Mean 1,550 Ac-ft 1,122,000  
Water year 1961-62: Max 2,850 Min 532 Mean 1,493 Ac-ft 1,081,000

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 21-29, Aug. 22 to Sept. 12.



KLAMATH RIVER BASIN

425

11-5165.30. Klamath River below Iron Gate Dam, Calif.

Location.--Lat 41°55'40", long 122°26'35", in E 1/4 sec. 17, T. 47 N., R. 5 W., 0.1 mile downstream from Bogus Creek, 0.6 mile downstream from Iron Gate Dam, and 5.9 miles northeast of Hornbrook.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,162.44 ft above mean sea level (levels by Pacific Power and Light Co.).

Extremes.--Maximum discharge during year, 3,710 cfs Apr. 7 (gage height, 5.14 ft); minimum daily, 647 cfs Oct. 1.  
1960-62: Maximum discharge, 6,030 cfs Dec. 1, 1960 (gage height, 6.14 ft); minimum daily, 647 cfs Nov. 6, 1960, Sept. 24, Oct. 1, 1961.

Remarks.--Records good. Complete regulation by Upper Klamath Lake (capacity, 584,000 acre-ft) and powerplants above station; diversions above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 20 to July 19, Aug. 8 to Sept. 30)

2.7	605	4.0	1,860
3.0	820	4.5	2,570
3.5	1,270	5.1	3,630

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	647	2,700	908	2,070	1,920	* 1,380	1,960	* 1,670	* 1,080	760	1,010	1,210
2	* 1,780	2,830	960	* 1,460	* 1,940	1,450	* 1,920	1,680	1,090	* 752	1,000	1,220
3	1,880	3,140	1,360	2,480	1,510	1,450	2,090	1,680	1,090	745	1,000	1,210
4	1,880	2,790	2,380	2,160	1,470	1,470	2,500	1,660	1,100	703	1,000	* 1,210
5	1,770	2,340	2,130	2,970	1,450	1,550	3,050	1,610	1,080	682	994	1,200
6	1,970	2,520	2,170	1,990	1,540	1,610	3,230	1,570	1,010	668	985	1,200
7	865	2,760	2,100	1,950	1,690	1,650	3,380	1,510	1,010	668	976	1,200
8	789	2,940	1,780	1,940	1,760	1,770	3,360	1,480	968	668	968	1,200
9	1,770	2,960	1,910	1,870	1,860	2,020	3,450	1,480	934	675	968	1,200
10	1,900	3,030	1,920	1,950	1,920	1,690	3,490	1,490	951	738	994	1,200
11	2,090	821	2,090	1,870	2,600	1,630	3,360	1,490	917	752	976	1,200
12	2,210	1,470	2,260	1,780	3,340	1,630	3,270	1,470	868	760	968	1,210
13	2,200	1,740	2,380	1,800	2,140	1,670	3,210	1,480	876	782	968	1,220
14	1,040	* 1,990	2,500	1,800	2,030	1,530	3,200	1,610	908	760	951	1,200
15	757	* 2,160	2,570	1,770	1,990	1,490	3,300	1,720	926	768	960	1,200
16	2,010	2,320	2,440	1,360	1,960	1,540	3,250	1,720	926	768	960	1,200
17	2,010	2,400	2,400	1,390	1,770	1,490	3,320	1,710	917	768	951	1,200
18	2,100	2,440	2,190	1,450	1,830	1,480	3,200	1,550	892	768	960	1,260
19	2,700	2,440	2,100	1,620	1,820	1,570	2,870	1,310	892	790	951	1,370
20	2,450	2,500	2,050	1,660	1,490	1,670	2,280	1,210	884	805	942	1,370
21	2,030	2,630	1,990	1,730	1,440	1,680	2,060	1,110	926	844	* 942	1,370
22	968	2,810	1,960	2,330	1,440	1,630	1,720	1,090	934	844	942	1,370
23	2,120	2,590	1,960	2,050	1,540	1,550	1,850	1,100	926	844	942	1,370
24	2,480	2,420	1,950	2,450	1,460	1,570	2,140	1,120	908	836	951	1,370
25	2,480	2,240	1,950	2,330	1,400	1,630	2,090	1,060	876	790	951	1,380
26	2,620	2,070	1,950	2,140	1,420	1,670	1,950	1,050	900	782	951	1,530
27	3,090	1,890	1,950	1,920	1,410	1,680	2,070	1,050	820	812	951	1,610
28	1,680	* 957	1,320	1,650	1,400	2,340	2,000	1,060	* 752	775	951	1,610
29	1,780	820	1,770	1,660	-	2,210	1,780	1,080	745	775	942	1,600
30	2,710	868	2,070	1,680	-----	2,240	1,680	1,070	752	782	942	1,590
31	2,330	-----	2,060	1,830	-----	2,020	-----	1,080	-----	* 876	1,050	-----
Total	59,106	67,586	61,528	59,110	49,540	51,960	79,030	42,970	27,858	23,740	29,997	39,280
Mean	1,907	2,253	1,985	1,907	1,769	1,676	2,634	1,386	929	766	968	1,309
Max	3,090	3,140	2,570	2,970	3,340	2,340	3,490	1,720	1,100	876	1,050	1,610
Min	647	820	908	1,360	1,400	1,380	1,680	1,050	745	668	942	1,200
Ac-ft	117,200	134,100	122,000	117,200	98,260	103,100	156,800	85,230	55,260	47,090	59,500	77,910

Calendar year 1961: Max 3,430 Min 647 Mean 1,665 Ac-ft 1,205,000  
Water year 1961-62: Max 3,490 Min 647 Mean 1,621 Ac-ft 1,174,000

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5169. Little Shasta River near Montague, Calif.

Location.--Lat 41°45'11", long 122°17'58", in NW¼NW¼ sec.15, T.45 N., R.4 W., on right bank three-quarters of a mile downstream from Dry Creek and 12 miles east of Montague.

Drainage area.--48.2 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,280 ft (from topographic map).

Average discharge.--5 years, 13.7 cfs (9,920 acre-ft per year).

Extremes.--Maximum discharge during year, 123 cfs Dec. 20 (gage height, 2.86 ft), from rating extended above 200 cfs; minimum, 0.6 cfs Nov. 16.

1957-62: Maximum discharge, 741 cfs Nov. 13, 1957 (gage height, 4.76 ft) from rating curve extended above 200 cfs; minimum, that of Nov. 16, 1961.

Remarks.--No known diversion or regulation.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	3.2	5.1	7.7	3.4	7.3	5.3	2.9	1.5	5.5	3.7	2.9
2	3.0	3.1	5.4	7.9	2.8	7.1	5.3	3.1	1.3	5.4	3.8	2.8
3	3.0	3.7	4.4	7.8	2.4	6.6	4.7	2.9	1.3	5.4	3.9	2.9
4	3.0	3.5	4.1	7.9	2.2	6.4	5.2	2.8	1.3	5.3	3.3	2.9
5	3.0	3.1	4.5	8.1	2.0	6.7	5.9	2.7	1.3	5.3	3.6	a2.9
6	3.0	3.1	3.4	9.1	2.2	7.9	5.7	2.7	1.2	4.4	3.8	a2.9
7	3.0	3.0	5.4	1.2	2.3	7.6	6.6	2.7	1.1	4.7	4.5	a2.9
8	3.0	2.7	5.0	1.1	2.5	8.7	7.2	2.8	1.1	4.8	4.6	a2.9
9	3.0	2.9	6.1	9.3	2.9	9.2	5.9	2.7	1.0	4.5	4.6	a2.9
10	*3.0	2.9	2.8	*7.9	2.8	7.9	4.5	3.0	1.0	4.4	4.1	a2.9
11	3.5	3.1	2.9	8.6	2.3	7.0	4.2	3.0	*9.8	4.6	3.7	a2.9
12	3.4	2.9	4.5	6.6	2.0	8.2	4.6	2.6	9.4	5.2	3.4	a2.9
13	3.0	2.9	1.1	6.3	*1.8	9.3	4.9	2.5	9.2	4.5	3.4	*2.9
14	2.9	*2.9	*6.9	7.1	1.6	9.7	5.2	2.6	8.9	4.5	3.2	2.8
15	2.8	2.6	4.8	9.1	1.7	9.0	5.0	2.4	8.6	4.5	3.1	2.9
16	2.8	2.9	4.1	5.6	1.6	8.1	4.4	*2.3	8.9	4.5	3.3	2.8
17	2.8	3.9	4.0	8.3	1.5	9.0	4.1	2.2	8.8	4.2	3.5	2.9
18	2.8	5.0	4.0	7.7	1.4	1.3	3.8	2.2	8.2	*4.4	3.6	*2.9
19	3.0	4.4	2.6	7.6	1.2	1.7	3.3	2.1	7.0	4.3	3.6	3.6
20	3.6	3.2	5.0	7.9	1.0	2.0	2.9	2.0	7.1	4.3	3.4	3.4
21	3.0	3.8	3.4	1.2	1.0	1.7	2.8	2.0	7.1	4.4	3.3	3.8
22	3.0	4.1	1.5	2.5	9.8	1.5	3.0	2.0	6.9	3.7	3.0	3.8
23	3.0	4.0	1.2	2.9	9.4	1.3	3.0	2.8	6.8	3.8	3.5	3.6
24	2.8	4.1	1.2	2.9	9.4	1.2	3.0	2.1	6.7	4.0	3.4	3.6
25	2.8	3.1	1.1	2.6	9.4	2.6	*2.7	2.0	6.4	3.9	3.6	3.7
26	3.5	6.7	7.9	8.3	8.9	4.3	2.6	1.9	6.6	3.7	3.3	4.0
27	6.1	4.9	8.9	8.2	8.4	5.2	3.6	1.8	6.1	3.7	3.2	3.8
28	5.3	3.9	7.7	1.2	7.8	*4.4	3.2	1.7	5.8	3.1	3.3	6.2
29	3.9	3.8	8.4	2.0	-	3.7	2.7	1.8	5.7	4.2	2.8	5.3
30	3.4	4.3	9.3	3.7	-----	4.2	2.5	1.6	5.7	3.9	2.8	4.8
31	3.5	-----	9.3	3.7	-----	4.6	-----	1.6	-----	3.6	2.9	-----
Total	100.9	107.7	299.9	407.0	489.1	532.7	1,278	735	270.7	136.7	109.2	101.5
Mean	3.25	3.59	9.67	13.1	17.5	17.2	42.6	23.7	9.02	4.41	3.52	3.38
Max	6.1	6.7	5.0	3.7	3.4	5.2	7.2	3.1	1.5	5.5	4.6	6.2
Min	2.8	2.6	2.8	5.6	7.8	6.4	2.5	1.6	5.7	3.1	2.8	2.8
Ac-ft	200	214	595	807	970	1,060	2,530	1,460	537	271	217	201
Calendar year 1961: Max	56	Min	2.2	Mean	11.0	Ac-ft	7,980					
Water year 1961-62: Max	72	Min	2.6	Mean	12.5	Ac-ft	9,060					

\* Discharge measurement made on this day.

a No gage-height record.

11-5175. Shasta River near Yreka, Calif.

Location.--Lat 41°49'30", long 122°35'40", in E $\frac{1}{2}$  sec.24, T.46 N., R.7 W., on right bank 0.5 mile upstream from mouth and 7 miles north of Yreka.

Drainage area.--796 sq mi.

Records available.--October 1933 to December 1941, December 1944 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map). Prior to Nov. 2, 1933, staff gage at same site and datum.

Average discharge.--25 years (1933-41, 1945-62), 174 cfs (126,000 acre-ft per year); median of yearly mean discharges, 150 cfs (109,000 acre-ft per year).

Extremes.--Maximum discharge during year, 784 cfs Dec. 21 (gage height, 4.69 ft); minimum, 9.0 cfs Aug. 3.

1933-41, 1944-62: Maximum discharge, 6,090 cfs Dec. 22, 1955 (gage height, 9.43 ft); minimum, 3.4 cfs Aug. 13, 1939, when about 2 cfs was being diverted around gage.

Remarks.--Records excellent. Flow partly regulated by Lake Dwinell beginning in 1928. Storage in Lake Dwinell was 1,930 acre-ft on Sept. 30, 1962. Many diversions above station for irrigation.

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

Oct. 1 to July 27

July 27 to Sept. 30

2.5	11	2.4	7
2.6	16	2.5	12
2.7	25	2.6	19
2.8	38	2.8	40
3.0	78	3.0	73
3.5	232	3.3	150
4.0	435		
4.6	730		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	193	298	218	259	*232	210	107	107	12	15	27
2	*121	189	342	*218	286	240	225	107	88	11	12	33
3	121	193	302	218	298	247	*203	96	83	*11	10	36
4	118	193	262	214	314	251	200	94	78	20	11	*38
5	110	193	236	203	314	243	193	101	91	29	14	35
6	96	189	228	203	346	255	148	99	107	35	26	28
7	96	186	218	207	366	306	135	91	101	25	*28	24
8	99	186	210	210	362	278	129	91	88	19	26	25
9	104	186	207	210	404	259	129	86	69	24	40	24
10	115	186	203	218	422	251	121	112	94	34	54	33
11	115	183	200	210	404	243	112	160	81	23	75	49
12	154	183	193	221	378	236	88	176	81	19	62	57
13	157	183	196	228	374	236	86	154	54	12	62	64
14	163	*180	203	218	370	236	74	160	49	19	59	73
15	173	180	207	210	394	232	56	170	49	17	54	86
16	170	180	210	214	386	228	67	173	28	15	38	75
17	166	176	221	214	362	225	67	154	34	15	29	82
18	170	180	232	214	322	221	49	141	34	13	29	77
19	154	183	314	236	306	225	42	141	40	11	38	69
20	163	186	675	334	294	236	54	121	34	11	57	71
21	173	186	723	358	278	243	52	129	21	12	46	69
22	180	186	507	247	262	240	47	118	23	14	26	52
23	180	189	366	221	255	228	52	135	26	30	24	68
24	183	196	302	221	255	228	56	186	28	37	18	80
25	183	232	278	210	247	228	*45	186	22	35	18	82
26	180	243	259	210	236	236	42	160	18	43	18	82
27	189	297	247	210	228	243	40	160	26	49	18	69
28	210	*561	240	214	232	240	45	118	25	43	18	88
29	203	448	228	218	-	228	88	141	20	29	19	144
30	196	342	225	225	-----	214	99	*138	14	24	13	147
31	189	-----	221	*240	-----	214	-----	124	-----	17	15	-----
Total	4,752	6,588	8,753	6,992	8,954	7,422	2,954	4,129	1,613	708	972	1,887
Mean	153	220	282	226	320	239	98.5	133	53.8	22.8	31.4	62.9
Max	210	561	723	358	422	306	225	186	107	49	75	147
Min	96	176	193	203	228	214	40	86	14	11	10	24
Ac-ft	9,430	13,070	17,360	13,870	17,760	14,720	5,860	8,190	3,200	1,400	1,930	3,740

Calendar year 1961: Max 778 Min 7.0 Mean 153 Ac-ft 110,600  
 Water year 1961-62: Max 723 Min 10 Mean 153 Ac-ft 110,500

Peak discharge (base, 400 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-28	0900	4.40	620	2-9	2200	4.00	435
12-21	0900	4.69	784				

## KLAMATH RIVER BASIN

11-5178. Beaver Creek near Klamath River, Calif.

Location.--Lat 41°53'40", long 122°49'20", in NE¼SW¼ sec.30, T.47 N., R.8 W., on left bank 0.1 mile downstream from Buckhorn Gulch, 1.9 miles upstream from mouth, and 14.8 miles northwest of Yreka.

Drainage area.--103 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-58, and annual maximum, water year 1956. March 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,920 ft (from topographic map). Prior to Mar. 17, 1959, crest-stage gage only and Mar. 17 to June 12, 1959, at site 0.6 mile downstream at different datum.

Extremes.--Maximum discharge during year, 396 cfs Apr. 27 (gage height, 4.84 ft); minimum, 18 cfs Dec. 11.

1955-56, 1959-62: Maximum discharge, 8,000 cfs Aug. 20, 1956 (gage height, 10.6 ft, present datum, from floodmarks), from rating curve extended above 600 cfs.

1959-62: Minimum discharge, 10 cfs Jan. 1, 1960.

Remarks.--Records good. Some small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 8 to June 19)

3.1	20
3.4	47
3.8	98
4.3	197
4.8	329

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	41	64	56	58	83	208	*213	197	86	41	25
2	27	42	59	*56	*59	79	218	227	202	*84	40	24
3	*26	45	51	59	62	78	*218	237	197	82	40	22
4	26	44	47	57	63	79	222	230	184	79	41	22
5	24	37	47	56	64	80	237	227	182	76	40	21
6	23	35	44	66	78	84	252	234	179	74	39	20
7	25	35	43	76	100	88	287	249	179	73	*54	20
8	26	34	43	73	123	89	292	254	184	70	62	20
9	26	33	39	70	130	90	270	230	186	68	59	20
10	37	34	40	66	128	88	244	239	182	66	50	21
11	45	35	29	64	117	84	242	222	175	68	44	22
12	32	33	42	63	113	83	260	208	173	69	42	23
13	30	32	41	59	134	83	276	204	169	64	39	22
14	28	32	41	56	*134	86	310	195	162	62	38	22
15	27	32	39	56	130	88	295	193	156	60	36	22
16	26	28	40	50	121	89	281	193	154	58	34	22
17	26	29	46	51	112	89	295	197	148	56	35	21
18	26	31	44	52	108	90	295	199	144	55	35	21
19	26	31	146	49	101	96	281	195	140	54	34	*21
20	26	31	167	51	98	100	249	182	132	51	33	21
21	28	32	154	35	94	101	242	175	128	49	33	21
22	29	46	98	45	89	105	252	184	124	48	34	21
23	30	100	80	62	88	98	265	199	121	47	32	21
24	30	86	74	70	83	105	267	186	117	46	31	21
25	28	64	70	71	80	148	252	179	110	47	29	20
26	30	58	64	64	69	177	242	184	108	44	28	20
27	84	57	62	55	73	186	278	190	101	42	27	21
28	49	*51	59	54	83	188	244	195	98	40	27	43
29	38	59	58	55	-	182	218	199	95	43	26	36
30	38	66	57	55	-----	182	206	*199	90	46	26	28
31	36	-----	56	56	-----	190	-----	197	-----	42	26	-----
Total	979	1,313	1,944	1,808	2,692	3,388	7,698	6,415	4,517	1,849	1,155	684
Mean	31.6	43.8	62.7	58.3	96.1	109	257	207	151	59.6	37.3	22.8
Max	84	100	167	76	134	190	310	254	202	86	62	43
Min	23	28	29	35	58	78	206	175	90	40	26	20
Ac-ft	1,940	2,600	3,860	3,590	5,340	6,720	15,270	12,720	8,960	3,670	2,290	1,360

Calendar year 1961: Max 828 Min 23 Mean 112 Ac-ft 80,770  
Water year 1961-62: Max 310 Min 20 Mean 94.4 Ac-ft 68,320

Peak discharge (base, 400 cfs).--No peak above base.

\* Discharge measurement made on this day.

11-5180.5. East Fork Scott River at Callahan, Calif.

Location.--Lat 41°18'15", long 122°46'35", in SE 1/4 NW 1/4 sec. 22, T. 40 N., R. 8 W., on right bank 1.0 mile downstream from Big Mill Creek and 1.4 miles east of town of Callahan.

Drainage area.--110 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,200 ft (from topographic map). Prior to July 26, 1961, at site 1.6 miles downstream at different datum.

Extremes.--Maximum discharge during year, 887 cfs Feb. 9 (gage height, 7.31 ft), from rating curve extended above 300 cfs; minimum, 0.8 cfs Sept. 20.

1959-62: Maximum discharge, 2,430 cfs Feb. 10, 1961 (gage height, 8.35 ft, site and datum then in use); minimum, that of Sept. 20, 1962.

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

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

4.6	0.6	5.5	49
4.7	1.5	5.7	89
4.8	3.1	6.0	174
4.9	5.7	6.5	390
5.1	13	7.0	670
5.3	25		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	1.1	6.3	3.3	2.9	5.8	1.78	1.96	1.85	* 3.5	5.7	1.5
2	4.3	1.0	6.5	3.2	3.1	* 5.6	* 1.85	2.26	1.88	3.0	5.4	1.5
3	4.3	9.4	4.5	3.3	3.2	5.4	1.88	* 2.54	1.85	2.8	4.8	1.5
4	* 4.0	9.4	3.6	* 3.1	3.4	5.4	1.96	2.59	1.55	2.6	3.8	1.6
5	3.8	9.0	3.2	3.1	3.6	1.08	* 2.22	2.42	1.39	2.6	4.0	* 1.6
6	3.1	9.0	2.9	3.2	4.5	1.88	2.42	2.46	1.36	2.3	3.1	1.5
7	3.3	8.6	2.7	3.8	1.54	1.39	2.77	2.64	1.39	2.0	3.3	1.5
8	3.3	8.6	2.4	3.8	2.94	1.22	3.08	3.13	1.55	2.0	7.5	1.4
9	3.3	8.2	2.3	3.6	5.30	* 1.14	2.90	2.72	1.68	1.8	* 2.0	1.4
10	3.5	8.2	2.2	3.4	2.86	9.6	2.42	2.50	1.64	1.6	1.1	1.4
11	4.3	8.6	1.8	3.3	1.74	8.5	2.22	2.26	1.58	1.4	8.6	1.5
12	4.5	8.6	2.1	3.2	1.78	7.8	2.54	1.88	1.52	1.4	7.9	1.4
13	5.4	8.6	1.9	3.0	3.87	7.4	3.08	1.74	* 1.42	1.4	7.6	1.3
14	4.8	8.6	1.9	b 2.4	2.76	7.1	3.90	1.58	1.25	1.4	6.3	1.2
15	4.5	8.2	1.9	b 2.8	4.23	6.9	4.00	1.42	1.14	1.5	5.7	1.3
16	4.3	7.9	1.9	b 2.4	2.30	6.7	3.40	* 1.36	1.20	1.4	5.1	1.1
17	4.3	7.9	1.9	b 2.5	1.64	6.3	* 3.13	1.42	1.12	1.3	4.8	1.1
18	4.3	8.2	1.9	b 2.7	1.36	6.3	3.27	1.52	1.09	1.3	4.3	* 1.0
19	4.3	8.2	8.2	3.1	1.20	6.7	3.27	1.48	1.06	1.2	4.3	1.0
20	4.3	8.6	2.13	b 2.8	1.06	7.1	2.34	1.34	1.02	1.1	4.0	.9
21	4.3	8.6	1.77	b 2.6	9.4	7.1	1.92	1.25	9.6	1.2	4.0	.9
22	4.3	1.1	9.6	b 1.4	8.5	7.1	2.03	1.31	9.4	1.2	3.8	1.0
23	4.3	1.3	7.4	b 2.2	8.0	6.7	2.68	1.39	8.7	1.1	3.5	1.0
24	4.3	2.5	6.2	b 3.6	7.6	6.5	3.13	1.31	8.0	9.8	2.9	1.0
25	4.3	2.4	5.6	3.3	6.9	7.6	2.64	1.25	7.4	8.6	2.7	1.0
26	4.8	3.2	4.6	2.9	b 6.0	1.04	* 2.34	1.22	6.5	8.2	2.5	1.0
27	1.4	4.1	4.3	2.8	b 6.2	1.31	3.08	1.39	5.8	7.6	2.3	1.1
28	1.5	3.2	4.1	2.9	6.0	1.36	2.72	1.55	5.1	7.3	2.3	1.9
29	1.2	* 6.2	3.8	2.7	-	1.39	2.10	1.74	4.9	7.3	2.0	2.2
30	1.1	8.0	3.5	2.8	-----	1.45	1.81	1.85	4.5	6.9	1.9	2.0
31	1.1	-----	3.4	* 2.8	-----	1.61	-----	1.85	-----	6.3	1.6	-----
Total	171.7	503.4	151.6	92.0	425.1	286.3	788.8	573.3	355.3	473.0	156.7	39.8
Mean	5.54	16.8	48.9	29.7	152	92.4	263	185	118	15.3	5.05	1.33
Max	15	80	213	38	530	188	400	313	188	35	20	1.6
Min	3.1	7.9	18	14	29	54	178	122	45	6.3	1.6	0.9
Ac-ft	341	998	3,010	1,820	8,430	5,680	15,650	11,370	7,050	938	311	79

Calendar year 1961: Max 1,080 Min 1.2 Mean 88.9 Ac-ft 64,300

Water year 1961-62: Max 530 Min 0.9 Mean 76.9 Ac-ft 55,700

Peak discharge (base, 550 cfs).--Feb. 9 (1100) 887 cfs (7.31 ft); Feb. 13 (1100) 684 cfs (7.02 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## KLAMATH RIVER BASIN

11-5186. Moffett Creek near Fort Jones, Calif.

Location--Lat 41°38'02", long 122°44'50", in SE 1/4 sec. 27, T. 44 N., R. 8 W., on right bank 90 ft upstream from bridge, 500 ft upstream from Soap Creek, and 5.1 miles east of Fort Jones.

Drainage area--69.8 sq mi.

Records available--October 1958 to September 1962.

Gage--Water-stage recorder. Altitude of gage is 2,940 ft (from topographic map).

Extremes--1960-61: Maximum discharge during water year, 227 cfs Feb. 11 (gage height, 2.65 ft); minimum, 0.3 cfs Aug. 24.  
 1961-62: Maximum discharge during water year, 42 cfs Apr. 17 (gage height, 2.06 ft); minimum, 0.4 cfs Aug. 22.  
 1958-62: Maximum discharge, 227 cfs Feb. 11, 1961; minimum daily, 0.1 cfs July 11, 1959, Aug. 5, 1960.  
 Flood of Jan. 29, 1958, reached a stage of 4.39 ft (discharge not determined).

Remarks--Minor diversions upstream 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 1960 to September 1961

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	6.1	38	17	10	21	30	14	6.6	1.7	1.0	0.6
2	.6	5.9	40	16	15	24	29	14	7.4	1.7	1.1	.7
3	.6	6.9	25	14	21	24	26	14	8.1	1.6	1.0	.9
4	.8	7.0	18	13	24	23	29	13	8.6	1.9	1.4	1.0
5	1.2	5.3	12	* 12	23	24	26	14	7.3	2.3	1.4	1.0
6	1.4	4.7	18	7.4	23	25	25	12	7.0	2.1	1.2	1.1
7	2.2	4.7	18	7.6	22	25	25	11	6.5	1.9	1.5	1.1
8	2.4	4.2	18	7.4	20	24	25	11	5.6	1.8	1.7	1.2
9	2.6	2.0	16	7.8	* 22	* 22	24	11	4.8	2.0	1.6	1.2
10	2.8	*.8	16	8.0	29	24	23	12	4.6	2.2	1.3	1.0
11	2.5	.7	15	9.1	185	22	22	13	5.0	2.1	1.5	1.1
12	2.0	1.1	10	9.1	144	23	23	12	4.7	2.0	1.4	1.0
13	1.7	1.3	* 7.6	9.3	105	24	* 23	11	4.3	2.3	1.2	.9
14	1.5	1.4	6.9	8.5	83	27	20	11	3.9	1.7	.7	.9
15	1.5	1.6	7.1	8.5	75	32	20	* 11	* 3.5	1.4	*.6	1.1
16	1.5	1.3	7.1	8.5	56	36	16	11	3.8	1.9	.7	1.6
17	1.4	1.3	12	8.8	52	38	14	10	3.4	2.0	.7	1.4
18	1.3	1.7	19	8.2	50	35	14	9.7	3.0	* 1.6	.7	1.3
19	1.7	1.8	29	7.6	42	35	15	8.6	2.5	1.2	.6	1.1
20	1.8	1.6	30	7.1	37	33	15	7.6	2.2	1.5	.5	1.1
21	1.7	1.8	31	6.9	36	28	16	7.4	2.2	1.4	.5	1.2
22	1.7	1.5	31	6.4	36	34	17	7.2	2.2	1.3	.7	1.0
23	2.4	3.0	26	7.2	33	35	17	7.1	2.1	1.4	.7	1.0
24	3.4	4.2	26	6.9	32	39	17	7.0	1.8	1.2	.4	.9
25	4.3	8.3	24	6.9	30	39	16	7.0	2.0	1.2	.4	1.0
26	5.3	5.8	23	6.9	27	39	16	6.6	1.5	1.3	.5	.9
27	6.1	5.1	23	6.9	24	38	14	5.6	1.4	1.2	.6	.8
28	6.1	5.5	20	6.9	24	33	13	5.1	1.6	1.0	.6	*.9
29	5.9	7.2	20	6.6	-	32	12	5.9	1.2	1.1	.5	1.0
30	5.9	5.0	19	6.9	-----	32	13	6.1	1.2	1.0	.4	1.0
31	5.9	-----	18	11	-----	29	-----	6.9	-----	1.0	.4	-----
Total	80.8	108.8	623.7	274.4	1280	919	595	302.8	120.0	50.0	27.5	31.0
Mean	2.61	3.63	20.1	8.85	45.7	29.6	19.8	9.77	4.00	1.61	0.89	1.03
Max	6.1	8.3	40	17	185	39	30	14	8.6	2.3	1.7	1.6
Min	0.6	0.7	6.9	6.4	10	21	12	5.1	1.2	1.0	0.4	0.6
Ac-ft	160	216	1,240	544	2,540	1,820	1,180	601	238	99	55	61

Calendar year 1961: Max 86 Min 0.1 Mean 8.57 Ac-ft 6,220  
 Water year 1961-62: Max 185 Min 0.4 Mean 12.1 Ac-ft 8,750

\* Discharge measurement made on this day.

11-5186. Moffett Creek near Fort Jones, Calif.--Continued.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.7	2.5	6.4	4.9	13	23	7.4	5.7	1.6	1.0	0.8
2	1.1	1.6	2.7	6.1	5.5	12	23	7.4	5.5	1.7	.8	1.0
3	1.3	1.6	3.0	5.5	6.4	12	22	7.4	4.8	1.6	.7	1.0
4	1.2	1.7	2.4	5.1	8.0	13	20	6.3	4.2	1.5	.7	.9
5	1.0	1.9	2.4	5.5	7.6	15	17	5.8	4.3	1.4	.9	.9
6	.9	1.9	1.7	5.5	7.4	15	18	5.1	4.3	1.4	.9	.9
7	1.0	1.9	1.5	5.5	10	15	17	2.8	4.3	1.3	.8	1.1
8	1.1	1.8	1.3	5.1	12	17	18	2.3	3.9	1.3	1.0	1.0
9	1.2	1.8	1.3	5.3	20	18	17	2.4	4.1	1.3	1.0	1.2
10	1.0	1.9	1.0	* 5.6	23	18	15	3.4	3.5	1.5	.9	.9
11	* 1.0	1.9	2.2	5.1	22	17	14	6.2	* 2.8	1.3	.9	.8
12	1.1	1.7	2.3	5.1	20	16	13	7.0	2.4	1.2	.9	1.0
13	.9	1.7	* 2.5	4.7	22	15	8.7	7.3	2.3	1.0	* 1.0	1.2
14	1.0	1.7	2.4	4.3	* 25	16	9.4	7.6	2.3	1.1	.9	.9
15	1.0	1.5	2.2	3.9	32	16	14	7.4	2.8	1.1	.8	.9
16	1.0	1.8	2.3	3.9	35	15	14	* 8.5	2.7	1.0	.8	.9
17	1.6	1.6	3.1	4.3	31	17	18	8.6	2.4	* 1.1	.8	.9
18	1.6	1.8	3.3	4.7	30	17	* 11	8.8	2.3	1.1	.8	.8
19	1.7	1.7	4.9	4.2	28	17	12	8.3	2.5	1.2	.9	.8
20	1.5	1.7	5.9	4.3	26	17	12	8.4	2.5	1.1	.9	1.2
21	1.6	1.9	6.5	4.3	23	17	9.9	8.0	2.6	.7	.7	1.2
22	1.6	1.9	7.4	4.3	21	17	9.8	8.2	2.5	.7	.6	1.2
23	1.6	1.9	7.4	4.3	21	15	9.2	7.6	2.5	.8	.5	1.1
24	1.3	3.2	9.4	4.3	20	17	8.9	7.4	2.3	.9	.6	1.1
25	1.3	3.1	8.5	4.1	18	17	8.7	7.4	2.2	1.1	.8	1.2
26	1.4	3.3	8.2	3.8	14	19	8.2	7.6	2.2	1.1	.8	1.3
27	1.6	3.1	8.2	3.9	12	* 21	9.3	6.7	2.3	1.0	.9	1.5
28	1.2	2.3	7.3	4.3	14	21	9.2	6.1	2.2	.7	1.0	2.0
29	1.4	2.5	6.9	4.7	-	22	9.1	6.2	2.1	.7	1.4	1.3
30	1.7	3.0	6.9	4.8	-----	22	8.5	6.4	1.6	.9	1.1	1.3
31	1.7	-----	7.1	4.7	-----	21	-----	5.9	-----	.9	.8	-----
Total	39.6	61.1	134.7	147.6	518.8	520	406.9	205.9	92.1	35.3	26.6	32.3
Mean	1.28	2.04	4.35	4.76	18.5	16.8	13.6	6.64	3.07	1.14	0.86	1.08
Max	1.7	3.3	9.4	6.4	35	22	23	8.8	5.7	1.7	1.4	2.0
Min	0.9	1.5	1.0	3.8	4.9	12	8.2	2.3	1.6	0.7	0.5	0.8
Ac-ft	79	121	267	293	1,030	1,030	807	408	183	70	53	64
Calendar year 1961:	Max	185	Min	0.4	Mean	10.5	Ac-ft	7,600				
Water year 1961-62:	Max	35	Min	0.5	Mean	6.08	Ac-ft	4,400				

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5195. Scott River near Fort Jones, Calif.

Location.--Lat 41°38'28", long 123°00'54", in NE 1/4 sec. 29, T.44 N., R.10 W., on right bank 1.7 miles upstream from Snow Creek and 10.8 miles downstream from Fort Jones.

Drainage area.--662 sq mi.

Records available.--December 1941 to September 1962. Monthly discharge only October to December 1941, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 2,625.80 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--21 years, 631 cfs (456,800 acre-ft per year); median of yearly mean discharges, 530 cfs (384,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,540 cfs Dec. 20 (gage height, 6.91 ft); minimum, 40 cfs Aug. 27.

1941-62: Maximum discharge, 38,500 cfs Dec. 22, 1955 (gage height, 21.40 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 20 cfs Sept. 14, 15, 1955.

Remarks.--Records good. Diversions for irrigation of about 30,000 acres above station.

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

Oct. 1 to July 26				July 26 to Sept. 30	
1.8	55	4.1	480	1.9	39
2.3	109	5.0	870	2.3	93
2.9	199	6.0	1,550		
3.5	315	7.0	2,650		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	103	322	299	259	429	825	855	642	* 242	64	55
2	68	104	320	295	267	435	885	962	654	242	60	64
3	67	104	289	295	279	420	920	* 1,060	705	234	56	61
4	* 67	104	253	* 299	289	420	932	1,110	650	208	56	60
5	66	105	232	291	283	474	* 1,020	1,020	574	190	56	* 56
6	65	105	215	289	355	768	1,090	1,000	542	187	55	55
7	62	108	206	311	597	755	1,180	1,060	522	168	61	54
8	63	110	197	325	933	646	1,300	1,200	530	150	75	54
9	64	109	189	325	1,100	606	1,370	1,190	582	135	* 78	55
10	67	109	180	313	1,520	570	1,200	1,090	618	132	80	54
11	68	109	171	305	1,030	534	1,070	1,090	602	132	80	55
12	66	109	164	303	870	501	1,080	938	578	128	78	54
13	65	108	158	295	1,090	480	1,220	845	582	123	82	52
14	63	107	157	279	1,260	471	1,450	810	* 546	121	71	54
15	62	105	160	271	1,350	462	1,660	740	501	121	67	54
16	63	103	162	261	1,220	456	1,470	690	489	118	65	52
17	63	102	169	251	962	441	1,310	654	483	117	64	52
18	63	104	171	251	835	432	* 1,270	650	471	118	60	51
19	63	105	333	275	755	432	1,300	654	459	112	60	50
20	63	105	2,050	338	675	438	1,130	622	447	97	65	50
21	63	105	2,010	b 290	622	441	944	594	426	67	64	49
22	63	110	1,050	b 230	574	462	870	574	414	80	67	49
23	64	154	720	b 230	538	456	932	606	399	96	70	56
24	64	185	566	b 250	504	438	1,070	594	375	93	63	58
25	64	213	495	259	480	480	1,010	546	355	92	51	58
26	65	204	435	263	435	590	890	504	330	108	41	58
27	75	208	393	257	405	666	1,110	498	311	74	41	59
28	109	213	365	253	432	740	1,560	542	285	68	56	63
29	107	* 238	338	253	-	760	1,090	594	265	67	78	70
30	103	307	322	251	-----	770	920	642	249	70	58	71
31	102	-----	309	* 251	-----	790	-----	* 634	-----	65	55	-----
Total	2175	4,055	13,101	8,658	19,919	16,763	34,078	24,568	14,586	3,955	1,977	1,683
Mean	70.2	135	423	279	711	541	1,136	793	486	128	63.8	56.1
Max	109	307	2,050	338	1,520	790	1,660	1,200	705	242	82	71
Min	62	102	157	230	259	420	825	498	249	65	41	49
Ac-ft	4,310	8,040	25,990	17,170	39,510	33,250	67,590	48,730	28,930	7,840	3,920	3,340

Calendar year 1961: Max 6,680 Min 44 Mean 517 Ac-ft 374,100

Water year 1961-62: Max 2,050 Min 41 Mean 399 Ac-ft 288,600

Peak discharge (base, 2,000 cfs).--Dec. 20 (0800) 2,540 cfs (6.91 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.



11-5205. Klamath River near Seiad Valley, Calif.

Location.--Lat 41°51'20", long 123°13'50", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.3, T.46 N., R.12 W., on right bank 0.4 mile upstream from Bittenbender Creek, 1.4 miles downstream from Grider Creek, and 2.2 miles west of Seiad Valley.

Drainage area.--6,980 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1912 to September 1925, July 1951 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,320 ft (from river-profile map). November 1912 to June 1925, staff gage at site  $\frac{3}{2}$  miles upstream at different datum.

Average discharge.--24 years, 4,051 cfs (2,933,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,910 cfs Dec. 21 (gage height, 7.55 ft); minimum, 855 cfs Nov. 12.

1912-25, 1951-62: Maximum discharge, 122,000 cfs Dec. 22, 1955 (gage height, 29.2 ft, from floodmarks), from rating curve extended above 25,000 cfs on basis of slope-area measurements at gage heights 20.1 and 29.2 ft; minimum daily, 320 cfs Nov. 25, 1917.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation.

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

2.6	895
3.0	1,220
4.0	2,190
6.0	5,050
8.0	8,900

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.130	2.780	2.080	2.980	* 2.600	2.710	4.410	3.710	2.510	* 1.360	1.120	1.270
2	967	3.320	2.140	2.710	2.700	2.710	4.410	* 3.900	2.500	1.330	1.160	1.400
3	* 2.090	3.430	2.060	* 2.910	2.800	2.730	* 4.490	4.020	2.560	1.310	1.140	1.410
4	2.100	3.590	2.940	3.110	2.700	2.760	4.830	4.080	2.470	1.270	1.140	1.400
5	2.120	3.290	3.050	3.470	2.600	2.850	5.190	3.880	2.330	1.210	1.140	1.400
6	2.010	2.360	2.910	3.440	3.000	3.460	5.660	3.740	2.230	1.160	1.150	1.390
7	2.230	3.220	2.910	2.950	4.000	3.640	6.040	3.840	2.170	1.130	1.260	1.380
8	1.010	3.390	2.600	2.930	5.000	3.640	6.330	3.890	2.160	1.070	1.320	1.380
9	1.060	3.430	2.490	2.950	5.800	3.680	6.310	3.940	2.170	1.060	1.360	1.390
10	2.100	3.680	2.550	2.900	6.000	3.710	6.150	3.830	2.230	1.060	1.310	1.390
11	2.340	2.580	2.530	2.950	5.000	3.280	5.870	3.830	2.200	1.120	1.320	1.410
12	2.440	1.430	2.880	2.680	4.600	3.110	5.750	3.640	2.100	1.140	1.290	1.420
13	2.670	1.980	2.820	2.710	5.000	3.110	5.780	3.430	2.040	1.120	1.260	1.440
14	2.400	2.290	3.150	2.670	* 5.400	3.070	6.080	3.350	1.990	1.120	1.240	1.440
15	1.300	2.470	3.190	2.640	5.290	2.840	6.310	3.470	1.990	1.080	1.220	1.440
16	1.230	2.650	3.180	2.370	5.080	2.930	6.280	3.420	1.960	1.060	1.200	1.440
17	2.430	2.770	3.150	2.170	4.650	2.900	6.080	3.350	1.950	1.060	1.180	1.440
18	2.300	2.840	3.190	2.120	4.100	2.820	5.870	3.280	1.930	1.050	1.180	1.440
19	2.930	2.840	3.620	2.530	3.800	2.850	5.710	3.010	1.900	1.050	1.180	1.540
20	2.770	2.910	6.960	2.590	3.590	3.090	5.080	2.810	1.890	1.080	1.190	1.590
21	2.710	2.950	7.090	2.400	3.260	3.110	4.240	2.600	1.850	1.070	1.210	1.580
22	2.090	3.460	5.100	2.200	3.120	3.190	4.000	2.540	1.880	1.060	1.160	1.580
23	1.430	3.770	4.180	2.400	3.040	3.020	3.580	2.630	1.870	1.100	1.150	1.580
24	3.010	3.720	3.710	2.500	3.090	3.040	4.430	2.650	1.820	1.100	1.140	1.600
25	2.690	3.350	3.490	2.500	2.890	3.360	4.280	2.580	1.770	1.100	1.130	1.610
26	2.970	3.010	3.320	2.400	2.710	3.860	4.040	2.430	1.700	1.070	1.100	1.620
27	3.830	2.940	3.190	2.300	2.640	4.000	4.180	2.420	1.660	1.070	* 1.100	1.830
28	3.070	2.540	3.000	2.400	2.710	4.220	5.240	2.450	1.520	1.070	1.100	1.900
29	2.070	* 1.930	2.410	2.430	-	4.860	4.250	2.530	1.440	1.040	1.150	2.000
30	2.680	2.100	2.910	2.470	-----	4.490	3.860	* 2.590	1.390	1.030	1.140	1.970
31	3.150	-----	3.040	2.540	-----	4.520	-----	2.550	-----	991	1.130	-----
Total	69,327	87,020	101,840	82,320	107,170	103,560	154,730	100,390	60,180	34,541	36,870	45,680
Mean	2,236	2,900	3,285	2,655	3,828	3,341	5,158	3,238	2,006	1,114	1,189	1,523
Max	3,830	3,770	7,090	3,470	6,000	4,860	6,330	4,080	2,560	1,360	1,360	2,000
Min	967	1,430	2,080	2,120	2,600	2,710	3,580	2,420	1,390	991	1,100	1,270
Ac-ft	137,500	172,600	202,000	163,300	212,600	205,400	306,900	199,100	119,400	68,510	73,130	90,600

Calendar year 1961: Max 15,100 Min 799 Mean 3,008 Ac-ft 2,178,000

Water year 1961-62: Max 7,090 Min 967 Mean 2,695 Ac-ft 1,951,000

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 21-28, Feb. 1-14.

## KIAMATH RIVER BASIN

11-5215. Indian Creek near Happy Camp, Calif.

Location.--Lat 41°50'50", long 123°23'10", in SE $\frac{1}{4}$  sec.22, T.17 N., R.7 E., on left bank 1.5 miles upstream from Slater Creek, 3.8 miles north of Happy Camp, and 4.5 miles upstream from mouth.

Drainage area.--118 sq mi.

Records available.--September 1911 to September 1921 (fragmentary), December 1956 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map). Prior to December 1956, staff gages at sites 0.25 mile upstream at different datums.

Average discharge.--8 years (1911-14, 1957-62), 415 cfs (300,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,390 cfs Dec. 19 (gage height, 11.28 ft); minimum, 36 cfs Sept. 24.

1911-21, 1956-62: Maximum discharge, 14,400 cfs Jan. 12, 1959 (gage height, 23.54 ft), from rating curve extended above 4,200 cfs on basis of slope-area measurement at gage height 29.0 ft; minimum observed, 20 cfs Aug. 19 to Sept. 6, 1914.

Flood of Dec. 21, 1955, reached a stage of 29.0 ft, from floodmarks (discharge, 23,000 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records good except those for periods of shifting control, which are fair. Small diversions above station for irrigation.

Rating tables, except periods of shifting-control method (gage height, in feet.  
and discharge, in cubic feet per second)

Oct. 1 to Nov. 23

Nov. 23 to Sept. 30

0.3	41	3.0	385	0.2	31	3.0	430
.8	61	4.0	650	1.0	94	4.0	700
1.3	101	6.0	1,250	1.5	146	6.0	1,300
2.0	191	8.0	1,920	2.0	216	8.5	2,120

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	87	683	254	*169	317	889	490	268	110	59	46
2	43	93	502	245	178	298	832	*570	272	*108	58	44
3	43	100	392	*272	180	280	793	589	264	106	58	44
4	*42	109	321	268	182	276	*805	555	236	104	61	44
5	42	88	290	248	182	348	895	498	227	103	59	42
6	41	79	264	259	423	430	922	492	224	101	59	42
7	41	73	239	296	1,020	425	1,030	518	224	98	90	41
8	42	69	226	288	1,420	420	1,040	555	234	94	104	41
9	42	67	208	274	1,560	420	925	522	245	92	101	40
10	64	70	196	254	1,340	400	766	465	234	90	87	39
11	74	76	182	234	977	370	712	415	218	91	75	43
12	53	72	176	227	823	342	781	378	211	94	70	44
13	50	68	173	211	*931	335	877	350	200	89	67	42
14	47	66	172	197	901	335	964	328	189	85	66	43
15	46	65	164	192	1,040	338	895	315	186	82	62	43
16	45	63	169	183	994	345	763	296	185	82	61	42
17	45	63	226	176	880	355	715	308	179	80	60	40
18	44	63	286	175	751	375	703	326	173	79	a 58	39
19	44	63	1,380	187	646	410	679	319	165	77	a 56	39
20	43	63	2,030	173	568	430	568	292	156	74	a 54	* 39
21	47	65	1,700	146	500	442	510	276	153	71	a 52	39
22	47	699	922	136	458	455	522	286	148	71	a 50	39
23	47	1,920	649	152	428	430	562	290	145	70	a 50	38
24	49	1,320	518	156	395	465	565	274	140	68	a 50	37
25	47	626	450	153	365	1,130	498	266	134	67	a 48	37
26	52	510	380	151	335	1,280	442	264	130	66	a 48	37
27	488	460	350	147	312	1,080	877	280	125	66	a 48	39
28	224	400	319	147	319	952	790	306	121	63	*a 46	107
29	122	*515	298	151	-	844	545	302	119	60	46	80
30	98	794	280	156	-----	805	490	284	116	61	46	57
31	90	-----	264	162	-----	847	-----	* 272	-----	61	46	-----
Total	2,246	8,806	14,409	6,270	18,277	15,979	22,555	11,681	5,621	2,563	1,895	1,347
Mean	72.5	294	465	202	653	515	745	377	187	82.7	61.1	44.9
Max	488	1,920	2,030	296	1,560	1,280	1,040	589	272	110	104	107
Min	41	63	164	136	169	276	442	264	116	60	46	37
Ac-ft	4,450	17,470	28,580	12,440	36,250	31,690	44,340	23,170	11,150	5,080	3,760	2,670

Calendar year 1961: Max 4,200 Min 41 Mean 426 Ac-ft 308,200

Water year 1961-62: Max 2,030 Min 37 Mean 305 Ac-ft 221,000

Peak discharge (base, 2,000 cfs).--Nov. 23 (1,030) 2,610 cfs (9.72 ft); Dec. 19 (1930) 3,390 cfs (11.28 ft).

\* Discharge measurement made on this day.

a No gage-height record.

Note.--Shifting-control method used Oct. 1-27, Mar. 25 to May 20.

KLAMATH RIVER BASIN

435

11-5222. Elk Creek near Happy Camp, Calif.

Location.--Lat 41°44'40", long 123°20'50", in NE $\frac{1}{4}$  sec.36, T.16 N., R.7 E., on left bank 0.15 mile downstream from East Fork, 4 miles upstream from mouth, and 4 miles south of Happy Camp.

Drainage area.--91.1 sq mi.

Records available.--October 1956 to September 1962. Monthly discharge only for October 1956, published in WSP 1735.

Gage.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map).

Average discharge.--6 years, 212 cfs (153,500 acre-ft. per year).

Extremes.--Maximum discharge during year, 1,010 cfs Dec. 20 (gage height, 4.92 ft); minimum, 25 cfs Sept. 18.  
1956-62: Maximum discharge, 4,150 cfs Jan. 29, 1958 (gage height, 7.72 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement at gage height 15.3 ft; minimum, that of Sept. 18, 1962.  
Flood of Dec. 21, 1955, reached a stage of 15.3 ft, from floodmarks (discharge, 14,400 cfs on basis of slope-area measurement of peak flow).

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

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

Oct. 1 to Nov. 24		Nov. 24 to Sept. 30	
2.4	24	2.4	24
2.6	43	2.6	42
3.0	110	3.0	105
3.5	239	3.5	222
4.0	450	4.0	420
		4.5	690

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	47	200	113	* 87	148	330	283	202	* 85	35	29
2	30	46	172	111	94	144	322	* 348	208	84	34	29
3	* 30	46	140	* 121	96	142	318	352	211	80	34	28
4	30	50	123	117	98	140	* 318	330	186	75	35	28
5	30	47	111	111	98	148	330	310	174	73	34	28
6	30	44	101	115	192	164	339	310	174	68	34	28
7	30	43	94	127	298	167	380	322	182	66	80	28
8	30	42	89	125	411	172	402	362	197	62	82	27
9	30	41	84	123	526	174	380	322	214	60	75	27
10	40	42	80	117	526	172	334	286	205	58	61	27
11	56	47	73	113	384	162	322	261	197	61	52	27
12	39	43	73	111	318	153	352	238	197	70	47	27
13	36	41	72	103	* 398	148	388	222	186	61	45	27
14	34	40	73	100	430	144	445	208	169	58	42	27
15	33	40	70	98	406	144	435	197	160	55	41	27
16	32	39	72	92	362	146	388	189	160	54	39	26
17	31	39	100	91	314	144	380	192	158	52	38	26
18	30	39	101	91	279	144	384	200	151	51	38	26
19	30	40	368	109	248	148	380	200	151	50	37	26
20	30	40	685	105	225	153	306	184	144	48	36	26
21	34	41	584	87	202	155	279	174	140	48	34	26
22	33	142	334	105	186	176	286	186	138	46	33	26
23	32	381	254	119	179	164	310	194	133	45	32	26
24	33	329	208	101	164	169	326	179	125	45	32	26
25	32	162	186	92	155	294	279	174	119	43	30	27
26	40	189	164	85	144	366	258	172	111	42	30	27
27	157	169	151	80	140	352	472	184	101	41	30	29
28	84	138	140	80	146	334	388	200	100	40	30	51
29	56	186	133	82	-	314	306	214	94	38	30	45
30	49	*261	125	84	-----	310	272	208	91	39	* 30	34
31	49	-----	119	85	-----	318	-----	* 205	-----	37	-----	-----
Total	1,260	2,854	5,279	3,193	7,106	6,009	10,409	7,406	4,778	1,735	1,259	861
Mean	40.6	95.1	170	103	254	194	347	239	159	56.0	40.6	28.7
Max	157	381	685	127	526	366	472	352	214	85	82	51
Min	30	39	70	80	87	140	258	172	91	37	29	26
Ac-ft	2,500	5,660	10,470	6,330	14,090	11,920	20,650	14,690	9,480	3,440	2,500	1,710

Calendar year 1961: Max 2,020 Min 30 Mean 213 Ac-ft 154,200

Water year 1961-62: Max 685 Min 26 Mean 143 Ac-ft 103,400

Peak discharge (base, 800 cfs)--Dec. 20 (1900) 1,010 cfs (4.92 ft).

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5222.6. T1 Creek near Somesbar, Calif.

Location.--Lat 41°31'30", long 123°31'35", (unsurveyed), on left bank at T1 Bar School, 0.1 mile upstream from mouth, and 10.5 miles north of Somesbar, Siskiyou County.

Drainage area.--9.46 sq mi.

Records available.--September 1960 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 700 ft (from topographic map).

Extremes.--Maximum discharge during year, 148 cfs Dec. 19 (gage height, 2.56 ft); minimum, 5.5 cfs Sept. 21-24.  
1960-62: Maximum discharge, 230 cfs Feb. 11, 1961 (gage height, 2.92 ft); minimum, 5.1 cfs Sept. 13-19, 27, 1960.

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

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

Oct. 1 to Feb. 13

Feb. 14 to Sept. 30

1.2	5.8	1.7	31	1.3	2.0	1.8	34
1.3	8.8	2.0	58	1.4	7.0	2.2	82
1.5	18	2.3	98	1.6	19		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	8.8	33	18	16	27	49	22	14	10	*7.6	6.5
2	7.6	8.5	27	*17	17	28	46	21	14	*10	7.6	6.5
3	7.6	8.8	22	19	17	28	44	21	14	10	7.6	6.5
4	7.6	8.8	19	17	16	27	43	20	13	10	7.6	6.5
5	*7.3	8.8	17	17	16	29	42	19	13	10	7.6	6.5
6	7.6	8.8	15	17	33	30	40	20	13	10	7.6	6.5
7	7.9	8.8	14	16	47	31	37	20	12	10	17	6.5
8	7.9	8.5	13	16	70	32	36	21	12	10	16	6.5
9	8.2	8.5	13	15	84	32	33	21	12	9	13	6.5
10	13	8.8	12	15	64	32	32	20	12	9	10	6.5
11	12	8.8	12	15	49	30	31	20	12	9	9.4	7.0
12	11	8.8	11	15	48	28	30	18	12	9	9.4	7.0
13	9.6	8.8	11	15	77	28	30	16	12	9	8.8	7.0
14	9.6	8.8	11	15	69	29	28	16	12	9	8.8	7.0
15	9.2	8.8	10	14	63	30	28	14	13	9	8.2	7.0
16	9.2	8.8	11	14	64	31	27	17	12	9	7.6	6.5
17	9.2	8.8	20	14	64	32	26	17	12	9	7.6	6.5
18	9.2	8.8	22	15	55	32	25	16	12	9	7.6	6.5
19	9.6	9.2	75	21	48	32	25	14	11	8.2	7.6	6.5
20	9.6	9.2	75	19	44	33	24	15	11	8.2	7.6	6.5
21	11	10	58	b16	40	33	24	16	11	8.2	7.0	6.0
22	10	27	42	b15	36	41	23	15	11	8.2	7.0	6.0
23	10	39	33	*13	34	39	23	13	11	8.2	7.0	6.0
24	10	37	29	13	31	48	23	12	11	8.2	7.0	6.0
25	10	21	27	13	29	76	22	10	11	8.2	7.0	6.0
26	13	24	25	15	*28	72	20	8.2	11	8.2	6.5	6.0
27	27	21	*23	16	26	66	*28	10	11	7.6	6.0	6.0
28	11	*18	22	15	27	*58	25	11	11	7.6	6.5	15
29	10	34	22	15	-	55	23	13	11	7.6	*6.5	8.2
30	9.6	46	21	16	-----	52	22	14	10	7.0	6.5	7.0
31	*8.8	-----	18	16	-----	50	-----	*14	-----	7.0	6.5	-----
Total	310.9	452.9	763	487	1,212	1,191	909	504.2	357	272.4	257.7	204.7
Mean	10.0	15.1	24.6	15.7	43.3	38.4	30.3	16.3	11.9	8.79	8.31	6.82
Max	27	46	75	21	84	76	49	22	14	10	17	15
Min	7.3	8.5	10	13	16	27	20	8.2	10	7.0	6.0	6.0
Ac-ft	617	898	1,510	966	2,400	2,360	1,800	1,000	708	540	511	406
(t)	4.4	8.6	7.3	2.1	11.2	7.9	2.1	1.2	0.1	0	2.3	1.4

Calendar year 1961: Max 168 Min 7.3 Mean 24.4 Ac-ft 17,760  
Water year 1961-62: Max 84 Min 6.0 Mean 19.0 Ac-ft 13,720

Peak discharge (base, 120 cfs).--Dec. 19 (1700) 148 cfs (2.56 ft).

\* Discharge measurement made on this day.

† Precipitation, in inches.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 4-16, 18, Jan. 23-25, May 4, 5, 13-15, 19-30, July 2-18.

11-5223. South Fork Salmon River near Forks of Salmon, Calif.

Location.--Lat 41°13'20", long 123°15'00", in SE $\frac{1}{4}$  sec.30, T.39 N., R.12 W., on left bank 100 ft downstream from Methodist Creek and 4.5 miles southeast of town of Forks of Salmon.

Drainage area.--252 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-57 and annual maximum, water years 1954-57. August 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map). Sept. 13, 1953, to Aug. 23, 1957, crest-stage gage only, at datum 6.66 ft higher.

Average discharge.--5 years, 468 cfs (338,800 acre-ft per year).

Extremes.--Maximum discharge during year, 3,230 cfs Dec. 19 (gage height, 7.94 ft); minimum, 29 cfs Sept. 25-28.

1953-62: Maximum discharge, 24,200 cfs Dec. 22, 1955 (gage height, 18.86 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1957-62: Minimum discharge, 28 cfs Oct. 4, 5, 1960.

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

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

Oct. 1 to Dec. 18

Dec. 19 to Sept. 30

3.6	26	4.5	265	3.6	27	5.0	490
3.9	74	5.0	520	3.8	62	5.8	1,020
4.2	150			4.1	135	7.0	2,110
				4.5	265		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	* 65	375	202	230	265	842	682	622	269	87	47
2	33	63	390	199	248	258	* 814	800	646	234	* 83	45
3	31	63	261	* 199	248	251	779	863	694	227	80	43
4	* 31	68	185	195	244	251	786	870	532	223	80	43
5	31	66	157	189	237	313	870	793	480	223	78	43
6	31	63	141	189	309	526	891	821	502	209	74	41
7	31	59	130	220	562	526	956	842	544	195	134	40
8	31	57	121	227	1,040	480	1,040	972	604	206	404	40
9	31	57	119	230	1,240	480	980	849	694	206	502	40
10	34	55	114	223	1,230	435	842	744	682	186	216	38
11	42	59	99	206	814	381	786	688	652	180	156	38
12	50	59	101	199	658	345	898	622	640	177	130	38
13	45	57	99	189	1,040	325	1,030	580	610	168	113	38
14	42	55	99	168	1,160	321	1,220	538	502	156	103	38
15	42	53	94	171	1,130	321	1,240	502	508	147	92	38
16	41	52	89	159	956	325	1,060	475	502	135	87	37
17	39	50	116	156	744	321	1,010	480	502	138	83	35
18	39	50	127	156	622	325	1,020	520	508	141	80	33
19	38	50	791	258	526	337	1,020	532	538	135	78	32
20	38	52	1,900	381	450	363	800	465	508	132	76	32
21	39	52	1,520	244	395	363	700	435	475	127	71	32
22	42	90	744	b186	354	405	706	450	475	119	69	30
23	42	310	502	b183	333	381	821	490	470	113	67	30
24	44	310	390	b183	313	372	964	450	420	111	64	30
25	44	225	333	b183	297	470	* 800	425	381	111	60	29
26	45	249	289	180	265	622	712	415	337	101	56	29
27	164	273	262	174	* 255	688	1,030	450	301	99	54	29
28	142	197	* 244	171	265	712	1,000	550	293	94	54	29
29	78	298	230	180	-	730	765	616	305	99	51	69
30	70	* 450	216	202	-----	779	670	* 640	285	103	* 51	49
31	66	-----	209	* 216	-----	814	-----	592	-----	94	49	-----
Total	1,509	3,607	10,447	6,218	16,165	13,485	27,052	19,151	15,212	4,858	3,382	1,160
Mean	48.7	120	337	201	577	435	902	618	507	157	109	38.7
Max	164	450	1,900	381	1,240	814	1,240	972	694	269	502	69
Min	31	50	89	156	230	251	670	415	285	94	49	29
Ac-ft	2,990	7,150	20,720	12,330	32,060	26,750	53,660	37,990	30,170	9,640	6,710	2,300

Calendar year 1961: Max 4,110 Min 29 Mean 413 Ac-ft 298,900  
 Water year 1961-62: Max 1,900 Min 29 Mean 335 Ac-ft 242,500

Peak discharge (base, 3,000 cfs).--Dec. 19 (about 2200) 3,230 cfs (7.94 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-5224. North Fork Salmon River near Forks of Salmon, Calif.

Location---Lat 41°16'02", long 123°18'12", in NE $\frac{1}{4}$  sec.18, T.10 N., R.8 E., on right bank 0.4 mile downstream from Pollocks Gulch, 1.2 miles upstream from Forks of Salmon, and 1.3 miles upstream from mouth.

Drainage area---205 sq mi.

Records available---August 1958 to September 1962.

Gage---Water-stage recorder. Altitude of gage is 1,240 ft (from topographic map).

Extremes---Maximum discharge during year, 5,160 cfs Dec. 19 (gage height, 11.00 ft), from rating curve extended above 2,100 cfs as explained below; minimum, 30 cfs Sept. 27.

1958-62: Maximum discharge, 7,880 cfs Feb. 8, 1960 (gage height, 12.80 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; minimum, 28 cfs Oct. 5, 1960.

Remarks---Records good except those for period of ice effect, which are fair. Small diversion above station for domestic use.

Rating table, except period of ice effect (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 24-27)

3.7	26	5.0	255
3.8	33	6.0	630
4.0	52	7.0	1,190
4.2	77	9.0	2,860
4.5	130		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	*72	375	276	300	322	1,100	780	576	185	54	38
2	37	72	357	273	329	315	*1,080	934	590	172	*51	38
3	37	70	279	291	333	303	1,040	986	608	160	50	37
4	*36	87	227	285	322	291	1,050	986	496	150	53	37
5	*35	80	207	270	309	297	1,130	868	456	145	52	36
6	35	72	192	276	396	336	1,140	879	460	132	50	36
7	35	68	175	333	612	340	1,230	906	500	126	72	36
8	36	67	162	343	857	347	1,260	992	540	122	122	35
9	36	67	150	336	1,060	382	1,180	868	603	118	152	35
10	39	68	143	312	1,170	378	1,010	774	572	112	108	35
11	87	83	126	294	862	354	923	715	540	110	83	35
12	65	73	130	285	720	322	1,020	650	540	116	72	37
13	57	67	122	261	851	312	1,140	612	500	107	67	37
14	50	64	128	241	974	322	1,330	581	413	98	62	36
15	46	63	122	238	923	333	1,320	540	389	93	59	36
16	44	60	120	222	824	340	1,130	520	392	88	56	35
17	43	59	162	215	705	343	1,080	532	392	87	54	35
18	42	59	172	217	617	347	1,080	567	389	82	52	34
19	41	59	1,440	270	549	385	1,060	576	389	80	51	33
20	41	59	2,800	309	500	420	846	520	368	77	50	32
21	44	59	2,020	b220	452	432	747	488	347	76	49	32
22	49	180	1,030	b192	417	464	747	508	340	70	48	32
23	48	464	705	b210	399	428	846	549	326	69	45	32
24	50	464	554	b217	378	420	906	504	294	67	43	32
25	50	309	480	b212	357	599	*747	476	273	64	42	31
26	53	282	420	210	322	912	680	452	252	62	41	31
27	251	312	375	205	*306	1,020	1,190	484	230	59	40	31
28	207	249	*343	207	326	1,030	1,140	549	212	57	39	51
29	103	294	319	230	-	1,020	868	590	195	59	39	91
30	79	*389	297	261	-----	1,040	763	*608	197	58	*39	52
31	72	-----	282	*282	-----	1,070	-----	563	-----	56	39	-----
Total	1,885	4,371	14,414	7,993	16,170	15,224	30,783	20,557	12,379	3,057	1,834	1,128
Mean	60.8	146	465	258	578	491	1,026	663	413	98.6	59.2	37.6
Max	251	464	2,800	343	1,170	1,070	1,330	992	608	185	152	91
Min	35	59	120	192	300	291	680	452	195	56	39	31
Ac-ft	3,740	8,670	28,590	15,850	32,070	30,200	61,060	40,770	24,550	6,060	3,640	2,240

Calendar year 1961: Max 4,140 Min 32 Mean 469 Ac-ft 339,800  
Water year 1961-62: Max 2,800 Min 31 Mean 356 Ac-ft 257,400

Peak discharge (base, 2,500 cfs)---Dec. 19 (2300) 5,160 cfs (11.00 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

KLAMATH RIVER BASIN

439

11-5225. Salmon River at Somesbar, Calif.

Location.--41°22'50", long 123°28'10", in NW<sup>1</sup>/<sub>4</sub> sec.2, T.11 N., R.6 E., on right bank 0.5 mile east of Somesbar Post Office and 1.5 miles upstream from mouth.

Drainage area.--746 sq mi.

Records available.--September 1911 to September 1915, October 1927 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to October 1927, staff gage at different datum.

Average discharge.--39 years, 1,717 cfs (1,243,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,100 cfs Dec. 19 (gage height, 9.27 ft); minimum, 137 cfs Oct. 8. 1911-15, 1927-62: Maximum discharge, 84,000 cfs Dec. 22, 1955 (gage height, 28.80 ft), from rating curve extended above 15,000 cfs; minimum, 70 cfs Aug. 25, Sept. 4, 5, 1931.

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

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

Oct. 1-27		Oct. 27 to May 31		June 1 to Sept. 30	
3.0	108	3.2	200	3.1	140
3.2	188	3.4	330	3.4	320
3.4	300	3.7	570	3.7	560
		4.0	860	4.0	860
		4.5	1,500	4.5	1,500
		5.0	2,340	5.0	2,340
		6.0	4,400		
		8.0	9,500		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	288	1560	1020	1040	1330	3650	2620	2030	* 750	264	185
2	* 153	281	1560	980	1110	1330	3590	3080	2120	690	257	185
3	148	281	1170	1060	1120	1320	3440	3240	2250	650	257	180
4	144	316	944	1030	1080	1290	3420	3240	1850	623	271	180
5	144	309	810	980	1060	1400	3630	2920	1690	614	264	180
6	144	281	740	968	1370	1870	3700	2960	1690	596	250	175
7	140	260	680	1120	2120	1900	3920	3000	1820	560	414	175
8	140	254	633	1150	3220	1870	4070	3260	1930	560	710	170
9	144	248	588	1140	3890	1900	3890	3060	2200	551	1060	170
10	175	274	552	1080	4360	1840	3440	2680	2120	533	623	165
11	288	309	516	1000	3300	1690	3220	2500	2020	506	454	165
12	240	281	498	992	2760	1550	3480	2290	2000	542	376	170
13	204	260	480	920	3460	1440	3830	2140	1920	497	348	170
14	188	248	498	840	4030	1440	4310	2000	1580	479	320	170
15	179	242	480	830	3810	1440	4380	1880	1500	446	299	170
16	170	230	472	780	3520	1460	3830	1820	1500	422	285	170
17	166	224	700	760	3220	1460	3670	1840	1500	406	278	165
18	166	224	780	770	2880	1470	3650	1930	1460	398	271	160
19	166	224	4460	1060	2540	1560	3700	1950	1490	390	271	160
20	162	230	8610	1460	2250	1640	3060	1770	1430	383	257	160
21	175	236	6740	1020	2000	1690	2740	1680	1360	369	250	160
22	188	740	3870	830	1820	1870	2720	1720	1300	355	244	160
23	235	2070	2680	860	1690	1770	3000	1870	1290	341	238	155
24	188	1980	2110	860	1560	1770	3280	1740	1160	327	226	155
25	188	1440	1820	840	1460	2390	2820	1630	1060	320	220	155
26	209	1140	1560	820	* 1330	3220	* 2580	1580	980	320	214	155
27	929	1220	1390	800	1250	3420	3700	1660	910	299	202	150
28	853	992	* 1260	780	1300	3480	3830	1920	838	292	202	* 271
29	393	* 1170	1180	830	-	* 3440	2960	* 2070	827	292	* 202	376
30	316	1740	1100	* 932	-----	3480	2620	2160	805	* 299	196	238
31	* 288	-----	1040	980	-----	3590	-----	2020	-----	285	196	-----
Total	7376	17992	51481	29492	64550	61320	104130	70230	46630	14095	9919	5400
Mean	238	600	1661	951	2305	1978	3471	2265	1554	455	320	180
Max	929	2070	8610	1460	4360	3590	4380	3260	2250	750	1060	376
Min	140	224	472	760	1040	1290	2580	1580	805	285	196	150
Ac-ft	14,630	35,690	102,100	58,500	128,000	121,600	206,500	139,300	92,490	27,960	19,670	10,710

Calendar year 1961: Max 14,000 Min 140 Mean 1,652 Ac-ft 1,196,000  
Water year 1961-62: Max 8,610 Min 140 Mean 1,322 Ac-ft 957,200

Peak discharge (base, 7,000 cfs).--Dec. 19 (2300) 13,100 cfs (9.27 ft).

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5230. Klamath River at Somesbar, Calif.

Location.--Lat 41°22'40", long 123°29'30", in NE $\frac{1}{4}$  sec.4, T.11 N., R.6 E., on left bank 300 ft downstream from Salmon River and 1 mile west of Somesbar Post Office.

Drainage area.--8,480 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1927 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

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

Average discharge.--35 years, 7,585 cfs (5,491,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,300 cfs Dec. 19 (gage height, 19.62 ft); minimum daily, 1,440 cfs Oct. 9.

1927-62: Maximum discharge, 202,000 cfs Dec. 22, 1955 (gage height, 59.4 ft, from floodmarks), from rating curve extended above 50,000 cfs by slope-conveyance study; minimum daily, 320 cfs Aug. 25, Sept. 1, 1931.

Remarks.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation.

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

Oct. 1 to Apr. 27

Apr. 28 to Sept. 30

4.3	1,440	4.2	1,500
5.0	2,090	5.0	2,380
6.0	3,360	7.0	5,210
8.0	7,210	11.0	14,900
17.0	31,100		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*2.040	3,500	8,100	5,500	4,540	6,200	13,600	9,180	5,800	2,760	1,600	1,590
2	1,510	3,740	6,750	5,400	4,790	6,240	13,200	10,100	5,820	*2,670	1,720	1,800
3	1,820	3,880	5,630	5,060	4,930	6,180	12,800	10,600	6,010	2,620	1,740	1,860
4	2,420	4,290	5,040	6,010	4,540	6,090	12,700	10,600	5,530	2,520	1,790	1,860
5	2,430	3,950	5,610	5,420	4,430	6,710	13,800	9,810	5,180	2,480	1,780	1,850
6	2,320	3,540	5,080	6,220	5,690	8,130	14,400	9,550	5,060	2,370	1,760	1,830
7	2,480	3,290	4,810	5,560	10,500	8,650	15,200	9,600	5,070	2,280	2,270	1,810
8	1,970	3,690	4,590	5,670	16,100	8,650	16,000	10,100	5,210	2,240	2,820	1,810
9	1,440	3,850	4,130	5,460	18,100	8,630	15,500	10,100	5,500	2,150	3,090	1,800
10	2,180	3,900	4,050	5,200	19,700	8,680	14,200	9,230	5,480	2,120	2,580	1,800
11	3,120	4,100	3,930	5,080	15,000	7,860	13,300	8,770	5,320	2,140	2,250	1,810
12	2,960	2,380	3,930	4,910	13,600	7,210	13,600	8,170	5,180	2,260	2,120	1,830
13	2,980	2,280	4,050	4,680	16,000	6,800	14,200	7,620	4,920	2,160	2,020	1,840
14	3,020	2,660	4,290	4,480	17,100	6,750	15,200	7,210	4,560	2,110	1,950	1,880
15	2,240	2,900	4,320	4,430	16,000	6,600	15,500	6,990	4,360	2,050	1,900	1,890
16	1,720	3,020	4,320	4,200	15,600	6,600	14,500	6,770	4,340	2,000	1,820	1,890
17	2,250	3,090	5,380	3,790	14,300	6,600	13,800	6,770	4,260	1,950	1,790	1,850
18	2,740	3,220	5,730	3,820	12,600	6,600	13,600	6,810	4,180	1,930	1,770	1,820
19	2,720	3,260	15,600	4,570	11,200	6,800	13,500	6,710	4,140	1,890	1,760	1,820
20	3,290	3,300	29,900	5,380	10,200	7,160	11,900	6,150	4,050	1,850	1,740	1,990
21	3,150	3,390	28,000	4,610	9,060	7,460	10,100	5,760	3,900	1,890	1,720	2,000
22	2,940	6,040	16,400	4,120	8,250	8,250	9,680	5,700	3,820	1,820	1,720	1,990
23	2,040	16,800	12,000	4,680	7,770	7,860	9,700	5,950	3,820	1,800	1,680	1,960
24	2,590	13,700	9,700	4,430	7,420	7,690	10,300	5,740	3,650	1,810	1,670	1,990
25	3,190	8,820	8,700	4,780	*6,910	11,800	10,100	5,570	3,470	1,800	1,630	2,000
26	3,350	7,280	7,690	4,700	6,310	15,300	*9,300	5,390	3,350	1,740	1,600	2,010
27	6,960	6,980	*6,980	4,450	5,880	14,500	11,800	5,390	3,220	1,710	1,580	*2,030
28	6,350	*6,090	6,530	4,220	6,090	*14,000	13,400	5,720	3,120	1,700	1,570	2,750
29	3,400	6,070	5,590	*4,000	-	14,000	10,900	*5,910	2,960	1,690	*1,570	2,990
30	*3,020	8,680	5,540	4,180	-----	13,600	9,600	6,070	2,830	1,680	1,620	2,620
31	3,740	-----	5,670	4,300	-----	13,700	-----	5,890	-----	*1,640	1,590	-----
Total	88,380	151,690	248,040	149,310	292,610	271,300	385,380	233,930	134,110	63,830	58,220	58,970
Mean	2,850	5,050	8,001	4,816	10,450	8,752	12,850	7,546	4,471	2,059	1,879	1,966
Max	6,960	16,800	29,900	6,220	19,700	15,300	16,000	10,600	6,010	2,760	3,090	2,990
Min	1,440	2,280	3,930	3,790	4,430	6,090	9,300	5,390	2,830	1,640	1,570	1,590
Ac-ft	175,300	300,900	492,000	296,200	580,400	538,100	764,400	464,000	266,000	126,600	115,500	117,000
Calendar year 1961:	Max 53,300	Min 1,360	Mean 7,564	Ac-ft 5,476,000								
Water year 1961-62:	Max 29,900	Min 1,440	Mean 5,851	Ac-ft 4,236,000								

Peak discharge (base, 25,000 cfs).--Dec. 19 (2400) 38,300 cfs (19.62 ft).

\* Discharge measurement made on this day.



## KLAMATH RIVER BASIN

441

11-5230.3. Red Cap Creek near Orleans, Calif.

Location.--Lat 41°14'25", long 123°32'35", in SW<sup>1</sup>/<sub>4</sub> sec.19, T.10 N., R.6 E., on left bank 0.5 mile downstream from Leary Creek, 4.4 miles south of Orleans, and 4.9 miles upstream from mouth.

Drainage area.--56.1 sq mi.

Records available.--August 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,780 cfs Dec. 19 (gage height, 7.73 ft); from rating curve extended above 760 cfs as explained below; minimum, 16 cfs Oct. 6, Sept. 22-27.

1958-62: Maximum discharge, 3,240 cfs Feb. 8, 1960 (gage height, 9.12 ft), from rating curve extended above 760 cfs on basis of slope-area measurement of peak flow; minimum, 15 cfs Sept. 10, 1959, Sept. 27-30, Oct. 3-4, 1960.

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

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

Oct. 1 to Dec. 19				Dec. 20 to Sept. 30			
3.5	16	5.0	240	3.5	16	5.0	246
3.7	29	6.0	600	3.7	29	6.0	615
4.0	58	7.0	1,190	4.0	58	7.0	1,190
4.5	128			4.5	128		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	30	220	106	91	150	321	221	102	40	*21	20
2	17	*29	220	102	93	159	298	235	102	39	21	19
3	17	27	170	*105	90	170	282	229	103	38	22	19
4	17	30	137	100	86	166	270	218	93	37	23	19
5	17	27	118	96	83	208	282	195	89	35	23	19
6	*16	26	106	94	114	258	289	192	87	35	23	18
7	17	24	94	99	180	240	302	187	90	34	51	18
8	17	23	84	99	276	238	302	192	91	33	55	18
9	17	23	78	94	379	238	282	178	93	32	54	17
10	22	26	73	89	430	229	249	164	89	31	38	17
11	24	28	68	83	321	213	235	153	84	31	32	17
12	25	26	64	80	270	197	246	142	83	31	29	17
13	23	24	62	78	403	182	261	137	79	30	27	17
14	21	23	63	73	474	178	282	130	74	29	26	17
15	20	23	59	71	442	178	261	126	71	28	25	17
16	20	23	58	69	430	178	229	123	68	28	25	17
17	20	22	108	68	434	175	221	122	66	28	24	17
18	19	22	129	70	379	178	215	123	63	27	24	17
19	19	23	665	189	321	187	215	118	60	27	23	17
20	19	23	985	213	276	195	187	111	56	27	23	17
21	22	24	730	146	226	200	170	108	55	26	22	17
22	22	107	470	125	210	232	168	109	51	26	22	16
23	21	253	327	114	195	224	178	112	49	26	21	16
24	22	263	252	106	175	218	182	105	47	25	21	16
25	21	170	205	100	161	267	164	103	46	24	21	16
26	28	157	173	97	148	330	148	103	45	23	20	16
27	151	156	153	93	141	344	*274	106	45	23	20	16
28	80	132	139	90	*139	337	286	112	44	23	*20	34
29	47	*170	128	90	-	*327	229	112	42	22	20	34
30	36	255	120	*91	-----	327	215	109	41	22	20	23
31	32	-----	112	91	-----	327	-----	*103	-----	21	20	-----
Total	866	2,189	6,370	3,121	6,967	7,050	7,243	4,478	2,108	901	816	558
Mean	27.9	73.0	205	101	249	227	241	144	70.3	29.1	26.3	18.6
Max	151	263	985	213	474	344	321	235	103	40	55	34
Min	16	22	58	68	83	150	148	103	41	21	20	16
Ac-ft	1,720	4,340	12,630	6,190	13,820	13,980	14,370	8,880	4,180	1,790	1,620	1,110

Calendar year 1961: Max 1,670 Min 16 Mean 162 Ac-ft 117,600

Water year 1961-62: Max 985 Min 16 Mean 117 Ac-ft 84,630

Peak discharge (base, 1,000 cfs).--Dec. 19 (2200) 1,780 cfs (7.73 ft).

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5230.5. Bluff Creek near Weitchpec, Calif.

Location.--Lat 41°14'25", long 123°39'25", in SW<sup>1</sup>/<sub>4</sub> sec.19, T.10 N., R.4 E., on left bank 0.8 mile upstream from Aikens Creek, 1.2 miles upstream from mouth, and 4.4 miles northeast of Weitchpec.

Drainage area.--74.6 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-57 and annual maximum, water years 1955-56. August 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Sept. 21, 1953, to Sept. 30, 1956, crest-stage gage only, at site 0.2 mile downstream at different datum.

Extremes.--Maximum discharge during year, 6,800 cfs Dec. 19 (gage height, 9.88 ft); minimum, 43 cfs Oct. 9.

1954-62: Maximum discharge, 20,200 cfs Dec. 22, 1955 (gage height, 13.7 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1958-62: Minimum discharge, 34 cfs Oct. 15, 1958.

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

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

Oct. 1 to Dec. 19

Dec. 20 to Sept. 30

3.8	43	5.5	535	4.0	44	5.5	475
4.0	64	6.0	800	4.3	82	6.0	770
4.4	145	7.0	1,700	4.6	140	7.0	1,700
5.0	335	9.0	4,900	5.0	255	9.0	4,900

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	69	*752	394	*227	460	904	380	160	90	58	51
2	47	*64	550	367	224	455	840	362	158	88	58	51
3	*46	66	445	*371	220	465	791	349	155	87	*61	50
4	45	66	384	*340	214	460	770	327	153	85	64	50
5	45	60	349	315	208	510	770	307	148	84	61	50
6	44	58	321	299	331	564	756	295	145	82	61	49
7	44	56	300	287	662	520	749	287	140	81	107	49
8	44	54	279	275	1,300	505	721	287	138	79	113	49
9	43	53	258	259	1,350	495	682	299	135	78	104	48
10	59	67	244	248	1,340	485	616	295	133	76	82	47
11	112	70	227	241	1,020	465	569	279	129	75	72	49
12	67	66	218	241	920	435	553	263	126	74	67	49
13	59	62	212	227	1,450	416	536	255	124	74	65	49
14	53	59	212	220	1,390	403	515	248	122	72	62	48
15	49	57	206	214	1,260	398	485	234	119	69	61	48
16	48	56	209	208	1,320	403	455	227	117	69	60	48
17	48	54	468	205	1,370	407	430	220	113	68	58	47
18	47	53	577	214	1,170	412	407	214	111	68	58	47
19	47	54	3,180	433	1,020	435	403	211	109	71	58	47
20	46	56	3,400	475	888	445	371	205	108	69	57	47
21	51	60	2,720	344	770	460	344	202	106	68	55	47
22	52	598	1,710	299	688	542	335	196	104	67	55	46
23	52	1,760	1,260	271	628	520	323	193	100	67	53	45
24	54	1,290	992	255	*575	553	323	190	98	65	53	45
25	50	625	819	245	536	1,190	303	185	98	64	52	44
26	66	490	688	241	*490	1,330	287	183	96	62	53	44
27	437	454	604	234	460	1,140	491	178	96	61	52	44
28	234	395	542	231	460	1,040	485	170	95	61	52	128
29	128	508	490	231	-	984	416	168	93	60	51	92
30	92	988	455	231	-----	*952	*389	165	92	60	51	61
31	77	-----	416	227	-----	920	-----	*160	-----	58	51	-----
Total	2,334	8,368	23,487	8,642	22,491	18,769	16,019	7,534	3,621	2,232	1,965	1,569
Mean	75.3	279	758	279	803	605	534	243	121	72.0	63.4	52.3
Max	437	1,760	3,400	475	1,450	1,330	904	380	160	90	113	128
Min	43	53	206	205	208	398	287	160	92	58	51	44
Ac-ft	4,630	16,600	46,590	17,140	44,610	37,230	31,770	14,940	7,180	4,430	3,900	3,110

Calendar year 1961: Max 3,400 Min 43 Mean 446 Ac-ft 322,900  
 Water year 1961-62: Max 3,400 Min 43 Mean 321 Ac-ft 232,100

Peak discharge (base, 2,700 cfs).--Dec. 19 (1900) 6,800 cfs (9.88 ft).

\* Discharge measurement made on this day.

KLAMATH RIVER BASIN

443

11-5232. Trinity River above Coffee Creek, near Trinity Center, Calif.

Location.--Lat 41°06'26", long 122°42'23", on line between secs.31 and 32, T.38 N., R.7 W., on right bank 250 ft downstream from Chinquapin Gulch, 1.8 miles upstream from Coffee Creek, and 8.5 miles north of new location of Trinity Center.

Drainage area.--149 sq mi.

Records available.--September 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,533.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

Average discharge.--5 years, 414 cfs (299,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,400 cfs Apr. 14 (gage height, 5.60 ft); minimum, 29 cfs Sept. 25.

1957-62: Maximum discharge, 12,800 cfs Feb. 24, 1958 (gage height, 10.50 ft), from rating curve extended above 2,700 cfs on basis of slope-area measurement at gage height 9.91 ft; minimum, 28 cfs Sept. 26-29, Oct. 2, 3, 1960.

Flood of Dec. 22, 1955, reached a stage of 10.5 ft, from floodmarks.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 4-27)

1.3	23	3.0	455
1.5	45	4.0	1,000
1.7	75	5.0	1,700
2.0	134	6.0	2,680
2.5	269		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	49	269	130	185	196	976	880	748	139	46	37
2	35	51	232	139	215	182	1,050	1,030	765	128	44	37
3	35	46	177	146	218	174	1,070	1,190	699	121	45	37
4	34	46	146	141	218	177	1,140	1,210	565	115	46	37
5	34	44	129	134	221	201	1,310	1,140	510	109	46	35
6	34	43	113	155	232	229	1,380	1,160	515	105	46	34
7	33	41	105	241	389	221	1,650	1,190	535	101	62	34
8	34	41	99	266	767	* 209	1,740	1,380	575	97	109	34
9	35	41	89	250	1,440	209	1,540	1,160	622	93	152	34
10	37	41	88	221	1,030	201	1,240	1,010	606	89	95	33
11	49	44	75	193	677	193	1,190	868	* 560	86	75	34
12	45	43	82	177	666	187	1,440	782	530	84	67	34
13	* 43	41	77	160	862	185	1,660	710	468	80	62	34
14	39	40	77	141	650	190	1,960	644	415	73	58	34
15	37	40	72	139	* 660	198	1,950	606	391	72	* 56	34
16	34	39	72	* 124	600	201	1,600	590	391	72	53	33
17	33	38	79	121	486	201	* 1,500	* 644	375	69	51	32
18	33	41	79	119	419	212	1,530	726	360	67	49	31
19	32	41	108	126	360	235	1,400	688	337	65	49	31
20	32	43	336	117	320	263	1,060	585	316	62	45	31
21	34	43	420	91	289	282	958	550	295	59	44	31
22	35	48	244	99	269	295	1,070	585	279	59	44	31
23	35	84	198	124	263	269	1,340	606	260	58	43	31
24	35	276	180	119	244	260	1,490	550	232	56	43	31
25	37	172	164	107	229	282	1,260	510	215	56	41	30
26	38	254	150	109	209	334	1,120	520	193	53	40	30
27	85	215	141	109	198	486	1,370	600	174	52	39	31
28	75	* 150	130	117	204	611	1,160	677	164	51	39	45
29	53	174	130	132	-	672	904	765	157	52	39	64
30	48	263	128	152	-----	760	820	776	148	52	38	44
31	48	-----	128	164	-----	868	-----	749	-----	49	38	-----
Total	1,246	2,532	4,516	4,563	12,519	9,183	39,878	25,080	12,400	2,424	1,704	1,048
Mean	40.2	84.4	146	147	447	296	1,329	809	413	78.2	55.0	34.9
Max	85	276	420	266	1,440	858	1,960	1,380	765	139	152	64
Min	32	38	72	91	185	174	820	510	148	49	38	30
Ac-ft	2,470	5,020	8,960	9,950	24,830	18,210	79,100	49,750	24,600	4,810	3,380	2,080

Calendar year 1961: Max 3,540 Min 29 Mean 364 Ac-ft 263,400  
Water year 1961-62: Max 1,960 Min 30 Mean 321 Ac-ft 232,300

Peak discharge (base, 1,900 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1430	5.28	1,950	1-1-	2130	5.60	2,400
--7	2200	5.17	1,960				

## KLAMATH RIVER BASIN

11-5237. Coffee Creek near Trinity Center, Calif.

Location.--Lat 41°05'35", long 122°45'10", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 2, T.37 N., R.8 W., on left bank 0.75 mile upstream from Little Boulder Creek, 3.2 miles upstream from mouth, and 8 miles northwest of new location of Trinity Center.

Drainage area.--107 sq mi.

Records available.--September 1957 to September 1962.

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

Average discharge.--5 years, 294 cfs (212,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,340 cfs Apr. 14 (gage height, 3.96 ft); minimum, 28 cfs Oct. 6.  
1957-62: Maximum discharge, 3,240 cfs Feb. 24, 1958 (gage height, 5.63 ft); minimum, 23 cfs Jan. 13, Oct. 2, 1960.

Remarks.--Records good except those for periods of shifting control, which are fair. Slight regulation at low flow.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 11-19, Mar. 6-Apr. 5, Aug. 3-6)

Oct. 1 to Apr. 14

Apr. 14 to Sept. 30

0.9	26	1.0	40
1.1	51	1.4	87
1.4	93	1.8	164
1.8	169	2.2	280
2.3	330	2.6	430
2.9	620	3.3	790
3.7	1,160	4.0	1,390

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	48	80	72	95	107	346	630	688	169	56	53
2	37	47	72	72	99	104	379	754	718	159	57	51
3	36	46	64	77	101	103	406	844	670	150	60	52
4	34	50	61	75	101	99	465	850	520	141	61	52
5	34	44	61	74	103	114	578	814	498	137	60	52
6	34	43	59	81	111	128	650	844	520	131	62	51
7	35	43	58	101	147	123	770	882	555	123	90	51
8	36	43	56	107	187	* 113	884	1,010	610	121	155	50
9	36	42	52	106	333	106	828	808	670	116	228	47
10	38	43	55	98	255	103	686	700	645	110	129	50
11	50	47	43	92	210	98	680	625	600	107	97	49
12	46	44	55	90	213	95	845	575	580	105	84	50
13	* 42	43	52	82	283	95	968	535	* 506	98	80	50
14	39	42	52	72	234	96	1,140	484	444	92	76	51
15	36	42	51	80	* 249	99	1,100	457	434	89	* 71	48
16	34	38	51	* 70	225	101	962	462	426	83	69	47
17	33	39	52	74	187	101	* 954	* 502	422	81	67	49
18	33	41	54	75	174	106	930	550	422	80	67	47
19	33	41	87	77	158	116	838	520	410	77	63	48
20	34	41	231	72	145	122	660	452	374	74	63	48
21	36	39	182	60	137	122	610	444	350	72	63	47
22	38	51	116	65	133	120	694	475	336	69	62	46
23	41	65	98	71	131	113	838	499	315	68	60	46
24	42	87	90	77	123	113	954	444	287	68	58	47
25	41	71	87	78	120	116	802	414	261	69	57	44
26	43	82	80	77	109	133	742	426	236	63	56	46
27	90	74	77	72	106	169	996	506	212	61	57	46
28	65	* 63	75	75	109	201	814	580	198	61	57	65
29	51	78	74	81	-	228	645	694	190	62	56	62
30	47	81	74	84	-----	262	580	670	182	61	56	53
31	47	-----	72	87	-----	302	-----	660	-----	58	54	-----
Total	1,278	1,558	2,371	2,474	4,578	4,008	22,744	19,109	13,279	2,955	2,331	1,498
Mean	41.2	51.9	76.5	79.8	164	129	616	443	95.3	75.2	49.9	
Max	90	87	231	107	333	302	1,140	1,010	718	169	253	65
Min	33	38	43	60	95	95	346	414	182	58	54	44
Ac-ft	2,530	3,090	4,700	4,910	9,080	7,950	45,110	37,900	26,340	5,860	4,620	2,970

Calendar year 1961: Max 1,530 Min 33 Mean 252 Ac-ft 182,200  
Water year 1961-62: Max 1,140 Min 33 Mean 214 Ac-ft 155,100

Peak discharge (base 800 cfs)

\* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	1900	3.96	1,340	5-8	1900	3.72	1,110
4-27	1700	3.90	1,290	6-2	2300	3.44	882

KLAMATH RIVER BASIN

445

11-5254. Trinity Lake near Lewiston, Calif.

Location.--Lat 40°48'05", long 122°45'44", sec.15, T.34 N., R.8 W., on side of intake structure of Trinity Dam on Trinity River, 9 miles north of Lewiston.

Records available.--November 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Jan. 4, 1962, staff gage at same site and datum.

Extremes.--1961: Maximum daily contents during period November to September, 986,200 acre-ft Aug. 11, 1961 (elevation, 2,253.56 ft). 1961-62: Maximum contents during water year, 1,803,000 acre-ft Aug. 15, 1962 (elevation, 2,325.9 ft); minimum, 971,900 acre-ft November 21, 22 (elevation, 2,251.93 ft).

Remarks.--The lake is formed by an earth-fill dam completed in November 1960. Storage began November 23, 1960. Usable capacity, 2,437,700 acre-ft between elevations 1,995.5 ft (elevation of invert of river outlets) and 2,370.0 ft (gross pool elevation) above mean sea level. Dead storage, 10,000 acre-ft. Figures given herein represent total contents at 2400 hrs except those prior to Jan. 4, 1962, which show total contents at 0900 hrs.

Cooperation.--Records furnished by Bureau of Reclamation.

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

1,940.3	0	2,000	12,400	2,140	292,900
1,950	135	2,020	26,400	2,190	529,600
1,960	670	2,040	47,000	2,250	955,100
1,970	1,890	2,070	92,900	2,330	1,846,000
1,980	4,130	2,100	162,200		

Contents, in thousands of acre-ft for the period November 1960 to September 1961

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			23.0	60.1	96.3	298.5	433.5	607.6	821.8	972.4	985.5	983.6
2			31.5		105.8	300.9		614.1	832.2		985.5	
3				58.5	116.9	303.1	446.8	620.1		974.7	985.5	
4				57.6			457.1	625.5			985.6	
5			38.6	56.7			466.5	630.6	861.6	976.4		982.6
6			38.9	55.8	135.7	309.6	474.4		870.1	977.0		982.5
7			38.9		140.4	311.7	481.4		877.5	978.1	985.8	982.3
8			38.7		144.7	313.6		643.9	884.6		985.8	982.0
9			38.2	53.0	150.2	316.3		649.3	890.8		985.8	
10				52.2	163.1	318.8	499.5	657.5		980.4	986.1	
11				51.4	189.0		505.3	665.1		981.0	986.2	981.4
12			36.8	50.6	212.2		511.7	671.8	907.0	981.7		981.2
13			36.2	50.0	223.6	328.2	517.8		912.2	982.1		981.1
14			35.6	50.3	232.8	331.5	523.2		917.8	983.0	985.8	980.8
15			35.2	50.6	241.2	340.3		688.1	923.6		985.7	980.5
16			35.3	51.0	249.9	350.7		694.9	929.4		985.5	
17			39.7	51.8	256.7	358.6	541.6	702.2		984.0	985.5	
18			45.9	52.3			548.5	710.7		984.1	985.4	981.7
19			53.0	53.1			554.9	720.6	943.7	984.2		981.8
20			57.4	53.6	271.6	376.3	559.7		947.6	984.3		981.8
21												
22			59.7		275.4	380.8	564.3		950.9	984.4	985.2	981.7
23			60.9			385.4		750.2	954.7		985.0	981.5
24		1.48	61.9	55.6	282.5	391.1		759.4	957.6		984.7	
25		9.77		56.6	285.9	395.9	577.5	767.2		985.1	984.6	
26				57.6			581.1	774.6		985.3	984.6	981.1
27				58.5			584.3	782.8	965.2	985.4		980.9
28			62.7	60.1	293.9	410.4	588.0		967.1	985.5		980.8
29		17.7	62.4		296.2	414.5	591.8		968.6	985.5	984.1	980.6
30		18.5	61.9			418.5		802.9	970.0		984.1	980.4
31		18.9	61.5	66.4	-----	423.0	602.3		971.2		984.0	980.4
31		-----	60.8	77.8	-----	426.8	-----	815.2	-----	985.5	983.9	-----
(†)		2,010.3	2,050.4	2,061.4	2,140.87	2,170.65	2,202.25	2,232.85	2,251.85	2,253.48	2,253.30	2,252.90
(‡)		+18.9	+41.9	+17.0	+218.4	+130.6	+175.5	+212.9	+150.0	+14.3	-1.6	-3.5
(##)		-	-	-	-	-	-	-	2.70	5.43	4.30	2.57

Calendar year 1960..... ‡ -

Water year 1960-61..... ‡ +980.4

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-ft.

## Evaporation, in thousands of acre-ft, furnished by Bureau of Reclamation.

## KLAMATH RIVER BASIN

11-5254. Trinity Lake near Lewiston, Calif.--Continued.

Contents, in thousands of acre-ft, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	980.2	975.5	989.4	1,028.1	1,055.2	1,191.9	1,284.5	1,531.6	1,695.9	1,790.0	1,797.5	1,799.8
2	980.0	975.4		1,028.8	1,056.4	1,193.3	1,290.5	1,538.4	1,701.2	1,790.9	1,797.3	1,799.6
3	979.8	975.3		1,029.4	1,057.7	1,194.8	1,297.0	1,546.0	1,706.1	1,791.7	1,797.0	1,799.3
4	979.7		996.2	1,030.1	1,058.9	1,196.7	1,304.0	1,553.9	1,710.1	1,792.4	1,796.9	1,799.2
5	979.6		997.0	1,030.9	1,060.2	1,201.6	1,311.9	1,561.2	1,716.7	1,793.1	1,796.9	1,798.9
6	979.2	974.8	997.7	1,031.8	1,063.2	1,207.6	1,320.2	1,568.7	1,720.9	1,793.8	1,796.6	1,798.6
7		974.7	998.1	1,033.2	1,068.7	1,211.9	1,329.7	1,577.3	1,725.0	1,794.3	1,797.4	1,798.3
8		974.5	998.6	1,034.4	1,079.5	1,215.2	1,340.8	1,586.3	1,729.6	1,794.8	1,799.3	1,798.1
9	978.2	974.2		1,036.2	1,092.3	1,217.9	1,350.5	1,594.2	1,734.5	1,795.2	1,801.3	1,797.7
10	977.8			1,037.3	1,101.5	1,220.2	1,358.2	1,601.2	1,739.2	1,795.6	1,801.9	1,797.1
11	978.0		999.5	1,038.4	1,107.6	1,222.3	1,366.0	1,607.0	1,743.7	1,796.0	1,802.3	1,796.9
12	977.2		999.7	1,039.4	1,114.6	1,224.1	1,375.0	1,612.2	1,748.2	1,796.3	1,802.5	1,796.6
13	977.8	973.5	1,000.0	1,040.3	1,127.6	1,225.8	1,385.4	1,616.8	1,751.4	1,796.7	1,802.7	1,796.3
14		973.4	1,000.2	1,041.0	1,137.1	1,227.7	1,396.9	1,620.9	1,755.0	1,797.0	1,802.7	1,796.0
15		973.2	1,000.4	1,041.6	1,147.1	1,229.5	1,408.8	1,624.8	1,758.1	1,797.0	1,802.8	1,795.9
16	977.3	972.8		1,042.3	1,155.3	1,231.4	1,419.1	1,628.7	1,761.2	1,797.0	1,802.7	1,795.6
17	977.1	972.5		1,042.8	1,161.4	1,233.3	1,428.3	1,632.9	1,764.1	1,797.1	1,802.7	1,795.5
18	976.9		1,001.4	1,043.8	1,166.3	1,235.2	1,437.6	1,637.6	1,767.0	1,797.3	1,802.5	1,795.1
19	976.8		1,002.6	1,046.0	1,170.3	1,237.1	1,446.5	1,642.2	1,770.0	1,797.5	1,802.4	1,794.6
20	976.4	972.0	1,006.9	1,046.9	1,173.6	1,239.4	1,453.0	1,646.0	1,772.7	1,797.7	1,802.3	1,794.2
21		971.9	1,013.3	1,047.2	1,176.6	1,241.8	1,459.2	1,649.6	1,775.2	1,797.7	1,802.3	1,793.8
22		971.9	1,016.7	1,047.3	1,179.0	1,244.6	1,466.1	1,653.5	1,777.9	1,797.8	1,802.3	1,793.5
23	975.7			1,047.9	1,181.2	1,246.9	1,473.9	1,656.4	1,780.0	1,797.8	1,802.1	1,793.2
24	975.5	973.5		1,048.4	1,183.3	1,249.2	1,483.2	1,659.2	1,781.8	1,797.9	1,802.0	1,792.9
25	975.5			1,049.2	1,185.1	1,251.8	1,491.2	1,662.2	1,783.5	1,797.8	1,801.6	1,792.5
26	975.2		1,023.2	1,049.9	1,186.5	1,254.5	1,498.6	1,665.8	1,784.7	1,797.9	1,801.2	1,792.0
27	975.0	981.7	1,023.9	1,050.5	1,187.8	1,258.2	1,508.0	1,669.8	1,786.1	1,797.9	1,800.9	1,791.6
28		982.9	1,024.9	1,051.0	1,190.3	1,262.6	1,515.6	1,674.8	1,787.3	1,798.1	1,800.6	1,792.5
29		984.1	1,025.6	1,051.8	-	1,267.2	1,521.0	1,680.1	1,788.4	1,798.1	1,800.4	1,792.8
30	975.7	986.5		1,052.7	-----	1,272.3	1,526.2	1,685.3	1,789.2	1,797.9	1,800.2	1,792.9
31	975.5	-----	1,027.4	1,053.8	-----	1,277.7	-----	1,690.5	-----	1,797.8	1,800.1	-----
(†)	2,252.35	2,253.60	2,258.18	2,261.06	2,275.20	2,283.63	2,305.34	2,318.40	2,325.85	2,326.49	2,326.66	2,326.13
(‡)	- 4.9	+11.0	+40.9	+26.4	+136.5	+87.4	+248.5	+164.3	+98.7	+8.6	+2.3	-7.2
(††)	1.72	-	-	-	-	-	2.80	3.98	7.53	8.95	6.79	5.24

Calendar year 1961..... ‡466.6

Water year 1961-62..... ‡812.5

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

†† Evaporation, in thousands of acre-ft, furnished by Bureau of Reclamation.

Note.--Prior to Jan. 4, contents computed from once-daily staff gage readings.

11-5255. Trinity River at Lewiston, Calif.

Location.--Lat 40°42'40", long 122°48'20", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 17, T.33 N., R.8 W., on left bank 0.3 mile upstream from old highway bridge in Lewiston and 0.5 mile downstream from Deadwood Creek.

Drainage area.--726 sq mi.

Records available.--August 1911 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 1,797.70 ft above mean sea level, datum of 1929. Prior to Oct. 16, 1930, staff gage and Oct. 16, 1930, to Sept. 30, 1958, water-stage recorder, at site 0.3 mile downstream at datum 3.60 ft lower.

Average discharge.--51 years, 1,638 cfs (1,186,000 acre-ft per year) adjusted for storage in Trinity Lake and for evaporation from Trinity Lake since June 1961. 50 years, 1,642 cfs (1,189,000 acre-ft per year); figures published in 1961 Surface Water Records of California Volume I are in error.

Extremes.--Maximum discharge during year, 1,670 cfs Mar. 5 (gage height, 6.73 ft); minimum daily 152 cfs Apr. 27.

1911-62: Maximum discharge, 71,600 cfs Dec. 22, 1955 (gage height, 27.3 ft, from floodmarks, site and datum then in use); minimum, 23 cfs July 30, 1924.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Trinity Lake (see preceding page), beginning November 23, 1960. Small diversions above head of Trinity Lake for irrigation, power, and placer mining. Figures of monthly mean discharge and runoff in acre-feet adjusted for storage in and evaporation from Trinity Lake for the water year 1961 are shown in the following table:

	Adjusted mean discharge (cfs)	Adjusted Runoff (Acre-feet)		Adjusted mean discharge (cfs)	Adjusted Runoff (Acre-feet)
October.....	177	10,860	April.....	3,123	185,800
November.....	582	34,620	May.....	3,646	224,200
December.....	1,696	104,300	June.....	2,852	169,700
Calendar year 1960....	1,577	1,142,000	July.....	525	32,310
January.....	888	54,590	August.....	225	13,850
February.....	4,195	233,000	September.....	168	10,010
March.....	2,360	145,100	Water Year.....	1,682	1,218,000

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

4.12	152	5.0	436
4.2	170	5.5	690
4.5	251	6.0	1,020

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	242	282	225	178	198	200	195	192	198	185	180
2	188	254	257	214	*180	*198	200	*188	190	200	*178	182
3	*211	257	242	*185	180	200	*200	188	198	*200	*180	182
4	219	257	231	185	182	225	200	190	195	178	172	185
5	219	257	225	188	182	662	188	192	170	175	182	*188
6	222	257	219	185	192	a1020	190	190	168	180	185	188
7	222	*257	217	180	236	a410	190	192	168	180	190	190
8	222	257	217	180	357	*a315	192	190	175	182	195	195
9	222	257	208	180	389	a305	195	188	182	185	198	200
10	225	257	211	175	377	a290	198	182	185	188	190	203
11	228	257	211	180	338	a280	192	180	188	190	182	195
12	225	257	*211	188	316	a270	178	180	190	190	188	170
13	222	254	211	182	445	a260	178	182	192	192	190	172
14	225	254	211	180	468	245	180	188	200	190	188	178
15	222	254	211	178	511	239	180	188	200	195	185	182
16	225	251	217	178	492	236	182	190	200	198	190	185
17	*225	251	219	180	397	234	182	188	203	198	190	190
18	225	251	225	188	357	231	182	185	203	200	195	190
19	225	254	270	200	323	231	188	195	200	200	200	198
20	225	251	323	203	296	228	190	200	178	192	190	234
21	225	254	316	203	276	225	190	200	180	190	170	282
22	225	260	285	200	257	222	188	190	180	198	178	214
23	225	276	263	195	245	190	188	175	180	203	180	219
24	225	273	251	188	239	200	190	180	185	208	182	*198
25	228	282	242	158	231	198	192	180	185	195	182	192
26	228	273	236	170	225	195	180	180	188	178	188	198
27	231	263	231	175	217	198	152	180	190	180	190	234
28	228	260	228	178	200	200	225	182	192	180	192	190
29	228	266	225	180	-	200	234	185	192	182	195	180
30	228	270	225	178	-----	200	222	188	195	185	190	156
31	231	-----	225	178	-----	200	-----	*192	-----	188	178	-----
Total	5,881	7,763	7,345	5,757	8,286	8,505	5,746	5,803	5,644	5,898	5,778	5,850
Mean	222	259	237	186	296	274	192	187	188	190	186	195
Max	231	282	323	225	511	1,020	234	200	203	208	200	282
Min	182	242	208	158	178	190	152	175	168	175	170	156
Ac-ft	13,650	15,400	14,570	11,420	16,440	16,870	11,400	11,510	11,190	11,700	11,460	11,600
Mean†	170	444	902	615	2,753	1,696	5,020	2,924	1,973	476	334	162
Ac-ft†	10,470	26,400	55,470	37,820	152,900	104,300	298,700	179,800	117,400	29,250	20,550	9,640
Calendar year 1961:	Max	1,170	Min	166	Mean	245	Mean†	1,604	Ac-ft	177,600	Ac-ft†	1,161,000
Water year 1961-62:	Max	1,020	Min	152	Mean	217	Mean†	1,441	Ac-ft	157,200	Ac-ft†	1,043,000

\* Discharge measurement made on this day.

† Adjusted for storage and evaporation from Trinity Lake.

a No gage-height record.

## KLAMATH RIVER BASIN

11-5255. Trinity River at Lewiston, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1962.

Extremes.--Maximum temperature during water year, 63°F July 26, 27; minimum, 37°F Jan. 22, 23.

1960-62: Maximum temperature, 67°F Oct. 1-2, June 13, 15-17, 1960; minimum, that of Jan. 22, 23, 1962.

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

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



## KLAMATH RIVER BASIN

449

11-5258. Weaver Creek near Douglas City, Calif.

Location.--Lat 40°40'15", long 122°56'30", in NE 1/4 sec. 36, T.33 N., R.10 W., on left bank 0.2 mile downstream from highway bridge and 1.3 miles north of Douglas City.

Drainage area.--48.4 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,190 cfs Feb. 13 (gage height, 9.07 ft), from rating curve extended above 600 cfs; minimum daily, 0.4 cfs Sept. 6.

1958-62: Maximum discharge, 5,390 cfs Jan. 31, 1961 (gage height, 9.68 ft), from rating curve extended above 600 cfs; minimum daily, 0.3 cfs several days in August, September 1959.

Remarks.--No diversion or regulation above station.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	4.0	9.4	12	15	38	73	50	30	5.9	1.1	0.5
2	2.2	3.8	5.4	13	15	37	74	51	32	5.9	1.0	.5
3	2.3	4.1	2.9	13	14	42	73	50	32	5.2	1.0	.5
4	1.9	3.9	2.2	13	12	46	76	49	29	4.8	1.4	.5
5	1.7	4.1	1.9	13	11	290	83	48	28	4.4	1.6	.5
6	1.5	4.2	1.6	13	35	448	85	49	23	4.6	1.6	.4
7	1.8	3.8	1.4	14	269	196	87	50	22	3.8	2.4	.5
8	2.1	3.5	1.3	13	478	134	89	53	21	3.6	4.7	.5
9	2.4	3.5	1.2	14	283	107	86	48	21	3.3	1.5	.5
10	3.0	4.5	1.2	13	158	87	79	51	21	3.2	5.6	.6
11	3.7	4.4	9.9	* 13	86	80	76	46	21	2.9	3.8	.6
12	4.0	4.7	10	13	83	67	84	41	21	3.2	2.9	.5
13	* 3.0	4.1	10	12	1,140	59	89	38	* 21	3.1	2.6	.5
14	2.4	4.2	11	10	* 333	* 57	91	38	20	2.7	2.2	.6
15	2.2	* 4.2	* 9.7	10	45.0	55	89	36	22	2.6	2.1	.7
16	2.2	4.1	8.5	8.5	286	58	* 85	34	18	2.4	1.9	.7
17	2.7	4.1	1.1	7.6	177	76	82	34	17	2.4	1.5	.6
18	1.9	4.2	1.5	9.9	136	57	79	* 32	16	2.0	1.5	.6
19	2.2	4.7	205	78	106	55	79	31	14	* 2.1	1.5	.8
20	2.4	5.7	* 278	74	83	54	65	29	13	2.1	1.3	*.8
21	2.8	5.6	131	23	69	54	61	29	12	2.0	1.2	.9
22	3.0	9.7	54	18	60	71	61	30	12	1.7	1.1	1.0
23	3.4	13	33	18	55	62	62	31	11	1.8	1.0	1.2
24	3.5	34	25	18	47	53	64	31	9.5	1.6	1.0	1.2
25	3.5	42	21	17	41	51	59	* 30	8.9	1.4	.9	1.3
26	3.5	40	18	15	39	52	55	30	8.6	1.4	.8	1.5
27	10	26	16	12	37	55	64	29	8.1	1.3	.7	1.8
28	10	19	14	12	38	57	59	30	8.3	1.2	.7	2.9
29	5.3	43	14	12	-	64	52	31	8.0	1.4	.7	3.5
30	4.5	62	13	14	-----	67	49	32	7.3	1.5	.6	3.3
31	4.4	-----	12	14	-----	72	-----	31	-----	1.2	.6	-----
Total	101.7	378.1	1204.1	540.0	4556	2701	2210	1192	535.7	86.7	66.0	30.0
Mean	3.28	12.6	38.8	17.4	163	87.1	73.7	38.5	17.9	2.80	2.13	1.00
Max	10	62	278	78	1,140	448	91	53	32	5.9	15	3.5
Min	1.5	3.5	8.5	7.6	11	37	49	29	7.3	1.2	0.6	0.4
Ac-ft	202	750	2,390	1,070	9,040	5,360	4,380	2,370	1,060	172	131	60

Calendar year 1961: Max 1,850 Min 1.0 Mean 52.2 Ac-ft 37,750  
 Water year 1961-62: Max 1,140 Min 0.4 Mean 37.3 Ac-ft 26,980

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5259. Browns Creek near Douglas City, Calif.

Location.--Lat 40°38'35", long 122°58'45", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.10, T.32 N., R.10 W., on right bank 2 miles upstream from mouth and 2.1 miles west of Douglas City.

Drainage area.--71.6 sq mi.

Records available.--January 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,640 ft (from topographic map).

Average discharge.--5 years, 85.2 cfs (61,680 acre-ft per year).

Extremes.--Maximum discharge during year, 1,290 cfs Feb. 13 (gage height, 12.82 ft); minimum, 0.3 cfs July 31, Aug. 1.  
1957-62: Maximum discharge, 3,950 cfs Feb. 18, 1958 (gage height, 16.60 ft), from rating curve extended above 1,400 cfs; minimum, that of July 31, Aug. 1, 1962.

Remarks.--Small diversion for irrigation above station.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	8.1	103	20	32	78	177	43	20	8.3	0.6	3.0
2	4.8	8.0	92	19	32	76	165	42	18	7.8	.8	2.8
3	4.6	8.6	54	19	32	74	148	40	18	6.6	1.8	3.0
4	4.6	8.2	37	18	30	70	141	38	18	7.1	2.9	2.8
5	4.6	8.2	30	18	30	210	143	35	17	6.6	3.0	2.1
6	4.6	7.8	26	17	39	496	134	34	16	6.6	3.0	2.1
7	4.3	7.7	22	17	95	374	132	32	15	5.3	3.8	2.1
8	4.2	7.6	20	17	240	297	130	34	15	5.4	10	2.8
9	4.8	7.6	18	17	330	248	116	35	14	5.5	21	3.3
10	5.7	7.6	17	16	294	205	101	42	14	4.6	14	3.0
11	6.7	7.4	16	* 15	196	166	92	41	13	4.5	9.4	2.7
12	6.8	7.6	16	16	178	137	87	35	12	5.5	7.9	2.8
13	* 6.4	7.2	16	16	794	120	83	34	* 12	5.8	7.1	3.7
14	6.1	7.6	16	14	* 488	* 113	80	38	13	6.5	6.5	4.1
15	5.7	* 7.7	* 15	16	* 598	108	77	36	14	6.3	6.3	4.9
16	5.4	7.9	16	13	482	107	* 70	34	13	5.6	5.7	4.5
17	5.1	7.8	16	16	354	109	67	32	12	5.1	5.4	4.0
18	5.7	9.1	18	17	280	109	63	* 30	12	3.6	5.2	3.0
19	5.6	8.7	49	36	216	114	63	29	11	* 3.1	5.9	2.9
20	5.2	9.6	* 112	63	175	115	59	29	11	2.0	5.4	* 2.8
21	5.3	9.8	122	34	145	113	55	29	10	3.0	5.5	3.3
22	5.5	10	84	31	127	117	52	28	9.4	3.6	4.8	3.5
23	6.5	11	61	35	119	106	51	27	9.2	2.7	4.7	3.1
24	6.8	29	47	35	110	97	48	27	9.2	2.3	4.8	3.1
25	6.8	47	41	35	101	96	48	* 27	8.6	1.7	4.3	3.0
26	6.9	44	35	35	90	105	46	28	8.4	2.1	3.9	2.0
27	9.4	31	31	31	82	133	54	28	7.7	2.0	3.4	2.6
28	12	19	28	24	80	163	52	24	8.0	1.6	3.0	5.8
29	9.5	30	26	27	-	184	48	22	7.8	1.3	2.4	7.7
30	8.7	71	23	30	-----	183	46	21	8.0	1.6	2.3	6.7
31	8.1	-----	21	31	-----	175	-----	20	-----	1.0	2.4	-----
Total	191.2	461.8	1,228	748	5,769	4,798	2,628	994	374.3	134.7	167.2	1032
Mean	6.17	15.4	39.6	24.1	206	155	87.6	32.1	12.5	4.35	5.39	3.44
Max	12	71	122	63	794	496	177	43	20	8.3	21	7.7
Min	4.2	7.2	15	13	30	70	46	20	7.7	1.0	0.6	2.0
Ac-ft	379	916	2,440	1,480	11,440	9,520	5,210	1,970	742	267	332	205

Calendar year 1961: Max 639 Min 1.2 Mean 47.5 Ac-ft 34,420  
Water year 1961-62: Max 794 Min 0.6 Mean 48.2 Ac-ft 34,900

\* Discharge measurement made on this day.

KIAMATH RIVER BASIN

451

11-5265. North Fork Trinity River at Helena, Calif.

Location.--Lat 40°46'55", long 123°07'40", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.21, T.34 N., R.11 W., on right bank 500 ft downstream from East Fork of North Fork, 0.6 mile north of Helena, 1.0 mile upstream from mouth, and 6 miles northwest of Junction City.

Drainage area.--151 sq mi.

Records available.--August 1911 to September 1913, January 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,380 ft (from topographic map). August 1911 to September 1913 at site three-quarters of a mile downstream at different datum.

Average discharge.--7 years, 425 cfs (307,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,290 cfs Dec. 19 (gage height, 11.90 ft); minimum daily, 19 cfs Oct. 6, 7, 8.  
1911-13, 1957-62: Maximum discharge, 13,500 cfs Jan. 12, 1959 (gage height, 19.66 ft); minimum daily, 13 cfs Sept. 24, 25, 1957.

Remarks.--No known regulation or diversion above station.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	47	466	224	248	276	935	399	327	169	39	35
2	21	49	415	220	264	265	900	440	348	144	50	32
3	21	46	304	227	261	251	871	484	342	138	49	31
4	20	55	235	221	248	248	927	495	275	140	52	29
5	20	50	206	208	237	441	1010	442	254	142	50	29
6	19	44	187	232	322	740	1000	452	264	131	47	28
7	19	42	167	300	746	620	1070	451	299	120	93	27
8	19	41	152	297	1450	531	1100	485	327	122	364	27
9	21	41	139	286	1790	495	970	447	376	123	461	26
10	22	34	127	254	1660	441	793	407	364	112	184	25
11	39	29	115	* 228	1110	392	739	386	343	104	117	25
12	32	31	109	215	882	350	836	353	335	100	91	26
13	* 30	33	102	195	1590	328	924	330	* 330	95	78	25
14	29	35	99	176	* 1490	* 325	1030	310	277	88	69	26
15	27	* 37	* 90	165	1720	324	959	295	247	82	61	26
16	26	38	92	154	1460	327	* 799	291	271	76	* 56	25
17	25	39	119	147	1040	326	744	294	281	76	54	24
18	25	38	132	148	798	335	718	* 305	288	78	52	23
19	25	37	819	174	634	364	694	300	305	* 76	50	23
20	24	33	2200	178	534	383	546	269	303	75	48	* 23
21	27	* 33	* 1810	143	456	384	472	256	288	74	45	24
22	31	68	874	128	417	399	475	267	291	69	44	24
23	29	207	572	150	396	366	552	278	289	66	42	24
24	30	371	456	144	369	357	586	256	267	64	41	24
25	30	278	397	145	343	444	490	* 238	240	63	39	23
26	30	448	350	151	313	593	440	231	206	60	38	23
27	144	298	311	151	290	697	612	237	183	57	43	23
28	128	208	284	160	290	756	600	290	171	57	60	38
29	61	282	263	182	-	821	463	316	183	73	60	67
30	48	500	249	210	-----	888	409	329	176	79	50	41
31	46	-----	234	230	-----	932	-----	315	-----	59	43	-----
Total	1,089	3,492	12,075	6,043	21,358	14,399	22,664	10,648	8,450	2,912	2,570	846
Mean	35.1	116	390	195	763	464	756	343	282	93.9	82.9	28.2
Max	144	500	2,200	300	1,790	932	1,100	495	376	169	461	67
Min	19	29	90	128	237	248	409	231	171	57	38	23
Ac-ft	2,160	6,930	23,950	11,990	42,360	28,560	44,950	21,120	16,760	5,780	5,100	1,680
Calendar year 1961: Max	4,970	Min	19	Mean	389	Ac-ft	281,300					
Water year 1961-62: Max	2,200	Min	19	Mean	292	Ac-ft	211,300					

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5270. Trinity River near Burnt Ranch, Calif.

Location.--Lat 40°47'20", long 123°26'20", in S½ sec.19, T.5 N., R.7 E., on left bank 500 ft upstream from Cedar Flat Creek, 700 ft upstream from highway bridge at Cedar Flat, and 2.3 miles southeast of town of Burnt Ranch.

Drainage area.--1,438 sq mi.

Records available.--October 1931 to September 1940, October 1956 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 950 ft (from topographic map). Oct. 1, 1931, to Jan. 19, 1940, water-stage recorder (destroyed by flood of Feb. 28, 1940) at site 2 miles upstream at different datum.

Average discharge.--15 years, 2,573 cfs (1,863,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 7,460 cfs Feb. 13 (gage height, 9.42 ft); minimum daily, 223 cfs Sept. 14.

1931-40, 1956-62: Maximum discharge, 81,500 cfs Feb. 25, 1958 (gage height, 30.50 ft), from rating curve extended above 40,000 cfs on basis of slope-area measurement at gage height 43.2 ft; minimum, 82 cfs Aug. 31, 1939.

Flood of Dec. 22, 1955, reached a stage of 43.2 ft, from floodmarks (discharge, 172,000 cfs, on basis of slope-area measurement of peak flow).

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Trinity Lake beginning in November 1960 (usable capacity, 2,160,000 acre-ft). Small diversions above station for mining and irrigation.

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

Oct. 1 to Feb. 7				Feb. 8 to Sept. 30			
2.2	252	5.0	1,600	2.1	200	6.0	2,580
2.5	338	7.0	3,600	2.5	315	8.0	5,100
3.0	520	8.0	4,900	3.5	730	9.0	6,700
4.0	980			4.5	1,320		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	268	388	AL,300	800	810	1,240	2,660	1,430	1,100	655	303	249
2	268	388	AL,700	785	845	1,220	2,610	1,470	1,140	605	297	243
3	268	405	AL,900	771	*860	1,180	2,520	1,560	1,160	580	282	240
4	284	409	890	753	840	1,170	2,540	1,630	1,040	572	291	240
5	298	423	810	722	815	1,720	2,700	1,530	*928	556	297	240
6	300	*412	*758	717	885	4,790	2,680	1,520	892	528	291	243
7	303	409	713	840	1,660	3,800	2,790	1,520	952	508	319	240
8	306	402	677	870	3,870	2,950	2,910	1,570	1,000	504	802	243
9	309	398	645	870	4,470	2,580	2,820	1,570	1,130	508	1,440	246
10	*322	A390	609	820	4,710	2,270	2,460	1,430	1,150	488	830	249
11	351	A425	580	762	3,340	2,020	2,250	1,400	1,090	472	552	252
12	367	A400	564	735	2,700	1,800	2,300	1,260	1,070	468	444	255
13	348	A390	552	713	4,600	1,660	2,490	1,170	1,070	448	392	225
14	344	A385	548	663	5,810	1,580	2,660	1,140	958	440	364	223
15	341	A385	536	632	5,790	1,540	2,680	1,080	928	428	*340	228
16	338	A380	528	614	5,470	1,530	2,360	1,050	946	410	319	234
17	335	A375	572	588	4,020	1,520	2,200	1,040	958	399	312	231
18	332	A375	600	605	3,200	1,520	2,140	1,070	976	399	306	228
19	332	A380	961	776	2,670	1,530	2,110	1,070	1,020	403	306	231
20	328	A385	4,420	1,050	2,300	1,580	1,880	1,030	1,000	396	306	240
21	332	A405	4,070	860	1,980	1,590	1,680	988	958	392	297	264
22	338	A800	2,240	672	1,820	1,700	1,620	988	910	375	279	336
23	338	A850	1,630	654	*1,690	1,590	1,730	1,010	880	371	267	285
24	341	A900	1,350	677	1,580	1,480	*1,860	964	870	368	261	270
25	344	AL,100	1,200	690	1,480	1,530	1,720	916	820	361	261	261
26	348	AL,100	*1,080	654	1,390	1,750	1,590	904	760	354	258	240
27	364	AL,200	1,000	659	1,290	*1,990	1,700	898	700	322	255	240
28	A580	AL,000	940	663	1,270	2,210	1,970	970	665	306	258	294
29	A500	A840	900	699	-----	2,370	1,650	1,060	670	329	261	340
30	416	AL,200	860	753	-----	2,520	1,500	1,130	660	347	267	285
31	391	-----	825	790	-----	2,630	-----	1,100	-----	261	267	-----
TOTAL	10,634	17,299	35,958	22,857	72,165	60,560	66,780	37,468	28,401	13,553	11,724	7,595
MEAN	343	577	1,160	737	2,577	1,954	2,226	1,209	947	437	378	253
MAX	580	1,200	4,420	1,050	5,810	4,790	2,910	1,630	1,160	655	1,440	340
MIN	268	375	528	588	810	1,170	1,500	898	660	261	255	223
AC-FT	21,090	34,310	71,320	45,340	143,100	120,100	132,500	74,320	56,330	26,880	23,250	15,060

CALENDAR YEAR 1961: MAX 9,650 MIN 257 MEAN 1,236 AC-FT 895,000  
 WATER YEAR 1961-62: MAX 5,810 MIN 223 MEAN 1,055 AC-FT 763,600

\* Discharge measurement made on this day.  
 A No gage-height record.

KLAMATH RIVER BASIN

453

11-5270. Trinity River near Burnt Ranch, Calif.--Continued.

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

Extremes.--Maximum temperature recorded during year, 77°F July 24; minimum recorded, 42°F Dec. 23-26.

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

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

## KLAMATH RIVER BASIN

11-5274. New River at Denny, Calif.

Location.--Lat 40°56'45", long 123°22'55", in NE $\frac{1}{4}$  sec.33, T.7 N., R.7 E., on left bank at downstream side of private road bridge, 0.3 mile northeast of Denny, and 0.5 mile downstream from Quinby Creek.

Drainage area.--173 sq mi.

Records available.--October 1927 to December 1928 (published as "near Denny"), June 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,350 ft (from topographic map). Oct. 1, 1927, to Dec. 23, 1928, at site 2.6 miles downstream at different datum.

Extremes.--Maximum discharge during year not determined, probably occurred Dec. 19; minimum daily, 18 cfs Oct. 5-7.

1927-28, 1959-62: Maximum discharge, 9,460 cfs Feb. 8, 1960 (gage height, 11.65 ft), from rating curve extended above 3,600 cfs on basis of slope-area measurement of peak flow; minimum daily, that of Oct. 5-7, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Stage-discharge relation affected by ice Jan. 22, 23)

Oct. 1 to Dec. 31				Jan. 1 to Sept. 30			
2.6	10	4.0	330	2.2	23	4.0	400
2.7	19	4.5	550	2.5	45	5.0	860
2.9	43	5.0	830	2.8	82	6.0	1,600
3.2	100	6.0	1,600	3.4	195	7.0	2,650
3.5	170	7.0	2,650				

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	42	500	290	351	379	1,440	522	*253	88	38	33
2	22	50	420	280	355	369	1,320	542	260	84	36	33
3	20	*50	350	290	344	344	1,210	550	257	82	37	33
4	19	55	310	300	323	337	1,200	538	222	79	41	32
5	18	52	*271	*281	306	445	1,230	494	207	76	40	32
6	18	50	242	278	379	645	1,230	486	201	74	39	31
7	18	50	215	313	668	615	1,260	482	210	72	77	30
8	19	45	194	316	1,300	600	1,270	506	213	69	118	30
9	*20	40	179	309	1,660	615	1,140	474	225	67	156	30
10	22	35	165	288	1,570	580	980	449	210	64	93	29
11	52	30	160	267	1,140	522	902	421	195	62	69	30
12	34	28	140	260	940	470	932	390	193	71	61	30
13	30	27	130	243	1,400	456	974	372	183	62	56	30
14	27	28	125	219	1,510	456	1,050	351	166	60	53	30
15	23	30	120	210	1,410	463	1,020	334	160	57	49	31
16	22	31	130	195	1,240	494	884	320	156	56	47	30
17	21	31	150	188	1,060	502	812	313	152	55	46	30
18	20	30	220	190	944	518	780	316	146	53	46	28
19	20	29	1,100	293	812	570	760	309	143	51	45	28
20	20	28	2,100	*379	715	625	650	288	139	49	43	28
21	25	40	1,800	274	620	635	575	271	132	48	42	29
22	29	80	1,000	236	550	675	550	274	130	47	41	29
23	22	150	660	225	*514	620	*570	274	123	46	41	28
24	25	400	560	213	474	620	600	260	116	44	40	28
25	23	300	500	213	442	854	534	246	111	42	38	27
26	28	450	450	216	411	1,140	490	243	106	41	37	27
27	75	350	400	225	383	*1,360	737	243	101	41	36	27
28	100	300	370	239	386	1,370	715	260	98	41	36	58
29	65	400	350	281	-	1,400	595	267	95	42	35	68
30	45	600	330	323	-----	1,450	542	267	90	*44	35	40
31	37	-----	310	344	-----	1,460	-----	250	-----	40	*34	-----
Total	943	3,831	13,951	8,178	22,207	21,589	26,952	11,312	4,993	1,807	1,605	969
Mean	30.4	128	450	264	793	696	898	365	166	58.3	51.8	32.3
Max	100	600	2,100	379	1,660	1,460	1,440	550	260	88	156	68
Min	18	27	120	188	306	337	490	243	90	40	34	27
Ac-ft	1,870	7,600	27,670	16,220	44,050	42,820	53,460	22,440	9,900	3,580	3,180	1,920
Calendar year 1961: Max 4,600 Min 18 Mean 420 Ac-ft 304,300												
Water year 1961-62: Max 2,100 Min 18 Mean 324 Ac-ft 234,700												

Peak discharge (base, 2,500 cfs).--Dec. 19 (time and discharge unknown).

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-8, Oct. 27 to Nov. 2, Nov. 7 to Dec. 4, Dec. 11 to Jan. 4.

11-5281. South Fork Trinity River at Forest Glen, Calif.

Location.--Lat 40°22'30", long 123°19'35", in SE<sup>1</sup>/<sub>4</sub> sec.13, T.1 S., R.7 E., on right bank 15 ft downstream from bridge on State Highway 36, at Forest Glen, and 100 ft downstream from Glen Creek.

Drainage area.--208 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-57 and annual maximum, water years 1955-57. October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,170 ft (from topographic map). Prior to Oct. 1, 1959, crest-stage gage only, at datum 1.26 ft lower.

Extremes.--Maximum discharge during year, 3,530 cfs Feb. 13 (gage height, 10.67 ft); minimum, 15 cfs Sept. 24-27.

1954-57, 1959-62: Maximum discharge, 42,400 cfs Dec. 22, 1955 (gage height, 25.26 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1959-62: Minimum discharge, 15 cfs Sept. 24-27, 1962.

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

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

3.5	13	6.0	360
3.6	16	7.0	760
4.0	33	8.0	1,310
4.4	63	9.0	2,060
5.0	140	10.0	2,900
5.5	235		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	26	677	121	217	378	860	260	124	48	22	19
2	20	25	506	115	211	348	800	255	121	45	22	18
3	19	*25	283	113	199	330	*715	249	121	44	22	18
4	19	25	195	107	179	325	680	241	118	43	24	18
5	*19	24	149	102	167	493	680	235	112	42	24	18
6	18	24	131	100	272	715	656	229	107	40	24	17
7	18	24	113	101	912	648	652	225	*102	38	32	17
8	18	23	101	100	1,690	620	640	*231	98	38	48	17
9	19	23	92	97	2,170	*640	592	229	97	36	61	17
10	20	23	85	93	2,000	568	520	223	94	35	45	17
11	26	24	B76	B88	1,240	508	472	211	93	35	34	17
12	26	24	B75	91	1,010	448	480	201	91	39	30	17
13	24	24	71	87	2,470	417	488	193	87	38	28	17
14	23	24	69	B73	2,170	414	492	199	84	35	27	17
15	22	24	61	B71	2,750	411	460	191	83	33	26	17
16	21	23	63	B70	2,210	414	414	179	81	32	26	17
17	21	B22	85	B74	1,630	417	390	171	77	31	25	17
18	20	B24	107	89	1,290	428	372	165	74	31	24	16
19	20	25	311	558	1,020	468	360	159	71	30	24	16
20	20	27	1,160	907	860	492	333	152	69	29	24	16
21	21	27	1,050	B320	720	488	318	151	67	29	23	16
22	22	33	532	B217	628	540	305	146	64	28	22	16
23	22	70	348	B189	576	488	300	143	61	27	22	16
24	23	171	275	B180	524	468	295	143	60	26	21	15
25	23	199	233	*B173	468	496	283	140	58	26	20	15
26	27	185	201	B170	414	648	268	145	56	25	19	15
27	40	139	177	B165	B378	790	331	146	55	25	19	15
28	59	94	*157	163	384	890	333	136	53	25	19	22
29	38	306	145	175	-----	925	288	133	52	26	*19	32
30	29	*725	134	199	-----	920	268	130	49	24	19	24
31	27	-----	127	211	-----	890	-----	125	-----	23	19	-----
TOTAL	744	2,432	7,789	5,319	28,759	17,025	14,045	5,736	2,479	1,026	814	529
MEAN	24.0	81.1	251	172	1,027	549	468	185	82.6	33.1	26.3	17.6
MAX	59	725	1,160	907	2,750	925	860	260	124	48	61	32
MIN	18	22	61	70	167	325	268	125	49	23	19	15
AC-FT	1,480	4,820	15,450	10,550	57,040	33,770	27,860	11,380	4,920	2,040	1,610	1,050

CALENDAR YEAR 1961: MAX 2,980 MIN 18 MEAN 305 AC-FT 220,800  
 WATER YEAR 1961-62: MAX 2,750 MIN 15 MEAN 238 AC-FT 172,000

Peak discharge (base, 3,000 cfs).--Feb. 13 (1500) 3,530 cfs (10.67 ft).

\* Discharge measurement made on this day.

B Stage-discharge relation affected by ice.

## KLAMATH RIVER BASIN

11-5282. South Fork Trinity River near Hyampom, Calif.

Location.--Lat 40°36'00", long 123°26'50", in NE<sup>1</sup> sec.36, T.3 N., R.6 E., on left bank 0.4 mile upstream from Deep Gulch, 1.0 mile upstream from Hayfork Creek, and 1.2 miles south of Hyampom.

Drainage area.--342 sq mi.

Records available.--September 1956 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,300 ft (from topographic map). Since Aug. 15, 1962, auxiliary water-stage recorder at site 0.5 mile downstream at same datum.

Average discharge.--6 years, 665 cfs (481,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,020 cfs Feb. 13 (gage height, 9.36 ft); minimum daily, 25 cfs Sept. 27.

1956-62: Maximum discharge, 26,600 cfs Feb. 8, 1960 (gage height, 16.92 ft), from rating curve extended above 7,200 cfs; minimum daily, that of Sept. 27, 1962.

Flood of Dec. 22, 1955, reached a stage of 22.2 ft, from floodmarks (discharge, 39,400 cfs, on basis of slope-area measurement of peak flow).

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	50	1,070	235	380	695	1,310	460	218	85	45	34
2	37	*46	962	220	380	660	1,240	450	215	81	43	33
3	36	45	483	210	356	630	1,150	440	211	79	42	32
4	36	44	330	200	331	624	1,090	430	208	77	43	31
5	35	44	258	190	313	870	1,080	410	201	75	45	30
6	34	44	225	180	395	1,230	1,060	400	*194	71	46	30
7	34	44	195	175	1,130	1,150	1,040	395	187	69	53	30
8	34	44	180	175	2,780	1,060	1,010	400	181	67	79	29
9	35	43	160	170	3,380	1,060	948	*400	175	65	101	28
10	36	43	150	165	3,360	*980	856	380	172	63	97	28
11	41	45	140	160	2,270	884	786	370	169	63	73	28
12	49	45	130	160	1,850	800	772	350	163	69	62	28
13	*47	45	120	155	3,470	751	779	336	157	69	60	28
14	43	45	115	150	3,450	737	779	332	151	65	58	29
15	42	45	110	140	4,180	723	744	332	148	62	56	30
16	40	44	120	130	3,530	709	695	316	145	60	54	30
17	40	44	140	135	2,660	730	660	304	139	58	50	29
18	38	44	180	150	2,140	737	630	296	133	57	49	28
19	37	44	355	551	1,760	779	624	292	128	57	48	27
20	37	48	1,610	1,390	1,510	814	588	284	123	58	47	27
21	39	50	1,900	666	1,280	807	552	276	118	57	46	27
22	40	70	1,020	446	1,130	856	535	268	113	55	44	28
23	41	158	707	372	1,040	807	525	268	110	53	42	27
24	42	255	558	*347	926	765	520	264	105	51	40	27
25	44	355	478	340	856	772	500	257	101	50	38	26
26	47	306	418	322	779	948	480	253	99	48	37	26
27	60	264	*372	313	702	1,160	520	253	97	48	36	25
28	102	186	330	295	709	1,300	582	246	95	46	36	33
29	84	*423	300	307	-	1,390	505	236	91	48	35	49
30	64	1,240	270	334	-----	1,400	475	229	89	48	*35	54
31	56	-----	250	364	-----	1,370	-----	225	-----	46	34	-----
Total	1,388	4,203	13,636	9,147	47,047	28,198	23,035	10,152	4,436	1,900	1,574	911
Mean	44.8	140	440	295	1,680	910	768	327	148	61.3	50.8	30.4
Max	102	1,240	1,900	1,390	4,180	1,400	1,310	460	218	85	101	54
Min	34	43	110	130	313	624	475	225	89	46	34	25
Ac-ft	2,750	8,340	27,050	18,140	93,320	55,930	45,690	20,140	8,800	3,770	3,120	1,810

Calendar year 1961: Max 5,420 Min 34 Mean 561 Ac-ft 406,300  
 Water year 1961-62: Max 4,180 Min 25 Mean 399 Ac-ft 288,900

Peak discharge (base, 4,900 cfs)--Feb. 13 (1800) 5,020 cfs (9.36 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1 to Nov. 22, Dec. 8-18, Dec. 28 to Jan. 18.



11-5282. South Fork Trinity River near Hyampom, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature recorded during year, 77°F July 27, 29, 30; minimum recorded, 31°F Jan. 19.

1960-62: Maximum temperature recorded, that of July 27, 29, 30, 1962; minimum recorded, that of Jan. 19, 1962.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1			-	-	41	41	-	-	-	-	36	35	46	44	52	50	59	57	64	63	76	64		
2			-	-	42	41	-	-	-	-	37	36	46	45	54	52	59	58	68	62	76	64		
3			-	-	44	42	-	-	-	-	38	37	46	45	54	53	59	57	69	62	74	65		
4			-	-	46	44	-	-	-	-	39	38	48	45	54	53	59	54	69	63	74	65		
5			-	-	47	46	-	-	-	-	38	38	48	47	54	52	58	54	70	64	74	64		
6			-	-	49	46	-	-	38	37	40	38	48	47	54	53	60	57	70	63	71	64		
7			-	-	-	-	-	-	37	37	41	40	49	48	55	53	60	58	70	64	70	66		
8			-	-	-	-	-	-	37	37	41	41	49	48	55	54	61	58	71	64	66	65		
9			-	-	-	-	-	-	37	37	42	41	48	48	54	53	62	59	71	64	66	65		
10			-	-	-	-	-	-	37	37	42	42	48	47	53	53	63	60	71	64	68	65		
11			-	-	-	-	-	-	37	37	42	42	49	47	53	52	63	59	71	65	70	66		
12			-	-	-	-	-	-	38	37	42	42	50	48	53	52	64	61	71	65	71	66		
13			-	-	-	-	-	-	38	38	42	41	50	49	53	51	64	60	70	64	72	66		
14			-	-	-	-	-	-	38	38	42	42	52	50	53	51	63	60	70	64	72	66		
15			-	-	-	-	-	-	38	38	42	41	52	51	53	52	63	59	71	64	-	-		
16			-	-	-	-	-	-	39	38	43	42	52	50	53	51	64	60	72	64	-	-		
17			-	-	-	-	-	-	39	39	44	42	52	50	55	52	65	61	72	65	-	-		
18			-	-	-	-	-	-	39	39	44	43	52	51	55	52	65	61	72	64	-	-		
19			-	-	44	42	33	31	39	39	43	43	52	50	54	53	66	62	72	64	-	-		
20			-	-	43	42	33	33	39	39	44	43	50	48	54	51	66	62	73	66	-	-		
21			-	-	43	42	33	33	40	39	44	43	50	48	54	52	66	63	74	66	-	-		
22			-	-	43	42	35	33	40	40	43	43	52	50	54	53	67	64	74	66	-	-		
23			-	-	42	41	38	34	40	39	43	43	52	51	54	53	67	64	76	66	-	-		
24			47	41	42	41	36	33	39	38	43	43	52	52	55	53	68	64	75	65	-	-		
25			41	38	43	42	-	-	38	38	44	43	52	49	56	53	68	63	76	65	-	-		
26			45	40	43	42	-	-	38	37	45	44	51	49	56	54	68	63	76	66	-	-		
27			46	42	46	42	-	-	37	35	46	45	51	50	57	54	67	62	77	66	-	-		
28			50	43	-	-	-	-	36	35	46	44	50	49	57	56	68	63	76	67	-	-		
29			44	41	-	-	-	-	-	-	45	44	50	48	60	57	69	64	77	67	-	-		
30			41	41	-	-	-	-	-	-	46	45	50	49	60	57	69	64	77	67	-	-		
31			-	-	-	-	-	-	-	-	45	44	-	-	59	56	-	-	76	66	-	-		
Avg			-	-	-	-	-	-	-	-	42	42	50	48	55	53	64	60	72	65	-	-		

## KLAMATH RIVER BASIN

11-5284. Hayfork Creek near Hayfork, Calif.

Location.--Lat 40°31'10", long 123°05'05", in SW<sup>1</sup>/<sub>4</sub> sec.23, T.31 N., R.11 W., on left bank 1,300 ft downstream from Carrier Gulch and 5.8 miles southeast of town of Hayfork.

Drainage area.--87.2 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,555.27 ft above mean sea level, datum of 1929.

Average discharge.--6 years, 109 cfs (78,910 acre-ft per year).

Extremes.--Maximum discharge during year, 1,010 cfs Feb. 13 (gage height, 6.53 ft); minimum, 1.8 cfs Aug. 2, Sept. 8, 9.

1956-62: Maximum discharge, 4,210 cfs Feb. 8, 1960 (gage height, 11.67 ft); minimum, 1.2 cfs Sept. 1, 1957.

Flood of Dec. 22, 1955, reached a stage of 11.0 ft, from floodmarks (discharge, 3,880 cfs, on basis of slope-area measurement of peak flow).

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

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 30, July 30, Sept. 11-30)

Oct. 1 to Dec. 20					Dec. 21 to Sept. 30				
2.3	2.6	3.0	4.6		2.2	1.0	2.9	28	
2.4	4.9	3.5	112		2.3	2.1	3.2	58	
2.5	8.0	4.0	200		2.4	3.8	3.5	99	
2.6	12	5.0	460		2.5	6.2	4.0	191	
2.8	26				2.6	9.5	5.0	460	
					2.7	14	6.0	805	

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	6.5	184	45	56	81	328	50	23	6.9	2.0	3.0
2	4.4	6.1	150	43	57	75	300	49	22	7.2	1.8	2.8
3	4.2	*6.1	101	43	55	70	280	48	20	6.5	1.9	2.8
4	3.8	5.8	76	42	51	70	*278	47	20	6.0	2.3	2.3
5	*3.8	5.8	65	40	50	178	290	43	20	5.5	2.3	2.0
6	4.2	5.5	59	39	78	303	283	42	*18	5.5	2.4	2.0
7	4.4	5.2	52	43	227	228	290	42	17	5.7	3.6	1.9
8	4.7	b 5.2	48	43	475	191	278	41	16	5.0	8.2	1.9
9	5.2	b 5.2	43	40	616	183	245	43	16	4.8	2.3	1.9
10	5.8	b 5.2	40	38	518	*157	195	*46	16	4.8	1.3	2.0
11	7.1	b 5.2	b 37	b 35	331	137	173	45	16	4.8	1.0	2.0
12	7.4	b 5.2	34	b 34	282	119	175	40	14	5.0	6.5	2.3
13	7.1	b 4.9	31	b 33	731	109	181	39	13	5.0	5.0	2.8
14	7.1	b 4.9	30	b 28	574	107	177	41	13	4.3	5.2	3.0
15	6.5	b 4.9	29	b 27	735	102	157	39	14	3.8	5.5	3.0
16	6.1	b 4.9	27	b 26	511	105	131	35	13	4.3	4.8	2.8
17	6.1	b 4.9	27	b 25	206	113	120	33	13	4.3	5.5	2.8
18	6.1	b 4.9	29	29	258	120	110	33	12	4.5	4.8	3.0
19	5.8	7.1	54	68	204	135	104	32	12	3.5	4.0	3.1
20	6.5	8.4	283	120	177	140	88	32	11	3.3	4.3	3.1
21	7.7	8.0	322	b 67	147	138	79	31	11	3.1	4.5	3.1
22	8.8	8.8	161	b 50	131	144	74	28	11	3.3	4.5	3.1
23	8.8	11	115	b 47	122	128	72	27	12	3.3	4.0	3.3
24	8.4	35	91	*b 48	110	122	71	27	13	2.6	3.8	3.3
25	8.8	43	78	b 40	101	128	65	27	8.8	2.4	4.3	3.3
26	10	46	67	b 39	b 89	185	58	30	7.2	2.1	4.0	3.3
27	13	46	*61	b 39	b 82	250	67	31	7.9	2.3	3.8	3.6
28	16	31	56	b 40	b 84	298	68	27	7.5	2.6	3.3	3.8
29	9.2	77	54	b 42	-	331	58	26	7.2	2.8	*3.3	4.5
30	7.4	*158	50	48	-----	322	51	24	7.2	2.4	3.1	5.0
31	6.8	-----	47	53	-----	325	-----	23	-----	2.0	3.0	-----
Total	215.4	575.7	2501	1,354	7,058	5,094	4,846	1,121	411.8	129.6	157.7	86.8
Mean	6.95	19.2	80.7	43.7	252	164	162	36.2	13.7	4.18	5.09	2.89
Max	16	158	322	120	735	331	328	50	23	7.2	2.3	5.0
Min	3.8	4.9	27	25	50	70	51	23	7.2	2.0	1.8	1.9
Ac-ft	427	1,140	4,960	2,690	14,000	10,100	9,610	2,220	817	257	313	172

Calendar year 1961: Max 1,180 Min 2.5 Mean 77.1 Ac-ft 55,810  
Water year 1961-62: Max 735 Min 1.8 Mean 64.5 Ac-ft 46,710

Peak discharge (base, 1,100 cfs).--No peak above base.

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

11-5285. Rayfork Creek near Hyampom, Calif.

Location.--Lat 40°37'35", long 123°26'00", in NW<sup>1</sup>/<sub>4</sub> sec.19, T.3 N., R.7 E., on right bank 1.2 miles upstream from mouth and 1.3 miles northeast of Hyampom.

Drainage area.--379 sq mi.

Records available.--August 1953 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,280 ft (from topographic map).'

Average discharge.--9 years, 502 cfs (363,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,940 cfs Feb. 13 (gage height, 8.95 ft); minimum daily, 17 cfs Sept. 4-10.

1953-62: Maximum discharge, 25,300 cfs Dec. 22, 1955 (gage height, 18.00 ft), from rating curve extended above 6,700 cfs on basis of slope-area measurement of peak flow; minimum, 16 cfs Sept. 28, 1960.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions for irrigation of about 700 acres above station.

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

2.6	14	4.0	310
2.8	32	5.0	730
3.0	59	7.0	1,960
3.5	160	9.0	4,000

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	44	694	142	202	b396	1,030	205	101	40	21	18
2	21	*43	658	138	208	388	958	202	97	38	21	18
3	22	42	359	131	205	370	880	190	97	37	20	18
4	*22	42	256	131	196	408	*835	187	93	37	20	17
5	22	42	205	129	184	1,040	840	178	93	37	21	17
6	22	42	175	123	226	1,730	815	166	*93	33	21	17
7	21	42	152	123	920	1,350	800	166	88	33	27	17
8	21	42	140	125	2,250	1,140	790	163	86	32	46	17
9	23	40	129	121	2,120	1,060	725	*166	84	31	70	17
10	25	42	121	119	1,960	*928	617	166	77	31	73	17
11	30	42	113	b111	1,320	830	540	181	73	30	56	19
12	29	42	105	b115	1,100	720	514	166	70	32	46	19
13	29	42	101	111	2,630	648	500	158	66	32	40	19
14	29	42	99	b101	2,400	612	496	160	68	31	36	20
15	29	42	97	b99	2,960	590	460	158	68	30	31	20
16	29	40	93	b95	2,260	586	412	150	70	29	30	20
17	28	39	105	b91	1,650	604	370	140	72	28	30	20
18	28	39	111	b107	1,360	612	348	131	66	28	30	19
19	27	39	203	192	1,130	648	334	129	63	28	29	19
20	27	43	839	632	958	671	317	127	61	27	27	18
21	29	44	1,160	b310	810	676	289	127	59	26	25	18
22	30	47	680	b211	695	725	271	123	58	25	25	18
23	30	54	428	b205	630	671	262	121	54	23	24	18
24	31	79	324	*b172	568	617	259	121	53	22	23	18
25	32	184	271	b160	514	594	244	119	53	22	22	18
26	33	178	238	b150	456	695	235	121	50	22	22	18
27	47	178	*211	b148	b392	855	241	123	47	21	21	18
28	64	155	190	b145	b408	982	277	117	44	20	20	18
29	59	*228	175	b152	-	1,050	238	111	43	24	20	25
30	48	581	163	175	-----	1,060	214	107	42	22	18	30
31	46	-----	150	193	-----	1,040	-----	103	-----	22	18	-----
Total	954	2,559	8,745	4,957	30,712	24,296	15,111	4,582	2,089	893	933	565
Mean	30.8	85.3	282	160	1,097	784	504	148	69.6	28.8	30.1	18.8
Max	64	581	1,160	632	2,960	1,730	1,030	205	101	40	73	30
Min	21	39	93	91	184	370	214	103	42	20	18	17
Ac-ft	1,890	5,080	17,350	9,830	60,920	48,190	29,970	9,090	4,140	1,770	1,850	1,120

Calendar year 1961: Max 3,610 Min 19 Mean 307 Ac-ft 222,200

Water year 1961-62: Max 2,960 Min 17 Mean 264 Ac-ft 191,200

Peak discharge (base, 4,000 cfs).--No peak above base.

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Sept. 4-30.

Records available.--Water temperatures: November 1960 to September 1962.

1960-62: Maximum temperature, 83°F July 13, 1961; minimum, that of Jan. 22-26, 1962.

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	58	55	45	45	42	42	38	38	36	36	36	35	53	49	56	54	-	-	65	63	-	-	-	-
2	59	56	47	45	43	42	38	38	36	36	37	36	50	48	60	56	-	-	65	61	70	65	-	-
3	59	57	47	46	43	43	38	37	37	36	39	37	50	48	60	58	-	-	65	61	68	66	-	-
4	60	57	47	46	43	43	38	37	38	37	40	39	52	50	60	56	-	-	-	-	68	63	-	-
5	60	58	47	46	43	43	37	37	38	36	40	40	52	50	60	57	-	-	67	64	68	64	-	-
6	60	58	46	45	43	43	37	37	40	38	41	39	52	50	60	58	-	-	66	62	-	-	-	-
7	59	56	45	44	43	41	38	37	40	40	42	41	52	51	60	58	-	-	-	-	-	-	-	-
8	56	54	44	44	41	41	38	38	42	40	43	42	52	51	60	58	-	-	67	63	63	61	-	-
9	54	52	44	44	41	40	38	37	43	41	43	42	51	49	-	-	-	-	-	-	-	-	-	-
10	52	52	44	44	40	40	37	37	42	42	42	41	51	50	-	-	-	-	67	63	-	-	-	-
11	54	52	45	44	40	38	37	35	42	42	41	41	52	51	-	-	-	-	67	64	-	-	-	-
12	56	54	45	44	38	38	36	35	43	42	42	41	54	52	-	-	-	-	-	-	-	-	-	-
13	57	56	44	43	38	38	36	36	42	42	42	40	54	54	-	-	-	-	66	62	-	-	-	-
14	57	56	43	42	38	37	37	36	42	42	41	40	56	54	-	-	-	-	67	63	-	-	-	-
15	58	57	42	42	39	38	36	36	43	42	42	41	56	55	-	-	-	-	67	63	-	-	-	-
16	58	57	42	40	40	39	36	35	43	42	44	42	55	54	-	-	-	-	-	-	70	66	-	-
17	58	57	40	39	40	40	35	34	43	42	44	43	56	54	-	-	-	-	-	-	70	67	-	-
18	57	56	39	39	40	40	34	34	43	43	45	44	56	56	-	-	-	-	69	65	70	66	-	-
19	56	55	39	39	40	40	35	34	43	42	45	45	56	53	-	-	-	-	-	-	70	65	-	-
20	55	54	40	39	41	40	35	34	43	42	47	45	53	51	-	-	-	-	-	-	71	67	-	-
21	54	51	40	40	42	41	34	33	43	42	47	45	56	53	-	-	-	-	-	-	-	-	-	-
22	51	51	41	40	41	39	33	32	42	42	45	45	58	51	-	-	-	-	-	-	73	68	-	-
23	51	50	43	41	39	38	32	32	42	42	47	45	58	57	-	69	65	71	66	73	68	-	-	
2																								

KLAMATH RIVER BASIN

461

11-5290. South Fork Trinity River near Salyer, Calif.

Location.--Lat 40°50'30", long 123°34'00", in SE $\frac{1}{4}$  sec.1, T.5 N., R.5 E., on right bank 4 miles south of Salyer and 8 miles upstream from mouth.

Drainage area.--899 sq mi.

Records available.--October 1911 to September 1913, October 1950 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near China Flat" 1911-13.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 541.1 ft above mean sea level (river-profile survey). Oct. 12, 1911, to Aug. 10, 1913, staff gage at site 7.7 miles downstream at different datum.

Average discharge.--14 years, 1,735 cfs (1,256,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,800 cfs Feb. 13 (gage height, 16.52 ft); minimum, 66 cfs Sept. 25-27. 1911-13, 1950-62: Maximum discharge, 65,100 cfs Dec. 22, 1955 (gage height, 39.4 ft, from floodmarks), from rating curve extended above 21,000 cfs by slope-conveyance study; minimum, 54 cfs Sept. 10, 1955.

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

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

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
3.2	78	8.0	1,420	3.0	65	6.5	815
4.0	164	10.0	2,800	3.5	109	8.0	1,450
5.0	345	15.0	9,600	4.0	170	10.0	3,020
6.0	630			5.0	375	16.0	11,000

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	136	a3,100	660	872	1,750	3,410	1,130	506	222	103	83
2	87	129	2,920	630	*876	1,730	3,200	1,110	495	216	101	80
3	85	127	1,740	618	852	1,690	2,970	1,080	490	211	99	79
4	85	124	1,210	*603	800	1,720	2,800	1,060	*480	*206	99	78
5	84	123	944	573	751	3,030	2,800	1,000	470	202	103	77
6	83	121	*786	546	808	4,760	2,760	964	460	197	103	74
7	83	*120	674	534	2,060	4,070	2,720	948	445	192	*a125	74
8	83	119	594	531	7,020	3,460	2,690	948	430	187	a170	74
9	*83	118	534	516	7,640	3,250	2,550	972	418	184	a202	71
10	87	119	486	495	7,750	2,980	2,290	964	408	179	a185	69
11	105	120	435	468	5,170	2,730	2,100	928	393	176	a155	69
12	114	120	398	474	4,060	2,420	2,030	889	385	181	a142	69
13	111	119	380	453	8,280	2,240	2,030	847	373	178	a136	69
14	107	119	370	420	8,400	2,130	2,030	822	363	176	a134	70
15	103	118	358	405	10,000	2,070	1,950	815	358	175	125	71
16	100	118	345	398	8,770	2,040	1,820	773	350	167	117	71
17	98	117	531	375	6,780	2,090	1,700	738	343	163	113	71
18	95	116	709	474	5,550	2,080	1,610	710	333	160	109	70
19	94	116	2,740	2,040	4,650	2,150	1,570	686	325	154	109	68
20	93	a123	4,690	2,450	3,890	2,240	1,520	668	310	149	106	68
21	95	a134	4,310	1,470	3,260	2,240	1,400	653	298	145	102	69
22	100	a178	2,470	1,090	*2,820	2,430	1,350	638	292	140	101	69
23	101	a370	1,810	944	2,580	2,350	1,300	629	286	130	100	69
24	103	a740	1,470	872	2,370	2,190	*1,290	620	278	119	96	67
25	104	a880	1,270	840	2,180	2,190	1,230	602	272	114	94	66
26	111	a760	1,110	790	1,990	*2,510	1,170	596	266	112	90	66
27	229	a640	988	765	1,790	2,920	1,310	593	256	106	88	66
28	266	a500	888	748	1,770	3,260	1,500	581	248	106	87	73
29	204	a840	812	772	-	3,470	1,300	560	240	107	85	104
30	165	a3,400	751	808	-----	3,530	1,180	539	230	108	85	106
31	144	-----	695	852	-----	3,460	-----	524	-----	106	84	-----
Total	3,490	10,864	40,518	23,614	113,739	81,180	59,580	24,587	10,801	4,968	3,548	2,210
Mean	113	362	1,307	762	4,062	2,619	1,986	793	360	160	114	73.7
Max	266	3,400	4,690	2,450	10,000	4,760	3,410	1,130	506	222	202	106
Min	83	116	345	375	751	1,690	1,170	524	230	106	84	66
Ac-ft	6,920	21,550	80,370	46,840	225,600	161,000	118,200	48,770	21,420	9,850	7,040	4,380

Calendar year 1961: Max 13,300 Min 83 Mean 1,274 Ac-ft 922,500

Water year 1961-62: Max 10,000 Min 66 Mean 1,039 Ac-ft 751,900

Peak discharge (base, 8,000 cfs).--Feb. 9 (2400) 9,390 cfs (14.85 ft); Feb. 13 (1800) 11,800 cfs (16.52 ft).

\* Discharge measurement made on this day.

a No gage-height record.

## KLAMATH RIVER BASIN

11-5290. South Fork Trinity River near Salyer, Calif.--Continued.

Records available.--Water temperatures: August to September 1962.Extremes.--Maximum temperature during period, 72°F Aug. 15, 23, 24; minimum, 59°F Sept. 30, 1962.

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

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																					-	-	70	67
2																					-	-	70	67
3																					-	-	70	67
4																					-	-	70	67
5																					-	-	70	67
6																								
7																					-	-	70	67
8																					-	-	70	66
9																					-	-	70	65
10																					-	-	68	64
11																					-	-	69	65
12																					-	-	67	62
13																					-	-	68	63
14																					-	-	68	63
15																					72	68	68	64
16																					70	68	68	64
17																					70	68	69	65
18																					69	67	68	65
19																					69	66	68	63
20																					70	68	67	63
21																					71	68	66	62
22																					71	68	67	62
23																					72	69	68	62
24																					72	69	68	62
25																					71	69	66	63
26																					71	68	66	62
27																					69	66	63	62
28																					69	66	62	61
29																					69	66	61	60
30																					70	66	60	59
31																					70	66		
Avg																					-	-	68	64

## KLAMATH RIVER BASIN

463

11-5298. Willow Creek at Willow Creek, Calif.

Location.--Lat 40°55'39", long 123°38'11", in SE $\frac{1}{4}$  sec.29, T.7 N., R.5 E., on left bank 0.4 mile upstream from mouth and 0.5 mile northwest of Willow Creek.

Drainage area.--43.3 sq mi.

Records available.--August 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage 480 ft (from topographic map).

Extremes.--Maximum discharge during year, 4,860 cfs Dec. 19 (gage height, 9.62 ft), from rating curve extended above 1,400 cfs as explained below; minimum, 7.2 cfs Sept. 10.

1959-62: Maximum discharge, 4,940 cfs Feb. 9, 1960 (gage height, 9.68 ft) from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; minimum, that of Sept. 10, 1962.

Remarks.--Records good. Small diversion for irrigation of about 40 acres above station.

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

Oct. 1 to Dec. 20				Dec. 21 to Oct. 30			
3.5	9.0	5.3	340	3.4	4.0	4.4	120
3.7	18	6.0	680	3.5	8.0	5.0	280
4.0	46	6.8	1,330	3.7	22	6.0	770
4.4	95	8.0	2,690	4.0	55	7.0	1,590
4.8	170						

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	20	288	A118	97	180	368	188	50	23	*12	11
2	12	18	292	A112	90	178	336	168	50	21	12	11
3	11	*18	206	A106	85	196	320	158	50	20	12	11
4	11	18	150	A98	82	214	312	145	49	21	13	11
5	11	18	126	*A93	77	585	328	130	47	21	13	11
6	11	17	109	88	88	637	320	120	45	21	*13	11
7	11	16	95	83	150	465	328	114	41	20	38	11
8	11	16	86	80	271	435	308	108	40	20	51	11
9	11	16	78	76	328	396	274	108	39	20	62	11
10	*13	18	73	73	332	360	238	110	38	19	31	9.4
11	23	20	67	71	265	328	226	102	37	19	24	7.6
12	15	17	63	73	241	288	226	97	35	19	21	8.7
13	14	17	61	68	421	268	226	93	35	19	20	8.0
14	13	16	62	65	465	262	214	88	37	18	19	8.7
15	13	16	61	65	515	259	193	85	35	18	A17	8.7
16	13	15	63	63	530	262	173	80	34	17	A16	8.7
17	12	15	204	60	570	265	163	77	33	16	A16	8.7
18	12	15	298	77	510	277	153	76	32	14	A15	8.7
19	12	16	2,060	431	400	292	158	73	31	14	A14	8.7
20	12	16	1,630	*445	340	292	145	71	31	14	A14	9.4
21	15	19	958	244	288	288	132	68	30	14	A13	9.4
22	15	171	560	185	*259	384	126	67	29	14	A12	8.7
23	15	245	400	155	238	352	*118	67	28	14	A12	8.7
24	15	285	308	140	214	352	132	64	27	14	A12	8.0
25	14	203	250	128	196	425	122	62	27	14	A12	8.0
26	17	209	214	122	183	*465	114	60	27	13	A12	9.4
27	190	*194	185	116	168	460	270	59	27	12	*12	11
28	79	154	168	110	168	430	288	*56	25	13	12	35
29	42	231	*153	*106	-----	415	232	55	24	12	12	26
30	31	340	136	104	-----	396	205	54	24	10	11	16
31	23	-----	126	100	-----	380	-----	51	-----	11	11	-----
TOTAL	709	2,389	9,530	3,855	7,571	10,786	6,748	2,854	1,057	515	564	334.5
MEAN	22.9	79.6	307	124	270	348	225	92.1	35.2	16.6	18.2	11.2
MAX	190	340	2,060	445	570	637	368	188	50	23	62	35
MIN	11	15	61	60	77	178	114	51	24	10	11	7.6
AC-FT	1,410	4,740	18,900	7,650	15,020	21,390	13,380	5,660	2,100	1,020	1,120	663

CALENDAR YEAR 1961: MAX 2,060 MIN 11 MEAN 159 AC-FT 114,800  
 WATER YEAR 1961-62: MAX 2,060 MIN 7.6 MEAN 129 AC-FT 93,100

Peak discharge (base, 1,200 cfs).--Dec. 19 (1900) 4,860 cfs (9.62 ft).

\* Discharge measurement made on this day.  
 A No gage-height record.

## KLAMATH RIVER BASIN

11-5300. Trinity River near Hoopa, Calif.

Location.--Lat 41°01'50", long 123°39'05", in SE $\frac{1}{4}$  sec. 31, T.8 N., R.5 E., in Hoopa Indian Reservation, on left bank 0.7 mile downstream from Campbell Creek and 1-3/4 miles southeast of Hoopa.

Drainage area.--2,848 sq mi.

Records available.--October 1911 to January 1914, October 1916 to September 1918, October 1931 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Hoopa" 1911-14, 1916-18.

Gage.--Water-stage recorder. Altitude of gage is 315 ft (from river-profile map). Prior to October 1931, staff gage at site 2.1 miles downstream at different datum.

Average discharge.--35 years (1911-13, 1916-18, 1931-62), 5,494 cfs (3,977,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 23,800 cfs Feb. 14 (gage height, 14.42 ft); minimum, 433 cfs Sept. 14.

1911-14, 1916-18, 1931-62: Maximum discharge, 190,000 cfs Dec. 22, 1955 (gage height, 36.90 ft), from rating curve extended above 56,000 cfs; minimum, 162 cfs Oct. 4, 1931.

Remarks.--Records good. Flow regulated by Trinity Lake beginning in November 1960 (usable capacity, 2,160,000 acre-ft). Small diversions above station for mining and irrigation.

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

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
3.5	445	7.0	3,180	3.4	430	7.0	3,180
4.0	630	9.0	7,000	4.0	680	9.0	7,000
5.0	1,150	12.0	15,700	5.0	1,220	14.0	22,200
6.0	2,000			6.0	2,030		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	466	705	6,040	2,340	* 2,530	4,450	9,070	4,070	* 2,260	1,180	590	488
2	466	695	6,950	2,260	2,580	4,430	8,680	4,020	2,280	1,140	566	470
3	462	705	4,800	2,230	2,550	4,450	8,180	4,090	2,290	* 1,090	* 558	467
4	466	710	* 4,430	2,160	2,440	4,470	7,900	4,110	2,190	1,080	558	464
5	484	710	2,740	2,050	2,340	6,230	8,100	3,910	2,010	1,060	571	464
6	* 494	* 695	2,380	1,970	2,460	12,100	8,020	3,750	1,940	1,030	562	460
7	490	675	2,110	2,050	4,560	11,200	8,100	3,720	1,950	992	720	460
8	494	670	1,900	2,160	13,100	9,160	8,220	3,750	1,980	960	1,060	457
9	498	658	1,760	2,140	15,100	8,380	7,880	3,820	2,050	955	2,110	457
10	526	670	1,630	2,030	16,800	7,720	7,080	3,610	2,110	950	1,640	454
11	606	680	1,510	1,910	12,000	7,080	6,440	3,430	2,040	910	1,140	454
12	638	680	1,430	1,840	9,310	6,300	6,400	3,210	1,980	910	925	457
13	602	670	1,370	1,800	13,800	5,840	6,580	3,000	1,940	895	820	454
14	582	662	1,350	1,690	19,700	5,600	6,850	2,860	1,830	875	755	433
15	570	658	1,310	1,590	19,000	5,440	6,800	2,780	1,740	850	715	442
16	558	650	1,290	1,560	18,800	5,440	6,240	2,670	1,730	815	665	448
17	546	642	1,730	1,480	15,200	5,460	5,880	2,610	1,730	795	625	445
18	540	646	2,160	1,530	12,300	5,440	5,640	2,590	1,720	780	615	442
19	536	650	6,370	2,840	10,300	5,520	5,580	2,550	1,720	765	605	439
20	532	666	16,400	6,000	8,680	5,740	5,200	2,460	1,720	755	600	439
21	558	700	15,100	4,200	7,520	5,800	4,680	2,400	1,650	740	590	448
22	574	1,070	9,570	3,010	6,620	6,380	4,450	2,350	1,590	720	566	492
23	574	2,070	6,400	2,560	6,100	6,280	4,480	2,370	1,570	700	540	531
24	582	2,740	5,140	2,520	* 5,660	5,880	4,660	2,310	1,530	690	523	470
25	586	3,180	4,340	2,340	5,260	6,100	4,450	2,220	1,440	675	515	467
26	610	3,120	3,770	2,250	4,840	6,950	4,110	2,170	1,370	660	507	448
27	1,180	3,290	3,340	2,190	4,480	7,950	4,610	2,160	1,300	635	495	442
28	1,590	2,520	3,030	2,160	4,410	8,530	5,600	2,200	1,240	595	488	591
29	1,040	2,780	* 2,800	2,190	-	8,920	4,720	2,260	1,210	595	495	690
30	845	6,060	2,620	2,330	-----	* 9,130	* 4,300	2,330	1,200	630	495	635
31	750	-----	2,470	2,460	-----	9,130	-----	2,290	-----	630	* 495	-----
Total	19,445	41,027	127,240	71,840	248,440	211,500	188,900	92,070	53,310	26,057	22,109	14,308
Mean	627	1,368	4,105	2,317	8,873	6,823	6,297	2,970	1,777	841	713	477
Max	1,590	6,060	16,400	6,000	19,700	12,100	9,070	4,110	2,290	1,180	2,110	690
Min	462	642	1,290	1,480	2,340	4,430	4,110	2,160	1,200	595	488	433
Ac-ft	38,570	81,380	252,400	142,500	492,800	419,500	374,300	182,600	105,700	51,680	43,850	28,380

Calendar year 1961: Max 31,800 Min 452 Mean 3,690 Ac-ft 2,672,000  
 Water year 1961-62: Max 19,700 Min 433 Mean 3,058 Ac-ft 2,214,000

Peak discharge (base, 22,000 cfs).--Feb. 14 (0100) 23,800 cfs (14.42 ft).

\* Discharge measurement made on this day.



KLAMATH RIVER BASIN

465

11-5305. Klamath River near Klamath, Calif.

Location.--Lat 41°30'45", long 123°58'30", in SW $\frac{1}{4}$  sec.17, T.13 N., R.2 E., on right bank 2.8 miles upstream from Turwar Creek and 3.3 miles east of Klamath.

Drainage area.--12,100 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1910 to December 1926 (published as "near Requa"), October 1950 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 5.60 ft above mean sea level (levels by Corps of Engineers). Prior to June 1926 staff gage at same site at different datum.

Average discharge.--28 years, 17,010 cfs (12,310,000 acre-ft per year).

Extremes.--Maximum discharge during year, 82,000 cfs Dec. 20 (gage height, 18.89 ft); minimum daily, 2,690 cfs Oct. 3. 1910-26, 1950-62: Maximum discharge, 425,000 cfs Dec. 22, 1955 (gage height, 49.7 ft, from floodmarks), from rating curve extended above 140,000 cfs on basis of flood-routing study; minimum observed, 1,340 cfs July 31, Aug. 1, 1924.

Remarks.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions for irrigation above station.

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

3.8	2,600	11.0	26,000
4.0	2,900	15.0	50,000
5.0	4,600	18.0	74,000
7.0	10,400		

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,700	5,280	21,100	10,800	8,910	14,800	27,000	16,000	9,280	4,400	2,920	2,800
2	3,020	4,840	19,100	10,400	9,140	15,600	26,000	16,300	9,320	4,280	2,920	2,820
3	2,690	5,280	15,900	10,200	9,350	16,300	25,100	17,000	9,460	4,120	3,000	2,940
4	3,280	5,550	12,400	10,300	9,140	16,400	24,400	17,200	9,210	4,040	3,020	2,980
5	3,560	5,700	11,400	10,000	8,670	18,600	24,900	16,400	8,490	3,980	3,040	2,960
6	3,560	5,250	10,500	10,000	9,280	25,600	25,500	15,500	8,100	3,880	3,020	2,960
7	3,470	4,460	9,520	10,000	15,000	26,400	26,000	15,200	7,980	3,770	3,240	2,940
8	3,600	4,920	8,940	9,770	30,200	*23,600	27,000	15,600	8,100	3,700	4,140	2,930
9	2,920	5,080	8,190	9,630	37,000	22,400	26,500	16,200	8,400	3,650	5,320	2,920
10	2,870	5,320	7,620	9,350	45,300	21,500	24,800	15,400	8,580	3,590	5,420	2,920
11	4,340	5,700	7,320	8,910	35,600	20,800	23,000	14,500	8,400	3,530	4,220	2,920
12	4,440	4,960	6,960	8,820	28,600	19,100	22,500	13,600	*8,160	3,580	3,700	2,930
13	4,300	3,580	7,080	8,370	32,900	17,600	23,100	12,800	7,950	3,600	3,500	2,940
14	4,260	3,840	7,200	8,070	47,200	16,800	23,900	12,200	7,500	*3,500	3,350	2,960
15	4,180	4,080	7,410	7,770	42,200	16,400	24,600	11,700	7,020	3,470	3,280	2,960
16	3,340	4,240	7,200	7,530	44,500	16,000	23,400	11,400	6,750	3,380	3,200	2,960
17	3,050	4,360	10,300	7,140	42,500	16,000	22,100	11,200	6,720	3,350	3,160	2,940
18	3,700	4,440	12,600	6,900	35,900	15,900	21,200	11,200	6,660	3,320	3,120	2,920
19	3,800	4,520	30,200	10,800	30,200	16,000	21,100	11,100	6,540	3,280	3,080	2,900
20	4,020	*4,580	71,600	18,900	26,000	16,400	20,000	10,600	6,480	3,230	3,060	2,930
21	4,360	4,640	63,700	14,600	23,100	16,800	17,700	9,940	6,300	3,220	3,050	3,040
22	4,380	9,350	41,600	11,400	20,700	19,000	16,400	9,560	6,030	3,200	3,040	3,040
23	3,980	30,000	27,900	10,100	19,000	19,900	16,300	9,700	5,900	3,170	3,000	3,050
24	3,380	30,400	22,100	10,200	17,700	18,600	16,600	9,700	5,850	3,140	2,930	3,040
25	4,220	21,800	19,100	9,280	16,600	22,900	17,100	9,320	5,580	3,120	2,920	3,040
26	4,500	16,600	16,800	9,600	15,300	30,000	15,600	8,970	5,350	3,080	2,900	3,050
27	7,940	15,600	14,900	9,320	14,100	29,000	16,800	8,760	5,080	3,050	2,860	3,040
28	13,100	13,400	13,600	8,880	13,900	*28,400	23,200	9,000	4,880	3,020	2,810	3,350
29	7,500	13,000	12,500	8,490	-	27,700	20,000	9,350	4,720	2,940	2,800	4,360
30	5,020	18,500	11,300	8,490	-----	27,400	17,200	9,560	4,540	2,940	2,800	3,920
31	4,880	-----	11,200	8,700	-----	26,900	-----	9,460	-----	2,940	2,820	-----
Total	135,360	269,270	547,240	302,720	687,990	638,800	659,000	384,420	213,330	107,470	101,640	91,460
Mean	4,366	8,976	17,650	9,765	24,570	20,610	21,970	12,400	7,111	3,467	3,279	3,049
Max	13,100	30,400	71,600	18,900	47,200	30,000	27,000	17,200	9,460	4,400	5,420	4,360
Min	2,690	3,580	6,960	6,900	8,670	14,800	15,600	8,760	4,540	2,940	2,800	2,800
Ac-ft	268,500	534,100	+ 1,085	600,400	+ 1,365	+ 1,267	+ 1,307	762,500	423,100	213,200	201,600	181,400

Calendar year 1961: Max 107,000 Min 2,630 Mean 14,710 Ac-ft 10,650,000  
Water year 1961-62: Max 71,600 Min 2,690 Mean 11,340 Ac-ft 8,209,000

Peak discharge (base, 50,000 cfs).--Dec. 20 (0800) 82,000 cfs (18.89 ft); Feb. 14 (0800) 50,600 cfs (15.08 ft).

\* Discharge measurement made on this day.

† Expressed in thousands.

## SMITH RIVER BASIN

11-5310. Middle Fork Smith River at Gasquet, Calif.

Location.--Lat 41°50'40", long 123°57'35", in NW $\frac{1}{4}$  sec.28, T.16 N., R.2 E., on left bank 0.4 mile east of Gasquet and 0.6 mile upstream from confluence with North Fork Smith River.

Drainage area.--130 sq mi.

Records available.--October 1911 to February 1918 (published as "near Crescent City"). Occasional low-flow measurements, water years 1952-57 and annual maximum, water years 1954-56. October 1958 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). October 1911 to February 1918, staff or chain gages at various sites within 0.4 mile downstream at different datums. Sept. 23, 1953, to Sept. 30, 1956, crest-stage gage only, at site 0.2 mile upstream at different datum.

Average discharge.--10 years (1911-17, 1958-62), 643 cfs (465,500 acre-ft per year).

Extremes.--Maximum discharge during year, 12,200 cfs Nov. 23 (gage height, 8.76 ft); minimum, 44 cfs Oct. 6, 7.

1911-18, 1953-56, 1958-62: Maximum discharge, 26,000 cfs Dec. 22, 1955 (gage height, 11.5 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of peak flow.

1911-18, 1958-62: Minimum discharge observed, 38 cfs Oct. 21, 1915.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	50	4.0	1,560
1.5	115	5.0	2,800
2.0	245	6.0	4,500
2.5	460	7.0	6,800
3.0	750	8.0	9,600

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	125	2,000	460	288	650	1,080	620	194	101	64	59
2	50	*117	1,260	435	277	736	946	680	191	99	65	58
3	49	129	925	490	266	785	876	632	203	95	68	58
4	47	155	729	460	256	876	806	590	185	92	74	58
5	47	125	632	425	245	1,410	813	510	178	94	73	58
6	47	111	560	400	*328	1,700	771	460	*173	92	71	58
7	46	105	505	385	766	*1,300	771	440	170	92	160	58
8	46	97	450	365	2,460	1,120	750	450	170	91	*140	56
9	*a 46	92	415	344	2,860	1,050	708	445	168	89	143	55
10	a 65	105	380	328	2,540	976	602	435	165	86	109	55
11	a 178	127	348	312	1,540	890	550	400	158	92	91	61
12	86	115	328	320	1,180	841	550	370	155	86	83	62
13	71	107	312	300	1,840	785	550	348	150	85	77	59
14	65	99	320	284	2,020	750	555	336	145	83	74	59
15	61	94	308	273	1,620	764	515	312	143	82	73	59
16	56	92	312	266	1,860	792	465	296	140	80	70	58
17	55	89	1,120	259	2,120	799	440	284	138	77	68	56
18	59	88	1,470	266	1,590	792	420	280	131	76	68	55
19	55	88	5,780	574	1,260	806	425	273	127	76	67	55
20	56	88	5,360	897	1,060	799	385	259	123	74	65	55
21	67	101	4,310	590	897	778	352	249	119	74	65	55
22	77	2,310	2,140	490	785	a 1,200	340	242	117	73	65	55
23	71	7,190	1,430	425	715	a 1,300	340	252	115	73	62	53
24	85	4,370	1,130	390	650	a 1,400	370	239	115	71	62	53
25	73	1,800	946	365	584	a 3,600	340	230	113	70	65	52
26	119	1,300	806	348	540	a 3,000	*308	224	113	67	65	52
27	1,320	1,140	722	332	510	*1,950	764	221	111	65	64	53
28	578	976	*644	312	530	1,640	897	221	109	64	*62	127
29	263	*1,400	584	308	-	1,370	750	218	105	65	61	126
30	178	2,420	530	304	-----	1,220	650	206	103	65	62	77
31	145	-----	495	296	-----	1,130	-----	197	-----	64	61	-----
Total	4,211	25,155	37,251	12,003	31,587	37,209	18,089	10,919	4,327	2,493	2,397	1,855
Mean	136	839	1,202	387	1,128	1,200	603	352	144	80.4	77.3	61.8
Max	1,320	7,190	5,780	897	2,860	3,600	1,080	680	203	101	160	127
Min	46	88	308	259	245	650	308	197	103	64	61	52
Ac-ft	8,350	49,890	73,890	23,810	62,650	73,800	35,880	21,660	8,580	4,940	4,750	3,680

Calendar year 1961: Max 8,970 Min 46 Mean 746 Ac-ft 539,900

Water year 1961-62: Max 7,190 Min 46 Mean 514 Ac-ft 371,900

Peak discharge (base, 7,500 cfs).--Nov. 23 (1000) 12,200 cfs (8.76 ft); Dec. 19 (2000) 11,300 cfs (8.52 ft).

\* Discharge measurement made on this day.

a No gage-height record.

## SMITH RIVER BASIN

467

11-5325. Smith River near Crescent City, Calif.

Location.--Lat 41°47'20", long 124°03'20", in SW $\frac{1}{4}$  sec.10, T.16 N., R.1 E., on left bank 0.5 mile downstream from South Fork and 8 miles east of Crescent City.

Drainage area.--613 sq mi.

Records available.--October 1931 to September 1962. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 90 ft (from topographic map).

Average discharge.--31 years, 3,745 cfs (2,711,000 acre-ft per year).

Extremes.--Maximum discharge during year, 71,800 cfs Nov. 23 (gage height, 27.71 ft); minimum, 238 cfs Sept. 7-10.

1931-62: Maximum discharge, 165,000 cfs Dec. 22, 1955 (gage height, 41.20 ft), from rating curve extended above 69,000 cfs on basis of slope-area measurement at gage height 39.51 ft; minimum, 168 cfs Oct. 21, 1931.

Remarks.--Records good. No regulation or diversion.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.8	220	10.0	5,100
4.0	270	14.0	13,000
4.5	410	18.0	24,500
5.0	600	22.0	40,200
6.0	1,130	25.0	55,500
8.0	2,750		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	825	11,300	2,390	1,470	3,370	5,310	3,460	998	508	318	305
2	248	* 740	7,250	2,240	1,410	3,780	4,650	3,740	986	496	318	302
3	248	840	5,210	2,690	1,360	4,280	4,270	3,520	1,030	480	323	300
4	245	1,080	4,120	2,610	1,290	5,940	4,000	3,370	956	466	353	300
5	245	905	3,660	2,370	1,240	8,240	4,020	2,940	920	459	347	300
6	242	785	3,240	2,190	* 1,760	10,300	3,860	2,620	* 895	456	338	298
7	238	690	2,880	2,070	4,460	* 7,390	3,820	2,420	880	448	840	298
8	238	625	2,570	1,960	15,900	5,900	3,770	2,430	870	438	* 830	290
9	238	572	2,350	1,840	16,600	5,210	3,620	2,620	850	434	825	282
10	* 426	665	2,160	1,750	15,000	4,740	3,150	2,920	840	424	576	280
11	1,160	962	1,990	1,640	8,820	4,570	2,880	2,670	810	417	470	308
12	488	910	1,860	1,670	6,580	4,200	2,870	2,420	785	414	417	315
13	410	790	1,760	1,540	10,700	3,840	2,860	2,220	760	417	392	302
14	350	700	1,860	1,450	11,900	3,610	2,870	2,050	745	410	377	308
15	310	635	1,840	1,420	8,960	3,550	2,680	1,900	720	398	362	305
16	290	584	1,860	1,360	11,600	3,720	2,410	1,780	700	392	350	295
17	278	548	8,070	1,310	14,000	3,740	2,240	1,680	675	386	341	288
18	270	540	9,290	1,380	9,860	3,620	2,130	1,610	660	380	338	280
19	268	524	34,400	4,060	7,300	3,670	2,190	1,530	640	377	335	278
20	262	512	32,300	6,130	5,740	3,650	2,020	1,450	615	374	326	280
21	292	536	25,800	3,670	4,710	3,540	1,840	1,380	596	368	318	282
22	365	18,200	12,700	2,810	4,060	6,780	1,760	1,330	580	365	312	280
23	338	53,000	8,280	2,430	3,710	6,980	1,750	1,350	568	362	305	278
24	424	28,700	6,220	2,170	3,330	7,460	1,920	1,300	564	356	310	272
25	374	11,900	5,160	2,010	3,040	22,800	1,800	1,240	552	350	318	268
26	627	8,470	4,320	1,910	2,800	18,300	* 1,640	1,210	552	344	320	265
27	8,980	6,910	3,840	1,810	2,650	* 12,200	4,850	1,160	552	335	315	272
28	4,270	5,520	* 3,450	1,720	2,850	9,100	5,960	1,130	540	326	* 312	485
29	1,910	* 7,580	3,150	1,650	-	7,340	4,780	1,110	528	323	312	728
30	1,240	12,800	2,880	1,600	-----	6,300	3,840	1,070	520	323	312	400
31	968	-----	2,580	1,530	-----	5,640	-----	1,030	-----	320	310	-----
Total	26,492	168,048	218,350	67,380	183,100	203,760	95,760	62,660	21,887	12,346	12,220	9,444
Mean	855	5,602	7,044	2,174	6,539	6,573	3,192	2,021	730	398	394	315
Max	8,980	53,000	34,400	6,130	16,600	22,800	5,960	3,740	1,030	508	840	728
Min	238	512	1,760	1,310	1,240	3,370	1,640	1,030	520	320	305	265
Ac-ft	52,550	333,200	433,100	133,600	363,200	404,200	189,900	124,300	43,410	24,490	24,240	18,730

Calendar year 1961: Max 53,000 Min 238 Mean 4,331 Ac-ft 3,135,000

Water year 1961-62: Max 53,000 Min 238 Mean 2,963 Ac-ft 2,145,000

Peak discharge (base, 36,000 cfs) .--Nov. 23 (1000) 71,800 cfs (27.71 ft); Dec. 19 (1900) 63,200 cfs (26.29 ft).

\* Discharge measurement made on this day.

## SMITH RIVER BASIN

11-5327. Rowdy Creek at Smith River, Calif.

Location.--Lat 41°55'18", long 124°08'45", in NE 1/4 SW 1/4 sec. 26, T.18 N., R.1 W., on left bank 0.4 mile downstream from Dominie Creek, 0.6 mile south of town of Smith River, and 12.2 miles north of Crescent City.

Drainage area.--33.6 sq mi.

Records available.--June 1957 to September 1962 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 25.39 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 179 cfs (129,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,860 cfs Nov. 23 (gage height, 7.96 ft); no flow Oct. 1-9.

1957-62: Maximum discharge, 5,430 cfs Feb. 15, 1958 (gage height, 9.19 ft); no flow at times in each year.

Flood of Dec. 22, 1955, reached a stage of 10.8 ft, from floodmarks (discharge, 4,760 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records fair except those for periods of doubtful or no gage-height record, which are poor. No regulation. Town of Smith River diverts water from Dominie Creek for municipal supply.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	*40	442	125	64	198	193	141	45	18	10	6
2	0	34	375	118	61	241	173	145	48	17	12	6
3	0	68	292	163	59	381	d159	157	50	17	15	6
4	0	70	250	141	57	580	d141	155	45	16	14	6
5	0	53	235	125	56	542	d125	137	40	16	25	6
6	0	44	202	115	76	*530	d115	120	36	16	45	6
7	0	38	178	107	*150	402	d105	110	*34	16	*80	6
8	0	33	155	100	801	300	d104	117	32	16	70	6
9	*0	29	140	94	826	253	d102	149	31	16	35	6
10	78	37	126	88	655	241	d94	151	30	16	19	7
11	103	40	113	83	430	247	d86	133	29	15	16	12
12	32	33	105	84	314	228	d79	120	28	15	13	10
13	19	29	101	78	418	203	d75	111	27	15	11	9
14	11	27	111	73	382	185	d72	102	26	15	10	*9
15	7.6	24	109	73	318	169	d68	94	25	14	9	8
16	6.0	22	146	67	747	157	d65	87	25	14	8	7
17	4.8	21	407	65	870	145	d63	83	24	14	8	7
18	4.4	22	423	78	615	131	d61	78	24	13	7	7
19	3.8	21	1,370	266	450	120	d64	73	23	13	7	7
20	3.6	20	2,260	270	342	113	d66	69	22	13	7	7
21	6.8	43	1,240	167	272	113	d60	66	22	12	6	7
22	9.2	1,590	670	131	228	359	d56	64	21	12	6	7
23	15	2,720	478	115	205	356	d55	62	21	11	6	7
24	22	1,540	378	105	177	442	67	58	20	11	6	7
25	14	750	307	98	161	1,030	*65	56	20	11	6	7
26	82	516	241	91	143	*798	58	53	19	10	6	8
27	518	396	213	83	127	558	262	52	19	10	6	10
28	205	322	*185	79	163	414	256	51	19	10	6	14
29	101	*358	167	75	-	321	208	49	18	10	*6	16
30	67	473	151	72	-----	256	157	47	18	10	6	12
31	51	-----	137	67	-----	215	-----	45	-----	10	6	-----
Total	1,364.2	9,413	11,707	3,396	9,167	10,228	3,254	2,935	841	422	487	239
Mean	44.0	314	378	110	327	330	108	94.7	28.0	13.6	15.7	7.97
Max	518	2,720	2,260	270	870	1,030	262	157	50	18	80	16
Min	0	20	101	65	56	113	55	45	18	10	6	6
Ac-ft	2,710	18,670	23,220	6,740	18,180	20,290	6,450	5,820	1,670	837	966	474

Calendar year 1961: Max 2,720 Min 0 Mean 221 Ac-ft 160,200

Water year 1961-62: Max 2,720 Min 0 Mean 146 Ac-ft 106,000

Peak discharge (base, 1,500 cfs).--Nov. 23 (0600) 3,860 cfs (7.96 ft); Dec. 20 (1000) 2,510 cfs (6.00 ft).

\* Discharge measurement or observation of no flow made on this day.

d Doubtful gage-height record.

Note.--No gage-height record June 1 to Sept. 30.

## LOPEZ CREEK BASIN

469

11-5330. Lopez Creek near Smith River, Calif.

Location.--Lat 41°57'36", long 124°12'08", in SE $\frac{1}{4}$  sec.8, T.18 N., R.11 W., on right bank at culvert on U. S. Highway No. 101, 3.7 miles northeast of town of Smith River.

Drainage area.--0.93 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 35 ft (from topographic map).

Extremes.--Maximum discharge during year, 141 cfs Nov. 23 (gage height, 3.58 ft), by indirect measurement of peak flow through culvert; no flow Oct. 1-9.

Remarks.--Records good except those below 2 cfs and those for period of no gage-height record, which are fair.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 26 to Nov. 22)

Oct. 1 to May 31

June 1 to Sept. 30

0.7	0	1.5	18	0.7	0.2
.8	.3	1.8	34	.8	.8
.9	1.0	2.5	84	.9	2.6
1.0	3.0	3.0	110	1.0	5.1
1.2	8.3				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	*1.4	9.2	3.6	2.0	5.4	6.2	4.5	1.5	0.4	0.2	0.3
2	0	1.2	8.9	3.6	1.8	5.6	5.6	5.0	1.5	.4	.2	.3
3	0	2.8	7.7	3.6	1.6	6.5	5.1	5.0	1.5	.4	.5	.3
4	0	2.6	6.8	3.4	1.4	8.3	4.6	4.5	1.0	.4	.4	.3
5	0	2.4	6.8	3.0	*1.4	9.2	4.1	4.0	1.0	.4	.4	.3
6	0	2.2	5.9	2.8	2.8	*9.5	3.9	3.5	1.0	.4	1.7	.3
7	0	2.0	5.4	2.6	4.4	9.2	3.4	3.5	*1.0	.4	*4.1	.3
8	0	1.8	4.9	2.4	1.6	8.3	3.2	3.5	.8	.4	2.6	.3
9	*0	1.6	4.6	2.2	2.0	7.7	3.0	4.0	.8	.4	1.9	.3
10	.4	1.4	4.4	2.2	1.8	7.4	2.8	4.5	.8	.4	1.2	.3
11	.4	1.2	3.9	2.0	1.4	7.1	2.6	4.0	.8	.4	.8	.6
12	.3	1.2	3.4	2.2	1.1	6.5	2.4	3.5	.8	.4	.7	.4
13	.2	1.2	3.4	2.0	1.1	6.2	2.2	3.0	.7	.4	.6	.5
14	.1	1.0	3.6	1.8	9.2	5.9	2.2	3.0	.7	.3	.6	.4
15	.1	.9	3.4	1.8	8.9	5.6	2.0	3.0	.7	.3	.5	.4
16	.1	.9	3.9	1.6	1.3	5.1	2.0	2.5	.7	.3	.5	.4
17	.1	.8	7.4	1.6	1.8	4.9	1.8	2.5	.7	.3	.5	.3
18	.1	.8	8.0	2.0	1.7	4.6	1.6	2.5	.7	.3	.4	.3
19	.1	.8	2.0	4.9	1.3	4.4	2.4	2.0	.7	.3	.4	.3
20	.1	.8	3.6	4.9	1.0	4.1	2.0	2.0	.7	.3	.4	.3
21	.1	1.8	2.9	4.1	8.6	4.6	1.8	2.0	.6	.3	.4	.3
22	.1	1.9	1.8	3.6	7.1	6.2	1.5	2.0	.5	.3	.4	.3
23	.1	*100	1.3	3.4	6.5	5.9	1.5	2.0	.5	.3	.4	.3
24	.1	7.0	9.8	3.2	5.9	7.7	2.0	1.5	.5	.3	.4	.3
25	.1	2.9	7.7	3.0	5.4	1.7	*1.5	1.5	.7	.3	.4	.3
26	2.8	1.6	6.5	2.8	4.6	*1.7	2.0	1.5	.6	.3	.4	.3
27	5.9	1.2	*5.9	2.6	4.4	1.4	7.0	1.5	.5	.3	.3	.3
28	4.1	*9.2	5.4	2.4	5.4	1.1	5.0	1.5	.5	.3	.3	1.4
29	3.0	8.9	4.9	2.2	-	9.5	4.5	1.5	.5	.3	*.3	.7
30	2.4	8.9	4.4	2.2	-----	8.0	4.5	1.5	.5	.3	.3	.6
31	2.0	-----	4.1	2.0	-----	7.1	-----	1.5	-----	.3	.3	-----
Total	22.7	303.8	266.3	85.7	242.4	239.5	94.4	88.0	23.5	10.6	22.5	11.7
Mean	0.73	10.1	8.59	2.76	8.66	7.73	3.15	2.84	0.78	0.34	0.73	0.39
Max	5.9	100	36	4.9	20	17	7.0	5.0	1.5	0.4	4.1	1.4
Min	0	0.8	3.4	1.6	1.4	4.1	1.5	1.5	0.5	0.3	0.2	0.3
Ac-ft	4.5	603	528	170	481	475	187	175	47	21	45	23
(t)	7.8	15.9	8.4	2.8	9.6	11.7	4.8	2.6	0.8	0	4.4	2.8

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 100 Min 0 Mean 3.87 Ac-ft 2,800

Peak discharge (base, 55 cfs).--Nov. 23 (1000) 141 cfs (3.58 ft); Dec. 20 (1500) 62 cfs (2.15 ft).

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches.

Note.--No gage-height record Apr. 22 to June 6.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

#### Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow, partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1962

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Butano Creek basin						
*1625.4	Butano Creek near Pescadero, Calif.	Lat 37°14'02", long 122°21'58", in Butano Grant, 1.5 miles southeast of Pescadero.	18.3	1959-62	10- 2-61 10-25-61 11- 7-61 12-18-61 1-29-62 2-11-62 2-13-62 2-14-62 2-19-62 2-20-62 3-21-62 4-17-62 5-29-62 6-28-62 8-24-62	0.52 .63 .66 1.88 3.04 35.0 1,600 165 90.7 74.7 18.3 6.54 2.63 1.57 .49
Napa River basin						
*4559.5	Sulphur Creek near St. Helena, Calif.	NE $\frac{1}{4}$ sec.2, T.7 N., R.6 W., 1,000 ft above Heath Canyon and 1.3 miles southwest of St. Helena.	4.49	1958-62	10- 4-61 10-17-61 11-13-61 12-19-61 2- 6-62 2-15-62 3-21-62 5- 1-62 5-24-62 6-14-62 7- 5-62	0 0 0 2.52 .93 163 5.41 1.06 .49 .09 0.
Sonoma Creek basin						
*4584	Sonoma Creek near Kenwood, Calif.	NE $\frac{1}{4}$ sec.20, T.7 N., R.6 W., on upstream side of bridge at entrance to Golden Bear Lodge, 0.4 mile below Bear Creek and 2.0 miles north of Kenwood.	6.06	1958-62	10- 4-61 10-17-61 11-13-61 12- 2-61 1-31-62 2- 7-62 2- 9-62 2-13-62 2-13-62 3- 8-62 3-20-62 4-30-62 5-24-62 6-13-62 7- 5-62 7-27-62 9-10-62	0.12 .12 .22 59.0 3.4 10.2 126 226 250 41.9 9.91 2.63 1.95 1.28 .36 .21 .22

\* Also a crest-stage partial-record station.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1962--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Russian River basin						
*4621	Robinson (formerly published as Robertson) Creek near Ukiah, Calif.	NE $\frac{1}{4}$ sec.7, T.14 N., R.12 W., 100 ft above county road bridge, 2.3 miles above mouth, and 3.5 miles south of Ukiah.	19.9	1959-62	10- 3-61 10-16-61 11-28-61 1- 3-62 3-28-62 4-26-62 5-10-62 5-23-62 7- 6-62	0.41 .40 3.75 5.11 32.0 2.49 1.27 .13 0
4629	Cummisky Creek near Cloverdale, Calif.	0.2 mile downstream from right bank tributary, 2.2 miles above mouth and 5 miles south of Hopland.	-	1957, 1961-62	10- 3-61 10-17-61 11-28-61 1- 5-62 3-26-62 5-15-62 5-25-62 6-11-62 6-29-62	.69 .11 7.39 3.27 16.1 2.05 1.32 .85 .35
*4637	Sausal Creek near Healdsburg, Calif.	Lat 38°40'40", long 122°48'15", in Sotoyome Grant, at bridge on Pine Flat Road, 0.4 mile above Deer Creek and 5.6 miles northeast of Healdsburg.	11.2	1959-62	10- 4-61 10-16-61 11-22-61 1- 2-62 2- 2-62 2-13-62 2-15-62 3-15-62	0 0 0 2.67 2.75 2,390 250 23.7
*4638	Franz Creek near Kellogg, Calif.	Lat 38°36'30", long 122°41'35", in Mallacames Grant, 50 ft below bridge on Franz Valley Road and 2 miles southwest of Kellogg.	14.4	1956-62	10- 4-61 10-17-61 12- 1-61 1- 4-62 2-12-62 2-13-62 2-15-62 3-16-62 4-26-62 5-10-62 5-24-62 6-11-62 7- 5-62	.04 .04 164 1.83 43.3 3,030 251 21.5 2.09 1.78 .80 .49 .20
*4648.8	Warm Spring Creek at Skaggs Springs, Calif.	SE $\frac{1}{4}$ sec.24, T.10 N., R.11 W., 1,000 ft below Little Warm Spring Creek and 0.2 mile northeast of Skaggs Springs.	32.7	1959-62	10- 3-61 10-16-61 11-22-61 12-29-61 1-31-62 2-13-62 2-20-62 3-15-62 4-24-62 5-10-62 5-25-62 6-19-62 7- 5-62	.23 .66 2.47 22.5 22.1 4,520 271 100 16.7 12.2 7.95 3.40 1.97
*4651.25	Mill Creek near Healdsburg, Calif.	Lat 38°35'40", long 122°54'55", in Sotoyome Grant, at bridge 0.4 mile above Wallace Creek and 2.8 miles southwest of Healdsburg.	11.8	1958-62	10- 3-61 10-16-61 11-21-61 1- 4-62 2- 2-62 3-19-62 4-26-62 5- 9-62 5-23-62 6-12-62 7- 6-62	.50 .70 1.15 3.80 4.70 23.8 6.65 4.71 3.59 2.25 1.37

\* Also a crest-stage partial-record station.

Discharge measurements made at low-flow partial-record stations during water year 1962--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Russian River basin--Continued						
*4654.5	Mark West Creek at Mark West Springs, Calif.	SW $\frac{1}{4}$ sec. 11, T.8N., R.8 W., on upstream side of county road bridge at Mark West Springs.	30.5	1958-62	10- 4-61 10-17-61 12- 1-61 1- 4-62 2-12-62 2-14-62 3-16-62 4-26-62 5-10-62 5-24-62 6-11-62 7- 5-62	0.01 .01 218 2.88 59.7 347 29.0 4.13 2.98 1.62 .62 .06
*4670.5	Big Austin Creek at Cazadero, Calif.	SW $\frac{1}{4}$ sec.16, T.8 N., R.11 W., at private road bridge 0.25 mile below Ward Creek and 0.3 mile north of Cazadero.	26.5	1959-62	10- 2-61 10-17-61 10-30-61 11-20-61 11-29-61 12-28-61 1-29-62 2-13-62 2-14-62 2-15-62 3-15-62 4-25-62 5- 9-62 5-23-62 6-12-62 7- 6-62	1.24 1.67 1.74 5.10 299 37.8 38.8 12,100 3,500 902 85.9 18.9 16.9 9.56 5.79 2.96

\* Also a crest-stage partial-record station.



## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

## Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Butano Creek basin							
*1625.4	Butano Creek near Pescadero, Calif.	See previous table.	18.3	1959-62	2-13-62	a	1,600
Napa River basin							
*4559.5	Sulphur Creek near St. Helena, Calif.	See previous table.	4.49	1956, 1958-62	2-14-62	11.48	435
Sonoma Creek basin							
*4584	Sonoma Creek near Kenwood, Calif.	See previous table.	6.06	1958-62	12- 1-60 2-13-62	11.83 12.62	395 685
Russian River basin							
*4621	Robinson (formerly published as Robertson) Creek near Ukiah, Calif.	See previous table.	19.9	1956, 1958-62	2-13-62	14.09	1,510
*4637	Sausal Creek near Healdsburg, Calif.	See previous table.	11.2	1959-62	2-13-62	14.02	2,390
*4638	Franz Creek near Kellogg, Calif.	See previous table.	14.4	1956, 1958-62	2-13-62	8.55	3,030
*4648.8	Warm Spring Creek at Skaggs Springs, Calif.	See previous table.	32.7	1959-62	2-13-62	11.88	4,520
*4651.25	Mill Creek near Healdsburg, Calif.	See previous table.	11.8	1958-62	2-13-62	12.40	940
*4654.5	Mark West Creek at Mark West Springs, Calif.	See previous table.	30.5	1958-62	2-13-62	14.25	4,400
*4670.5	Big Austin Creek at Cazadero, Calif.	See previous table.	26.5	1959-62	2-13-62	23.24	12,100

\* Also a low-flow partial-record station.  
a Crest-stage gage damaged.

## SANTA ANA RIVER ABSORPTION STUDIES

These measurements were made by the Orange County Flood Control District to determine the rate of absorption along the streambed of the Santa Ana River, covering that portion of the river from Yorba Bridge to the Geological Survey gaging station, Santa Ana River at Santa Ana. The measurements are listed in downstream order. Flow includes release to river from Metropolitan Water District of Southern California from Oct. 1 to Dec. 3, Dec. 4 to Jan. 20, Jan. 24 to Feb. 8, Mar. 2 to June 12, June 18 to Sept. 30.

Santa Ana River, lat 33°51'30", long 117°47'12", in Canon de Santa Ana Grant, about 1,000 ft above Yorba Bridge and 2.7 miles southeast of Atwood, water year 1962  
(Measured previously 1938-61)

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 2	90.9	Dec. 22	208	Mar. 12	258	May 17	319	July 24	340
6	106	29	214	16	266	21	221	27	339
9	99.9	Jan. 5	241	19	227	25	308	31	324
13	97.4	8	238	23	210	28	299	Aug. 3	276
20	194	12	218	26	264	June 1	261	7	280
23	170	15	187	30	300	4	264	10	337
27	319	19	169	Apr. 2	286	8	288	14	299
30	348	22	175	6	268	11	292	17	297
Nov. 3	222	26	269	9	260	15	4.34	21	318
6	212	29	172	13	260	18	1.97	24	321
10	233	Feb. 2	160	16	264	22	268	28	280
13	149	5	158	20	306	26	280	31	293
17	201	10	378	23	295	29	273	Sept. 7	267
24	266	14	163	27	297	July 3	280	12	271
27	289	21	540	30	315	6	281	14	298
Dec. 1	271	26	120	May 4	341	10	293	18	279
4	79.7	Mar. 2	88.3	7	234	13	296	21	296
8	221	5	208	11	343	17	319	25	241
15	222	8	243	14	352	20	343	28	247

Santa Ana River, lat 33°50'55", long 117°50'05", in SW 1/4 sec. 4, T. 4 S., R. 9 W., at Jefferson Street Bridge, 1 mile north of Olive, water year 1962  
(Measured previously 1938-61)

Oct. 20	97.6	Jan. 8	174	Mar. 19	179	May 21	172	July 27	280
23	76.0	12	151	23	169	25	248	Aug. 3	196
27	233	15	145	26	191	28	250	7	181
30	266	19	116	30	212	June 1	213	10	256
Nov. 3	177	22	138	Apr. 2	192	4	209	14	187
6	147	26	194	6	187	8	224	17	235
10	164	29	111	13	186	11	245	21	239
13	75.1	Feb. 2	100	16	216	22	189	24	231
17	124	5	111	20	250	26	208	28	219
24	195	10	301	23	228	29	204	31	214
27	218	14	90.6	27	255	July 3	210	Sept. 7	201
Dec. 1	198	21	429	30	247	6	199	12	208
4	46.6	26	15.2	May 4	262	10	221	14	229
8	155	Mar. 2	26.5	7	177	13	231	18	210
15	159	5	189	11	287	17	262	21	228
22	147	8	117	14	294	20	265	25	175
29	163	12	206	17	260	24	281	28	184
Jan. 5	170	16	221						

Santa Ana River, lat 33°50'08", long 117°51'49", in San Juan Cajon de Santa Ana Grant, at Anaheim-Olive Bridge, 1.1 miles west of Olive, water year 1962  
(Measured previously 1938-61)

Oct. 27	119	Jan. 15	46.7	Mar. 26	62.5	May 28	109	Aug. 3	82.3
30	151	19	28.3	30	72.0	June 1	54.5	7	56.4
Nov. 3	67.3	23	36.2	Apr. 2	96.8	4	65.8	10	87.1
6	29.7	26	116	6	91.5	11	135	14	36.9
10	56.7	29	24.4	13	25.9	22	105	17	59.3
13	1.96	Feb. 2	19.3	16	68.1	26	107	21	87.8
17	19.6	5	24.2	20	98.9	29	101	24	81.6
24	73.3	10	230	23	79.1	July 3	85.2	28	68.0
27	90.9	14	30.4	27	79.1	6	0	31	70.7
Dec. 1	63.2	21	387	30	77.1	10	84.3	Sept. 7	68.1
8	73.7	26	0	May 4	84.9	13	58.1	12	61.4
15	65.6	Mar. 5	87.7	7	14.2	17	77.6	14	65.3
22	49.4	8	20.0	11	119	20	99.5	18	70.8
29	42.8	12	115	14	133	24	96.2	21	97.9
Jan. 5	87.8	16	109	17	154	27	93.6	25	61.0
8	66.0	19	88.6	21	14.9	31	94.8	28	60.0
12	0	23	66.9	25	114				

Santa Ana River, lat 33°47'17", long 117°52'54", in Santiago de Santa Ana Grant, at Chapman Ave. Bridge, 1.7 miles west of Orange, Orange County, water year 1962  
(Measured previously 1938-47, 50, 52, 54, 56, 58)

Nov. 28	0.1	Jan. 19	0	Feb. 10	158	Apr. 9	0	July 13	1.36
Dec. 8	4.01	23	10.1	21	219	June 29	8.0	17	0
15	0	26	0	26	0	July 3	.40	Aug. 23	1.0
Jan. 15	.60	Feb. 2	0	Apr. 6	1.5	10	1.0		

Santa Ana River, lat 33°40'21", long 117°51'42", in SE 1/4 sec. 5, T. 6 S., R. 10 W., at Adams Ave. Bridge, 2.5 miles northwest of Costa Mesa, water year 1962  
(Not measured previously)

Jan. 23	15.9	Feb. 10	167	Feb. 14	9.7	Feb. 21	245	Feb. 23	7.32
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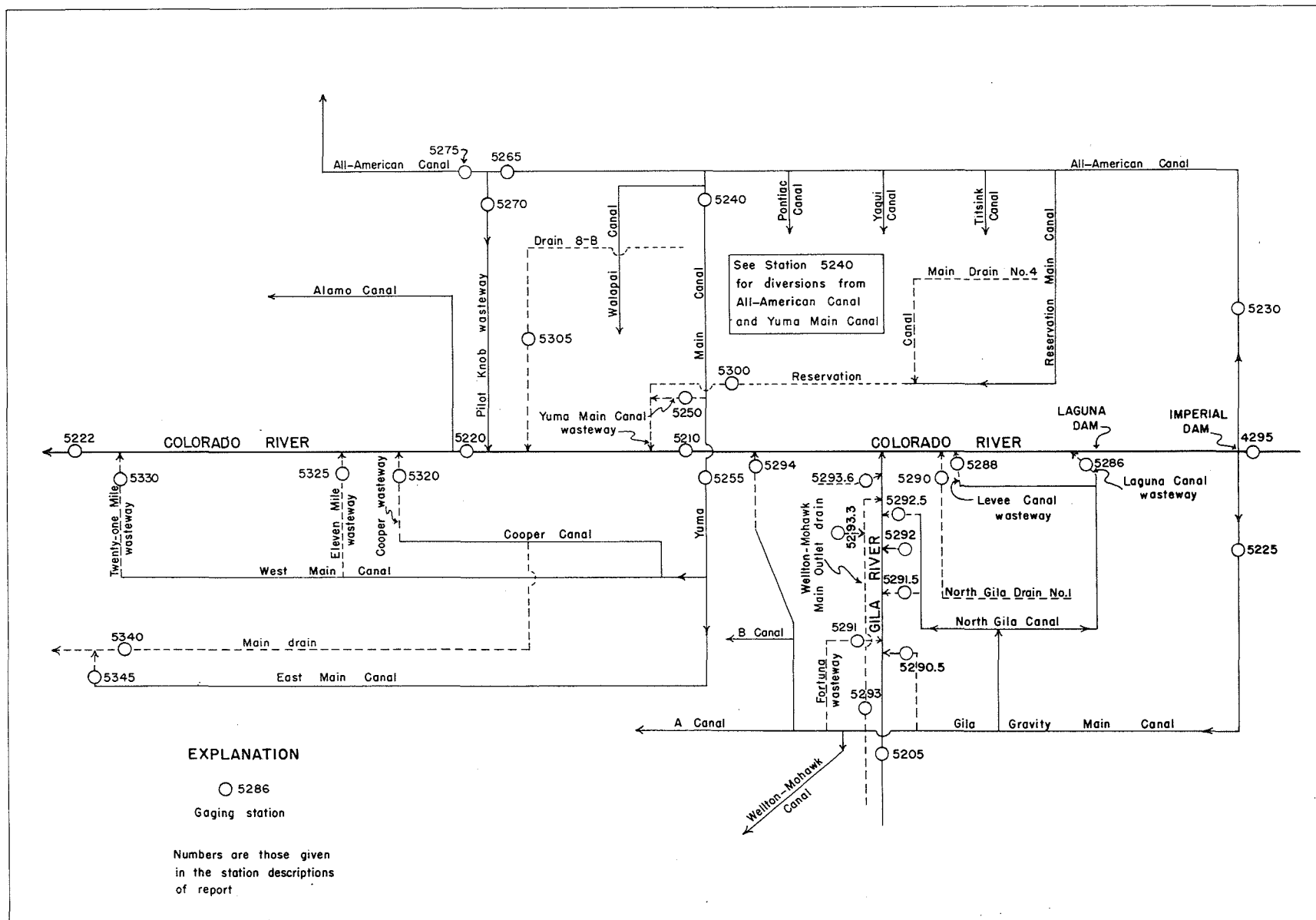


Figure 1. --Schematic diagram showing gaging stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary

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Alamo Creek, near Nipomo.....	252	Cottonwood Creek (Tia Juana River basin), above Tecate	
near Santa Maria.....	253	Creek, near Dulzura.....	81
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Albion River near Comptche.....	377	Cottonwood Creek at Morena Dam.....	79
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Amargosa River at Tecopa.....	35	near Gilroy.....	332
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Andreas Creek near Palm Springs.....	50	Coyote Creek (tributary to San Gabriel River) near Artesia.....	179
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Arroyo Seco (Los Angeles River basin) near Pasadena.....	187	Cushenbury Creek near Lucerne Valley.....	53
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Big Bear Lake near Big Bear Lake.....	122	Devil Canyon Creek near San Bernardino.....	140
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Big River, South Fork, near Comptche.....	378	Dry Creek (tributary to Napa River) near Napa.....	352
Big Rock Creek near Valyermo.....	60	Dry Creek (tributary to Russian River), near Cloverdale.....	369
Big Sulphur Creek near Cloverdale.....	366	near Geyserville.....	370
Big Sur River near Big Sur.....	267	Dunn Creek near Rockport.....	380
Black Butte River near Covelo.....	389	Eagle Creek at Eagle Mountain.....	37
Bluff Creek near Weitchpec.....	442	East Twin Creek near Arrowhead Springs.....	132
Bodfish Creek near Gilroy.....	297	Eaton Creek near Pasadena.....	191
Borrego Palm Creek near Borrego Springs.....	44	El River, above Dos Rios.....	387
Boulder Creek at Cuyamaca Reservoir, near Julian.....	90	at Alderpoint.....	399
Branciforte Creek at Santa Cruz.....	313	at Scotia.....	408
Brea Creek, at Fullerton.....	176	at Van Arsdale Dam, near Potter Valley.....	385
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Chesbro Reservoir.....	307	Novato Creek near Novato.....	357
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