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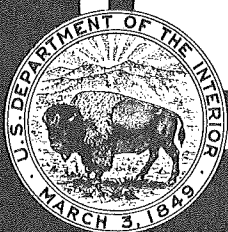
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1967

Water Resources Data for California

Part 1. Surface Water Records

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



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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

WATER RESOURCES DATA
FOR
CALIFORNIA
1967

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Menlo Park, California
1968

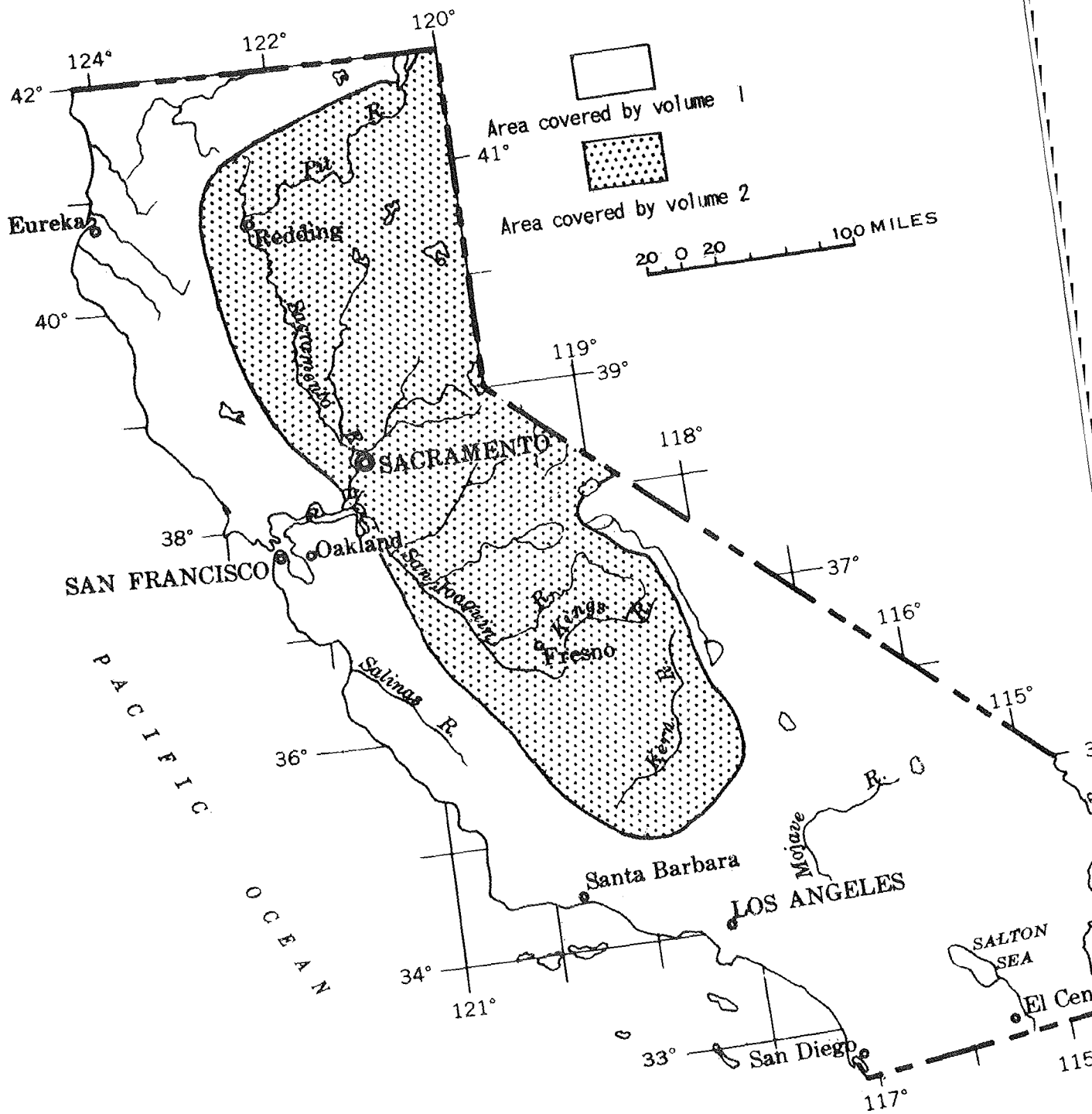
Water-resources records, 1967, for California are in the following reports of the U.S. Geological Survey:

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

Copies of these reports may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
855 Oak Grove Avenue
Menlo Park, California 94025

Prepared in cooperation with

California Department of Water Resources
Alameda County Flood Control and Water Conservation District
Alameda County Water District
Bollinas Harbor District
Calaveras County Water District
Coachella Valley County Water District
Contra Costa County Flood Control and Water Conservation District
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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
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WATER RESOURCES DATA FOR CALIFORNIA, 1967

Part 1. SURFACE WATER RECORDS

INTRODUCTION

The surface-water records for the 1967 water year for gaging stations, partial-record stations, and miscellaneous sites within California are given in this report. For convenience, also included are records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey, under the direction of R. Stanley Lord, district chief, Menlo Park, Calif.

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

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

COOPERATION

In California the work was done under cooperative agreements with:

California Department of Water Resources, W. E. Warne, director; succeeded by William R. Gianelli.

Alameda County Flood Control and Water Conservation District, Paul E. Lanferman, engineer-manager.

Alameda County Water District, M. P. Whitfield, general manager.

Bolinas Harbor District, Gene McDaniel, president.

Calaveras County Water District, T. Stanley Edwards, secretary-manager.

Coachella Valley County Water District, Lowell O. Weeks, general manager-chief engineer.

Contra Costa County Flood Control and Water Conservation District, C. C. Rich, deputy chief engineer.

Lake County Flood Control and Water Conservation District, Williard D. Hansen, manager.

Montecito County Water District, Delbert D. Smith, general manager.

Monterey County Flood Control and Water Conservation District, Loran Bunte, Jr., district engineer.

Santa Clara County Flood Control and Water District, Donald K. Currlin, manager-counsel.

Orange County Flood Control District, H. G. Osborne, chief engineer.

Riverside County Flood Control and Water Conservation District, John W. Bryant, chief engineer.

San Benito County Water Conservation and Flood Control District, Ernest E. Ricotti, manager.

San Luis Obispo County Flood Control and Water Conservation District, Robert H. Born, county hydraulic engineer.

Santa Barbara County Water Agency, Curtis Tunnell, chairman; succeeded by Francis H. Beattie.

Santa Cruz County Flood Control and Water Conservation District, Warren M. Harrison, director of public works.

San Mateo County, Don S. Wilson, County Engineer and Road Commissioner.

San Diego (city), R. E. Graham, director of utilities.

Santa Barbara City Water Department, Neil Mendenall, superintendent.

Antelope Valley-East Kern Water Agency, W. G. Spinarski, manager.

East Bay Municipal Utility District, J. S. Harnett, chief engineer and assistant general manager.

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

Imperial Irrigation District, R. F. Carter, general manager.

San Bernardino Valley Water Conservation District, E. F. Dibble, engineer and secretary.

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

Ventura River Municipal Water District, Robert McKinney, general manager and chief engineer.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; U.S. Navy; Bureau of Reclamation and National Park Service, U.S. Department of the Interior; Forest Service, U.S. Department of Agriculture; and the city and county of San Francisco.

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

DEFINITION OF TERMS AND ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before the station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each 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 and continuous-record gaging stations, so that the number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive.

The complete 8-digit number for each station, such as 11-1208.00 includes the part number "11" plus a 6-digit number. In this report, the nonessential zeros are not shown. For example, the complete number 11-1208.00 would appear as 11-1208, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number.

EXPLANATION OF DATA

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

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

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

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

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

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

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given the periods for which there are published records for the present station or for generally equivalent stations. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than 5 complete years of record or for stations where changes in water development cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the

minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

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

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

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

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

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

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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

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

OTHER DATA AVAILABLE

Data from partial-record stations and measurements made at miscellaneous sites are given at the end of this report. Occasionally, discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also at the end of this report. Data for most crest-stage partial-record stations in California are not included in this report. They are published separately in an annual report, "Floods from Small Drainage Areas," copies of which may be obtained from the district office.

More detailed information than that published for most of the gaging stations is on file in the district office; information, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1958 have been analyzed with an electronic computer to give: (1) The number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

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

HYDROLOGIC CONDITIONS

Drought conditions which generally prevailed at the end of the previous water year continued through October with streamflow generally deficient or well below normal. Generally heavy rains in November ended the comparatively hot, dry season and increased runoff to well above normal in the north-coastal area, excessive in the Sierra Nevada, and near normal in southern California. Violent storms accompanied by the greatest 24-hour precipitation of record for November caused considerable damage in Los Angeles. A warm, intense storm December 2-6 produced heavy rain throughout the State, but with particular heavy concentrations December 4-6 in the Buena Vista Lake and Tulare Lake basins and the central California coast between Monterey Bay and the Santa Barbara area extending inland to Owens Valley east of the Sierra Nevada. The Kaweah-Tule-Kern River basins, east of Porterville and Bakersfield, were particularly hard hit. Rainfall was as much as 19 inches in 27 hours. The resulting flood peaks in the upper Tule, Kern, and Kaweah basins were substantially above the previous recorded maximums, and may have exceeded the

legendary floods of 1867. Damage was severe in the Tule, Kern, and Kaweah headwaters. Reservoirs downstream stored the floodflows and prevented otherwise great losses in the populated areas below them. A comprehensive flood report is being prepared. Recordbreaking floods also occurred in the upper Salinas River and Santa Maria River basins, west-side San Joaquin Valley near Coalinga, Kings River basin, and west-side Owens Valley. Floodwaters contained by Nacimiento, San Antonio, and Salinas Reservoirs prevented larger areas of Salinas Valley from being flooded. In the northern part of the State the runoff was high, but there was no flooding. Storms continued throughout the first half of December, but the last half was comparatively dry. Runoff was excessive for December throughout most of the State and well above normal in the north-coastal area. The first 3 weeks of January was comparatively dry, but general heavy rains occurred during the last week. Runoff was excessive for January throughout the State. In February, in contrast to the previous 2 months, precipitation was below normal and runoff decreased to below normal in the north, but was above normal in the south and excessive in a small area draining the eastern slope of the Sierra Nevada. March, however, was wet with a series of cold-type storms with a heavy accumulation of snow at elevations as low as 1,000 feet in the north-coastal area. Contents of major reservoirs were well above average. Releases were made from some reservoirs to maintain flood-control storage space in anticipation of high runoff from early melt of the above-normal snowpack. Streamflow in March was excessive in the Sierra Nevada, above normal in central and southern California, and near normal in the north-coastal area. The normal snowmelt was delayed in April and the first part of May because of below-normal temperatures. Precipitation, however, was generally above normal producing a near-record snowpack in the Sierra Nevada. Above-normal temperatures during the latter part of May caused rapid snowmelt and near flooding on most streams from the Sierra Nevada, but the flood threat was eased by cold storms during the last few days of the month. Below-normal temperatures through the first half of June again slowed the normal snowmelt from the Sierra Nevada and, although temperatures rose during the latter half of the month, the danger of major flooding was past. Meltwater from the above-normal snowpack sustained higher than normal runoff from the higher elevations and streamflow from the Sierra Nevada was excessive from May through the end of the water year. In contrast, in the extreme southern part of the State the streamflow was deficient from May through the end of the water year.

Figure 1 shows the runoff for the 1967 water year, in percentage of the 1930-60 median. The runoff from these index streams averaged almost $2\frac{1}{2}$ times the median for the State as a whole. At individual index stations runoff ranged from slightly below normal in the extreme north-coastal area to more than five times the median in the south-coastal area.

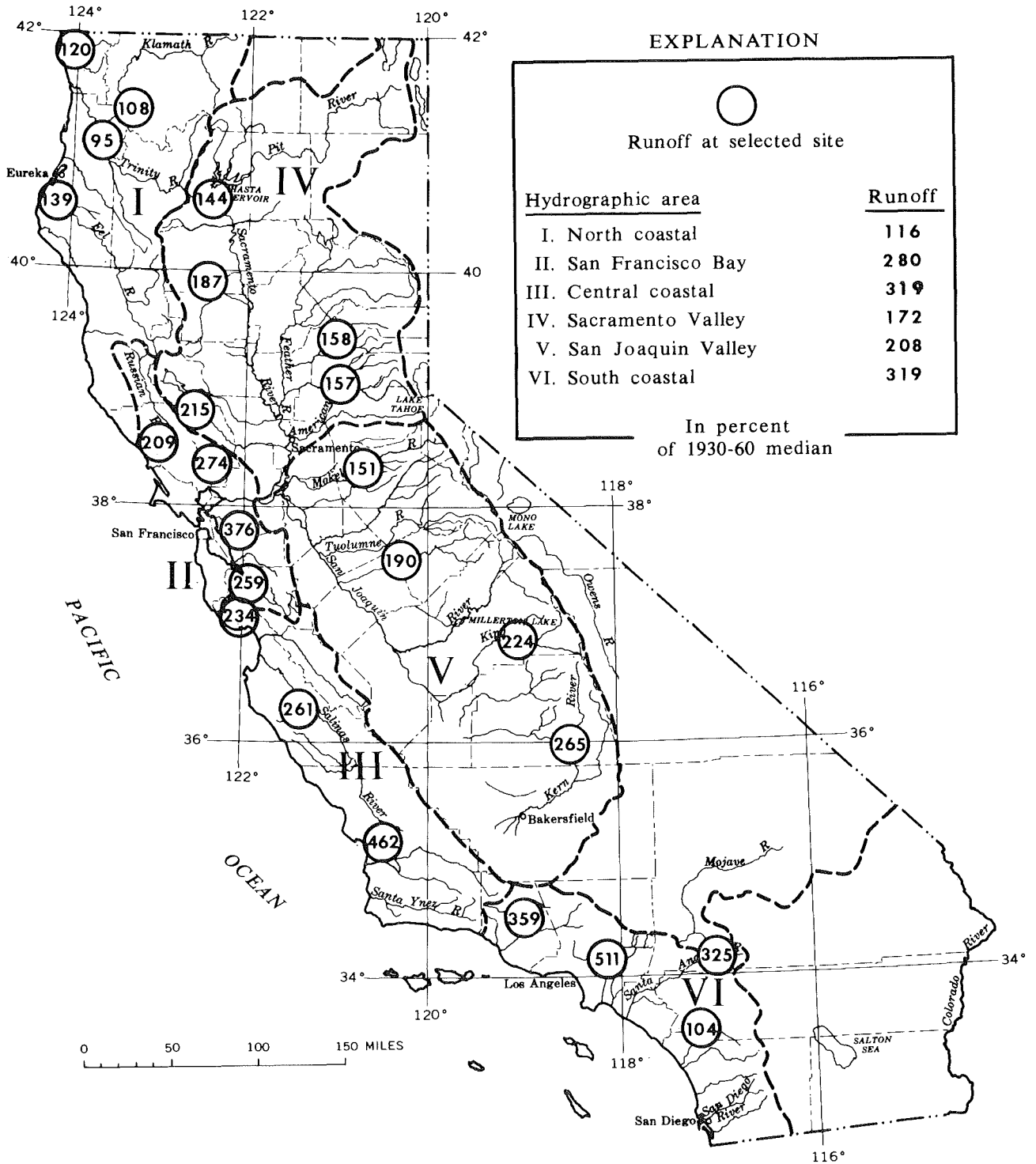


Figure 1.--Runoff for the 1967 water year.

COLORADO RIVER MAIN STEM

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

Location.--Lat 35°11'30", long 114°34'15", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967.

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

Average discharge.--18 years (1949-67), 13,200 cfs (9,556,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 26,800 cfs July 5 (gage height, 6.32 ft); minimum daily, 1,810 cfs Dec. 11.

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

1949-67: 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. 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 CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,970	6,810	6,900	4,910	5,290	12,000	14,900	13,400	12,900	16,100	16,500	12,000
2	9,140	6,420	6,560	5,980	6,310	11,800	12,300	13,500	13,100	11,700	17,600	5,690
3	8,480	6,400	6,560	5,800	6,220	13,700	13,300	13,500	13,400	16,300	17,700	5,030
4	3,740	6,400	6,490	7,120	7,480	13,200	13,100	11,400	11,700	16,200	16,700	5,340
5	3,120	6,250	4,720	8,100	8,640	9,110	14,300	11,300	13,500	16,400	17,700	6,160
6	4,950	6,270	3,920	7,970	12,100	13,400	14,800	10,000	13,300	14,500	14,100	5,920
7	5,720	6,050	2,630	8,080	12,200	14,800	17,500	9,300	12,800	15,200	16,900	4,950
8	7,030	7,350	1,860	7,860	13,000	10,800	17,000	12,600	13,800	15,200	16,800	3,150
9	6,890	4,820	1,880	7,680	13,200	10,700	18,200	13,700	13,900	12,000	15,700	2,020
10	7,660	4,790	1,860	9,270	13,200	11,100	17,900	14,000	13,800	14,900	15,900	8,850
11	6,770	6,490	1,810	8,310	11,300	10,900	15,200	12,800	10,900	14,700	16,400	15,600
12	7,420	6,470	4,510	6,300	10,100	11,900	14,600	12,500	14,200	14,900	15,700	16,600
13	7,450	6,400	6,980	6,470	11,000	15,200	10,400	12,400	14,100	15,500	12,900	16,800
14	7,270	5,870	9,180	6,320	11,300	14,100	10,300	11,000	14,700	15,700	15,700	11,400
15	7,370	5,900	9,250	6,330	11,900	13,900	10,400	15,200	15,800	15,500	13,900	11,300
16	7,770	6,000	6,280	5,080	11,900	14,400	10,200	15,400	15,700	12,000	14,000	12,800
17	10,900	4,830	6,410	5,430	11,000	14,600	13,000	15,500	16,200	16,200	13,900	7,970
18	11,500	4,900	6,220	5,930	11,100	15,100	13,000	15,100	14,100	16,600	11,700	15,600
19	11,300	4,810	6,150	7,140	6,450	12,200	13,200	14,000	15,700	16,400	10,400	12,800
20	8,560	5,050	7,000	7,110	10,900	15,400	13,100	13,900	16,800	14,100	9,250	11,000
21	7,990	6,440	6,110	7,110	10,100	16,800	12,200	14,300	17,400	14,200	13,200	10,700
22	8,010	6,470	5,600	7,120	10,100	16,300	12,100	16,400	17,400	15,300	12,300	11,900
23	7,040	5,490	5,620	7,450	8,880	17,100	11,100	16,400	17,500	14,200	14,900	12,000
24	7,520	5,400	5,820	7,670	8,800	17,200	12,800	15,600	16,000	15,200	13,300	7,790
25	7,540	5,460	8,330	7,450	9,020	17,200	12,700	13,100	13,200	16,000	13,200	11,200
26	7,500	5,510	8,630	7,660	8,330	14,800	12,800	12,600	17,000	16,500	12,900	11,600
27	8,890	5,670	6,640	7,580	8,730	17,200	12,800	12,400	17,600	17,300	12,000	11,400
28	9,110	7,300	7,990	7,560	9,180	17,100	12,900	11,400	16,400	17,000	13,400	11,400
29	9,050	7,430	5,080	7,720	-----	11,200	12,800	14,300	16,200	16,900	13,000	11,500
30	8,080	7,610	4,880	5,600	-----	9,820	11,400	14,500	16,200	13,000	13,500	11,700
31	8,250	-----	4,910	5,410	-----	15,100	-----	14,300	-----	16,500	13,400	-----
TOTAL	240,990	181,060	176,780	215,520	277,730	428,130	400,300	415,800	445,300	472,200	444,550	302,170
MEAN	7,774	6,035	5,703	6,952	9,919	13,810	13,340	13,410	14,840	15,230	14,340	10,070
MAX	11,500	7,610	9,250	9,270	13,200	17,200	18,200	16,400	17,600	17,300	17,700	16,800
MIN	3,120	4,790	1,810	4,910	5,290	9,110	10,200	9,300	10,900	11,700	9,250	2,020
AC-FT	478,000	359,100	350,600	427,500	550,900	849,200	794,000	824,700	883,200	936,600	881,800	599,300

CAL YR 1966: TOTAL 4,115,850 MEAN 11,280 MAX 19,300 MIN 1,680 AC-FT 8,164,000
WAT YR 1967: TOTAL 4,000,530 MEAN 10,960 MAX 18,200 MIN 1,810 AC-FT 7,935,000

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 1967 (elevations only).

Gage--Digital water-stage recorder. Datum of gage is 400.00 ft above mean sea level, datum of 1929. Prior to Mar. 24, 1966, graphic water-stage recorder; at site 750 ft downstream prior to May 15, 1942; at datum 66.23 ft higher prior to Jan. 12, 1952.

Extremes--Maximum elevation during year, 469.97 ft Aug. 6; minimum, 460.43 ft Dec. 12.

1931-67: Maximum elevation, 475.77 ft Nov. 30, 1944; minimum, about 460.0 ft Dec. 23, 31, 1965.

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

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	64.66	63.99	64.12	62.21	62.32	65.08	66.54	65.94	65.98	67.11	67.31	65.84
2	64.65	63.06	63.01	62.36	62.25	65.99	65.88	65.99	65.54	66.32	67.27	64.67
3	64.62	63.12	63.21	62.76	62.85	65.56	65.85	66.12	65.86	66.38	67.79	62.37
4	63.67	63.06	63.25	62.93	62.76	65.92	65.64	65.93	65.64	67.03	67.61	62.23
5	62.16	63.28	63.20	63.61	63.43	64.73	65.93	64.76	65.58	67.09	67.66	62.47
6	62.14	63.07	61.88	63.69	64.59	64.85	66.32	65.01	65.99	66.80	66.72	62.85
7	62.55	63.17	61.55	64.00	65.40	66.93	67.80	64.14	65.94	66.49	67.09	62.29
8	63.35	63.06	-	63.44	65.43	65.85	67.54	64.81	65.92	66.75	67.42	-
9	63.73	63.38	-	63.62	66.28	64.37	67.69	65.79	66.20	65.89	67.19	-
10	63.66	62.28	-	64.09	65.79	64.94	68.70	66.36	66.16	66.23	67.31	-
11	63.71	62.21	60.50	64.13	65.34	64.88	66.59	65.84	65.37	66.32	66.73	64.50
12	63.53	63.13	60.83	63.42	64.76	65.32	66.61	65.71	65.76	66.57	67.30	67.18
13	63.86	63.15	62.62	62.84	64.72	66.13	66.03	65.54	66.28	66.57	66.66	67.17
14	63.80	63.35	63.81	62.74	65.19	66.16	64.32	65.24	66.39	66.92	66.20	66.55
15	63.67	63.09	64.64	62.68	65.28	66.37	64.72	65.72	66.70	66.88	66.79	65.07
16	63.88	63.06	63.89	62.65	65.39	65.25	64.73	67.24	67.05	66.21	66.19	65.22
17	64.44	62.53	63.10	62.11	65.20	66.50	65.39	66.78	66.80	66.26	65.90	64.77
18	65.60	62.39	62.88	62.51	64.93	66.50	65.87	66.61	67.16	67.10	66.23	64.51
19	65.66	62.12	62.99	62.47	64.44	66.07	66.16	66.54	66.73	67.39	65.05	66.69
20	64.72	62.39	63.00	63.20	63.63	66.00	65.98	65.85	66.91	66.88	64.21	64.56
21	64.25	62.78	63.26	63.12	64.86	67.56	65.86	66.47	67.42	66.16	64.88	64.88
22	64.15	63.23	62.88	63.10	64.49	67.19	65.59	66.84	67.83	66.32	65.96	65.16
23	63.84	63.21	62.60	63.20	64.68	67.26	65.07	67.17	67.62	66.60	65.64	65.17
24	63.85	62.32	62.71	63.25	63.90	67.57	65.87	66.96	67.32	66.42	66.49	64.57
25	63.48	62.64	62.78	63.26	64.06	67.51	65.86	66.64	66.44	66.89	65.55	63.82
26	63.61	62.95	64.76	63.23	64.01	66.63	65.86	65.57	66.59	66.97	65.89	64.85
27	64.36	62.49	63.34	63.37	63.92	67.65	65.94	65.23	67.41	67.52	65.55	65.04
28	64.37	63.43	63.44	63.46	63.86	67.31	65.85	65.23	67.73	67.73	65.58	64.99
29	64.66	63.57	63.42	63.25	-----	66.33	65.92	65.83	66.89	67.45	66.00	64.91
30	64.00	63.50	62.50	63.33	-----	64.30	65.38	66.40	67.24	66.26	65.90	64.98
31	64.28	-----	61.78	62.41	-----	65.28	-----	66.45	-----	66.75	65.96	-----
Max	65.66	63.99	64.76	64.13	66.28	67.65	68.70	67.24	67.83	67.73	67.79	67.18
Min	62.14	62.12	-	62.11	62.25	64.30	64.32	64.14	65.37	65.89	64.21	-

Note--Add 400.00 ft to obtain elevation above mean sea level.

COLORADO RIVER MAIN STEM

9-4240. Colorado River near Topock, Ariz.

Location.--Lat $34^{\circ}41'15''$, long $114^{\circ}27'45''$, 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 1967. Daily mean elevations published since October 1938.

Gage.--Digital 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, graphic water-stage recorder at site about 1 mile upstream at different datum. Dec. 3, 1922, to Apr. 25, 1966, graphic water-stage recorder at present site and 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.--17 years (1917-34), 20,260 cfs (14,670,000 acre-ft per year); 33 years (1934-67), 13,440 cfs (9,730,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 18,500 cfs June 23 and Aug. 4; maximum elevation, 456.28 ft June 23 and Aug. 4; minimum daily discharge, 2,130 cfs Dec. 11; minimum elevation, 448.93 ft Dec. 12.

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

1934-67: 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. 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 CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,790	8,100	7,180	5,100	5,730	9,110	13,300	11,600	13,200	15,700	14,700	12,500
2	9,040	6,890	6,550	5,170	5,500	11,800	13,300	12,300	12,500	15,200	15,600	11,600
3	9,290	6,430	6,210	5,930	6,380	11,200	12,000	12,600	12,800	13,300	16,500	6,790
4	8,840	6,290	6,260	6,140	6,440	12,600	12,300	12,700	12,900	15,300	16,700	5,960
5	4,960	6,370	6,390	6,950	7,330	11,700	12,200	11,200	12,200	15,600	16,300	6,100
6	4,080	6,440	5,080	7,940	8,890	9,540	13,100	11,200	13,000	15,500	16,000	6,980
7	5,110	6,320	4,140	7,870	11,500	12,900	14,600	10,300	13,000	14,300	14,400	6,630
8	6,050	6,190	3,280	7,890	12,100	13,200	15,800	10,000	12,800	14,700	15,800	6,040
9	7,150	7,000	2,610	7,890	13,200	10,500	15,900	11,800	13,500	14,300	15,700	3,980
10	7,210	5,230	2,320	7,910	13,300	10,400	17,500	12,600	13,600	12,900	15,400	3,610
11	7,610	4,880	2,130	8,960	12,800	10,500	15,600	12,600	13,300	14,100	14,900	8,360
12	7,230	6,110	2,260	8,550	11,500	11,000	14,400	11,900	12,100	14,100	15,500	13,600
13	7,500	6,220	4,530	7,210	10,600	11,500	13,800	11,600	13,700	14,300	15,100	14,900
14	7,510	6,130	6,950	6,850	11,700	13,200	11,000	11,300	13,800	14,600	12,900	14,700
15	7,410	6,020	8,500	6,440	11,600	13,300	10,900	10,900	14,200	15,000	14,600	11,400
16	7,400	5,880	9,160	6,480	12,000	13,000	10,700	13,800	15,100	14,600	13,500	10,800
17	7,740	5,870	7,260	5,290	12,100	13,400	10,900	13,800	14,900	12,900	13,200	11,400
18	10,100	4,810	6,480	5,600	11,500	13,600	12,400	13,700	15,500	15,000	13,400	9,010
19	10,700	4,780	6,730	5,820	11,500	13,700	12,500	13,800	14,300	15,800	11,800	13,700
20	10,500	4,710	6,450	7,000	7,990	12,100	12,600	12,900	14,900	15,400	10,800	11,700
21	8,620	4,850	7,330	7,110	10,700	14,700	12,600	13,000	15,800	13,600	10,400	10,400
22	8,170	5,940	6,990	7,050	10,400	15,300	12,000	13,600	16,700	13,700	12,400	10,600
23	7,730	6,190	6,660	7,330	10,400	15,300	11,600	14,700	16,700	14,400	12,100	11,200
24	7,290	5,310	6,460	7,390	9,420	15,600	11,600	14,800	16,500	13,900	13,500	11,100
25	7,330	5,030	6,380	7,660	9,080	15,900	12,200	14,300	15,300	14,500	12,400	8,700
26	7,360	5,310	8,560	7,310	8,990	15,300	12,200	13,200	13,900	15,000	12,400	10,400
27	7,490	5,120	8,380	7,770	8,380	15,000	12,300	12,000	15,900	15,800	12,100	10,900
28	8,520	5,390	7,050	7,700	8,560	15,600	12,400	12,100	16,700	16,500	11,700	10,800
29	8,800	6,520	7,900	7,660	-----	15,300	12,300	11,700	15,800	16,200	12,500	10,700
30	8,530	6,710	5,840	7,770	-----	10,700	12,000	13,300	15,600	15,000	12,400	10,800
31	8,060	-----	5,180	6,160	-----	10,400	-----	13,500	-----	13,600	12,600	-----
TOTAL	243,120	177,080	187,600	217,900	279,590	397,550	386,000	388,800	430,200	455,200	427,300	295,360
MEAN	7,843	5,903	6,052	7,029	9,985	12,820	12,870	12,540	14,340	14,680	13,780	9,845
MAX	10,700	8,100	9,160	8,960	13,300	15,900	17,500	14,800	16,700	16,500	16,700	14,900
MIN	4,080	4,710	2,130	5,100	5,500	9,110	10,700	10,000	12,100	12,900	10,400	3,610
AC-FT	482,200	351,200	372,100	432,200	554,600	788,500	765,600	771,200	853,300	902,900	847,500	585,800

CAL YR 1966: TOTAL 3,964,290

MEAN 10,860

MAX 18,300

MIN 1,840

AC-FT 7,863,000

WAT YR 1967: TOTAL 3,885,700

MEAN 10,650

MAX 17,500

MIN 2,130

AC-FT 7,707,000

LOCATION.--Lat 34°30'30", long 114°36'10", on right bank on Havasu Lake road, 22 miles south of Needles, San Bernardino County.

DRAINAGE AREA.--2.04 sq mi.

RECORDS AVAILABLE.--Water years 1960-62 (annual maximum), October 1962 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,580 (from topographic map). December 1959 to April 1963, crest-stage gage only at same site and datum.

AVERAGE DISCHARGE.--5 years (1963-67), 0.004 cfs (2.9 acre-ft per year).

EXTREMES.--Maximum discharge during year, 46 cfs Sept. 25 (gage height, 5.47 ft, from floodmark), from rating curve as explained below; no flow all year except Sept. 25.

1959-67: Maximum discharge, 114 cfs Sept. 26, 1962 (gage height, 8.51 ft, from crest-stage gage), from rating curve based on 3 computations of flow through culvert; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Sept. 25..... 2.0

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
September 1967.....	2.0	2.0	0	0.067	4.0
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	2.0	0	.005	4.0

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

COLORADO RIVER MAIN STEM

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

Mean elevation, in feet, water year October 1966 to September 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52.97	52.34	52.03	50.68	51.00	52.59	54.31	53.86	54.54	55.21	54.80	53.93
2	52.66	51.80	51.72	50.72	50.84	53.71	54.29	54.17	54.26	54.99	55.16	53.56
3	52.76	51.56	51.56	51.12	51.27	53.49	53.79	54.27	54.34	54.25	55.50	51.49
4	52.57	51.51	51.59	51.23	51.28	53.99	53.92	54.31	54.36	55.01	55.57	51.11
5	50.70	51.55	51.65	51.62	51.67	53.69	53.86	53.73	54.06	55.14	55.41	51.17
6	50.19	51.59	50.97	52.08	52.32	52.77	54.20	53.70	54.34	55.12	55.33	51.02
7	50.79	51.53	50.42	52.04	53.38	54.12	54.84	53.32	54.33	54.66	54.71	51.45
8	51.27	51.46	49.86	52.05	53.62	54.27	55.27	53.22	54.22	54.60	55.22	51.17
9	51.82	51.85	49.35	52.05	54.07	53.20	55.32	53.95	54.49	54.63	55.19	50.00
10	51.85	50.96	49.18	52.06	54.10	53.14	55.92	54.30	54.48	54.12	55.10	49.74
11	52.02	50.77	49.05	52.52	53.90	53.18	55.19	54.28	54.34	54.56	54.87	52.25
12	51.86	51.41	48.99	52.34	53.39	53.38	54.75	54.02	53.84	54.59	55.11	54.40
13	51.98	51.47	50.35	51.75	53.04	53.61	54.53	53.87	54.45	54.64	54.98	54.92
14	51.98	51.42	51.62	51.58	53.48	54.27	53.41	53.76	54.48	54.86	54.11	54.85
15	51.95	51.37	52.50	51.38	53.42	54.28	53.35	53.59	54.62	54.92	54.76	53.55
16	51.94	51.31	52.61	51.39	53.57	54.19	53.27	54.78	54.97	54.75	54.33	53.31
17	52.11	51.30	51.78	50.79	53.61	54.37	53.33	54.75	54.87	54.69	54.21	53.53
18	53.13	50.75	51.41	50.55	53.36	54.45	53.96	54.74	55.11	54.93	54.29	52.55
19	53.40	50.74	51.52	51.08	53.35	54.47	53.98	54.75	54.64	55.24	53.67	54.45
20	53.28	50.70	51.39	51.66	51.91	53.85	54.04	54.42	54.88	55.09	53.23	53.66
21	52.52	50.81	51.80	51.71	53.06	54.86	54.07	54.44	55.25	54.47	53.06	53.13
22	52.32	51.38	51.65	51.68	52.95	55.11	53.86	54.67	55.57	54.40	53.91	53.22
23	52.14	51.50	51.49	51.80	52.95	55.09	53.70	55.12	55.60	54.65	53.77	53.48
24	51.94	51.05	51.39	51.84	52.58	55.31	53.73	55.16	55.50	54.46	54.35	53.43
25	51.96	50.91	51.35	51.95	52.47	55.34	53.98	54.94	55.05	54.73	53.91	52.41
26	51.97	51.07	52.33	51.80	52.46	55.09	54.02	54.52	54.50	54.52	53.91	53.13
27	52.05	50.98	52.26	52.00	52.24	54.96	54.08	54.04	55.29	55.23	53.77	53.55
28	52.51	51.13	51.67	51.97	52.36	55.20	54.12	54.07	55.59	55.45	53.60	53.28
29	52.64	51.71	52.05	51.96	-----	55.10	54.12	53.94	55.25	55.38	53.93	53.26
30	52.51	51.80	51.08	52.00	-----	53.28	54.01	54.55	55.15	54.52	53.89	53.31
31	52.33	-----	50.73	51.25	-----	53.12	-----	54.64	-----	54.35	53.98	-----

Note.--Add 400.00 ft to obtain elevation above mean sea level.

DIVERSIONS FROM LAKE HAVASU

9-4241.5 Colorado River aqueduct 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 of Metropolitan Water District of Southern California on Lake Havasu, 1.8 miles upstream from Parker Dam and 15 $\frac{1}{2}$ miles downstream from Hoover Dam.

Records available--January 1939 to September 1967 (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. Digital water-stage recorders with weirs on 4 percolation returns; prior to October 1964 miscellaneous measurements only.

Average discharge--28 years, 653 cfs (472,800 acre-ft per year).

Extremes--1939-67: Maximum daily diversion, 3,916 acre-ft (1,970 cfs) June 24, 1966; no diversion at times.

Remarks--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Lake Havasu less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. Percolation return flow from Gene and Copper Basin Reservoirs was measured in 4 washes between pumping plant and Copper Basin Wash, each about 1 mile from the Colorado River. No distinction is made between percolation return flow and storm runoff, which is minute. The percolation return flow is not subtracted from the diversion record.

Cooperation--Diversion records furnished by Metropolitan Water District of Southern California.

Monthly diversions and percolation return flow, in acre-feet, water year October 1966 to September 1967

Month	Total percolation	Diversions			
		Maximum	Minimum	Mean	Total
October.....	370	3,883	2,968	3,399	105,383
November.....	383	3,904	2,988	3,348	100,425
December.....	417	3,853	2,904	3,397	105,302
Calendar year 1966.....	4,450	3,970	0	3,140	1,146,182
January.....	438	3,838	3,044	3,395	105,239
February.....	385	3,683	0	3,173	88,851
March.....	402	3,845	0	2,571	79,701
April.....	386	3,814	1,341	2,979	89,372
May.....	380	3,806	2,347	3,116	96,583
June.....	356	3,852	2,620	3,318	99,547
July.....	369	3,916	2,284	3,383	104,862
August.....	377	3,910	3,063	3,490	108,196
September.....	367	3,913	2,990	3,466	103,966
Water year 1967.....	4,630	3,916	0	3,253	1,187,427

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

Location.--Lat 34°19'00", long 114°09'25", in NW¼SW¼ 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 1967. 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, 621,600 acre-ft May 26 (elevation, 450.65 ft); minimum, 518,900 acre-ft Mar. 13 (elevation, 445.22 ft).

1938-67: 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, 442.09 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 Lake Havasu 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 9-4241.5).

Contents, in acre-feet, at 2400, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	566,100	557,300	546,800	539,800	545,400	531,500	556,000	596,200	611,400	611,800	568,800	565,200
2	564,200	556,700	548,500	536,900	543,600	535,300	559,200	597,800	612,600	609,200	567,500	579,000
3	565,000	556,000	548,800	533,200	540,200	536,800	557,700	601,400	612,000	601,800	569,200	581,900
4	570,900	556,500	548,600	531,500	533,700	540,700	559,200	607,400	609,200	600,200	572,000	580,400
5	569,400	555,400	549,900	530,100	530,500	540,700	559,600	608,600	605,200	600,200	571,600	578,500
6	565,900	553,300	553,100	529,400	523,600	534,200	562,700	608,400	604,800	605,000	574,500	580,000
7	563,500	553,000	574,700	533,000	524,000	535,300	563,500	604,400	604,600	603,800	572,000	580,600
8	561,800	555,400	579,400	532,800	525,200	536,900	566,100	597,600	606,000	602,200	572,400	577,700
9	562,400	557,700	570,700	532,600	529,200	536,800	568,600	595,200	605,000	599,400	573,900	567,800
10	562,400	557,300	562,200	532,400	533,900	532,400	571,400	595,600	604,600	595,200	576,400	555,200
11	563,800	555,400	551,000	535,900	536,400	528,100	575,600	601,000	603,000	593,200	577,700	548,100
12	561,500	554,600	539,600	540,500	535,900	525,800	578,300	602,000	595,400	592,000	578,700	549,000
13	562,000	553,500	530,300	543,100	533,200	521,100	583,800	599,800	594,000	593,400	577,000	554,800
14	558,200	552,200	528,800	545,900	534,400	525,200	583,200	596,200	593,000	591,800	573,400	559,800
15	552,400	551,300	532,400	548,500	533,900	530,600	579,800	592,600	596,000	595,000	573,900	557,100
16	547,000	549,900	538,000	549,500	539,800	536,200	576,000	596,600	598,200	593,200	573,200	553,100
17	543,800	552,800	540,000	540,900	542,500	538,700	571,100	601,200	598,400	587,800	575,100	550,400
18	545,000	553,900	539,300	537,300	542,300	537,700	571,800	607,400	596,600	586,800	578,300	543,800
19	550,600	554,300	538,400	539,500	544,300	536,800	575,600	610,000	594,200	588,900	580,000	549,900
20	556,500	553,000	537,300	539,800	537,100	532,300	582,100	607,400	594,800	592,200	578,900	555,000
21	559,000	550,600	539,500	540,000	539,100	532,100	585,700	603,800	597,600	588,200	572,400	556,700
22	558,400	550,400	543,600	537,700	542,700	534,400	587,000	603,000	604,400	583,200	570,300	556,900
23	556,200	552,200	545,400	538,600	546,300	539,300	588,000	606,200	608,000	580,000	567,500	557,700
24	553,300	553,300	543,800	540,500	545,200	542,300	588,000	609,800	610,400	576,600	569,600	558,100
25	551,300	551,500	537,300	545,400	542,900	543,200	590,100	614,000	608,000	572,800	569,200	553,900
26	549,200	549,500	536,900	549,000	539,800	543,400	593,200	614,800	603,200	573,000	567,500	554,400
27	548,600	547,000	538,000	549,900	535,300	542,500	597,200	612,200	603,600	575,800	565,000	555,200
28	550,300	544,300	536,200	550,400	533,700	546,800	597,000	608,400	607,400	579,400	563,800	559,000
29	552,800	544,500	536,000	549,900	-	555,800	599,000	603,200	611,800	579,800	562,500	560,700
30	554,800	545,400	536,400	550,100	-----	557,300	598,600	603,200	612,000	577,700	562,200	559,800
31	556,400	-----	538,400	547,600	-----	553,100	-----	605,200	-----	571,300	561,600	-----
(+)	-8,200	-11,000	-7,000	+9,200	-13,900	+19,400	+45,500	+6,600	+6,800	-40,700	-9,700	-1,800
Max	570,900	557,700	579,400	550,400	546,300	557,700	599,000	614,800	612,600	611,800	580,000	581,900
Min	543,800	544,300	528,800	529,400	523,600	521,100	556,000	592,600	593,000	571,300	561,600	543,800

Calendar year 1966 + -18,300

Water year 1967 + -4,800

+ Change in contents, in acre-feet.

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

Elevation, in feet, at 2400, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	447.81	447.34	446.77	446.38	446.69	445.92	447.27	449.38	450.14	450.16	447.95	447.76
2	447.71	447.31	446.86	446.22	446.59	446.13	447.44	449.46	450.20	450.03	447.88	448.49
3	447.75	447.27	446.88	446.01	446.40	446.21	447.36	449.64	450.17	449.66	447.97	448.64
4	448.06	447.30	446.87	445.92	446.04	446.43	447.44	449.94	450.03	449.58	448.12	448.56
5	447.98	447.24	446.94	445.84	445.86	446.43	447.46	450.00	449.83	449.58	448.10	448.46
6	447.80	447.13	447.12	445.80	445.48	446.07	447.63	449.99	449.81	449.82	448.25	448.54
7	447.67	447.11	448.26	446.00	445.50	446.13	447.67	449.79	449.80	449.76	448.12	448.57
8	447.58	447.24	448.51	445.99	445.57	446.22	447.81	449.45	449.87	449.68	448.14	448.42
9	447.61	447.36	448.05	445.98	445.79	446.21	447.94	449.33	449.82	449.54	448.22	447.90
10	447.61	447.34	447.60	445.97	446.05	445.97	448.09	449.35	449.80	449.33	448.35	447.23
11	447.69	447.24	447.00	446.16	446.19	445.73	448.31	449.62	449.72	449.23	448.42	446.84
12	447.56	447.20	446.37	446.42	446.16	445.49	448.45	449.67	449.34	449.17	448.47	446.89
13	447.59	447.14	445.85	446.56	446.01	445.34	448.74	449.56	449.27	449.24	448.38	447.21
14	447.39	447.07	445.77	446.72	446.08	445.57	448.71	449.38	449.22	449.16	448.19	447.47
15	447.08	447.02	445.97	446.86	446.05	445.87	448.53	449.20	449.37	449.32	448.22	447.33
16	446.78	446.94	446.28	446.92	446.38	446.18	448.33	449.40	449.48	449.23	448.18	447.12
17	446.60	447.10	446.39	446.44	446.53	446.32	448.07	449.63	449.49	448.95	448.28	446.97
18	446.67	447.16	446.35	446.24	446.52	446.26	448.11	449.94	449.40	448.90	448.45	446.60
19	446.98	447.18	446.30	446.36	446.63	446.21	448.31	450.07	449.28	449.01	448.54	446.94
20	447.30	447.11	446.24	446.38	446.23	445.96	448.65	449.94	449.31	449.18	448.48	447.22
21	447.43	446.98	446.36	446.39	446.34	445.95	448.84	449.76	449.45	448.97	448.14	447.31
22	447.40	446.97	446.59	446.26	446.54	446.08	448.91	449.72	449.79	448.71	448.03	447.32
23	447.28	447.07	446.69	446.31	446.74	446.35	448.96	449.88	449.97	448.54	447.88	447.36
24	447.13	447.13	446.60	446.42	446.68	446.52	448.96	450.06	450.09	448.36	447.99	447.38
25	447.02	447.03	446.24	446.69	446.55	446.57	449.07	450.27	449.97	448.16	447.97	447.16
26	446.90	446.92	446.22	446.89	446.38	446.58	449.23	450.31	449.73	448.17	447.88	447.19
27	446.87	446.78	446.28	446.94	446.13	446.53	449.43	450.18	449.75	448.32	447.75	447.23
28	446.96	446.63	446.18	446.97	446.04	446.77	449.42	449.99	449.94	448.51	447.69	447.43
29	447.10	446.64	446.17	446.94	-	447.26	449.52	449.73	450.16	448.53	447.62	447.52
30	447.21	446.69	446.19	446.95	-----	447.34	449.50	449.73	450.17	448.42	447.60	447.47
31	447.29	-----	446.30	446.81	-----	447.12	-----	449.83	-----	448.08	447.57	-----
Max	448.06	447.36	448.51	446.97	446.74	447.34	449.52	450.31	450.20	450.16	448.54	448.64
Min	446.60	446.63	445.77	445.80	445.48	445.34	447.27	449.20	449.22	448.08	447.57	446.60

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 1967. 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.--33 years (1934-67), 12,800 cfs (9,267,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 19,500 cfs July 11 (gage height, 22.24 ft); minimum daily discharge 2,290 cfs Jan. 1. 1934-67: 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. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

Remarks.--Records excellent except those below 4,000 cfs, which are good. Flow regulated by Lake Mead since Feb. 1, 1935, Lake Mohave since Jan. 17, 1950, and by Lake Havasu 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 9-4241.5). Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,130	5,280	4,680	2,290	4,920	9,970	9,800	10,400	8,680	14,200	14,900	9,010
2	7,510	5,470	4,680	4,340	5,230	8,930	9,940	9,700	9,550	14,400	14,500	3,630
3	6,870	5,020	4,760	6,900	5,850	10,200	10,600	9,100	10,300	14,800	13,700	3,140
4	3,730	4,020	4,730	6,940	7,000	10,700	9,860	7,820	11,300	14,000	13,600	4,590
5	3,380	4,960	4,060	6,480	7,460	11,000	9,960	8,600	11,500	14,000	14,200	4,430
6	3,380	5,460	3,790	6,270	8,560	11,700	9,230	8,890	11,000	11,500	14,000	4,510
7	3,800	5,330	5,050	4,550	8,290	10,800	11,100	10,200	10,600	13,300	14,100	4,040
8	4,080	3,880	5,760	5,630	8,950	11,100	13,000	10,700	9,110	13,900	13,400	5,380
9	4,140	3,280	6,530	5,900	7,910	9,520	13,000	11,500	11,300	14,000	13,400	6,670
10	4,900	3,510	5,580	5,880	8,750	11,100	13,200	10,800	11,800	14,000	12,300	7,390
11	4,340	3,730	6,330	5,510	8,900	11,100	12,800	9,810	11,500	13,300	12,500	9,460
12	5,300	4,230	6,760	4,110	9,210	11,400	11,900	10,400	12,800	12,900	13,100	10,700
13	5,130	4,630	7,120	4,240	9,120	11,000	8,920	11,300	12,300	12,200	13,800	10,600
14	5,990	4,980	6,030	3,290	9,470	10,100	9,090	11,400	12,600	12,500	14,000	11,200
15	7,080	4,920	4,880	2,800	8,520	9,510	10,600	10,800	11,700	12,800	12,500	11,800
16	6,760	4,760	4,860	4,280	6,270	8,460	9,750	10,300	12,500	13,500	12,100	11,400
17	6,870	2,750	4,950	5,430	7,780	10,300	10,400	10,300	13,100	13,600	10,600	11,900
18	7,670	2,630	4,860	4,820	8,850	11,700	10,100	8,690	14,200	13,800	9,850	11,900
19	6,680	2,920	5,390	2,660	8,660	12,400	8,290	10,500	14,300	13,000	9,270	8,050
20	6,220	2,950	5,260	4,370	8,310	12,600	7,740	11,900	13,600	11,900	9,310	8,570
21	6,340	4,370	4,390	5,360	6,350	12,300	9,330	13,900	13,000	13,800	11,000	8,110
22	6,700	4,180	2,820	6,500	6,140	12,600	10,400	12,200	11,400	15,100	11,800	9,020
23	6,920	3,760	3,530	5,450	5,690	11,000	9,760	11,300	12,800	14,700	11,400	9,440
24	6,860	2,970	5,240	4,420	7,340	12,400	10,200	11,600	13,700	13,900	10,900	9,810
25	6,790	4,250	6,990	3,970	7,970	13,200	9,520	9,900	14,400	13,600	11,400	9,360
26	6,440	4,400	7,110	3,660	8,500	13,500	9,050	10,700	14,400	13,800	11,300	8,640
27	5,910	4,840	6,890	5,230	8,090	13,000	8,040	10,800	13,800	12,300	11,300	8,680
28	6,070	5,310	6,290	5,190	9,030	12,200	10,400	11,200	13,200	13,300	10,800	7,430
29	5,580	4,870	5,550	5,710	9,980	10,300	10,300	11,700	11,800	13,700	11,100	8,540
30	5,410	4,630	4,140	6,070	7,910	10,400	10,400	10,800	13,600	14,300	11,000	9,780
31	5,370	-----	2,430	5,950	-----	10,000	-----	9,700	-----	15,000	10,600	-----
Total	179,350	128,290	161,440	154,200	217,120	341,480	306,680	326,910	365,840	421,100	377,730	247,180
Mean	5,785	4,276	5,208	4,974	7,754	11,020	10,220	10,550	12,190	13,580	12,180	8,239
Max	7,670	5,470	7,120	6,940	9,470	13,500	13,200	13,900	14,400	15,100	14,900	11,900
Min	3,380	2,630	2,430	2,290	4,920	7,910	7,740	7,820	8,680	11,500	9,270	3,140
Ac-ft	355,700	254,500	320,200	305,900	430,700	677,300	608,300	648,400	725,600	835,200	749,200	490,300

Cal yr 1966: Total 3,368,010 Mean 9,227 Max 16,000 Min 1,770 Ac-ft 6,680,000
Wtr yr 1967: Total 3,227,320 Mean 8,842 Max 15,100 Min 2,290 Ac-ft 6,401,000

TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PALO VERDE DAM

9-4285.3. ARCH CREEK NEAR EARP, CALIF.

LOCATION.--Lat 34°09'55", long 114°22'20", in NE $\frac{1}{2}$ 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 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment, and crest-stage gage. Altitude of gage is 600 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.002 cfs (1.4 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5.8 cfs Nov. 7 (gage height, 4.00 ft); no flow all year except Nov. 7. 1960-67: Maximum discharge, 68 cfs Mar. 11, 1965 (gage height, 5.10 ft); no flow for most of each year. Flood of Sept. 13, 1959 reached a stage of 13.24 ft from floodmarks (discharge, 674 cfs, based on computation of maximum flow through culvert).

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.5; November, 0.6; December, 0.1; January, 0.3; March, 0.2; April, 0.1; August, 0.6; September, 1.3; the water year, 3.7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Nov. 7..... 0.50

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1966.....	0.50	0.50	0	0.017	1.0
Calendar year 1966.....	-	.50	0	.001	1.0
Water year 1966-67.....	-	.50	0	.001	1.0

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

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 1967 (prior to October 1950, monthly discharge only).

Gage.--Recording gages above and below intakes to record head. Since May 18, 1964, recorder to show gate openings. 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.--17 years (1950-67), 1,187 cfs (859,400 acre-ft per year).

Extremes.--1950-67: Maximum daily discharge, 2,180 cfs Aug. 7, 1962; no flow at times in several years.

Remarks.--Records excellent except those below 300 cfs, which are good. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River during 1967 for irrigation of 87,577 acres. Return flows to Colorado River are measured by 11 wasteways and drains extending throughout the project; 1 of these is equipped with graphic water-stage recorder and Parshall flume, 1 with digital water-stage recorder and Parshall flume, 3 are equipped with Sparling flowmeters, and 2 with total-flow meters on Parshall flumes. Return flows have not been subtracted; combined monthly return flows are given in table below. Check measurements of return flows are made about once a month by the Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	781	702	679	577	1070	1320	843	1340	1360	1920	1820	1490
2	729	689	528	687	1060	1380	704	1440	1440	1760	1890	740
3	762	735	553	730	954	1440	916	1480	1370	1710	1880	528
4	390	836	480	835	904	1490	1040	1690	1350	1640	1790	663
5	329	797	456	1120	861	1470	1190	1700	1360	1630	1820	728
6	378	787	426	1060	991	1470	1410	1720	1330	1710	1740	722
7	419	814	424	662	951	1410	1420	1580	1430	1780	1630	909
8	388	611	461	119	1080	1530	1380	1550	1460	1820	1610	1170
9	373	610	497	0	1210	1580	1370	1420	1570	1760	1640	1310
10	438	746	567	0	1120	1470	1370	1460	1680	1840	1630	1300
11	419	742	504	0	1090	1280	1320	1450	1570	1810	1760	1570
12	587	632	607	0	987	1110	1420	1520	1610	1820	1730	1660
13	577	546	563	0	1110	1150	1380	1380	1660	1850	1700	1710
14	570	641	744	0	1100	1080	1300	1240	1650	1760	1630	1700
15	615	679	689	0	1210	1020	1100	1300	1610	1700	921	1580
16	546	828	622	0	1260	986	956	1340	1540	1690	1180	1540
17	637	795	624	0	1200	1060	1090	1320	1520	1740	870	1470
18	695	748	594	0	1280	1140	1220	1360	1500	1720	868	1480
19	724	746	697	0	1210	1130	1360	1520	1600	1770	783	1460
20	759	714	699	0	1350	1120	1460	1530	1640	1770	805	1500
21	689	877	806	0	1320	1190	1550	1450	1720	1770	1230	1500
22	512	806	823	624	1310	1290	1480	1530	1730	1760	1320	1450
23	600	770	771	1060	1260	1210	1420	1520	1770	1770	1460	1180
24	706	746	470	1030	1270	1290	1430	1530	1800	1780	1570	1080
25	740	703	355	1020	1340	1240	1470	1490	1760	1660	1570	1130
26	869	751	621	1080	1310	1150	1500	1460	1810	1710	1590	1160
27	881	768	728	1130	1380	1200	1460	1310	1870	1780	1550	1160
28	872	806	694	1030	1330	1140	1390	1290	2010	1890	1560	1190
29	808	663	792	981	-----	637	1240	1200	1970	1860	1620	1230
30	765	744	800	1030	-----	637	1230	1330	1860	1880	1580	1180
31	828	-----	644	1050	-----	713	-----	1320	-----	1920	1590	-----
Total	19,386	22,032	18,918	15,825	32,518	37,457	38,419	44,770	48,550	54,980	46,337	37,490
Mean	625	734	610	510	1,161	1,208	1,281	1,444	1,618	1,774	1,495	1,250
Max	881	877	823	1,130	1,380	1,580	1,550	1,720	2,010	1,920	1,890	1,710
Min	329	546	355	0	861	637	704	1,200	1,330	1,630	783	528
Ac-ft	38,450	43,700	37,520	31,390	64,500	74,290	76,200	88,800	96,300	109,100	91,910	74,360
(†)	38,160	31,620	30,980	25,890	27,500	39,250	37,280	41,860	42,620	49,150	50,470	46,130
Calendar year 1966:	Max 2,050		Min 0		Mean 1,157		Ac-ft 837,900		† 433,300			
Water year 1966-67:	Max 2,010		Min 0		Mean 1,142		Ac-ft 826,500		† 460,900			

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

COLORADO RIVER MAIN STEM

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 1.2 miles downstream from Palo Verde Diversion Dam, 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 1967.

Gage--Digital water-stage recorder. Datum of gage is 260.00 ft above mean sea level, datum of 1929. Prior to June 1, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--11 years (1956-67), 8,727 cfs (6,318,000 acre-ft per year).

Extremes.--Maximum discharge recorded during year, 15,100 cfs Aug. 15 (gage height, 16.10 ft); minimum daily, 2,110 cfs Jan. 2, 1956-67; Maximum discharge, 24,300 cfs Mar. 21, 1958; maximum gage height, 17.94 ft May 4, 1958; minimum daily discharge, 1,380 cfs Dec. 21, 1961.

Remarks.--Records excellent. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Lake Havasu.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,510	4,780	3,960	2,140	4,330	7,280	8,980	8,860	8,110	10,500	12,000	8,960
2	5,840	4,800	4,050	2,110	3,720	7,890	8,620	8,740	7,240	10,900	11,900	8,460
3	6,440	4,650	4,140	3,900	3,970	7,490	8,980	8,340	8,380	11,100	11,600	4,360
4	6,690	4,050	4,200	6,060	4,930	8,230	9,220	7,550	8,900	10,800	10,800	3,960
5	3,960	3,480	4,200	5,910	5,940	8,920	8,760	6,420	9,560	11,400	11,100	4,410
6	3,590	4,210	3,690	5,190	6,580	10,500	8,130	6,760	9,580	10,300	12,100	4,390
7	3,690	4,140	3,270	5,460	6,980	7,930	7,930	7,750	9,160	9,350	11,000	3,820
8	3,940	4,480	4,110	5,230	6,930	8,980	9,750	8,270	8,640	10,600	11,500	3,450
9	4,230	3,100	5,100	5,840	7,300	8,700	10,600	9,260	7,790	11,000	11,200	4,090
10	4,090	3,250	5,340	6,040	6,820	7,810	10,700	8,900	9,020	10,800	10,600	5,380
11	4,720	3,030	4,800	6,280	7,340	9,040	13,000	8,700	9,560	11,000	10,100	5,700
12	4,140	3,530	5,390	5,790	7,700	9,390	9,310	7,720	9,470	10,400	10,200	7,280
13	4,990	4,110	5,620	4,800	7,910	11,100	9,260	8,760	9,660	10,100	10,900	8,130
14	4,780	4,150	5,660	4,590	7,770	7,810	8,080	9,220	9,650	9,390	11,800	4,210
15	5,680	4,260	5,010	4,110	7,750	9,120	8,100	9,750	10,200	9,870	12,100	8,700
16	6,960	3,900	4,480	3,630	6,980	8,270	9,310	9,100	9,000	10,400	10,500	9,040
17	6,620	4,050	4,240	4,710	5,620	7,680	8,760	8,580	9,920	10,700	10,600	8,900
18	6,400	2,440	4,060	5,280	6,710	9,080	9,190	8,290	10,700	10,900	9,560	9,220
19	6,330	2,290	4,090	4,560	7,430	10,100	8,140	7,640	11,200	10,900	9,140	9,260
20	5,540	2,470	4,380	3,530	7,340	10,800	7,110	8,840	10,800	10,300	8,940	6,580
21	4,950	2,570	4,380	4,170	6,910	10,600	6,460	11,200	10,200	10,000	8,480	6,600
22	5,340	3,590	3,430	4,420	5,710	10,500	7,660	10,100	9,580	11,500	9,370	6,510
23	5,660	3,970	2,270	4,960	5,020	10,400	8,620	9,810	8,940	12,100	9,730	7,410
24	5,870	3,110	3,570	4,000	5,100	9,330	8,080	9,470	9,980	11,500	9,490	7,680
25	5,620	2,650	4,830	2,960	6,030	10,900	8,440	9,540	10,600	11,100	8,800	7,890
26	5,760	3,560	5,930	2,780	6,460	11,600	7,850	8,120	11,200	11,100	9,160	7,700
27	5,470	3,720	5,700	2,470	6,930	11,600	7,320	8,980	10,800	10,800	9,220	7,150
28	4,950	3,930	5,650	3,780	6,930	11,100	6,650	9,200	10,400	9,900	9,330	7,220
29	5,160	4,320	5,280	3,960	-----	10,200	8,310	9,680	9,730	10,800	8,640	6,130
30	4,930	4,330	4,420	4,170	-----	8,720	8,740	9,770	9,430	11,100	9,040	6,930
31	4,800	-----	3,410	4,320	-----	7,620	-----	9,220	-----	11,600	8,920	-----
TOTAL	163,910	110,520	138,560	137,150	179,140	288,690	260,260	272,540	287,600	332,210	317,820	203,570
MEAN	5,287	3,684	4,470	4,424	6,398	9,313	8,675	8,792	9,587	10,720	10,250	6,786
MAX	6,960	4,800	5,930	6,280	7,910	11,600	13,000	11,200	11,200	12,100	12,100	9,260
MIN	3,590	2,290	2,270	2,110	3,720	7,280	6,460	6,420	7,240	9,350	8,480	3,450
AC-FT	325,100	219,200	274,800	272,000	355,300	572,600	516,200	540,600	570,400	658,900	630,400	403,800
CAL YR 1966:	TOTAL 2,752,540			MEAN 7,486		MAX 12,800		MIN 1,840		AC-FT 5,420,000		
WAT YR 1967:	TOTAL 2,691,970			MEAN 7,375		MAX 13,000		MIN 2,110		AC-FT 5,339,000		

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 1967. Flow of Colorado River reaching Imperial Dam: 1903-34 (yearly discharge only), July 1934 to September 1967 (monthly discharge only since October 1942). Prior to 1943 published as "near Picacho, Calif."

Gage.--Water-stage recorder in forebay, 12 calibrated gates on California sluiceway, 8 gates on Gila sluiceway, and calibrated manometer on each discharge pipe from desilting basin. Datum of forebay gage is 162.00 ft above mean sea level (U.S. Bureau of Reclamation bench mark). July 1, 1934, to Sept. 30, 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).--33 years (1934-67), 11,940 cfs (8,644,000 acre-ft per year).

Extremes (flow reaching Imperial Dam).--1934-67: 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 above 500 cfs and good below. 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 monthly cfs-days 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. Additional regulation, beginning Jan. 31, 1966, to equalize supplies for downstream water users, is provided by pumped storage in reservoir on Senator Wash, about 2 miles upstream from Imperial Dam. Month-end contents of Senator Wash Reservoir (capacity, 13,840 acre-ft) is given in table below.

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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	274	174	144	134	244	674	244	344	339	349	354
2	264	274	174	144	134	244	691	244	344	339	349	2,000
3	264	274	174	144	134	244	360	244	344	339	349	1,860
4	779	274	174	144	234	244	244	244	344	339	349	955
5	515	274	448	754	234	244	244	244	344	418	349	487
6	264	274	403	144	134	344	244	244	344	415	716	739
7	264	274	274	144	134	244	244	244	344	419	477	990
8	264	274	154	144	234	363	344	244	344	520	593	594
9	264	359	154	144	234	244	344	244	344	339	512	266
10	264	557	154	144	234	244	344	244	344	490	354	254
11	264	315	154	144	234	244	344	244	344	415	354	254
12	264	274	154	144	234	244	344	344	344	411	354	254
13	264	274	154	144	234	467	643	344	344	339	354	254
14	264	274	154	234	234	367	526	344	344	339	354	254
15	264	274	154	754	234	429	728	344	344	542	354	254
16	264	274	154	435	234	404	594	344	344	339	354	254
17	364	274	154	144	234	244	344	344	344	339	591	254
18	364	274	154	144	641	244	344	344	344	339	638	354
19	264	274	154	144	366	244	344	344	344	339	354	254
20	264	257	154	359	528	244	344	344	344	339	523	417
21	264	174	154	473	677	244	344	344	406	339	354	588
22	264	174	154	195	613	344	344	344	415	339	354	254
23	264	174	154	393	350	344	344	344	556	339	354	254
24	264	174	154	729	244	344	863	344	344	339	354	254
25	264	174	154	796	244	344	563	344	344	486	354	254
26	264	174	154	511	244	344	244	344	344	501	354	254
27	264	174	154	134	244	552	244	344	565	582	354	338
28	264	174	154	134	244	761	244	344	566	501	354	254
29	264	174	154	134	499	244	244	344	413	533	675	254
30	264	174	154	134	483	244	244	344	499	370	514	254
31	264	-----	154	134	-----	869	-----	344	-----	339	513	-----
Total	9,150	7,612	5,517	8,463	7,873	10,918	11,966	9,564	11,332	12,366	13,161	14,260
Mean	295	254	178	273	281	352	399	309	378	399	425	475
Ac-ft	18,150	15,100	10,940	16,790	15,620	21,660	23,730	18,970	22,480	24,530	26,100	28,280
(*)	6,350	4,461	5,116	4,898	6,643	9,651	9,378	8,952	9,997	10,940	10,930	7,571
(†)	390,400	265,500	314,500	301,200	368,900	593,400	558,000	550,500	594,900	672,600	671,800	450,500
(‡)	8,650	6,920	3,870	6,180	9,490	10,630	7,950	10,190	8,470	7,860	7,850	5,900

Calendar year 1966: Max 2,430 Min 154 Mean 386 Ac-ft 279,600 *8,085 †5,853,000
 Water year 1967: Max 2,000 Min 134 Mean 335 Ac-ft 242,300 *7,918 †5,732,000

* Mean flow reaching Imperial Dam, in cubic feet per second (combined monthly 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.

‡ Senator Wash Reservoir contents, in acre-feet, at end of month.

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

Location.--Lat 32°43'00", long 114°43'00", in NE¼SE¼ 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 7.0 miles downstream from gaging station on Colorado River at Yuma, Ariz.

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

Records available.--January 1950 to September 1967. 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 1,680 ft upstream at same datum.

Extremes.--Maximum discharge during year, 7,050 cfs Sept. 4; maximum elevation, 109.60 ft Sept. 4; minimum discharge, 555 cfs Jan. 27; minimum elevation, 101.89 ft Nov. 22.
1950-67: Maximum discharge, 25,390 cfs Jan. 1, 1953; maximum elevation, 114.24 ft Jan. 28, 1958; minimum discharge, that of Jan. 27, 1967; minimum elevation, that of Nov. 22, 1966.

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.

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

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	791	663	765	1,350	724	1,970	3,660	1,220	1,630	2,470	3,430	2,430
2	680	662	743	1,590	738	1,950	3,680	1,300	1,640	2,470	3,460	4,690
3	700	674	746	1,710	729	1,940	3,590	1,230	1,660	2,470	3,500	6,850
4	2,050	678	730	1,820	708	1,880	3,560	1,310	1,700	2,480	3,550	6,410
5	4,550	1,020	649	1,770	702	1,940	3,600	1,360	1,650	2,460	3,540	3,470
6	3,170	992	662	1,660	710	1,900	3,580	1,260	1,640	2,460	3,440	2,450
7	1,180	823	685	1,640	690	1,960	3,540	1,250	1,630	2,480	3,500	2,370
8	668	745	711	1,610	722	1,970	3,530	1,240	1,660	2,480	3,530	2,300
9	667	694	690	1,610	720	1,970	3,610	1,250	1,640	2,490	3,570	1,940
10	659	647	768	1,620	722	1,980	3,270	1,250	1,620	2,560	3,560	1,810
11	668	645	799	1,540	1,070	2,260	3,310	1,240	1,670	2,560	3,520	1,850
12	671	628	814	1,560	1,350	2,300	3,300	1,310	1,660	2,580	3,370	1,500
13	674	653	806	1,550	1,620	2,260	3,260	1,290	1,660	2,860	3,400	1,220
14	662	644	1,110	1,560	1,590	2,250	3,290	1,300	1,640	2,860	3,370	1,200
15	766	647	1,400	1,260	1,570	2,240	3,320	1,270	1,930	2,870	3,370	1,250
16	751	673	1,630	1,060	1,560	2,260	3,280	1,270	1,960	2,870	3,410	1,210
17	638	668	1,650	774	1,670	2,490	2,970	1,250	2,090	2,840	3,350	1,180
18	748	670	1,660	857	1,620	2,800	2,910	1,320	2,160	2,840	3,350	1,180
19	761	713	1,240	793	1,670	2,910	2,900	1,360	2,130	2,880	3,380	1,200
20	696	743	1,190	809	1,710	2,980	2,750	1,380	2,170	2,840	3,080	1,180
21	693	723	1,180	803	1,740	3,070	2,560	1,650	2,220	3,020	2,820	1,180
22	698	576	1,230	805	1,910	3,440	2,340	1,640	2,380	3,030	2,670	1,230
23	667	621	1,310	753	1,820	3,570	2,110	1,680	2,340	3,000	2,520	1,210
24	656	756	1,210	774	1,680	3,660	1,800	1,670	2,340	3,030	2,550	1,230
25	652	717	1,250	1,040	1,780	3,610	1,670	1,650	2,380	3,000	2,450	1,230
26	649	700	1,240	1,270	1,930	3,670	1,220	1,660	2,370	3,000	2,400	1,220
27	668	762	1,230	755	1,890	3,650	1,200	1,630	2,310	3,030	2,470	1,220
28	670	770	1,190	724	1,870	3,660	1,280	1,670	2,300	3,010	2,390	1,240
29	674	731	1,280	715	-	3,670	1,300	1,600	2,380	3,020	2,410	1,220
30	680	720	1,250	753	- - - -	3,630	1,230	1,610	2,430	3,210	2,530	1,210
31	674	- - - -	1,250	731	- - - -	3,720	- - - -	1,660	- - - -	3,140	2,500	- - - -
Total	29,531	21,358	33,068	37,266	37,215	83,560	83,620	43,780	58,990	86,310	96,390	59,880
Mean	953	712	1,067	1,202	1,329	2,695	2,787	1,412	1,966	2,784	3,109	1,996
Max	4,550	1,020	1,660	1,820	1,930	3,720	3,680	1,680	2,430	3,210	3,570	6,850
Min	638	576	649	715	690	1,880	1,200	1,220	1,620	2,460	2,390	1,180
Ac-ft	58,570	42,360	65,590	73,920	73,820	165,700	165,900	86,840	117,000	171,200	191,200	118,600
Cal yr 1966: Total	716,097		Mean	1,962	Max	5,420	Min	576	Ac-ft	1,420,000		
Wtr yr 1967: Total	670,968		Mean	1,838	Max	6,850	Min	576	Ac-ft	1,331,000		

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

27

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 1967. 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.--26 years (1941-67), 7,102 cfs (5,142,000 acre-ft per year).

Extremes.--1938-67: Maximum daily discharge, 13,500 cfs Apr. 16, 1938; no flow at times in several years.

Remarks.--Records excellent. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,950	4,260	3,650	4,530	3,720	6,380	8,330	6,810	7,510	8,680	9,020	7,480
2	5,760	4,300	3,650	4,230	4,050	6,430	7,450	6,720	7,090	8,320	9,470	6,290
3	5,530	4,370	3,810	1,830	4,260	6,440	8,150	6,810	7,220	8,590	9,840	7,060
4	5,800	4,420	3,550	1,820	4,290	6,980	7,940	6,960	6,900	8,660	9,860	7,270
5	6,660	4,560	3,430	2,910	4,060	6,760	8,220	6,730	6,960	8,600	9,910	5,420
6	5,950	4,310	3,340	5,210	4,590	6,930	8,560	6,680	6,860	9,180	9,110	4,340
7	4,400	3,600	3,610	5,700	5,220	7,370	8,650	6,200	7,210	9,050	9,020	4,000
8	4,040	3,640	3,990	5,520	5,840	7,910	8,430	6,020	7,420	8,910	9,300	4,180
9	4,080	3,340	3,860	5,560	6,180	8,270	7,820	6,500	7,250	8,360	9,560	4,470
10	4,240	3,440	3,940	5,480	5,980	7,890	8,230	6,790	7,090	8,230	9,830	4,700
11	4,160	3,220	4,390	5,610	6,580	7,910	8,670	6,980	7,000	8,350	9,600	5,360
12	4,380	3,340	4,610	5,570	6,070	7,340	8,430	6,850	7,290	8,500	9,690	5,240
13	4,740	3,070	4,270	5,470	6,020	7,680	8,920	7,160	7,290	8,950	9,360	6,150
14	4,870	3,140	4,550	5,350	5,910	7,650	8,790	6,270	7,230	8,970	9,030	6,350
15	5,070	3,220	5,140	4,200	6,480	7,910	8,250	6,330	7,740	8,960	9,100	6,430
16	4,970	3,120	5,470	3,850	6,640	8,030	7,270	6,830	8,310	8,550	9,360	7,110
17	5,110	3,350	5,160	3,810	6,360	8,150	7,380	7,010	8,750	8,500	9,450	7,270
18	5,530	3,440	4,790	4,010	5,670	8,310	7,850	6,960	8,150	8,590	9,340	7,450
19	5,660	3,490	3,900	3,800	5,030	8,030	7,820	6,730	8,110	8,850	9,210	7,110
20	5,660	3,090	4,070	4,080	5,290	7,850	7,770	7,190	8,310	9,130	8,480	5,220
21	5,540	3,200	4,460	3,970	5,590	8,300	7,010	7,180	8,370	9,230	8,130	6,110
22	5,230	3,460	4,480	3,680	5,880	9,140	6,550	7,380	8,820	9,460	7,650	5,830
23	4,940	3,460	4,230	3,760	5,960	9,580	6,360	7,660	8,770	8,980	7,660	6,020
24	4,770	3,500	4,030	3,770	5,300	9,560	6,560	7,950	8,600	9,180	8,200	5,960
25	4,900	3,610	2,860	3,960	5,360	9,340	6,710	7,900	8,240	9,300	8,100	6,100
26	4,910	3,500	3,970	3,510	5,070	9,030	6,620	7,400	8,000	9,320	8,240	6,420
27	5,020	3,090	4,480	3,090	5,290	8,920	6,940	7,410	8,220	9,340	7,850	6,410
28	4,730	3,190	5,010	3,210	5,810	9,100	6,910	6,800	8,590	9,050	7,590	6,370
29	4,700	3,340	5,140	3,340		9,250	6,730	6,800	8,660	9,200	7,450	6,270
30	4,680	3,430	5,380	3,540		9,260	6,450	6,870	8,700	9,050	7,540	5,490
31	4,380		5,230	3,600		8,890		7,240		8,890	7,410	
Total	156,360	106,500	132,450	127,970	152,500	250,590	229,770	215,370	234,860	274,930	273,360	181,880
Mean	5,044	3,550	4,273	4,128	5,446	8,084	7,659	6,947	7,829	8,869	8,818	6,063
Max	6,660	4,560	5,470	5,700	6,640	9,580	8,920	7,950	8,860	9,460	9,910	7,480
Min	4,040	3,070	2,860	1,820	3,720	6,380	6,360	6,020	6,860	8,230	7,410	4,000
Ac-ft	310,100	211,200	262,700	253,800	302,500	497,000	455,700	427,200	465,800	545,300	542,200	360,800

Cal yr 1966: Total 2,366,570 Mean 6,484 Max 11,200 Min 2,010 Ac-ft 4,694,000
Wtr yr 1967: Total 2,336,540 Mean 6,401 Max 9,910 Min 1,820 Ac-ft 4,634,000

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 NW¼SW¼ 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 1967. Prior to October 1943, monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

Gage.--Totalizing flowmeter on each turbine. In addition water-stage recorder in forebay on right bank of All-American Canal (also used as auxiliary gage for station No. 9-5275); tailrace gage with remote recorder logged hourly in control house; calibrated wicket gates for turbine flow and calibrated bypass gates for wasteway flow which are logged for each change. Datum of forebay gage staff is 150.00 ft; that of tailrace gage staff is 0.00 ft; elevation of sill of bypass gates is 147.88 ft, all of which are to mean sea level, datum of 1929.

Extremes.--1939-67: Maximum daily discharge, 8,350 cfs Jan. 26, 1958; no flow for long periods.

Remarks.--Records excellent. Daily discharge computed from flowmeter equipment or from head and gate openings on wicket gates. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	40	0	1,450	2,410		0	1,620	2,210	1,560
2	0		0	1,010	0	1,220	2,500		0	1,580	2,300	3,790
3	0		0	1,210	0	1,060	2,420		0	1,570	2,600	4,900
4	1,580		0	1,340	0	1,330	2,670		0	1,320	2,640	4,400
5	3,580		0	1,180	0	1,360	2,830		0	1,260	2,630	2,170
6	2,420		0	1,040	0	1,300	2,740		0	1,480	2,490	1,330
7	433		0	1,080	0	1,340	2,700		0	1,590	2,610	1,050
8	0		0	1,050	0	1,400	2,610		0	1,620	2,690	1,020
9	0		0	1,090	0	1,390	2,280		0	1,570	2,690	1,060
10	0		0	1,130	0	1,430	2,180		0	1,600	2,610	1,080
11	0		0	1,100	0	1,680	2,360		0	1,610	2,650	1,060
12	0		0	917	47	1,660	2,280		0	1,650	2,540	0
13	0		0	938	1,060	1,600	2,360		0	1,940	2,500	0
14	0		40	933	1,020	1,630	2,400		45	1,960	2,090	0
15	0		957	0	1,020	1,660	2,510		1,150	1,880	2,080	0
16	0		1,220	0	1,070	1,700	2,310		1,250	1,900	2,370	0
17	0		1,180	0	1,050	1,950	2,040		1,390	1,920	2,330	0
18	0		1,140	0	1,020	2,160	2,130		1,400	1,640	2,470	0
19	0		0	0	1,100	2,130	2,090		1,420	1,640	2,490	0
20	0		0	0	1,210	1,820	1,930		1,200	1,860	2,130	0
21	0		0	0	1,180	2,020	1,450		1,140	2,100	1,910	0
22	0		0	0	1,220	2,570	1,080		1,310	2,110	1,810	0
23	0		0	0	1,160	2,870	1,180		1,500	2,120	1,660	0
24	0		0	0	1,030	2,840	1,070		1,550	2,120	1,670	0
25	0		0	0	1,230	2,740	635		1,600	2,070	1,310	0
26	0		0	0	1,150	2,750	0		1,240	2,050	1,150	0
27	0		0	0	1,070	2,680	0		1,410	2,090	1,450	0
28	0		0	0	1,260	2,710	0		1,440	2,090	1,440	0
29	0		0	0	0	2,760	0		1,490	2,080	1,500	0
30	0		0	0	-----	2,710	0		1,620	2,350	1,590	0
31	0	-----	0	0	-----	2,720	-----		-----	2,250	1,570	-----
Total	8,013	0	4,537	14,058	17,897	60,640	53,165	0	22,155	56,640	66,180	23,420
Mean	258	0	146	453	639	1,956	1,772	0	738	1,827	2,135	781
Max	3,580	0	1,220	1,340	1,260	2,870	2,830	0	1,620	2,350	2,690	4,900
Min	0	0	0	0	0	1,060	0	0	0	1,260	1,150	0
Ac-ft	15,890	0	9,000	27,880	35,500	120,300	105,500	0	43,940	112,300	131,300	46,450
(*)	0	0	0	0	0	0	0	0	0	0	0	0
Calendar year 1966: Total	354,507		Max	3,610	Min	0	Mean	971	Ac-ft	703,200	*0	
Water year 1967: Total	326,705		Max	4,900	Min	0	Mean	895	Ac-ft	648,000	*0	

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

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

Location.--Lat 32°44'05", long 114°43'25", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.16 S., R.21 E., San Bernardino meridian, on left bank 0.4 mile downstream from Pilot Knob wasteway, 6 $\frac{1}{2}$ 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 1967.

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 power-plant and wasteway). Datum of auxiliary gage is 150.00 ft above mean sea level, datum of 1929.

Average discharge.--6 years 4,739 cfs (3,431,000 acre-ft per year).

Extremes.--1961-67: Maximum daily discharge, 7,220 cfs July 12, 1963; no flow Jan. 4, 1967.

Remarks.--Records excellent. Water is used for power development at three sites below station, and for irrigation in Coachella and Imperial Valleys.

Cooperation.--Gage-height record and log of gate operation furnished by Imperial Irrigation District.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,290	3,570	2,960	3,710	3,080	4,120	5,250	5,450	5,720	6,240	5,930	5,140
2	5,170	3,550	2,980	2,930	3,270	4,310	4,590	5,220	5,350	6,010	6,040	2,150
3	4,890	3,590	3,110	208	3,360	4,380	5,200	5,200	5,430	6,230	6,080	1,860
4	3,840	3,570	3,110	0	3,460	4,630	4,790	5,220	5,200	6,370	6,080	2,490
5	2,930	3,650	2,900	1,140	3,460	4,780	4,860	5,210	5,280	6,350	6,200	2,960
6	3,320	3,380	2,720	3,420	3,840	5,010	5,060	5,360	5,180	6,590	6,110	2,700
7	3,490	2,980	2,890	3,820	4,230	5,320	5,150	5,100	5,520	6,350	6,000	2,520
8	3,450	2,840	3,320	3,770	4,690	5,640	5,150	4,820	5,740	6,280	6,090	2,730
9	3,460	2,760	3,330	3,760	5,060	5,880	4,890	4,940	5,520	6,020	6,220	3,030
10	3,450	2,830	3,290	3,660	4,890	5,590	5,180	5,130	5,420	5,850	6,100	3,210
11	3,340	2,710	3,630	3,750	5,120	5,470	5,330	5,300	5,350	5,970	5,820	3,720
12	3,520	2,800	3,830	3,860	4,710	5,120	5,270	5,250	5,560	6,010	5,970	4,080
13	3,890	2,610	3,400	3,760	4,280	5,390	5,650	5,750	5,570	6,160	5,850	4,530
14	4,050	2,650	3,410	3,550	4,080	5,350	5,530	5,220	5,690	6,140	5,880	4,740
15	4,300	2,680	3,530	2,940	4,590	5,560	4,990	5,150	5,710	6,200	5,840	4,920
16	4,380	2,600	3,570	2,790	4,670	5,630	4,550	5,440	5,950	5,990	5,890	5,550
17	4,510	2,830	3,350	3,000	4,520	5,490	4,800	5,530	6,210	5,900	6,000	5,710
18	4,980	2,980	2,990	3,300	4,070	5,480	5,000	5,500	6,010	6,050	5,820	5,860
19	5,120	3,040	2,820	3,210	3,590	5,490	4,900	5,340	5,960	6,190	5,690	5,640
20	5,080	2,860	3,020	3,400	3,760	5,540	4,980	5,700	6,180	6,220	5,540	4,910
21	4,880	2,830	3,270	3,250	4,010	5,660	4,850	5,630	6,250	6,110	5,460	4,750
22	4,630	3,020	3,190	2,980	4,120	5,850	4,760	5,720	6,430	6,250	5,220	4,510
23	4,370	2,990	2,950	2,970	4,090	5,890	4,630	5,820	6,240	5,950	5,390	4,650
24	4,140	2,930	2,940	2,930	3,620	5,910	4,680	6,030	6,140	5,990	5,580	4,640
25	4,110	3,140	2,010	2,970	3,540	5,950	4,940	5,970	5,880	6,130	5,650	4,730
26	4,100	2,980	2,770	2,630	3,490	5,740	5,150	5,640	5,980	6,110	5,930	4,930
27	4,250	2,680	3,190	2,450	3,620	5,610	5,390	5,680	6,020	6,080	5,530	4,850
28	4,170	2,690	3,590	2,400	3,820	5,710	5,310	5,410	6,220	6,010	5,470	4,970
29	4,230	2,780	3,800	2,490		5,790	5,260	5,410	6,410	6,130	5,360	4,850
30	4,280	2,810	4,110	2,840	- - - -	5,870	5,220	5,330	6,250	5,880	5,350	5,100
31	3,860	- - - -	4,090	2,890	- - - -	5,470	- - - -	5,480	- - - -	5,760	5,300	- - - -
Total	129,480	89,330	100,070	90,778	113,040	167,630	151,310	167,950	174,370	189,520	179,390	126,430
Mean	4,177	2,978	3,228	2,928	4,037	5,407	5,044	5,418	5,812	6,114	5,787	4,214
Max	5,290	3,650	4,110	3,860	5,120	5,950	5,650	6,030	6,430	6,590	6,220	5,860
Min	2,930	2,600	2,010	0	3,080	4,120	4,550	4,820	5,180	5,760	5,220	1,890
Ac-ft	256,800	177,200	198,500	180,100	224,200	332,500	300,100	333,100	345,900	375,900	355,800	250,800
Cal yr 1966: Total	1,718,520		Mean	4,708	Max	6,870	Min	835	Ac-ft	3,409,000		
Wtr yr 1967: Total	1,679,298		Mean	4,601	Max	6,590	Min	0	Ac-ft	3,331,000		

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 by the Yuma Main Canal (see stas 9-5240 and 9-5255). See p. for records of diversions.

See figure 2 on p. 35 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.--Digital 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. Prior to June 1, 1966, graphic water-stage recorder at same site and datum.

Records available.--Monthly discharge October 1960 to September 1967.

Remarks.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Flow record computed from standard weir rating.

9-5288. Levee Canal wasteway.

Location.--Digital 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. Prior to May 27, 1966, graphic water-stage recorder at same site and datum.

Records available.--Monthly discharge October 1960 to September 1967.

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

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 1967.

Remarks.--Record shows waste water from North Gila Valley Irrigation 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 monthly basis.

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 1962 to September 1967.

Remarks.--Record shows seepage from Gila Gravity Main Canal. There is no gage; records are computed by interpolation between discharge measurements made monthly.

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 1963, October 1964 to September 1967.

Remarks.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River.

9-5291.5 North Gila Main Canal wasteway.

Location.--Digital water-stage recorder in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.22, T.8 S., R.22 W., 1,000 ft upstream from outlet to Gila River. Prior to July 1966 graphic water-stage recorder and sharp-crested weir, 1 mile upstream from outlet to Gila River.

Records available.--Monthly discharge October 1960 to September 1967.

Remarks.--Record shows waste water from North Gila Valley Irrigation District. Prior to July 1966 record shows waste water less flow diverted for irrigation between gage and Gila River.

9-5291.6 South Gila Pump Outlet Channel No. 3.

Location.--Digital water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.8 S., R.22 W., half a mile upstream from outlet to Gila River. Prior to Aug. 1, 1965, record obtained by Badger total-flow meter about 500 ft downstream. Aug. 1, 1965, to June 26, 1966, graphic water-stage recorder at same site at datum 1.00 ft higher.

Records available.--Monthly discharge January 1965 to September 1967.

Remarks.--Record shows water pumped from wells in South Gila Valley Unit.

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

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 1962 to September 1967.

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

9-5292.4 South Gila Pump Outlet Channel No. 2.

Location.--Digital water-stage recorder in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.28, T.8 S., R.22 W., half a mile upstream from outlet to Gila River; prior to Oct. 18, 1965, outlet was to Wellton-Mohawk Main Outlet Drain. Prior to Aug. 1, 1965, Sparling meter at outlet to Wellton-Mohawk Main Outlet Drain. Aug. 1, 1965, to June 9, 1966, graphic water-stage recorder at same site at datum 1.00 ft higher.

Records available.--Monthly discharge January 1962 to September 1967.

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

9-5292.5 Bruce Church wasteway.

Location.--Digital 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. Prior to June 8, 1966, graphic water-stage recorder at same site and datum.

Records available.--Monthly discharge October 1960 to September 1967.

Remarks.--Record shows waste water from North Gila Valley Irrigation District returned to Gila River.

9-5293. Wellton-Mohawk Main Outlet Drain (Conveyance Channel).

Location.--Digital 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. Feb. 20, 1962, to June 10, 1967, graphic water-stage recorder at same site at datum 1.00 ft higher.

Records available.--Monthly discharge October 1960 to September 1967.

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 or Colorado River (see stas 9-5293.5, 9-5318, and 9-5319).

9-5293.5 Main Outlet Drain above Gila River.

Location.--Digital water-stage recorder in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.30, T.8 S., R.22 W., about 1,000 ft upstream from outlet to Gila River (M.O.D.E. 1), which is half a mile upstream from mouth of Gila River, and 8 miles downstream from sta 9-5293. Prior to March 1967, graphic water-stage recorder at same site and datum.

Records available.--Monthly discharge October 1965 to September 1967.

Remarks.--Record shows water pumped from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. Above this station flow passes through 8 miles of unlined channel. After completion of the Main Outlet Drain Extension on Nov. 15, 1965, flow can be returned to the Gila or Colorado River by any one of, or combination of, three outlets. Operationally, these outlets are known as: M.O.D.E. 1 (release to the Gila River about 1,000 ft below sta 9-5293.5); M.O.D.E. 2 (see sta 9-5318), release to Colorado River above Morelos Dam; and M.O.D.E. 3 (see sta 9-5319), release to Colorado River below Morelos Dam. For the 1967 water year 4,450 acre-ft was released to Gila River through M.O.D.E. 1.

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

Location.--Digital water-stage recorder in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.30, T.8 S., R.22 W., 0.2 mile upstream from outlet to Gila River, which is half a mile upstream from mouth of Gila River. Prior to Aug. 1, 1965, Sparling total-flow meter 300 ft upstream. Aug. 1, 1965, to June 6, 1966, graphic water-stage recorder at same site at datum 1.00 ft higher.

Records available.--Monthly discharge August 1961 to September 1967.

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

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 1967.

Remarks.--Record shows waste water from South Gila Valley Unit returned to Colorado River. Flow estimated from discharge measurements made monthly, when flow is less than will operate Sparling meter.

9-5294.2 South Gila Terminal wasteway.

Location.--Digital water-stage recorder and Parshall flume in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.36, T.8 S., R.23 W., 2.0 miles upstream from outlet to Colorado River. Prior to Aug. 1, 1965, total-flow meter at same site. Aug. 1, 1965, to June 15, 1966, graphic water-stage recorder at datum 1.00 ft higher.

Records available.--Monthly discharge March 1965 to September 1967.

Remarks.--Record shows waste water from South Gila Canal of South Gila Valley Unit returned to Colorado River.

9-5294.4 South Gila Pump Outlet Channel No. 4.

Location.--Digital water-stage recorder and broad-crested weir, in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.26, T.8 S., R.23 W., 1 mile upstream from outlet to Colorado River. Prior to May 26, 1966, graphic water-stage recorder at same site at datum 1.00 ft higher.

Records available.--Monthly discharge July 1965 to September 1967.

Remarks.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete-lined channel to Colorado River.

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

9-5296. Reservation Drain No. 7.

Location--Staff gage at downstream end of culvert on Avenue C in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.15 S., R.23 E., San Bernardino meridian, half a mile upstream from outlet to Reservation Main Drain.

Records available--Monthly discharge March 1966 to September 1967.

Remarks--Record shows drainage water from sec.34, T.15 S., R.23 E., and is used with sta 9-5297 to determine seepage from All-American Canal. Flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

9-5297. Reservation Main Drain No. 6.

Location--Staff gage on upstream right piling of 9th Street Bridge, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.15 S., R.23 E., San Bernardino meridian.

Records available--Monthly discharge March 1966 to September 1967.

Remarks--Record shows waste and drainage water from the Reservation Division, and is used with sta 9-5296 to determine seepage from All-American Canal, which parallels drain for 4 miles. Flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

9-5298. Reservation Drain No. 2.

Location--At upstream side of bridge in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.16 S., R.23 E., San Bernardino meridian, 0.9 mile upstream from outlet to Reservation Main Drain.

Records available--Monthly discharge March 1966 to September 1967.

Remarks--Record used to compute seepage from All-American Canal in sec.31, T.15 S., R.22 E. There is no gage; flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

9-5299. Reservation Drain No. 3.

Location--Staff gage on pier on right side of 5th Street Bridge in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.16 S., R.22 E., San Bernardino meridian, 1 mile upstream from outlet to Reservation Main Drain.

Records available--Monthly discharge March 1966 to September 1967.

Remarks--Record used to compute seepage from All-American Canal upstream from Yuma Main Canal. Flow record computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly.

9-5300. Reservation Main Drain No. 4.

Location--Digital water-stage recorder in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian, 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 1967 (calendar year discharge only 1934-36). Prior to October 1955, published as California drainage canal. Prior to January 1937, no gage; 1937 to Apr. 16, 1941, staff gages at same site at different datums; Apr. 16, 1941, to May 26, 1966, graphic water-stage recorder at same site and datum.

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.

9-5304. Reservation Drain No. 11.

Location--At outlet to Drain 8-B (Araz drain), in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.19, T.16 S., R.22 E., San Bernardino meridian.

Records available--Monthly discharge March 1966 to September 1967.

Remarks--Record shows drainage from sec.20, T.16 S., R.22 E. Flow at this station, with that at sta 9-5305, is used to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

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 1967. Prior to October 1955, published as Araz drain.

Remarks--Record shows seepage from All-American Canal, and waste and drainage water west of Yuma Main Canal on the Reservation Division. Flow at this station, with that at sta 9-5304, is used to determine seepage from All-American Canal. There is no gage, but due to fairly constant drainage, flow record is computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly at site 1,000 ft upstream.

9-5318. Main Outlet Drain Extension above Morelos Dam (M.O.D.E. 2).

Location--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.36, T.16 S., R.21 E., San Bernardino meridian, at outlet to Colorado River $\frac{1}{4}$ miles upstream from Morelos Dam.

Records available--November 1965 to September 1967.

Remarks--Record shows water conveyed to Colorado River $\frac{3}{4}$ miles above Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 9-5293, 9-5293.5, 9-5319.)

Cooperation--Record furnished by Bureau of Reclamation.

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

9-5319. Main Outlet Drain Extension below Morelos Dam (M.O.D.E. 3).

Location.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.8 S., R.24 W., at outlet to Colorado River just downstream from Morelos Dam.

Records available.--November 1965 to September 1967.

Remarks.--Record shows water conveyed to Colorado River below Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 9-5293, 9-5293.5, 9-5318.)

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

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 1967.

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., $3\frac{1}{2}$ miles downstream from Morelos Dam.

Records available.--Monthly discharge January 1924 to September 1967.

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 NE $\frac{1}{4}$ sec.35, T.10 S., R.25 W., $17\frac{1}{2}$ miles downstream from Morelos Dam.

Records available.--Monthly discharge March 1939 to September 1967.

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 1967.

Remarks.--Record computed from rated pumps checked by discharge measurements made 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 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 1967. 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).

Monthly return flows, in acre-feet, water year October 1966 to September 1967

Month	Laguna Canal wasteway 9-5286	Levee Canal wasteway 9-5288	North Gila Drain No. 1 9-5290	North Gila Drain No. 3 9-5290.5	Fortuna wasteway 9-5291	North Gila Main Canal wasteway 9-5291.5
October.....	61	476	714	23	71	533
November.....	18	617	411	15	55	419
December.....	46	417	319	21	80	180
Calendar year 1966.....	446	6,160	6,820	506	857	5,110
January.....	24	341	383	16	34	228
February.....	51	401	365	15	31	427
March.....	85	809	498	25	36	386
April.....	37	553	476	42	47	189
May.....	47	842	579	39	38	156
June.....	80	601	569	30	31	238
July.....	70	406	508	34	24	560
August.....	0	219	623	23	49	563
September.....	.08	125	676	12	143	160
Water year 1967.....	519	5,810	6,120	295	639	4,040

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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

Monthly return flows, in acre-feet, water year October 1966 to September 1967

Month	South Gila Pump Outlet Channel No. 3 9-5291.6	Bruce Church Drain 9-5292	South Gila Pump Outlet Channel No. 2 9-5292.4	Bruce Church wasteway 9-5292.5	Wellton-Mohawk Main Outlet Drain 9-5293	Main Outlet Drain above Gila River 9-5293.5
October.....	1,510	154	1,690	245	19,330	18,080
November.....	669	143	1,590	169	18,270	17,040
December.....	21	154	1,090	176	18,500	17,400
Calendar year 1966.....	11,980	981	18,430	2,610	216,900	207,200
January.....	13	154	906	313	17,990	17,510
February.....	195	139	672	297	14,180	13,930
March.....	1,270	92	1,490	399	17,880	17,230
April.....	1,700	71	2,020	128	17,320	16,600
May.....	293	135	229	198	15,420	14,800
June.....	175	83	1,360	126	17,520	16,710
July.....	2,150	68	2,620	293	18,970	17,500
August.....	2,070	141	2,110	241	19,210	17,860
September.....	525	12	706	37	17,160	16,670
Water year 1967.....	10,590	1,350	16,480	2,620	211,800	201,300

Month	South Gila Pump Outlet Channel No. 1 9-5293.6	South Gila Drain No. 2 9-5294	South Gila Terminal wasteway 9-5294.2	South Gila Pump Outlet Channel No. 4 9-5294.4	Reservation Drain No. 7 9-5296	Reservation Main Drain No. 6 9-5297
October.....	3,140	0	200	254	100	1,220
November.....	2,810	0	142	1.8	100	1,160
December.....	3,030	0	115	5.6	117	1,110
Calendar year 1966.....	31,000	0	1,360	3,480	---	---
January.....	2,720	0	69	4.8	112	1,080
February.....	2,300	0	109	125	104	944
March.....	2,450	0	142	867	132	1,100
April.....	2,180	0	173	1,250	128	1,020
May.....	1,190	0	240	75	136	1,050
June.....	2,250	0	258	18	133	954
July.....	2,850	47	256	1,110	133	1,170
August.....	2,880	43	172	1,250	123	1,160
September.....	1,450	11	96	336	130	1,080
Water year 1967.....	29,250	101	1,970	5,300	1,450	13,050

Month	Reservation Drain No. 2 9-5298	Reservation Drain No. 3 9-5299	Reservation Main Drain No. 4 9-5300	Reservation Drain No. 11 9-5304	Drain 8-B 9-5305	M.O.D.E. 2 (above Morelos Dam) 9-5318
October.....	32	299	3,560	6.1	109	10
November.....	27	279	2,830	6.0	92	0
December.....	27	274	2,960	6.1	83	1,670
Calendar year 1966.....	--	---	39,600	---	1,200	96,130
January.....	25	252	2,920	6.1	71	1,620
February.....	22	228	2,660	5.6	65	3,650
March.....	25	249	3,440	6.1	74	12,230
April.....	24	218	3,430	10	77	12,490
May.....	25	224	3,280	12	68	11,820
June.....	18	261	3,230	10	67	14,420
July.....	24	289	3,200	12	73	17,120
August.....	25	287	3,010	8.5	74	13,060
September.....	24	297	2,640	6.3	88	8,970
Water year 1967.....	298	3,160	37,140	95	941	97,060

Month	M.O.D.E. 3 (below Morelos Dam) 9-5319	Cooper wasteway 9-5320	Eleven Mile wasteway 9-5325	Twenty-one Mile wasteway 9-5330	Main drain 9-5340	East Main Canal wasteway 9-5345
October.....	17,820	76	563	389	11,320	457
November.....	17,230	65	418	278	10,720	447
December.....	15,610	128	378	181	10,110	542
Calendar year 1966.....	101,100	1,100	3,840	2,630	123,500	4,450
January.....	15,460	39	221	202	9,990	430
February.....	10,000	69	345	173	10,120	476
March.....	4,880	84	382	244	11,120	403
April.....	3,980	90	442	314	10,480	418
May.....	3,160	109	238	119	10,610	302
June.....	2,100	102	148	105	10,210	306
July.....	665	128	201	83	10,070	325
August.....	694	136	431	121	10,000	254
September.....	7,500	55	206	164	9,940	553
Water year 1967.....	99,100	1,080	3,970	2,370	124,700	4,910

PANAMINT VALLEY

10-2506. WILDROSE CREEK NEAR WILDROSE STATION, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 36°15'55", long 117°10'40", in Death Valley National Monument, on left bank 0.4 mile east of Wildrose Ranger Headquarters, 2 miles east of Wildrose Spring and 2.5 miles east of Wildrose Station, Inyo County.

DRAINAGE AREA.--23.7 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967. Weather records since June 1964.

INSTRUMENTATION.--Graphic water-stage recorder with rain-gage attachment at altitude of 4,300 ft (from topographic map). Recording and storage-type precipitation gages, recording anemometer, and max-min thermometer at altitude of 9,990 ft; similar instruments and 24-inch screened evaporation pan at altitude of 5,570 ft; recording rain gages at altitudes of 7,200, 6,400, and 5,300 ft; flow meter recording ground water withdrawals at altitude of 4,300 ft.

AVERAGE DISCHARGE.--7 years, 0.033 cfs (24 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,060 cfs Sept. 4 (gage height, 6.24 ft), on basis of slope-area measurement of maximum flow; no flow for most of year.
1960-67: Maximum discharge, that of Sept. 4, 1967; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Aug. 24..... 0.20
Sept. 2..... .70
4..... 46

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1967.....	0.20	0.20	0	0.006	0.4
September.....	46.7	46	0	1.56	93
Calendar year 1966.....	-	13	0	.036	26
Water year 1966-67.....	-	46	0	.128	93

Peak discharge (base, 5 cfs).--Sept. 2 (1630 hrs) 21 cfs (1.64 ft); Sept. 4 (1245 hrs) 1,060 cfs (6.24 ft).

Period	Pan Evaporation (inches)	Temperature (°F) at altitude:				Ground Water (acre-feet) 4,300 ft
		9,990 ft		5,750 ft		
		Maximum	Minimum	Maximum	Minimum	
Oct. 15 to Nov. 16.....	-	50	26	72	28	0.21
Nov. 16 to Jan. 17.....	4.95	57	26	77	26	
Jan. 17 to Feb. 13.....	2.00	-	-	65	34	.26
Feb. 13 to Mar. 15.....	5.07	-	-	59	35	
Mar. 15 to May 15.....	7.62	-	-	74	40	1.15
May 15 to July 19.....	23.78	75	49	88	60	
July 19 to Sept. 26.....	25.02	63	38	75	53	1.45

Month	Precipitation (inches) at location and altitude:						Average Wind Velocity (mph)	
	117°05'05" 36°13'05"	117°04'15" 36°15'30"	117°06'50" 36°13'55"	117°06'40" 36°15'10"	117°08'10" 36°16'15"	117°10'40" 36°15'55"	at location and altitude:	
	9,990 ft	7,200 ft	6,400 ft	5,750 ft	5,300 ft	4,300 ft	9,990 ft	5,750 ft
October 1966.....	0.11	0	0	0	0	0	5.68	2.76
November.....	0	.30	.4	.04	.11	.1	7.72	3.42
December.....	.7	2.70	1.20	1.8	.90	.7	6.26	5.49
Cal yr 1966.....	-	-	-	-	-	2.6	-	-
January 1967.....	0	.58	1.12	.8	.50	1.2	9.60	5.56
February.....	.59	0	0	0	0	0	15.1	5.94
March.....	.63	.18	.05	0	.05	0	13.4	6.55
April.....	.56	1.25	1.82	1.5	.91	1.5	-	5.43
May.....	0	.06	.02	0	0	0	-	5.82
June.....	.42	1.06	.84	.9	.54	.6	-	5.42
July.....	1.02	.40	.66	.47	.5	.1	-	5.58
August.....	.13	.70	1.99	.86	1.31	1.0	5.85	5.62
September.....	1.29	1.42	1.76	1.46	2.13	.8	8.38	5.29
Wtr year 1966-67	5.45	8.65	9.86	7.83	6.95	6.0	-	-

PANAMINT VALLEY

37

10-2508. DARWIN CREEK NEAR DARWIN, CALIF.

LOCATION.--Lat 36°19'15", long 117°31'20", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.34, T.18 S., R.41 E., on right bank 700 ft downstream from Darwin Falls, 1.3 miles upstream from unnamed tributary, and 5.4 miles northeast of Darwin.

DRAINAGE AREA.--173 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,640 ft (from topographic map). U.S. Weather Bureau non-recording rain gage at Darwin.

AVERAGE DISCHARGE.--5 years, 0.460 cfs (333 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,130 cfs Sept. 4 (gage height, 7.34 ft), on basis of slope-area measurement of maximum flow; minimum daily, 0.20 cfs for some days.
1962-67: Maximum discharge, that of Sept. 4, 1967; minimum daily, 0.20 cfs for many days in each year.

REMARKS.--Records good except those for Dec. 6-10 and Sept. 4-10, which are poor. No regulation above station. Town of Darwin pumps water above station for municipal supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.30	0.40	0.30	0.40	0.30	0.30	0.30	0.30	0.20	0.20	0.60
2	.30	.30	.40	.30	.40	.30	.30	.30	.30	.20	.20	.60
3	.30	.30	.40	.30	.40	.30	.30	.30	.30	.20	.20	.50
4	.30	.30	.40	.30	.40	.30	.30	.30	.30	.20	.20	153
5	.30	.30	.40	.30	.40	.30	.30	.30	.30	.20	.20	5.0
6	.30	.30	31	.30	.40	.30	.30	.30	.30	5.0	.30	3.0
7	.30	.30	2.0	.30	.40	.30	.30	.30	.30	.90	.30	2.0
8	.30	.30	1.0	.30	.30	.30	.30	.30	.30	.50	.30	1.0
9	.30	.30	.50	.30	.30	.30	.30	.30	.30	.40	.30	.50
10	.30	.30	.50	.30	.30	.30	.30	.30	.30	.40	.30	.50
11	.30	.30	.40	.30	.30	.30	.30	.30	.30	.40	.30	.40
12	.30	.40	.40	.30	.30	.30	.30	.30	.30	.40	.30	.40
13	.30	.40	.40	.30	.30	.40	.30	.30	.30	1.3	.30	.40
14	.30	.40	.40	.30	.30	.40	.30	.30	.30	1.9	.30	.40
15	.30	.40	.40	.30	.30	.30	.30	.30	.20	.40	.30	.40
16	.30	.40	.40	.30	.30	.30	.30	.30	.20	.40	.30	.30
17	.30	.40	.40	.40	.30	.30	.30	.30	.20	.30	.30	.30
18	.30	.40	.40	.40	.30	.30	.30	.30	.20	.30	.30	.30
19	.30	.40	.40	.40	.30	.30	.30	.30	.20	.30	.30	.30
20	.30	.40	.40	.40	.30	.30	.30	.30	.20	.30	.40	.30
21	.30	.40	.40	.40	.30	.30	.30	.30	.20	.20	.40	.30
22	.30	.40	.40	.40	.30	.30	.30	.30	.20	.20	.40	.20
23	.30	.40	.40	.40	.30	.30	.30	.30	.20	.20	.40	.20
24	.30	.40	.40	.40	.30	.30	.30	.30	.20	.20	.40	.20
25	.30	.40	.40	.40	.30	.30	.30	.30	.20	.20	.60	.20
26	.30	.40	.30	.40	.30	.30	.30	.30	.20	.20	.40	.20
27	.30	.40	.30	.40	.30	.30	.30	.30	.20	.30	.40	.20
28	.30	.40	.30	.40	.30	.30	.30	.30	.20	.30	.40	.20
29	.30	.40	.30	.40		.30	.30	.30	.20	.30	.40	.20
30	.30	.40	.30	.40	-----	.30	.30	.30	.20	.20	.40	.20
31	.30	-----	.30	.40	-----	.30	-----	.30	-----	.20	.40	-----
Total	9.30	10.90	44.80	10.80	9.10	9.50	9.00	9.30	7.40	16.70	10.20	172.30
Mean	0.300	0.363	1.45	0.348	0.325	0.306	0.300	0.300	0.247	0.539	0.329	5.74
Max	0.30	0.40	31	0.40	0.40	0.40	0.30	0.30	0.30	5.0	0.60	153
Min	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.20	0.20	0.20	0.20
Ac-ft	18	22	89	21	18	19	18	18	15	33	20	342
(t)	0	0.10	1.60	0.09	0.02	0.05	0.40	0.42	0.20	1.30	0.44	1.06

Cal yr 1966: Total 179.20 Mean 0.491 Max 31 Min 0.20 Ac-ft 355 Precip. † 3.72
Wtr yr 1967: Total 319.30 Mean 0.875 Max 153 Min 0.20 Ac-ft 633 Precip. † 5.66

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1600	3.60	170	7-13	2300	2.70	32
7-6	2030	3.58	146	9-4	1630	7.34	3,130

†Precipitation, in inches.

DEATH VALLEY

10-2510. BIG DIP CREEK NEAR STOVEPIPE WELLS, CALIF.

LOCATION.--Lat 36°55'05", long 117°17'35", in Death Valley at culvert on road to Scotty's Castle, 21 miles northwest of Stovepipe Wells, Inyo County.

DRAINAGE AREA.--0.95 sq mi.

RECORDS AVAILABLE.--Water years 1959-63 (annual maximum), April 1963 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,620 ft (from topographic map). Jan. 16, 1959, to Apr. 7, 1963, crest-stage gage only at same site and datum. Recording rain gage at site 0.5 mile upstream.

EXTREMES.--Maximum discharge during year, 199 cfs Dec. 6 (gage height, 15.11, ft from floodmark), on basis of culvert and road overflow computation; no flow all year except that of Dec. 6.
1958-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Rainfall records not reliable.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 12

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	12	12	0	0.387	24
Calendar year 1966.....	-	12	0	.033	24
Water year 1966-67.....	-	12	0	.033	24

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

DEATH VALLEY

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10-2513. AMARGOSA RIVER AT TECOPA, CALIF.

LOCATION.--Lat 35°50'55", long 116°13'45", in NW¼SE¼ 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 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and concrete-culvert control. Altitude of gage is 1,310 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 2.30 cfs (1,670 acre-ft per year).

EXTREMES.--Maximum discharge during year, 80 cfs Sept. 6 (gage height, 2.50 ft), from rating curve extended same as below; no flow for many days.

1961-67: Maximum discharge, 950 cfs Dec. 9, 1965 (gage height, 10.10 ft), from rating curve extended above 8.0 cfs on basis of computation of flow through culvert at gage height 8.1 ft; no flow for many days in each year.

Flood (date unknown) reached a stage of 8.1 ft, from floodmarks (discharge, 790 cfs, based on computation of maximum flow through culvert).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.60	1.0	1.4	1.1	1.4	1.0	0.80	0.10		0
2	0	0	.60	1.1	1.7	1.0	1.5	1.0	.60	.10		0
3	0	0	1.2	.90	.80	.80	1.5	1.0	.40	.10		0
4	0	0	1.2	1.1	.70	.70	1.3	.80	.30	0		0
5	1.4	0	.90	1.3	1.1	.90	1.3	.60	.10	0		21
6	.50	0	.80	.70	.60	.60	1.4	.90	.40	0		21
7	0	0	1.7	.80	.70	.80	1.1	.90	.40	.40		2.8
8	0	.50	1.2	.90	.80	1.0	1.1	.80	.30	.10		1.2
9	0	.40	1.1	1.1	1.0	1.0	1.2	.40	.40	.10		.40
10	0	.20	1.1	1.1	1.1	.70	1.1	.30	.40	0		.20
11	0	.20	1.1	1.2	.80	.70	1.1	.40	.40	0		.10
12	0	.20	1.1	1.3	.90	.80	2.9	.60	.20	0		.10
13	0	.20	1.1	1.1	1.1	.80	2.2	.60	.30	0		.10
14	0	.30	1.2	1.2	.90	.70	1.2	.60	.40	0		0
15	0	.40	1.2	1.0	.60	.90	1.0	.60	.40	0		0
16	0	.40	1.1	1.2	.80	.90	1.0	.60	.20	0		0
17	0	.40	1.1	1.1	1.0	.80	1.0	.60	.10	0		0
18	0	.40	1.2	.90	1.1	.70	.70	.60	0	0		0
19	0	.40	1.2	1.1	1.2	.70	.50	.50	0	0		0
20	0	.40	1.2	1.2	.80	.70	.90	.50	.10	0		0
21	0	.40	1.2	1.1	.60	1.1	1.0	.50	.10	0		.10
22	0	.40	1.2	1.5	.90	1.3	1.3	.50	.10	0		.10
23	0	.50	1.0	3.2	1.0	1.1	1.3	.30	.10	0		.10
24	0	.50	1.1	1.5	1.2	1.0	1.1	.10	.10	0		.10
25	0	.50	1.2	2.1	1.1	1.2	1.1	.20	.10	0		.10
26	0	.50	1.2	1.4	1.1	1.1	1.1	.20	.10	0		.10
27	0	.50	.90	1.4	.90	1.1	.80	.30	0	0		.20
28	0	.50	.90	1.4	1.0	1.0	.40	.30	0	0		.20
29	0	.60	1.0	1.4		.60	.40	.30	.10	0		.20
30	0	.60	1.1	1.4	-----	1.1	1.0	18	.10	0		.20
31	0	-----	.80	1.3	-----	.90	-----	5.0	-----	0		-----
Total	1.90	9.40	33.50	39.00	26.90	27.80	34.90	39.00	7.00	0.90	0	48.30
Mean	0.051	0.313	1.08	1.26	0.960	0.897	1.16	1.26	0.233	0.029	0	1.61
Max	1.4	0.60	1.7	3.2	1.7	1.3	2.9	18	0.80	0.40	0	21
Min	0	0	0.60	0.70	0.60	0.60	0.40	0.10	0	0	0	0
Ac-ft	3.8	19	56	77	53	55	69	77	14	1.8	0	96
(+)	0	0	0	0.2	0.4	0	0.1	0	0	0	0	0.2

Cal yr 1966: Total 474.90 Mean 1.30 Max 34 Min 0 Ac-ft 942 Precip. † 0.2
Wtr yr 1967: Total 258.60 Mean 0.736 Max 21 Min 0 Ac-ft 533 Precip. † 0.9

Peak discharge (base, 15 cfs).--May 30 (1200 hrs) 69 cfs (2.37 ft); Sept. 6 (1400 hrs) 80 cfs (2.50 ft).

† Precipitation, in inches.

DEATH VALLEY

10-2513.5. HORSE THIEF CREEK NEAR TECOPA, CALIF.

LOCATION.--Lat 35°46'50", long 115°53'35", T.20 N., R.10 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 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 4,600 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.005 cfs (3.6 acre-ft per year).

EXTREMES.--Maximum discharge during year, 285 cfs (estimated) Sept. 6 (gage height, 3.74 ft); no flow most of year.

1960-67: 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 maximum flow; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.1; December, 2.8; January, 0.7; April, 1.3; May, 0.2; July, 0.5; August, 0.3; September, 1.3; the water year, 7.2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Oct. 5.....0.10
Dec. 6......90
Sept. 6.....1.9

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
October 1966.....	0.10	0.10	0	0.003	0.2
December.....	.90	.90	0	.029	1.8
September 1967.....	1.9	1.9	0	.063	3.8
Calendar year 1966.....	-	.90	0	.003	2.0
Water year 1966-67.....	-	1.9	0	.008	5.8

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

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 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage, and box-culvert control since Oct. 9, 1963. Altitude of gage is 4,400 ft (from topographic map). Prior to Oct. 9, 1963, at different datum.

AVERAGE DISCHARGE.--8 years (1960-67), 0.001 cfs (0.7 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10 cfs (estimated) Aug. 10 (gage height, 1.75 ft, from crest-stage gage); no flow all year except that of Aug. 10.

1959-67: Maximum discharge, 113 cfs Aug. 5, 1964 (gage height, 2.75 ft), by computation of maximum flow through culvert; no flow in most years.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.3; November, 0.2; December, 2.0; January, 0.9; April, 0.1; July, 0.6; August, 1.6; September, 1.4; the water year, 7.1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Aug. 10.....0.4

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1967.....	0.40	0.40	0	0.013	0.8
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	.40	0	.001	.8

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

10-2523.3. WHEATON WASH NEAR MOUNTAIN PASS, CALIF.

LOCATION.--Lat 35°28'00", long 115°29'10", in NE¼SE¼ sec.32, T.16 N., R.14 E., on left bank 35 ft upstream from westbound lane U.S. Highway 15, 1.3 miles downstream from China Spring Creek, and 3.1 miles east of Mountain Pass.

DRAINAGE AREA.--10.2 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 4,120 ft (from topographic map).

REMARKS.--No flow since Oct. 1, 1964, date of establishment. No regulation or diversion above station.

BRISTOL LAKE BASIN

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10-2525.5. CARUTHERS CREEK NEAR IVANPAH, CALIF.

LOCATION.--Lat 35°14'35", long 115°17'55", in NW¼NE¼ sec.6, T.13 N., R.16 E., on left bank 6.6 miles south of Ivanpah.

DRAINAGE AREA.--1.13 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 5,640 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 24 cfs Dec. 7 (gage height, 1.97 ft), from rating curve extended as explained below; no flow for most of year.

1963-67: Maximum discharge, 230 cfs Aug. 15, 1965 (gage height, 3.75 ft), from rating curve extended to slope-area measurement of maximum flow; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6.....1.8	Dec. 10..... .10
7.....5.1	11..... .10
8..... .40	Aug. 24..... .20
9..... .30	25..... .40

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	7.80	5.1	0	0.252	15
August 1967.....	.60	.40	0	.019	1.2
Calendar year 1966.....	-	5.6	0	.083	60
Water year 1966-67.....	-	5.1	0	.023	17

Peak discharge (base, 10 cfs).--Dec. 7 (0100 hrs) 24 cfs (1.97 ft).

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

DANBY LAKE BASIN

10-2530.8. SUNFLOWER WASH NEAR ESSEX, CALIF.

LOCATION.--Lat 34°33'00", long 115°06'25", in NE¼SE¼ sec.5, T.5 N., R.18 E., on left bank about 0.3 mile downstream from road crossing and 14.9 miles southeast of Essex.

DRAINAGE AREA.--3.04 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 3,040 ft (from topographic map). Recording rain gage 2.3 miles upstream.

AVERAGE DISCHARGE.--5 years, 0.042 cfs (30 acre-ft per year).

EXTREMES.--No flow during year.

1962-67: Maximum discharge, 972 cfs Sept. 18, 1963 (gage height, 4.17 ft), on basis of slope-area measurement of maximum flow; no flow for most of each year.

REMARKS.--No flow since Sept. 18, 1963. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: December, 0.60; February, 0.70; April, 0.60; July, 0.73; August, 1.07; September, 0.70; the water year, 4.40.

DALE LAKE BASIN

10-2533.2. QUAIL WASH NEAR JOSHUA TREE, CALIF.

LOCATION.--Lat 34°07'05", long 116°18'30", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.1, T.1 S., R.6 E., on right bank 0.2 mile downstream from Coyote Hole Spring and 1.1 miles south of Joshua Tree.

DRAINAGE AREA.--100 sq mi.

RECORDS AVAILABLE.--March 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,920 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1.7 cfs Aug. 16 (gage height, 2.06 ft, from floodmark), on basis of velocity-area measurement of maximum flow; no flow all year except Aug. 16.
1964-67: Maximum discharge, that of Aug. 16, 1967; no flow for all or most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Aug. 16..... 0.10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1967.....	0.10	0.10	0	0.003	0.2
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	.10	0	.0003	.2

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

10-2533.5. FORTYNINE PALMS CREEK NEAR TWENTYNINE PALMS, CALIF.

LOCATION.--Lat 34°07'15", long 116°05'45", in Joshua Tree National Monument, on left bank 50 ft upstream from North Monument boundary, 1.1 miles downstream from Fortynine Palms Oasis, and 2.6 miles southwest of Twentynine Palms, San Bernardino County.

DRAINAGE AREA.--8.55 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 2,260 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 0.146 cfs (106 acre-ft per year).

EXTREMES.--Maximum discharge during year, 838 cfs Sept. 2 (gage height, 3.98 ft, from crest-stage gage), from rating curve extended above 0.2 cfs as explained below; no flow all year except Sept. 2.

1962-67: Maximum discharge, 1,240 cfs Aug. 7, 1963 (gage height, 4.55 ft, from crest-stage gage), from rating curve extended above 0.2 cfs on basis of slope-area measurement at gage heights 2.55 and 4.55 ft; no flow for most of each year.

Flood in August 1961 reached a stage of 4.9 ft, from profile of floodmarks on left bank (discharge, ,240 cfs from slope-area measurement).

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.5; November, 0.2; December, 0.4; January, 0.2; April, 0.1; July, 1.4; August, 0.8; September, 1.2; the water year, 4.8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Sept. 2..... 58

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
September 1967.....	58	58	0	1.93	115
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	58	0	.159	115

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

CHUCKWALLA VALLEY

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10-2535.4. CORN SPRINGS WASH NEAR DESERT CENTER, CALIF.

LOCATION.--Lat 33°37'30", long 115°19'20", on right bank 0.1 mile downstream from unnamed tributary and 7.6 miles southeast of Desert Center, Riverside County.

DRAINAGE AREA.--24.1 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment at altitude of 1,600 ft (from topographic map). Recording rain gage at altitude of 2,050 ft; digital recording rain gages at altitudes of 2,720, 2,440, and 2,320 ft.

EXTREMES.--Maximum discharge during year, 668 cfs Sept. 5 (gage height, 5.76 ft), on basis of slope-area measurement of maximum flow; no flow for most of year.

1963-67: Maximum discharge, that of Sept. 5, 1967; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Aug. 22..... 5.8
30..... 1.0
31..... .80
Sept. 5.....29

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1967.....	7.60	5.8	0	0.245	15
September.....	29	29	0	.967	58
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	29	0	.100	73

Peak discharge (base, 50 cfs).--Aug. 22 (1500 hrs) 194 cfs (5.29 ft); Aug. 30 (2345 hrs) 68 cfs (4.99 ft); Sept. 5 (1615 hrs) 668 cfs (5.76 ft).

Precipitation (inches) at location and altitude indicated

Month	115°21'40" 33°16'10"	115°25'30" 33°38'25"	115°23'00" 33°37'10"	115°22'35" 33°38'05"	115°19'20" 33°37'30"
	2,720 ft	2,440 ft	2,320 ft	2,050 ft	1,600 ft
October.....	0.70	1.34	0.86	0.74	0
November.....	.59	.17	.35	.21	.3
December.....	.57	.30	.19	.12	.1
Calendar year 1966.....	-	-	-	-	-
January 1967.....	.41	.31	.34	.22	.2
February.....	0	0	0	0	0
March.....	.05	.02	.02	0	.1
April.....	.27	.12	.13	.07	.2
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	.10	0	0	.5
August.....	1.03	3.04	1.80	.49	1.3
September.....	2.32	.99	1.30	.48	1.8
Water year 1966-67.....	5.94	6.39	4.99	2.33	4.5

SALTON SEA BASIN

10-2540.05. SALTON SEA NEAR WESTMORELAND, CALIF.

LOCATION.--Lat 33°11'37", long 115°49'54", in NE¼SE¼SW¼ 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.

DRAINAGE AREA.--8,360 sq mi, approximately.

RECORDS AVAILABLE.--November 1904 to September 1967. Records prior to 1932 are published in WSP 735.

GAGE.--Graphic water-stage 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. and G.S.).

EXTREMES.--Maximum elevation during year, 232.0 ft below mean sea level Apr. 10, 11; minimum, 233.0 ft below mean sea level Oct. 1 to Nov. 4.

1904-67: 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 277.7 ft below mean sea level. See WSP 300, 735, and 918 for condensed history of Salton Sea.

MONTH-END ELEVATIONS, IN FEET BELOW MEAN SEA LEVEL, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)	Date	Elevation (feet)
Sept. 30.....	233.0	Apr. 30.....	232.1
Oct. 31.....	233.0	May 31.....	232.2
Nov. 30.....	232.9	June 30.....	232.4
Dec. 31.....	232.8	July 31.....	232.4
Jan. 31.....	232.5	Aug. 31.....	232.7
Feb. 28.....	232.3	Sept. 30.....	232.7
Mar. 31.....	232.1		

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 1966 to September 1967. Inflow from Imperial Valley is the sum of flows in Alamo River (see Sta. No. 2547.3), New River (see Sta. No. 2555.5), and 21 drains and wasteways. Inflow from Coachella Valley is the sum of flows in Whitewater River and 20 drains. Flow in the river was measured by a gaging station (see Sta. No. 2595.4), but that for the drains was furnished by Coachella Valley County Water District. (See Salton Sea Basin 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	110,500	79,200	78,320	82,460	81,980	111,600	103,400	96,240	91,620	95,160	93,350	98,730	1,123,000
Coachella Valley	10,340	9,830	10,270	10,660	9,740	11,090	11,490	11,790	10,910	10,420	12,090	10,800	129,400
Total	120,840	89,030	88,590	93,120	91,720	122,690	114,890	108,030	102,530	105,580	105,440	109,530	1,252,000

Flow from Mexico at International Boundary													
Alamo River	155	146	132	120	133	154	127	123	116	112	107	120	1,540
New River	9,160	8,970	7,280	9,280	7,730	8,880	9,420	7,280	7,970	5,890	5,110	10,600	97,570

SALTON SEA BASIN

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10-2540.5. SALT CREEK NEAR MECCA, CALIF.

LOCATION.--Lat 33°26'50", long 115°50'35", in NE¼SE¼SW¼ 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.

DRAINAGE AREA.--269 sq mi.

RECORDS AVAILABLE.--January 1961 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 230 ft below mean sea level (from topographic map).

EXTREMES.--Maximum discharge during year, 1,050 cfs Sept. 1 (gage height, 6.62 ft), from rating curve extended above 10 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.80 cfs July 5-10, 12, 15, 16.

1961-67: Maximum discharge, that of Sept. 1, 1967; minimum daily, 0.40 cfs Aug. 10, 1966.

REMARKS.--Records good. No regulation or diversion above station. Flow sustained by irrigation seepage.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	3.9	5.4	6.6	8.1	5.2	6.2	2.9	2.1	0.90	1.5	195
2	2.5	4.0	5.4	6.8	7.8	5.6	6.0	2.9	2.3	.90	1.4	56
3	2.5	4.2	5.6	6.8	7.6	5.8	5.6	3.0	2.3	1.0	1.1	23
4	3.3	3.8	6.6	6.4	7.4	5.8	5.6	3.2	2.3	.90	.90	12
5	11	3.6	6.0	10	7.0	5.4	5.4	4.0	2.0	.80	1.0	9.1
6	10	3.6	7.0	7.0	7.0	5.2	5.0	4.0	1.9	.80	1.2	8.4
7	4.2	3.8	7.0	6.2	6.8	5.2	5.0	3.8	1.7	.80	1.4	7.0
8	3.6	4.0	6.8	6.0	6.0	5.6	5.2	2.9	1.7	.80	1.5	6.4
9	3.2	5.6	6.6	6.8	5.4	6.4	5.8	3.2	1.6	.80	1.2	6.1
10	3.2	5.2	6.0	8.1	5.8	7.0	6.0	3.3	1.5	.80	1.1	5.8
11	3.3	5.0	5.8	8.4	5.8	6.2	6.2	2.9	1.4	.90	1.4	5.5
12	3.3	5.2	5.8	8.6	5.6	5.2	6.4	2.8	1.4	.80	1.3	4.8
13	3.9	5.4	5.8	8.9	5.6	5.2	6.6	3.0	1.4	1.0	1.0	3.3
14	4.2	5.4	6.0	7.6	6.0	5.4	5.4	2.6	1.3	.90	1.0	2.8
15	4.0	5.4	6.2	7.2	6.4	5.8	5.0	2.5	1.3	.80	7.0	2.6
16	4.4	5.4	7.0	7.8	6.8	6.4	5.0	2.4	1.3	.80	1.4	2.2
17	4.4	4.6	7.2	8.9	7.2	6.8	4.6	2.3	1.3	.90	1.5	2.1
18	4.2	4.4	7.4	8.9	7.2	6.8	4.6	2.1	1.3	1.0	1.7	2.0
19	3.6	4.4	7.4	7.6	7.4	6.0	4.4	2.0	1.3	1.6	1.5	2.1
20	3.3	4.2	7.4	7.6	7.4	5.4	4.4	1.8	1.3	1.1	5.8	2.1
21	4.4	4.2	7.6	7.4	7.0	5.0	4.2	1.7	2.4	1.0	2.2	2.0
22	5.0	4.4	7.6	7.6	6.6	5.0	4.6	1.8	3.8	1.1	2.1	2.0
23	4.2	4.2	7.2	9.5	7.0	5.2	5.2	1.7	1.4	1.3	7.4	2.0
24	4.0	4.2	6.8	12	6.8	5.4	5.2	2.1	1.1	1.4	5.0	2.1
25	4.6	4.2	6.8	9.8	5.8	5.6	5.0	2.4	1.1	1.6	3.4	2.1
26	4.8	4.4	6.8	8.9	5.6	6.0	5.0	1.9	1.0	2.6	3.3	2.2
27	5.0	4.4	6.8	8.6	5.4	6.2	5.0	2.0	1.0	1.4	3.2	2.1
28	5.0	6.0	7.2	8.4	5.2	7.2	4.6	2.1	1.4	1.4	2.8	1.8
29	4.0	6.4	7.8	8.4		10	3.8	2.0	1.3	1.3	2.3	2.1
30	3.8	6.4	8.4	8.4	- - - - -	7.4	3.3	2.0	1.1	1.4	2.2	2.2
31	3.6	- - - - -	7.6	8.4	- - - - -	6.8	- - - - -	2.0	- - - - -	1.4	2.6	- - - - -
Total	133.0	139.9	209.0	249.6	183.7	186.2	154.3	79.3	48.3	34.20	72.40	378.9
Mean	4.29	4.66	6.74	8.05	6.56	6.01	5.14	2.56	1.61	1.10	2.34	12.6
Max	11	6.4	8.4	12	8.1	10	6.6	4.0	3.8	2.6	7.4	195
Min	2.5	3.6	5.4	6.0	5.2	5.0	3.3	1.7	1.0	0.80	.90	1.8
Ac-ft	264	277	415	495	364	369	306	157	96	68	144	751

Cal yr 1966: Total 1.883.10 Mean 5.16 Max 20 Min 0.40 Ac-ft 3,740

Wtr yr 1967: Total 1.868.80 Mean 5.12 Max 195 Min 0.80 Ac-ft 3,710

SALTON SEA BASIN

10-2547.3. ALAMO RIVER NEAR NILAND, CALIF.

LOCATION.--Lat 33°12'03", long 115°36'07", in NE¹/₄SW¹/₄NE¹/₄ sec.22, T.11 S., R.13 E., on left bank 0.6 mile upstream from mouth and 5.8 miles southwest of Noland.

RECORDS AVAILABLE.--January 1943 to September 1967. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

GAGE.--Graphic water-stage recorder. Altitude of gage is 235 ft below mean sea level (from topographic map).

EXTREMES.--1960-67: Maximum daily discharge, 1,840 cfs Oct. 5, 1966; minimum daily, 288 cfs Jan. 2, 1966.

REMARKS.--Discharge 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	955	994	653	856	625	752	1.010	950	871	889	852	917
2	1.040	880	653	851	691	776	1.040	975	885	889	880	1.800
3	1.040	838	714	719	738	790	1.050	951	899	875	941	1.700
4	1.410	833	752	558	719	894	1.040	951	866	871	856	847
5	1.840	856	700	354	681	875	1.030	908	847	885	856	635
6	1.260	871	696	354	657	932	950	894	833	927	913	644
7	955	889	653	507	752	994	955	917	842	922	984	592
8	861	875	601	714	838	1.030	970	894	842	951	913	597
9	859	752	625	729	899	1.050	922	856	838	941	880	577
10	871	729	657	752	946	1.040	917	847	847	903	936	587
11	800	686	696	814	951	1.040	955	838	833	889	875	635
12	786	686	738	856	955	1.050	998	852	856	847	819	644
13	829	691	795	927	950	1.040	1.040	861	875	856	786	639
14	833	677	747	927	889	1.020	1.030	851	847	908	814	691
15	894	700	733	819	842	1.010	1.080	875	842	932	941	756
16	932	696	743	743	838	1.090	1.000	856	829	899	880	838
17	1.010	672	781	691	833	1.120	979	829	847	955	975	917
18	1.070	653	776	696	833	1.000	975	833	838	903	946	1.000
19	1.080	686	733	756	838	989	941	829	842	875	941	994
20	1.120	696	714	800	790	950	908	856	922	936	899	1.030
21	1.190	653	710	838	786	941	903	908	913	871	922	998
22	1.170	625	724	852	790	1.020	885	913	941	856	885	899
23	1.150	657	724	856	842	1.080	847	903	936	917	838	899
24	1.150	577	691	743	819	1.050	894	899	899	946	875	984
25	1.100	658	657	729	819	1.070	875	889	946	885	861	1.030
26	1.050	625	558	714	786	1.110	889	851	894	899	875	984
27	1.020	635	553	677	752	1.110	894	908	875	951	908	1.020
28	1.010	601	639	653	771	1.030	941	927	899	922	913	1.040
29	975	582	672	653		1.050	946	885	913	998	894	1.080
30	1.020	611	714	658	- - - - -	1.020	955	880	903	970	894	1.170
31	1.080	- - - - -	771	686	- - - - -	1.050	- - - - -	880	- - - - -	875	903	- - - - -
Total	32,390	21,724	21,633	22,552	22,670	30,993	23,839	27,496	26,230	23,163	27,655	27,154
Mean	1.045	724	698	727	810	1.000	961	887	874	908	892	905
Max	1.840	994	795	927	955	1.120	1.080	975	946	998	984	1.800
Min	786	582	553	354	625	752	847	829	829	847	786	577
Ac-ft	64,240	43,090	42,910	44,730	44,970	61,470	57,200	54,540	52,030	55,860	54,850	53,860
Cal yr 1966: Total	307,912		Mean	844	Max	1.840	Min	288	Ac-ft	610,700		
Wtr yr 1957: Total	317,499		Mean	870	Max	1.840	Min	354	Ac-ft	629,800		

SALTON SEA BASIN

47

10-2552. MYER CREEK TRIBUTARY NEAR JACUMBA, CALIF.

LOCATION.--Lat 32°40'25", long 116°04'50", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.20, T.17 S., R.9 E., at culvert on U.S. Highway 80, 7.8 miles northeast of Jacumba.

DRAINAGE AREA.--0.11 sq mi.

RECORDS AVAILABLE.--Water years 1960-66 (annual maximum), February 1966 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,720 ft (from topographic map).

EXTREMES.--No flow during period February 1966 to September 1967.

1960-67: Maximum discharge, 41 cfs Aug. 12, 1965 (gage height, 12.97 ft, from crest-stage gage), on basis of computation of maximum flow through culvert; no flow for all or most of each year.

REMARKS.--No flow since Feb. 16, 1966, date of establishment. No regulation or diversion above station.

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 1967. Monthly discharge only for January 1943 to September 1960, published in WSP 1734.

GAGE.--Graphic water-stage recorder. Altitude of gage is 220 ft below mean sea level (from topographic map).

EXTREMES.--1960-67: Maximum daily discharge, 1,180 cfs Sept. 19, 1963; minimum daily, 293 cfs Jan. 6, 1967.

REMARKS.--Discharge 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	630	547	448	509	438	498	619	659	509	498	528	519
2	651	542	483	481	472	536	590	609	515	498	473	1,060
3	626	511	453	494	485	570	584	542	523	513	442	1,030
4	734	500	448	394	487	555	630	568	586	526	422	691
5	720	526	446	341	492	534	609	536	568	513	409	515
6	634	534	483	293	526	580	605	559	580	504	422	507
7	605	519	457	422	526	572	613	553	540	463	442	515
8	598	521	436	463	515	607	617	566	521	466	473	473
9	621	519	427	472	513	632	622	580	494	429	420	426
10	584	556	446	502	511	638	657	483	525	455	483	457
11	588	570	453	523	536	634	676	481	564	483	461	492
12	590	536	470	519	556	624	656	477	574	481	481	490
13	584	528	487	513	572	651	658	521	584	461	473	502
14	528	515	477	507	574	674	649	532	545	449	502	525
15	517	523	479	500	485	640	670	515	498	487	638	502
16	536	505	444	477	517	601	657	528	515	519	586	521
17	561	479	457	500	536	611	615	528	543	463	509	561
18	607	446	458	523	558	634	645	490	525	470	483	596
19	586	435	459	494	568	657	609	513	523	426	475	626
20	540	472	477	525	551	653	634	530	513	449	459	634
21	555	504	457	526	511	677	643	534	505	449	481	640
22	561	507	473	509	500	630	609	519	517	453	463	592
23	588	479	483	532	502	607	617	477	494	433	435	586
24	621	456	453	526	507	603	609	490	470	464	461	601
25	619	477	433	479	538	662	588	505	509	449	485	622
26	617	473	417	472	526	677	584	515	504	433	485	638
27	600	472	446	457	507	697	613	507	534	477	511	624
28	598	481	451	451	479	683	590	479	472	475	502	657
29	603	451	456	426	---	695	615	504	509	500	521	622
30	564	472	504	435	---	700	617	590	487	517	473	643
31	564	---	504	435	---	662	---	511	---	523	472	---
Total	13,530	15,076	14,285	14,700	14,508	19,394	13,720	16,401	15,746	14,726	14,870	17,867
Mean	598	503	461	474	518	626	624	529	525	475	480	596
Max	734	570	504	532	574	700	676	659	586	526	638	1,050
Min	517	435	417	293	438	498	584	477	470	426	409	426
Ac-ft	36,750	29,900	23,330	29,200	23,780	33,470	37,130	32,530	31,230	29,210	29,490	35,440
Cal yr 1966: Total	193,333		Mean 530	Max 734	Min 373	Ac-ft 383,500						
Wtr yr 1967: Total	194,823		Mean 534	Max 1,050	Min 293	Ac-ft 386,400						

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.--89.2 sq mi.

RECORDS AVAILABLE.--August 1958 to September 1967.

GAGE.--Graphic water-stage recorder and concrete low-water control. Datum of gage is 1,872.69 ft above mean sea level (datum of 1929).

AVERAGE DISCHARGE.--9 years, 0.302 cfs (219 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,050 cfs Aug. 22 (gage height, 4.08 ft), from rating curve extended above slope-area measurement at gage height 3.50 ft; no flow on many days.
1958-67: Maximum discharge, that of Aug. 22, 1967; no flow for many days each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.6	0.50	0.60	0.60	0.60	0.20	0.20		0	0
2		0	1.7	.50	.60	.60	.70	.20	.20		0	.20
3		0	1.9	.50	.60	.50	.60	.20	.10		0	.20
4		0	2.8	.50	.60	.60	.50	.20	.10		0	.10
5		0	2.7	.50	.60	.70	.50	.20	.10		0	0
6		0	3.0	.50	.60	.60	.50	.20	.10		0	0
7		0	52	.50	.60	.60	.50	.20	.10		0	0
8		0	2.0	.50	.60	.60	.50	.20	.10		0	0
9		0	.50	.50	.60	.60	.50	.20	.10		0	0
10		0	.40	.50	.60	.60	.50	.30	.10		0	0
11		0	.40	.50	.60	.60	1.0	.30	.10		0	0
12		0	.40	.50	.60	.60	2.4	.30	.10		0	0
13		0	.30	.50	.60	.60	.70	.20	.20		0	0
14		0	.30	.50	.60	.60	.60	.20	.10		0	0
15		0	.30	.50	.60	.60	.60	.20	.10		0	0
16		0	.30	.50	.60	.60	.50	.20	.10		0	0
17		0	.40	.40	.60	.60	.50	.20	.10		0	0
18		0	.50	.40	.60	.60	.50	.20	.10		0	0
19		0	.50	.40	.60	.60	.90	.20	.10		0	0
20		0	.50	.50	.50	.60	.60	.10	0		0	0
21		0	.50	.50	.50	.60	.60	.10	0		0	0
22		0	.50	.60	.50	.60	1.0	.10	0		87	0
23		0	.50	1.1	.60	.50	.60	.10	0		3.8	0
24		0	.50	.70	.60	.50	.60	.20	0		3.2	0
25		0	.50	.90	.60	.50	.60	.10	0		1.8	0
26		0	.50	.60	.60	.50	.50	.10	0		0	0
27		.40	.50	.60	.60	.50	.40	.10	0		0	0
28		1.2	.50	.60	.60	.50	.30	.10	0		0	0
29		1.4	.50	.60		.60	.50	.20	0		0	2.6
30		1.5	.50	.60	-----	.50	.30	.20	0		0	4.0
31		-----	.50	.60	-----	.60	-----	.20	-----		0	-----
Total	0	4.50	88.00	17.10	16.50	17.90	19.10	5.70	2.20	0	95.8	7.10
Mean	0	0.150	2.84	0.552	0.589	0.577	0.637	0.184	0.073	0	3.09	0.237
Max	0	1.5	52	1.1	0.60	0.70	2.4	0.30	0.20	0	87	4.0
Min	0	0	0.30	0.40	0.50	0.50	0.30	0.10	0	0	0	0
Ac-ft	0	8.9	175	34	33	36	38	11	4.4	0	190	14

Cal yr 1966: Total 146.70 Mean 0.402 Max 52 Min 0 Ac-ft 291

Wtr yr 1967: Total 273.90 Mean 0.750 Max 52 Min 0 Ac-ft 543

Peak discharge (base, 50 cfs).--Dec. 7 (0630 hrs) 570 cfs (3.50 ft); Aug. 22 (1800 hrs) 1,050 cfs (4.08 ft).

SALTON SEA BASIN

49

10-2558. COYOTE CREEK NEAR BORREGO SPRINGS, CALIF.

LOCATION (revised).--Lat 33°22'06", long 116°25'14", in NE¼NE¼ sec.26, T.9 S., R.5 E., on left bank 0.5 mile downstream from Box Canyon, 1.8 miles northwest of Rancho De Anza, and 8.2 miles northwest of Borrego Springs. Prior to May 24, 1967, at site 0.6 mile upstream.

DRAINAGE AREA.--144 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967. Monthly discharge only for October and November 1950, published in WSP 1734.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,250 ft (from topographic map). Oct. 1, 1950 to Mar. 4, 1965, graphic water-stage recorder. Prior to Mar. 24, 1967, at site 0.6 mile upstream at different datum.

AVERAGE DISCHARGE.--17 years, 2.18 cfs (1,580 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,070 cfs Aug. 31 (gage height, 12.86 ft, from inside gage), on basis of slope-area measurement of maximum flow; minimum daily, 0.58 cfs June 21, 22.
1950-67: Maximum discharge, 3,800 cfs July 28, 1951 (gage height, 14.14 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of maximum flow; minimum daily, those of June 21, 22, 1967.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.90	1.4	1.5	1.7	1.5	1.1	1.5	.90	.75	.64	1.1	5.0
2	.70	1.4	1.9	1.7	1.5	1.1	1.7	.80	.74	.63	1.0	30
3	.60	1.4	2.6	1.7	1.5	1.0	1.5	.80	.67	.69	.90	2.5
4	.70	1.4	2.0	1.7	1.5	1.5	1.2	.80	.65	.70	1.5	1.5
5	5.7	1.2	6.5	1.6	1.5	1.4	1.3	.80	.65	.71	1.7	1.0
6	1.5	2.0	27	1.6	1.4	1.2	1.2	.80	.64	.75	1.5	.90
7	1.3	2.5	18	1.6	1.4	1.2	1.2	.80	.61	.80	1.0	.80
8	1.2	10	6.0	1.6	1.4	1.1	1.3	.80	.63	.75	.90	.83
9	1.1	2.5	1.5	1.6	1.4	1.0	1.2	.80	.65	.78	.90	1.0
10	3.5	2.4	1.4	1.6	1.4	1.0	1.1	.80	.66	.61	.90	1.0
11	2.0	2.2	1.4	1.5	1.4	1.2	3.5	.70	.66	.63	.90	1.0
12	1.8	2.1	1.3	1.5	1.4	1.1	2.5	.70	.69	1.1	.90	1.0
13	1.7	2.0	1.3	1.5	1.4	2.0	2.0	.70	.69	1.3	.90	1.1
14	1.6	1.9	1.3	1.5	1.4	1.4	1.5	.70	.67	1.1	.90	1.1
15	1.5	1.8	1.3	1.5	1.4	1.3	1.3	.70	.63	1.3	.90	1.1
16	1.6	1.8	1.3	1.4	1.4	1.3	1.2	.70	.61	1.2	1.0	1.1
17	1.6	1.8	1.3	1.4	1.3	1.3	1.1	.70	.62	1.1	1.0	.99
18	1.6	1.8	1.2	1.4	1.3	1.3	1.0	.70	.63	1.0	1.1	.98
19	1.6	1.8	1.2	1.3	1.3	1.2	1.9	.70	.64	1.0	1.1	1.1
20	1.6	1.8	1.2	1.3	1.3	1.2	1.5	.70	.61	1.0	1.1	1.3
21	1.5	1.8	1.2	1.3	1.2	1.2	1.4	.70	.58	1.0	1.1	1.3
22	1.5	1.8	1.2	1.5	1.2	1.1	1.7	.70	.58	1.5	1.1	1.4
23	1.5	1.8	1.2	7.0	1.2	1.1	1.3	.70	.59	1.3	1.1	1.4
24	1.5	1.8	1.2	5.0	1.2	1.1	1.4	.70	.60	1.2	1.1	1.3
25	1.5	1.9	1.2	6.0	1.2	1.1	1.3	.70	.61	1.1	1.1	1.2
26	1.4	1.8	1.2	1.5	1.1	1.1	1.2	.69	.62	10	1.1	1.2
27	1.4	1.9	1.2	1.5	1.1	1.1	1.1	.72	.62	2.0	1.1	1.2
28	1.4	1.8	1.2	1.5	1.1	1.1	1.0	.74	.62	1.7	1.1	1.2
29	1.4	1.8	1.2	1.5	-----	1.0	1.1	.79	.63	1.5	1.1	1.3
30	1.4	1.9	1.8	1.5	-----	1.0	1.0	.80	.64	1.3	1.0	1.3
31	1.4	-----	1.7	1.5	-----	1.2	-----	.76	-----	1.2	100	-----
TOTAL	49.70	63.5	95.5	60.5	37.4	37.0	43.2	23.10	19.19	42.03	132.50	68.10
MEAN	1.60	2.12	3.09	1.95	1.34	1.19	1.44	.75	.64	1.36	4.27	2.27
MAX	5.7	10	27	7.0	1.5	2.0	3.5	.90	.75	10	100	30
MIN	.60	1.2	1.2	1.3	1.1	1.0	1.0	.69	.58	.63	.90	.80
AC-FT	99	126	190	120	74	73	86	46	38	83	263	135
CAL YR 1966: TOTAL	600.80			MEAN 1.65	MAX 42	MIN .60	AC-FT 1,190					
WAT YR 1967: TOTAL	672.12			MEAN 1.84	MAX 100	MIN .58	AC-FT 1,330					

Peak discharge (base, 50 cfs)

Note.--No gage-height record Dec. 8 to May 24

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	2000	9.86	76	7-26	Unknown	7.18	60
1-24	Unknown	Unknown	Unknown	8-31	Unknown	12.86	1,070

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.--21.8 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967. Prior to October 1960, published as "Palm Canyon Creek near Borrego Springs". Monthly discharge only for October to November 1950, published in WSP 1734.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,200 ft (from topographic map).

AVERAGE DISCHARGE.--17 years, 0.359 cfs (260 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

EXTREMES.--Maximum discharge during year, 80 cfs Dec. 6 (gage height, 4.27 ft), from rating curve extended above 2 cfs on basis of slope-area measurement at gage height, 4.44 ft; no flow Oct. 1 to Dec. 4, May 31 to Sept. 30.

1950-67: 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 except those above 5.0 cfs, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.40	0.20	0.20	0.40	0.40				
2			0	.40	.30	.20	.50	.40				
3			0	.40	.30	.20	.40	.30				
4			0	.40	.30	.40	.30	.40				
5			.80	.30	.30	.50	.30	.40				
6			19	.30	.30	.40	.20	.30				
7			22	.30	.30	.30	.20	.30				
8			4.4	.30	.30	.30	.20	.20				
9			2.0	.30	.30	.30	.20	.20				
10			1.5	.30	.30	.30	.20	.40				
11			1.2	.30	.30	.30	.80	.40				
12			1.0	.30	.30	.40	1.3	.30				
13			.80	.30	.30	.40	1.0	.30				
14			.80	.20	.30	.60	.90	.20				
15			.60	.20	.30	.40	.70	.20				
16			.60	.20	.30	.40	.50	.20				
17			.50	.20	.30	.30	.40	.20				
18			.50	.20	.30	.30	.40	.10				
19			.40	.20	.30	.30	.90	.10				
20			.40	.20	.30	.30	1.0	.10				
21			.40	.20	.30	.30	.80	.10				
22			.40	.20	.30	.20	1.9	.10				
23			.40	.20	.30	.20	1.6	.10				
24			.40	.20	.20	.20	1.4	.10				
25			.40	.20	.30	.20	1.0	.10				
26			.40	.20	.30	.20	.80	.10				
27			.40	.20	.20	.20	.60	.10				
28			.40	.20	.20	.20	.60	.10				
29			.40	.20		.20	.60	.10				
30			.40	.20		.20	.50	.10				
31			.40	.20		.20		0				
Total	0	0	50.90	7.90	8.00	9.10	20.60	6.40	0	0	0	0
Mean	0	0	1.96	0.255	0.286	0.294	0.687	0.206	0	0	0	0
Max	0	0	22	0.40	0.30	0.60	1.9	0.40	0	0	0	0
Min	0	0	0	0.20	0.20	0.20	0.20	0	0	0	0	0
Ac-ft	0	0	121	16	16	18	41	13	0	0	0	0

Cal yr 1966: Total 133.90 Mean 0.357 Max 22 Min 0 Ac-ft 266

Wtr yr 1967: Total 112.80 Mean 0.309 Max 22 Min 0 Ac-ft 224

Peak discharge (base, 15 cfs).--Dec. 6 (2300 hrs) 80 cfs (4.27 ft).

SALTON SEA BASIN

51

10-2558.2. YAQUI PASS WASH NEAR BORREGO, CALIF.

LOCATION.--Lat 33°08'50", long 116°21'00", in NE¼SE¼ sec.9, T.12 S., R.6 E., at culvert on county road, 5.1 miles southwest of Borrego, and 7.6 miles south of Borrego Springs.

DRAINAGE AREA.--0.041 sq mi.

RECORDS AVAILABLE.--Water years 1960-65 (annual maximum), February 1965 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,720 ft (from topographic map). Jan. 28, 1960, to Feb. 24, 1965, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 2.7 cfs Dec. 6 (gage height, 3.19 ft, from crest-stage gage); no flow all year except that of Dec. 6.
1960-67: Maximum discharge, 28 cfs Oct. 18, 1963 (gage height, 5.67 ft), on basis of computation of maximum flow through culvert; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 0.10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	0.10	0.10	0	0.003	0.2
Calendar year 1966.....	-	.10	0	.0003	.2
Water year 1966-67.....	-	.10	0	.0003	.2

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

SALTON SEA BASIN

10-2558.5. VALLECITO CREEK NEAR JULIAN, CALIF.

LOCATION.--Lat 32°59'10", long 116°25'10", in SW¼NE¼ sec.1, T.14 S., R.5 E., on right bank 0.2 mile downstream from Cottonwood Wash, and 12.6 miles southeast of Julian.

DRAINAGE AREA.--39.7 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,950 ft above mean sea level (from topographic map). U.S. Weather Bureau non-recording rain gage at site 2.0 miles upstream. Prior to June 1, 1966, graphic water-stage recorder.

EXTREMES.--Maximum discharge during year, 156 cfs Aug. 22 (gage height, 4.12 ft), on basis of slope-area measurement of maximum flow; no flow Aug. 8-11, 14-21, Sept. 25-28.
1963-67: Maximum discharge, that of Aug. 22, 1967; no flow at times in some years.

REMARKS.--Records fair. No regulation or diversion above station. Flow is diverted for irrigation 300 ft below gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	.10	.10	.10	.11	.10	.10	.08	.10	.10
2	.10	.10	.10	.10	.10	.10	.11	.10	.10	.08	.10	.40
3	.20	.10	.10	.10	.10	.10	.10	.10	.10	.08	.10	.20
4	.60	.10	.10	.10	.10	.10	.11	.10	.10	.08	.10	1.3
5	.10	.10	.10	.10	.10	.10	.10	.10	.10	.08	.10	.40
6	.10	.10	5.2	.10	.10	.10	.10	.10	.10	.08	.10	.20
7	.10	.10	4.1	.10	.10	.10	.10	.10	.10	.08	.10	.10
8	.10	.10	.20	.10	.10	.10	.10	.10	.10	.08	0	.10
9	.10	.10	.10	.10	.10	.10	.10	.10	.10	.08	0	.10
10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.08	0	.10
11	.10	.10	.10	.10	.10	.10	.40	.10	.10	.08	0	.10
12	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
13	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
14	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
15	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.04	.10
16	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.06	.10
17	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
18	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
19	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
20	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
21	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	0	.10
22	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	5.9	.10
23	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.70	.10
24	.10	.10	.10	.10	.10	.09	.10	.10	.06	.10	.40	.10
25	.10	.10	.10	.10	.10	.09	.10	.10	.06	.10	.20	0
26	.10	.10	.10	.10	.10	.11	.10	.10	.06	.10	.10	0
27	.10	.10	.10	.10	.10	.11	.10	.10	.07	.10	.10	0
28	.10	.10	.10	.10	.10	.11	.10	.10	.08	.10	.10	0
29	.10	.10	.10	.10	-----	.11	.10	.10	.08	.10	.10	8.2
30	.10	.10	.10	.10	-----	.11	.10	.10	.08	.10	.10	.40
31	.10	-----	.10	.10	-----	.11	-----	.10	-----	.10	.10	-----
TOTAL	3.70	3.00	12.30	3.10	2.80	3.14	3.33	3.10	2.79	2.98	8.70	13.00
MEAN	.12	.10	.40	.10	.10	.10	.11	.10	.093	.096	.28	.43
MAX	.60	.10	5.2	.10	.10	.11	.40	.10	.10	.20	5.9	8.2
MIN	.10	.10	.10	.10	.10	.09	.10	.10	.06	.08	0	0
AC-FT	7.3	6.0	24	6.2	5.6	6.2	6.6	6.2	5.5	5.5	17	26
(†)	2.32	.24	2.95	.96	.01	.13	3.39	0	0	.36	1.03	2.27

CAL YR 1966: TOTAL 48.10
WAT YR 1967: TOTAL 61.94

MEAN .13
MEAN .17

MAX 5.2
MAX 8.2

MIN 0
MIN 0

AC-FT 95
AC-FT 123

† 7.92
† 13.66

Peak discharge (base, 15 cfs)

† Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2330	3.06	54	9- 4	1445	2.51	24
8-22	1915	4.12	156	9-29	1530	3.80	118

SALTON SEA BASIN

53

10-2558.85. SAN FELIPE CREEK NEAR WESTMORELAND, CALIF.

LOCATION.--Lat 33°07'25", long 115°51'05", in NW¼SW¼ 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.

DRAINAGE AREA.--1,693 sq mi.

RECORDS AVAILABLE.--December 1960 to September 1967.

GAGE.--Graphic water-stage recorder and crest-stage gage. Altitude of gage is 190 ft below mean sea level (from topographic map).

AVERAGE DISCHARGE.--6 years (1961-67), 4.14 cfs (3,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,790 cfs Sept. 2 (gage height, 10.93 ft), from rating curve extended above 6.0 cfs on basis of slope-area measurements at gage heights 6.56, 10.18, and 10.75 ft; no flow for most of year.

1960-67: Maximum discharge, that of Sept. 2, 1967; no flow for some months in each year.

REMARKS.--Records poor. No regulation above station. Diversion and pumping for domestic use and irrigation in Borrego Valley 25 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0.10	0.10	0.10	0.20	0		0	0	228
2	0		0	.10	.10	.10	.20	0		0	0	1,680
3	0		0	.10	.10	.10	.20	0		0	0	66
4	819		0	.20	.10	.10	.20	0		0	0	15
5	53		0	.20	.10	.10	.20	0		0	0	.10
6	0		0	.20	.10	.10	.10	0		0	0	66
7	0		0	.20	.10	.10	.10	0		0	0	0
8	0		0	.20	.10	.20	.10	0		0	0	0
9	0		0	.10	.10	.20	0	0		0	0	0
10	0		0	.10	.10	.20	.10	0		0	0	0
11	0		0	.10	.10	.20	.10	0		0	0	0
12	0		0	.10	.10	.20	.20	0		0	0	0
13	0		0	.10	.10	.20	.20	0		0	0	0
14	0		0	.10	.10	.20	.10	0		0	0	0
15	0		0	.10	.10	.20	.10	0		0	138	0
16	0		0	.10	.10	.20	0	0		31	0	0
17	0		0	.10	.10	.20	0	0		0	0	0
18	0		0	.10	.10	.10	0	0		0	0	0
19	0		0	.10	.10	.10	0	0		0	0	0
20	0		0	.10	.10	.10	0	0		0	0	0
21	0		0	.20	.10	.10	0	0		0	0	0
22	0		0	.20	.10	.10	0	0		0	0	0
23	0		0	.70	.10	.20	0	0		0	341	0
24	0		0	.20	.10	.10	0	0		0	80	0
25	0		0	.20	.10	.10	0	30		0	20	0
26	0		0	.10	.10	.10	0	0		0	2.5	0
27	0		0	.10	.10	.10	0	0		0	0	0
28	0		0	.10	.10	.20	0	0		0	0	0
29	0		0	.10	.10	.20	0	0		0	0	0
30	0		.10	.10	-----	.10	0	0		0	0	0
31	0	-----	.10	.10	-----	.10	-----	0	-----	0	0	-----
Total	872	0	0.20	4.60	2.80	4.40	2.10	30	0	31	581.5	2,055.10
Mean	28.1	0	0.006	0.148	0.100	0.142	0.070	0.968	0	1.00	18.8	68.5
Max	819	0	0.10	0.70	0.10	0.20	0.20	30	0	31	341	1,680
Min	0	0	0	0.10	0.10	0.10	0	0	0	0	0	0
Ac-ft	1,730	0	0.4	9.1	5.6	8.7	4.2	60	0	61	1,150	4,080
Cal yr 1966: Total 1.263.10 Mean 3.46 Max 819 Min 0 Ac-ft 2,510												
Wtr yr 1967: Total 3.583.70 Mean 9.82 Max 1,680 Min 0 Ac-ft 7,110												

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-4	0030	9.89	5,380	8-22	0800	7.92	1,900
5-25	0400	6.26	281	9-2	1100	10.93	7,790
7-16	0700	6.34	335	9-6	0900	7.35	750
8-15	0100	9.28	4,160				

SALTON SEA BASIN

10-2560. WHITEWATER RIVER AT WHITE WATER, CALIF.

LOCATION.--Lat 33°56'48", long 116°38'24", in NW¼NW¼NE¼ sec.2, T.3 S., R.3 E., on right bank 1.5 miles north of White Water and 3.5 miles upstream from San Geronio River.

DRAINAGE AREA.--57.4 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967.

GAGE.--Graphic water-stage recorder on river; digital water-stage recorder and Cipolletti weir on diversion 500 ft downstream. Datum of gage is 1,610.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1934. Feb. 24, 1950, to Sept. 30, 1952, and since Apr. 13, 1960, supplementary gages at different sites and datums within 200 ft of base gage. Prior to July 17, 1964, graphic water-stage recorder on diversion.

AVERAGE DISCHARGE (river only).--19 years, 10.8 cfs (7,820 acre-ft per year).
(combined).--18 years (1949-67), 12.5 cfs (9,050 acre-ft per year); median of yearly mean discharges, 9.2 cfs (6,700 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 5,500 cfs (estimated) Dec. 6 (gage height, 3.30 ft); minimum daily, 4.4 cfs Dec. 10.
1948-67: Maximum discharge, 24,000 cfs Nov. 22, 1965 (gage height, 13.60 ft from high-water mark in gage well), from rating curve extended above 190 cfs on basis of field estimate of maximum flow; no flow Jan. 9, 11, 1957, Nov. 26 to Dec. 10, 1965, Jan. 1-3, 1966.
Maximum discharge known, 42,000 cfs Mar. 2, 1938, from slope-area measurement of maximum flow, at site 2.5 miles upstream (drainage area, 51.4 sq mi).

REMARKS.--Records poor. Monthly discharge is combined with flow from infiltration line that bypasses station. No regulation above 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.

COOPERATION.--Records of bypass in infiltration line furnished by Whitewater Mutual Water Co.; records of diversion, 15 miles upstream, furnished by Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	13	9.6	7.0	12	26	38	36	31	33	20
2	12	11	14	9.8	7.4	12	26	38	36	30	32	30
3	13	11	110	10	7.8	12	27	38	35	30	32	60
4	15	11	30	10	8.2	12	35	38	35	30	31	20
5	14	11	10	10	8.6	12	14	38	40	28	31	24
6	14	12	1,570	11	9.0	13	30	36	40	27	30	50
7	14	39	350	11	9.5	13	23	35	40	27	30	24
8	13	16	45	11	10	13	14	35	40	27	31	28
9	12	15	8.2	11	10	13	11	36	40	28	32	28
10	11	14	4.4	11	10	13	16	36	40	31	31	28
11	16	15	4.6	11	11	14	37	38	40	40	31	29
12	14	13	4.8	11	11	14	10	38	40	80	30	29
13	13	13	5.1	11	11	15	15	36	40	64	28	30
14	12	12	5.4	11	11	15	21	36	38	40	30	30
15	13	12	5.6	11	11	16	32	35	36	24	32	30
16	13	12	5.8	12	11	16	30	33	35	17	40	30
17	13	12	6.0	12	11	17	19	33	35	15	69	30
18	13	12	6.2	12	11	17	30	30	35	12	5.0	30
19	12	12	6.3	12	11	18	32	28	33	12	5.5	22
20	12	15	6.4	12	11	18	22	24	31	12	6.0	24
21	12	13	6.7	12	12	19	20	23	30	13	7.0	24
22	12	14	7.0	12	12	19	18	23	30	23	9.0	23
23	12	14	7.3	16	12	20	18	26	30	31	15	23
24	12	14	7.6	20	12	20	18	26	31	40	12	22
25	12	14	7.9	10	12	21	20	26	30	50	10	22
26	12	14	8.2	9.4	12	22	30	28	31	30	9.5	21
27	12	13	8.6	9.0	12	23	40	31	31	28	9.6	20
28	12	12	8.9	8.5	12	24	43	33	31	27	9.8	20
29	12	11	9.0	8.0	25	25	36	33	31	27	10	20
30	12	12	9.2	7.6	-----	25	40	33	31	28	15	20
31	11	-----	9.4	7.2	-----	25	-----	36	-----	31	24	-----
Total	391	410	2,300.6	339.1	293.5	528	753	1,017	1,051	933	720.4	811
Mean	12.6	13.7	74.2	10.9	10.5	17.0	25.1	32.8	35.0	30.1	23.2	27.0
Max	16	39	1,570	20	12	25	43	38	40	80	69	60
Min	11	11	4.4	7.2	7.0	12	10	23	30	12	5.0	20
Ac-ft	776	813	4,560	673	582	1,050	1,490	2,020	2,080	1,850	1,430	1,610
Ac-ft †	833	864	4,600	716	623	1,100	1,580	2,120	2,180	1,950	1,500	1,680
Ac-ft ‡	111	149	14	331	234	313	298	410	367	333	280	210

Cal yr 1966: Total 5,476.1 Mean 15.0 Mean † 16.0 Max 1,570 Min 0 Ac-ft 10,860 Ac-ft † 11,550 Ac-ft ‡ 1,260
Wtr yr 1967: Total 9,547.6 Mean 26.2 Mean † 27.3 Max 1,570 Min 4.4 Ac-ft 18,940 Ac-ft † 19,750 Ac-ft ‡ 3,050

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	1200	2.14	567	7-26	Unknown	Unknown	Unknown
12- 6	1730	3.30	5,500	8-17	0100	10.2	1,270
4-11	0830	2.02	138	9- 3	Unknown	Unknown	Unknown
7-11	2300	1.77	146	9- 6	Unknown	Unknown	500

† Combined discharge of river and infiltration line.
‡ Discharge diverted from basin 15 miles upstream.

SALTON SEA BASIN

55

10-2564. SAN GORGONIO RIVER NEAR WHITE WATER, CALIF.

LOCATION.--Lat 33°55'14", long 116°41'45", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.3 S., R.3 E., on right bank 0.25 mile south of Interstate Highway 10 and 3.4 miles west of town of White Water.

DRAINAGE AREA.--154 sq mi.

RECORDS AVAILABLE.--February 1966 to September 1967.

GAGE.--Flood-hydrograph recorder. Altitude of gage is 1,320 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,130 cfs Dec. 6 (gage height, 3.35 ft, from floodmarks), from rating curve extended above 210 cfs on basis of slope-area measurement at gage height 6.10 ft; no flow for most of year.

1966-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

Flood of Nov. 23, 1965, reached a stage of 6.10 ft, from floodmarks (discharge, 4,500 cfs on basis of slope-area measurement of maximum flow).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 5.....	220	Mar. 13.....	3.0
6.....	439	Apr. 18.....	1.0
7.....	103	Aug. 17.....	2.5
8.....	2.8	24.....	1.0
Jan. 22.....	2.1	Sept. 6.....	9.0

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	764.8	439	0	24.7	1,520
January 1967.....	2.1	2.1	0	.068	4.2
March.....	3.0	3.0	0	.100	6.0
April.....	1.0	1.0	0	.033	2.0
August.....	3.5	2.5	0	.113	6.9
September.....	9.0	9.0	0	.300	18
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	439	0	2.15	1,550

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

SALTON SEA BASIN

10-2565. SNOW CREEK NEAR WHITE WATER, CALIF.

LOCATION.--Lat 33°52'10", long 116°40'50", in NW¼ 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.--10.8 sq mi.

RECORDS AVAILABLE.--July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to September 1967. Yearly discharge only for 1930, published in WSP 1314.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,100 ft (from topographic map). Prior to September 1931, graphic water-stage recorders at various sites within 500 ft of present site at different datums. October 1959 to Nov. 19, 1963, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--15 years (1922-26, 1928-31, 1959-67), 7.27 cfs (5,260 acre-ft per year); median of yearly mean discharges, 6.1 cfs (4,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,680 cfs Dec. 6 (gage height, 7.12 ft), from rating curve extended above 55 cfs as explained below; minimum daily, 2.7 cfs Oct. 29, Oct. 31 to Nov. 2. 1921-31, 1959-67: Maximum discharge, 4,200 cfs Nov. 22, 1965 (gage height, 12.1 ft, from floodmarks), from rating curve extended above 55 cfs on basis of velocity-area measurement of maximum flow; minimum daily, 2.1 cfs June 23-27, Sept. 5-11, 1961.

REMARKS.--Records good below 50 cfs and poor above. No regulation or diversion above station. Palm Springs Water Company diverts 50 ft downstream, generally taking the entire base flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.4	2.7	3.6	7.0	13	6.2	7.5	12	12	6.9	4.8	5.0
2	3.3	2.7	3.7	7.0	12	6.3	7.8	12	11	6.9	4.5	19
3	3.5	2.8	261	7.0	11	6.3	7.5	12	11	7.1	4.4	9.4
4	4.7	2.9	34	7.0	11	6.8	13	13	10	7.2	4.4	8.4
5	4.9	2.8	548	7.0	9.7	6.6	19	13	10	7.0	4.4	7.8
6	4.5	2.9	979	7.0	9.3	6.3	13	13	9.4	6.9	4.5	14
7	3.9	6.6	240	7.0	9.0	5.9	11	14	9.5	7.0	4.4	11
8	3.6	8.8	60	7.0	8.8	5.9	10	21	9.3	6.7	4.3	7.2
9	3.4	5.5	31	7.0	8.8	5.8	9.4	27	8.9	6.5	4.3	6.1
10	4.0	4.5	23	6.8	8.6	5.6	8.9	30	8.7	6.6	4.4	5.7
11	4.1	4.2	18	6.8	8.6	5.8	13	17	9.1	6.7	4.5	5.3
12	3.7	4.0	15	6.6	8.3	5.8	11	14	8.7	7.0	4.1	4.9
13	3.5	3.9	12	6.6	8.3	13	11	12	9.0	8.7	3.9	4.9
14	3.5	3.8	12	6.3	8.5	22	12	11	8.6	7.6	4.4	4.6
15	3.4	3.7	11	5.9	8.4	11	10	11	8.1	6.9	3.6	4.4
16	3.3	3.7	9.9	5.8	8.1	11	10	12	8.4	6.7	18	4.3
17	3.3	3.7	9.9	5.5	8.0	17	10	15	8.3	5.8	5.7	4.3
18	3.2	3.7	8.9	5.4	8.0	14	11	17	8.6	5.5	5.1	4.4
19	3.1	3.6	8.9	5.1	7.9	10	13	19	7.9	5.2	4.5	4.5
20	3.0	3.6	8.9	4.9	7.5	9.2	12	21	7.9	5.0	4.7	4.4
21	2.9	3.8	8.9	4.7	7.2	8.5	12	22	7.9	5.0	4.4	4.5
22	3.0	4.0	8.2	8.5	7.0	7.9	16	21	7.8	5.6	4.6	4.4
23	3.0	3.9	7.5	15	7.0	7.7	13	21	7.5	5.4	13	4.4
24	2.9	3.9	7.0	17	6.8	7.9	12	20	7.2	5.1	8.8	4.3
25	2.9	4.0	6.8	20	6.8	7.5	11	20	7.3	5.1	8.9	4.3
26	2.9	3.9	7.2	33	6.8	7.4	13	17	7.1	5.2	8.0	4.2
27	3.0	3.8	6.2	14	6.6	7.1	16	15	7.2	5.0	6.4	4.1
28	2.8	3.8	7.5	9.2	6.4	7.1	16	15	7.4	5.2	6.5	4.3
29	2.7	3.8	7.0	9.0	-----	7.4	15	14	6.8	5.2	7.6	8.1
30	2.8	3.2	7.1	9.9	-----	7.2	13	13	7.0	4.8	8.1	6.9
31	2.7	-----	7.0	12	-----	7.6	-----	13	-----	4.9	6.7	-----
TOTAL	104.9	118.2	2,378.2	281.0	237.4	263.8	357.1	507	257.6	190.4	185.9	189.1
MEAN	3.38	3.94	76.7	9.06	8.48	8.51	11.9	16.4	8.59	6.14	6.00	6.30
MAX	4.9	8.8	979	33	13	22	19	30	12	8.7	18	19
MIN	2.7	2.7	3.6	4.7	6.4	5.6	7.5	11	6.8	4.8	3.6	4.1
AC-FT	208	234	4,720	557	471	523	708	1,010	511	378	369	375

CAL YR 1966: TOTAL 4,398.4 MEAN 12.1 MAX 979 MIN 2.5 AC-FT 8,720
 WAT YR 1967: TOTAL 5,070.6 MEAN 13.9 MAX 979 MIN 2.7 AC-FT 10,060

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1630	5.73	992	8-16	0945	3.66	243
12-6	2230	7.12	1,680	8-23	1500	2.85	67
1-24	2330	3.36	114	9-6	1530	2.87	69
4-4	2000	3.03	74				

10-2578. LONG CREEK NEAR DESERT HOT SPRINGS, CALIF.

LOCATION.--Lat 33°57'55", long 116°26'35", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.27, T.2 S., R.5 E., on left bank 0.4 mile downstream from Metropolitan Water District aqueduct, and 3.3 miles east of Desert Hot Springs.

DRAINAGE AREA.--19.4 sq mi.

RECORDS AVAILABLE.--April 1963 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,520 ft (from topographic map).

EXTREMES.--Maximum discharge during year, about 5.0 cfs Sept. 4 (gage height, 1.00 ft, from floodmark); no flow all year except Sept. 4.
1963-67: Maximum discharge, 9,270 cfs Aug. 7, 1963 (gage height, 8.0 ft, from floodmarks), on basis of field estimate of maximum flow; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Sept. 4..... 0.2

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
September 1967.....	0.20	0.20	0	0.007	0.4
Calendar year 1966.....	-	.10	0	.0003	.2
Water year 1966-67.....	-	.20	0	.0005	.4

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

SALTON SEA BASIN

10-2580. TAHQUITZ CREEK NEAR PALM SPRINGS, CALIF.

LOCATION.--Lat 33°48'18", long 116°33'30", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--16.8 sq mi.

RECORDS AVAILABLE.--October 1947 to September 1967.

GAGE.--Graphic 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.--20 years, 3.16 cfs (2,290 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,350 cfs Dec. 6 (gage height, 8.25 ft); no flow Oct. 1 to Nov. 12. 1947-67: Maximum discharge, 2,900 cfs Nov. 22, 1965 (gage height, 10.34 ft), from rating curve extended above 70 cfs on basis of slope-area measurements at gage heights 8.45 and 10.34 ft; no flow for parts of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.30	17	8.5	7.4	9.5	11	17	5.1	1.9	1.4
2		0	.30	16	8.2	7.5	9.3	11	16	4.8	1.6	7.9
3		0	.40	16	7.9	7.5	9.1	12	16	4.6	1.4	4.8
4		0	53	15	7.9	7.5	10	13	15	4.5	1.4	3.5
5		0	94	14	7.7	7.4	10	13	14	4.5	1.4	3.3
6		0	903	13	7.7	7.2	9.5	13	14	4.3	1.5	8.2
7		0	339	12	7.7	7.4	9.1	13	13	4.3	1.4	6.2
8		0	106	12	7.7	7.4	8.8	16	13	4.1	1.2	3.2
9		0	82	12	7.9	7.4	8.7	20	12	3.9	1.2	2.4
10		0	74	12	8.2	7.2	8.7	31	12	3.9	1.1	1.9
11		0	60	12	8.5	7.2	8.5	25	12	3.9	1.0	1.6
12		0	51	12	8.5	7.1	8.2	22	11	4.0	.90	1.4
13		.10	45	11	8.5	8.0	8.7	22	11	4.1	.80	1.2
14		.20	39	11	8.5	9.5	8.8	20	11	3.9	.70	1.2
15		.20	36	10	8.3	7.9	8.5	20	10	3.7	.70	1.0
16		.20	33	10	8.2	8.2	8.3	21	10	3.5	.70	1.0
17		.20	31	9.6	8.2	10	8.7	23	9.6	2.7	66	.90
18		.20	29	9.3	8.2	10	8.8	23	9.1	2.5	5.7	1.0
19		.20	28	9.1	8.2	9.0	8.5	24	9.0	2.5	2.5	1.1
20		.20	26	9.0	7.9	8.7	8.5	25	8.7	3.0	1.6	1.1
21		.20	25	8.7	7.7	8.7	8.5	26	8.3	3.0	1.5	1.1
22		.20	23	9.0	7.7	8.5	8.5	26	7.9	2.5	1.4	1.0
23		.20	21	9.6	7.7	8.5	8.5	26	7.4	2.4	12	.90
24		.20	20	10	7.7	9.0	8.7	26	7.2	2.5	4.0	.90
25		.20	20	13	7.7	9.1	8.8	24	6.7	2.3	1.9	1.0
26		.20	21	10	7.7	9.3	9.8	23	6.6	2.7	2.1	1.0
27		.20	18	9.6	7.5	9.3	11	22	6.1	2.6	1.3	.90
28		.30	18	9.1	7.4	9.5	11	20	6.1	2.5	1.0	.90
29		.30	18	8.8	8.8	9.5	11	20	5.7	2.3	.80	1.3
30		.30	18	8.8	8.8	9.5	11	19	5.4	2.2	.80	2.1
31		-----	17	9.3	-----	9.5	-----	18	-----	2.1	1.1	-----
Total	0	3.80	2,249.00	3,47.9	223.5	259.9	275.0	628	310.8	104.9	122.60	654.0
Mean	0	0.127	72.5	11.2	7.98	8.38	9.17	20.3	10.4	3.38	3.95	2.18
Max	0	0.30	903	17	8.5	10	11	31	17	5.1	6.6	8.2
Min	0	0	0.30	8.7	7.4	7.1	8.2	11	5.4	2.1	0.70	0.90
Ac-ft	0	7.5	4,460	690	443	516	545	1,250	616	208	243	130

Cal yr 1966: Total 3,890.30 Mean 10.7 Max 903 Min 0 Ac-ft 7,720
 Wtr yr 1967: Total 4,590.80 Mean 12.6 Max 903 Min 0 Ac-ft 9,110

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2230	8.25	1,350	8-23	1330	5.21	200
8-17	0045	7.90	1,190				

SALTON SEA BASIN

59

10-2581. PALM CANYON CREEK TRIBUTARY NEAR ANZA, CALIF.

LOCATION.--Lat 33°34'05", long 116°30'45", in NE¼NW¼ sec.18, T.7 S., on left bank at culvert on State Highway 74, or Pines to Palms Highway, 9.4 miles northeast of Anza.

DRAINAGE AREA.--0.47 sq mi.

RECORDS AVAILABLE.--Water years 1962-67 (annual maximum), February to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 4,500 ft (from topographic map). Nov. 8, 1961, to Feb. 15, 1967, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during period February to September, 28 cfs Aug. 30 (gage height, 6.23 ft, 5.92 ft from crest-stage gage), on basis of computation of maximum flow through culvert; no flow for most of period.

1961-67: Maximum discharge, that of Aug. 30, 1967; no flow for most of each year.

REMARKS.--Records fair. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: April, 3.1; May, 0.4; July, 2.8; August, 4.3; September, 1.7; the period, 12.3.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD FEBRUARY TO SEPTEMBER 1967

Aug. 22.....0.90
30......80
31......30
Sept. 2......30

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1967.....	2.00	0.90	0	0.065	4.0
September.....	.30	.30	0	.010	.6
Period February to September 1967.....	-	.90	0	.006	4.6

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

SALTON SEA BASIN

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.--93.3 sq mi.

RECORDS AVAILABLE.--January 1930 to January 1942, October 1947 to September 1967.

GAGE.--Graphic 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.--31 years (1930-41, 1947-67), 3.76 cfs (2,720 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

EXTREMES.--Maximum discharge during year, 975 cfs Dec. 6 (gage height, 4.60 ft), on basis of velocity-area study of maximum flow; no flow for much of year.

1930-42, 1947-67: Maximum discharge, 3,850 cfs Feb. 6, 1937 (gage height, 5.80 ft, present datum), from rating curve extended above 120 cfs on basis of velocity-area study; no flow for several months in most years.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.40	3.5	0.60	0.60	2.8	0.20	0	0.10	
2			0	.30	3.2	.60	.60	2.6	.10	0	0	
3			0	.30	3.2	.60	.60	2.6	.10	0	0	
4			0	.30	3.2	.60	.70	2.6	.10	0	0	
5			20	.20	3.2	.60	.70	2.6	.10	0	0	
6			288	.20	3.0	.50	.40	2.6	0	0	0	
7			189	.20	3.0	.50	.40	2.4	0	0	0	
8			30	.20	3.2	.40	.40	2.2	0	0	0	
9			12	.20	2.4	.40	.30	2.0	0	0	0	
10			6.7	.20	1.7	.40	.30	2.6	0	0	0	
11			4.8	.20	1.2	.50	2.2	2.2	0	0	0	
12			4.0	.20	1.2	.50	3.2	2.0	0	0	0	
13			3.0	.20	1.2	1.3	2.0	1.7	0	0	0	
14			2.0	.20	1.2	4.8	1.9	1.4	0	0	0	
15			1.4	.30	1.2	2.8	1.6	1.2	0	0	0	
16			1.2	.40	1.2	2.6	1.4	.90	0	0	0	
17			1.2	.40	1.2	2.6	1.4	.80	0	0	31	
18			.80	.40	1.2	2.4	1.4	.70	0	0	0	
19			1.0	.40	1.0	1.9	2.4	.60	0	0	0	
20			.90	.40	.90	1.8	2.2	.60	0	0	0	
21			.80	.40	.80	1.2	2.0	.40	0	0	0	
22			.70	.60	.80	.60	3.7	.40	0	0	0	
23			.70	12	.70	.60	3.0	.40	0	6.7	2.6	
24			.60	4.5	.70	.60	2.4	.30	0	1.3	0	
25			.50	12	.60	.60	2.2	.20	0	1.1	0	
26			.40	5.1	.60	.60	2.2	.20	0	.90	0	
27			.40	4.0	.60	.50	2.2	.20	0	.70	0	
28			.40	3.7	.60	.50	2.4	.20	0	.50	0	
29			.40	3.5	.50	.50	2.6	.20	0	.40	0	
30			.40	3.5	.50	.50	2.8	.20	0	.30	6.2	
31			.40	3.5	.60	.60	.20	.20	0	.20	14	
Total	0	0	571.70	58.40	46.50	33.20	50.20	40.00	0.60	12.10	53.90	0
Mean	0	0	18.4	1.88	1.66	1.07	1.67	1.29	0.020	0.390	1.74	0
Max	0	0	288	12	3.5	4.8	3.7	2.8	0.20	6.7	31	0
Min	0	0	0	0.20	0.60	0.40	0.30	0.20	0	0	0	0
Ac-ft	0	0	1.130	1.16	.92	.66	1.00	.79	1.2	.24	1.07	0
Cal yr 1966: Total	950.60		Mean 2.63	Max 288	Min 0	Ac-ft 1.910						
Wtr yr 1967: Total	856.60		Mean 2.37	Max 288	Min 0	Ac-ft 1.720						

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2200	4.60	975	8-30	2200	3.07	230
8-17	0100	2.92	190				

SALTON SEA BASIN

61

10-2590. ANDREAS CREEK NEAR PALM SPRINGS, CALIF.

LOCATION.--Lat 33°45'36", long 116°32'57", in NW¼SE¼SE¼ 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.--8.61 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967.

GAGE.--Digital 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. Mar. 25, 1949, to Sept. 27, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--19 years, 1.98 cfs (1,430 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,210 cfs Dec. 6 (gage height, 3.91 ft), on basis of velocity-area measurement at gage height 3.74 ft; minimum daily, 0.60 cfs Oct. 8, 9.

1948-67: 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 maximum flow; no flow at times in 1961, 1963, 1965.

REMARKS.--Records good. No regulation above station. One small diversion for domestic use about 1 mile above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	.90	1.3	4.0	4.4	3.8	3.6	4.6	2.6	1.0	.89	1.7
2	.70	1.0	1.3	3.8	4.1	3.7	3.6	4.6	2.5	1.0	.93	3.0
3	.70	1.0	.77	3.8	4.1	3.7	3.6	4.5	2.4	1.0	.86	2.1
4	1.1	1.1	.11	3.8	4.1	3.7	4.0	4.5	2.2	1.0	.96	1.9
5	1.0	1.0	139	3.8	4.0	3.7	4.3	4.6	2.1	1.0	.99	1.9
6	.80	1.1	395	3.7	3.9	3.7	3.6	4.5	2.0	1.0	1.1	2.5
7	.70	2.3	120	3.4	3.8	3.7	3.5	4.5	1.9	1.0	1.0	1.6
8	.60	2.0	31	3.5	3.8	3.7	3.5	4.5	1.8	.99	1.0	1.3
9	.60	1.2	16	3.6	3.8	3.7	3.4	5.0	1.7	.94	.98	1.2
10	.90	1.1	12	3.6	3.5	3.7	3.3	5.6	1.6	1.0	.89	1.0
11	.80	1.1	11	3.5	3.6	3.7	5.0	5.1	1.5	1.0	.94	1.1
12	.80	1.1	9.6	3.4	3.9	3.7	4.6	4.7	1.5	1.1	.74	1.0
13	.70	1.8	8.9	3.5	3.9	3.7	4.3	4.3	1.4	1.1	.66	.97
14	.80	1.1	8.2	3.6	3.6	3.7	4.2	4.6	1.4	1.1	.79	1.0
15	.80	1.0	7.7	3.6	3.5	3.7	4.1	4.4	1.4	1.1	1.0	1.0
16	.80	1.0	7.1	3.5	3.6	3.7	4.1	3.4	1.3	1.1	1.0	.80
17	.80	1.0	6.8	3.5	4.0	3.7	3.9	3.4	1.2	1.0	30	1.0
18	.90	1.1	6.5	3.4	3.9	3.7	4.0	3.4	1.2	.95	2.0	1.2
19	.90	1.1	6.2	3.5	4.0	3.7	4.8	3.1	1.2	.86	1.5	1.1
20	.90	1.1	5.8	3.5	3.8	3.6	4.5	3.0	1.1	.81	1.4	1.1
21	.90	1.1	5.5	3.4	3.8	3.5	4.4	2.9	1.1	.79	1.3	1.2
22	.90	1.1	5.8	3.9	3.6	3.0	5.7	3.0	1.1	1.1	1.4	1.1
23	.90	1.1	5.7	7.2	3.6	2.9	5.0	3.1	1.1	.97	1.9	1.1
24	.90	1.1	5.2	6.9	3.6	2.8	4.9	2.9	1.1	.78	1.6	1.1
25	.90	1.0	5.2	8.4	3.6	2.8	4.8	2.8	1.1	.76	1.5	1.1
26	.90	1.0	5.5	5.7	3.5	3.2	4.7	2.7	1.1	1.1	1.4	1.0
27	1.0	1.0	4.9	5.6	3.6	3.4	4.8	2.7	1.0	1.0	1.3	1.0
28	1.0	1.1	4.6	5.3	3.9	3.4	4.9	2.7	1.0	1.0	1.3	1.1
29	.90	1.2	4.4	5.0	-----	3.6	5.0	2.6	1.0	.93	1.3	1.2
30	.90	1.2	4.4	4.7	-----	3.6	4.8	2.6	1.0	.85	1.4	1.2
31	.90	-----	4.5	4.6	-----	3.5	-----	2.6	-----	.95	1.7	-----
TOTAL	26.10	35.00	937.1	132.7	106.5	109.7	128.9	116.9	44.6	30.28	65.73	39.57
MEAN	.84	1.17	30.2	4.28	3.80	3.54	4.30	3.77	1.49	.98	2.12	1.32
MAX	1.1	2.3	395	8.4	4.4	3.8	5.7	5.6	2.6	1.1	30	3.0
MIN	.60	.90	1.3	3.4	3.5	2.8	3.3	2.6	1.0	.76	.66	.80
AC-FT	52	69	1,860	263	211	218	256	232	88	60	130	78

CAL YR 1966: TOTAL 1,477.80

MEAN 4.05

MAX 395

MIN .20

AC-FT 2,930

WAT YR 1967: TOTAL 1,773.08

MEAN 4.86

MAX 395

MIN .60

AC-FT 3,520

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1730	2.67	224	8-17	0100	2.93	351
12-6	1915	3.91	1,210				

SALTON SEA BASIN

10-2592. DEEP CREEK NEAR PALM DESERT, CALIF.

LOCATION.--Lat 33°37'50", long 116°23'30", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,440 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 0.760 cfs (550 acre-ft per year).

EXTREMES.--Maximum discharge during year, 996 cfs Dec. 6 (gage height, 4.84 ft), from rating curve extended above 3.3 cfs as explained below; no flow Oct. 1 to Dec. 5, June 7 to Aug. 30.
1962-67: Maximum discharge, 1,300 cfs Nov. 23, 1965 (gage height, 5.15 ft in gage well, 6.15 ft from profile of floodmarks), from rating curve extended above 3.3 cfs on basis of slope-area measurements at gage heights 2.68 and 5.15 ft; no flow for much of each year.

REMARKS.--Records good below 10 cfs and fair above. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.50	0.30	0.30	0.20	0.20	0.10		0	0.10
2			0	.50	.30	.30	.20	.20	.10		0	18
3			0	.50	.30	.30	.20	.20	.10		0	5.0
4			0	.50	.30	.30	.20	.20	.10		0	.60
5			0	.50	.30	.30	.20	.20	.10		0	.20
6			133	.50	.30	.30	.20	.20	.10		0	.10
7			77	.50	.30	.20	.20	.20	0		0	.10
8			50	.50	.30	.20	.20	.20	0		0	.10
9			32	.50	.30	.20	.20	.20	0		0	.10
10			20	.50	.30	.20	.20	.20	0		0	.10
11			13	.50	.30	.20	.20	.20	0		0	.10
12			9.0	.50	.30	.20	.20	.10	0		0	.10
13			6.0	.50	.30	.20	.20	.10	0		0	.10
14			4.4	.40	.30	.20	.20	.10	0		0	.10
15			3.1	.40	.30	.20	.20	.10	0		0	.10
16			2.3	.40	.30	.20	.20	.10	0		0	.10
17			1.7	.40	.30	.20	.20	.10	0		0	.10
18			1.3	.40	.30	.20	.20	.10	0		0	.10
19			1.0	.40	.30	.20	.20	.10	0		0	.10
20			.80	.40	.30	.20	.20	.10	0		0	.10
21			.70	.40	.30	.20	.20	.10	0		0	.10
22			.60	.50	.30	.20	.30	.10	0		0	.10
23			.60	1.2	.30	.20	.20	.10	0		0	.10
24			.60	.50	.30	.20	.20	.10	0		0	.10
25			.60	.50	.30	.20	.20	.10	0		0	.10
26			.60	.40	.30	.20	.20	.10	0		0	.10
27			.60	.40	.30	.20	.20	.10	0		0	.10
28			.60	.40	.30	.20	.20	.10	0		0	.10
29			.60	.40	.20	.20	.20	.10	0		0	.10
30			.60	.40	-----	.20	.20	.10	0		0	.10
31			.60	.40	-----	.20	-----	.10	-----		24	-----
Total	0	0	351.30	14.80	8.40	6.80	6.10	4.20	0.60	0	24	26.40
Mean	0	0	11.7	0.477	0.300	0.219	0.203	0.135	0.020	0	0.774	0.880
Max	0	0	133	1.2	0.30	0.30	0.30	0.20	0.10	0	24	18
Min	0	0	0	0.40	0.30	0.20	0.20	0.10	0	0	0	0.10
Ac-ft	0	0	717	29	17	13	12	8.3	1.2	0	48	53

Cal yr 1966: Total 556.20 Mean 1.52 Max 133 Min 0 Ac-ft 1100
Wtr yr 1967: Total 452.60 Mean 1.24 Max 133 Min 0 Ac-ft 898

Peak discharge (base 20 cfs).--Dec. 6 (2200 hrs) 996 cfs (4.84 ft); Aug. 31 (0100 hrs) 306 cfs (3.74 ft).

10-2593. WHITEWATER RIVER AT INDIO, CALIF.

LOCATION.--Lat 33°44'06", long 116°14'39", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.5 S., R.7 E., on downstream side of center bridge pier on Interstate Highway 10, 2 miles northwest of Indio.

DRAINAGE AREA.--1,073 sq mi.

RECORDS AVAILABLE.--March 1966 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 5 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 4,960 cfs Dec. 7 (gage height, 11.36 ft, from crest-stage gage), from rating curve extended above 1,300 cfs on basis of slope-area measurement at gage height 15.3 ft; no flow for most of year.

1966-67: Maximum discharge, that of Dec. 7, 1966; no flow for most of each year.

Flood of Nov. 22, 1965 reached a stage of 15.3 ft, from floodmarks (discharge, 14,100 cfs, on basis of slope-area measurement of maximum flow).

REMARKS.--Records poor. No regulation above station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 3.....	0.80	Dec. 9.....	100
6.....	100	Apr. 11.....	3.0
7.....	1,500	Aug. 17.....	2.0
8.....	200	Sept. 2.....	10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	1,900.80	1,500	0	61.3	3,770
April 1967.....	3.0	3.0	0	.100	6.0
August.....	2.0	2.0	0	.065	4.0
September.....	10	10	0	.333	20
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	1,500	0	5.25	3,800

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

SALTON SEA BASIN

10-2595.4. WHITEWATER RIVER NEAR MECCA, CALIF.

LOCATION (revised).--Lat 33°31'00", long 116°04'02", in NW¼NW¼SW¼ sec.32, T.7 S., R.9 E., on left bank 0.9 mile upstream from mouth and 3.9 miles south of Mecca. Prior to Mar. 23, 1967, at site 0.6 mile downstream.

DRAINAGE AREA.--1,299 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 229 ft below mean sea level (from topographic map). Prior to Mar. 23, 1967, at site 0.6 mile downstream at different datum.

EXTREMES.--1960-67: Maximum daily discharge, about 1,300 cfs Nov. 23, 1965; minimum daily, 37 cfs Nov. 25-29, 1960.

REMARKS.--Records poor. Most of the flow represents seepage and return flow from irrigated areas.

COOPERATION.--Forty-six discharge measurements furnished by Coachella Valley County Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	92	103	100	130	122	131	125	125	102	118	108
2	121	95	95	100	128	122	132	125	122	104	114	108
3	115	96	88	100	124	122	132	120	120	108	108	107
4	112	98	110	100	120	120	132	114	119	106	107	114
5	105	103	96	100	116	120	132	113	116	104	110	114
6	98	105	298	96	112	118	132	118	114	102	116	118
7	95	108	150	94	110	114	131	120	114	100	116	118
8	92	106	130	92	114	112	130	125	112	98	116	114
9	89	103	120	90	116	110	128	125	108	94	114	113
10	94	101	110	90	120	110	126	125	108	92	114	113
11	94	100	100	92	122	110	120	125	110	94	113	110
12	92	98	98	94	126	110	110	125	108	95	112	108
13	89	94	98	95	130	110	104	125	102	95	108	106
14	88	95	97	96	126	110	108	125	101	98	108	102
15	95	101	96	98	120	110	111	125	106	98	110	102
16	90	100	95	100	108	110	118	125	108	98	108	101
17	89	101	94	102	108	110	122	120	110	95	116	102
18	90	100	93	104	110	110	122	124	112	95	112	101
19	92	98	91	107	110	112	120	124	112	92	112	101
20	89	101	90	110	112	112	119	122	108	104	113	108
21	86	105	90	114	114	114	118	122	108	101	104	110
22	80	110	90	118	118	116	116	120	108	104	112	108
23	83	110	95	120	118	118	112	112	107	101	113	110
24	84	96	96	122	120	118	113	116	107	98	113	106
25	86	94	97	126	122	120	119	118	106	95	116	104
26	86	94	100	128	122	122	122	113	106	107	122	107
27	88	100	100	130	122	124	122	116	106	106	118	108
28	88	96	100	131	122	126	122	128	106	97	120	104
29	88	94	100	132		128	122	130	102	98	116	108
30	89	92	100	134	- - - - -	128	125	130	100	102	110	110
31	90	- - - - -	100	134	- - - - -	130	- - - - -	126	- - - - -	108	112	- - - - -
Total	2,898	2,986	3,320	3,349	3,320	3,618	3,651	3,781	3,291	3,091	3,501	3,243
Mean	93.5	99.5	107	108	119	117	122	122	110	99.7	113	108
Max	121	110	298	134	130	130	132	130	125	108	122	118
Min	80	92	88	90	108	110	104	112	100	92	104	101
Ac-ft	5,750	5,920	6,590	6,640	6,590	7,180	7,240	7,500	6,530	6,130	6,940	6,430

Cal yr 1966: Total 39,927 Mean 109 Max 298 Min 80 Ac-ft 79,190
Wtr yr 1967: Total 40,049 Mean 110 Max 298 Min 80 Ac-ft 79,440

SALTON SEA BASIN

65

10-2596. COTTONWOOD WASH NEAR COTTONWOOD SPRING, CALIF.

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

DRAINAGE AREA.--0.71 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage, and corrugated-pipe culvert control. Altitude of gage is 3,100 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 0.0008 cfs (0.6 acre-ft per year).

EXTREMES.--Maximum discharge during year, 34 cfs Oct. 3 (gage height, 3.77 ft, from crest-stage gage), on basis of culvert computation of maximum flow; no flow for most of year.
1959-67: Maximum discharge, that of Oct. 3, 1966; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 2.0; November, 0.7; December, 1.3; January, 0.3; April, 0.1; August, 1.2; September, 0.9; the water year, 6.5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Oct. 3.....0.80
4......10
Nov. 8......70
Aug. 16......30

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
October 1966.....	0.90	0.80	0	0.029	1.8
November.....	.70	.70	0	.023	1.4
August 1967.....	.30	.30	0	.010	.6
Calendar year 1966.....	-	.80	0	.004	3.2
Water year 1966-67.....	-	.80	0	.005	3.8

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

SALTON SEA BASIN

10-2599.2. WASTEWAY NO. 1 NEAR MECCA, CALIF.

LOCATION.--Lat 33°31'40", long 115°58'23", in NW¼SW¼SW¼ sec.29, T.7 S., R.10 E., on right bank of channel, 1,000 ft upstream from mouth, 2,250 ft downstream from State Highway 111, and 6.6 miles southeast of Mecca.

RECORDS AVAILABLE.--February 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 220 ft below mean sea level (from topographic map).

EXTREMES.--Maximum daily discharge during year, 12 cfs Mar. 3-6; minimum daily, 3.2 cfs Dec. 20, 21.
1966-67: Maximum daily discharge, 55 cfs Mar. 29, 1966; minimum daily, 3.0 cfs Feb. 25, 1966.

REMARKS.--Records good. Discharge represents seepage and return flows from irrigated areas. At times water is wasted from Coachella Canal.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	5.4	4.4	4.1	3.8	10	5.0	4.4	6.1	4.7	5.7	6.1
2	6.9	5.4	4.4	4.1	3.8	11	5.0	4.4	6.1	4.7	6.1	5.4
3	7.3	5.4	4.4	4.1	3.8	12	5.0	4.4	5.7	4.7	7.3	5.7
4	7.7	5.4	4.4	4.1	3.8	12	5.0	4.7	5.7	4.7	6.9	6.1
5	6.5	5.4	4.4	4.1	3.8	12	5.4	5.0	6.5	4.4	7.3	5.4
6	6.5	5.4	4.1	4.1	3.8	12	5.4	4.7	5.7	4.4	6.1	5.4
7	6.5	5.4	4.1	4.1	4.1	9.6	5.4	4.4	5.4	4.4	5.4	4.4
8	6.5	5.4	4.1	4.1	4.1	7.3	5.4	4.1	5.4	4.4	5.4	4.4
9	6.9	5.0	4.1	4.1	4.1	6.5	6.1	4.1	5.4	4.4	5.0	4.7
10	6.9	5.0	4.1	4.1	4.4	6.1	5.4	4.4	5.4	9.2	5.0	4.7
11	5.7	5.0	4.1	4.1	4.7	6.1	4.7	4.7	5.4	4.4	5.0	5.0
12	5.7	5.0	4.1	4.1	4.7	5.4	5.4	4.7	5.4	4.1	5.0	5.0
13	5.7	5.0	4.1	3.8	4.7	4.7	5.0	4.7	5.4	4.1	5.4	5.0
14	5.7	5.0	3.8	3.8	4.7	5.0	4.7	4.4	5.7	4.1	5.4	5.0
15	6.1	5.0	3.8	3.8	4.4	4.7	5.0	4.1	5.4	4.4	5.4	6.1
16	6.1	5.0	3.8	3.8	4.4	4.4	5.4	4.1	5.4	4.4	5.0	6.9
17	6.1	5.0	3.8	3.8	4.4	4.4	5.7	4.1	5.0	4.4	5.0	5.0
18	6.1	5.0	3.8	3.8	4.7	5.4	5.4	4.4	4.7	4.7	5.0	4.7
19	6.1	4.7	3.5	3.8	4.7	5.0	5.4	4.4	5.7	5.0	5.4	4.7
20	6.1	4.7	3.2	3.8	4.7	5.4	5.4	4.4	5.4	6.5	5.4	5.4
21	6.1	4.7	3.2	3.8	5.0	5.7	5.4	4.4	5.4	7.3	5.7	6.1
22	6.1	4.7	3.5	4.4	5.4	7.3	5.7	4.4	4.7	6.9	5.0	6.1
23	5.7	4.7	3.5	4.4	5.7	6.1	5.0	4.4	4.4	7.3	5.4	5.7
24	5.7	4.7	3.8	4.4	6.5	5.0	5.0	4.4	4.1	6.1	6.1	5.0
25	5.7	4.7	3.5	4.4	6.9	5.0	6.1	4.4	4.1	6.9	5.4	5.4
26	5.7	4.7	3.5	4.1	7.3	4.7	5.0	4.4	4.1	5.4	5.4	5.7
27	5.7	4.4	3.5	4.1	8.1	4.7	4.4	4.4	4.4	5.4	5.0	5.7
28	5.7	4.4	3.8	4.1	9.1	4.7	4.1	4.4	4.1	5.7	4.7	5.7
29	5.7	4.4	4.1	4.1	4.7	4.7	4.7	4.7	5.0	6.1	4.7	6.5
30	5.7	4.4	4.1	3.8	- - - - -	5.0	4.7	5.0	4.7	6.5	5.4	5.4
31	5.7	- - - - -	4.1	3.8	- - - - -	5.0	- - - - -	5.7	- - - - -	6.1	5.4	- - - - -
Total	190.3	148.4	121.1	125.0	139.6	206.9	155.3	139.2	155.9	165.8	170.4	162.4
Mean	6.14	4.95	3.91	4.03	4.99	6.67	5.20	4.49	5.20	5.35	5.50	5.41
Max	7.7	5.4	4.4	4.4	9.1	12	6.1	5.7	6.5	9.2	7.3	6.9
Min	5.7	4.4	3.2	3.8	3.8	4.4	4.1	4.1	4.1	4.1	4.7	4.4
Ac-ft	377	294	240	248	277	410	308	276	309	329	338	322

Cal yr 1966: Total -

Mean -

Max -

Min -

Ac-ft -

Wtr yr 1967: Total 1880.3

Mean 5.15

Max 12

Min 3.2

Ac-ft 3,730

EMERSON LAKE BASIN

67

10-2602. PIPES CREEK NEAR YUCCA VALLEY, CALIF.

LOCATION.--Lat 34°10'20", long 116°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.

DRAINAGE AREA.--15.1 sq mi.

RECORDS AVAILABLE.--September 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4,435.40 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--9 years, 0.011 cfs (8.0 acre-ft per year).

EXTREMES.--No flow during year.

1958-67: Maximum discharge, 350 cfs Dec. 29, 1965 (gage height, 3.52 ft), on basis of field estimate of maximum flow; no flow for all or most of each year.

REMARKS.--No flow since Dec. 30, 1965. No regulation or diversion above station.

LUCERNE DRY LAKE BASIN

10-2604. CUSHENBURY CREEK NEAR LUCERNE VALLEY, CALIF.

LOCATION.--Lat 34°21'50", long 116°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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,750 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 0.006 cfs (4.3 acre-ft per year); median of yearly mean discharges, 0.0005 cfs (0.4 acre-ft per year).

EXTREMES.--Maximum discharge during year, 45 cfs Dec. 6 (gage height, 2.35 ft), on basis of slope-conveyance measurement of maximum flow; no flow for most of year.

1957-67: Maximum discharge, 180 cfs Nov. 23, 1965 (gage height, 2.27 ft), from rating curve extended above 35 cfs; maximum gage height, 2.92 ft Dec. 29, 1965 (due to debris); no flow in most years.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 0.80
 Aug. 16..... .10
 23..... .10
 Sept. 2..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	0.80	0.80	0	0.026	1.6
August 1967.....	.20	.10	0	.006	.4
September.....	.10	.10	0	.003	.2
Calendar year 1966.....	-	.80	0	.002	1.6
Water year 1966-67.....	-	.80	0	.003	2.2

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

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.--136 sq mi.

RECORDS AVAILABLE.--October 1904 to September 1922, October 1929 to September 1967. Monthly discharge only prior to January 1930, published in WSP 1314.

GAGE.--Digital water-stage recorder. Broad-crested weir since December 1938. Altitude of gage is 3,050 ft (from topographic map). Prior to Sept. 30, 1922, staff gage and graphic 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. Dec. 10, 1938, to Sept. 26, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--56 years, 67.0 cfs (48,510 acre-ft per year); median of yearly mean discharges, 47 cfs (34,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,400 cfs Dec. 6 (gage height, 9.92 ft), from rating curve extended above 3,400 cfs on basis of slope-area measurement at gage height 11.3 ft; minimum daily, 1.2 cfs Oct. 1, 2, 1904-22, 1929-67; Maximum discharge, 46,600 cfs Mar. 2, 1938, based on slope-area measurement of maximum flow; no flow July 17, 18, 1961.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft), used principally for recreation. Hesperia Water Co.'s canal, which diverted water about 2.5 miles above station, has not been used since May 9, 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	3.7	6.7	26	128	29	187	225	68	25	8.2	8.0
2	1.2	3.7	6.6	25	112	28	192	233	66	24	8.0	8.0
3	8.0	3.7	416	24	102	28	95	272	64	23	7.3	8.0
4	5.0	7.2	178	25	94	34	220	391	64	22	6.5	8.0
5	4.3	9.6	1,370	24	86	34	464	350	62	22	6.0	8.0
6	4.5	9.5	9,980	22	80	32	265	230	63	21	6.0	8.0
7	4.6	12	2,460	20	74	32	185	251	60	20	5.7	8.0
8	4.6	42	603	22	68	32	173	284	58	19	7.2	8.1
9	4.7	21	390	22	64	32	151	300	57	19	7.4	8.1
10	4.7	13	317	21	60	66	146	350	56	18	6.2	8.2
11	4.9	14	265	21	56	157	190	300	56	17	5.8	8.2
12	5.1	13	180	21	53	160	287	260	47	17	6.2	8.2
13	4.9	10	65	21	50	388	319	225	53	16	7.1	8.2
14	4.9	9.6	58	21	47	591	318	200	51	16	8.7	8.3
15	4.9	9.7	49	22	45	331	227	182	49	15	9.6	8.3
16	4.7	6.9	45	20	43	277	181	170	48	15	9.6	8.4
17	4.7	5.8	41	21	41	201	193	158	46	14	8.8	8.4
18	4.7	5.5	36	20	39	200	214	146	43	14	7.6	8.4
19	4.7	5.4	35	19	37	160	251	138	40	13	7.4	8.5
20	4.7	5.2	34	19	36	154	323	127	39	13	7.8	8.6
21	4.6	5.3	31	19	35	232	348	119	37	12	8.1	8.6
22	4.5	5.8	31	30	33	121	439	110	35	12	8.0	8.6
23	4.5	5.9	30	117	32	110	377	104	34	11	8.0	8.7
24	4.4	6.1	25	251	31	101	331	97	33	11	8.0	8.7
25	4.3	6.0	27	446	30	90	209	93	32	10	8.0	8.8
26	4.1	6.3	28	268	30	84	257	88	30	10	8.0	8.8
27	4.2	6.4	27	91	29	83	323	84	29	9.8	8.0	8.9
28	4.1	6.5	25	73	28	82	328	80	28	9.4	8.0	9.0
29	4.1	6.8	25	68	-----	81	277	76	27	9.0	7.9	9.0
30	4.0	7.3	27	68	-----	74	235	74	26	8.8	7.9	9.0
31	3.7	-----	25	140	-----	95	-----	72	-----	8.4	8.0	-----
TOTAL	137.5	272.9	16,836.3	2,007	1,563	4,119	7,705	5,789	1,401	474.4	235.0	252.0
MEAN	4.44	9.10	543	64.7	55.8	133	257	187	46.7	15.3	7.58	8.40
MAX	8.0	42	9,980	446	128	591	464	391	68	25	9.6	9.0
MIN	1.2	3.7	6.6	19	28	28	95	72	26	8.4	5.7	8.0
AC-FT	273	541	33,390	3,980	3,100	8,170	15,280	11,480	2,780	941	466	500

CAL YR 1966: TOTAL 28,155.80 MEAN 77.1 MAX 9,980 MIN .90 AC-FT 55,850
WAT YR 1967: TOTAL 40,792.1 MEAN 112 MAX 9,980 MIN 1.2 AC-FT 80,910

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1615	3.65	1,140	4-4	2230	3.37	850
12-6	1830	9.92	15,400	4-22	0415	2.96	488
1-24	2330	3.08	584	5-4	0215	2.88	429
3-14	0130	3.42	900				

Note.--No gage-height record Feb. 1-26, May 10 to June 5, June 22 to Aug. 2, Aug. 23 to Sept. 30.

MOJAVE RIVER BASIN

69

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.3 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.--74.6 sq mi.

RECORDS AVAILABLE.--October 1904 to September 1922, October 1929 to September 1967. Prior to February 1930, monthly discharge only, published in WSP 1314.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,050 ft (from topographic map). Prior to June 30, 1922, staff gage and graphic water-stage recorder several hundred feet downstream at different datum. June 30, 1942, to Apr. 14, 1966, at datum 2.00 ft higher.

AVERAGE DISCHARGE.--56 years, 38.7 cfs (28,020 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,320 cfs Dec. 6 (gage height, 9.85 ft); no flow for several months. 1904-22, 1929-67: Maximum discharge, 26,100 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; 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 above station. Water diverted from Lake Gregory for domestic use and fire protection. One small diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	11	92	17	88	184	50	5.0		
2	0	0	0	11	82	16	125	156	45	2.8		
3	.60	0	43	11	73	15	108	158	43	1.6		
4	0	0	27	11	56	15	195	152	41	1.2		
5	0	0	211	11	51	14	240	146	40	.90		
6	0	0	2880	11	56	14	154	136	39	.30		
7	0	1.0	657	11	52	13	202	128	38	.30		
8	0	.10	198	11	49	13	195	123	36	.30		
9	0	0	107	11	46	12	148	120	36	.20		
10	0	0	86	11	43	25	132	138	36	.20		
11	0	0	66	11	40	50	309	122	36	.20		
12	0	0	48	11	38	447	232	109	36	.10		
13	0	0	35	10	36	1,250	232	102	37	.10		
14	0	0	32	10	33	684	228	96	36	.10		
15	0	0	30	10	32	334	222	90	34	.10		
16	0	0	30	10	31	225	196	86	33	.10		
17	0	0	26	10	30	174	182	84	31	.10		
18	0	0	24	9.0	28	147	238	81	29	.10		
19	0	0	22	9.0	26	124	301	76	28	.10		
20	0	0	21	9.0	25	112	255	68	28	.10		
21	0	0	19	9.0	24	98	296	63	25	.10		
22	0	0	16	44	23	92	615	59	23	0		
23	0	0	15	150	22	85	398	55	20	0		
24	0	0	14	438	21	81	317	54	19	0		
25	0	0	14	702	20	76	270	54	17	0		
26	0	0	14	244	19	73	255	54	15	0		
27	0	0	13	172	18	58	250	51	12	0		
28	0	0	12	154	17	52	238	51	10	0		
29	0	0	11	138		57	234	51	9.0	0		
30	0	0	11	124	-----	62	204	49	7.0	0		
31	0	-----	11	110	-----	74	-----	51	-----	0		
Total	0.60	1.10	4,693	2,504.0	1,103	4,539	7,079	2,957	889.0	14.00	0	0
Mean	0.019	0.037	151	80.8	39.4	146	236	95.4	29.6	0.452	0	0
Max	0.60	1.0	2,880	702	92	1,250	615	184	50	5.0	0	0
Min	0	0	0	9.0	17	12	88	49	7.0	0	0	0
Ac-ft	1.2	2.2	3,310	4,970	2,190	3,000	14,040	5,870	1,750	28	0	0

Cal yr 1966: Total 3,510.00 Mean 26.1 Max 2,880 Min 0 Ac-ft 13,850
Wtr yr 1967: Total 2,577.970 Mean 55.1 Max 2,880 Min 0 Ac-ft 47,170

Peak discharge (base, 500 cfs)

Note.--No gage-height record Jan. 6-21, Feb. 6 to Mar. 11.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	2000	9.85	6,320	4-4	2100	4.37	538
1-24	2230	6.80	2,250	4-22	0400	5.72	1,290
3-13	0630	6.18	1,640				

MOJAVE RIVER BASIN

10-2615. MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CALIF.

LOCATION.--Lat 34°34'22", long 117°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.--514 sq mi.

RECORDS AVAILABLE.--February 1899 to September 1906, October 1930 to September 1967. 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.--Graphic water-stage recorder. 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, at present site at datum 4.00 ft higher. Mar. 28, 1938, to Apr. 14, 1966, at present site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--44 years, 71.6 cfs (51,840 acre-ft per year); median of yearly mean discharges, 40 cfs (29,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 17,900 cfs Dec. 6 (gage height, 10.00 ft); minimum daily, 10 cfs Aug. 1, 6, 9-10.

1930-67: Maximum discharge, 70,600 cfs Mar. 2, 1938 (gage height, 20.7 ft, present datum), from rating curve extended above 10,000 cfs on basis of slope-area measurement of maximum flow, minimum daily, 6 cfs Aug. 19, 21, 26, 1951.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	17	32	38	36	34	30	280	24	13	10	14
2	15	17	34	38	36	34	88	260	28	14	11	14
3	16	17	36	38	36	34	104	250	26	13	12	13
4	16	17	32	37	36	34	62	332	28	15	11	12
5	17	19	36	37	36	34	454	354	28	17	11	12
6	17	19	6,860	37	36	34	354	240	25	16	10	12
7	13	21	3,050	37	36	30	185	197	25	17	11	12
8	16	19	457	37	35	32	285	225	25	17	11	12
9	16	17	160	37	35	34	185	250	25	16	10	14
10	16	17	90	37	35	34	149	527	25	15	10	14
11	13	19	60	37	35	32	285	571	25	17	11	13
12	13	17	49	36	35	32	438	480	24	16	12	13
13	13	21	46	36	35	638	438	321	24	19	12	13
14	13	21	43	36	34	848	494	215	24	17	12	15
15	17	21	42	36	34	515	378	185	24	19	12	17
16	17	21	41	36	34	366	260	173	24	17	12	16
17	17	21	40	36	34	295	225	250	20	16	12	16
18	17	21	40	35	34	215	210	205	17	15	13	17
19	17	23	40	35	34	153	410	133	17	15	13	17
20	17	23	40	35	34	105	450	102	18	17	14	16
21	17	25	40	35	36	144	480	80	17	16	13	17
22	17	25	40	35	34	118	726	60	17	16	12	17
23	17	25	40	35	34	48	543	40	15	14	12	18
24	17	27	40	35	34	27	571	26	14	17	12	20
25	17	27	40	176	34	23	414	50	15	16	12	20
26	17	27	40	86	34	28	408	62	14	16	12	18
27	17	28	40	62	34	30	450	26	14	16	12	17
28	16	28	40	50	34	27	450	26	14	14	11	20
29	17	30	39	43		32	402	25	14	13	12	21
30	17	32	39	38	---	27	327	26	14	12	12	18
31	17	---	39	38	---	27	---	26	---	11	13	---
Total	497	662	11,655	1,364	974	4,064	10,255	5,997	624	482	363	468
Mean	16.0	22.1	376	44.0	34.8	131	342	193	20.8	15.5	11.7	15.6
Max	17	32	6,860	176	36	848	726	571	28	19	14	21
Min	13	17	32	35	34	23	30	25	14	11	10	12
Ac-ft	986	1,310	23,140	2,710	1,930	3,060	20,340	11,890	1,240	956	720	928

Cal yr 1966: Total 20,288.5 Mean 55.1 Max 6,860 Min 6.7 Ac-ft 40,240
 Wtr yr 1967: Total 37,415 Mean 103 Max 6,860 Min 10 Ac-ft 74,210

Peak discharge (base, 200 cfs)

Note.--No gage-height record Dec. 9 to Jan. 24, Jan 27 to Feb. 18.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	2300	10.00	17,900	4-14	0900	2.66	592
1-25	0700	1.39	384	4-22	1130	3.50	1,060
3-14	0700	2.52	1,130	5-10	1730	3.35	730
4-5	0600	2.96	939				

MOJAVE RIVER BASIN

71

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 1967 (discontinued as a continuous-record station; converted to a crest-stage partial record station).

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage, and corrugated-pipe culvert control. 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.

AVERAGE DISCHARGE.--7 years, 0.001 cfs (0.7 acre-ft per year).

EXTREMES.--Maximum discharge during year, 16 cfs July 13 (gage height, 12.27 ft, from crest-stage gage); no flow all year except that of July 13.

1959-67: Maximum discharge, 43 cfs Aug. 17, 1965 (gage height, 14.06 ft), from rating curve extended above computation of flow through culvert at gage height 13.12 ft; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Precipitation records incomplete.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

July 13.....0.70

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
July 1967.....	0.70	0.70	0	0.023	1.4
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	.70	0	.002	1.4

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

MOJAVE RIVER BASIN

10-2619. MOJAVE RIVER AT WILD CROSSING, NEAR HELENDALE, CALIF.

LOCATION.--Lat 34°46'58", long 117°16'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.8 N., R.4 W., on downstream wingwall of bridge on Indian Trail road at Wild Crossing, 4.7 miles northeast of Helendale.

DRAINAGE AREA.--960 sq mi.

RECORDS AVAILABLE.--March 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,360 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 13,000 cfs (estimated) Dec. 7 (gage height, 5.80 ft); no flow for most of year.

1966-67: Maximum discharge, that of Dec. 7, 1966; no flow for most of each year.

REMARKS.--Records fair except those above 1,000 cfs, which are poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 10,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	1.5	0	0	256		0		
2			0	0	1.5	0	0	240		0		
3			0	0	1.5	0	38	232		0		
4			0	0	1.6	0	20	283		0		
5			0	0	1.8	0	348	330		0		
6			2,270	0	1.7	0	340	258		0		
7			3,890	0	1.4	0	132	197		0		
8			340	0	1.0	0	191	232		0		
9			92	0	.80	0	150	232		0		
10			21	0	.70	0	106	328		0		
11			14	0	.50	0	114	185		0		
12			12	0	.30	0	355	124		0		
13			6.9	0	.20	148	232	89		3.9		
14			0	0	.20	921	258	46		0		
15			0	0	.10	470	209	46		0		
16			0	0	.10	300	155	22		0		
17			0	0	.10	258	138	19		0		
18			0	0	0	151	128	21		0		
19			0	0	0	132	213	5.8		0		
20			0	0	0	82	240	3.6		0		
21			0	0	0	68	258	2.3		0		
22			0	0	0	75	647	1.5		0		
23			0	0	0	24	588	.80		0		
24			0	0	0	14	604	.10		0		
25			0	32	0	6.6	470	0		0		
26			0	47	0	2.8	470	.60		0		
27			0	20	0	1.0	512	.20		0		
28			0	7.2	0	0	470	0		0		
29			0	2.3	0	0	380	0		0		
30			0	1.7	0	0	300	0		0		
31			0	1.7	0	0	0	0		0		
Total	0	0	6,645.9	111.9	15.00	2,653.4	2,056	5,154.90	0	3.9	0	0
Mean	0	0	214	3.61	0.536	85.9	259	102	0	0.126	0	0
Max	0	0	3,890	47	1.8	921	647	330	0	3.9	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	13,180	222	30	5,280	10,000	6,280	0	7.7	0	0

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 20,671.00 Mean 56.6 Max 3,890 Min 0 Ac-ft 41,000

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-7	0200	5.80	13,000	4-5	1100	3.10	1,450
1-25	1600	1.90	110	4-22	1400	3.90	4,500
3-14	1600	2.90	1,800				

MOJAVE RIVER BASIN

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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.

DRAINAGE AREA.--1,290 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,089.80 ft above mean sea level, unadjusted.

AVERAGE DISCHARGE.--37 years, 22.0 cfs (15,930 acre-ft per year); median of yearly mean discharges, zero.

EXTREMES.--Maximum discharge during year, 9,870 cfs Dec. 7 (gage height, 4.73 ft); no flow for most of year. 1930-67: Maximum discharge, 64,300 cfs Mar. 3, 1938 (gage height, 8.60 ft), on basis of slope-area measurement of maximum flow; no flow for several months in each year.

REMARKS.--Records fair above 500 cfs and poor below. 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	0	3.2		0		0
2			0			0	0	3.0		0		0
3			0			0	0	2.6		0		0
4			0			0	0	2.2		0		0
5			0			0	0	2.0		0		0
6			123			0	.70	1.5		0		7.2
7			3,370			0	1.6	1.0		0		.10
8			118			0	0	0		0		0
9			0			0	.30	0		0		0
10			0			0	0	0		0		0
11			0			0	0	3.0		0		0
12			0			0	3.1	2.0		.40		0
13			0			0	2.3	1.0		0		0
14			0			68	2.7	0		0		0
15			0			49	6.0	0		0		0
16			0			.30	1.2	0		0		0
17			0			0	0	0		0		0
18			0			0	0	0		0		0
19			0			0	.20	0		0		0
20			0			0	5.3	0		0		0
21			0			0	6.0	0		0		0
22			0			0	27	0		0		0
23			0			0	27	0		0		0
24			0			0	9.0	0		0		0
25			0			0	7.0	0		0		0
26			0			0	5.6	0		0		0
27			0			0	4.8	0		0		0
28			0			0	4.1	0		0		0
29			0			0	3.7	0		0		0
30			0		-----	0	3.4	0		0		0
31		-----	0		-----	0	-----	0	-----	0		-----
Total	0	0	3,611	0	0	117.30	121.00	21.5	0	0.40	0	7.30
Mean	0	0	116	0	0	3.78	4.03	0.694	0	0.013	0	0.243
Max	0	0	3,370	0	0	68	27	3.2	0	0.40	0	7.2
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	7,160	0	0	233	240	43	0	0.8	0	14

Cal yr 1966: Total 3,611 Mean 9.89 Max 3,370 Min 0 Ac-ft 7,160
Wtr yr 1967: Total 3,878.50 Mean 10.6 Max 3,370 Min 0 Ac-ft 7,690

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 7	0500	4.73	9,870	4-22	2200	2.77	348
3-14	1500	2.65	180				

MOJAVE RIVER BASIN

10-2626. BOOM CREEK NEAR BARSTOW, CALIF.

LOCATION.--Lat 34°54'20", long 116°56'57", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.9 N., R.1 W., at culvert on U.S. Highway 91 and 466, 4.3 miles east of Barstow.

DRAINAGE AREA.--0.24 sq mi.

RECORDS AVAILABLE.--Water years 1959-66 (annual maximum); October 1966 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 2,280 ft (from topographic map). Jan. 13, 1959, to Feb. 8, 1967, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during year, 17 cfs July 15 (gage height, 9.36 ft), from rating curve based on computations of flow through culvert; no flow all year except that of July 15.
1959-67: Maximum discharge, 125 cfs Sept. 1, 1960 (gage height, 14.23 ft, from crest-stage gage), on basis of culvert computation of maximum flow; no flow for most of each year.

REMARKS.--Records good. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: April, 0.2; July, 0.5; August, 0.2; September, 0.1; the water year, incomplete.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

July 15..... 0.20

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
September 1967.....	0.20	0.20	0	0.006	0.4
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	.20	0	.0005	.4

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

MOJAVE RIVER BASIN

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10-2630. MOJAVE RIVER AT AFTON, CALIF.

LOCATION.--Lat 35°02'15", long 116°23'00", in SE¼ 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.

DRAINAGE AREA.--2,120 sq mi.

RECORDS AVAILABLE.--October 1929 to September 1932, October 1952 to September 1967. Records for the water year 1930 incomplete, yearly estimate published in WSP 1314.

GAGE.--Graphic 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.--18 years, 2.14 cfs (1,550 acre-ft per year); median of yearly mean discharges, 1.2 cfs (870 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,050 cfs Dec. 8 (gage height, 6.08 ft); no flow for much of year. 1929-32, 1952-67: Maximum discharge, 4,150 cfs Dec. 31, 1965 (gage height, 7.92 ft), from rating curve extended above 920 cfs on basis of slope-area measurement of maximum flow; no flow for some days in 1961-67.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	✓	0	1.0	1.0	0.80	0.80	1.0	0.80	0.10	0		0
2		0	1.0	1.0	.80	.80	1.0	.80	.10	0		0
3		0	1.1	1.0	.80	.80	1.0	.70	.10	0		0
4		0	2.9	1.0	.80	.80	1.0	.70	0	0		0
5		.10	.80	1.0	.80	.80	1.0	.70	0	0		0
6		.10	.80	.80	.80	.70	.80	.60	0	0		4.1
7		.10	.70	.80	.80	.80	.80	.40	0	0		48
8		.20	403 474	.80	.80	.80	.80	.20	0	0		4.4
9		.20	27 25	.80	.80	.80	.80	.10	0	0		2.6
10		.20	1.3	.80	✓.80	.80	.80	.30	0	0		1.8
11		.30	1.1	.80	.80	.80	1.5	.20	0	0		1.1
12		.30	1.0	.80	.80	.80	1.3	.30	0	0		.10
13		.30	1.1	.80	.80	.80	1.1	.40	0	0		0
14		.30	1.1	.80	.80	.80	1.0	.40	0	0		0
15		.40	1.0	.80	.80	.80	.80	.40	0	65 635		0
16		.40	1.0	.80	.80	✓.80	.80	.40	0	30		0
17		.40	1.0	.80	.80	.80	.80	.10	0	1.1		0
18		.40	1.0	.80	.80	.70	.80	0	0	.80		0
19		.40	1.0	.80	.70	.70	.80	0	0	0		0
20		.40	1.0	.80	.70	.70	.80	0	0	0		0
21		.60	1.0	.80	.70	.70	1.0	0	0	0		0
22		.60	1.0	.80	.70	.70	1.1	0	0	0		0
23		.60	1.0	1.0	.70	.70	1.0	0	0	0		0
24		.60	1.0	.80	.70	.70	1.0	0	0	0		0
25		.70	1.0	.80	.80	.70	.80	0	0	0	✓	0
26		.70	1.0	.80	.80	.80	.80	0	0	0		0
27		.80	1.0	.80	.80	.80	.70	0	0	0		0
28		.80	1.0	.80	.80	.80	.70	0	0	0		0
29		.80	1.0	.80	.80	.80	.70	.10	0	0		.10 .13
30		1.0	1.0	.80	-----	.80	.70	0	0	0		.20
31		-----	1.0	.80	-----	1.0	-----	0	-----	0		-----
Total	0	11.70	450.90	26.00	21.80	24.10	27.20	7.60	0.30	96.90	0	62.40
Mean	0	0.390	14.9	0.839	0.779	0.777	0.907	0.245	0.010	3.13	0	2.08
Max	0	1.0	403	1.0	0.80	1.0	1.5	0.80	0.10	65	0	48
Min	0	0	0.70	0.80	0.70	0.70	0.70	0	0	0	0	0
Ac-ft	0	23	914	52	43	48	54	15	0.6	192	0	124

Cal yr 1966: Total 2,847.20 Mean 7.80 Max 403 Min 0 Ac-ft 5,650
Wtr yr 1967: Total 738.90 Mean 2.02 Max 403 Min 0 Ac-ft 1,470

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 8	0100	6.08	1,050	9-7	0400	7.60	200
7-15	1930	6.32	631				

ANTELOPE VALLEY

10-2635. BIG ROCK CREEK NEAR VALYERMO, CALIF.

LOCATION.--Lat 34°25'15", long 117°50'19", in NW¼SE¼NE¼ sec.20, T.4 N., R.9 W., on left bank 0.1 mile upstream from Punchbowl Canyon and 1.9 miles southwest of Valyermo.

DRAINAGE AREA.--22.9 sq mi.

RECORDS AVAILABLE.--January 1923 to September 1967. Monthly discharge only for October 1937 to January 1939, published in WSP 1314. Prior to October 1954, published as Rock Creek near Valyermo.

GAGE.--Digital water-stage recorder. 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. Prior to Apr. 21, 1966, graphic water-stage recorder.

AVERAGE DISCHARGE.--44 years, 15.4 cfs (11,150 acre-ft per year); median of yearly mean discharges, 8.6 cfs (6,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,290 cfs Dec. 6 (gage height, 4.54 ft); minimum daily, 3.5 cfs Nov. 5.

1923-67: Maximum discharge, 8,300 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; minimum daily, 0.70 cfs Nov. 5, 1951.

REMARKS.--Records poor. No regulation or diversion above station. Some infiltration into the streambed in the immediate vicinity of station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Eighteen discharge measurements furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.7	4.1	5.0	15	28	14	27	37	49	32	16	15
2	4.7	4.1	5.3	15	26	14	25	37	49	32	16	11
3	4.8	3.8	67	14	25	14	24	40	48	31	15	11
4	4.7	3.8	15	14	23	15	33	39	47	31	14	15
5	4.7	3.5	62	14	22	15	34	35	47	30	14	16
6	4.7	4.8	544	14	22	14	34	35	47	29	14	15
7	4.7	10	333	14	21	14	38	35	48	30	13	15
8	4.7	6.0	171	14	20	13	35	44	48	28	14	15
9	4.7	4.6	82	14	20	13	36	76	47	27	14	15
10	4.7	4.3	44	14	18	13	38	101	47	26	12	14
11	4.6	4.1	35	14	17	15	40	97	45	25	12	13
12	4.6	3.9	30	14	17	22	38	85	47	26	12	13
13	5.0	4.9	29	14	16	41	37	75	47	31	12	13
14	5.4	5.3	28	14	12	36	39	63	46	31	13	13
15	5.1	5.5	24	14	13	30	40	65	45	30	19	12
16	5.0	4.9	23	15	18	35	38	74	45	28	20	12
17	5.0	4.7	22	14	18	50	35	78	45	28	28	12
18	4.7	5.0	21	14	17	51	40	82	43	27	23	12
19	4.7	4.9	20	14	17	44	38	86	42	27	16	13
20	4.7	5.9	19	14	17	40	35	86	41	25	14	13
21	4.7	6.4	18	14	16	38	37	77	41	24	13	12
22	4.4	6.8	18	28	16	37	42	77	42	22	12	13
23	4.6	6.5	17	25	16	36	37	79	41	21	20	13
24	4.7	6.6	17	36	16	36	36	78	39	21	15	12
25	4.7	6.6	17	36	16	33	35	77	38	20	14	12
26	5.0	6.6	16	29	16	30	39	62	37	20	14	12
27	5.0	5.4	16	26	15	28	43	56	37	20	13	12
28	4.7	4.8	16	25	15	28	45	52	36	20	13	16
29	4.7	4.9	15	24	-----	28	43	50	35	20	12	17
30	4.4	5.0	15	25	-----	26	40	50	34	18	12	15
31	4.4	-----	15	29	-----	27	-----	50	-----	17	18	-----
TOTAL	147.2	157.7	1,759.3	580	513	850	1,101	1,978	1,303	797	467	402
MEAN	4.75	5.26	56.8	18.7	18.3	27.4	36.7	63.8	43.4	25.7	15.1	13.4
MAX	5.4	10	544	36	28	51	45	101	49	32	28	17
MIN	4.4	3.5	5.0	14	12	13	24	35	34	17	12	11
AC-FT	292	313	3,490	1,150	1,020	1,690	2,180	3,920	2,580	1,580	926	797

CAL YR 1966: TOTAL 8,876.6 MEAN 24.3 MAX 544 MIN 3.5 AC-FT 17,610
WAT YR 1967: TOTAL 10,055.2 MEAN 27.5 MAX 544 MIN 3.5 AC-FT 19,940

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0900	2.26	180	5-10	2000	2.66	130
12- 6	1745	4.54	1,290	8-17	2100	2.35	102
1-24	1845	2.12	68	8-23	1400	2.34	83
3-18	0015	2.07	55				

ANTELOPE VALLEY

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10-2640. LITTLE ROCK CREEK NEAR LITTLE ROCK, CALIF.

LOCATION.--Lat 34°27'47", long 118°01'04", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967.

GAGE.--Graphic 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.--35 years (1930-37, 1939-67), 16.4 cfs (11,870 acre-ft per year); median of yearly mean discharges, 8.0 cfs (5,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,970 cfs Dec 6 (gage height, 7.97 ft); no flow Oct. 1 to Dec. 4. 1930-67: Maximum discharge, 17,000 cfs (estimated) Mar. 2, 1938; 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.8	10	41	12	33	79	35	7.3	2.1	1.3
2		0	2.8	10	32	12	33	82	31	6.2	2.1	1.3
3		0	129	9.9	27	12	34	88	27	6.2	2.1	1.3
4		0	69	9.8	25	13	50	94	25	5.6	2.1	1.2
5		4.5	158	9.6	24	12	61	88	24	5.6	2.0	1.2
6		5.0	1,330	9.4	23	12	55	83	24	5.6	2.0	1.2
7		46	444	9.2	23	11	60	97	24	5.6	1.9	1.2
8		40	137	9.0	22	11	55	115	24	5.6	1.9	1.2
9		12	72	8.8	21	11	53	145	23	5.0	1.9	1.2
10		9.6	48	8.6	21	11	57	165	22	5.0	1.9	1.1
11		7.3	38	8.4	21	13	61	122	21	5.0	1.9	1.1
12		6.2	32	8.4	21	23	56	107	20	4.5	1.9	1.0
13		6.2	29	7.9	19	100	61	95	19	5.0	1.8	1.0
14		5.0	26	7.3	19	98	74	88	19	7.3	1.8	.90
15		3.9	23	7.3	17	62	74	89	17	5.6	1.8	.90
16		3.4	21	7.3	17	64	67	102	16	5.6	1.8	.80
17		3.4	19	6.7	16	86	63	116	16	4.5	1.8	.80
18		2.8	18	6.7	15	85	73	100	15	3.9	1.8	.80
19		2.2	17	6.7	15	67	72	95	15	3.9	1.8	.70
20		2.2	16	6.7	15	58	64	90	15	3.4	1.7	.70
21		3.9	14	6.2	15	50	66	84	13	2.8	1.7	.70
22		3.9	13	23	15	48	73	78	11	2.2	1.7	.70
23		3.9	13	33	14	48	69	70	11	2.2	1.6	.70
24		3.4	13	35	13	48	74	62	11	2.2	1.6	.70
25		2.8	13	65	13	43	80	58	9.6	2.2	1.6	.70
26		2.2	12	45	13	39	99	49	9.0	2.2	1.5	.80
27		1.7	12	38	13	36	117	45	9.0	2.2	1.5	.80
28		1.7	11	34	13	37	118	42	8.4	2.2	1.5	.80
29		3.4	11	31		36	99	39	8.4	2.1	1.4	.80
30		3.4	11	34		32	86	38	8.4	2.1	1.4	.80
31		- - - -	10	47	- - - -	34	- - - -	37	- - - -	2.1	1.4	- - - -
Total	0	190.0	2,764.6	558.9	543	1,224	2,037	2,642	530.8	130.9	55.0	28.40
Mean	0	6.33	89.2	18.0	19.4	39.5	67.9	85.2	17.7	4.22	1.77	0.947
Max	0	46	1,330	65	41	100	118	165	35	7.3	2.1	1.3
Min	0	0	2.8	6.2	13	11	33	37	8.4	2.1	1.4	0.70
Ac-ft	0	377	5,480	1,110	1,080	2,430	4,040	5,240	1,050	260	109	56

Cal yr 1966: Total 6,619.40 Mean 18.1 Max 1,330 Min 0 Ac-ft 13,130
Wtr yr 1967: Total 10,704.60 Mean 29.3 Max 1,330 Min 0 Ac-ft 21,230

ANTELOPE VALLEY

10-2645.6. SPENCER CANYON CREEK NEAR FAIRMONT, CALIF.

LOCATION.--Lat 34°46'33", long 118°34'08", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.8 N., R.16 W., on county road culvert, 8.5 miles northwest of Fairmont.

DRAINAGE AREA.--3.60 sq mi.

RECORDS AVAILABLE.--Water years 1959-64 (annual maximum), August 1964 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 2,950 ft (from topographic map). Jan. 19, 1959, to Aug. 26, 1964, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 130 cfs Sept. 24 (gage height, 11.15 ft, from crest-stage gage), from rating curve extended as explained below; no flow all year except that of Apr. 11, Sept. 24.
1959-67: Maximum discharge, 215 cfs Feb. 11, 1962 (gage height, 11.90 ft), from rating curve based on computation of flow through culvert at gage heights 11.11 and 11.90 ft; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Apr. 11..... 0.1
Sept. 24..... 5.4

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
April 1967.....	0.10	0.10	0	0.003	0.2
September.....	5.4	5.4	0	.180	11
Calendar year 1966.....	-	0	0	0	0
Water year 1966-67.....	-	5.4	0	.015	11

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

ANTELOPE VALLEY

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10-2645.9. COTTONWOOD CREEK NEAR ROSAMOND, CALIF.

LOCATION.--Lat 34°53'10", long 118°26'10", in SE $\frac{1}{4}$ sec.11, T.9 N., R.15 W., on right side of culvert on dirt road 1.3 miles southeast of West Antelope Aqueduct Station, 8.2 miles west of town of Willow Springs, and 15.3 miles west of Rosamond.

DRAINAGE AREA.--35.7 sq mi.

RECORDS AVAILABLE.--February 1965 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 2,880 ft (from topographic map).

EXTREMES.--1965: Maximum discharge during period February to September, 8.0 cfs (estimated) Aug. 16 (gage height, 18.04 ft, from crest-stage gage); no flow all year except that of Aug. 16.

1965-66: No flow during water year.

1966-67: Maximum discharge during water year, 2.2 cfs (estimated) Dec. 6 (gage height, unknown); no flow for most of year.

1965-67: Maximum discharge, that of Aug. 16, 1965; no flow for most of each year.

REMARKS.--Records poor. No regulation above station. Some pumping at Tejon Ranch Company headquarters for domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD FEBRUARY 1965 TO SEPTEMBER 1967

Aug. 16, 1965..	1.0	Apr. 20, 1967..	.50
Dec. 6, 1966..	.50	21.....	.50
Mar. 31, 1967..	.50	22.....	.50
Apr. 16.....	.50	23.....	.50
17.....	.50	24.....	.50
18.....	.50	25.....	.50
19.....	.50	Sept. 6.....	.10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
August 1965.....	1.0	1.0	0	.032	2.0
Calendar year 1964.....	-	-	-	-	-
Period February to September 1965.....	-	1.0	0	.002	2.0
Calendar year 1965.....	-	-	-	-	-
Water year 1965-66.....	-	0	0	0	0
December 1966.....	.50	.50	0	.016	1.0
March 1967.....	.50	.50	0	.016	1.0
April.....	5.00	.50	0	.167	9.9
September.....	.10	.10	0	.003	.2
Calendar year 1966.....	-	.50	0	.001	1.0
Water year 1966-67.....	-	.50	0	.017	12

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

ANTELOPE VALLEY

10-2646. OAK CREEK NEAR MOJAVE, CALIF.

LOCATION.--Lat 35°03'00", long 118°21'25", in NW¼ 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 1967.

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

AVERAGE DISCHARGE.--10 years, 0.567 cfs (410 acre-ft per year); median of yearly mean discharges, 0.26 cfs (190 acre-ft per year).

EXTREMES.--Maximum discharge during year, 0.8 cfs June 14 (gage height, 0.80 ft); no flow Oct. 1 to Dec. 27. 1957-67: Maximum discharge, 63 cfs Aug. 16, 1965 (gage height, 2.09 ft), from rating curve extended above 14 cfs; no flow for some months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10	0.20	0.20	0.30	0.50	0.60	0.40	0.20	0.10
2			0	.10	.20	.20	.30	.50	.60	.40	.20	.10
3			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
4			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
5			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
6			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
7			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
8			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
9			0	.10	.20	.20	.30	.50	.60	.30	.20	.10
10			0	.10	.20	.20	.30	.60	.60	.30	.20	.10
11			0	.10	.20	.20	.30	.60	.60	.30	.20	.10
12			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
13			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
14			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
15			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
16			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
17			0	.10	.20	.20	.30	.60	.60	.40	.10	.10
18			0	.10	.20	.20	.30	.60	.60	.30	.10	.10
19			0	.10	.20	.20	.40	.60	.60	.30	.10	.10
20			0	.10	.20	.20	.40	.60	.60	.30	.10	.10
21			0	.10	.20	.20	.40	.60	.60	.30	.10	.10
22			0	.10	.20	.20	.50	.60	.60	.30	.10	.10
23			0	.10	.20	.20	.50	.60	.60	.30	.10	.10
24			0	.10	.20	.20	.50	.60	.60	.30	.10	.10
25			0	.10	.20	.20	.50	.60	.60	.20	.10	.10
26			0	.10	.20	.20	.50	.60	.60	.20	.10	.10
27			0	.10	.20	.20	.50	.60	.60	.20	.10	.10
28			.10	.10	.20	.20	.60	.60	.60	.20	.10	.10
29			.10	.10	.20	.20	.60	.60	.50	.20	.10	.10
30			.10	.20	-----	.20	.60	.60	.40	.20	.10	.10
31		-----	.10	.20	-----	.20	-----	.60	-----	.20	.10	-----
Total	0	0	0.40	3.30	5.60	6.20	11.40	17.70	17.70	9.40	4.20	3.00
Mean	0	0	0.013	0.106	0.200	0.200	0.380	0.571	0.590	0.303	0.135	0.100
Max	0	0	0.10	0.20	0.20	0.20	0.60	0.60	0.60	0.40	0.20	0.10
Min	0	0	0	0.10	0.20	0.20	0.30	0.50	0.40	0.20	0.10	0.10
Ac-ft	0	0	0.8	6.5	11	12	23	35	35	19	8.3	6.0

Cal yr 1966: Total 144.90 Mean 0.397 Max 1.2 Min 0 Ac-ft 287
Wtr yr 1967: Total 78.90 Mean 0.216 Max 0.60 Min 0 Ac-ft 156

Peak discharge (base, 10 cfs).--No peak above base.

KOEHN LAKE BASIN

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10-2647.1. GOLER GULCH NEAR RANDSBURG, CALIF.

LOCATION.--Lat 35°23'34", long 117°47'43", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.29 S., R.39 E., on Garlock Road, 500 ft east of Southern Pacific Railroad and 8.0 miles west of Randsburg.

DRAINAGE AREA.--41.3 sq mi (including 3.03 sq mi in closed dry lake basin).

RECORDS AVAILABLE.--March 1966 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 2,100 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 294 cfs Aug. 8 (gage height, 5.26 ft), from rating curve based on computation of flow through culvert; no flow all year except that of Jan. 22, Aug. 8, Sept. 6.

1966-67: Maximum discharge, that of Aug. 8, 1967; no flow most of each year.

Flood of Sept. 19, 1963 reached a stage of 46.18 ft, from floodmarks (discharge, 972 cfs, based on computation of flow through culvert and road overflow).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Jan. 22..... 0.20
Aug. 8.....11
Sept. 6..... 1.0

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
January 1967.....	0.20	0.20	0	0.006	0.4
August.....	11	11	0	.355	22
September.....	1.0	1.0	0	.033	2.0
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	11	0	.033	24

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

10-2647.4. CACHE CREEK NEAR MOJAVE, CALIF.

LOCATION.--Lat 35°07'01", long 118°12'05", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.27, T.32 S., R.35 E., on left wingwall of Cache Creek bridge on State Highway 58, 4.7 miles northwest of Mojave.

DRAINAGE AREA.--96.5 sq mi.

RECORDS AVAILABLE.--January 1965 to September 1967.

GAGE.--Flood-hydrograph recorder. Altitude of gage is 3,280 ft (from topographic map). Recording rain gage at site 12 miles upstream.

EXTREMES.--Maximum discharge during year, 75 cfs Dec. 6 (gage height, 9.16 ft, from floodmark), on basis of slope-conveyance measurement of maximum flow; no flow for most of year.

1965-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: November, 1.24; December, 3.19; January, 1.07; March, 0.03; April, 1.76; May, 0.03; September, 0.30; the water year, 7.62.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 5.0
7..... 1.0
Jan. 27..... 1.0
Apr. 1.....0.50
Sept. 2..... .70

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	6.0	5.0	0	0.194	12
January 1967.....	1.0	1.0	0	.032	2.0
April.....	.50	.50	0	.017	1.0
September.....	.70	.70	0	.023	1.4
Calendar year 1966.....	-	5.0	0	.016	12
Water year 1966-67.....	-	5.0	0	.022	16

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

KOEHN LAKE BASIN

10-2647.5. PINE TREE CREEK NEAR MOJAVE, CALIF.

LOCATION.--Lat 35°13'50", long 118°05'05", in SE $\frac{1}{4}$ 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 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 2,700 ft (from topographic map). Prior to Oct. 1, 1961, at datum 3.0 ft higher.

AVERAGE DISCHARGE.--9 years, 0.321 cfs (232 acre-ft per year).

EXTREMES.--Maximum discharge during year, 60 cfs Dec. 6 (gage height, 4.53 ft), on basis of field estimate of maximum flow; no flow all year except Dec. 6, 7.

1958-67: Maximum discharge, about 30,000 cfs Aug. 23, 1961, on basis of field estimate of maximum flow; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: December, 0.2; January, 0.2; September, 0.1; the water year, 0.5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6.....15
7..... 5.8

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	20.8	15	0	0.671	41
Calendar year 1966.....	-	15	0	.057	41
Water year 1966-67.....	-	15	0	.057	41

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

10-2647.7. COTTONWOOD CREEK NEAR CANTIL, CALIF.

LOCATION.--Lat 35°18'50", long 118°02'38", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.30 S., R.36 E., on downstream side of city of Los Angeles aqueduct-siphon pier, 4.3 miles west of Cantil.

DRAINAGE AREA.--163 sq mi.

RECORDS AVAILABLE.--March 1966 to September 1967.

GAGE.--Graphic water-stage recorder and crest-stage gage. Altitude of gage is 2,400 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 876 cfs Dec. 6 (gage height, 2.32 ft), on basis of slope-area measurement of maximum flow; no flow for most of year.

1966-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

Flood of Aug. 8, 1963, 5,150 cfs, result of slope-area measurement.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6.....47
7..... .10
Aug. 8.....11

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	47.10	47	0	1.52	93
August 1967.....	11	11	0	.355	22
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	47	0	.159	115

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

10-2648.7. LITTLE LAKE CREEK NEAR LITTLE LAKE, CALIF.

LOCATION.--Lat 35°57'35", long 117°54'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.23 S., R.38 E., on upstream end of right wingwall of culvert on U.S. Highway 395, 1.5 miles north of Little Lake.

DRAINAGE AREA.--8.60 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage and multiple culvert control. Altitude of gage is 3,260 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 3.4 cfs Dec. 6 (gage height, 2.80 ft, from inside gage); no flow for most of year.
1963-67: Maximum discharge, 7.0 cfs Aug. 4, 1964 (gage height, 2.96 ft), on basis of field estimate of maximum flow; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. At times water is released from Los Angeles aqueduct to creek at site 1.0 mile upstream. Monthly precipitation, in inches, is as follows: November, 0.7; December, 4.6; January, 0.9; April, 0.4; June, 0.2; July, 0.2; the water year, 7.0.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 0.50
Jan. 24..... .30
Apr. 2..... .10
Sept. 19..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	0.50	0.50	0	0.016	1.0
January 1967.....	.30	.30	0	.010	.6
April.....	.10	.10	0	.003	.2
September.....	.10	.10	0	.003	.2
Calendar year 1966.....	-	.50	0	.001	1.0
Water year 1966-67.....	-	.50	0	.003	2.0

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

INDIAN WELLS VALLEY

10-2648.78. NINEMILE CREEK NEAR BROWN, CALIF.

LOCATION.--Lat 35°50'35", long 117°55'35", on left bank 600 ft upstream from Los Angeles aqueduct and 6.4 miles northwest of Brown, Inyo County.

DRAINAGE AREA.--10.4 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,350 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 0.435 cfs (315 acre-ft per year).

EXTREMES.--Maximum discharge during year, 105 cfs Apr. 16 (gage height, 7.60 ft), from rating curve extended above 20 cfs as explained below; no flow for much of year.

1961-67: Maximum discharge, 437 cfs Oct. 17, 1963 (gage height, 6.50 ft), from rating curve extended above 20 cfs on basis of slope-area measurement of maximum flow; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10	0.80	0.50	0.50	0.80	0.30			
2			0	.10	.80	.50	.50	.70	.30			
3			0	.10	.80	.50	.50	.60	.30			
4			0	.10	.80	.50	.50	.50	.30			
5			6.7	.20	.80	.50	.50	.50	.30			
6			32	.20	.70	.40	.40	.40	.20			
7			4.8	.20	.70	.40	.40	.40	.20			
8			.20	.20	.70	.40	.40	.40	.20			
9			0	.20	.70	.40	.40	.40	.20			
10			0	.20	.70	.40	.40	.40	.20			
11			0	.30	.60	.30	.40	.30	.20			
12			0	.30	.60	.30	.40	.30	.20			
13			0	.30	.60	.30	.40	.30	.20			
14			0	.30	.60	.30	1.8	.30	.20			
15			0	.20	.60	.30	22	.30	.10			
16			0	.20	.60	.30	86	.30	.10			
17			0	.20	.60	.30	89	.30	.10			
18			0	.20	.60	.30	39	.30	0			
19			0	.20	.60	.30	17	.30	0			
20			.10	.20	.60	.30	6.8	.30	0			
21			.10	.10	.50	.20	5.4	.30	0			
22			.10	.10	.50	.20	4.4	.30	0			
23			.10	.10	.50	.20	12	.30	0			
24			.10	1.0	.50	.20	16	.30	0			
25			.10	1.5	.50	.20	14	.30	0			
26			.10	1.0	.50	.20	8.3	.30	0			
27			.10	.90	.50	.20	3.8	.30	0			
28			.10	.90	.50	.20	2.4	.30	0			
29			.10	.90	.50	.20	1.6	.30	0			
30			.10	.80	-----	.20	1.0	.30	0			
31		-----	.10	.80	-----	.20	-----	.30	-----			-----
Total	0	0	44.90	12.10	17.50	9.70	338.20	11.40	3.60	0	0	0
Mean	0	0	1.45	0.390	0.625	0.313	11.3	0.364	0.120	0	0	0
Max	0	0	32	1.5	0.80	0.50	89	0.80	0.30	0	0	0
Min	0	0	0	0.10	0.50	0.20	0.40	0.30	0	0	0	0
Ac-ft	0	0	89	24	35	19	671	23	7.1	0	0	0

Cal yr 1966: Total 346.50 Mean 0.949 Max 35 Min 0 Ac-ft 687
Wtr yr 1967: Total 437.40 Mean 1.20 Max 89 Min 0 Ac-ft 854

Peak discharge (base, 10 cfs).--Dec. 6 (1230 hrs) 82 cfs (4.76 ft); Apr. 16 (2200 hrs) 105 cfs (7.60 ft).

10-2652. CONVICT CREEK NEAR MAMMOTH LAKES, CALIF.

LOCATION.--Lat 37°36'30", long 118°50'55", in NE¼ 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 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and wood 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.--42 years, 23.8 cfs (17,230 acre-ft per year).

EXTREMES.--Maximum discharge during year, 270 cfs July 3 (gage height, 3.26 ft); minimum daily, 5.9 cfs Nov.4. 1925-67: Maximum discharge, 290 cfs June 29, 1932 (gage height, 4.43 ft); minimum daily, 1.3 cfs Jan. 10, 1951.

REMARKS.--Some regulation by Convict Lake above station. 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	6.5	12	8.5	16	8.1	12	10	77	193	128	47
2	10	6.5	12	8.5	15	7.6	12	10	64	220	121	47
3	10	6.2	15	8.5	14	6.8	12	10	54	257	113	49
4	10	5.9	12	8.0	13	7.2	12	10	50	250	104	54
5	10	6.5	18	8.0	13	8.1	12	10	47	249	99	57
6	10	7.1	28	8.0	12	7.2	11	10	45	236	95	58
7	10	6.5	24	8.0	11	7.2	12	10	45	227	91	55
8	10	6.5	23	8.0	11	7.2	12	11	46	221	86	51
9	9.5	6.5	23	8.0	10	7.2	12	12	48	206	80	50
10	9.5	6.5	24	8.0	9.8	7.2	11	13	50	190	78	48
11	9.0	6.5	23	8.0	9.4	7.2	11	13	54	175	75	44
12	8.0	6.5	22	8.0	9.0	9.0	11	14	58	165	74	42
13	7.2	6.5	20	7.6	8.5	10	10	14	60	167	73	40
14	7.2	6.5	18	7.6	9.0	12	10	14	62	204	72	39
15	7.5	6.5	17	7.6	10	11	10	14	60	212	71	37
16	7.5	6.8	16	7.2	8.5	16	10	14	61	200	70	37
17	7.5	6.8	15	7.2	8.5	16	10	16	64	194	68	35
18	8.0	7.1	14	7.2	8.5	16	10	18	72	177	66	35
19	7.5	7.1	13	7.2	8.5	16	11	21	85	165	66	35
20	8.0	7.4	12	6.7	8.5	15	11	24	95	157	64	34
21	6.3	7.4	12	11	9.4	15	12	28	107	148	62	34
22	6.3	7.7	12	13	7.6	14	12	32	124	140	61	33
23	6.6	7.7	11	12	7.6	14	12	38	157	136	57	33
24	6.6	7.7	11	16	7.6	13	12	44	160	134	56	32
25	6.9	7.4	11	15	7.6	12	12	57	157	134	55	32
26	6.9	7.4	10	15	7.6	12	11	72	159	136	55	32
27	6.9	7.4	9.6	15	7.6	12	11	76	164	138	54	31
28	6.9	9.5	9.6	15	7.6	12	11	79	170	136	54	31
29	7.2	10	9.1	16		11	11	78	175	132	50	31
30	7.2	12	9.1	16	- - - - -	10	10	75	182	140	49	31
31	7.2	- - - - -	9.1	16	- - - - -	11	- - - - -	97	- - - - -	138	48	- - - - -
Total	251.4	216.6	474.5	315.8	275.8	338.0	336	944	2752	5577	2295	1214
Mean	8.11	7.22	15.3	10.2	9.85	10.9	11.2	30.5	91.7	180	74.0	40.5
Max	10	12	28	16	16	16	12	97	182	257	128	58
Min	6.3	5.9	9.1	6.7	7.6	6.8	10	45	45	132	48	31
Ac-ft	499	430	941	626	547	670	666	1870	5460	11060	4550	2410

Cal yr 1966: Total 7,176.3 Mean 19.7 Max 69 Min 5.9 Ac-ft 14,230
Wtr yr 1967: Total 14,990.1 Mean 41.1 Max 257 Min 5.9 Ac-ft 29,730

10-2657. ROCK CREEK AT LITTLE ROUND VALLEY, NEAR BISHOP, CALIF.

LOCATION.--Lat 37°33'10", long 118°41'00", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.32, T.4 S., R.30 E., on right bank just upstream from diversion to Little Round Valley, 0.6 mile south of Toms Place, and 20 miles northwest of Bishop.

DRAINAGE AREA.--35.8 sq mi.

RECORDS AVAILABLE.--January to December 1918, January 1920 to September 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder. Parshall flume since May 1953. Altitude of gage is 7,450 ft (from topographic map). Prior to May 24, 1926, staff gage at same site at different datums. May 24, 1926, to May 28, 1953, water-stage recorder at same site at different datums.

AVERAGE DISCHARGE.--47 years (1920-67), 29.9 cfs (21,650 acre-ft per year).

EXTREMES.--Maximum discharge during year, 266 cfs July 3 (gage height, 4.50 ft); minimum daily, 7.9 cfs Nov. 24, 25.

1926-67: Maximum discharge, 270 cfs July 26, 1952 (gage height, 2.93 ft, datum then in use); minimum daily, 3.2 cfs Mar. 11, 1926.

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	8.5	13	11	12	11	11	12	96	222	112	44
2	9.3	8.5	13	11	14	11	10	11	84	241	106	45
3	9.3	8.6	15	11	14	11	11	10	77	251	102	46
4	9.3	8.6	16	10	15	12	9.8	11	77	224	98	46
5	9.3	8.7	17	10	12	16	11	11	80	206	98	47
6	9.3	8.8	26	13	12	15	11	12	81	182	93	48
7	9.3	8.9	20	11	12	12	10	13	87	171	87	46
8	9.3	8.9	16	11	12	10	10	16	98	167	77	42
9	9.3	9.0	16	11	12	9.9	10	17	108	146	68	38
10	9.3	9.1	15	11	12	9.9	10	16	112	133	70	36
11	9.3	9.2	16	12	11	10	10	15	119	125	66	35
12	9.3	9.3	16	13	12	10	11	15	123	128	62	31
13	9.3	9.5	15	13	11	10	10	15	123	139	61	30
14	9.0	9.6	15	13	11	11	11	16	112	150	66	29
15	9.0	9.7	14	13	10	12	10	19	109	166	68	28
16	9.0	9.8	14	13	10	15	12	23	116	175	67	26
17	9.0	9.5	14	13	13	13	10	29	130	154	66	26
18	8.7	9.3	13	12	11	12	10	35	150	146	62	28
19	8.7	9.7	13	13	11	12	10	43	169	130	59	30
20	8.5	12	13	13	9.9	11	11	52	161	123	54	28
21	8.5	10	13	12	12	11	10	55	170	116	52	26
22	8.5	11	13	12	14	10	10	80	192	111	49	26
23	8.5	10	12	13	14	10	11	110	185	110	46	26
24	8.5	7.9	12	10	11	10	9.8	130	184	105	45	27
25	8.5	7.9	12	13	11	10	11	142	185	103	46	27
26	8.5	11	12	14	9.9	10	11	155	184	106	44	29
27	8.5	12	12	14	12	10	11	156	188	110	44	26
28	8.5	16	12	13	11	11	11	150	186	109	44	26
29	8.5	14	12	13		11	11	141	187	122	43	25
30	8.5	13	11	13	- - - - -	11	12	131	203	125	43	26
31	8.5	- - - - -	11	13	- - - - -	10	- - - - -	118	- - - - -	115	43	- - - - -
Total	276.3	298.0	442	378	331.8	347.8	316.6	1,759	4,076	4,631	2,041	993
Mean	8.91	9.93	14.3	12.2	11.8	11.2	10.6	57.1	136	149	65.8	33.1
Max	9.3	16	26	14	15	16	12	156	203	251	112	48
Min	8.5	7.9	11	10	9.9	9.9	9.8	10	77	103	43	25
Ac-ft	548	591	877	750	658	690	628	3,510	3,080	9,190	4,050	1,970

Cal yr 1966: Total 6,695.2 Mean 18.3 Max 58 Min 7.9 Ac-ft 13,280
Wtr yr 1967: Total 15,900.5 Mean 43.6 Max 251 Min 7.9 Ac-ft 31,540

OWENS LAKE BASIN

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10-2670. PINE CREEK AT DIVISION BOX, NEAR BISHOP, CALIF.

LOCATION.--Lat 37°25'00", long 118°37'15", in NW¼ 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 1967. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder. Parshall flume since November 1938. Altitude of gage is 5,280 ft (from topographic map).

AVERAGE DISCHARGE.--46 years, 44.1 cfs (31,930 acre-ft per year).

EXTREMES.--Maximum discharge during year, 509 cfs July 2 (gage height, 6.05 ft); minimum daily, 14 cfs Nov. 4, 6. 1921-67: Maximum discharge, that of July 2, 1967; minimum daily, 10 cfs Jan. 8, 1930, Jan. 21, 1935.

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	15	19	22	19	22	19	22	66	374	200	76
2	21	16	22	22	19	22	19	23	59	385	194	76
3	20	15	22	22	19	22	19	24	54	424	184	76
4	20	14	21	21	19	22	20	24	71	385	177	89
5	21	15	28	21	19	22	20	24	72	364	174	91
6	21	14	35	21	19	22	21	24	77	323	168	81
7	19	17	28	21	19	22	20	25	92	315	150	76
8	18	16	27	20	19	22	20	27	107	333	135	72
9	17	16	27	20	19	22	21	31	120	237	128	71
10	16	16	29	19	19	22	21	30	126	215	127	67
11	16	16	28	19	19	22	21	30	141	225	128	62
12	17	16	27	20	19	24	21	30	150	254	128	59
13	18	16	27	20	19	24	21	29	145	305	133	58
14	16	15	27	19	19	24	21	29	123	318	141	56
15	15	15	26	19	19	24	21	31	138	318	128	55
16	17	16	26	19	19	29	21	36	164	278	117	53
17	16	16	25	19	18	26	21	42	181	268	114	51
18	16	16	25	19	18	25	21	52	217	245	110	56
19	16	17	25	19	18	25	21	60	230	246	108	59
20	15	19	24	19	17	25	21	70	185	230	104	60
21	15	18	24	21	18	25	21	96	255	214	100	56
22	15	17	24	19	19	24	21	114	269	217	96	56
23	15	17	24	18	20	24	21	142	240	210	92	55
24	16	17	24	19	20	24	21	162	243	214	94	55
25	19	17	23	19	21	24	21	164	262	230	92	55
26	21	17	24	19	21	24	21	158	281	241	91	56
27	20	17	24	19	21	24	22	147	284	228	87	56
28	18	21	23	19	21	22	22	131	296	224	83	55
29	17	18	23	19	21	21	22	121	324	247	80	54
30	17	18	23	19	20	22	22	108	359	227	77	55
31	19	22	22	19	20	20	20	91	215	215	76	55
Total	550	493	776	611	536	720	624	2,097	5,341	3,509	3,816	1,897
Mean	17.7	16.4	25.0	19.7	19.1	23.2	20.8	67.6	178	274	123	63.2
Max	23	21	35	22	21	29	22	154	359	424	200	91
Min	15	14	19	18	17	20	19	22	59	210	76	51
Ac-ft	1,090	978	1,540	1,210	1,050	1,430	1,240	4,160	10,590	10,880	7,570	3,760

Cal yr 1966: Total 14,497 Mean 39.7 Max 143 Min 14 Ac-ft 23,750
Wtr yr 1967: Total 25,970 Mean 71.2 Max 424 Min 14 Ac-ft 51,510

OWENS LAKE BASIN

10-2687. SILVER CANYON CREEK NEAR LAWS, CALIF.

LOCATION.--Lat 37°24'15", long 118°18'30", in NW¼ sec.25, T.6 S., R.33 E., on right bank at mouth of canyon, 2.0 miles east of Laws.

DRAINAGE AREA.--22.4 sq mi.

RECORDS AVAILABLE.--March 1930 to September 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and Parshall flume (Cipolletti weir used Oct. 1 to Sept. 30). Altitude of gage is 4,600 ft (from topographic map). Prior to Feb. 24, 1943, staff gage and Cipolletti weir at site 1.5 miles downstream at different datum.

AVERAGE DISCHARGE.--37 years, 1.54 cfs (1,110 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4.0 cfs Dec. 6 (gage height, 1.12 ft); minimum daily, 0.6 cfs Oct. 28. 1930-67: Maximum discharge, 8.4 cfs Oct. 19, 1958 (gage height, 1.63 ft); no flow at times in some years.

REMARKS.--No regulation; occasional 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.3	1.4	1.6	1.5	1.4	1.0	1.2	1.7	1.9	1.9	1.8
2	1.2	1.4	1.5	1.6	1.5	1.4	1.0	1.2	1.8	2.0	1.9	1.9
3	1.3	1.4	1.5	1.6	1.5	1.4	1.0	1.2	1.8	1.9	1.9	1.9
4	1.3	1.4	1.5	1.6	1.5	1.5	1.0	1.2	1.9	2.0	1.9	1.9
5	.90	1.4	1.8	1.6	1.5	1.6	1.0	1.2	1.9	2.0	1.8	1.9
6	.80	1.4	2.9	1.6	1.5	1.4	1.0	1.2	1.9	2.0	1.9	1.8
7	1.2	1.4	2.1	1.6	1.5	1.4	1.0	1.2	2.0	2.0	1.9	1.8
8	1.2	1.4	2.0	1.6	1.5	1.4	1.0	1.2	2.0	2.0	1.9	1.8
9	1.3	1.4	2.0	1.6	1.5	1.3	1.0	1.2	2.1	2.0	1.9	1.8
10	1.3	1.4	1.9	1.6	1.5	1.2	1.0	1.2	2.1	2.0	1.9	1.8
11	1.3	1.4	1.8	1.6	1.5	1.1	1.0	1.3	2.1	1.9	1.9	1.8
12	1.3	1.6	1.8	1.6	1.5	1.0	1.1	1.3	2.1	1.9	1.8	1.8
13	1.3	1.7	1.8	1.6	1.5	1.0	1.1	1.3	2.1	2.0	1.8	1.8
14	1.3	1.4	1.7	1.6	1.5	1.1	1.1	1.3	2.1	2.0	1.9	1.8
15	1.3	1.4	1.7	1.6	1.5	1.1	1.1	1.3	2.1	2.0	1.9	1.8
16	1.3	1.4	1.6	1.6	1.5	1.1	1.1	1.3	2.1	1.9	1.9	1.8
17	1.3	1.4	1.6	1.6	1.5	1.1	1.1	1.3	2.1	1.9	1.9	1.8
18	1.3	1.4	1.6	1.6	1.5	1.1	1.1	1.4	2.1	1.9	1.9	1.9
19	1.3	1.4	1.6	1.6	1.5	1.1	1.1	1.4	2.1	1.9	1.8	1.9
20	1.3	1.4	1.6	1.6	1.5	1.0	1.1	1.4	2.0	1.8	1.8	1.8
21	1.3	1.4	1.6	1.6	1.5	1.0	1.2	1.4	2.0	1.8	1.8	1.9
22	1.3	1.4	1.6	1.6	1.5	1.0	1.2	1.4	2.0	1.8	1.8	1.9
23	1.3	1.4	1.6	1.6	1.5	1.0	1.2	1.4	2.0	1.8	1.9	1.9
24	1.3	1.4	1.6	1.6	1.5	1.0	1.1	1.4	2.0	1.8	1.9	1.9
25	1.3	1.4	1.6	1.6	1.5	1.0	1.0	1.5	2.0	1.8	1.8	1.9
26	1.3	1.4	1.6	1.5	1.4	1.0	1.0	1.5	2.0	1.8	1.8	1.9
27	.90	1.4	1.6	1.5	1.4	1.0	1.0	1.4	2.0	1.8	1.8	1.9
28	.60	1.4	1.6	1.5	1.4	1.0	1.0	1.2	2.0	1.9	1.8	1.8
29	1.3	1.4	1.6	1.5	1.5	1.0	1.1	1.5	2.0	2.0	1.8	1.8
30	1.3	1.4	1.6	1.5	1.5	1.0	1.2	1.6	2.0	1.9	1.8	1.8
31	1.3	- - - -	1.6	1.5	1.5	1.0	- - - -	1.7	- - - -	1.9	1.8	- - - -
Total	37.90	42.4	53.0	49.0	41.7	35.7	31.9	41.3	50.1	59.3	57.5	55.4
Mean	1.22	1.41	1.71	1.58	1.49	1.15	1.06	1.33	2.00	1.91	1.85	1.85
Max	1.3	1.7	2.9	1.6	1.5	1.6	1.2	1.7	2.1	2.0	1.9	2.0
Min	0.60	1.3	1.4	1.5	1.4	1.0	1.0	1.2	1.7	1.8	1.8	1.8
Ac-ft	75	84	105	97	83	71	63	82	119	118	114	110

Cal yr 1966: Total 516.90 Mean 1.42 Max 2.9 Min 0.60 Ac-ft 1,030
Wtr yr 1967: Total 565.20 Mean 1.55 Max 2.9 Min 0.60 Ac-ft 1,120

OWENS LAKE BASIN

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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 1967; combined records of creek and diversions, June 1930 to September 1967. Monthly discharge only for some periods, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and Parshall flume since April 1949 on creek; graphic water-stage recorder and Parshall flume on each diversion. Altitude of gage is 4,550 ft (from topographic map). Prior to January 1923, staff gage at same site and datum.

AVERAGE COMBINED DISCHARGE.--37 years (1930-67), 40.5 cfs (29,320 acre-ft per year), including diversion to upper and lower Giroux ditches.

EXTREMES (creek only).--Maximum discharge during year, 333 cfs July 5 (gage height, 5.2 ft, flume tapped); minimum daily, 11 cfs Mar. 2, Apr. 30, May 1, 12-13.

1907-11, 1920-67: Maximum discharge, 458 cfs July 3, 1932 (gage height, 6.55 ft); no flow Dec. 3-12, 1935.

(combined).--Maximum discharge during year, 339 cfs July 5; minimum daily, 13 cfs Mar. 2.

1907-11, 1920-67: Maximum discharge, 458 cfs July 3, 1932; minimum daily, 6.4 cfs Dec. 11, 12, 1935.

REMARKS.--No regulation above station. Diversions above station for power and irrigation. Since 1962 discharge from Little Pine Creek has been spread in nearby meadows and does not reach gage as surface flow; 1,660 acre-ft was spread during year. For records of combined discharge of Big Pine Creek and Giroux ditches which divert above station, 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	15	16	15	15	13	12	11	58	285	189	75
2	21	15	19	15	15	11	13	12	51	297	188	70
3	21	15	19	15	15	13	13	12	48	310	175	66
4	20	15	17	15	15	13	13	12	48	311	170	93
5	20	15	39	14	15	12	12	13	49	298	160	87
6	19	15	48	15	14	13	12	13	49	262	144	75
7	18	15	21	14	14	13	13	14	51	261	129	67
8	18	15	22	14	14	13	13	16	57	230	116	67
9	18	14	22	14	14	13	12	15	63	198	110	66
10	18	14	22	14	14	13	12	13	65	171	108	60
11	18	14	21	14	14	13	12	12	70	171	112	51
12	17	14	20	14	14	14	12	11	74	188	117	50
13	16	14	19	14	15	14	13	11	71	210	118	49
14	16	14	18	14	15	14	13	12	63	216	122	47
15	16	14	17	15	14	14	12	14	68	253	109	44
16	16	14	17	15	14	20	12	16	87	230	99	41
17	16	14	17	15	14	16	12	21	89	217	102	38
18	15	14	16	14	14	15	12	27	109	196	103	42
19	15	14	16	14	14	14	12	32	136	193	100	45
20	15	14	16	14	13	14	12	37	118	176	97	44
21	15	15	16	17	13	13	12	45	144	167	98	40
22	15	15	16	16	14	13	13	53	188	182	90	37
23	15	15	16	16	14	13	12	64	172	176	84	35
24	15	15	16	13	14	13	12	73	179	175	84	36
25	15	14	15	15	13	12	12	81	191	171	89	32
26	15	15	15	17	13	12	12	81	204	188	80	32
27	16	15	15	17	13	13	12	81	216	188	77	33
28	16	20	15	15	13	13	12	77	223	188	74	35
29	15	21	15	15		12	12	73	250	174	66	32
30	15	17	15	16	-----	12	11	69	257	185	65	32
31	15	-----	15	17	-----	12	-----	67	-----	182	70	-----
Total	519	450	591	462	393	413	367	1,088	3,448	6,649	3,445	1,521
Mean	16.7	15.0	19.1	14.9	14.0	13.3	12.2	35.1	115	214	111	50.7
Max	21	20	48	17	15	20	13	81	257	311	189	93
Min	15	14	15	13	13	11	11	11	48	167	65	32
Ac-ft	1,030	893	1,170	916	780	819	728	2,160	6,840	13,190	6,830	3,020

Cal yr 1966: Total 9,806 Mean 26.9 Max 86 Min 10 Ac-ft 19,450

Wtr yr 1967: Total 19,346 Mean 53.0 Max 311 Min 11 Ac-ft 33,370

OWENS LAKE BASIN

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

Combined discharge, in cubic feet per second, of Big Pine Creek and upper and lower Giroux ditches,
near Big Pine, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	17	18	17	16	16	15	14	66	294	198	84
2	24	17	21	17	16	13	16	15	58	305	198	79
3	24	17	21	17	16	16	16	15	56	317	184	75
4	23	17	19	17	16	16	16	15	56	318	180	101
5	23	17	40	16	16	15	15	16	57	304	170	96
6	22	17	48	17	16	16	15	16	56	272	154	84
7	21	17	21	16	17	16	16	17	61	270	138	76
8	21	17	22	16	17	16	16	19	57	239	126	76
9	21	16	22	16	17	16	15	21	72	207	120	75
10	21	16	22	16	17	16	15	21	74	180	117	69
11	21	16	21	16	17	16	15	20	79	180	121	60
12	20	16	20	16	17	17	15	19	83	197	126	58
13	19	16	20	16	18	17	16	19	80	219	127	57
14	19	16	19	16	18	17	16	20	72	225	131	55
15	19	16	18	16	17	17	15	22	77	262	118	52
16	19	16	18	16	17	23	15	24	96	238	108	49
17	19	16	18	16	17	19	15	29	98	225	111	46
18	18	16	17	16	17	18	15	35	118	206	112	50
19	18	16	17	16	17	17	15	41	145	202	109	54
20	18	16	17	16	16	17	15	46	126	182	106	53
21	18	17	17	19	16	16	15	54	153	177	107	49
22	18	17	17	17	17	16	16	62	197	192	99	46
23	17	17	17	17	17	16	15	73	180	186	93	44
24	17	17	17	14	17	16	15	82	187	185	93	45
25	17	16	17	16	16	15	15	90	199	181	98	40
26	17	17	17	18	16	15	15	90	212	198	89	40
27	18	17	17	18	16	16	15	89	224	198	86	42
28	18	22	17	16	16	16	15	85	231	198	83	44
29	17	23	17	16	17	15	15	81	257	184	75	40
30	17	19	17	17	- - - - -	15	14	76	266	195	74	40
31	17	- - - - -	17	18	- - - - -	15	- - - - -	74	- - - - -	192	79	- - - - -
Total	605	510	626	511	466	505	457	1,300	3,703	6,928	5,730	1,779
Mean	19.5	17.0	20.2	16.5	16.6	16.3	15.2	41.9	123	223	120	59.3
Max	24	23	48	19	18	23	16	90	266	318	198	101
Min	17	16	17	14	16	13	14	14	56	177	74	40
Ac-ft	1,200	1,010	1,240	1,010	924	1,000	906	2,580	7,340	13,740	7,400	3,530
Cal yr 1966: Total	12,401			34.0		101			24,600			
Wtr yr 1967: Total	21,120			Mean 57.9		Max 318		Min 13	Ac-ft 41,890			

OWENS LAKE BASIN

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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 1967. Monthly discharge only for some periods, published in WSP 1314. Published as "near Tinemaha" prior to 1912.

GAGE.--Graphic water-stage recorder and rock control since October 1958. Altitude of gage is 3,800 ft (from topographic map). Prior to Oct. 8, 1922, staff gage at same site and datum.

EXTREMES.--Maximum daily discharge during year, 910 cfs Aug. 1; minimum daily, 10 cfs Dec. 21.
1906-67: 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.--Flow regulated since 1941 by Lake Crowley (capacity, 183,500 acre-ft), and several small reservoirs (combined capacity, 41,400 acre-ft). Diversions from both main stream and tributaries. 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	463	308	458	519	496	549	224	549	449	354	910	634
2	365	353	462	522	519	551	512	545	484	312	897	633
3	303	395	495	526	543	552	517	547	483	330	894	620
4	280	404	508	538	541	551	516	543	472	359	894	594
5	271	407	480	570	542	550	515	542	367	381	895	594
6	259	410	230	569	542	549	510	542	357	432	895	609
7	247	413	48	569	542	550	509	537	351	452	894	617
8	257	419	30	571	539	545	528	516	337	494	873	617
9	251	419	127	574	538	543	548	503	318	495	870	600
10	247	428	221	577	536	545	549	243	326	522	828	573
11	248	428	219	570	539	547	550	203	348	566	828	561
12	247	430	134	581	539	546	548	446	359	598	826	548
13	242	430	37	594	539	546	541	486	353	630	822	563
14	241	430	30	595	541	546	538	489	328	658	817	535
15	252	430	26	599	540	546	536	522	319	691	826	510
16	246	434	24	595	540	542	523	557	321	658	778	498
17	247	434	20	598	541	543	513	557	342	643	768	498
18	256	435	16	600	543	543	511	556	360	633	721	500
19	253	435	13	600	543	545	514	519	395	650	717	516
20	258	439	11	601	545	546	535	478	416	715	721	395
21	295	439	10	513	543	545	553	476	412	734	724	57
22	309	439	107	422	541	542	552	460	427	767	724	35
23	318	439	219	493	543	325	553	460	418	774	756	28
24	316	439	220	552	545	54	552	431	416	786	750	24
25	314	439	221	467	549	40	553	330	417	825	750	20
26	314	441	220	467	546	30	552	321	397	841	762	47
27	316	441	323	487	547	25	550	318	373	873	762	88
28	323	446	419	516	549	25	547	319	371	880	763	86
29	323	446	467	515		25	549	357	370	895	760	109
30	322	450	505	466	- - - -	25	552	410	364	891	732	157
31	320	- - - -	506	378	- - - -	25	- - - -	413	- - - -	893	659	- - - -
Total	8,903	12,700	6,806	16,744	15,111	12,596	15,750	14,175	11,450	19,732	24,846	11,856
Mean	287	423	220	540	540	406	525	457	382	637	801	396
Max	463	450	508	601	549	552	553	557	484	895	910	634
Min	241	308	10	378	496	25	224	203	318	312	659	20
Ac-ft	17,650	25,190	13,500	33,210	29,970	24,980	31,240	28,120	22,710	39,140	49,280	23,540
Cal yr 1966: Total	153,841		Mean 435	Max 524	Min 10		Ac-ft 315,100					
Wtr yr 1967: Total	170,679		Mean 468	Max 910	Min 10		Ac-ft 332,500					

OWENS LAKE BASIN

10-2818. INDEPENDENCE CREEK BELOW PINYON CREEK, NEAR INDEPENDENCE, CALIF.

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.

DRAINAGE AREA.--18.2 sq mi.

RECORDS AVAILABLE.--January 1923 to September 1967. Prior to October 1959, monthly discharge only, published in WSP 1734.

GAGE.--Graphic water-stage recorder and Parshall flume (Cipolletti weir used during low flow each year).

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

AVERAGE DISCHARGE.--44 years, 12.7 cfs (9,190 acre-ft per year).

EXTREMES.--Maximum discharge during year, 119 cfs July 4 (gage height, 3.57 ft); minimum daily, 2.2 cfs Oct. 21, 1923-67; Maximum discharge, 138 cfs June 21, 1963 (gage height, 3.98 ft); minimum daily, 0.7 cfs Jan. 25, 1926, Dec. 15, 1935.

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	2.6	3.4	3.2	6.3	6.0	6.8	5.2	39	104	42	15
2	3.1	2.6	4.4	3.0	6.0	6.0	7.1	5.2	35	108	43	15
3	2.9	2.6	5.7	3.7	5.9	6.2	7.0	5.2	31	114	40	15
4	2.9	2.6	4.4	4.2	5.8	6.2	6.7	5.5	30	115	38	15
5	3.1	2.6	18	4.1	5.8	6.2	6.4	5.9	29	110	37	15
6	3.1	2.6	34	4.1	5.8	6.0	6.1	5.5	29	102	33	15
7	2.9	2.8	12	4.1	5.8	6.0	5.9	5.9	31	102	30	14
8	2.9	2.8	12	4.1	5.9	6.0	5.9	7.2	35	90	28	13
9	2.8	2.8	9.0	4.1	5.9	6.2	5.7	8.7	40	78	25	13
10	2.5	2.8	7.0	4.1	5.9	6.2	5.5	8.7	44	71	23	12
11	2.6	2.8	5.4	3.9	5.9	6.2	5.5	8.7	47	66	20	11
12	2.5	2.8	4.8	3.9	6.0	6.2	5.5	8.7	49	67	20	12
13	2.3	2.6	4.5	4.0	6.0	6.3	5.5	8.9	49	72	20	13
14	2.4	2.6	4.1	4.0	6.6	6.3	5.5	9.3	47	74	21	13
15	2.5	2.6	3.9	4.0	7.0	6.3	5.5	10	47	70	22	13
16	2.5	2.6	3.7	3.9	6.6	7.0	5.5	13	50	69	21	13
17	2.5	2.6	3.6	4.0	6.6	7.1	5.5	16	50	68	21	13
18	2.5	2.5	3.6	4.1	6.6	6.8	5.5	20	52	60	20	15
19	2.4	2.6	3.5	4.1	6.4	6.7	5.5	25	60	56	20	16
20	2.3	4.0	3.5	4.2	6.4	6.7	5.5	30	56	54	20	15
21	2.2	3.2	3.4	6.4	6.7	6.7	5.5	37	62	51	19	15
22	2.4	3.0	3.4	6.2	6.4	7.0	5.5	43	73	50	18	15
23	2.3	2.8	3.4	5.5	6.3	7.1	5.4	48	78	48	18	14
24	2.3	2.8	3.4	4.1	6.3	7.0	5.4	54	79	47	17	14
25	2.4	2.6	3.4	5.7	6.2	6.8	5.4	60	82	47	17	14
26	2.6	2.8	3.2	5.7	6.2	6.8	5.4	62	84	47	16	13
27	2.6	2.8	3.2	5.7	6.0	6.7	5.4	58	92	46	15	13
28	2.6	4.4	3.2	5.4	6.0	6.8	5.4	53	92	45	14	14
29	2.6	4.5	3.4	5.5	5.8	6.8	5.4	50	97	43	14	14
30	2.5	3.7	3.2	6.7	- - - -	6.8	5.2	48	101	42	15	13
31	2.4	- - - -	3.2	7.0	- - - -	7.0	- - - -	44	- - - -	40	15	- - - -
Total	80.7	87.1	186.9	142.7	173.3	202.1	172.1	769.6	1,690	2,156	722	415
Mean	2.60	2.90	6.03	4.60	6.19	6.52	5.74	24.8	56.3	69.5	23.3	13.8
Max	3.1	4.5	34	7.0	7.0	7.1	7.1	62	101	115	43	16
Min	2.2	2.5	3.2	3.0	5.8	6.0	5.2	29	29	40	14	11
Ac-ft	160	173	371	283	344	401	341	1,530	3,350	4,280	1,430	823

Cal yr 1966: Total 2,672.9 Mean 7.32 Max 34 Min 2.2 Ac-ft 5,300
 Wtr yr 1967: Total 6,797.5 Mean 18.6 Max 115 Min 2.2 Ac-ft 13,480

10-2824.8. MAZOURKA CREEK NEAR INDEPENDENCE, CALIF.

LOCATION.--Lat 36°50'50", long 118°05'05", in NE¼ lot 11, N½ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 4,800 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.090 cfs (65 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,300 cfs Dec. 6 (gage height, 2.46 ft from inside gage, 3.10 ft from profile of floodmarks), from rating curve extended above 1 cfs on basis of slope-area measurement of maximum flow; no flow for most of year.

1960-67: Maximum discharge, that of Dec. 6, 1966; no flow for all or most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 5..... 2.7
6.....227
7..... 1.0

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	230.7	227	0	7.44	458
Calendar year 1966.....	-	227	0	.632	458
Water year 1966-67.....	-	227	0	.632	458

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

OWENS LAKE BASIN

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 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and 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 Cipolletti weir, all at present site at different datum. Feb. 14, 1935, to Nov. 22, 1964, graphic water-stage recorder and Cipolletti weir at same site and datum. Nov. 23, 1964, to June 26, 1967, staff gage and Cipolletti weir at same site and datum.

EXTREMES.--Maximum daily discharge during year, 500 cfs (estimated) Dec. 7, 8; minimum daily, 0.6 cfs July 28. 1927-67: 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 discharge from basin is diverted through Los Angeles aqueduct. Discharge reported herein 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	3.1	4.4	16	14	11	15	8.4	4.4	1.6	5.8	10
2	1.8	3.2	4.5	15	14	11	15	8.3	4.2	1.4	7.6	11
3	1.8	3.2	4.5	15	14	11	15	8.3	4.1	1.4	12	12
4	1.8	3.2	4.5	14	14	11	15	8.2	4.1	1.4	14	12
5	1.8	3.2	4.5	13	13	11	15	8.2	4.0	1.4	13	13
6	1.8	3.2	250	12	13	11	15	8.1	3.9	1.6	13	13
7	1.8	3.1	500	12	13	11	14	8.0	3.8	1.6	12	13
8	1.8	3.1	500	12	13	11	14	7.9	3.8	1.6	13	12
9	1.8	3.0	150	12	13	11	14	7.8	3.7	1.4	20	11
10	1.8	3.1	150	12	13	11	13	7.8	3.6	1.4	24	11
11	1.9	3.2	150	12	13	11	13	7.7	3.4	1.2	22	11
12	1.9	3.3	133	12	12	11	12	7.6	3.3	1.2	24	11
13	1.9	3.4	116	12	12	11	12	7.6	3.2	1.2	29	11
14	2.0	3.5	99	12	12	10	12	7.7	3.0	1.2	25	10
15	2.0	3.6	82	12	12	10	11	7.7	2.9	1.2	21	10
16	2.0	3.7	65	12	12	10	11	7.7	2.8	1.4	18	9.8
17	2.0	3.7	62	12	12	10	11	7.8	2.8	1.6	16	9.8
18	2.0	3.7	58	12	12	10	11	7.8	2.8	1.4	14	12
19	2.0	3.7	55	12	12	10	11	7.9	2.9	1.2	13	13
20	2.0	3.8	52	12	12	9.9	10	7.6	2.9	1.1	12	12
21	2.0	3.8	48	12	12	9.8	10	7.2	3.0	1.1	12	11
22	2.1	3.8	45	12	11	9.7	9.9	6.9	3.0	1.1	12	9.5
23	2.3	3.9	41	12	11	9.6	9.7	6.5	3.0	.90	11	9.5
24	2.4	3.9	38	13	11	9.5	9.5	6.2	2.8	.90	11	12
25	2.6	4.0	35	13	11	10	9.2	5.9	2.5	.80	9.8	23
26	2.7	4.0	31	13	11	11	9.0	5.5	2.2	.80	9.8	21
27	2.9	4.1	28	14	11	12	8.8	5.3	2.0	.80	9.5	17
28	3.0	4.2	24	14	11	13	8.5	5.2	1.8	.60	10	14
29	3.0	4.2	21	14		13	8.5	5.0	1.8	.80	12	13
30	3.1	4.3	18	14	- - - - -	14	8.4	4.8	1.6	2.2	12	12
31	3.1	- - - - -	17	14	- - - - -	15	- - - - -	4.6	- - - - -	4.7	12	- - - - -
Total	66.9	107.2	2,790.4	398	344	339.5	350.5	221.2	93.3	42.20	449.5	369.6
Mean	2.16	3.57	90.0	12.8	12.3	11.0	11.7	7.14	3.11	1.36	14.5	12.3
Max	3.1	4.3	500	16	14	15	15	8.4	4.4	4.7	29	23
Min	1.8	3.0	4.4	12	11	9.5	8.4	4.6	1.6	0.60	5.8	9.5
Ac-ft	133	213	5,530	789	682	673	695	439	185	84	892	733

Cal yr 1966: Total 3,945.90 Mean 10.8 Max 500 Min 0 Ac-ft 7,830
 Wtr yr 1967: Total 5,572.30 Mean 15.3 Max 500 Min 0.60 Ac-ft 11,050

OWENS LAKE BASIN

95

10-2860. COTTONWOOD CREEK NEAR OLANCHA, CALIF.

LOCATION.--Lat 36°26'20", long 118°04'40", in Inyo National Forest, just downstream from intake to Cottonwood powerhouse, and 11.2 miles north of Olancho, Inyo County.

DRAINAGE AREA.--39.9 sq mi.

RECORDS AVAILABLE.--January 1906 to March 1911, January 1914 to September 1967; combined records of creek and flow through powerhouse, November 1938 to September 1967. January 1914 to September 1959 monthly discharge only, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and Parshall flume (Cipolletti weir used during low flow each year) on creek; graphic water-stage and Cipolletti weir on powerhouse diversion. Altitude of gage is 4,660 ft (from topographic map). 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, graphic water-stage recorder, at site just upstream from intake to Cottonwood powerhouse at different datum.

AVERAGE COMBINED DISCHARGE.--57 years (1906-10, 1914-67), 22.3 cfs (16,140 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 276 cfs May 26 (gage height, 5.22 ft); no flow Oct. 19-21.

1906-11, 1914-67: Maximum discharge observed, 434 cfs June 13, 1906 (discharge measurement); no flow for some days in 1959, 1961, 1964, 1966.

(combined).--Maximum discharge during year, 276 cfs May 26; minimum daily, 3.9 cfs Oct. 1.

1906-11, 1914-67: Maximum discharge observed, 434 cfs June 13, 1906; minimum daily, 1.0 cfs July 22, 23, 1961.

REMARKS.--No regulation above station. Cottonwood powerhouse (maximum capacity, 22 cfs) has diverted since Nov. 13, 1908. 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	0.20	0.10	2.1	0.20	0.20	0.10	141	150	41	8.0
2	.10	.10	.20	.10	1.6	.40	.20	.10	128	148	36	13.0
3	.10	.10	.20	.40	1.3	.90	.20	.10	132	137	34	9.8
4	.10	.10	.10	.40	.90	1.4	.20	.10	129	124	32	18
5	.10	.10	9.6	.30	.80	1.2	.20	.10	124	135	28	16
6	.10	.20	45	.20	.80	1.2	.20	.10	122	154	33	8.7
7	.10	.20	29	.20	.90	.90	.20	.10	140	130	29	8.2
8	.10	.20	19	.20	.90	1.1	.20	.30	145	111	24	11
9	.10	.20	14	.20	.90	1.2	.20	4.0	156	98	24	6.2
10	.10	.10	11	.20	1.1	1.4	.20	5.2	165	93	24	4.1
11	.10	.10	8.6	.20	1.3	1.6	.20	6.7	168	88	20	3.0
12	.10	.10	7.1	.10	1.9	1.9	.20	8.0	183	91	21	2.5
13	.10	.10	5.5	.10	2.3	2.0	.20	10	175	100	26	1.9
14	.10	.10	4.3	.10	2.4	2.3	.20	12	160	100	22	1.7
15	.10	.10	4.5	.10	1.7	2.4	.20	19	169	107	20	1.4
16	.10	.10	13	.10	2.7	1.2	.20	42	152	106	29	1.1
17	.10	.10	21	.10	2.3	.20	.20	58	153	94	22	1.3
18	.10	.10	13	.10	1.8	.20	.20	65	165	86	16	4.8
19	0	.10	7.7	.10	1.6	.20	.20	76	163	78	14	20
20	0	.10	6.1	.10	1.6	.20	.20	85	159	74	14	12
21	0	.10	4.5	.10	1.6	.20	.10	90	160	67	13	7.7
22	.10	.10	3.2	.20	1.4	.20	.10	124	158	64	10	6.4
23	.10	.10	2.3	.20	1.3	.20	.10	195	163	63	9.4	7.4
24	.10	.10	1.8	.20	1.4	.20	.10	222	160	50	10	13
25	.10	.10	1.7	.10	1.7	.20	.10	235	160	66	11	8.1
26	.10	.10	1.1	1.0	1.6	.20	.10	229	164	50	9.8	6.0
27	.10	.10	.80	2.6	1.5	.20	.10	216	166	47	7.3	4.2
28	.10	1.4	1.2	3.3	1.1	10	.10	218	167	53	5.6	7.2
29	.10	1.4	1.7	2.6		12	.10	194	176	54	4.7	8.6
30	.10	.20	1.7	2.3	-----	6.9	.10	180	176	54	5.4	6.3
31	.10	-----	.60	2.3	-----	.20	-----	167	-----	46	8.4	-----
Total	2.80	6.10	239.70	18.30	42.50	52.60	5.00	2,461.90	4,679	2,838	603.6	227.6
Mean	0.090	0.203	7.73	0.590	1.52	1.70	0.157	79.4	156	91.5	19.5	7.59
Max	0.10	1.4	45	3.3	2.7	12	0.20	235	183	150	41	20
Min	0	0.10	0.10	0.10	0.80	0.20	0.10	0.10	122	46	4.7	1.1
Ac-ft	5.6	12	475	36	84	104	9.9	4,880	9,280	5,630	1,200	451

Cal yr 1966: Total 758.40 Mean 2.08 Max 45 Min 0 Ac-ft 1,500
 Wtr yr 1967: Total 11,177.10 Mean 30.6 Max 235 Min 0 Ac-ft 22,170

OWENS LAKE BASIN

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

Combined discharge, in cubic feet per second, of Cottonwood Creek and powerhouse near Olancho, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	4.8	7.6	9.9	12	11	17	13	154	179	50	29
2	4.1	4.6	7.9	10	13	11	18	13	143	168	55	35
3	4.3	4.8	7.9	10	11	12	17	14	150	153	54	32
4	4.3	4.6	7.8	10	12	11	17	14	146	142	52	40
5	4.3	4.3	19	8.5	12	11	17	14	142	154	46	37
6	4.6	4.7	52	9.4	12	11	16	15	140	174	42	28
7	4.6	5.2	38	9.6	12	11	16	16	151	148	41	28
8	4.6	5.4	28	9.4	12	11	16	19	153	128	43	30
9	4.6	5.4	23	9.4	12	11	16	24	171	116	44	26
10	4.6	5.3	20	9.4	11	11	15	25	179	113	44	24
11	4.6	5.6	18	9.4	11	12	15	29	182	107	40	23
12	4.3	5.1	17	8.9	12	12	15	30	199	104	41	20
13	4.1	5.3	14	8.9	13	12	15	32	191	108	45	23
14	4.3	5.1	14	8.6	12	12	15	34	171	110	42	23
15	4.6	5.1	14	8.6	12	12	15	40	175	117	40	22
16	4.6	5.1	18	8.6	14	14	14	50	168	116	49	22
17	4.6	4.6	21	8.6	13	14	15	58	170	104	42	22
18	4.6	4.3	19	8.6	13	14	14	55	182	96	36	27
19	4.7	4.8	18	8.6	13	14	14	76	179	88	34	37
20	4.2	5.8	16	8.6	13	14	14	85	175	84	34	30
21	4.2	4.1	16	9.5	13	14	14	90	177	77	33	28
22	4.6	5.1	14	9.6	12	15	14	124	173	74	30	28
23	4.8	4.1	13	9.6	12	16	14	195	176	74	30	29
24	4.6	4.6	13	9.4	12	17	14	222	178	70	31	36
25	4.6	4.8	13	10	12	17	13	236	178	76	32	30
26	4.8	5.3	11	12	12	17	12	229	180	60	31	28
27	4.6	5.3	12	13	12	18	14	216	179	57	27	26
28	4.6	9.4	13	13	12	15	13	222	178	66	26	29
29	4.6	11	14	13		12	13	208	186	73	25	31
30	4.6	8.4	13	12	- - - -	13	13	196	188	73	26	28
31	4.6	- - - -	11	12	- - - -	18	- - - -	183	- - - -	65	29	- - - -
Total	139.1	152.0	523.2	306.1	342	413	445	2,797	5,124	5,274	1,204	851
Mean	4.49	5.40	16.9	9.87	12.2	13.3	14.8	90.2	171	106	38.8	28.4
Max	4.8	11	52	13	14	18	18	236	199	179	60	40
Min	3.9	4.1	7.6	8.5	11	11	12	13	140	57	25	20
Ac-ft	276	321	1,040	607	678	819	883	5,550	10,160	6,490	2,390	1,690
Cal yr 1966: Total	4,418.1 Mean 12.1 Max 52 Min 3.4 Ac-ft 3,760											
Wtr yr 1967: Total	15,580.4 Mean 42.7 Max 236 Min 3.9 Ac-ft 30,900											

MONO LAKE BASIN

10-2870. MONO LAKE NEAR MONO LAKE, CALIF.

LOCATION.--Lat 37°58'46", long 119°08'11", in NW¼ sec.5, T.2 N., R.26 E., on west bank 1 mile south of town of Mono Lake.

RECORDS AVAILABLE.--June 1912 to September 1967. Records prior to September 1934 are published in WSP 765.

GAGE.--Staff gage or reference point read once a week. Gage heights prior to October 1944 are converted to elevations above mean sea level in WSP 1314. Gage readings have been reduced to elevations above mean sea level, datum of 1929.

EXTREMES.--1912-67: Maximum elevation observed, 6,428.1 ft July 18, 1919, present datum; minimum observed, 6,386.95 ft Dec. 1, 1966.

REMARKS.--Since 1941 water diverted to Owens Lake basin via Mono tunnel (capacity, 200 cfs).

COOPERATION.--Records furnished by city of Los Angeles, Department of Water and Power.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 6	6,387.40	Dec. 29	6,387.13	Mar. 30	6,387.37	July 13	6,388.17
13	6,387.38	Jan. 6	6,387.09	Apr. 7	6,387.41	20	6,388.47
20	6,387.33	19	6,387.05	24	6,387.41	27	6,388.57
27	6,387.25	26	6,387.14	May 2	6,387.45	Aug. 3	6,388.74
Nov. 3	6,387.17	Feb. 3	6,387.33	8	6,387.51	11	6,388.72
10	6,387.10	7	6,387.33	16	6,387.52	17	6,388.73
17	6,387.04	15	6,387.31	25	6,387.51	24	6,388.71
23	6,386.99	24	6,387.31	June 5	6,387.51	31	6,388.71
Dec. 1	6,386.95	Mar. 2	6,387.28	15	6,387.51	Sept. 7	6,388.78
9	6,387.25	8	6,387.30	22	6,387.59	14	6,388.70
16	6,387.21	15	6,387.29	26	6,387.63	22	6,388.71
22	6,387.21	22	6,387.41	July 3	6,387.69	28	6,388.72

MONO LAKE BASIN

97

10-2874. RUSH CREEK ABOVE GRANT LAKE, NEAR JUNE LAKE, CALIF.

LOCATION.--Lat 37°48'20", long 119°06'30", in NE¼ sec.4, T.2 S., R.26 E., on left bank in narrows, 0.6 mile upstream from Grant Lake, and 2.7 miles northwest of town of June Lake.

DRAINAGE AREA.--51.2 sq mi.

RECORDS AVAILABLE.--December 1936 to September 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and Parshall flume. Altitude of gage is 7,200 ft (from topographic map).

AVERAGE DISCHARGE.--30 years (1937-67), 81.4 cfs (58,930 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,070 cfs July 14 (gage height, 6.20 ft); minimum daily, 7.1 cfs Oct. 21, 22.
1936-67: Maximum discharge, that of July 14, 1967; minimum daily, 5.5 cfs Sept. 6-8, 14, 1954.

REMARKS.--Flow regulated by Gem Lake, Lake Agnew, and Waugh Lake (combined capacity, 23,400 acre-ft), and by many 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	41	30	30	36	46	46	30	203	477	332	91
2	21	40	37	30	33	50	45	28	187	664	283	104
3	21	36	44	30	33	50	36	28	181	979	207	114
4	20	38	40	30	33	50	30	29	181	966	233	118
5	19	39	62	31	31	49	28	32	184	976	247	108
6	19	39	111	32	30	49	26	33	178	871	222	99
7	20	37	72	30	30	49	33	40	192	846	200	90
8	20	29	54	34	30	50	33	54	201	759	178	88
9	20	26	49	30	31	50	32	78	218	655	161	101
10	20	26	45	29	39	50	45	77	224	564	153	108
11	19	27	41	28	44	55	74	73	232	527	149	89
12	19	26	40	28	46	60	38	68	235	536	151	83
13	20	25	37	28	45	59	33	75	235	648	151	83
14	18	26	36	28	48	58	31	70	219	992	155	82
15	19	30	33	28	47	56	31	73	216	781	155	82
16	19	30	33	28	47	105	38	84	230	723	139	97
17	18	31	33	28	46	92	35	96	242	671	139	106
18	18	31	33	28	46	77	33	120	262	579	139	111
19	19	31	32	28	45	69	32	143	283	540	155	96
20	13	31	32	28	45	64	30	170	273	510	148	86
21	7.1	31	32	43	45	65	30	207	288	425	126	83
22	7.1	32	31	42	45	65	36	232	314	404	124	88
23	9.8	32	31	37	45	64	40	252	302	398	120	102
24	12	30	31	39	45	64	46	252	295	390	119	107
25	17	29	30	38	46	62	37	260	302	381	128	91
26	18	29	30	35	46	61	28	260	307	412	140	83
27	28	29	29	33	46	62	29	262	316	410	131	82
28	37	36	29	34	44	68	39	254	323	389	106	78
29	40	44	30	42	67	42	254	254	341	433	96	80
30	42	33	30	40	64	39	238	445	445	445	93	77
31	42	- - - -	30	38	- - - -	54	- - - -	224	- - - -	379	92	- - - -
Total	642.0	964	1,227	1,007	1,147	1,884	1,095	4,106	7,609	13,730	4,972	2,807
Mean	20.7	32.1	39.6	32.5	41.0	60.8	36.5	132	254	604	160	93.6
Max	42	44	111	43	48	105	74	262	445	992	332	118
Min	7.1	25	29	28	30	46	26	28	178	379	92	77
Ac-ft	1,270	1,910	2,430	2,000	2,280	3,740	2,170	3,140	15,090	37,150	9,860	5,570

Cal yr 1966: Total 25,791.0 Mean 70.7 Max 175 Min 7.1 Ac-ft 51,160
Wtr yr 1967: Total 46,190.0 Mean 127 Max 992 Min 7.1 Ac-ft 91,620

MONO LAKE BASIN

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 1967. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

GAGE.--Graphic water-stage recorder and partial concrete control. Altitude of gage is 7,400 ft (from topographic map). Prior to Aug. 6, 1944, staff gage at same site at different datum. Aug. 6, 1944, to Oct. 17, 1955, graphic water-stage recorder at same site at different datum.

AVERAGE DISCHARGE.--33 years, 66.5 cfs (48,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 590 cfs July 4 (gage height, 4.42 ft); minimum daily, 13 cfs many days.

1934-67: Maximum discharge, that of July 4, 1967; 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	26	13	25	27	33	38	28	146	470	180	86
2	23	28	14	25	29	21	38	28	130	478	174	95
3	23	20	13	25	27	28	38	28	109	515	168	89
4	23	20	13	25	27	28	38	28	109	520	161	89
5	18	22	15	27	26	27	29	26	137	498	168	111
6	13	22	32	24	30	37	26	29	132	458	148	94
7	19	22	19	24	32	46	28	32	121	420	102	72
8	38	23	18	26	26	46	28	36	178	351	97	77
9	23	23	20	24	34	46	27	67	196	327	96	78
10	23	35	43	25	47	46	45	51	213	289	95	92
11	26	35	47	25	57	38	45	43	232	272	99	75
12	27	32	57	25	27	31	28	33	239	284	112	64
13	33	31	66	25	27	33	28	34	232	303	112	60
14	26	30	55	25	28	32	29	44	220	368	92	61
15	23	29	27	25	27	36	29	36	246	313	90	56
16	26	22	23	25	26	57	28	54	265	291	102	51
17	25	27	20	25	26	59	29	77	282	272	86	65
18	26	20	20	26	26	58	29	96	342	246	85	72
19	26	22	23	26	25	55	36	126	361	232	89	70
20	36	27	23	26	31	37	36	150	318	216	92	69
21	23	34	23	33	13	38	27	156	368	192	85	68
22	23	24	23	27	13	40	27	196	408	192	80	68
23	24	24	23	27	13	40	27	223	371	184	79	67
24	24	24	23	25	13	40	30	282	361	184	77	57
25	24	23	23	28	13	40	26	282	378	180	84	58
26	24	23	22	26	13	40	26	287	385	199	90	63
27	24	23	22	26	15	41	26	291	385	172	84	63
28	24	28	23	26	89	41	26	251	390	170	74	64
29	24	22	23	27	40	27	27	220	408	204	75	63
30	24	13	23	27	-----	39	27	190	432	220	60	62
31	24	-----	22	26	-----	39	-----	182	-----	176	60	-----
Total	762	754	811	801	787	1,232	921	3,606	8,094	9,206	3,196	2,159
Mean	24.6	25.1	26.2	25.8	28.1	39.7	30.7	116	270	297	103	72.0
Max	38	35	66.	33	89	59	45	291	432	520	180	111
Min	13	13	13	24	13	21	26	26	109	170	50	51
Ac-ft	1,510	1,500	1,610	1,590	1,550	2,440	1,830	7,150	16,050	13,260	3,340	4,280
Cal yr 1966: Total	17,777			Mean 48.7	Max 156	Min 13		Ac-ft 35,260				
Wtr yr 1967: Total	32,329			Mean 88.6	Max 520	Min 13		Ac-ft 64,120				

TIA JUANA RIVER BASIN

99

11-0100. COTTONWOOD CREEK AT MORENA DAM, CALIF.

LOCATION.--Lat 32°41'01", long 116°32'45", in NE¼ sec.23, T.17 S., R.4 E., on Morena Dam outlet tower.

DRAINAGE AREA.--114 sq mi.

RECORDS AVAILABLE.--January 1916, October 1936 to September 1967.

GAGE.--Staff gage read once daily. Datum of gage is 2,882.4 ft above mean sea level.

AVERAGE DISCHARGE.--31 years (1936-67), 10.0 cfs (7,240 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

REMARKS.--Records of discharge represent all water reaching Morena Reservoir, including precipitation on reservoir surface. Discharge computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 1.00 excepting the period January 1962 to June 1963, when the mass-transfer method was used. Prior to October 1963 a coefficient of 0.80 was used. Area and capacity tables for reservoir are based on a survey 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 regulation or 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 DISCHARGE, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill plus leakage (acre-feet)	Discharge (acre-feet)
Morena Reservoir							
Sept. 30.....	68.3	507	-	-	-	-	-
Oct. 31.....	67.8	476	-31	0	21	1	-9
Nov. 30.....	67.8	476	0	0	10	1	11
Dec. 31.....	78.6	1,362	+886	0	9	2	897
Calendar year 1966.....	-	-	+886	0	333	19	1,238
Jan. 31.....	79.1	1,415	+53	0	21	2	76
Feb. 28.....	79.2	1,426	+11	0	22	2	35
Mar. 31.....	79.4	1,447	+21	0	24	2	47
Apr. 30.....	80.2	1,534	+87	0	21	2	110
May 31.....	80.0	1,512	-22	0	55	2	35
June 30.....	79.4	1,447	-65	0	59	2	-4
July 31.....	78.9	1,394	-53	0	74	2	23
Aug. 31.....	78.4	1,341	-53	0	63	2	12
Sept. 30.....	78.0	1,300	-41	0	44	2	5
Water year 1966-67.....	-	-	+793	0	423	22	1,238

† Gage height at 0800 hours.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of discharge may appear. This arises primarily from the difficulty of computing discharge 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

11-0119. POTRERO CREEK TRIBUTARY NEAR BARRETT JUNCTION, CALIF.

LOCATION.--Lat 32°46'04", long 116°41'04", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.16, T.18 S., R.3 E., at culvert on State Highway 94, 1.4 miles southeast of Barrett Junction.

DRAINAGE AREA.--0.78 sq mi.

RECORDS AVAILABLE.--Water years 1962-66 (annual maximum), February 1966 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,220 ft (from topographic map). Dec. 12, 1961, to Feb. 17, 1966, crest-stage gage only at same site and datum.

EXTREMES.--1966: No flow during period February to September.

1966-67: Maximum discharge during water year, 122 cfs Dec. 7 (gage height, 13.42 ft, from crest-stage gage), from rating curve extended above 0.2 cfs as explained below; no flow for most of year.

1961-67: Maximum discharge, 294 cfs Nov. 22, 1965 (gage height, 15.25 ft, from crest-stage gage), from rating curve extended above 0.2 cfs on basis of culvert computation of maximum flow; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD FEBRUARY 1966 TO SEPTEMBER 1967

Nov. 7, 1966..... a 2.0
Dec. 6..... a 1.0
7..... 16

Dec. 8..... 6.1
Apr. 11, 1967..... a 1.0

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1966.....	2.0	2.0	0	0.067	4.0
December.....	23.1	16	0	.745	46
April 1967.....	1.0	1.0	0	.033	2.0
Calendar year 1966.....	-	-	-	-	-
Water year 1966-67.....	-	16	0	.072	52

a No gage-height record.

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

TIA JUANA RIVER BASIN

101

11-0120. 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.--310 sq mi.

RECORDS AVAILABLE.--October 1936 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 569.40 ft above mean sea level (levels by International Boundary and Water Commission).

AVERAGE DISCHARGE.--31 years, 7.17 cfs (5,190 acre-ft per year); median of yearly mean discharges, 1.0 cfs (720 acre-ft per year).

EXTREMES.--Maximum discharge during year, 832 cfs Dec. 6 (gage height, 5.66 ft); no flow Oct. 1 to Dec. 4, May 13 to Sept. 30.

1936-67: 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 sta. no. 0100) and Barrett Reservoir (see sta. no. 0110). Water released from Barrett Reservoir through Dulzura conduit is diverted to Lower Otay Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.50	2.0	0.10	0.60	0.30				
2			0	.50	1.7	.10	.50	.20				
3			0	.40	1.5	.10	.30	.20				
4			0	.40	1.3	.40	.30	.20				
5			39	.40	1.2	.40	.30	.20				
6			238	.40	.90	.30	.20	.20				
7			259	.30	.80	.20	.20	.10				
8			42	.30	.60	.20	.20	.10				
9			23	.30	.60	.20	.20	.10				
10			15	.30	.60	.20	.20	.10				
11			10	.30	.50	.30	3.0	.10				
12			7.0	.30	.40	.30	3.5	.10				
13			5.4	.30	.40	.40	1.0	0				
14			4.2	.30	.40	2.0	.50	0				
15			3.4	.30	.40	.80	.30	0				
16			2.5	.30	.30	.40	.20	0				
17			2.2	.30	.30	.30	.20	0				
18			1.9	.20	.20	.30	.20	0				
19			1.6	.20	.20	.30	.80	0				
20			1.3	.30	.20	.20	.80	0				
21			1.2	.30	.20	.20	.60	0				
22			1.0	1.2	.20	.20	1.7	0				
23			.90	11	.20	.20	1.1	0				
24			.80	3.4	.20	.20	1.0	0				
25			.70	7.1	.20	.20	.90	0				
26			.70	4.9	.20	.20	.60	0				
27			.60	3.7	.20	.20	.50	0				
28			.50	3.2	.20	.20	.50	0				
29			.50	2.5		.40	.50	0				
30			.80	2.3	-----	.30	.50	0				
31		-----	.50	2.2	-----	.30	-----	0	-----			-----
Total	0	0	653.70	48.40	16.10	10.10	21.40	1.90	0	0	0	0
Mean	0	0	21.4	1.56	0.575	0.326	0.713	0.051	0	0	0	0
Max	0	0	259	11	2.0	2.0	3.5	0.30	0	0	0	0
Min	0	0	0	0.20	0.20	0.10	0.20	0	0	0	0	0
Ac-ft	0	0	1,320	96	32	20	42	3.8	0	0	0	0

Cal yr 1966: Total 755.30 Mean 2.10 Max 259 Min 0 Ac-ft 1,520
 Wtr yr 1967: Total 751.60 Mean 2.09 Max 259 Min 0 Ac-ft 1,510

TIA JUANA RIVER BASIN

11-0125. 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.--85.0 sq mi, of which 3 sq mi are in Mexico.

RECORDS AVAILABLE.--October 1936 to September 1967.

GAGE.--Graphic water-stage recorder and broad-crested weir. Datum of gage is 2,178.92 ft above mean sea level, datum of 1929. Prior to Dec. 1, 1954, at datum 1 ft higher.

AVERAGE DISCHARGE.--31 years, 2.03 cfs (1,470 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year).

EXTREMES.--Maximum discharge during year, 0.50 cfs Sept. 29 (gage height, 1.20 ft); no flow for most of year. 1936-67: 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.--Records poor. Flow partly regulated since August 1956 by small conservation reservoir. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	0.10	0.10				
2			0			0	.10	.10				
3			0			0	.10	.20				
4			0			0	.10	.20				
5			.10			0	.10	.20				
6			0			0	.10	.20				
7			0			0	.10	.20				
8			0			0	.10	.20				
9			0			0	.10	.20				
10			0			0	.10	.20				
11			0			.10	.10	.20				
12			0			.10	.10	.20				
13			0			.10	.10	.10				
14			0			.10	0	.10				
15			0			.10	0	0				
16			0			.10	0	0				
17			0			.10	0	0				
18			0			.10	0	0				
19			0			.10	.10	0				
20			0			.10	.10	0				
21			0			.10	.10	0				
22			0			.10	.10	0				
23			0			.10	.10	0				
24			0			.10	.10	0				
25			0			.10	.10	0				
26			0			.10	.10	0				
27			0			.10	.10	0				
28			0			.10	.10	0				
29			0			.10	.20	0				
30			0		-----	.10	.10	0				
31		-----	0		-----	.10	-----	0	-----			-----
Total	0	0	.010	0	0	2.10	2.60	2.40	0	0	0	0
Mean	0	0	0.003	0	0	.068	.087	.077	0	0	0	0
Max	0	0	0.10	0	0	0.10	0.20	0.20	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0.2	0	0	4.2	5.2	4.8	0	0	0	0

Cal yr 1966: Total 0.20 Mean 0.0005 Max 0.10 Min 0 Ac-ft 0.4

Wtr yr 1967: Total 7.20 Mean 0.020 Max 0.20 Min 0 Ac-ft 14

Peak discharge (base, 20 cfs).--No peaks above base.

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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.

RECORDS AVAILABLE.--October 1936 to September 1967.

AVERAGE DISCHARGE.—31 years, 11.5 cfs (8,330 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,770 cfs Dec. 7 (gage height, 5.56 ft), from rating curve extended above 520 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Dec. 4, Aug. 14 to Sept. 30.

1936-67: 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.

COOPERATION.--Nine discharge measurements furnished by International Boundary and Water Commission.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.5	3.8	0.70	0.40	0.90	0.20	0.10	0.10	
2			0	1.5	3.6	.60	.40	.90	.20	.10	.10	
3			0	1.4	3.4	.60	.30	.90	.20	.10	.10	
4			0	1.4	3.2	.70	.30	.90	.20	.10	.10	
5			43	1.5	3.2	.60	.20	.90	.20	.10	.10	
6			476	1.4	2.7	.60	.20	.80	.20	.10	.10	
7			657	1.1	2.5	.60	.20	.70	.20	.10	.10	
8			63	.90	2.2	.60	.10	.70	.20	.10	.10	
9			32	1.0	2.1	.60	.10	.60	.20	.10	.10	
10			27	1.0	1.9	.60	.10	.60	.20	.10	.10	
11			13	1.1	1.7	.70	1.7	.60	.20	.10	.10	
12			9.8	1.3	1.7	.60	6.8	.50	.20	.10	.10	
13			6.8	1.3	1.5	.60	3.4	.50	.30	.10	.10	
14			5.3	1.2	1.4	1.8	1.5	.40	.30	.10	0	
15			4.3	1.2	1.3	.90	1.0	.30	.30	.10	0	
16			3.4	1.3	1.2	.60	.70	.20	.20	.10	0	
17			3.2	1.2	1.1	.40	.50	.20	.20	.10	0	
18			2.9	1.0	1.0	.40	.50	.20	.20	.10	0	
19			2.5	1.0	1.0	.40	1.7	.20	.20	.10	0	
20			2.5	1.2	1.0	.40	2.1	.20	.20	.10	0	
21			2.4	1.4	.80	.40	1.4	.20	.20	.10	0	
22			2.1	3.4	.80	.40	2.2	.20	.20	.10	0	
23			1.9	31	.80	.30	2.1	.20	.10	.10	0	
24			1.9	7.4	.80	.30	1.5	.20	.10	.10	0	
25			1.8	12	.70	.30	1.4	.20	.10	.10	0	
26			1.9	7.8	.70	.30	1.1	.20	.10	.10	0	
27			1.7	6.2	.70	.30	.90	.20	.10	.10	0	
28			1.7	5.1	.70	.30	.90	.20	.10	.10	0	
29			1.8	4.5		.40	.90	.20	.10	.10	0	
30			2.7	4.1	- - - - -	.40	.90	.20	.10	.10	0	
31		- - - - -	1.8	4.1	- - - - -	.30	- - - - -	.20	- - - - -	.10	0	- - - - -
Total	0	0	1373.4	1115.0	475.0	16.70	35.50	13.40	5.50	3.10	1.30	0
Mean	0	0	44.3	36.0	1.70	0.539	1.18	0.432	0.183	0.100	0.042	0
Max	0	0	657	31	3.8	1.8	6.8	0.90	0.30	0.10	0.10	0
Min	0	0	0	0.90	0.70	0.30	0.10	0.20	0.10	0.10	0	0
Ac-ft	0	0	2720	221	94	33	70	27	11	6.1	2.6	0
<hr/>												
Cal yr 1966 : Total	1592.50		Mean	4.36	Max	657	Min	0	Ac-ft	3,160		
Wtr yr 1967 : Total	1607.90		Mean	4.41	Max	657	Min	0	Ac-ft	3,190		

TIA JUANA RIVER BASIN

11-0132. 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.--977 sq mi, of which 10 sq mi are in the United States.

RECORDS AVAILABLE.--April 1937 to September 1967. 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 read once a day. Altitude of gage is 250 ft (from topographic map).

EXTREMES.--Maximum contents during year, 4,160 acre-ft Dec. 12; minimum contents, 1,432 acre-ft Sept. 30. 1937-67: Reservoir spilled during March 1938, September 1940, February to May 1941, March 1942, and February, March 1944; reservoir dry Apr. 2, 1964, to Apr. 9, 1965, Aug. 21 to Nov. 22, 1965.

REMARKS.--Reservoir is formed by thin-shell concrete arch dam completed in 1936; storage began in 1937. Capacity table is 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 5.5 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 1966 TO SEPTEMBER 1967

Month	Contents (acre- feet)	Change in contents (acre- feet)	Month	Contents (acre- feet)	Change in contents (acre- feet)
Sept. 30.....	2,350	-	Apr. 30.....	3,330	-345
Oct. 31.....	1,953	-397	May 31.....	2,794	-536
Nov. 30.....	1,728	-225	June 30.....	2,356	-438
Dec. 31.....	4,044	+2,316	July 31.....	1,873	-483
Calendar year 1966.....	-	-78	Aug. 31.....	1,619	-254
			Sept. 30.....	1,432	-187
Jan. 31.....	4,126	+82	Water year 1966-67.....	-	-918
Feb. 28.....	4,041	-85			
Mar. 31.....	3,675	-366			

TIA JUANA RIVER BASIN

105

11-0135. 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.--1,690 sq mi, of which 1,236 sq mi are in Mexico.

RECORDS AVAILABLE.--October 1914 to September 1915, October 1936 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 15.14 ft above mean sea level, datum of 1929. Oct. 1, 1914, to Sept. 30, 1915, reference point at same site at mean sea level datum. Oct. 1, 1936, to Apr. 9, 1953, graphic water-stage recorder at different datum. Apr. 10, 1953, to Aug. 5, 1958, at site 2 miles upstream at different datum.

AVERAGE DISCHARGE.--32 years, 34.9 cfs (25,270 acre-ft per year); median of yearly mean discharges, 2.9 cfs (2,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,020 cfs Dec. 7 (gage height, 8.35 ft), from rating curve extended above 190 cfs on basis of slope-area measurement of maximum flow; no flow for most of year.

1936-67: Maximum discharge, 17,700 cfs Feb. 7, 1937 (gage height, 8.20 ft, datum then in use), 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 sta. no. 0100) and Barrett Reservoir (see sta. no. 0110) in the United States, and Rodriguez Reservoir (see sta. no. 0132) in Mexico. Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek. AVERAGE DISCHARGE represents flow to the ocean regardless of upstream development.

COOPERATION.--One discharge measurement furnished by International Boundary and Water Commission.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 7.....	907	Jan. 23.....	4.1
8.....	191	Apr. 11.....	1.6
9.....	31	12.....	1.6
10.....	.20		

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	1,129.20	907	0	36.4	2,240
January 1967.....	4.1	4.1	0	.132	8.1
April.....	3.20	1.6	0	.107	6.3
Calendar year 1966.....	-	907	0	3.12	2,260
Water year 1966-67.....	-	907	0	3.11	2,250

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

OTAY RIVER BASIN

11-0140. JAMUL CREEK NEAR JAMUL, CALIF.

LOCATION.--Lat 32°38'15", long 116°53'00", in NE $\frac{1}{4}$ 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.--70.3 sq mi.

RECORDS AVAILABLE.--April 1940 to September 1967.

GAGE.--Graphic water-stage recorder and broad-crested weir control with low-water Parshall flume. Datum of gage is 511.64 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1951, at datum 1.00 ft higher.

EXTREMES.--Maximum discharge during year, 2,720 cfs Dec. 6 (gage height, 5.56 ft), from rating curve extended above 1,200 cfs; no flow for much of year.

1940-67: 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. No regulation above station. Water diverted from Cottonwood Creek by Dulzura conduit discharges into Jamul Creek via Dulzura Creek and is included in discharge for this station (see sta. no. 0120).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	15	20	30	2.3	3.1	0.10			
2			0	15	20	32	2.3	2.9	.10			
3			0	15	20	31	2.2	2.8	.10			
4			0	15	20	31	2.0	2.8	0			
5			28	15	20	31	2.0	2.6	0			
6			853	15	19	30	1.9	2.6	0			
7			536	15	19	33	1.9	2.2	0			
8			60	15	19	32	1.8	1.4	0			
9			25	15	19	31	1.7	1.4	0			
10			10	14	19	32	1.5	1.4	0			
11			7.5	14	19	30	4.6	1.3	0			
12			5.0	14	19	30	8.9	1.2	0			
13			4.0	14	19	30	4.8	1.0	0			
14			3.5	14	19	18	2.8	.80	.10			
15			3.0	14	19	21	2.6	.60	.10			
16			2.5	14	22	30	2.6	.40	.10			
17			2.4	14	22	30	2.5	.20	0			
18			2.3	14	22	24	2.9	.20	0			
19			2.2	14	22	18	3.7	.20	0			
20			2.1	14	21	13	3.6	.20	0			
21			2.0	14	21	10	3.4	.20	0			
22			1.9	17	25	8.2	4.8	.20	0			
23			1.9	25	26	6.8	6.2	.20	0			
24			4.4	7.5	30	5.5	5.1	.20	0			
25			5.5	19	30	4.1	4.6	.20	0			
26			5.3	18	29	3.4	3.9	.20	0			
27			4.6	18	28	2.9	3.6	.20	0			
28			4.4	18	31	2.6	3.4	.20	0			
29			13	18		2.6	3.4	.20	0			
30			15	19	-----	2.5	3.2	.20	0			
31		-----	15	21	-----	2.3	-----	.20	-----			-----
Total	0	0	1,619.5	483.5	619	607.9	100.2	31.50	0.60	0	0	0
Mean	0	0	52.2	15.6	22.1	19.6	3.34	1.02	0.020	0	0	0
Max	0	0	853	25	31	33	8.9	3.1	0.10	0	0	0
Min	0	0	0	7.5	19	2.3	1.5	0.20	0	0	0	0
Ac-Ft	0	0	3,210	959	1,230	1,210	199	52	1.2	0	0	0

Cal yr 1966: Total	3,656.50	Mean	10.0	Max	853	Min	0	Ac-ft	7,270
Wtr yr 1967: Total	3,462.20	Mean	9.49	Max	853	Min	0	Ac-ft	6,870

SWEETWATER RIVER BASIN

107

11-0148.5. JAPACHA CREEK NEAR DESCANSO, CALIF.

LOCATION.--Lat 32°55'04", long 116°34'14", in Cuyamaca State Park on right side of culvert on State Highway 79, 5.1 miles northeast of Descanso, San Diego County.

DRAINAGE AREA.--2.40 sq mi.

RECORDS AVAILABLE.--Water years 1962-64 (annual maximum), October 1964 to September 1967 (discontinued as a continuous-record station; converted to a crest-stage partial record station).

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 4,070 ft (from topographic map). Prior to Dec. 24, 1964, crest-stage gage only.

EXTREMES.--Maximum discharge during year, 178 cfs Dec. 6 (gage height, 8.56 ft), from rating curve extended above 11 cfs on basis of culvert computation of maximum flow; no flow Oct. 1 to Dec. 4, June 29 to Sept. 30, 1961-67: Maximum discharge, that of Dec. 6, 1966; no flow for much of each year.

REMARKS.--Records good. No regulation above station. Ranger station diverts water from Japacha Spring.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10	0.30	0.10	0.30	1.3	0.50			
2			0	.10	.20	.10	.40	1.2	.40			
3			0	.10	.20	.10	.30	1.2	.40			
4			0	.10	.20	.30	.40	1.0	.40			
5			6.7	.10	.20	.20	.40	1.0	.40			
6			76	.10	.20	.10	.30	.80	.40			
7			24	.10	.20	.10	.30	.70	.40			
8			3.2	.10	.20	.10	.30	.70	.40			
9			1.8	.10	.20	.10	.20	.60	.40			
10			1.1	.10	.20	.10	.20	.70	.40			
11			.70	.10	.20	.10	.40	.70	.40			
12			.60	.10	.20	.10	.50	.60	.40			
13			.50	.10	.20	.10	.60	.60	.40			
14			.40	.10	.20	.60	1.1	.50	.30			
15			.30	.10	.20	.30	1.4	.50	.30			
16			.30	.10	.20	.20	1.1	.40	.30			
17			.20	.10	.20	.20	1.0	.40	.20			
18			.20	.10	.20	.20	.90	.40	.20			
19			.20	.10	.20	.20	1.2	.40	.20			
20			.20	.10	.20	.20	1.4	.50	.20			
21			.20	.10	.20	.20	1.9	.50	.20			
22			.10	.10	.20	.10	5.4	.50	.10			
23			.10	.40	.20	.10	3.8	.50	.10			
24			.10	.20	.10	.10	3.6	.50	.10			
25			.10	.70	.10	.10	2.8	.50	.10			
26			.20	.40	.10	.10	2.3	.40	.10			
27			.10	.40	.10	.10	1.9	.40	.10			
28			.10	.30	.10	.10	1.6	.50	.10			
29			.10	.30		.20	1.7	.50	0			
30			.10	.20		.10	1.5	.50	0			
31			.10	.30		.20		.50				
Total	0	0	117.70	5.40	5.20	4.90	39.20	19.50	7.90	0	0	0
Mean	0	0	3.80	0.174	0.186	0.158	1.31	0.629	3.263	0	0	0
Max	0	0	76	0.70	0.30	0.60	5.4	1.3	0.50	0	0	0
Min	0	0	0	0.10	0.10	0.10	0.20	0.40	0	0	0	0
Ac-ft	0	0	233	11	10	9.7	78	39	16	0	0	0
(†)	1.2	2.5	15.6	3.3	0	3.4	6.7	0.4	0.1	0.1	0.5	1.4
Cal yr 1966: Total	241.00			Mean 0.650	Max 76		Min 0		Ac-ft 478		Precip. † 27.5	
Wtr yr 1967: Total	199.80			Mean 0.547	Max 76		Min 0		Ac-ft 396		Precip. † 35.2	

† Precipitation, in inches.

SWEETWATER RIVER BASIN

11-0150. SWEETWATER RIVER NEAR DESCANSO, CALIF.

LOCATION.--Lat 32°50'05", long 116°37'20", in NW¼SE¼ 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.--45.5 sq mi.

RECORDS AVAILABLE.--October 1905 to September 1927, October 1956 to September 1967. 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 1967.

GAGE.--Graphic water-stage recorder on river; graphic water-stage recorder on concrete diversion. 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 (creek only).--33 years, 11.5 cfs (8,330 acre-ft per year); median of yearly mean discharges, 7.0 cfs (5,100 acre-ft per year).
(combined).--11 years, 3.29 cfs (2,380 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 3,890 cfs Dec. 6 (gage height, 8.93 ft), from rating curve extended above 530 cfs; no flow Oct. 1 to Nov. 5, Aug. 17-22, Aug. 24 to Sept. 30.
1905-27, 1956-67: 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 maximum flow; no flow for many days in most years.

(combined).--Maximum discharge during year, 3,890 cfs Dec. 6; no flow Oct. 1 to Nov. 5, Aug. 17-22, Aug. 24 to Sept. 30.

1956-67: Maximum discharge, that of Dec. 6, 1966; no flow for many days in each year.

REMARKS.--Records fair except those above 100 cfs, which are poor. No regulation above station. Sweetwater River diversion diverts about 0.3 mile above station for irrigation below. There was no water diverted during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.20	3.6	5.8	1.7	6.4	10	8.8	1.5	0.10	
2		0	.20	3.4	5.5	1.7	6.7	8.8	7.3	1.3	.10	
3		0	.80	3.1	5.2	1.8	5.8	8.4	6.0	1.1	.10	
4		0	.90	3.2	5.0	6.2	5.5	7.6	5.8	1.0	.10	
5		0	71	3.2	4.7	4.7	6.4	7.0	5.8	1.1	.10	
6		.10	1.620	3.1	4.5	3.4	5.2	6.7	6.0	1.1	.10	
7		.50	681	2.9	4.5	3.4	4.5	5.2	5.5	1.1	.10	
8		.20	73	2.9	4.0	3.2	4.5	5.0	5.5	.90	.10	
9		.20	25	2.7	4.2	3.1	3.8	4.5	5.5	.90	.10	
10		.20	15	2.7	4.2	3.1	4.7	5.0	5.5	.90	.10	
11		.20	12	2.7	4.0	3.2	9.0	5.5	5.5	.90	.10	
12		.10	9.2	2.9	3.8	3.4	15	5.5	5.5	1.1	.10	
13		.10	6.4	2.7	3.8	4.0	14	5.5	5.8	1.1	.10	
14		.10	5.2	2.4	3.6	14	17	5.5	5.5	.80	.10	
15		.10	4.2	2.1	3.6	8.0	18	5.5	5.0	.70	.10	
16		.10	4.2	2.2	3.4	5.5	15	5.5	4.5	.50	.10	
17		.10	4.2	2.1	3.1	5.0	12	5.5	4.0	.50	0	
18		.10	4.2	2.1	3.4	4.7	12	5.5	3.8	.40	0	
19		.10	4.0	2.1	3.6	4.2	24	5.5	3.4	.40	0	
20		.10	4.0	2.2	3.1	3.8	28	5.5	3.2	.40	0	
21		.10	4.0	2.2	2.7	3.8	24	5.5	2.9	.20	0	
22		.10	4.0	4.2	2.1	3.6	84	5.5	2.6	.20	0	
23		.10	4.0	12	3.1	3.6	53	6.7	2.6	.20	.50	
24		.10	4.0	8.4	2.7	3.4	39	8.0	2.4	.20	0	
25		.10	4.0	17	3.1	3.4	27	7.0	2.4	.20	0	
26		.10	4.2	10	2.7	3.6	20	7.3	2.1	.20	0	
27		.10	4.2	7.6	2.0	3.6	18	7.3	2.0	.20	0	
28		.10	4.2	7.0	1.8	3.4	16	8.0	2.0	.20	0	
29		.10	4.0	6.0		4.7	16	8.8	2.1	.20	0	
30		.10	4.2	5.5	-----	4.0	13	8.8	2.1	.20	0	
31		-----	4.0	6.4	-----	4.5	-----	8.8	-----	.20	0	-----
Total	0	3.30	2,589.50	140.6	103.2	129.7	527.5	204.9	131.1	19.90	2.10	0
Mean	0	0.110	83.5	4.54	3.69	4.18	17.6	6.61	4.37	0.642	0.068	0
Max	0	0.50	1,620	17	5.8	14	84	10	8.8	1.5	0.50	0
Min	0	0	0.20	2.1	1.8	1.7	3.8	4.5	2.0	0.20	0	0
Ac-ft	0	6.5	2,140	279	205	257	1,050	406	250	39	4.2	0

Cal yr 1966: Total 4,159.10

Mean 11.4

Max 1,620

Min 0

Ac-ft 3,250

Wtr yr 1967: Total 3,851.80

Mean 10.6

Max 1,620

Min 0

Ac-ft 7,640

Peak discharge (base, 100 cfs).--Dec. 6 (2330 hrs) 3,890 cfs (8.93 ft); Apr. 22 (1200 hrs) 125 cfs (4.34 ft).

11-0170. BOULDER CREEK AT CUYAMACA RESERVOIR, NEAR JULIAN, CALIF.

LOCATION.--Lat 32°59'20", long 116°35'10", in NE½ sec.5, T.14 S., R.4 E., on outlet tower at Cuyamaca Dam, 7 miles south of Julian.

DRAINAGE AREA.--12.1 sq mi.

RECORDS AVAILABLE.--October 1935 to September 1967 (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.--27 years (1935-39, 1944-67), 4.23 cfs (3,060 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

REMARKS.--Records of discharge represent all water reaching Cuyamaca Reservoir, including precipitation on reservoir. Discharge 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 land pan using coefficient of 0.80. Area and capacity tables 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 1966 TO SEPTEMBER 1967

Month	Gage height (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill plus leakage (acre-feet)	Discharge (acre-feet)
Cuyamaca Reservoir							
Sept. 30.....	-	0	-	-	-	-	-
Oct. 31.....	-	0	-	-	-	-	-
Nov. 30.....	-	0	-	-	-	-	-
Dec. 31.....	22.8	2,447	+2,447	0	59	0	2,506
Calendar year 1966.....	-	-	519	3,419	760	0	4,698
Jan. 31.....	23.1	2,586	+139	0	79	0	218
Feb. 28.....	23.1	2,586	0	0	33	0	33
Mar. 31.....	23.3	2,684	+98	0	96	0	194
Apr. 30.....	25.6	3,920	+1,236	0	137	0	1,373
May 31.....	22.4	2,270	-1,650	1,620	188	0	158
June 30.....	-	0	-2,270	2,030	68	0	-172
July 31.....	-	0	-	-	-	-	0
Aug. 31.....	-	0	-	-	-	-	0
Sept. 30.....	-	0	-	-	-	-	0
Water year 1966-67.....	-	-	0	3,650	660	0	4,310

† Gage height at 0800 hours.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of discharge may appear. This arises primarily from the difficulty of computing discharge 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

11-0225. SAN DIEGO RIVER NEAR SANTEE, CALIF.

LOCATION.--Lat 32°49'29", 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.--377 sq mi.

RECORDS AVAILABLE.--May 1912 to December 1915, March 1916 to September 1967. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP 1315-B.

GAGE.--Digital 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 1.5 miles upstream at different datum. Nov. 10, 1920 to Dec. 1, 1954, graphic water-stage recorder at present site at datum 1.0 ft higher. Dec. 1, 1954 to Oct. 1, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--54 years, 23.9 cfs (17,300 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,400 cfs Dec. 6 (gage height, 9.30 ft), from rating curve extended above 1,200 cfs; no flow Oct. 1 to Nov. 7, July 1 to Sept. 30.
1912-67: Maximum discharge, 70,200 cfs Jan. 27, 1916 (gage height, 25.1 ft, site and datum then in use), based on slope-conveyance computation; no flow at times in most years.

REMARKS.--Records fair. Flow regulated by Cuyamaca Reservoir (see sta. no. 0170), El Capitan Reservoir (capacity, 112,810 acre-ft), and San Vincente Reservoir (capacity, 90,230 acre-ft). Diversions 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	2.1	8.1	10	3.7	17	4.4	.80	0	0	0
2	0	0	.40	7.3	9.5	3.7	11	4.1	.90	0	0	0
3	0	0	.30	6.7	8.3	3.6	7.0	3.6	.80	0	0	0
4	0	0	21	6.2	7.9	4.4	5.8	3.3	1.0	0	0	0
5	0	0	383	5.9	7.5	6.1	9.1	3.2	1.2	0	0	0
6	0	0	1,040	6.1	4.7	4.6	6.2	3.2	1.2	0	0	0
7	0	0	554	5.9	5.2	3.9	5.4	3.2	1.2	0	0	0
8	0	22	122	5.6	5.4	3.9	4.8	2.9	1.3	0	0	0
9	0	2.7	53	5.4	5.1	3.9	4.6	2.8	1.0	0	0	0
10	0	.80	35	5.3	5.1	3.8	4.3	2.6	1.0	0	0	0
11	0	.50	25	5.1	5.4	3.6	56	2.6	.80	0	0	0
12	0	.50	19	5.0	5.5	3.7	54	2.6	1.0	0	0	0
13	0	.70	15	5.0	5.8	3.9	13	2.4	.80	0	0	0
14	0	1.1	13	5.0	5.7	20	7.5	2.2	1.2	0	0	0
15	0	1.1	12	5.3	5.9	7.0	6.5	2.1	1.6	0	0	0
16	0	1.1	10	5.5	5.4	6.2	6.4	2.0	1.4	0	0	0
17	0	1.0	5.9	5.5	5.1	5.6	6.4	1.6	1.5	0	0	0
18	0	1.1	6.6	5.2	4.9	5.3	6.1	2.2	1.4	0	0	0
19	0	1.0	6.9	3.9	4.8	5.0	21	2.1	1.8	0	0	0
20	0	1.1	7.5	2.9	4.9	5.0	19	1.9	1.6	0	0	0
21	0	1.2	7.7	2.5	4.9	5.0	8.2	1.5	1.0	0	0	0
22	0	1.4	7.4	19	4.5	5.0	72	1.4	1.3	0	0	0
23	0	2.9	6.5	200	4.3	4.9	13	1.0	1.0	0	0	0
24	0	3.6	6.4	18	4.4	4.8	8.9	1.3	.90	0	0	0
25	0	3.0	6.1	131	4.4	4.6	8.8	1.1	.60	0	0	0
26	0	2.7	6.1	24	4.4	4.6	7.1	.60	.40	0	0	0
27	0	2.3	6.1	16	4.5	4.6	6.5	.40	.30	0	0	0
28	0	3.1	6.1	13	4.4	4.2	5.2	.30	.20	0	0	0
29	0	3.7	6.1	13	-----	5.4	5.4	.80	.20	0	0	0
30	0	2.9	7.1	11	-----	5.1	5.3	.80	.10	0	0	0
31	0	-----	9.3	10	-----	6.9	-----	.80	-----	0	0	-----
TOTAL	0	61.50	2,407.00	568.4	157.9	162.0	411.5	65.00	29.50	0	0	0
MEAN	0	2.05	77.6	18.3	5.64	5.23	13.7	2.10	.98	0	0	0
MAX	0	22	1,040	200	10	20	72	4.4	1.8	0	0	0
MIN	0	0	.30	2.5	4.3	3.6	4.3	.30	.10	0	0	0
AC-FT	0	122	4,770	1,130	313	321	816	129	59	0	0	0

CAL YR 1966: TOTAL 3,734.70

MEAN 10.2

MAX 1,040

MIN 0

AC-FT 7,410

WAT YR 1967: TOTAL 3,862.80

MEAN 10.6

MAX 1,040

MIN 0

AC-FT 7,660

LOS PENASQUITOS CREEK BASIN

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11-0233.4. LOS PENASQUITOS CREEK NEAR POWAY, CALIF.

LOCATION.--Lat 32°56'35", long 117°07'15", in Los Penasquitos Grant, on left bank 1.0 mile downstream from Cypress Creek and 5.5 miles southwest of Poway, San Diego County.

DRAINAGE AREA.--42.1 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 260 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 2,100 cfs Dec. 6 (gage height, 6.90 ft, in gage well, 7.70 ft, from profile of floodmarks), from rating curve extended above 400 cfs on basis of slope-area measurement at gage height 6.23 ft; minimum daily, 0.13 cfs Aug. 7.

1964-67: Maximum discharge, that of Dec. 6, 1966; minimum daily, 0.10 cfs Jan. 5-9, 1965.

REMARKS.--Records fair. Flow partly regulated by several conservation reservoirs above station. Pumping from wells along stream for irrigation. Flow augmented by reclaimed water from Poway area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.28	.60	3.9	12	1.9	1.7	2.7	1.4	.75	.76	.85
2	.60	.26	.50	1.4	10	1.9	2.7	2.5	1.6	.73	.90	.81
3	.60	.25	10	1.2	9.0	1.9	2.7	3.1	1.8	.75	1.2	.63
4	.60	.30	13	1.2	8.0	1.9	2.3	3.0	1.1	.68	1.3	.48
5	.50	.40	392	1.1	6.0	1.8	4.6	2.9	1.1	.61	1.2	.47
6	.60	.40	728	1.1	5.0	1.8	2.7	2.8	1.2	.66	.43	.51
7	.60	7.3	159	1.0	4.6	1.8	2.3	2.8	1.2	.67	.13	.37
8	.50	15	38	1.0	4.3	1.8	1.8	2.6	.97	.63	.82	.22
9	.60	2.8	27	1.0	4.0	1.8	2.1	2.6	.98	.59	.86	.42
10	1.5	.80	21	1.0	3.8	2.1	2.2	2.5	.84	1.1	.98	.41
11	.90	.50	14	1.0	3.6	1.7	25	2.5	.93	.70	.80	.26
12	.90	.50	10	.96	3.4	1.4	27	2.3	.97	.35	.84	.51
13	.90	.50	8.3	.94	3.1	2.7	7.2	2.3	1.1	.41	.88	.55
14	.60	.50	7.8	.92	2.9	18	3.6	2.2	1.1	.47	.89	.50
15	.60	.50	7.5	.90	2.8	6.3	2.9	2.1	1.0	.57	1.4	.60
16	.40	.50	6.9	.88	2.6	1.6	2.0	2.0	1.1	.63	1.5	.45
17	2.8	.50	6.0	.87	2.5	1.4	2.0	2.0	.88	.67	.83	.37
18	2.0	.50	4.7	.86	2.4	1.2	3.4	1.8	.94	.60	.31	.64
19	1.7	.50	2.2	.83	2.4	1.2	12	1.8	.88	.48	.33	.44
20	1.5	.50	2.0	.80	2.3	1.2	12	1.7	1.0	.57	1.3	.48
21	1.2	.50	1.8	2.1	2.2	1.2	3.3	1.7	.74	.63	1.4	.27
22	1.0	.50	1.6	5.6	2.1	1.2	5.4	1.5	.85	.53	1.6	.44
23	.90	.50	1.5	30	2.1	1.4	3.9	1.5	.81	.47	1.3	.34
24	.80	.50	1.3	14	2.0	1.4	2.8	1.4	.79	.61	1.1	.41
25	.70	.50	1.1	150	2.0	1.4	2.9	1.4	.94	.68	.58	.49
26	.60	.50	1.0	80	2.0	1.4	2.9	1.3	.86	.75	1.1	.61
27	.50	.50	1.0	50	2.0	1.4	2.6	1.3	.97	.84	1.3	.69
28	.40	.50	1.0	30	1.9	1.4	2.8	1.2	1.1	.64	1.4	.64
29	.35	.50	4.3	20	-----	1.4	3.0	2.9	1.0	.87	1.3	.63
30	.30	.50	7.9	15	-----	1.7	2.8	3.2	.78	.93	.58	.63
31	.29	-----	6.6	14	-----	3.2	-----	1.9	-----	.60	.46	-----
TOTAL	25.94	37.79	1,487.60	433.56	111.0	72.5	154.6	67.5	30.93	20.79	29.78	15.12
MEAN	.84	1.26	48.0	14.0	3.96	2.34	5.15	2.18	1.03	.67	.96	.50
MAX	2.8	15	728	150	12	18	27	3.2	1.8	1.1	1.6	.85
MIN	.29	.25	.50	.80	1.9	1.2	1.7	1.2	.74	.35	.13	.22
AC-FT	51	75	2,950	860	220	144	307	134	61	41	59	30

CAL YR 1966: TOTAL 2,277.53 MEAN 6.24 MAX 728 MIN .25 AC-FT 4,520
WAT YR 1967: TOTAL 2,487.11 MEAN 6.81 MAX 728 MIN .13 AC-FT 4,930

Peak discharge (base, 60 cfs)

Note.--No gage-height record Jan. 25 to Mar. 9.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2000	7.70	2,100	1-25	Unknown	3.27	271
1-23	0500	2.24	64	4-11	1630	2.36	75

SAN DIEGUITO RIVER BASIN

11-0240. SANTA YSABEL CREEK AT SUTHERLAND DAM, CALIF.

LOCATION.--Lat 33°07'05", long 116°47'10", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--53.9 sq mi.

RECORDS AVAILABLE.--December 1912 to September 1928, October 1936 to September 1967. Prior to October 1953, published as "near Mesa Grande."

GAGE.--Graphic 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, graphic 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.--46 years (1913-28, 1936-67), 17.4 cfs (12,590 acre-ft per year); median of yearly mean discharges, 8.4 cfs (6,100 acre-ft per year).

REMARKS.--Records of discharge represent all water reaching Sutherland Reservoir including precipitation on reservoir. Discharge 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 land pan using coefficient of 0.80. Sutherland Dam was completed and storage began in October 1953. Area and capacity tables 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 DISCHARGE, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evapo-ration (acre-feet)	Spill plus leakage (acre-feet)	Discharge (acre-feet)
Sutherland Reservoir							
Sept. 30.....	58.47	1,855	-	-	-	-	-
Oct. 31.....	58.19	1,825	-30	0	44	0	14
Nov. 30.....	58.23	1,829	+4	0	25	0	29
Dec. 31.....	83.49	5,969	+4,140	811	65	0	5,016
Calendar year 1966.....	-	-	+867	6,118	775	0	7,760
Jan. 31.....	64.15	2,538	-3,431	4,131	47	0	747
Feb. 28.....	60.56	2,091	-447	640	33	0	226
Mar. 31.....	64.10	2,531	+440	0	28	0	468
Apr. 30.....	73.44	3,958	+1,427	0	33	0	1,460
May. 31.....	66.58	2,872	-1,086	1,492	77	0	483
June 30.....	61.63	2,218	-654	912	52	0	310
July 31.....	61.46	2,198	-20	0	77	0	57
Aug. 31.....	60.90	2,130	-68	0	78	0	10
Sept. 30.....	60.53	2,087	-43	0	48	0	5
Water year 1966-67.....	-	-	+232	7,986	607	0	8,825

† Gage height at 0800 hours.

Note.--For months when discharge to the reservoir was small and other elements were large, discordant figures of discharge may appear. This arises primarily from the difficulty of computing discharge 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

113

11-0255. SANTA YSABEL CREEK NEAR RAMONA, CALIF.

LOCATION.--Lat 33°06'25", long 116°51'55", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--112 sq mi.

RECORDS AVAILABLE.--February 1912 to February 1923, October 1943 to September 1967. Monthly discharge only for February 1912, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and concrete cutoff wall, repaired at times. 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 graphic water-stage recorder at present site at datum 0.3 ft higher.

EXTREMES.--Maximum discharge during year, 6,050 cfs Dec. 6 (gage height, 11.44 ft, from inside gage), from rating curve extended above 1,300 cfs on basis of slope-area measurement at gage height, 10.06 ft; no flow Oct. 1 to Dec. 4, July 10 to Sept. 30.

1912-23, 1943-67: 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 based on slope-conveyance computation of maximum flow; no flow for parts of some years.

REMARKS.--Records good. Flow regulated since July 1954 by Sutherland Reservoir (see sta. no. 0240). Some small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	4.3	8.3	1.6	7.1	14	6.8	0.40		
2			0	4.3	6.4	1.4	6.8	13	5.2	.40		
3			0	4.0	5.8	1.6	5.8	12	4.3	.30		
4			0	4.0	5.5	3.3	5.5	12	3.8	.30		
5			469	4.0	5.2	3.0	8.7	11	3.5	.30		
6			2,620	4.0	4.9	3.0	6.8	11	3.5	.20		
7			455	3.8	4.3	3.3	5.5	9.1	3.5	.20		
8			60	3.3	4.0	3.0	5.2	7.9	3.5	.20		
9			37	3.3	4.0	3.0	4.9	7.1	3.8	.10		
10			30	3.0	4.3	2.8	4.6	8.3	4.6	0		
11			24	3.3	4.0	3.3	31	10	4.9	0		
12			20	3.3	3.8	3.5	44	8.7	5.5	0		
13			17	3.8	3.8	6.4	32	7.1	6.1	0		
14			14	3.8	3.8	4.7	21	6.1	6.8	0		
15			12	3.8	3.8	14	16	5.2	5.2	0		
16			11	3.8	3.8	8.7	14	4.9	4.3	0		
17			9.8	4.0	3.3	7.1	13	4.6	3.8	0		
18			9.0	3.5	3.3	6.8	12	4.3	3.5	0		
19			8.0	3.3	3.3	6.1	33	4.6	2.8	0		
20			7.1	3.3	3.3	5.8	36	4.6	2.4	0		
21			6.6	3.0	3.0	5.5	25	4.3	2.2	0		
22			6.0	4.8	2.8	5.2	79	3.5	1.7	0		
23			5.6	23	2.6	4.9	37	3.5	1.4	0		
24			5.3	14	2.6	4.6	30	4.0	1.2	0		
25			4.9	95	3.0	4.6	25	3.8	1.1	0		
26			4.5	18	2.4	4.6	22	3.5	1.0	0		
27			4.0	12	1.7	4.6	18	3.5	.80	0		
28			3.7	9.9	1.6	4.3	17	4.3	.60	0		
29			4.6	8.3		5.2	19	5.5	.60	0		
30			5.2	7.5	- - - -	5.8	17	6.4	.40	0		
31		- - - -	4.9	8.7	- - - -	5.5	- - - -	7.5	- - - -	0		- - - -
Total	0	0	3,858.2	278.1	108.6	189.5	601.9	215.3	98.80	2.40	0	0
Mean	0	0	124	8.97	3.88	6.11	20.1	6.95	3.29	0.077	0	0
Max	0	0	2,620	95	8.3	4.7	79	14	6.8	0.40	0	0
Min	0	0	0	3.0	1.6	1.4	4.6	3.5	0.40	0	0	0
Ac-ft	0	0	7,650	552	215	376	1,190	427	196	4.8	0	0

Cal yr 1966: Total 4,557.50 Mean 12.5 Max 2,620 Min 0 Ac-ft 9,040
Wtr yr 1967: Total 5,352.80 Mean 14.7 Max 2,620 Min 0 Ac-ft 10,620

SAN DIEGUITO RIVER BASIN

11-0280. SANTA YSABEL CREEK NEAR SAN PASQUAL, CALIF.

LOCATION.--Lat 33°05'10", long 116°54'56", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1967. Records for October to December 1910, published in WSP 447, have been found to be in error and should not be used.

GAGE.--Graphic water-stage recorder and concrete control since April 1947. 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.--15 years (1906-10, 1912, 1957-67), 16.3 cfs (11,800 acre-ft per year); median of yearly mean discharges, 7.0 cfs (5,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,130 cfs Dec. 6 (gage height, 11.56 ft), from rating curve extended above 600 cfs on basis of slope-area measurements at gage heights 9.78 ft and 10.98 ft; no flow Oct. 1 to Dec. 4, July 5 to Sept. 30.

1905-12, 1947-67: 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 good. Flow regulated since July 1954 by Sutherland Reservoir (see sta. no. 0240). Small diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	3.9	9.2	1.8	7.7	15	7.7	0.20		
2			0	3.9	7.7	1.7	8.0	14	5.7	.10		
3			0	3.7	7.0	1.6	7.0	13	4.6	.10		
4			0	3.5	6.3	3.3	6.1	12	3.8	.10		
5			549	3.6	6.1	3.0	8.6	11	3.3	0		
6			1.980	3.6	5.9	3.0	7.7	11	3.2	0		
7			686	3.5	5.5	3.6	6.5	8.9	3.2	0		
8			109	3.2	5.0	3.5	6.1	7.5	3.1	0		
9			98	3.0	4.7	3.2	5.3	7.2	3.4	0		
10			81	2.9	5.3	3.1	4.8	7.7	4.3	0		
11			56	2.9	5.0	3.4	29	10	5.0	0		
12			41	3.0	4.6	3.7	57	8.6	5.5	0		
13			24	3.0	4.4	4.9	42	7.7	6.1	0		
14			16	3.3	4.2	55	25	6.5	7.0	0		
15			11	3.0	4.4	18	18	5.7	5.3	0		
16			8.9	3.1	4.4	9.6	16	5.0	4.4	0		
17			7.0	3.8	3.8	8.3	14	4.7	3.7	0		
18			6.5	3.2	3.7	7.7	13	4.3	3.5	0		
19			6.1	3.0	3.6	7.2	34	4.2	3.0	0		
20			5.2	3.0	3.6	6.8	44	4.7	2.6	0		
21			4.8	3.1	3.4	6.1	26	4.4	2.2	0		
22			4.8	3.8	3.0	5.9	102	3.8	1.8	0		
23			4.6	26	3.0	5.0	54	3.6	1.5	0		
24			4.4	12	3.0	4.6	33	3.9	1.3	0		
25			4.4	140	3.0	4.4	28	3.6	1.0	0		
26			4.7	29	2.9	4.4	22	3.5	.90	0		
27			4.3	15	2.2	4.4	18	3.3	.80	0		
28			4.2	11	1.8	4.4	17	3.7	.60	0		
29			4.2	8.9		5.2	18	5.3	.40	0		
30			4.6	8.6	---	6.3	17	6.8	.20	0		
31		---	4.4	8.9	---	5.9	---	7.7	---	0		---
Total	0	0	3,734.1	332.4	126.7	209.0	694.8	218.3	99.10	0.50	0	0
Mean	0	0	120	10.7	4.52	6.74	23.2	7.04	3.30	0.016	0	0
Max	0	0	1.980	140	9.2	55	102	15	7.7	0.20	0	0
Min	0	0	0	2.9	1.8	1.6	4.8	3.3	0.20	0	0	0
Ac-ft	0	0	7,410	659	251	415	1,380	433	197	1.0	0	0

Cal yr 1966: Total 4,455.00 Mean 12.2 Max 1.980 Min 0 Ac-ft 3,840
 Wtr yr 1967: Total 5,414.90 Mean 14.8 Max 1.980 Min 0 Ac-ft 10,740

SAN DIEGUITO RIVER BASIN

115

11-0270. GUEJITO CREEK NEAR SAN PASQUAL, CALIF.

LOCATION.--Lat 33°06'57", long 116°57'08", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--22.5 sq mi.

RECORDS AVAILABLE.--December 1946 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 560 ft (from topographic map). Prior to Oct. 1, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--20 years (1947-67), 1.27 cfs (919 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,920 cfs Dec. 6 (gage height, 6.78 ft), from rating curve extended above 440 cfs on basis of slope-area measurements at gage heights 5.83 and 6.30 ft, from inside gage; no flow Oct. 1 to Dec. 2, Aug. 27 to Sept. 30.

1946-67: Maximum discharge, that of Dec. 6, 1966; no flow at times in most years.

REMARKS.--Records good. No regulation above station. Diversion for irrigation a quarter of a mile upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	1.1	1.8	.70	1.4	2.0	1.2	.10	.02	0
2	0	0	0	1.1	1.6	.70	1.7	1.8	.84	.10	.03	0
3	0	0	.40	1.0	1.5	.70	1.2	1.7	.66	.10	.03	0
4	0	0	1.0	1.0	1.4	1.4	1.0	1.6	.57	.10	.03	0
5	0	0	774	1.1	1.4	1.1	1.0	1.5	.51	.09	.04	0
6	0	0	1,150	1.1	1.2	.80	1.2	1.5	.49	.09	.04	0
7	0	0	161	1.0	1.2	.70	1.0	1.3	.47	.09	.04	0
8	0	0	16	.90	1.0	.70	1.1	1.3	.47	.08	.05	0
9	0	0	8.0	.80	1.1	.70	.86	1.2	.54	.08	.05	0
10	0	0	4.7	.80	1.2	.70	.81	1.5	.73	.07	.05	0
11	0	0	6.4	.80	1.1	.80	7.1	1.6	.90	.07	.04	0
12	0	0	10	.70	1.0	.80	11	1.3	1.0	.07	.04	0
13	0	0	2.6	.70	1.0	2.5	4.9	1.2	1.2	.07	.04	0
14	0	0	2.4	.70	1.1	9.0	2.9	1.0	1.1	.07	.05	0
15	0	0	2.1	.70	1.0	2.0	2.2	.84	.86	.07	.04	0
16	0	0	2.0	.60	1.0	1.4	1.9	.79	.73	.07	.04	0
17	0	0	1.8	.60	.90	1.2	1.6	.72	.66	.07	.04	0
18	0	0	1.7	.60	.90	1.1	1.8	.70	.63	.06	.02	0
19	0	0	1.6	.60	.90	1.0	4.8	.73	.53	.06	.02	0
20	0	0	1.5	.60	.90	1.0	5.5	.73	.42	.06	.02	0
21	0	0	1.4	.60	.80	1.0	3.4	.67	.36	.06	.02	0
22	0	0	1.3	5.0	.80	.90	20	.57	.30	.05	.01	0
23	0	0	1.3	15	.90	.90	8.2	.52	.26	.05	.01	0
24	0	0	1.2	4.0	.80	.80	4.4	.59	.27	.05	.01	0
25	0	0	1.2	12	.80	.74	3.5	.54	.20	.06	.01	0
26	0	0	1.3	4.0	.80	.75	3.0	.55	.18	.04	.01	0
27	0	0	1.1	2.7	.70	.77	2.6	.53	.14	.03	0	0
28	0	0	1.1	2.2	.60	.75	2.3	.62	.11	.02	0	0
29	0	0	1.1	2.0	-----	.97	2.7	.86	.10	.02	0	0
30	0	0	1.3	1.8	-----	.75	2.2	1.2	.10	.02	0	0
31	0	-----	1.1	2.2	-----	1.1	-----	1.2	-----	.02	0	-----
TOTAL	0	0	2,160.60	68.00	29.40	38.43	107.27	32.86	16.53	1.99	0.80	0
MEAN	0	0	69.7	2.19	1.05	1.24	3.58	1.06	.55	.064	.026	0
MAX	0	0	1,150	15	1.8	9.0	20	2.0	1.2	.10	.05	0
MIN	0	0	0	.60	.60	.70	.81	.52	.10	.02	0	0
AC-FT	0	0	4,290	135	58	76	213	65	33	4.0	1.6	0

CAL YR 1966: TOTAL 2,295.60 MEAN 6.29 MAX 1,150 MIN 0 AC-FT 4,550
WAT YR 1967: TOTAL 2,455.88 MEAN 6.73 MAX 1,150 MIN 0 AC-FT 4,870

Peak discharge (base, 30 cfs).--Dec. 6 (2015 hrs) 2920 cfs (6.78 ft); Apr. 22 (0845 hrs) 45 cfs (2.54 ft).

SAN DIEGUITO RIVER BASIN

11-0285. SANTA MARIA CREEK NEAR RAMONA, CALIF.

LOCATION.--Lat 33°03'08", long 116°56'41", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--57.6 sq mi.

RECORDS AVAILABLE.--November 1912 to September 1920, October 1946 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control since October 1946. Datum of gage is 1,294.44 ft above mean sea level, datum of 1927. Prior to Oct. 1, 1946, at datum 1.78 ft lower.

AVERAGE DISCHARGE.--28 years (1913-20, 1946-67), 3.85 cfs (2,790 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,800 cfs Dec. 6 (gage height, 5.18 ft), from rating curve extended above 20 cfs on basis of slope-area measurement at gage height, 4.56 ft); no flow Oct. 1 to Dec. 4, June 21 to Sept. 30.

1912-20, 1946-67: 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 maximum flow; no flow for several months in each year.

REMARKS.--Records good. No regulation above station. City of Ramona pumps water from stream above station for municipal supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.40	1.2	0.10	0.40	0.60	0.20			
2			0	.40	.90	.20	.50	.60	.10			
3			0	.30	.80	.20	.40	.60	.10			
4			0	.30	.60	.40	.40	.60	.10			
5			85	.40	.60	.40	.60	.60	.10			
6			505	.30	.40	.30	.60	.60	.10			
7			183	.30	.40	.20	.40	.50	.10			
8			16	.20	.40	.20	.40	.50	.10			
9			7.1	.20	.40	.20	.30	.50	.10			
10			4.2	.20	.50	.20	.20	.50	.10			
11			2.9	.20	.40	.20	2.2	.40	.10			
12			2.4	.20	.40	.20	9.0	.40	.10			
13			1.9	.20	.40	.50	3.2	.40	.10			
14			1.7	.20	.50	6.9	1.3	.30	.10			
15			1.3	.20	.40	1.7	.80	.30	.10			
16			1.1	.20	.40	.90	.60	.30	.10			
17			1.0	.20	.30	.50	.50	.30	.10			
18			1.0	.20	.30	.40	.40	.30	.10			
19			.90	.20	.30	.40	1.5	.30	.10			
20			.80	.20	.30	.30	2.7	.30	.10			
21			.80	.20	.20	.30	1.5	.20	0			
22			.70	.80	.20	.20	1.9	.20	0			
23			.60	16	.20	.20	2.6	.20	0			
24			.60	4.8	.20	.20	1.4	.10	0			
25			.60	27	.20	.20	1.0	.10	0			
26			.90	5.6	.20	.20	.70	.10	0			
27			.70	2.5	.20	.20	.70	.10	0			
28			.50	1.6	.10	.20	.60	.10	0			
29			.50	1.3		.20	.70	.20	0			
30			.60	1.3	-----	.20	.70	.20	0			
31		-----	.50	1.3	-----	.20	-----	.20	-----			-----
Total	0	0	822.30	57.40	11.40	16.70	38.20	10.60	2.10	0	0	0
Mean	0	0	26.5	2.17	0.407	0.539	1.27	0.342	0.070	0	0	0
Max	0	0	505	27	1.2	6.9	9.0	0.60	0.20	0	0	0
Min	0	0	0	0.20	0.10	0.10	0.20	0.10	0	0	0	0
Ac-ft	0	0	1.630	134	23	33	76	21	4.2	0	0	0

Cal yr 1966: Total 915.20 Mean 2.51 Max 505 Min 0 Ac-ft 1.820

Wtr yr 1967: Total 958.70 Mean 2.65 Max 505 Min 0 Ac-ft 1.920

Peak discharge (base, 20 cfs).--Dec. 6 (2100 hrs) 1,800 cfs (5.18 ft); Jan. 25 (0200 hrs) 48 cfs (2.08 ft).

SAN DIEGUITO RIVER BASIN

117

11-0300. SAN DIEGUITO RIVER AT LAKE HODGES, CALIF.

LOCATION.--Lat 33°02'48", long 117°07'33", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ 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 1967. 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, 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. Area and capacity tables for lake are based on a resurvey in 1948. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 0.80, excepting the period October 1957 to June 1953, when the mass-transfer method was used. 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. Flow regulated since July 1954 by Sutherland Reservoir (sta. no. 0240). Diversions for irrigation above Lake Hodges.

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

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

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 included (acre-feet)	Net inflow (acre-feet)
Lake Hodges									
Sept. 30.....	39.66	198	-	-	-	-	-	-	-
Oct. 31.....	35.80	114	-84	72	7	0	-5	0	-5
Nov. 30.....	36.19	121	+7	0	4	0	11	0	11
Dec. 31.....	82.65	8,403	+8,282	104	42	0	8,428	0	8,428
Calendar year 1966	-	-	+3,747	4,779	620	1	9,147	0	9,147
Jan. 31.....	83.08	8,585	+182	134	72	3	391	0	391
Feb. 28.....	83.09	8,590	+5	0	95	2	102	0	102
Mar. 31.....	82.90	8,508	-82	171	105	2	196	0	196
Apr. 30.....	82.80	8,466	-42	311	116	1	386	0	386
May 31.....	80.50	7,535	-931	867	179	1	116	0	116
June 30.....	78.10	6,636	-899	817	151	1	70	0	70
July 31.....	74.20	5,342	-1,294	1,150	192	1	49	0	49
Aug. 31.....	72.50	4,850	-492	308	162	0	-22	0	-22
Sept. 30.....	72.10	4,738	-112	0	116	0	4	0	4
Water year 1966-67....	-	-	+4,540	3,934	1,241	11	9,726	0	9,726

† Gage height at 0800 hours.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures at 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 LUIS REY RIVER BASIN

11-0315. AGUA CALIENTE CREEK NEAR WARNER SPRINGS, CALIF.

LOCATION.--Lat 33°17'19", long 116°39'11", in San Jose del Valle Grant, on downstream end of right pier of bridge on State Highway 79, 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,950 ft (from topographic map). Prior to Jan. 29, 1966, at site 120 ft upstream at same datum.

AVERAGE DISCHARGE.--6 years, 0.792 cfs (573 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,200 cfs Dec. 6 (gage height, 5.18 ft), from rating curve extended above 240 cfs; no flow for much of year.
1961-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	.10	0	0.20	3.6	0.60	0.20	.10	0.10
2		0	0	0	.10	0	.30	3.1	.50	.20	.10	.10
3		0	0	0	.10	.20	.30	2.6	.40	.20	.10	.10
4		0	0	0	.10	.30	.30	2.6	.40	.20	.10	0
5		0	31	0	.10	.30	.10	2.4	.40	.20	.10	0
6		0	315	0	.10	.20	0	2.2	.40	.20	.10	0
7		0	116	0	.10	.20	0	2.1	.40	.20	.10	0
8		.10	21	0	.10	.20	.10	2.0	.40	.20	.10	0
9		0	12	0	.10	0	0	1.6	.30	.20	.10	0
10		0	11	0	.10	.10	0	2.0	.30	.20	.10	0
11		0	8.0	.10	.10	.10	.30	1.9	.30	.20	.10	0
12		0	6.0	.10	.10	.10	.60	1.8	.30	.10	.10	0
13		0	4.5	0	0	2.5	.70	1.6	.30	.10	.10	0
14		0	3.5	0	0	2.6	1.8	1.5	.30	.10	.10	0
15		0	2.0	0	0	1.0	2.1	1.4	.20	.10	.10	0
16		0	1.0	0	0	.20	2.1	1.3	.20	.10	1.1	0
17		0	.50	0	0	.10	2.2	1.1	.20	.10	.10	0
18		0	.10	0	0	.10	2.4	1.0	.20	.10	.10	0
19		0	0	0	0	.10	3.0	1.0	.20	.10	.10	0
20		0	0	0	0	.10	3.9	.90	.20	.10	.10	0
21		0	0	0	0	.10	5.1	.80	.20	.10	.10	0
22		0	0	.10	0	.10	14	.80	.20	.10	.10	0
23		0	0	.20	0	.10	10	.70	.20	.10	.10	0
24		0	0	.10	0	.10	9.5	.70	.20	.10	.10	0
25		0	0	13	0	.10	9.5	.70	.20	.10	.10	0
26		0	0	15	0	0	8.1	.50	.20	.10	.10	0
27		0	0	5.0	0	0	7.0	.60	.20	.10	.10	0
28		0	0	1.0	0	0	5.7	.70	.20	.10	.10	0
29		0	0	.70	0	0	4.9	.70	.20	.10	.10	0
30		0	0	.40	-----	0	4.1	.60	.20	.10	.10	0
31		-----	0	.20	-----	.10	-----	.60	-----	.10	.50	-----
Total	0	0.10	531.60	35.90	1.20	9.00	98.30	45.10	8.50	4.20	4.50	0.30
Mean	0	0.003	17.1	1.16	0.043	0.290	3.28	1.45	0.283	0.135	0.145	0.010
Max	0	0.10	315	15	0.10	2.6	14	3.6	0.60	0.20	1.1	0.10
Min	0	0	0	0	0	0	0	0.50	0.20	0.10	0.10	0
Ac-ft	0	0.2	1.050	71	2.4	18	195	89	17	8.3	8.9	0.6

Cal yr 1966: Total 665.50 Mean 1.82 Max 315 Min 0 Ac-ft 1,320

Wtr yr 1967: Total 738.70 Mean 2.02 Max 315 Min 0 Ac-ft 1,470

Peak discharge (base, 50 cfs).--Dec. 6 (2030 hrs) 1,200 cfs (5.18 ft); Jan. 24, time and discharge unknown.

Note.--No gage-height record or stage-discharge relation indefinite most of the year.

SAN LUIS REY RIVER BASIN

119

11-0330. 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.--25.5 sq mi.

RECORDS AVAILABLE.--January 1913 to November 1915, October 1956 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Oct. 1, 1956, at different datum. Prior to Oct. 1, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--12 years (1913-15, 1957-67), 7.65 cfs (5,540 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,200 cfs Dec. 6 (gage height, 11.87 ft), from rating curve extended above 250 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 9-21.
1913-15, 1956-67: Maximum discharge, that of Dec. 6, 1966; no flow at times in most years.

REMARKS.--Records good except those above 100 cfs and those for periods of no gage-height record, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.40	8.4	25	5.9	19	39	13	2.1	.44	.20
2	.10	.10	.40	8.3	24	5.9	24	34	11	2.0	.40	.22
3	.10	.20	3.5	8.2	22	5.7	18	32	10	2.0	.38	.21
4	.10	.30	4.3	8.1	20	12	16	30	9.0	1.9	.36	.21
5	.10	.30	330	8.0	19	11	35	30	9.0	1.9	.34	.19
6	.10	.10	1,180	7.6	15	9.9	21	28	9.1	1.8	.32	.18
7	.10	.10	650	7.4	13	8.2	18	26	8.8	1.8	.30	.18
8	.10	.10	297	7.1	12	7.5	18	25	8.6	1.8	.29	.18
9	0	.10	100	6.6	12	7.2	16	24	8.4	1.7	.28	.18
10	0	.10	50	6.3	11	6.9	14	29	8.2	1.7	.27	.18
11	0	.10	30	6.0	10	13	56	25	8.0	1.6	.26	.17
12	0	.10	20	5.7	10	12	42	23	8.3	1.6	.25	.17
13	0	.10	17	5.5	10	95	49	21	11	1.6	.25	4.3
14	0	.10	16	5.3	9.2	100	48	19	9.6	1.5	.26	2.8
15	0	.10	15	5.1	9.1	32	38	18	8.1	1.5	.27	.21
16	0	.10	14	5.1	9.2	24	34	17	7.0	1.4	.26	.20
17	0	.10	13	4.9	8.6	21	30	16	6.3	1.4	.26	.20
18	0	.10	12	4.8	8.7	18	32	16	5.4	1.3	.26	.20
19	0	.10	11	4.6	8.3	16	51	15	5.1	1.3	.26	.20
20	0	.10	11	4.6	7.7	14	47	14	5.1	1.2	.25	.19
21	0	.10	10	4.5	7.1	13	66	13	5.1	1.1	.24	.19
22	.10	.10	9.6	17	7.0	13	174	13	4.8	1.0	.27	.19
23	.10	.10	9.2	58	7.1	12	76	12	4.3	1.0	.25	.19
24	.10	.10	9.0	153	7.0	11	65	13	4.1	.90	.24	.19
25	.10	.20	8.5	171	6.5	11	57	12	3.5	.80	.24	.20
26	.10	.30	8.3	70	6.5	11	53	11	3.0	.70	.23	.18
27	.10	.30	8.0	61	5.9	11	50	10	2.5	.65	.22	.18
28	.10	.30	7.8	53	5.9	10	46	10	2.4	.60	.21	.18
29	.10	.40	7.6	48	-----	14	51	11	2.3	.55	.20	.19
30	.10	.40	7.4	44	-----	12	42	12	2.2	.52	.19	.18
31	.10	-----	8.5	34	-----	15	-----	13	-----	.48	.20	-----
TOTAL	1.80	4.80	2,908.50	841.1	316.8	558.2	1,306	611	203.2	41.40	8.45	12.44
MEAN	.058	.16	93.8	27.1	11.3	18.0	43.5	19.7	6.77	1.34	.27	.41
MAX	.10	.40	1,180	171	25	100	174	39	13	2.1	.44	4.3
MIN	0	.10	.40	4.5	5.9	5.7	14	10	2.2	.48	.19	.17
AC-FT	3.6	9.5	5,770	1,670	628	1,110	2,590	1,210	403	82	17	25

CAL YR 1966: TOTAL 4,048.60 MEAN 11.1 MAX 1,180 MIN 0 AC-FT 8,030
WAT YR 1967: TOTAL 6,813.69 MEAN 18.7 MAX 1,180 MIN 0 AC-FT 13,510

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1930	11.87	4,200	4-11	1315	5.41	167
1-24	2315	7.41	670	4-22	0500	6.03	295
3-13	2245	6.37	371				

Note.--No gage-height record Dec. 7 to Jan. 12, June 26 to Aug. 14.

SAN LUIS REY RIVER BASIN

11-0350. 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 1967. 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; 45 years (1922-67), 24.7 cfs (17,890 acre-ft per year), discharge at Lake Henshaw, exclusive of 90 percent of precipitation on lake surface; median of yearly mean discharges, 14 cfs (10,200 acre-ft per year).

REMARKS.--Records of net discharge 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 discharge 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 land pan using coefficient of 0.80. Storage began on Oct. 7, 1922. Area and capacity tables 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 DISCHARGE, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Net Evapo-ration (acre-feet)†	Spill plus leakage (acre-feet)	Pumped ground water (acre-feet)	Net discharge (acre-feet)
Lake Henshaw								
Sept. 30.....	37.87	4,696	-	-	-	-	-	-
Oct. 31.....	37.52	4,466	-230	156	179	0	70	35
Nov. 30.....	37.52	4,596	+130	0	-15	0	92	23
Dec. 31.....	47.55	14,667	+10,071	0	-627	0	31	9,413
Calendar year 1966.....	-	-	+3,374	7,256	3,631	0	1,542	12,719
Jan. 31.....	48.72	16,241	+1,574	163	-172	0	23	1,542
Feb. 28.....	48.74	16,268	+27	290	267	0	21	563
Mar. 31.....	49.20	16,889	+631	541	62	0	23	1,211
Apr. 30.....	51.66	20,386	+3,487	132	-378	0	23	3,218
May 31.....	51.17	19,675	-711	1,335	622	0	23	1,223
June 30.....	49.82	17,759	-1,916	1,694	711	0	9	480
July 31.....	47.40	14,469	-3,290	2,532	945	0	22	165
Aug. 31.....	45.09	11,524	-2,945	2,483	727	0	21	244
Sept. 30.....	43.22	9,353	-2,171	1,591	535	0	16	-61
Water year 1966-67.....	-	-	+4,657	10,917	2,856	0	374	18,056

† During the year the amount of precipitation excluded was 2,467 acre-ft.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net discharge may appear. This arises primarily from the difficulty of computing net discharge 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

121

11-0377. PAUMA CREEK NEAR PAUMA VALLEY, CALIF.

LOCATION.--Lat 33°20'10", long 116°58'25", in Pauma Grant, on right bank 0.3 mile downstream from unnamed tributary, and 2.2 miles north of Pauma Valley, San Diego County.

DRAINAGE AREA.--11.0 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder; digital water-stage recorder and Parshall flume on diversion. Altitude of gage is 1,240 ft (from topographic map).

EXTREMES (creek only).--Maximum discharge during year, 2,100 cfs Dec. 6 (gage height, 8.60 ft), from rating curve extended above 110 cfs on basis of field estimate at gage height 6.12 ft; no flow Oct. 1 to Nov. 7, Nov. 12 to Dec. 2, July 31 to Sept. 30.

1964-67: Maximum discharge, that of Dec. 6, 1966; no flow for much of each year.

(combined).--Maximum discharge during year, 2,100 cfs Dec. 6; minimum daily, 0.20 cfs for some days.

1964-67: Maximum discharge, that of Dec. 6, 1966; minimum daily, 0.10 cfs for some days in most years.

REMARKS.--Records fair. No regulation above station. Pauma Valley Water Co. diverts from a site 0.25 mile upstream. For records of combined discharge of Pauma Creek and Pauma Valley Water Co.'s diversion, see following page.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	4.4	9.1	3.7	9.8	24	6.9	2.0		
2		0	0	4.1	8.4	3.8	13	21	6.2	1.9		
3		0	7.6	3.6	7.7	3.7	13	20	5.6	1.7		
4		0	4.5	3.6	6.9	6.4	18	19	5.5	1.7		
5		0	11.1	3.7	6.6	5.6	21	18	5.5	1.7		
6		0	656	3.4	6.6	5.6	14	17	5.5	1.7		
7		0	50	3.0	6.6	4.8	13	16	5.3	1.6		
8		1.0	15	3.0	6.6	4.5	13	15	5.2	1.7		
9		.30	10	2.7	6.6	4.2	12	15	5.2	1.4		
10		.10	9.5	2.6	6.6	4.1	11	18	5.5	1.2		
11		.10	9.0	2.6	6.2	6.4	20	15	5.5	1.3		
12		0	8.5	2.6	6.0	6.9	19	14	5.5	1.7		
13		0	8.0	2.5	6.2	3.6	17	13	6.6	1.6		
14		0	7.8	2.5	6.0	3.8	19	11	5.8	1.5		
15		0	7.6	2.6	6.0	1.8	20	10	5.0	1.4		
16		0	7.4	2.6	5.8	1.4	22	9.8	4.7	1.2		
17		0	7.2	2.4	5.5	1.2	22	8.6	4.5	1.2		
18		0	7.0	2.2	5.5	1.2	22	8.4	4.2	.90		
19		0	6.9	2.2	5.5	1.1	24	8.2	4.1	.60		
20		0	6.8	2.4	5.0	1.0	22	7.5	3.9	.50		
21		0	6.6	2.4	4.5	9.3	27	7.3	3.6	.40		
22		0	6.0	6.8	4.4	9.1	49	6.9	3.4	.30		
23		0	5.8	1.6	4.2	8.6	39	6.8	3.3	.20		
24		0	5.5	2.1	4.2	8.6	35	6.8	3.0	.20		
25		0	5.3	4.5	4.1	8.2	36	6.6	3.0	.20		
26		0	5.3	1.7	4.1	8.2	38	6.4	2.8	.10		
27		0	5.3	1.4	4.1	7.5	35	6.4	2.6	.10		
28		0	5.0	1.2	3.8	6.9	30	6.4	2.5	.10		
29		0	4.8	1.0		8.8	30	6.8	2.4	.10		
30		0	4.7	9.8		8.4	26	7.3	2.2	.10		
31		---	4.5	1.2	---	9.1	---	7.3	---	0		---
Total	0	1.50	999.6	224.7	152.8	303.4	689.8	363.5	135.0	30.30	0	0
Mean	0	0.050	32.2	7.25	5.81	9.79	23.0	11.7	4.50	0.977	0	0
Max	0	1.0	656	4.5	9.1	3.8	49	24	6.9	2.0	0	0
Min	0	0	0	2.2	3.8	3.7	9.8	6.4	2.2	0	0	0
Ac-ft	0	3.0	1,980	446	323	602	1,370	721	268	60	0	0

Cal yr 1966: Total 1,632.20 Mean 4.47 Max 656 Min 0 Ac-ft 3,240
Wtr yr 1967: Total 2,910.60 Mean 7.97 Max 656 Min 0 Ac-ft 5,770

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	2200	8.60	2,100	3-13	2230	3.99	121
1-25	0030	4.06	120	4-22	0500	3.40	72

SAN LUIS REY RIVER BASIN

11-0377. Pauma Creek near Pauma Valley, Calif.--Continued.

Combined discharge, in cubic feet per second, of Pauma Creek and Pauma Valley Water Co.'s diversion near Pauma Valley, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.20	0.50	5.9	9.4	5.6	10	24	9.3	3.1	1.3	0.80
2	.20	.20	.50	6.0	8.7	5.7	13	22	8.6	3.0	1.2	1.1
3	.20	.20	8.1	5.6	8.5	5.6	13	22	8.0	2.8	1.2	1.9
4	.30	.20	4.6	5.7	8.5	8.3	18	21	7.9	2.7	1.2	1.6
5	.30	.30	112	5.5	8.2	7.5	22	20	7.9	2.6	1.2	1.2
6	.30	.30	656	5.1	7.6	7.5	15	19	7.9	2.5	1.2	1.0
7	.30	.80	50	4.7	7.3	6.7	14	18	7.7	2.4	1.2	1.0
8	.20	1.8	15	4.2	7.3	6.5	14	17	7.6	2.3	1.2	.90
9	.20	.70	10	4.7	7.3	6.1	13	17	7.6	2.2	1.1	.90
10	.60	.50	9.5	4.3	7.3	6.0	12	20	7.6	2.1	1.1	.90
11	.40	.70	9.0	4.4	6.9	8.4	20	17	7.6	2.0	1.1	.90
12	.40	.60	8.5	4.4	6.7	8.9	19	16	7.6	2.0	1.1	.90
13	.40	.50	8.0	4.2	6.9	38	17	15	9.0	1.9	1.1	.90
14	.30	.50	8.2	4.3	6.6	38	20	13	8.0	1.8	1.1	.90
15	.30	.50	8.2	4.3	6.5	18	20	12	7.6	1.7	1.0	.80
16	.30	.50	8.0	4.3	6.5	14	22	12	7.2	1.7	1.0	.80
17	.20	.50	7.8	4.1	6.3	12	22	11	6.7	1.6	1.0	.90
18	.20	.50	7.6	3.9	6.3	12	22	11	6.3	1.6	1.0	1.0
19	.20	.40	7.5	3.9	6.2	11	24	11	5.9	1.5	1.0	1.0
20	.20	.40	7.4	4.1	6.6	10	22	9.9	5.5	1.5	1.0	1.0
21	.20	.50	7.2	4.1	6.5	9.7	27	9.7	5.2	1.5	1.0	1.0
22	.20	.50	6.6	8.1	6.4	9.4	49	9.3	5.0	1.5	1.0	1.0
23	.20	.50	6.4	16	6.3	9.0	39	9.2	4.7	1.4	.90	1.0
24	.20	.50	6.1	21	6.2	9.0	35	9.2	4.5	1.4	.90	1.0
25	.20	.50	5.9	45	6.0	8.7	36	9.0	4.2	1.4	.80	1.0
26	.20	.50	5.9	17	6.0	8.7	38	8.8	4.0	1.4	.80	1.0
27	.20	.40	5.9	14	6.0	9.1	35	8.8	3.7	1.4	.80	.90
28	.20	.40	5.6	12	5.7	8.6	30	8.8	3.6	1.3	.80	.90
29	.20	.50	5.4	10		9.6	30	9.2	3.4	1.3	.70	.90
30	.20	.50	5.1	9.9	-----	9.1	26	9.3	3.2	1.3	.70	.80
31	.20	-----	5.0	12	-----	9.5	-----	9.3	-----	1.3	.70	-----
Total	7.90	15.10	1.011.50	252.7	194.7	336.2	697	428.5	193.0	58.2	31.40	29.90
Mean	0.255	0.503	32.6	8.47	6.95	10.8	23.2	13.8	6.43	1.88	1.01	0.997
Max	0.60	1.8	656	45	9.4	38	49	24	9.3	3.1	1.3	1.9
Min	0.20	0.20	0.50	3.9	5.7	5.6	10	8.8	3.2	1.3	0.70	0.80
Ac-ft	16	30	2.010	521	386	657	1.380	850	383	115	62	59

Cal yr 1966: Total 1.841.30 Mean 5.04 Max 656 Min 0.10 Ac-ft 3.650
Wtr yr 1967: Total 3.266.10 Mean 8.95 Max 656 Min 0.20 Ac-ft 6.480

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	2200		2,100	3-13	2230		121
1-25	0030		120	4-22	0500		72

SAN LUIS REY RIVER BASIN

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11-0391. SAN LUIS REY RIVER TRIBUTARY NEAR PALA, CALIF.

LOCATION.--Lat 33°21'37", long 117°02'33", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.9 S., R.2 W., on upstream right bank at culvert on State Highway 76, 1.9 miles east of Pala.

DRAINAGE AREA.--1.01 sq mi.

RECORDS AVAILABLE.--Water years 1962-65 (annual maximum), September 1965 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage, and corrugated pipe control. Altitude of gage is 520 ft (from topographic map). Dec. 8, 1961, to Sept. 20, 1965, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during year, 6.9 cfs Dec. 6 (gage height, 15.52 ft), from rating curve as explained below; no flow for most of year.

1961-67: Maximum discharge, 25 cfs Nov. 22, 1965 (gage height, 16.77 ft), from rating curve defined by computation of flow through culvert; no flow for most of each year.

REMARKS.--Records good. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.4; November, 1.0; December, 7.5; January, 4.1; March, 2.3; April, 4.2; May, 0.3; the water year, 19.8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 5.....	0.80	Jan. 24.....	0.60	Apr. 2.....	0.20
6.....	1.5	25.....	.20	11.....	.10
7.....	.70	Mar. 13.....	.20	22.....	.30
Jan. 22.....	.40	14.....	.20	23.....	.10
23.....	.40				

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	3.00	1.5	0	0.097	6.0
January 1967.....	1.60	.60	0	.052	3.2
March.....	.40	.20	0	.013	.8
April.....	.70	.30	0	.023	1.4
Calendar year 1966.....	-	1.5	0	.008	6.0
Water year 1966-67.....	-	1.5	0	.016	11

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

SAN LUIS REY RIVER BASIN

11-0400. SAN LUIS REY RIVER AT MONSERATE NARROWS, NEAR PALA, CALIF.

LOCATION.--Lat 33°20'15", long 117°08'10", in NE¼ sec.6, T.10 S., R.2 W., on left bank 4 miles southwest of Pala and 6 miles northeast of Bonsall.

DRAINAGE AREA.--373 sq mi.

RECORDS AVAILABLE.--December 1935 to March 1938 (fragmentary), April 1938 to November 1941, October 1946 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 270.82 ft above mean sea level (levels by State of California). 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.--24 years (1938-41, 1946-67), 7.59 cfs (5,490 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,000 cfs Dec. 6 (gage height, 6.70 ft), from rating curve extended above 1,200 cfs; no flow for much of year.
1935-41, 1946-67: Maximum gage height, 8.7 ft Feb. 7, 1937, datum then in use (discharge not determined); no flow at times in 1948-67.

REMARKS.--Records poor. Flow regulated by Lake Henshaw (see sta. no. 0350). Several diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.90	1.1	0.90	1.6	0.50	0.10		
2			0	0	.90	1.1	.70	1.6	.50	.10		
3			0	0	.60	1.1	.60	1.5	.50	.10		
4			0	0	.70	1.2	.80	1.3	.50	.10		
5			658	0	.70	.90	.50	1.1	.40	.10		
6			1,890	0	.90	.80	.50	1.1	.40	.10		
7			950	0	1.0	.80	.50	.70	.40	.10		
8			.20	0	1.0	.80	.50	.80	.40	.10		
9			0	0	1.0	.70	.40	.90	.30	.10		
10			0	0	1.0	.80	.40	1.0	.30	.10		
11			0	0	.90	.80	20	.90	.30	.10		
12			0	0	.90	.90	4.0	.90	.30	.10		
13			0	0	1.1	4.1	2.5	.80	.30	.10		
14			0	0	1.1	15	2.2	.70	.30	.10		
15			0	0	1.1	.40	1.3	.70	.30	.10		
16			0	0	1.3	.50	1.3	.70	.30	.10		
17			0	0	1.3	.50	1.3	.70	.30	.10		
18			0	0	1.2	.50	1.8	.60	.20	.10		
19			0	0	1.2	.50	3.4	.50	.20	.10		
20			0	0	1.2	.50	2.0	.40	.20	.10		
21			0	0	1.1	.50	2.5	.40	.20	.10		
22			0	0	1.1	.50	18	.40	.20	.10		
23			0	0	1.1	.50	9.0	.40	.20	.10		
24			0	8.2	1.1	.50	7.0	.40	.20	.10		
25			0	85	1.1	.50	4.2	.40	.20	.10		
26			0	3.4	1.1	.70	6.7	.40	.20	.10		
27			0	1.7	1.1	.70	6.7	.40	.20	.10		
28			0	1.3	1.1	.60	4.2	.40	.20	.10		
29			0	1.0	.60	.60	2.7	.50	.20	.10		
30			0	1.1	.60	.60	2.0	.60	.20	.10		
31			0	1.1	.80	.80	.60	.60	.20	0		
Total	0	0	3,518.20	102.8	28.80	39.50	108.60	23.40	8.90	3.00	0	0
Mean	0	0	113	3.32	1.03	1.27	3.62	0.755	0.297	1.00	0	0
Max	0	0	1,890	85	1.3	15	20	1.6	0.50	0.10	0	0
Min	0	0	0	0	0.60	0.40	0.40	0.40	0.20	0	0	0
Ac-ft	0	0	6,980	204	57	78	215	46	18	6.0	0	0

Cal yr 1966: Total 3,555.00 Mean 9.77 Max 1,890 Min 0 Ac-ft 7,070
Wtr yr 1967: Total 3,833.20 Mean 10.5 Max 1,890 Min 0 Ac-ft 7,600

Note.--No gage-height record Dec. 7, 8.

11-0410. SAN LUIS REY RIVER NEAR BONSALE, CALIF.

LOCATION.--Lat 33°15'13", long 117°14'48", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--512 sq mi.

RECORDS AVAILABLE.--July 1916 to September 1918 (gage heights and discharge measurements only), October 1929 to September 1967.

GAGE.--Graphic 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, graphic 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.--38 years (1929-67), 18.9 cfs (13,680 acre-ft per year); median of yearly mean discharges, 4.6 cfs (3,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,080 cfs Dec. 7 (gage height, 10.84 ft), from rating curve extended above 2,000 cfs; no flow Oct. 1 to Dec. 4, July 30 to Sept. 30.
1929-67: Maximum discharge, 18,100 cfs Mar. 3, 1938 (gage height, 16.04 ft, present datum), from rating curve extended above 2,400 cfs; no flow for part of each year.

REMARKS.--Records poor. Flow regulated by Lake Henshaw (see sta. no. 0350). Several diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	4.0	8.4	4.2	7.0	4.8	1.8	0.30		
2			0	4.0	7.9	4.2	7.5	4.6	1.7	.30		
3			0	4.0	7.7	4.2	8.0	4.6	1.6	.30		
4			0	4.0	8.5	4.2	7.5	4.6	1.5	.30		
5			286	4.0	7.9	4.2	7.0	4.6	1.4	.30		
6			1,500	4.0	7.7	4.1	7.0	4.5	1.4	.30		
7			1,540	4.0	7.5	4.1	5.5	4.5	1.4	.20		
8			45	4.0	7.2	4.0	5.5	4.5	1.4	.20		
9			30	4.0	6.8	4.0	3.5	4.5	1.4	.20		
10			20	4.0	6.5	3.9	2.6	4.5	1.3	.20		
11			20	4.0	6.5	3.9	5.9	4.7	1.2	.20		
12			12	4.0	6.5	4.4	3.3	5.5	1.1	.20		
13			8.0	4.5	6.5	14	16	3.9	1.1	.20		
14			7.5	4.0	6.2	21	13	2.7	1.0	.20		
15			7.0	4.0	6.2	40	10	2.6	.90	.20		
16			6.5	4.0	6.2	11	9.2	2.5	.90	.20		
17			6.0	4.0	6.2	7.0	8.6	2.5	.90	.10		
18			5.8	4.0	6.2	6.6	8.6	2.4	.80	.10		
19			5.6	4.0	6.2	6.3	8.5	2.3	.80	.10		
20			5.5	4.0	6.2	6.0	8.5	2.3	.70	.10		
21			5.4	4.0	6.0	5.9	8.4	2.2	.70	.10		
22			5.2	11	5.8	5.9	8.4	2.2	.60	.10		
23			5.0	72	5.6	5.8	10	2.2	.60	.10		
24			4.8	19	5.4	5.7	8.2	2.2	.50	.10		
25			4.6	248	5.2	5.7	8.2	2.2	.50	.10		
26			4.3	19	5.0	5.7	8.4	2.2	.50	.10		
27			4.0	17	4.6	5.7	9.0	2.2	.50	.10		
28			4.0	14	4.2	5.7	8.0	2.0	.40	.10		
29			4.0	12		5.7	7.4	2.0	.40	.10		
30			4.0	10	-----	5.7	6.2	1.8	.40	0		
31		-----	4.0	9.0	-----	6.0	-----	1.8	-----	0		-----
Total	0	0	3,554.2	515.5	180.8	224.8	317.7	100.1	29.40	5.10	0	0
Mean	0	0	115	16.6	6.46	7.25	10.6	3.23	0.980	0.165	0	0
Max	0	0	1,540	248	8.5	40	59	5.5	1.8	0.30	0	0
Min	0	0	0	4.0	4.2	3.9	2.6	1.8	0.40	0	0	0
Ac-ft	0	0	7,050	1,020	359	446	630	199	58	10	0	0

Cal yr 1966: Total 3,975.70 Mean 10.9 Max 1,540 Min 0 Ac-ft 7,890
Wtr yr 1967: Total 4,927.60 Mean 13.5 Max 1,540 Min 0 Ac-ft 9,770

Note.--No gage-height record except that for Dec. 5-8, Jan. 22-25, Apr. 11-14.

SAN LUIS REY RIVER BASIN

11-0420. SAN LUIS REY RIVER AT OCEANSIDE, CALIF.

LOCATION.--Lat 33°12'48", long 117°22'33", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--557 sq mi.

RECORDS AVAILABLE.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to September 1967.

GAGE.--Graphic 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.--35 years (1912-14, 1929-41, 1946-67), 15.4 cfs (11,150 acre-ft per year); median of yearly mean discharges, zero.

EXTREMES.--Maximum discharge during year, 4,680 cfs Dec. 7 (gage height, 16.69 ft), from rating curve extended above 2,700 cfs; no flow for most of year.

1912-14, 1916, 1929-42, 1946-67: Maximum discharge, 95,600 cfs Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in each year.

REMARKS.--Records good. Flow regulated by Lake Henshaw (see sta. no. 0350). Several diversions for irrigation and domestic use above station. Average discharge represents flow to ocean during period of record, regardless of upstream development.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10	2.4	0	0.70	0.50				
2			0	.10	1.2	0	1.2	.50				
3			0	.10	1.5	0	1.4	.50				
4			0	.10	2.6	0	.80	.40				
5			0	.10	1.2	0	.70	.40				
6			191	0	.70	0	.70	.30				
7			1.700	0	.40	0	.60	.20				
8			57	0	.30	0	.60	.20				
9			16	0	.20	0	.50	.20				
10			11	0	.10	0	.40	.20				
11			12	0	.10	0	4.8	.20				
12			4.8	0	.10	0	24	.20				
13			3.0	0	0	.10	6.3	.10				
14			2.4	0	0	4.6	3.2	.10				
15			1.6	0	0	6.3	2.3	0				
16			1.0	0	0	2.8	1.4	0				
17			.90	0	0	1.9	1.0	0				
18			.70	0	.10	1.5	.70	0				
19			.50	0	.10	1.0	1.2	0				
20			.40	0	0	.70	4.6	0				
21			.30	0	0	.40	3.6	0				
22			.20	.10	0	.30	4.1	0				
23			.10	21	.20	.30	8.0	0				
24			.10	17	.40	.20	3.6	0				
25			.10	195	.20	.20	2.1	0				
26			.10	22	.20	.20	1.6	0				
27			.10	12	.10	.20	1.2	0				
28			.10	7.6	0	.20	1.0	0				
29			.10	5.2		.20	.80	0				
30			.10	4.4		.10	.70	0				
31			.10	3.6		.30		0				
Total	0	0	2.00370	288.40	12.10	21.50	83.80	4.00	0	0	0	0
Mean	0	0	64.6	9.30	0.432	0.694	2.79	0.129	0	0	0	0
Max	0	0	1.700	195	2.6	6.3	24	0.50	0	0	0	0
Min	0	0	0	0	0	0	0.40	0	0	0	0	0
Ac-ft	0	0	3.970	572	24	43	156	7.9	0	0	0	0

Cal yr 1966: Total 2.08450 Mean 5.71 Max 1.700 Min 0 Ac-ft 4.130
Wtr yr 1967: Total 2.41350 Mean 6.61 Max 1.700 Min 0 Ac-ft 4.790

Note.--No gage-height record Dec. 20 to Jan. 21.

SANTA MARGARITA RIVER BASIN

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11-0424. TEMECULA CREEK NEAR AGUANGA, CALIF.

LOCATION.--Lat 33°27'33", long 116°55'22", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--131 sq mi.

RECORDS AVAILABLE.--August 1957 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 1,590 ft (from topographic map). Prior to Mar. 8, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--10 years, 3.72 cfs (2,690 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,490 cfs Dec. 6 (gage height, 7.33 ft in gage well, 9.10 ft from profile of floodmarks), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Dec. 2, Aug. 2-12.
1957-67: Maximum discharge, 3,540 cfs Apr. 3, 1958 (gage height, 6.57 ft), from rating curve extended above 1,200 cfs; no flow for several months each year.

REMARKS.--Records good except those for Dec. 5, 6, which are fair. No regulation above station. Pumping for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	3.3	9.2	3.3	6.6	20	5.4	1.7	.04	.03
2	0	0	0	3.2	8.9	3.5	8.4	16	5.0	1.5	0	.03
3	0	0	.10	3.1	8.4	3.5	7.2	13	4.8	1.2	0	.03
4	0	0	0	3.1	7.9	5.0	8.6	13	4.8	1.1	0	.03
5	0	0	335	3.2	7.4	5.2	19	12	4.7	1.1	0	.03
6	0	0	1,170	3.0	6.6	4.1	11	11	4.8	.93	0	.03
7	0	0	274	2.8	6.5	4.0	9.1	10	4.6	.88	0	.03
8	0	0	49	2.7	6.0	3.9	8.7	9.7	4.4	.74	0	.03
9	0	0	31	2.6	5.8	3.7	7.7	9.5	4.5	.67	0	.03
10	0	0	25	2.6	6.0	3.6	7.1	9.7	4.7	.57	0	.03
11	0	0	21	2.6	5.6	4.2	48	9.2	4.8	.50	0	.03
12	0	0	17	2.5	5.4	4.6	34	9.1	4.8	.75	0	.03
13	0	0	13	2.4	5.4	15	26	8.5	4.8	.92	.01	.08
14	0	0	12	2.3	5.3	46	22	7.6	4.6	.68	.01	.04
15	0	0	11	2.2	5.2	19	21	7.3	4.5	.53	.01	.03
16	0	0	9.2	2.2	5.1	12	18	6.9	4.4	.39	.01	.03
17	0	0	8.8	2.1	4.8	9.6	17	6.5	4.4	.37	.01	.10
18	0	0	7.8	2.0	4.9	9.2	17	6.5	4.4	.34	.01	.14
19	0	0	6.8	2.0	4.8	7.9	32	6.3	4.1	.31	.01	.16
20	0	0	6.3	2.0	4.6	6.9	27	6.1	3.9	.27	.01	.16
21	0	0	5.9	2.2	4.3	6.6	26	5.7	3.5	.23	.03	.12
22	0	0	5.4	5.1	4.2	6.0	125	5.3	3.2	.22	.03	.11
23	0	0	5.0	46	4.2	5.6	64	5.5	3.0	.20	.03	.12
24	0	0	4.7	58	3.9	5.3	46	5.2	2.8	.19	.03	.13
25	0	0	4.5	91	3.8	5.2	38	4.9	2.6	.17	.03	.14
26	0	0	4.3	30	4.0	5.1	32	5.1	2.6	.16	.03	.10
27	0	0	4.1	18	3.5	5.0	27	5.0	2.3	.14	.03	.10
28	0	0	3.9	16	3.3	4.9	25	5.3	2.3	.12	.03	.10
29	0	0	3.7	13	-----	5.1	25	5.5	2.1	.11	.05	.20
30	0	0	3.5	10	-----	5.1	22	5.6	1.9	.10	.05	.20
31	0	-----	3.4	9.5	-----	5.8	-----	5.6	-----	.09	.05	-----
TOTAL	0	0	2,045.40	350.7	155.0	233.9	785.4	256.6	118.7	17.18	0.51	2.42
MEAN	0	0	66.0	11.3	5.54	7.55	26.2	8.28	3.96	.55	.017	.081
MAX	0	0	1,170	91	9.2	46	125	20	5.4	1.7	.05	.20
MIN	0	0	0	2.0	3.3	3.3	6.6	4.9	1.9	.09	0	.03
AC-FT	0	0	4,060	696	307	464	1,560	509	235	34	1.0	4.8

CAL YR 1966: TOTAL 2,649.20 MEAN 7.26 MAX 1,170 MIN 0 AC-FT 5,250
WAT YR 1967: TOTAL 3,965.81 MEAN 10.9 MAX 1,170 MIN 0 AC-FT 7,870

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2000	7.33	2,490	4-11	1130	2.28	168
1-24	2400	3.19	397	4-22	0530	2.79	282
3-13	2345	2.12	140				

SANTA MARGARITA RIVER BASIN

11-0425. 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.--320 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967. January 1923 to October 1930 at site 200 ft downstream and October 1930 to September 1948 at site 500 ft downstream, published as "at Nigger Canyon, near Temecula"; records not equivalent owing to change in natural water loss resulting from creation of Vail Lake. 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.--Graphic water-stage recorder with rain-gage attachment. U.S. Weather Bureau non-recording rain gage one-fourth mile upstream. Datum of gage is 1,350.0 ft above mean sea level (levels by Bureau of Reclamation). Graphic 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); median of yearly mean discharges, 8.3 cfs (6,000 acre-ft per year), see records available; 19 years (1948-67), 4.72 cfs (3,420 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).

REMARKS.--Records of discharge represent all water reaching Vail Lake, including precipitation on lake surface. Discharge computed on basis of records of storage, release (draft), spill and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from a class A evaporation pan using coefficient of 0.77, excepting the period June 1964 to September 1965, when a 24-inch diameter sunken screen pan with a coefficient of 0.98 was used. Area-capacity tables 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. There has been no spill since Nov. 13, 1948, date of closure. Water is released down Temecula Creek for diversion about 1 mile below dam as required. Monthly precipitation, in inches, from U.S. Weather Bureau non-recording rain gage is as follows: October, 0.50; November, 1.21; December, 4.76; January, 2.15; February, 0.20; March, 0.92; April, 2.48; May, 0.06; September, 0.08; the water year, 12.36.

MONTHLY DISCHARGE, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Elevation (feet)†	Contents (acre- feet)	Change in contents (acre- feet)	Draft (acre- feet)	Evapo- ration (acre- feet)	Discharge (acre- feet)
Vail Lake						
Sept. 30.....	1,401.86	5,040	-	-	-	-
Oct. 31.....	1,401.70	4,995	-45	0	106	61
Nov. 30.....	1,401.87	5,043	+48	0	73	121
Dec. 31.....	1,417.19	10,232	+5,189	0	66	5,255
Calendar year 1966.....	-	-	+5,310	185	1,488	6,983
Jan. 31.....	1,419.26	11,083	+851	0	113	964
Feb. 28.....	1,419.76	11,294	+211	0	118	329
Mar. 31.....	1,420.79	11,739	+445	0	98	543
Apr. 30.....	1,425.94	14,180	+2,441	0	129	2,570
May. 31.....	1,425.95	14,185	+5	575	255	835
June 30.....	1,425.49	13,952	-233	246	254	267
July 31.....	1,424.46	13,439	-513	254	403	144
Aug. 31.....	1,424.06	13,242	-197	61	375	239
Sept. 30.....	1,423.48	12,966	-276	0	201	-75
Water year 1966-67.....	-	-	+7,926	1,136	2,191	11,253

† Elevation at 2400 hours.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of discharge may appear. This arises primarily from the difficulty of computing discharge 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.

11-0430. 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.--222 sq mi.

RECORDS AVAILABLE.--October 1924 to September 1967. Monthly discharge only October 1924 to September 1930, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and concrete low-water control since August 1962. 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 graphic water-stage recorder and sharp-crested weir at site 0.4 mile downstream at different datum used to record low flows.

AVERAGE DISCHARGE.--43 years, 8.46 cfs (6,120 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,510 cfs Dec. 6 (gage height, 4.86 ft); minimum daily, 0.20 cfs for several months.

1930-67: Maximum discharge, 17,500 cfs Jan. 23, 1943 (gage height, 13.82 ft); minimum daily, 0.10 cfs for several days in some years.

REMARKS.--Records good. No regulation above station. Pumping above station for irrigation of about 2,500 acres.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	.20	0.20	0.30	0.40	0.30	0.30	0.40	0.20	0.20	0.20	0.20
2	.20	.20	.20	.30	.40	.30	.30	.40	.20	.20	.20	.20
3	.20	.20	.80	.30	.40	.30	.30	.40	.20	.20	.20	.20
4	.20	.20	.50	.30	.30	.40	.40	.40	.20	.20	.20	.20
5	.20	.20	22	.30	.30	.30	.70	.40	.20	.20	.20	.20
6	.20	.20	315	.30	.30	.30	.50	.40	.20	.20	.20	.20
7	.20	.30	133	.30	.30	.30	.40	.40	.20	.20	.20	.20
8	.20	.20	4.8	.30	.30	.30	.40	.40	.20	.20	.20	.20
9	.20	.20	2.4	.30	.30	.30	.30	.40	.20	.20	.20	.20
10	.20	.20	1.5	.40	.30	.30	.30	.40	.20	.20	.20	.20
11	.20	.20	1.0	.40	.30	.30	2.9	.30	.20	.20	.20	.20
12	.20	.20	.70	.50	.30	.30	3.0	.30	.20	.20	.20	.20
13	.20	.20	.60	.60	.30	1.0	1.7	.30	.20	.20	.20	.20
14	.20	.20	.50	.80	.30	3.6	.90	.30	.20	.20	.20	.20
15	.20	.20	.40	.80	.30	1.5	.60	.30	.20	.20	.20	.20
16	.20	.20	.70	.80	.30	.80	.40	.30	.20	.20	.20	.20
17	.20	.20	.40	.60	.30	.60	.40	.30	.20	.20	.20	.20
18	.20	.20	.40	.60	.30	.40	.40	.30	.20	.20	.20	.20
19	.20	.20	.40	.60	.30	.40	.80	.30	.20	.20	.20	.20
20	.20	.20	.30	.60	.30	.40	.80	.20	.20	.20	.20	.20
21	.20	.20	.30	.60	.30	.40	.60	.20	.20	.20	.20	.20
22	.20	.20	.30	2.1	.30	.30	.80	.20	.20	.20	.20	.20
23	.20	.20	.30	35	.30	.30	1.0	.20	.20	.20	.20	.20
24	.20	.20	.30	70	.30	.30	.60	.20	.20	.20	.20	.20
25	.20	.20	.30	219	.40	.30	.50	.20	.20	.20	.20	.20
26	.20	.20	.30	6.6	.40	.30	.40	.20	.20	.20	.20	.20
27	.20	.20	.30	1.9	.40	.30	.40	.20	.20	.20	.20	.20
28	.20	.20	.30	1.0	.30	.30	.60	.20	.20	.20	.20	.20
29	.20	.20	.30	.80		.30	.40	.20	.20	.20	.20	.20
30	.20	.20	.30	.60	-----	.30	.40	.30	.20	.20	.20	.20
31	.20	-----	.30	.50	-----	.40	-----	.30	-----	.20	.20	-----
Total	6.20	6.10	489.10	347.50	9.00	15.90	21.50	9.30	6.00	6.20	6.20	6.00
Mean	0.200	0.203	15.8	11.2	0.321	0.513	0.717	0.300	0.200	0.200	0.200	0.200
Max	0.20	0.30	315	219	0.40	3.6	3.0	0.40	0.20	0.20	0.20	0.20
Min	0.20	0.20	0.20	0.30	0.30	0.30	0.30	0.20	0.20	0.20	0.20	0.20
Ac-ft	12	12	970	689	18	32	43	18	12	12	12	12

Cal yr 1966: Total 602.70 Mean 1.65 Max 315 Min 0.20 Ac-ft 1,200

Wtr yr 1967: Total 929.00 Mean 2.55 Max 315 Min 0.20 Ac-ft 1,840

Peak discharge (base, 55 cfs).--Dec. 6 (2030 hrs) 1,510 cfs (4.86 ft); Jan. 25 (0030 hrs) 1,010 cfs (4.22 ft).

SANTA MARGARITA RIVER BASIN

11-0440. SANTA MARGARITA RIVER NEAR TEMECULA, CALIF.

LOCATION (revised).--Lat 33°28'26", long 117°08'29", 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. Prior to Nov. 3, 1966, at site 100 ft downstream.

DRAINAGE AREA.--588 sq mi.

RECORDS AVAILABLE.--January 1923 to September 1967. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

GAGE.--Graphic water-stage recorder. Altitude of gage is 950 ft (from topographic map). Prior to Nov. 3, 1966, at site 100 ft downstream at same datum.

AVERAGE DISCHARGE.--25 years (1923-48), 28.2 cfs (20,420 acre-ft per year), 19 years (1948-67), 8.82 cfs (6,390 acre-ft per year); median of yearly mean discharges (1923-48), 13 cfs (9,400 acre-ft per year); (1948-67), 5.6 cfs (4,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,000 cfs Dec. 6 (gage height, 7.78 ft), from rating curve extended above 50 cfs on basis of maximum flow at station 100 ft downstream; minimum daily, 1.6 cfs Oct. 14, 17, 1923-67; Maximum discharge, 25,000 cfs Feb. 16, 1927 (gage height, 14.6 ft, at site 100 ft downstream), from rating curve extended above 10,000 cfs; minimum daily, 0.30 cfs Aug. 18-22, 1965, regulation by construction work above station.

REMARKS.--Records good except those above 100 cfs and those for periods of no gage-height record, which are poor. Flow partly regulated since November 1948 by Vail Lake (see sta. no. 0425). Pumping above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.8	2.8	4.2	6.0	3.6	4.2	4.4	3.8	3.0	2.6	2.6
2	2.4	1.8	2.8	4.2	6.0	4.0	4.6	4.4	3.6	3.0	2.6	2.6
3	2.2	1.8	5.9	4.2	5.5	4.0	3.8	4.4	3.6	3.0	2.6	2.6
4	2.9	2.0	4.4	4.2	5.5	4.4	5.9	4.2	3.6	2.8	2.6	2.6
5	2.4	2.0	5.1	4.2	5.1	4.4	5.4	4.2	3.6	2.8	2.6	2.6
6	2.4	2.0	396	4.1	5.1	4.2	4.2	4.2	3.6	2.8	2.4	2.6
7	2.2	3.1	139	4.1	5.0	4.2	4.0	4.2	3.6	2.8	2.6	2.6
8	2.4	2.6	12	4.0	5.0	4.2	4.0	4.2	3.6	2.8	2.6	2.6
9	2.3	2.4	8.5	4.0	4.9	4.0	4.0	4.2	3.6	2.8	2.6	2.6
10	2.4	2.1	6.7	3.9	4.9	4.0	4.0	4.4	3.6	2.8	2.6	2.6
11	2.2	2.1	5.6	3.9	4.8	4.4	22	4.4	3.6	2.7	2.6	2.6
12	2.2	2.1	5.3	3.8	4.8	4.0	20	4.2	3.6	2.7	2.6	2.6
13	2.1	2.1	5.3	3.8	4.7	7.1	15	4.2	3.6	2.7	2.6	2.6
14	1.6	2.1	5.1	3.7	4.7	8.8	10	4.2	3.6	2.7	2.4	2.6
15	2.0	2.1	5.1	3.7	4.6	5.6	6.0	4.2	3.6	2.7	2.6	2.6
16	1.8	2.1	4.9	3.6	4.5	4.8	5.0	4.2	3.6	2.7	2.6	2.6
17	1.6	2.1	4.9	3.6	4.4	4.0	5.5	4.2	3.8	2.7	2.6	2.6
18	1.8	2.1	4.6	3.6	4.3	4.0	6.8	4.2	3.8	2.7	2.6	2.8
19	1.8	2.1	4.4	3.6	4.2	3.6	7.0	4.4	3.8	2.7	2.6	3.4
20	2.0	2.2	4.2	3.6	4.1	3.6	5.8	4.6	3.6	2.7	2.6	3.2
21	2.1	2.2	4.2	3.6	4.0	4.0	5.0	4.6	3.6	2.7	2.6	3.0
22	2.1	2.2	4.2	6.6	3.9	4.2	6.4	4.6	3.4	2.7	2.6	3.2
23	2.0	2.2	4.2	35	3.8	5.6	7.8	4.6	3.2	2.6	2.6	3.2
24	2.0	2.2	4.2	88	3.7	5.8	6.6	4.4	3.4	2.6	2.6	3.2
25	2.0	2.4	4.2	234	3.6	4.4	6.2	4.6	3.2	2.7	2.6	2.8
26	1.8	2.4	4.2	10	3.6	4.2	5.7	4.4	3.2	2.7	2.6	2.7
27	1.8	2.6	4.2	10	3.6	4.4	5.2	3.6	3.0	2.6	2.6	2.7
28	1.8	2.6	4.2	9.0	3.6	5.8	4.9	3.8	3.0	2.6	2.6	2.7
29	1.8	2.6	4.2	8.0	3.6	6.9	4.6	4.0	3.0	2.6	2.6	2.7
30	1.8	2.6	4.2	7.0	- - - - -	5.6	4.4	4.0	3.0	2.6	2.6	2.7
31	1.8	- - - - -	4.2	6.5	- - - - -	4.6	- - - - -	4.0	- - - - -	2.6	2.6	- - - - -
Total	63.7	66.7	724.7	495.7	127.9	146.4	204.0	132.2	104.8	84.6	80.2	82.5
Mean	2.05	2.22	23.4	16.0	4.57	4.72	6.80	4.26	3.49	2.73	2.59	2.75
Max	2.9	3.1	396	23.4	6.0	8.8	22	4.4	3.8	3.0	2.6	3.4
Min	1.6	1.8	2.8	3.6	3.6	3.6	3.8	3.6	3.0	2.6	2.4	2.6
Ac-ft	126	132	1,440	983	254	290	405	252	208	168	159	164

Cal yr 1966: Total 1,687.40 Mean 4.62 Max 396 Min 0.30 Ac-ft 3,350
 Wtr yr 1967: Total 2,313.4 Mean 6.34 Max 396 Min 1.6 Ac-ft 4,590

Note.--No gage-height record Dec. 8 to Jan. 18, Jan. 27 to Feb. 28, Apr. 13 to May 1.

SANTA MARGARITA RIVER BASIN

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11-0445. SANTA MARGARITA RIVER NEAR FALLBROOK, CALIF.

LOCATION.--Lat 33°23'54", long 117°15'44", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec 14, T.9 S., R.4 W., on right bank 180 ft upstream from De Luz Road, 1.3 miles northwest of Fallbrook, and 1.9 miles downstream from Sandia Canyon.

DRAINAGE AREA.--644 sq mi.

RECORDS AVAILABLE.--October 1924 to September 1967. Monthly discharge only for October to November 1924, published in WSP 1315-B.

GAGE.--Digital water-stage recorder and concrete-road control since October 1955. Datum of gage is 267.96 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1955, at site 1.7 miles upstream at different datum. Records equivalent except those for extreme low flows. Prior to Mar. 3, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--24 years (1924-48), 35.4 cfs (25,630 acre-ft per year), 19 years (1948-67), 9.64 cfs (6,980 acre-ft per year); median of yearly mean discharges (1924-48), 17 cfs (12,300 acre-ft per year); (1948-67), 5.0 cfs (3,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,480 cfs Dec. 7 (gage height, 7.82 ft); minimum daily, 0.04 cfs Sept. 1.

1924-67: Maximum discharge, 33,100 cfs Feb. 16, 1927 (gage height, 15.6 ft, site and datum then in use), from rating curve extended above 8,800 cfs on basis of slope-area measurement of maximum flow; no flow at times in recent years.

REMARKS.--Records good. Flow partly regulated since November 1948 by Vail Lake (see Sta. No. 0425). Several small diversions above station for irrigation. The Fallbrook Public Utility District pumped 23 acre-ft of water from a well in the streambed 2.1 miles upstream from the station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.90	1.2	2.5	8.8	23	7.3	13	12	6.9	2.8	1.0	.04
2	.90	1.1	2.7	8.8	22	7.3	14	12	6.3	2.6	.87	.30
3	1.1	1.2	8.1	8.4	20	7.4	11	12	5.8	2.6	.78	.83
4	1.4	1.4	9.4	8.2	18	8.9	11	13	5.5	2.7	.81	1.1
5	1.4	1.7	89	8.7	17	9.2	18	14	5.2	2.3	.79	1.0
6	1.6	1.9	706	8.6	16	9.5	13	13	5.0	2.3	.87	.77
7	1.6	3.9	857	8.5	16	6.5	12	9.4	5.3	2.3	1.0	.70
8	1.5	5.8	85	8.1	14	6.8	11	6.6	5.4	2.3	1.0	.66
9	1.5	5.3	49	7.7	14	6.9	10	6.5	5.7	2.2	.93	.65
10	2.5	3.3	36	7.7	14	6.9	9.7	7.4	6.0	2.1	.79	.63
11	2.9	2.9	30	7.7	13	8.3	38	7.9	6.1	2.1	.74	.55
12	2.7	2.8	26	8.0	12	9.3	45	7.2	6.5	2.2	.67	.53
13	2.2	2.6	22	8.1	12	15	26	6.5	7.0	2.4	.64	.61
14	1.7	2.5	21	7.7	12	39	19	5.1	8.9	2.0	.67	.66
15	1.5	2.8	19	7.7	11	18	17	4.3	7.9	1.5	.82	.71
16	1.3	2.5	18	7.7	11	14	15	4.0	7.0	1.3	.87	.79
17	1.2	2.5	17	8.1	10	12	13	4.2	6.7	1.3	.81	.81
18	1.1	2.4	16	8.9	9.8	11	12	4.4	7.3	1.3	.65	1.0
19	1.1	2.4	16	7.9	9.8	10	18	4.6	8.0	1.2	.56	1.1
20	1.1	2.4	16	7.7	9.5	9.4	17	4.8	7.1	1.3	.47	1.1
21	1.3	2.6	16	7.7	8.8	8.3	15	4.7	4.9	1.2	.49	.99
22	1.5	2.4	13	17	8.8	8.2	18	4.3	4.5	1.1	.59	.98
23	1.5	2.5	10	84	8.8	8.0	17	4.6	4.2	1.1	.60	1.0
24	1.6	2.5	11	50	8.8	8.6	15	4.9	3.8	1.1	.56	1.1
25	1.5	2.5	9.3	502	8.2	8.8	14	5.0	3.5	1.1	.55	1.2
26	1.5	2.5	9.8	72	8.1	7.9	13	5.5	3.4	.88	.49	1.8
27	1.4	2.5	9.2	43	7.8	8.0	12	5.5	3.1	.88	.46	1.5
28	1.7	2.2	9.6	34	7.3	8.3	12	5.9	2.8	.83	.36	1.4
29	1.8	2.3	9.2	29	-----	10	13	6.9	2.7	.78	.26	1.4
30	1.7	2.3	9.2	27	-----	11	12	7.3	2.8	.84	.18	1.3
31	1.5	-----	8.9	27	-----	12	-----	7.3	-----	1.1	.05	-----
TOTAL	48.20	76.9	2,160.9	1,055.7	350.7	321.8	483.7	220.8	165.3	51.71	20.33	27.21
MEAN	1.55	2.56	69.7	34.1	12.5	10.4	16.1	7.12	5.51	1.67	.66	.91
MAX	2.9	5.8	857	502	23	39	45	14	8.9	2.8	1.0	1.8
MIN	.90	1.1	2.5	7.7	7.3	6.5	9.7	4.0	2.7	.78	.05	.04
AC-FT	96	153	4,290	2,090	696	638	959	438	328	103	40	54

CAL YR 1966: TOTAL 3,502.60 MEAN 9.60 MAX 857 MIN 0 AC-FT 6,950
WAT YR 1967: TOTAL 4,983.25 MEAN 13.7 MAX 857 MIN .04 AC-FT 9,880

SANTA MARGARITA RIVER BASIN

11-0449. DE LUZ CREEK NEAR FALLBROOK, CALIF.

LOCATION.--Lat 33°22'10", long 117°19'15", in NW¼NE¼ 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.--47.5 sq mi.

RECORDS AVAILABLE.--February 1951 to September 1967 (discontinued).

GAGE.--Graphic 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.--16 years, 4.66 cfs (3,370 acre-ft per year); median of yearly mean discharges, 1.1 cfs (800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,080 cfs Dec. 6 (gage height, 8.02 ft); no flow Oct. 1 to Dec. 4, July 28 to Sept. 30.

1951-67: Maximum discharge, 2,800 cfs Apr. 1, 1958 (gage height, 9.95 ft, at present site, from flood-marks), from rating curve extended above 450 cfs on basis of slope-area measurements at gage heights, 9.00 and 9.95 ft; no flow for several months of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2.4	30	3.0	3.4	6.0	1.4	0.30		
2			0	2.6	29	2.6	4.0	5.7	1.5	.30		
3			0	2.8	29	3.2	3.4	5.7	1.4	.30		
4			0	2.8	29	2.8	3.2	5.7	1.2	.30		
5			25	2.8	28	2.4	3.2	5.7	1.0	.30		
6			255	2.8	26	2.4	3.4	5.7	.80	.30		
7			92	2.6	25	2.4	3.4	5.1	.80	.30		
8			109	2.4	24	2.4	3.0	4.8	.80	.20		
9			93	2.2	22	2.2	3.0	4.8	.80	.20		
10			71	2.2	20	2.2	3.2	5.4	.60	.20		
11			64	2.2	18	2.2	7.1	5.1	.50	.20		
12			58	2.2	17	2.6	7.8	5.1	.40	.20		
13			50	2.2	16	6.0	6.4	4.5	.40	.20		
14			45	2.2	15	6.0	5.7	4.2	.30	.20		
15			40	2.0	14	4.0	5.4	3.7	.30	.20		
16			35	2.4	13	3.2	5.4	3.4	.30	.20		
17			30	2.6	12	3.2	5.4	3.2	.30	.20		
18			25	2.6	9.4	3.0	5.7	3.0	.30	.20		
19			20	2.6	8.2	3.2	6.7	3.0	.30	.20		
20			15	2.4	6.7	3.4	7.4	3.0	.30	.10		
21			10	2.4	5.7	3.2	7.0	2.6	.30	.10		
22			7.5	9.9	5.7	3.0	12	2.4	.30	.10		
23			5.0	57	5.1	3.2	7.8	1.8	.30	.10		
24			4.5	137	4.5	3.2	6.7	1.8	.30	.10		
25			4.0	221	4.0	3.2	6.4	1.8	.30	.10		
26			3.5	85	3.0	3.0	6.4	1.6	.30	.10		
27			3.2	66	3.0	2.8	6.0	1.8	.30	.10		
28			3.0	51	2.6	2.8	6.0	1.8	.30	0		
29			2.8	37		2.8	6.0	1.6	.30	0		
30			2.6	31	-----	2.4	6.0	1.5	.30	0		
31		-----	2.4	33	-----	3.2	-----	1.4	-----	0		-----
Total	0	0	1.075.5	779.3	424.9	95.2	156.5	112.9	16.70	5.30	0	0
Mean	0	0	34.7	25.1	15.2	3.07	5.55	3.64	0.557	0.171	0	0
Max	0	0	255	221	30	6.0	12	6.0	1.5	0.30	0	0
Min	0	0	0	2.0	2.6	2.2	3.0	1.4	0.30	0	0	0
Ac-ft	0	0	2.130	1.550	843	189	330	224	33	11	0	0

Cal yr 1966: Total 2,020.00 Mean 5.53 Max 255 Min 0 Ac-ft 4,010

Wtr yr 1967: Total 2,676.30 Mean 7.33 Max 255 Min 0 Ac-ft 5,310

Peak discharge (base, 200 cfs).--Dec. 6 (1930 hrs) 1,080 cfs (8.02 ft); Jan. 24 (2030 hrs) 705 cfs (7.35 ft).

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LOCATION.--Lat 33°14'38", long 117°22'56", in NE¹SE¹SE¹ sec.3, T.11 S., R.5 W., on right bank 1 mile downstream from Ysidora and about 2.5 miles upstream from mouth.

RECORDS AVAILABLE.--February 1923 to September 1967.

GAGE.--Graphic 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.

EXTREMES.--Maximum discharge during year, 6,720 cfs Dec. 7 (gage height, 12.83 ft), result of failure of detention dam, from rating curve extended above 1,200 cfs; no flow Oct. 1 to Dec. 6, July 16 to Sept. 30. 1923-67: Maximum discharge, 33,600 cfs Feb. 16, 1927 (gage height, 18.00 ft, site and datum then in use), on basis of slope-area measurement of maximum flow; no flow for part of most years.

REMARKS.--Records fair. Flow partly regulated by Vail Lake since November 1948 (see sta. no. 0425). Diversions for irrigation on Rancho California (formerly Santa Margarita Ranch and Pauba Ranch). AVERAGE DISCHARGE represents flow to ocean during period of record, regardless of upstream development.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2.9	57	11	8.6	16	0.30	0.20		
2			0	2.6	60	10	9.3	16	.30	.20		
3			0	2.6	55	8.0	8.6	16	.30	.20		
4			0	2.6	40	6.2	8.0	5.1	.30	.20		
5			0	2.9	33	5.7	7.4	.10	.30	.20		
6			0	3.2	30	5.2	7.4	.30	.30	.20		
7			1.720	2.6	29	5.2	7.4	.30	.30	.20		
8			179	2.0	28	5.7	7.4	.30	.30	.10		
9			50	1.8	26	6.2	6.2	.30	.30	.10		
10			50	1.8	26	6.2	5.7	.30	.30	.10		
11			35	1.6	26	4.7	12	.30	.30	.10		
12			14	1.8	24	3.9	18	.30	.30	.10		
13			16	1.8	24	4.3	22	.30	.20	.10		
14			22	1.8	22	20	22	.40	.20	.10		
15			20	2.0	22	18	20	.40	.20	.10		
16			16	2.0	22	20	18	.40	.20	0		
17			14	1.8	18	20	18	.40	.20	0		
18			10	1.6	16	18	18	.40	.20	0		
19			9.3	1.6	16	16	22	.40	.20	0		
20			8.6	1.6	14	16	24	.40	.20	0		
21			8.6	1.8	13	14	22	.40	.20	0		
22			8.0	2.9	13	11	20	.40	.20	0		
23			8.0	38	13	11	18	.40	.20	0		
24			6.2	60	13	12	18	.40	.20	0		
25			5.2	645	13	11	26	.40	.20	0		
26			4.7	265	12	10	24	.40	.20	0		
27			3.9	137	11	8.6	18	.40	.20	0		
28			2.9	100	10	7.4	16	.40	.20	0		
29			3.6	78		6.8	16	.40	.20	0		
30			3.6	62	-----	5.2	14	.40	.20	0		
31		-----	3.2	55	-----	6.8	-----	.40	-----	0		-----
Total	0	0	2,221.8	1,487.3	686	314.1	452.0	62.80	7.20	2.20	0	0
Mean	0	0	71.7	48.0	24.5	10.1	15.4	2.03	0.240	0.071	0	0
Max	0	0	1,720	645	60	20	26	16	0.30	0.20	0	0
Min	0	0	0	1.6	10	3.9	5.7	0.10	0.20	0	0	0
Ac-ft	0	0	4,410	2,950	1,360	623	916	125	14	4.4	0	0

Cal yr 1966: Total	3,211.10	Mean 8.80	Max 1.720	Min 0	Ac-ft 6,370
Wtr yr 1967: Total	5,243.40	Mean 14.4	Max 1.720	Min 0	Ac-ft 10,400

LAS FLORES CREEK BASIN

11-0461. LAS FLORES CREEK NEAR OCEANSIDE, CALIF.

LOCATION.--Lat 33°17'32", long 117°27'21", in NW¼SE¼ 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 1967 (discontinued).

GAGE.--Graphic water-stage recorder and multiple concrete culvert control. Altitude of gage is 35 ft (from topographic map).

AVERAGE DISCHARGE.--16 years, 0.739 cfs (535 acre-ft per year); median of yearly mean discharges, 0.34 cfs (250 acre-ft per year).

EXTREMES.--Maximum discharge during year, 848 cfs Dec. 6 (gage height, 4.19 ft, from inside gage); no flow for most of year.

1951-67: Maximum discharge, 960 cfs Jan. 16, 1952 (gage height, 4.75 ft), based on critical-depth determination of maximum flow; no flow for most of each year.

REMARKS.--Records poor. Rising water from area, which bypasses the station 1,000 ft to the northwest, amounted to 70 acre-ft this year. No regulation above station. Some pumping above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 3.....	0.60	Dec. 14.....	0.20	Dec. 24.....	0.10
5.....	150	15.....	.20	25.....	.10
6.....	200	16.....	.10	Jan. 24.....	17
7.....	30	17.....	.10	25.....	7.6
8.....	10	18.....	.10	26.....	.10
9.....	5.0	19.....	.10	27.....	.10
10.....	2.0	20.....	.10	Mar. 13.....	.20
11.....	1.0	21.....	.10	14.....	.10
12.....	.50	22.....	.10	Apr. 1.....	.10
13.....	.20	23.....	.10	11.....	.10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	400.70	200	0	12.9	795
January 1967.....	24.80	17	0	.800	49
March.....	.30	.20	0	.01	.6
April.....	.20	.10	0	.007	.4
Calendar year 1966.....	-	200	0	1.17	845
Water year 1966-67.....	-	200	0	1.17	845

Peak discharge (base, 100 cfs).--Dec. 6 (time unknown) 848 cfs (4.19 ft); Jan. 24 (2300 hrs) 156 cfs (1.17 ft).

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

SAN ONOFRE CREEK BASIN

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11-0462. SAN ONOFRE CREEK NEAR SAN ONOFRE, CALIF.

LOCATION.--Lat 33°23'23", long 117°30'50", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ 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 1967 (discontinued).

GAGE.--Graphic 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.--17 years, 2.53 cfs (1,830 acre-ft per year); median of yearly mean discharge, 0.5 cfs (360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,600 cfs Dec. 6 (gage height, 5.55 ft), from rating curve extended above 680 cfs; no flow Oct. 1 to Dec. 2.

1950-67: Maximum discharge, 2,680 cfs Apr. 1, 1958 (gage height, 5.90 ft), from rating curve extended above 680 cfs on basis of maximum flows for station at San Onofre; no flow for several months in each year.

REMARKS.--Records good. No regulation or diversion above station. Since November 1954, U.S. Navy Sewage Disposal Plant has discharged into creek 1.5 miles above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.3	9.1	1.4	2.5	2.8	0.90	0.50	0.30	0.10
2			0	1.2	8.2	1.4	1.4	2.4	.90	.50	.30	.10
3			30	1.1	7.7	1.4	1.1	2.2	.80	.50	.30	.10
4			10	.90	6.4	1.4	1.4	2.2	.80	.50	.30	.10
5			541	.90	6.0	1.2	.90	2.2	.80	.50	.20	.10
6			762	.90	5.2	1.1	.80	2.0	.80	.50	.20	.10
7			141	.90	4.9	1.1	.30	2.0	.80	.40	.20	.10
8			32	.90	4.2	1.1	.20	2.0	.80	.30	.20	.10
9			24	.90	4.2	1.1	.20	2.0	.80	.30	.20	.10
10			18	.90	4.2	.90	1.1	2.4	.80	.30	.20	.10
11			14	.90	3.6	.90	9.2	2.0	.80	.30	.20	.10
12			11	.90	3.6	.90	3.6	2.0	.80	.30	.20	.10
13			8.2	.90	3.4	3.9	3.6	2.0	.80	.30	.20	.10
14			7.2	.90	3.1	3.4	2.4	2.0	.80	.30	.20	.10
15			7.0	.90	2.8	2.0	2.0	2.0	.80	.30	.20	.10
16			6.5	.90	2.8	1.6	1.8	2.0	.90	.30	.20	.10
17			6.0	.90	2.4	1.2	1.8	2.0	.90	.30	.20	.10
18			5.5	.90	2.4	1.1	2.2	2.0	.80	.30	.10	.10
19			5.0	.80	2.4	1.1	2.6	2.2	.80	.30	.10	.10
20			4.5	.80	2.2	.90	2.6	2.2	.80	.30	.10	.10
21			4.0	.80	2.0	.90	3.1	2.2	.80	.30	.10	.10
22			3.5	20	2.0	.90	5.6	2.2	.80	.30	.10	.10
23			3.5	19	2.0	.90	5.6	2.4	.80	.30	.10	.10
24			3.0	94	2.0	.90	5.6	2.6	.80	.30	.10	.10
25			3.0	89	1.6	.90	4.9	2.6	.80	.30	.10	.10
26			2.5	37	1.6	.90	4.2	2.4	.80	.30	.10	.10
27			2.5	25	1.4	.90	3.6	2.4	.70	.30	.10	.10
28			2.0	20	1.4	.90	3.6	2.6	.60	.30	.10	.10
29			2.0	15	.90	.90	3.4	1.6	.60	.30	.10	.10
30			1.5	14	-----	.90	3.1	1.4	.50	.30	.10	.10
31		-----	1.5	12	-----	2.1	-----	1.1	-----	.30	.10	-----
Total	0	0	1,652.00	364.50	102.8	40.20	84.40	66.1	23.60	10.60	5.20	3.00
Mean	0	0	53.3	11.8	3.67	1.30	2.81	2.13	0.787	0.342	0.168	0.100
Max	0	0	752	94	9.1	3.9	9.2	2.8	0.90	0.50	0.30	0.10
Min	0	0	0	0.80	1.4	0.90	0.20	1.1	0.50	0.30	0.10	0.10
Ac-ft	0	0	3,280	723	204	80	157	131	47	21	10	6.0

Cal yr 1966: Total 2,095.60 Mean 5.74 Max 752 Min 0 Ac-ft 4,150
Wtr yr 1967: Total 2,349.70 Mean 6.44 Max 752 Min 0 Ac-ft 4,650

Peak discharge (base, 150 cfs).--Dec. 6 (1900 hrs) 1,600 cfs (5.40 ft); Jan. 24 (2200 hrs) 425 cfs (2.98 ft)

SAN ONOFRE CREEK BASIN

11-0462.5. SAN ONOFRE CREEK AT SAN ONOFRE, CALIF.

LOCATION.--Lat 33°23'00", long 117°34'22", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 15 ft (from topographic map).

AVERAGE DISCHARGE.--21 years, 1.44 cfs (1,040 acre-ft per year); median of yearly mean discharges, 0.05 cfs (36 acre-ft per year).

EXTREMES.--Maximum discharge during year, partly caused by failure of detention basin, 2,000 cfs Dec. 6 (gage height, 7.59 ft); no flow for most of year.
1946-67: 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. No regulation above station. Detention basins above station for ground-water recharge. Pumping above station for irrigation and water supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 5.....472	Dec. 14..... 2.0	Jan. 25.....142
6.....887	15..... .50	26..... 51
7.....333	16..... .30	27..... 16
8.....150	17..... .20	28..... 12
9..... 70	18..... .10	29..... 4.0
10..... 30	19..... .10	30..... .80
11..... 15	Jan. 22..... 3.1	31..... 1.9
12..... 7.0	23......16	Apr. 23..... 2.2
13..... 4.0	24......91	24..... 2.8

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	1,971.20	887	0	63.6	3,910
January 1967.....	337.80	142	0	10.9	670
April.....	5.0	2.8	0	.167	9.9
Calendar year 1966.....	-	887	0	5.98	4,330
Water year 1966-67.....	-	887	0	6.34	4,590

Peak discharge (base, 150 cfs).--Dec. 6 (2030 hrs) 2,000 cfs (7.59 ft); Jan. 24 (2300 hrs) 540 cfs (5.90 ft).

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

SAN MATEO CREEK BASIN

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11-0463. SAN MATEO CREEK NEAR SAN CLEMENTE, CALIF.

LOCATION.--Lat 33°28'15", long 117°28'20", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--80.8 sq mi.

RECORDS AVAILABLE.--October 1952 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 405 ft (from topographic map).

AVERAGE DISCHARGE.--15 years, 7.30 cfs (5,280 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,300 cfs Dec. 6 (gage height, 10.45 ft), from rating curve extended above 1,800 cfs on basis of slope-area measurement at gage height 10.14 ft; no flow Oct. 1 to Dec. 2, July 31 to Sept. 30.

1952-67: Maximum discharge, that of Dec. 6, 1966; no flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.	12	35	11	12	25	9.5	2.6		
2			0	11	33	11	14	23	9.0	2.6		
3			20	10	32	11	11	22	8.5	2.6		
4			4.0	10	28	13	11	22	8.0	2.4		
5			659	10	27	12	12	21	7.5	2.4		
6			2,570	10	27	11	11	20	7.0	2.2		
7			902	9.6	24	11	10	18	6.4	2.2		
8			165	9.6	23	10	10	18	6.4	2.0		
9			112	9.6	22	10	9.6	18	6.4	2.0		
10			85	9.3	22	10	9.6	18	6.4	1.9		
11			66	9.3	21	11	43	18	6.4	1.9		
12			55	9.3	20	11	39	17	6.4	1.9		
13			48	9.3	20	16	25	16	6.6	1.9		
14			43	8.9	18	24	21	15	6.4	1.8		
15			38	8.9	18	14	18	14	5.8	1.6		
16			34	8.9	17	12	16	14	5.8	1.6		
17			31	8.9	17	12	16	13	5.8	1.6		
18			28	8.5	16	11	16	12	5.2	1.6		
19			26	8.5	16	11	30	12	4.9	1.6		
20			24	8.5	15	10	28	12	4.7	1.4		
21			22	8.5	14	9.6	24	11	4.2	1.4		
22			21	18	14	9.6	82	11	4.2	1.3		
23			20	68	14	9.3	47	10	4.0	1.2		
24			18	190	13	9.3	38	10	3.6	1.0		
25			17	237	13	8.9	34	10	3.6	.90		
26			16	88	13	8.9	30	9.6	3.6	.80		
27			15	63	13	8.9	28	9.6	2.9	.40		
28			14	51	12	8.9	27	9.6	2.6	.30		
29			14	45		8.9	27	9.6	2.6	.10		
30			13	40	-----	8.5	26	10	2.6	.10		
31		-----	12	39	-----	10	-----	10	-----	0		
Total	0	0	5,092.0	1,037.6	557	342.8	725.2	458.4	157.0	47.30	0	0
Mean	0	0	164	33.5	19.9	11.1	24.2	14.8	5.57	1.53	0	0
Max	0	0	2,570	237	35	24	82	25	9.5	2.6	0	0
Min	0	0	0	8.5	12	8.5	9.6	9.6	2.6	0	0	0
Ac-ft	0	0	10,100	2,050	1,100	680	1,440	909	331	94	0	0
(†)	0.1	0.7	5.5	2.0	0	1.5	3.5	0.2	0	0	0	0

Cal yr 1966: Total 7,102.60 Mean 19.5 Max 2,570 Min 0 Ac-ft 14,090 Precip. † 8.8
 Wtr yr 1967: Total 3,427.30 Mean 23.1 Max 2,570 Min 0 Ac-ft 16,720 Precip. † 13.5

Peak discharge (base, 200 cfs).--Dec. 6 (2100 hrs) 7,300 cfs (10.45 ft); Jan. 24 (2130 hrs) 1,090 cfs (6.20 ft).

† Precipitation, in inches.

SAN MATEO CREEK BASIN

11-0463.5. CRISTIANITOS CREEK NEAR SAN CLEMENTE, CALIF.

LOCATION.--Lat 33°26'57", long 117°34'13", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.8 S., R.7 W., on right bank 900 ft downstream from Talenga Canyon, 2.3 miles upstream from mouth, and 2.8 miles northeast of San Clemente.

DRAINAGE AREA.--29.0 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967 (discontinued).

GAGE.--Graphic 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.--17 years, 1.55 cfs (1,120 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,730 cfs Dec. 6 (gage height, 7.93 ft), from rating curve extended above 370 cfs; no flow for several months.

1950-67: 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 maximum flow; no flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.6	4.0	1.8	3.4	1.0	0.30	0.30	0.20	0
2			0	1.7	3.8	2.0	2.8	.90	.30	.30	.20	.10
3			2.6	1.7	3.5	2.0	1.3	.90	.30	.30	.20	.10
4			6.9	2.1	3.2	2.6	1.3	.80	.30	.30	.20	.20
5			35.1	2.1	3.0	2.2	1.2	.70	.30	.30	.20	.20
6			37.3	1.9	3.0	2.2	.90	.70	.20	.30	.20	.10
7			5.6	2.3	3.0	2.0	.90	.70	.20	.30	.20	.10
8			15	2.8	2.8	2.0	.80	.70	.30	.30	.20	.10
9			10	3.0	2.8	2.0	.70	.70	.30	.30	.20	.10
10			7.6	3.0	2.8	2.0	.70	.70	.30	.20	.20	.10
11			4.0	3.2	2.5	2.2	3.7	.60	.30	.20	.10	.10
12			1.4	3.5	2.5	2.2	2.4	.50	.30	.20	.10	.10
13			1.1	3.2	2.5	4.0	1.5	.40	.30	.20	.10	.10
14			1.4	3.2	2.3	3.0	1.0	.40	.30	.20	.10	.10
15			1.7	3.2	2.3	2.2	.90	.40	.30	.20	.10	.10
16			1.6	3.2	2.3	1.6	.90	.40	.40	.20	.10	.10
17			1.6	3.5	2.3	1.5	.90	.40	.40	.20	.10	.10
18			1.6	3.2	2.3	1.5	.90	.40	.30	.20	.10	.10
19			1.6	3.2	2.3	1.5	2.2	.40	.30	.20	.10	.10
20			1.6	3.2	1.9	1.6	2.4	.40	.30	.20	.10	.10
21			1.6	3.2	1.9	1.6	1.6	.30	.30	.20	.10	.10
22			1.4	18	1.9	1.6	3.0	.30	.30	.20	.10	.10
23			1.6	18	1.9	1.6	2.8	.20	.30	.20	0	.10
24			1.7	47	1.9	1.5	2.0	.20	.30	.20	0	.10
25			1.6	28	1.9	1.6	1.5	.30	.30	.20	0	.10
26			1.6	11	1.9	1.5	1.3	.30	.30	.20	0	.10
27			1.2	8.8	1.9	1.5	1.2	.30	.30	.20	0	.10
28			1.6	7.2	1.9	1.2	.90	.30	.30	.20	0	.10
29			1.4	5.6	1.0	1.0	1.0	.30	.30	.20	0	.10
30			1.2	4.9	- - - -	1.5	1.2	.30	.30	.20	0	.10
31		- - - -	1.6	4.9	- - - -	1.5	- - - -	.30	- - - -	.20	0	- - - -
Total	0	0	856.2	211.4	70.3	58.2	47.30	15.20	9.00	7.10	3.20	3.10
Mean	0	0	27.9	6.82	2.51	1.88	1.58	0.490	0.300	0.229	0.103	0.103
Max	0	0	37.3	47	4.0	4.0	3.7	1.0	0.40	0.30	0.20	0.20
Min	0	0	0	1.6	1.9	1.0	0.70	0.20	0.20	0.20	0	0
Ac-ft	0	0	1,720	419	139	115	94	30	18	14	6.3	6.1

Cal yr 1966 Total 1,117.50 Mean 3.06 Max 37.3 Min 0 Ac-ft 2,220

Wtr yr 1967 Total 1,291.00 Mean 3.54 Max 37.3 Min 0 Ac-ft 2,550

Peak discharge (base, 100 cfs).--Dec. 6 (2000 hrs) 1,730 cfs (7.93 ft); Jan. 24 (2200 hrs) 158 cfs (4.05 ft).

SAN MATEO CREEK BASIN

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11-0463.7. SAN MATEO CREEK AT SAN ONOFRE, CALIF.

LOCATION.--Lat 33°23'46", long 117°35'21", in NW¼NW¼NW¼ 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.--132 sq mi.

RECORDS AVAILABLE.--October 1946 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 20 ft (from topographic map).

AVERAGE DISCHARGE.--21 years, 5.53 cfs (4,000 acre-ft per year); median of yearly mean discharges, 0.04 cfs (29 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,000 cfs (estimated) Dec. 5 (gage height, 10.42 ft), result of failure of detention dam; no flow Oct. 1 to Dec. 4, July 27 to Sept. 30.
1946-67: Maximum discharge, that of Dec. 5, 1966; no flow for all or several months in each year.

REMARKS.--Records fair. Minor flows regulated by percolation basins. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	10	42	8.4	14	28	6.4	1.1		
2			0	9.0	37	8.4	18	25	6.0	1.2		
3			0	8.0	32	8.8	13	22	5.6	1.4		
4			0	7.6	29	9.8	11	21	4.9	1.4		
5			1,280	7.2	28	9.8	11	20	4.3	1.5		
6			2,750	6.4	26	8.8	9.8	18	4.0	1.5		
7			774	6.4	22	8.4	9.3	16	3.7	1.5		
8			278	6.0	22	7.2	8.4	15	3.7	1.5		
9			201	5.2	22	7.2	7.2	15	3.7	1.5		
10			150	5.2	22	7.2	7.2	15	3.4	1.5		
11			132	5.6	20	6.8	37	14	4.0	1.5		
12			110	7.2	19	6.8	6.4	13	4.0	1.5		
13			90	6.4	18	11	4.3	11	3.7	1.5		
14			75	6.0	18	23	32	10	3.7	1.5		
15			63	6.4	16	14	28	9.3	3.4	1.5		
16			54	6.0	16	13	22	7.6	3.2	1.7		
17			46	5.6	15	8.8	18	7.6	2.9	1.4		
18			40	5.2	15	8.4	16	6.8	2.7	1.4		
19			35	6.0	13	8.0	37	5.2	2.4	1.4		
20			32	5.6	12	7.6	44	6.8	2.2	1.4		
21			27	6.0	12	7.2	35	6.8	2.2	1.2		
22			24	24	12	7.2	107	6.8	2.0	1.2		
23			22	89	11	7.2	82	6.8	1.8	1.2		
24			20	171	9.8	6.8	56	6.4	1.5	1.4		
25			18	400	9.3	6.8	55	6.4	1.5	1.4		
26			16	97	8.8	6.8	48	6.0	1.2	.90		
27			15	78	8.4	6.8	41	6.0	1.2	0		
28			14	70	8.4	6.8	37	6.0	1.2	0		
29			13	56		6.4	35	6.0	1.1	0		
30			12	50	-----	6.0	31	6.0	1.1	0		
31		-----	11	46	-----	7.2	-----	6.0	-----	0		-----
Total	0	0	2,322	1,218.0	523.7	266.6	986.9	355.5	92.7	36.20	0	0
Mean	0	0	204	39.3	18.7	8.60	32.9	11.5	3.09	1.17	0	0
Max	0	0	2,750	400	42	23	107	28	6.4	1.7	0	0
Min	0	0	0	5.2	8.4	6.0	7.2	5.2	1.1	0	0	0
Ac-ft	0	0	12,540	2,420	1,040	529	1,960	705	184	72	0	0
Cal yr 1966: Total 7,206.70 Mean 19.7 Max 2,750 Min 0 Ac-ft 14,290												
Wtr yr 1967: Total 9,801.60 Mean 26.9 Max 2,750 Min 0 Ac-ft 19,440												

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-5	1100	10.42	10,000	1-24	2230	3.40	920
12-6	2100	7.80	6,950				

a Result of failure of detention dam.

SAN JUAN CREEK BASIN

11-0465. SAN JUAN CREEK NEAR SAN JUAN CAPISTRANO, CALIF.

LOCATION.--Lat 33°31'08", long 117°37'27", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--106 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967. Combined records of creek and diversion, October 1954 to September 1967.

GAGE.--Digital water-stage recorder on creek; digital water-stage recorder and Parshall flume on diversion. Altitude of gage is 150 ft (from topographic map). Prior to Feb. 28, 1934, at site 2.5 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. Prior to Mar. 31, 1966, graphic water-stage recorders used.

AVERAGE DISCHARGE (creek only).--39 years, 11.9 cfs (8,620 acre-ft per year); median of yearly mean discharges, 2.6 cfs (1,900 acre-ft per year).
(combined).--13 years, 9.20 cfs (6,660 acre-ft per year); median of yearly mean discharges, 3.3 cfs (2,400 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 9,000 cfs Dec. 6 (gage height, 5.38 ft), from rating curve extended above 3,100 cfs; no flow Oct. 3-9, 17-29.
1929-67: Maximum discharge, 13,000 cfs Mar. 2, 1938, slope-area measurement, by Corps of Engineers; no flow at times in most years.
(combined).--Maximum discharge during year 9,000 cfs Dec. 6 as explained above; no flow for Oct. 3-9, 17-19, 21-29.
1954-67: Maximum discharge, 9,000 cfs Dec. 6, 1966; no flow for many days in 1961-67.

REMARKS.--Records poor prior to Mar. 13 and good thereafter. No regulation above station. See following page for records of combined discharge of creek and Capistrano Water Co.'s canal, which diverts 500 ft upstream from station. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Forty-one discharge measurements furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.80	1.5	24	60	13	77	33	9.5	2.4	1.7	.41
2	.10	.80	1.6	23	55	13	108	31	7.4	2.4	1.5	.56
3	0	.70	121	21	50	13	41	27	6.1	2.0	1.1	.69
4	0	.70	63	20	45	13	22	27	5.5	2.0	1.1	.74
5	0	.80	1,220	18	40	13	23	24	7.1	2.0	.97	.85
6	0	1.1	3,500	17	36	12	18	25	6.5	1.8	.97	.88
7	0	1.5	1,000	16	35	12	15	22	7.6	1.7	1.1	.93
8	0	1.9	400	15	34	12	15	21	7.7	1.7	1.0	.92
9	0	2.1	200	14	33	11	13	20	8.4	1.8	1.0	.95
10	.20	2.2	120	13	32	10	11	24	8.9	1.4	.94	.96
11	.30	2.3	100	13	31	16	20	21	12	2.2	.86	.94
12	.30	2.4	80	13	30	17	12	19	11	1.9	.75	.91
13	.20	2.3	65	13	29	27	11	18	10	1.8	.82	1.0
14	.10	2.8	55	13	28	69	12	16	9.4	1.6	.83	1.0
15	.10	2.8	50	13	27	36	12	15	10	1.5	.83	1.1
16	.10	2.6	45	13	26	27	14	14	11	1.4	.81	1.1
17	0	2.8	42	14	24	25	14	13	9.7	1.3	.77	1.1
18	0	2.7	40	14	22	25	24	13	7.6	1.2	.64	1.2
19	0	3.0	38	13	21	25	65	13	7.9	.99	.58	1.2
20	0	3.1	36	12	20	24	66	13	5.9	.86	.72	1.3
21	0	3.5	34	11	19	19	59	13	4.2	.90	.80	1.3
22	0	3.4	31	42	18	17	74	11	3.6	.86	.71	1.2
23	0	3.1	30	140	18	11	72	12	3.5	.78	.58	1.4
24	0	2.8	31	800	17	11	67	11	4.2	.87	.48	1.3
25	0	2.5	30	338	17	11	58	11	3.9	.82	.38	1.4
26	0	2.3	30	160	17	11	52	11	3.2	.74	.36	1.4
27	0	2.0	28	130	16	12	50	12	3.9	.78	.59	1.3
28	0	1.6	28	110	16	12	49	13	3.0	.81	.59	1.6
29	0	1.6	27	90	-----	20	45	14	2.6	.77	.47	1.7
30	.20	1.4	27	75	-----	21	39	13	2.6	.84	.45	1.7
31	.70	-----	25	65	-----	38	-----	11	-----	1.0	.50	-----
TOTAL	2.40	63.60	7,499.1	2,273	816	596	1,158	541	203.9	43.12	24.90	33.04
MEAN	.077	2.12	242	73.3	29.1	19.2	38.6	17.5	6.80	1.39	.80	1.10
MAX	.70	3.5	3,500	800	60	69	108	33	12	2.4	1.7	1.7
MIN	0	.70	1.5	11	16	10	11	11	2.6	.74	.36	.41
AC-FT	4.8	126	14,870	4,510	1,620	1,180	2,300	1,070	404	86	49	66

CAL YR 1966: TOTAL 9,337.60 MEAN 25.6 MAX 3,500 MIN 0 AC-FT 18,520
WAT YR 1967: TOTAL 13,254.06 MEAN 36.3 MAX 3,500 MIN 0 AC-FT 26,290

Peak discharge (base, 200 cfs).--Dec. 6 (1930 hrs) 9,000 cfs (5.38 ft); Jan. 24 (about 2000 hrs) about 4,500 cfs (gage height, unknown).

11-0465. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.80	2.6	24	60	13	77	33	12	4.9	1.7	0.41
2	.10	.80	2.7	23	55	13	108	31	9.9	5.0	1.5	.56
3	0	.80	121	21	50	13	41	27	8.5	4.6	1.1	.69
4	0	.70	63	20	45	13	22	27	7.8	4.6	1.7	.77
5	0	.80	1,220	18	40	13	23	24	9.5	4.3	2.2	.89
6	0	1.1	3,500	17	36	12	19	25	8.8	3.5	2.1	1.0
7	0	2.5	1,000	16	35	12	16	22	9.6	3.3	2.7	1.2
8	0	3.0	400	15	34	12	15	21	9.5	3.5	2.4	1.3
9	0	3.3	200	14	33	11	14	20	10	3.6	2.5	1.8
10	.20	3.6	120	13	32	10	12	24	11	3.1	1.8	1.7
11	.30	3.6	100	13	31	16	21	21	14	3.8	1.1	1.5
12	.30	2.9	80	13	30	17	12	19	13	3.1	.83	1.2
13	.20	2.8	65	13	29	27	11	18	12	3.0	.98	1.4
14	.10	3.3	55	13	28	69	12	16	11	2.7	1.0	1.3
15	.10	3.3	50	13	27	36	12	15	12	3.1	.93	1.3
16	.10	3.1	45	13	26	27	14	16	13	3.2	.92	1.5
17	0	3.3	42	14	24	25	14	15	12	4.1	.83	1.8
18	0	3.2	40	14	22	25	24	13	9.4	3.3	.64	2.0
19	0	3.5	38	13	21	25	65	13	9.5	3.0	.58	2.2
20	.40	3.6	36	12	20	24	66	13	7.4	2.2	.72	2.3
21	0	4.0	34	11	19	20	59	13	5.6	1.7	.92	2.0
22	0	3.8	31	42	18	19	74	11	4.9	3.0	.71	1.6
23	0	3.8	30	140	18	13	72	12	4.8	3.0	.58	2.0
24	0	4.0	31	800	17	13	67	11	5.4	2.2	.48	1.7
25	0	3.6	30	338	17	13	58	11	5.2	1.8	.41	2.0
26	0	3.0	30	160	17	13	52	11	4.6	1.9	.38	2.3
27	0	2.5	28	130	16	14	50	12	5.3	2.4	.59	2.4
28	0	2.1	28	110	16	14	49	13	4.4	2.1	.67	3.2
29	0	2.1	27	90		21	45	15	4.0	2.2	.47	3.1
30	.20	1.9	27	75	- - - - -	21	39	15	4.1	2.3	.45	3.0
31	.70	- - - - -	25	65	- - - - -	38	- - - - -	13	- - - - -	1.5	.50	- - - - -
Total	2.80	80.80	7,501.3	2,273	816	612	1,163	550	258.2	96.0	34.39	50.12
Mean	0.090	2.69	242	73.3	29.1	19.7	38.8	17.7	8.61	3.10	1.11	1.67
Max	0.70	4.0	3,500	800	60	69	108	33	14	5.0	2.7	3.2
Min	0	0.70	2.6	11	16	10	11	11	4.0	1.5	0.38	0.41
Ac-ft	5.6	160	14,880	4,510	1,620	1,210	2,310	1,090	512	190	68	99

Cal yr 1966: Total 9,460.00 Mean 25.9 Max 3,500 Min 0 Ac-ft 18,770

Wtr yr 1967: Total 13,437.61 Mean 36.5 Max 3,500 Min 0 Ac-ft 26,650

Peak discharge (base, 200 cfs).--Same as those for creek.

SAN JUAN CREEK BASIN

11-0470. ARROYO TRABUCO NEAR SAN JUAN CAPISTRANO, CALIF.

LOCATION.--Lat 33°31'36", long 117°40'08", in NE¹NE¹NW¹ 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.

DRAINAGE AREA.--35.7 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967. Prior to October 1956, published as Trabuco Creek near San Juan Capistrano.

GAGE.--Graphic water-stage recorder. Altitude of gage is 180 ft (from topographic map).

AVERAGE DISCHARGE (combined).--37 years, 4.78 cfs (3,460 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,200 cfs Dec. 6 (gage height, 4.25 ft); no flow for many days. 1930-67: Maximum discharge, 9,240 cfs Feb. 6, 1937; no flow at times in each year.

REMARKS.--No regulation above station. Diversion to spreading grounds by Orange County Flood Control District, at site 0.8 mile upstream, began in February 1966. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Streamflow records furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	1.6	26	6.2	10	20	5.0	1.0	0.10	0.50
2	0	.10	0	1.4	22	6.2	11	19	5.4	.70	.10	.50
3	0	.10	14	1.2	17	5.8	7.4	20	4.6	.50	.10	.50
4	0	0	7.4	1.0	17	5.8	6.8	19	3.0	.50	.10	.50
5	0	0	833	1.2	17	5.4	6.2	18	2.6	.60	.10	.50
6	0	0	1.370	1.0	17	5.4	6.2	16	3.4	.50	.10	.50
7	0	1.6	958	1.6	18	5.4	6.2	13	3.0	.40	.10	.40
8	0	0	183	1.9	17	5.0	6.2	12	3.0	.20	.10	.40
9	0	0	88	2.6	15	5.0	6.2	8.1	4.2	.20	.20	.40
10	0	0	75	2.6	13	5.4	6.2	10	4.6	.20	.30	.40
11	0	0	59	2.6	8.8	5.4	36	11	4.2	.80	.40	.40
12	0	0	50	3.0	8.1	5.8	39	11	3.8	1.4	.30	.40
13	0	0	36	4.2	8.8	7.4	29	10	4.2	1.6	.50	.30
14	0	0	31	4.2	9.5	14	24	8.1	3.4	1.8	.70	.30
15	0	0	30	4.2	9.5	8.1	20	6.8	3.0	1.7	.80	.30
16	0	0	26	4.2	9.5	5.4	17	5.0	3.4	1.5	.90	.30
17	0	0	23	4.2	8.8	5.4	16	6.2	4.2	1.6	1.0	.30
18	0	0	21	3.4	7.4	5.4	18	6.8	3.8	1.6	1.0	.30
19	0	0	16	3.0	7.4	5.4	31	7.4	3.4	1.6	1.0	.40
20	0	0	12	3.0	8.8	5.4	30	5.0	3.0	1.6	.90	.40
21	0	0	10	2.6	8.1	5.4	27	3.4	1.9	1.6	1.0	.40
22	0	0	10	23	8.1	5.0	33	3.4	.90	1.6	1.0	.40
23	0	0	9.5	46	8.1	3.8	33	3.8	1.0	.80	1.0	.50
24	0	0	6.2	295	8.1	2.2	33	3.4	1.0	.10	.90	.50
25	0	0	4.6	197	8.1	2.2	30	3.4	1.2	.10	.80	.60
26	0	0	4.2	58	8.1	3.4	27	4.2	1.2	.10	.80	.70
27	0	0	3.8	44	8.1	3.8	27	2.2	1.2	.10	.80	.80
28	.10	0	3.8	30	8.1	3.0	26	1.9	1.2	.10	.60	.60
29	.10	0	3.4	31		2.6	24	2.2	1.4	.10	.60	.50
30	.10	0	3.4	29	-----	2.6	23	5.4	1.4	.10	.60	.50
31	0	-----	.90	51	-----	8.1	-----	4.2	-----	.10	.50	-----
Total	0.30	1.80	3,892.20	848.7	330.4	165.4	615.4	269.9	87.60	2480	17.40	13.50
Mean	0.01	0.06	126	27.4	11.8	5.34	20.5	8.71	2.92	0.800	0.561	0.450
Max	0.10	1.6	1,370	295	26	14	39	20	5.4	1.8	1.0	0.80
Min	0	0	0	1.0	7.4	2.2	6.2	1.9	0.90	0.10	0.10	0.30
Ac-ft	0.6	3.6	7,720	1,680	655	328	1,220	535	174	49	35	27
(†)	0.6	3.6	7,950	1,910	655	328	1,230	979	393	278	194	163

Cal yr 1966: Total 4,615.50 Mean 12.6 Mean † 13.6 Max 1,370 Min 0 Ac-ft 9,150 Ac-ft † 9,850
 Cal yr 1967: Total 6,267.40 Mean 17.2 Mean † 19.4 Max 1,370 Min 0 Ac-ft 12,430 Ac-ft † 14,080

† Combined discharge, in acre-ft, of creek and diversion.

ALISO CREEK BASIN

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11-0475. ALISO CREEK AT EL TORO, CALIF.

LOCATION.--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.

DRAINAGE AREA.--7.97 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 440 ft (from topographic map). Prior to July 1962, at different datum.

EXTREMES.--Maximum discharge during year, 333 cfs Dec. 6 (gage height, 2.91 ft); no flow for many days.
1930-67: Maximum discharge, 1,950 cfs Feb. 6, 1937; no flow for most of each year.

REMARKS.--No regulation or diversion above station; some pumping from wells along stream. At times since 1964, Metropolitan Water District water has been released to creek.

COOPERATION.--Records furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0.10	0	0	0	0	0	0	0
2	.10	0	0	0	0	0	0	0	0	0	0	.10
3	.40	0	15	0	0	0	0	0	0	.10	0	.40
4	.20	0	.30	0	0	0	0	0	0	0	0	.10
5	0	0	74	0	0	0	0	0	0	0	0	.10
6	0	.40	112	0	0	0	0	0	0	0	0	.10
7	0	.50	15	0	0	.10	0	0	0	0	0	.10
8	0	0	5.1	0	0	.10	0	0	0	0	0	0
9	.80	0	1.9	0	0	0	0	0	0	0	0	0
10	0	0	.80	0	0	0	0	0	0	0	0	0
11	.20	0	.30	0	0	0	0	0	.10	0	0	0
12	0	0	0	0	0	0	0	0	.20	0	0	0
13	0	0	0	0	0	0	0	0	.30	0	.10	0
14	0	0	0	0	0	0	0	0	.20	0	0	0
15	0	0	0	0	0	0	0	0	.10	0	0	0
16	0	0	0	0	0	0	0	0	.20	.10	0	0
17	0	0	0	0	0	0	0	0	.20	.10	0	0
18	0	0	0	0	0	0	0	.20	.20	0	0	0
19	0	0	0	.60	0	0	.20	.20	.10	0	0	0
20	0	0	0	0	0	0	.20	0	.10	0	0	.10
21	0	0	0	0	0	0	.10	.20	.10	0	0	0
22	0	0	0	3.2	0	0	.10	.10	.20	0	0	0
23	.10	0	0	2.1	0	0	.10	0	0	0	0	0
24	.10	0	0	47	0	0	.20	0	0	.10	0	.10
25	.10	0	0	1.1	0	0	0	0	0	0	0	0
26	0	0	0	.40	0	0	0	.20	0	0	0	.10
27	0	0	0	.30	0	0	0	.10	0	0	0	.20
28	0	0	0	.30	0	0	0	.20	0	0	0	.20
29	0	0	0	.20	0	0	0	.10	0	0	0	.10
30	0	0	0	.20	-----	0	.10	0	0	0	0	0
31	0	-----	0	.20	-----	0	-----	.10	-----	0	0	-----
Total	2.00	0.90	224.40	55.60	0.10	0.20	1.00	1.40	2.00	0.40	0.10	1.70
Mean	0.065	0.030	7.24	1.79	0.004	0.006	0.033	0.045	0.057	0.013	0.003	0.057
Max	0.80	0.50	112	47	0.10	0.10	0.20	0.20	0.30	0.10	0.10	0.40
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	4.0	1.8	445	110	0.2	0.4	2.0	2.8	4.0	0.8	0.2	3.4

Cal yr 1966: Total 235.50 Mean 0.645 Max 112 Min 0 Ac-ft 457
Wtr yr 1967: Total 289.80 Mean 0.794 Max 112 Min 0 Ac-ft 575

PETERS CANYON WASH BASIN

11-0485. 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 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 102.86 ft above mean sea level (levels by Orange County Flood Control District). Prior to Nov. 9, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--18 years, 2.12 cfs (1,530 acre-ft per year); median of yearly mean discharges, 1.1 cfs (800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,620 cfs Jan. 24 (gage height, 5.10 ft); no flow for some days. 1949-67: 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 maximum flow; no flow for most of each year.

REMARKS.--Records good. Pumping from wells along stream causes low-flow fluctuation in discharge.

COOPERATION.--Thirteen discharge measurements furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	1.3	.80	0	.30	1.0	3.8	.28	.26	.93	.26	1.4
2	1.0	.80	1.0	.20	.20	.78	.37	.21	.45	.88	.42	.21
3	1.0	1.2	225	.50	.20	.71	.01	.24	.03	.87	.29	.05
4	.70	1.3	3.9	.50	.10	1.3	.03	.17	.10	1.0	.23	.01
5	.40	1.4	572	.50	.10	.16	.09	.30	1.4	.92	.41	0
6	.60	1.6	244	.40	0	.66	.02	.12	1.4	.82	.36	.50
7	.70	185	105	0	0	.50	.08	.01	.73	1.2	.20	.15
8	.70	2.9	34	0	.10	.66	.06	.02	.35	1.0	.15	.08
9	.90	.10	20	.30	.20	.74	.12	0	.58	.74	.15	.02
10	.90	0	15	.80	0	.59	.21	0	.20	.75	.15	0
11	.80	0	12	.70	0	2.6	11	0	.19	.94	.15	.03
12	.90	.50	9.7	.70	0	.70	.04	.02	.49	.82	.15	.01
13	.40	1.3	5.4	.10	0	5.4	.13	.02	.39	1.0	.15	.14
14	0	1.4	2.4	0	0	4.9	.42	.02	.35	1.2	.15	.31
15	.50	1.4	2.5	0	0	.02	.15	.03	.36	.89	.15	.51
16	.90	1.6	1.0	.10	0	.11	.14	.02	.60	.89	.15	.20
17	.80	1.5	3.1	.30	0	.06	.31	0	1.2	.94	.15	.23
18	.70	1.5	.90	.60	0	.05	8.1	0	.92	.94	.15	.24
19	1.0	1.4	1.0	.30	0	.09	12	0	.99	1.0	.15	.09
20	.80	1.2	2.4	.20	0	.21	2.3	0	1.1	.86	.15	.16
21	.80	1.3	3.1	.20	.10	.04	3.5	.13	1.0	.89	.15	.34
22	1.7	1.3	1.4	49	0	.03	7.8	.22	.90	.81	.15	.26
23	1.2	1.7	1.2	45	.10	.26	.09	.16	.69	.61	.15	.41
24	1.2	1.8	.30	314	.20	.02	2.9	.42	.75	.35	.15	.33
25	1.5	2.3	.10	91	.40	.03	.52	.08	1.1	.23	.15	.13
26	1.5	2.6	.10	8.0	.20	.03	.23	.38	.95	.18	.15	.34
27	1.5	3.2	.20	2.4	.50	.16	.21	.31	1.3	.11	.15	.47
28	1.4	3.5	.20	1.0	.10	.07	.20	.20	3.0	.08	.17	3.4
29	1.5	3.4	.10	.60	-----	.25	.17	.40	1.7	.07	.34	.20
30	1.5	2.6	.30	.50	-----	.48	.12	.18	1.1	.07	.26	.04
31	1.4	-----	.40	.40	-----	7.8	-----	.40	-----	.34	.15	-----
TOTAL	29.10	231.10	1,268.50	518.30	2.80	30.41	55.12	4.34	24.58	22.33	6.09	10.26
MEAN	.94	7.70	40.9	16.7	.10	.98	1.84	.14	.82	.72	.20	.34
MAX	1.7	185	572	314	.50	7.8	12	.42	3.0	1.2	.42	3.4
MIN	0	0	.10	0	0	.02	.01	0	.03	.07	.15	0
AC-FT	58	458	2,520	1,030	5.6	60	109	8.6	49	44	12	20

CAL YR 1966: TOTAL 1,722.90 MEAN 4.72 MAX 572 MIN 0 AC-FT 3,420
WAT YR 1967: TOTAL 2,202.93 MEAN 6.04 MAX 572 MIN 0 AC-FT 4,370

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1515	4.72	1,340	12-5	0815	4.84	1,410
12-3	1015	4.10	932	1-24	2045	5.10	1,620

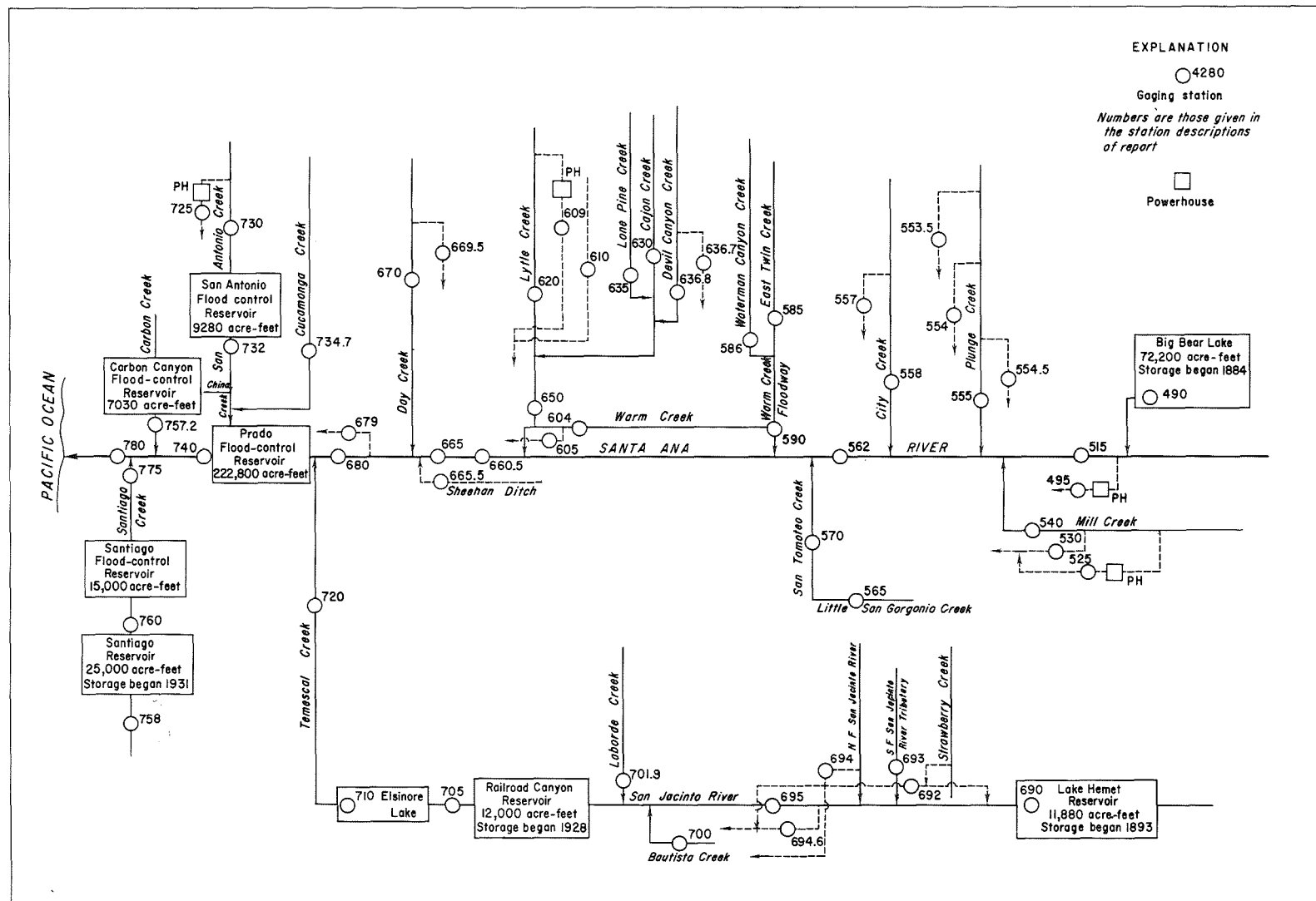


Figure 3.—Schematic diagram showing diversions and storage in Santa Ana River basin.

SANTA ANA RIVER BASIN

11-0490. BIG BEAR LAKE NEAR BIG BEAR LAKE, CALIF.

LOCATION.--Lat 34°14'20", long 116°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 7.5 miles upstream from mouth.

DRAINAGE AREA.--71.5 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967 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, 43,764 acre-ft June 5; minimum contents, 19,324 acre-ft Nov. 5.

1884-1967: 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). Capacity table based on survey made in 1883. No dead storage. Water used for irrigation only. See schematic diagram of Santa Ana River basin.

COOPERATION.--Record of contents furnished by Bear Valley Mutual Water Co.

MONTH-END CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	19,842	-
Oct. 31.....	19,455	-387
Nov. 30.....	19,583	+128
Dec. 31.....	32,453	+12,870
Calendar year 1966.....	-	+14,167
Jan. 31.....	33,151	+698
Feb. 28.....	34,198	+1,047
Mar. 31.....	36,290	+2,092
Apr. 30.....	40,128	+3,838
May 31.....	43,664	+3,536
June 30.....	43,664	0
July 31.....	42,867	-797
Aug. 31.....	42,270	-597
Sept. 30.....	41,672	-598
Water year 1966-67.....	-	+21,830

SANTA ANA RIVER BASIN

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11-0515. SANTA ANA RIVER NEAR MENTONE, CALIF.

LOCATION.--Lat 34°06'40", long 117°05'54", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--209 sq mi, including area tributary to Baldwin Lake at head of Bear Valley.

RECORDS AVAILABLE.--July 1896 to September 1967. Prior to October 1914, observed records not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon. Monthly discharge only for January 1910, January, February 1916, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder on river; graphic water-stage recorder on powerhouse diversion. 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 1.5 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 (river only).--53 years (1914-67), 29.4 cfs (21,280 acre-ft per year); median of yearly mean discharges, 8.7 cfs (6,300 acre-ft per year).
(combined).--71 years, 80.6 cfs (58,350 acre-ft per year); median of yearly mean discharges, 68 cfs (49,200 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 15,300 cfs Dec. 6 (gage height, 13.25 ft, from inside gage); no flow Oct. 1 to Dec. 2.

1896-1967: Maximum discharge, 52,300 cfs Mar. 2, 1938 (gage height, 14.3 ft), on basis of slope-area measurement of maximum flow; no flow at times in some years.

(combined).--Maximum discharge during year, 15,300 cfs Dec. 6; minimum daily, 24 cfs Oct. 31 to Nov. 2.

1896-1967: Maximum discharge, 52,300 cfs Mar. 2, 1938; minimum daily, 3 cfs Nov. 21, 22, 1909.

REMARKS.--Records good except those for Dec. 5-21, which are poor. Flow partly regulated by Big Bear Lake (see Sta. No. 0490). 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 110 acre-ft into canal below canal gage. Prior to Oct. 1, 1952, pumped water entered canal above gage. See schematic diagram of Santa Ana River basin.

COOPERATION.--Eight 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	83	112	56	57	130	34	12	11	64
2			0	81	102	62	79	130	30	12	10	64
3			387	70	83	63	76	133	26	12	10	54
4			77	70	76	74	97	113	23	12	9.2	51
5			2,460	70	72	65	130	58	26	12	9.2	40
6			5,450	57	70	63	107	56	32	12	9.2	29
7			3,680	57	50	62	115	58	33	11	9.6	49
8			910	62	50	62	115	67	32	10	9.6	46
9			530	60	50	60	102	86	31	10	16	42
10			350	50	50	56	96	130	31	10	9.6	42
11			296	52	52	60	156	102	30	10	9.2	29
12			270	62	72	79	139	91	30	10	9.2	26
13			240	55	74	159	127	81	30	29	9.2	49
14			196	55	65	215	130	79	26	81	19	48
15			156	55	65	150	130	72	24	63	51	48
16			135	58	55	139	115	74	24	62	47	48
17			120	58	64	139	112	74	24	42	63	48
18			115	56	64	139	127	74	24	18	63	48
19			110	55	64	133	150	74	24	16	63	46
20			105	55	53	133	150	74	24	15	58	40
21			100	53	63	133	172	72	20	14	58	31
22			97	127	63	130	235	72	16	18	30	18
23			96	153	50	112	205	79	16	48	52	10
24			96	255	62	115	176	79	16	45	88	8.8
25			93	318	62	102	150	76	16	37	74	9.2
26			91	133	60	96	153	76	15	15	63	8.0
27			88	127	58	81	158	67	15	14	63	8.8
28			88	124	58	81	158	63	14	12	60	14
29			88	121		81	158	55	13	13	34	13
30			88	104		67	145	47	12	11	33	41
31			86	106		65		40		10	52	
Total	0	0	16,608	2,882	1,899	3,042	4,070	2,482	711	696	1,102.0	1,072.8
Mean	0	0	536	93.0	67.8	98.1	136	80.1	23.7	22.5	35.5	35.8
Max	0	0	5,450	318	112	215	235	133	34	81	88	64
Min	0	0	0	53	58	56	67	40	12	10	9.2	8.0
Ac-ft	0	0	32,940	5,720	3,770	6,030	3,070	4,920	1,410	1,380	2,190	2,130

Cal yr 1966: Total 20,560.50 Mean 56.3 Max 5,450 Min 0 Ac-ft 40,780
Wtr yr 1967: Total 34,564.8 Mean 94.7 Max 5,450 Min 0 Ac-ft 63,550

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	1530	8.75	1,280	1-24	2230	10.55	800	4-11	1000	10.00	288	7-13	2100	9.78	181
12- 6	2100	13.25	15,300	3-13	2300	10.15	433	4-22	0400	10.16	370	8-23	1900	9.92	252

Note.--No gage-height record Dec. 8-21, Feb. 15-20.

11-0515. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	24	27	83	112	56	57	130	119	76	67	83
2	28	24	27	81	102	62	79	130	114	75	62	83
3	30	25	399	70	83	63	76	133	109	74	60	72
4	31	25	78	70	76	74	97	135	106	75	58	67
5	31	25	2,460	70	72	55	130	144	105	74	57	74
6	30	26	5,460	67	70	63	107	142	106	74	57	61
7	29	34	3,680	67	60	62	115	144	103	75	60	65
8	28	42	911	62	60	62	115	152	104	72	63	61
9	27	32	530	60	60	60	102	171	103	71	67	57
10	31	30	350	60	60	56	96	214	103	69	60	57
11	32	29	296	62	62	60	166	186	100	69	59	61
12	29	28	270	62	72	79	139	175	102	70	59	57
13	29	27	240	55	74	169	127	165	104	87	59	63
14	29	27	196	55	65	215	130	161	99	105	61	62
15	28	26	156	55	65	150	130	155	96	87	69	62
16	28	26	135	58	65	139	115	159	94	86	73	62
17	28	26	120	58	54	139	112	160	94	85	85	61
18	27	27	115	56	64	139	127	160	91	78	82	63
19	27	27	110	55	64	133	150	160	91	74	81	61
20	27	28	105	55	63	133	150	160	91	71	75	57
21	27	29	100	53	63	133	172	158	89	70	75	56
22	27	28	97	127	63	130	235	152	85	66	68	57
23	26	28	96	153	60	112	205	152	85	70	90	52
24	26	28	96	255	62	115	176	147	85	67	88	52
25	26	27	93	318	62	102	150	142	85	73	81	53
26	25	27	91	133	60	96	163	152	84	65	80	52
27	25	26	88	127	58	81	168	152	84	64	79	53
28	26	26	88	124	58	81	168	148	82	64	75	61
29	26	28	88	121		81	158	140	79	65	62	62
30	25	27	88	104	-----	67	145	132	78	60	65	66
31	24	-----	86	106	-----	65	-----	125	-----	63	74	-----
Total	860	832	16,676	2,882	1,899	3,042	4,070	4,736	2,870	2,274	2,151	1,853
Mean	27.7	27.7	538	93.0	67.8	98.1	136	153	95.7	73.4	69.4	61.8
Max	32	42	5,460	318	112	215	235	214	119	105	90	83
Min	24	24	27	53	58	56	67	125	78	60	57	52
Ac-ft	1,710	1,650	33,080	5,720	3,770	6,030	3,070	9,390	5,690	4,510	4,270	3,680

Cal yr 1966: Total 32,855 Mean 31.5 Max 5,460 Min 24 Ac-ft 65,170

Wtr yr 1967: Total 44,145 Mean 121 Max 5,460 Min 24 Ac-ft 87,560

Peak discharge (base, 150 cfs).--(Same as those listed on previous page).

11-0540. MILL CREEK NEAR YUCAIPA, CALIF.

LOCATION.--Lat 34°05'27", long 117°02'12", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--38.1 sq mi.

RECORDS AVAILABLE.--January 1919 to September 1938, October 1947 to September 1967. Monthly figures only for April and May 1923, published in WSP 1315-B. Prior to October 1954, published "near Craftonville."

GAGE.--Graphic water-stage recorder on creek; graphic water-stage recorder and sharp-crested weir on power canal No. 1; graphic water-stage recorder and Parshall flume on power canals Nos. 2 and 3. 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 (creek only).--39 years, 10.6 cfs (7,640 acre-ft per year); median of yearly mean discharges, 1.0 cfs (720 acre-ft per year).
(combined).--39 years, 31.1 cfs (22,520 acre-ft per year); median of yearly mean discharges, 21 cfs (15,200 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 10,000 cfs Dec. 6 (gage height, 14.48 ft), on basis of field estimate of maximum flow; no flow Oct. 1-4, Nov. 23, 28.

1919-38, 1947-67: Maximum discharge, 18,100 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow at times in some years.

(combined).--Maximum discharge during year, 10,000 cfs Dec. 6; minimum daily, 15 cfs Nov. 15-20, 23, 24.

1919-38, 1947-67: Maximum discharge, 18,100 cfs Mar. 2, 1938; minimum daily, 2.7 cfs Feb. 23, 1949.

REMARKS.--Records poor. No regulation above station. 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. See schematic diagram of Santa Ana River basin.

COOPERATION.--Water-stage recorder graph and 10 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.30	0.10	24	10	5.0	6.2	20	52	5.2	11	28
2	0	.20	.10	23	10	5.0	6.0	19	47	7.3	12	39
3	0	.20	250	23	8.4	5.0	5.2	19	45	11	8.2	20
4	0	.20	15	22	6.0	5.0	15	21	43	13	8.2	17
5	5.9	.20	820	21	3.3	5.2	15	21	43	13	8.2	16
6	4.2	.40	3,200	20	3.1	5.4	13	21	43	13	9.6	25
7	1.1	8.3	760	20	3.1	5.4	14	21	41	13	9.6	30
8	1.0	12	390	19	6.9	14	6.2	24	39	14	9.3	13
9	.20	2.5	240	18	12	12	3.5	41	38	12	12	13
10	2.5	1.1	180	17	12	5.4	3.1	41	34	10	14	12
11	2.8	1.9	140	17	10	5.4	24	41	28	27	15	10
12	1.6	2.1	110	17	8.7	6.0	12	34	27	57	11	8.0
13	.80	1.9	80	16	8.4	20	4.5	32	26	60	9.6	7.5
14	.50	1.5	55	14	6.4	32	6.0	29	23	41	20	7.0
15	.80	1.3	55	10	3.9	14	4.5	29	22	23	26	6.0
16	.70	1.0	50	14	4.1	6.7	6.9	34	21	21	25	5.0
17	.50	.60	45	16	5.0	6.7	8.4	36	20	17	23	3.3
18	1.0	.60	41	16	5.0	5.0	10	36	18	15	21	14
19	1.3	.60	39	16	5.2	5.2	10	36	16	17	20	16
20	1.3	1.0	36	16	5.2	5.4	9.3	37	15	15	20	16
21	.40	1.0	35	12	5.2	5.4	15	40	14	12	15	16
22	.20	.30	33	27	5.4	5.0	21	44	14	10	15	11
23	.20	0	32	33	5.4	4.3	13	46	13	9.3	48	5.0
24	.20	.20	31	58	5.4	7.2	11	44	12	9.6	25	5.0
25	.20	.40	30	48	5.4	9.0	9.6	44	9.2	9.0	14	5.0
26	.20	.50	29	19	5.4	6.4	7.9	51	4.5	8.4	13	5.0
27	.80	.60	28	14	5.4	6.2	23	54	8.8	8.7	12	5.0
28	.50	0	27	12	5.0	6.2	10	55	7.6	8.4	11	10
29	.20	.20	26	11		6.7	29	59	4.5	8.4	8.7	31
30	.20	.20	25	11		6.0	21	58	4.7	8.2	10	29
31	.20		25	10		6.4		57		8.2	17	
Total	29.50	41.30	6,837.20	614	179.3	242.6	343.3	1,144	733.3	504.7	481.4	427.8
Mean	0.952	1.38	221	19.8	6.40	7.83	11.4	36.9	24.4	16.3	15.5	14.3
Max	5.9	12	3,200	58	12	32	29	59	52	50	48	39
Min	0	0	0.10	10	3.1	4.3	3.1	19	4.5	5.2	8.2	3.3
Ac-ft	59	82	1,550	1,220	356	481	681	2,270	1,450	1,000	955	849

Cal yr 1966: Total 3,443.40 Mean 23.1 Max 3,200 Min 0 Ac-ft 1,750
Wtr yr 1967: Total 11,578.40 Mean 31.7 Max 3,200 Min 0 Ac-ft 2,290

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	2200	7.95	64	4-11	0900	6.97	57
12-3	Unknown	Unknown	Unknown	7-11	1800	7.58	143
12-6	2130	14.48	10,000	8-23	1530	8.27	321
1-24	2130	7.97	204	9-29	1730	8.00	240
3-13	2300	7.04	65				

Note.--No gage-height record Oct. 18-21, Dec. 8 to Jan 11, Aug. 25-27, Sept. 12-17, 23-27; stage-discharge relation indefinite Nov. 11-27, Dec. 3-7.

SANTA ANA RIVER BASIN

11-0540. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	18	20	58	47	42	47	56	79	42	44	45
2	24	18	20	57	47	41	47	55	80	44	40	47
3	24	18	257	57	45	41	45	57	77	46	40	45
4	24	18	23	56	43	45	50	60	75	46	40	42
5	25	18	824	55	40	42	47	60	76	48	40	40
6	20	19	3,200	53	39	41	44	60	75	46	41	45
7	20	30	750	52	39	41	48	60	74	46	42	48
8	20	31	390	51	40	39	45	63	72	46	40	37
9	21	20	240	50	40	32	42	68	71	45	38	37
10	24	20	180	47	40	42	43	72	70	44	39	36
11	23	20	140	43	40	44	58	72	66	56	40	39
12	21	16	110	43	39	46	48	65	65	52	43	41
13	21	16	80	43	38	59	44	63	64	55	44	41
14	22	16	74	43	41	59	45	60	60	58	48	41
15	22	15	86	42	41	45	45	58	59	51	47	41
16	22	15	82	43	41	44	46	62	58	49	56	39
17	20	15	79	42	43	44	47	66	57	45	53	37
18	20	15	75	42	43	45	49	67	55	43	51	40
19	20	15	73	42	44	44	48	67	53	41	50	40
20	20	15	70	42	44	44	46	69	52	43	50	39
21	22	16	69	41	44	43	51	69	51	43	44	39
22	23	16	67	57	43	42	61	70	51	45	45	40
23	23	15	66	51	43	42	52	74	50	47	72	39
24	22	15	65	88	43	42	50	77	48	46	48	38
25	22	18	64	77	43	43	48	77	47	46	36	38
26	21	19	63	52	42	45	48	76	46	45	36	38
27	19	18	62	49	42	44	58	78	43	45	34	38
28	19	18	61	47	41	44	41	79	43	45	33	40
29	18	22	60	48		46	52	83	40	45	36	59
30	18	19	59	48	- - - - -	45	59	82	39	44	35	39
31	18	- - - - -	59	47	- - - - -	47	- - - - -	81	- - - - -	44	39	- - - - -
Total	662	544	7,478	1,576	1,175	1,353	1,464	2,106	1,796	1,453	1,544	1,228
Mean	21.4	18.1	241	50.8	42.0	44.0	48.8	67.9	59.9	47.2	43.4	40.9
Max	25	31	3,200	88	47	59	52	83	80	65	72	59
Min	18	15	20	41	38	32	41	55	39	41	33	36
Ac-ft	1,310	1,080	14,830	3,130	2,330	2,700	2,900	4,180	3,550	2,900	2,670	2,440

Cal yr 1966: Total 13,207 Mean 49.9 Max 3,200 Min 15 Ac-ft 30,110
Wtr yr 1967: Total 22,199 Mean 60.8 Max 3,200 Min 15 Ac-ft 44,030

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	2200		86	4-11	0900		84
12- 3	Unknown		Unknown	4-27	1700		77
12- 6	2130		10,000	7-11	1800		143
1-24	2130		230	8-23	1530		321
3-13	2300		97	9-29	1730		245

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11-0555. PLUNGE CREEK NEAR EAST HIGHLANDS, CALIF.

LOCATION.--Lat 34°07'06", long 117°08'27", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--16.9 sq mi.

RECORDS AVAILABLE.--January 1919 to September 1967; combined records of creek and diversions, March 1951 to September 1967.

GAGE.--Graphic water-stage recorder and since December 1938 broad-crested weir on creek; digital water-stage recorder and weir on upper diversion; graphic water-stage recorder and concrete-lined canal on middle diversion; graphic water-stage recorder and sharp-crested weir on lower diversion. Altitude of gage is 1,590 ft (from topographic map). Prior to Oct. 1, 1964, graphic water-stage recorder on upper diversion.

AVERAGE DISCHARGE (creek only).--48 years, 5.68 cfs (4,110 acre-ft per year); median of yearly mean discharges, 3.7 cfs (2,700 acre-ft per year).
(combined).--16 years, 6.34 cfs (4,590 acre-ft per year); median of yearly mean discharges, 3.9 cfs (2,800 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 4,770 cfs Dec. 6 (gage height, 5.20 ft), on basis of slope-area measurement of maximum flow; no flow for many days.
1919-67: Maximum discharge, 5,340 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow for part of each year.
(combined).--Maximum discharge during year, 4,770 cfs Dec. 6; minimum daily, 0.30 cfs Nov. 16.
1951-67: Maximum discharge, that of Dec. 6, 1966; no flow Nov. 12, 1964, Sept. 29, 1965.

REMARKS.--Records good. No regulation above station. Diversions for irrigation are made at sites 0.5, 1.0, and 2.5 miles above station. Water has been diverted above station for irrigation during entire period of record. Combined discharge of Plunge Creek and upper, middle, and lower diversions is given on following page. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.10	6.9	21	4.2	13	38	8.4	1.9	0.10	0.20
2	0	0	.20	6.6	19	3.7	16	37	7.5	1.9	.10	.30
3	0	0	132	6.6	17	4.0	15	37	8.7	2.4	.10	.60
4	0	0	9.7	6.3	17	5.7	44	35	7.7	2.2	.10	.40
5	.40	0	605	5.7	16	4.2	31	31	7.5	1.9	.10	.20
6	.70	0	1,650	5.4	16	4.0	20	30	7.8	2.2	.20	.20
7	.30	1.8	354	5.2	15	4.0	21	30	7.8	2.4	.20	.20
8	.10	3.6	116	5.2	14	3.4	18	30	8.4	2.4	.20	.20
9	0	.70	71	5.0	14	3.4	17	31	8.4	2.2	.20	.20
10	.10	.60	49	4.7	13	4.8	17	44	8.4	2.0	.20	.20
11	0	.50	36	4.7	13	10	57	32	8.4	1.9	.30	.10
12	0	.50	27	5.0	13	27	52	27	8.4	2.0	.30	.10
13	0	.40	21	4.2	13	112	42	24	9.1	2.2	.30	0
14	0	.40	18	4.2	12	105	39	23	7.8	1.9	.30	0
15	0	.30	17	4.0	9.8	39	38	21	7.2	1.9	.30	0
16	0	.30	17	3.7	8.1	37	34	18	6.9	1.9	.30	0
17	0	.20	17	2.4	7.8	29	35	18	6.9	1.4	.30	0
18	0	.10	16	1.1	7.5	25	39	17	6.6	1.3	.20	0
19	0	0	15	.20	7.2	18	50	17	6.0	1.3	.20	0
20	0	0	14	.10	7.2	17	52	14	5.4	1.2	.20	0
21	0	.10	13	.10	6.9	15	59	12	5.0	.60	.10	0
22	0	.10	12	12	5.7	14	95	12	4.4	.30	.10	0
23	0	.10	11	26	4.7	13	63	12	3.7	.30	.20	0
24	0	.10	10	139	4.7	13	52	11	3.0	.20	.30	.10
25	0	.10	9.4	160	4.4	13	52	11	2.8	.20	.20	.20
26	0	.10	9.0	37	4.0	12	52	10	2.6	.20	.20	.20
27	0	.10	8.4	35	3.7	12	52	10	2.6	.20	.20	.10
28	0	.10	8.1	34	4.0	11	49	9.4	2.4	.30	.10	.30
29	0	.10	7.8	30		12	45	9.4	2.4	.30	.10	.80
30	0	.10	7.2	26	-----	11	41	9.4	2.1	.30	0	.40
31	0	-----	7.2	26	-----	13	-----	10	-----	.30	-----	-----
Total	1.60	10.40	3,288.10	612.30	298.7	599.4	1,220	670.2	184.3	41.70	5.70	5.00
Mean	0.052	0.347	106	19.8	10.7	19.3	40.7	21.6	6.14	1.34	0.184	0.157
Max	0.70	3.6	1,650	150	21	112	95	44	9.1	2.4	0.30	0.80
Min	0	0	0.10	0.10	3.7	3.4	13	9.4	2.1	0.20	0	0
Ac-ft	3.2	20	5,520	1,210	592	1,190	2,420	1,330	366	83	11	9.9

Cal yr 1966: Total 4,048.00 Mean 11.1 Max 1,650 Min 0 Ac-ft 3,030
Wtr yr 1967: Total 6,937.40 Mean 19.0 Max 1,650 Min 0 Ac-ft 13,760

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1100	1.67	413	4-4	1800	1.23	162
12-6	1800	5.20	4,770	4-11	1030	1.38	150
1-24	2200	2.20	812	4-22	0300	1.43	162
3-13	2230	1.45	280				

11-0555. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.50	0.90	6.9	21	8.1	14	38	13	5.6	3.2	3.1
2	.40	.50	1.0	6.6	19	7.6	17	37	12	5.6	3.1	3.4
3	.40	.40	133	6.6	17	7.7	16	37	13	6.1	3.0	4.1
4	.50	.50	9.7	6.3	17	10	44	35	12	7.0	2.8	3.2
5	.90	.60	605	5.7	16	8.4	31	31	12	6.1	2.8	2.6
6	.90	.70	1,650	5.4	16	7.9	21	30	12	6.6	2.8	2.5
7	.50	3.0	354	5.2	15	8.0	24	30	12	6.9	2.7	2.4
8	.50	3.6	116	5.2	14	7.2	21	30	12	7.0	2.8	2.3
9	.60	.70	71	5.0	15	7.2	20	31	12	6.9	2.6	2.1
10	.70	.60	49	4.7	14	7.3	20	44	12	6.7	2.5	2.2
11	.70	.50	36	4.7	14	11	58	32	12	6.6	2.5	2.1
12	.70	.50	27	5.0	14	28	52	29	12	6.5	2.5	2.1
13	.60	.40	21	4.2	14	112	42	26	13	6.6	2.4	2.0
14	.60	.60	18	4.2	13	105	39	25	11	5.9	2.2	2.0
15	.60	.40	17	4.0	12	39	38	23	11	5.5	2.2	1.9
16	.60	.30	17	3.7	11	37	34	20	10	5.3	2.2	1.9
17	.60	.60	17	3.2	11	29	35	20	10	4.5	2.2	1.8
18	.60	.90	16	3.2	11	25	39	19	9.8	4.3	2.2	2.0
19	.60	.80	15	2.9	10	18	50	19	9.1	4.2	2.4	2.1
20	.50	.80	14	2.7	9.9	17	52	17	8.5	4.0	2.3	1.9
21	.60	.90	13	2.7	9.5	15	59	16	7.9	3.7	2.3	1.9
22	.60	.90	12	14	9.5	14	95	16	7.3	3.7	2.3	1.9
23	.60	.90	11	26	9.4	13	63	16	6.6	3.7	2.4	1.9
24	.60	.90	10	139	9.3	14	52	15	6.6	3.6	2.7	2.2
25	.50	.90	9.4	160	9.1	13	52	15	6.7	3.6	2.8	2.4
26	.50	.80	9.0	37	8.6	12	52	14	6.5	3.5	2.4	2.2
27	.50	.90	8.4	35	8.2	12	52	14	6.4	3.5	2.2	2.0
28	.60	.90	8.1	34	8.1	11	49	14	6.0	3.6	2.0	3.2
29	.50	.90	7.8	30		12	45	14	6.2	3.5	2.0	3.7
30	.50	.90	7.2	26	- - - - -	11	41	14	5.9	3.5	1.9	2.5
31	.50	- - - - -	7.2	26	- - - - -	14	- - - - -	15	- - - - -	3.5	2.0	- - - - -
Total	17.90	25.80	3,290.70	625.1	355.6	641.4	1,237	736	294.5	157.3	76.4	71.6
Mean	0.577	0.850	106	20.2	12.7	20.7	41.2	23.7	9.82	5.07	2.46	2.39
Max	0.90	3.6	1,650	160	21	112	95	44	13	7.0	3.2	4.1
Min	0.40	0.30	0.90	2.7	8.1	7.2	14	14	5.9	3.5	1.9	1.8
Ac-ft	36	51	6,530	1,240	705	1,270	2,450	1,460	584	312	152	142

Cal yr 1966: Total 4,488.20 Mean 12.2 Max 1,650 Min 0.30 Ac-ft 3,900
Wtr yr 1967: Total 7,529.30 Mean 20.6 Max 6,530 Min 0.30 Ac-ft 14,930

Peak discharge (base, 130 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1100		417	4-4	1800		162
12-6	1800		4,770	4-11	1030		150
1-24	2200		812	4-22	0300		162
3-13	2230		280				

SANTA ANA RIVER BASIN

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11-0558. CITY CREEK NEAR HIGHLAND, CALIF.

LOCATION.--Lat 34°08'38", long 117°11'16", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ 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.--19.6 sq mi.

RECORDS AVAILABLE.--October 1919 to September 1967; combined records of creek and canal, June 1924 to September 1967.

GAGE.--Digital water-stage recorder on creek; digital water-stage recorder on canal. 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. Prior to Oct. 1, 1964, graphic water-stage recorder on creek. Prior to Apr. 13, 1966, graphic water-stage recorder on canal.

AVERAGE DISCHARGE (creek only).--48 years, 7.89 cfs (5,710 acre-ft per year); median of yearly mean discharges, 5.0 cfs (3,600 acre-ft per year).
(combined).--43 years, 9.48 cfs (6,860 acre-ft per year); median of yearly mean discharges, 6.5 cfs (4,700 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 3,080 cfs Dec. 6 (gage height, 7.23 ft), on basis of slope-area measurement of maximum flow; no flow Oct. 15-26.
1919-67: Maximum discharge, 6,900 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow for several months in some years.
(combined).--Maximum discharge during year, 3,080 cfs Dec. 6; minimum daily, 0.80 cfs Oct. 23.
1924-67: Maximum discharge, 6,900 cfs Mar. 2, 1938; no flow at times in some years.

REMARKS.--Records good. No regulation above station. City Creek Water Co.'s canal has diverted above station for irrigation throughout period of record. Combined discharge of City Creek and canal is given on following page. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	10	22	5.4	23	57	22	12	4.0	1.7
2	.10	.10	.10	10	21	5.4	29	53	21	11	3.3	1.9
3	.10	.10	66	9.6	20	5.1	22	50	19	11	3.0	1.8
4	.10	.10	16	9.3	18	6.2	35	47	19	11	3.0	1.7
5	.60	.10	507	9.3	17	5.4	34	47	19	12	2.9	1.6
6	.70	.20	1,290	9.3	16	5.4	26	45	19	11	2.8	1.6
7	.10	4.2	320	8.6	16	5.2	29	43	18	11	2.8	1.6
8	.10	4.2	142	8.6	15	4.9	31	40	18	11	2.9	1.5
9	.10	4.1	66	7.9	15	4.9	28	42	18	10	2.8	1.5
10	1.0	3.7	43	7.9	14	7.2	25	48	18	10	2.5	1.5
11	.60	3.5	33	7.9	13	12	58	40	18	10	2.4	1.5
12	.10	3.4	29	7.9	12	26	50	38	18	9.7	2.4	1.5
13	.10	3.4	25	7.9	12	73	47	35	20	7.9	2.2	1.5
14	.10	.10	22	7.2	12	70	43	34	17	7.2	2.0	1.4
15	0	.10	19	7.2	11	40	44	32	16	6.0	1.9	1.3
16	0	.10	17	7.2	11	31	42	31	16	5.8	1.8	1.3
17	0	.10	15	6.9	8.1	27	40	30	16	5.3	1.8	1.2
18	0	.10	14	6.9	5.7	25	46	30	16	5.1	1.8	1.3
19	0	.10	13	6.9	5.3	24	48	29	15	4.9	1.8	1.3
20	0	.10	13	6.9	4.7	23	43	27	15	4.7	1.8	1.2
21	0	.10	12	6.9	4.5	22	80	26	14	4.4	1.8	1.1
22	0	.10	12	26	4.1	22	140	25	14	4.3	1.7	1.2
23	0	.10	11	41	2.2	16	96	25	14	4.4	1.7	1.2
24	0	.10	12	92	2.6	13	85	25	13	4.4	1.6	1.2
25	0	.10	11	120	4.1	12	77	24	13	4.3	1.6	1.3
26	0	.10	11	53	6.9	12	76	24	13	4.0	1.5	1.2
27	.10	.10	11	30	6.7	12	72	24	13	4.0	1.4	1.2
28	.10	.10	11	25	5.5	12	68	24	12	4.0	1.4	1.5
29	.10	.10	11	23	-----	13	62	24	12	3.9	1.3	1.4
30	.10	.10	11	22	-----	12	60	23	12	3.7	1.3	1.4
31	.10	-----	11	23	-----	19	-----	24	-----	3.6	1.5	-----
TOTAL	4.40	28.90	2,774.20	625.3	305.4	571.1	1,559	1,066	488	221.6	66.7	42.6
MEAN	.14	.96	89.5	20.2	10.9	18.4	52.0	34.4	16.3	7.15	2.15	1.42
MAX	1.0	4.2	1,290	120	22	73	140	57	22	12	4.0	1.9
MIN	0	.10	.10	6.9	2.2	4.9	22	23	12	3.6	1.3	1.1
AC-FT	8.7	57	5,500	1,240	606	1,130	3,090	2,110	968	440	132	85

CAL YR 1966: TOTAL 4,509.50 MEAN 12.4 MAX 1,290 MIN 0 AC-FT 8,940
WAT YR 1967: TOTAL 7,753.20 MEAN 21.2 MAX 1,290 MIN 0 AC-FT 15,380

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1815	7.23	3,080	4-22	0330	3.62	235
1-24	2115	3.80	327				

11-0558. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	2.0	3.0	10	22	11	24	60	26	14	8.9	7.1
2	1.8	1.7	3.2	10	21	11	31	56	24	13	9.1	8.4
3	1.9	2.0	7.1	9.6	20	12	27	53	24	13	8.6	8.0
4	2.0	2.4	16	9.3	18	14	43	50	24	13	8.5	7.0
5	4.1	2.8	509	9.3	17	13	43	48	24	14	8.2	6.2
6	3.3	3.8	1,290	9.3	16	11	34	45	24	13	8.3	5.7
7	2.3	8.5	320	8.6	16	10	34	43	23	13	8.6	5.5
8	1.9	5.0	142	8.6	15	10	33	41	23	13	8.9	5.2
9	1.5	4.5	66	7.9	15	9.9	30	45	23	12	8.6	5.1
10	1.8	4.0	43	7.9	14	10	28	51	23	12	7.9	5.1
11	2.0	3.8	33	7.9	13	13	60	43	23	12	7.4	5.0
12	1.9	3.6	29	7.9	12	27	52	41	23	11	7.3	4.9
13	1.6	3.6	25	7.9	12	74	49	38	25	12	7.3	5.1
14	1.2	3.6	22	7.2	12	71	47	37	21	12	7.0	4.8
15	1.2	2.9	19	7.2	11	41	47	34	20	12	7.2	4.5
16	1.1	2.7	17	7.2	11	32	44	33	20	12	7.2	4.6
17	1.1	2.8	15	6.9	11	28	42	32	20	11	7.0	4.7
18	1.1	2.6	14	6.9	11	26	47	32	20	11	6.8	5.5
19	1.0	2.5	13	6.9	11	25	50	31	19	11	6.8	5.8
20	1.0	2.5	13	6.9	11	24	45	29	18	10	6.6	5.3
21	1.0	2.8	12	6.9	11	23	84	28	17	10	6.3	5.1
22	1.0	2.8	12	26	11	23	146	27	17	10	6.1	5.7
23	.80	3.0	11	41	11	20	100	27	17	10	6.5	5.4
24	1.0	2.8	12	92	11	19	88	27	16	10	6.5	5.6
25	1.1	2.8	11	120	11	18	80	26	16	9.9	6.2	5.8
26	1.1	2.9	11	53	11	18	79	26	16	9.5	5.5	5.3
27	1.4	2.7	11	30	11	18	75	26	16	9.4	5.1	5.2
28	1.5	2.7	11	25	11	18	72	26	15	9.4	4.8	7.2
29	1.6	3.2	11	23	20	20	66	27	15	9.3	4.4	6.7
30	1.4	3.0	11	22	19	19	64	26	14	9.0	4.6	6.0
31	1.7	- - - -	11	23	- - - -	23	- - - -	28	- - - -	9.0	5.7	- - - -
Total	49.10	96.0	2,787.2	6,253	377	691.9	1,664	1,136	606	349.5	217.9	171.5
Mean	1.58	3.20	89.9	20.2	13.5	22.3	55.5	36.6	20.2	11.3	7.03	5.72
Max	4.1	8.5	1,290	120	22	74	146	60	26	14	9.1	8.4
Min	0.80	1.7	3.0	6.9	11	9.9	24	26	14	9.0	4.4	4.5
Ac-ft	97	190	5,530	1,240	748	1,370	3,300	2,250	1,200	693	432	340

Cal yr 1966: Total 5,436.40 Mean 14.9 Max 1,290 Min 0.20 Ac-ft 10,780
Wtr yr 1967: Total 8,771.40 Mean 24.0 Max 1,290 Min 0.80 Ac-ft 17,400

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1815		3,080	4-22	0330		244
1-24	2115		327				

11-0562. SANTA ANA RIVER AT WATERMAN AVENUE, AT SAN BERNARDINO, CALIF.

LOCATION.--Lat 34°04'14", long 117°16'41", in San Bernardino Grant, on downstream end of fifth pier from left bank of south bound traffic 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.--354 sq mi.

RECORDS AVAILABLE.--October 1954 to December 1961, January 1964 to September 1967. Prior to January 1964, published as "near San Bernardino." Records, except Extremes, for October 1928 to September 1937 at site 1.6 miles upstream not equivalent owing to discharge of Mission ditch.

GAGE.--Graphic water-stage recorder. Altitude of gage is 995 ft (from topographic map). Prior to Jan. 21, 1964, at different datum.

AVERAGE DISCHARGE.--10 years (1954-61, 1964-67), 8.98 cfs (6,500 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 12,800 cfs Dec. 6 (gage height, 6.16 ft), from rating curve extended above 1,900 cfs; no flow for most of year.

1928-37, 1954-61, 1964-67: Maximum discharge, 17,200 cfs Nov. 22, 1965 (gage height, 7.94 ft), from rating curve extended above 560 cfs on basis of slope-area measurement for station at Colton; no flow for most of each year.

Maximum discharge known, 75,700 cfs Mar. 2, 1938, from combined discharges of Santa Ana River near Mentone, Mill Creek near Yucaipa, and Plunge Creek near East Highlands.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (see sta. no. 0490). Natural flow of stream affected by ground-water withdrawals and diversions for domestic use and irrigation above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	0	0	0		0	0	0	8.2	0	0.10	0.20
2	14	0	0	0		0	3.0	.20	12	0	.70	.20
3	2.7	0	444	0		0	0	.40	12	0	.80	0
4	3.4	0	10	0		0	.90	.10	12	0	.30	0
5	24	0	1,650	0		0	0	.70	7.0	0	.80	.10
6	2.0	0	4,340	0		0	0	.20	5.0	0	1.2	0
7	0	16	1,230	0		0	1.1	0	2.1	0	.90	0
8	0	.10	440	0		0	0	.10	7.0	0	0	0
9	0	0	90	0		0	0	.20	12	0	.20	0
10	11	0	8.0	0		0	0	.80	16	0	.20	0
11	0	0	2.0	0		0	10	1.6	19	0	0	0
12	0	0	1.0	0		0	0	1.6	21	2.4	.10	0
13	0	0	0	0		9.4	0	.50	23	7.0	.50	0
14	0	0	0	0		1.3	0	0	29	23	.10	.10
15	0	0	0	0		0	0	0	23	0	0	.40
16	0	0	0	0		0	0	0	25	0	0	.40
17	0	0	0	0		0	0	0	21	0	.60	0
18	0	0	0	0		0	1.7	.80	2.7	0	1.6	1.4
19	0	0	0	0		0	6.0	.70	25	0	.80	.10
20	0	0	0	0		0	.10	1.6	4.2	0	.60	.70
21	0	0	0	0		0	.80	.80	.80	0	.20	.50
22	0	0	0	.70		0	34	1.9	0	0	0	0
23	0	0	0	0		.30	3.4	1.6	0	0	16	1.5
24	0	0	0	32		0	2.1	0	0	0	10	.10
25	0	0	0	42		0	.10	0	0	0	8.0	.50
26	0	0	0	25		0	.10	0	0	0	5.0	1.3
27	0	0	0	15		0	.80	.80	0	0	3.0	.30
28	0	0	0	8.0		0	0	1.6	0	.50	2.0	1.2
29	0	0	0	4.0		0	0	5.0	0	1.0	0	2.1
30	0	0	0	1.0		0	0	8.2	0	.20	.30	.30
31	0	---	0	0	---	5.3	---	9.5	---	.50	.30	---
Total	66.6	16.10	3,225.0	127.70	0	16.30	54.10	38.90	287.00	34.60	54.30	11.40
Mean	2.15	0.537	265	4.12	0	0.526	2.14	1.25	9.57	1.12	1.75	0.380
Max	24	16	4,340	42	0	9.4	34	9.5	29	23	16	2.1
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	132	32	16,310	253	0	32	127	77	569	69	108	23

Cal yr 1966: Total 9,133.40 Mean 25.0 Max 4,340 Min 0 Ac-ft 13,120
Wtr yr 1967: Total 3,942.00 Mean 24.5 Max 4,340 Min 0 Ac-ft 17,740

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1500	5.98	1,090	8-23	1530	2.95	388
12-6	2100	6.16	12,800				

SANTA ANA RIVER BASIN

11-0565. LITTLE SAN GORGONIO CREEK NEAR BEAUMONT, CALIF.

LOCATION.--Lat 34°01'45", long 116°56'40", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ 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.--3.23 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 4,320 ft (from topographic map).

AVERAGE DISCHARGE.--19 years, 0.086 cfs (62 acre-ft per year).

EXTREMES.--Maximum discharge during year, 302 cfs Dec. 6 (gage height, 2.15 ft), from rating curve extended above 32 cfs as explained below; no flow for much of year.

1948-67: Maximum discharge, 319 cfs Aug. 23, 1955 (gage height, 2.18 ft), from rating curve extended above 32 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

REMARKS.--Records good. No regulation above station. Several small diversions above station for irrigation. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0.20	0.40	0.70	0.30	0.40	0.20	0.20	0
2		0	0	0	.20	.50	.70	.30	.40	.20	.20	4.5
3		0	18	0	.20	.50	.70	.30	.40	.20	.20	0
4		0	.20	0	.20	.50	.90	.30	.40	.20	.10	0
5		0	28	0	.20	.50	.50	.30	.40	.20	.10	0
6		0	43	0	.30	.50	.50	.30	.40	.20	.10	0
7		.10	2.7	0	.30	.50	.60	.40	.30	.20	.10	0
8		0	.30	0	.30	.50	.60	.60	.30	.20	.10	0
9		0	0	0	.30	.50	.60	.60	.30	.20	.10	0
10		0	.30	0	.30	.50	.70	.60	.30	.20	.10	0
11		0	0	0	.30	.60	.70	.60	.40	.50	.10	0
12		0	0	0	.30	.60	.70	.60	.40	.30	.10	0
13		0	0	0	.30	1.0	.70	.60	.40	.30	.10	0
14		0	0	0	.30	.90	.70	.60	.40	.30	.10	0
15		0	0	0	.30	.50	.50	.50	.30	.20	.10	0
16		0	0	0	.30	.40	.50	.50	.30	.20	.10	0
17		0	0	0	.30	.40	.40	.50	.30	.20	.10	0
18		0	0	0	.30	.40	.50	.50	.30	.20	.10	0
19		0	0	0	.40	.40	.70	.50	.30	.20	.10	0
20		0	0	0	.40	.60	.70	.50	.30	.20	.10	0
21		0	0	0	.40	.60	.70	.50	.30	.20	.10	0
22		0	0	.40	.40	.60	.90	.50	.30	.30	.10	0
23		0	0	0	.30	.70	.90	.50	.30	.20	.10	0
24		0	0	1.5	.30	.70	.90	.40	.30	.20	0	0
25		0	0	.70	.30	.70	.60	.40	.30	.20	0	0
26		0	0	.20	.30	.70	.50	.40	.20	.20	0	.10
27		0	0	.10	.30	.60	.30	.40	.20	.20	0	.20
28		0	0	.10	.30	.60	.30	.40	.20	.20	0	.20
29		0	0	.10		.60	.30	.40	.20	.20	0	2.4
30		0	0	.10	-----	.70	.30	.40	.20	.20	0	1.2
31		-----	0	.10	-----	.70	-----	.40	-----	.20	0	-----
Total	0	0.10	92.50	3.30	8.30	17.90	18.30	14.10	9.50	6.90	2.60	8.60
Mean	0	0.003	2.98	0.106	0.296	0.577	0.610	0.455	0.317	0.223	0.084	0.281
Max	0	0.10	43	1.5	0.40	1.0	0.90	0.60	0.40	0.50	0.20	4.5
Min	0	0	0	0	0.20	0.40	0.30	0.30	0.20	0.20	0	0
Ac-ft	0	0.2	183	6.5	16	36	36	28	19	14	5.2	17

Cal yr 1966: Total 93.50 Mean 0.256 Max 43 Min 0 Ac-ft 185
 Wtr yr 1967: Total 182.10 Mean 0.499 Max 43 Min 0 Ac-ft 351

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1200	1.73	74	9-2	1400	1.90	140
12-6	1800	2.15	302	9-29	1600	1.60	40

11-0570. SAN TIMOTEO CREEK NEAR REDLANDS, CALIF.

LOCATION.--Lat 34°01'59", long 117°12'29", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--119 sq mi.

RECORDS AVAILABLE.--October 1926 to September 1967.

GAGE.--Graphic 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.--41 years, 1.39 cfs (1,010 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,360 cfs Dec. 6 (gage height, 5.25 ft); no flow for most of year. 1926-67: Maximum discharge, 7,460 cfs Mar. 2, 1938, result of slope-area measurement of maximum flow; no flow for several months in each year.

REMARKS.--Records fair. No regulation above station. Low flow normally diverted above station for irrigation. At times small amounts of irrigation waste water passes station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 3.....213	Jan. 24.....161
4......60	25..... 26
5.....391	Apr. 18..... 2.8
6.....747	19......50
7.....210	22......50
Jan. 22..... 8.4	Aug. 17..... 17
23..... 67	

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	1,561.60	747	0	50.4	3,100
January 1967.....	262.4	161	0	8.46	520
April.....	3.80	2.8	0	.127	7.5
August.....	17	17	0	.548	34
Calendar year 1966.....	-	747	0	4.28	3,100
Water year 1966-67.....	-	747	0	5.05	3,660

Peak discharge (base, 150 cfs).--Dec. 3 (1430 hrs) 860 cfs (3.40 ft); Dec. 6 (2145 hrs) 2,360 cfs (5.25 ft); Jan. 24 (2330 hrs) 800 cfs (3.30 ft); Aug. 23 (1600 hrs) 398 cfs (2.53 ft).

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

SANTA ANA RIVER BASIN

11-0585. EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CALIF.

LOCATION.--Lat 34°10'45", long 117°15'53", in NW¼NE¼ 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.--8.80 sq mi.

RECORDS AVAILABLE.--December 1919 to September 1967. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

GAGE.--Digital water-stage recorder and broad-crested weir since September 1938. Altitude of gage is 1,590 ft (from topographic map). Prior to Feb. 23, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--47 years (1920-67), 4.36 cfs (3,160 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,250 cfs Dec. 6 (gage height, 5.80 ft), from rating curve extended above 310 cfs on basis of slope-area measurement at gage height 6.80 ft; minimum daily, 0.50 cfs Oct. 14, 24-26.

1919-67: 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. No regulation above station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.60	.60	1.2	4.3	8.2	4.0	7.6	18	7.4	5.1	3.0	3.4
2	.70	.70	1.6	4.3	7.4	4.1	10	17	7.1	5.2	3.0	3.5
3	.80	.70	71	4.2	7.1	4.3	7.9	16	6.8	5.2	2.8	3.6
4	.80	.80	8.7	4.2	6.8	5.1	10	15	7.5	4.9	2.7	3.1
5	.80	.80	335	4.1	6.8	4.5	9.1	15	6.9	4.8	2.8	2.7
6	.80	.80	585	4.1	6.3	4.4	8.1	14	5.9	4.8	2.9	2.4
7	.70	6.9	138	4.1	6.1	4.3	8.6	13	7.3	4.6	3.0	2.3
8	.60	4.0	36	4.1	6.0	4.2	8.0	13	7.5	4.4	3.0	2.2
9	.60	1.9	20	4.0	6.0	4.2	7.5	15	7.7	4.3	2.8	2.3
10	.80	1.5	17	4.0	5.9	4.3	7.3	18	8.0	4.2	3.1	2.3
11	.90	1.4	13	4.0	5.7	5.4	24	14	7.9	4.2	2.8	2.2
12	.80	1.4	11	4.0	5.5	10	15	13	8.2	4.1	2.9	2.2
13	.70	1.5	10	4.0	5.4	25	13	12	9.9	4.0	2.8	2.4
14	.50	1.2	9.1	3.8	5.2	19	12	11	7.9	4.1	2.8	2.0
15	.60	1.2	8.4	3.8	5.0	11	11	11	7.0	4.1	2.8	1.9
16	.70	1.3	7.6	3.8	4.9	8.8	9.7	10	5.6	4.0	2.8	2.0
17	.60	1.3	7.2	3.6	4.8	8.4	9.2	10	6.9	3.9	2.7	2.1
18	.60	1.2	6.8	3.5	4.7	8.1	11	9.8	6.7	3.8	2.6	2.7
19	.60	1.0	6.2	3.5	4.7	7.8	14	9.5	6.2	3.7	2.8	2.6
20	.60	1.0	6.0	3.2	4.6	7.4	15	10	6.1	3.7	2.7	2.3
21	.60	1.1	5.7	3.4	4.5	7.1	21	8.9	5.7	3.6	2.7	2.4
22	.60	1.0	5.4	15	4.4	6.7	35	8.8	6.0	3.6	2.7	2.6
23	.60	1.4	5.2	11	4.4	6.5	22	8.6	6.1	3.5	2.9	2.4
24	.50	1.2	5.0	67	4.3	6.6	20	8.4	7.1	3.4	2.7	2.7
25	.50	1.2	4.8	36	4.2	6.3	19	8.1	5.9	3.3	2.5	2.6
26	.50	1.2	4.7	15	4.1	6.4	19	8.3	5.5	3.3	2.4	2.6
27	.60	1.2	4.6	13	4.1	6.2	18	8.3	5.4	3.3	2.2	2.7
28	.60	1.3	4.5	11	4.0	6.3	18	8.1	5.4	3.2	2.1	3.0
29	.70	1.4	4.4	9.8	-----	6.6	18	7.9	5.3	3.2	1.9	2.8
30	.80	1.2	4.3	8.8	-----	6.1	18	7.8	5.3	3.1	1.9	2.7
31	.90	-----	4.3	9.1	-----	7.0	-----	8.4	-----	3.1	2.5	-----
TOTAL	20.70	43.40	1,351.7	277.7	151.1	226.1	426.0	355.9	202.2	123.7	83.3	76.7
MEAN	.67	1.45	43.6	8.96	5.40	7.29	14.2	11.5	6.74	3.99	2.69	2.56
MAX	.90	6.9	585	67	8.2	25	35	18	9.9	5.2	3.1	3.6
MIN	.50	.60	1.2	3.2	4.0	4.0	7.3	7.8	5.3	3.1	1.9	1.9
AC-FT	41	86	2,680	551	300	448	845	706	401	245	165	152

CAL YR 1966: TOTAL 2,240.00 MEAN 6.14 MAX 585 MIN .30 AC-FT 4,440
 WAT YR 1967: TOTAL 3,338.50 MEAN 9.15 MAX 585 MIN .50 AC-FT 6,620

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1000	3.47	214	3-13	2115	2.86	58
12-6	1800	5.80	1,250	4-11	0830	2.78	48
1-24	2115	3.81	334	4-22	0315	3.08	97

SANTA ANA RIVER BASIN

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11-0586. WATERMAN CANYON CREEK NEAR ARROWHEAD SPRINGS, CALIF.

LOCATION.--Lat 34°11'35", long 117°16'25", in NE¼NW¼ sec.11, T.1 N., R.4 W., on left bank 0.8 mile north-west of Arrowhead Springs and 1.3 miles north of San Bernardino National Forest boundary.

DRAINAGE AREA.--4.65 sq mi.

RECORDS AVAILABLE.--November 1911 to October 1914 (published as "near San Bernardino"), December 1919 to September 1967.

GAGE.--Digital water-stage recorder and broad-crested weir since September 1938. Datum of gage is 2,045.46 ft above mean sea level, datum of 1929. Prior to December 1919, staff gage at site 300 ft downstream at different datum. Prior to Apr. 15, 1966, graphic water-stage recorder.

AVERAGE DISCHARGE.--49 years (1912-14, 1920-67), 2.49 cfs (1,800 acre-ft per year); median of yearly mean discharges, 1.7 cfs (1,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 755 cfs Dec. 6 (gage height, 4.82 ft), from rating curve extended above 130 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.20 cfs for several days. 1920-67: Maximum discharge, 2,350 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow at times in most years.

REMARKS.--Records good. No regulation above station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.30	.20	.50	3.1	5.5	3.3	7.3	6.9	5.9	3.2	1.6	1.5
2	.30	.30	1.9	3.1	5.4	3.2	7.4	6.6	5.4	3.0	1.6	1.6
3	.50	.30	25	3.0	5.3	3.3	6.1	6.5	5.1	3.1	1.6	1.7
4	.40	.40	2.2	2.9	5.3	3.8	9.0	6.8	5.1	3.2	1.6	1.6
5	.60	.40	120	2.9	5.2	3.4	7.5	6.9	5.2	3.1	1.5	1.4
6	.30	.40	218	2.8	5.1	3.2	6.6	6.4	4.8	3.1	1.6	1.3
7	.30	6.0	34	2.7	5.0	3.2	8.7	6.1	4.8	3.0	1.7	1.3
8	.20	1.6	15	2.7	4.9	3.1	7.4	6.3	4.8	2.9	1.6	1.2
9	.20	1.1	11	2.6	4.8	3.2	7.1	7.7	4.9	2.7	1.6	1.2
10	.40	1.0	8.5	2.6	4.7	3.2	7.0	7.5	5.1	2.5	1.4	1.2
11	.40	.90	7.3	2.5	4.6	4.6	15	6.7	5.1	2.5	1.4	1.1
12	.40	.80	7.1	2.5	4.5	13	9.7	6.2	5.6	2.5	1.3	1.2
13	.40	.80	6.7	2.4	4.4	23	8.9	6.1	7.3	2.5	1.3	1.2
14	.20	.70	6.6	2.4	4.6	15	8.6	5.9	5.4	2.5	1.3	1.0
15	.30	.70	6.1	2.3	4.4	11	8.6	5.7	4.8	2.4	1.4	.96
16	.30	.70	5.9	2.3	4.2	8.4	8.0	5.5	4.5	2.4	1.4	.94
17	.30	.70	5.8	2.3	4.0	7.2	7.9	5.6	4.7	2.4	1.4	1.0
18	.20	.60	5.4	2.3	4.1	6.8	9.0	5.5	4.4	2.3	1.4	1.2
19	.20	.60	5.0	2.3	4.0	6.6	9.1	5.4	4.1	2.3	1.4	1.2
20	.20	.60	4.8	2.1	3.9	6.4	8.9	5.3	3.9	2.2	1.4	1.1
21	.30	.70	4.4	1.9	3.8	6.1	9.9	5.1	3.8	2.1	1.2	1.2
22	.30	.70	4.2	8.9	3.7	5.5	13	5.1	3.8	2.1	1.2	1.2
23	.20	.60	4.0	6.1	3.6	5.5	9.5	5.3	3.7	2.1	1.3	1.2
24	.20	.60	3.8	38	3.6	5.6	8.7	5.3	3.6	2.1	1.2	1.3
25	.20	.60	3.7	21	3.8	5.5	8.3	5.4	3.5	2.1	1.2	1.3
26	.30	.60	3.6	13	3.7	5.6	8.2	5.6	3.3	2.0	1.2	1.4
27	.30	.60	3.6	10	3.4	5.4	7.7	5.7	3.3	2.0	1.1	1.2
28	.30	.60	3.5	7.9	3.4	5.4	7.8	5.7	3.2	2.0	1.0	1.5
29	.30	.60	3.3	6.5	-----	5.8	7.7	5.7	3.1	1.8	.97	1.5
30	.30	.50	3.2	6.1	-----	5.3	7.3	6.0	3.1	1.6	1.1	1.4
31	.30	-----	3.2	6.2	-----	6.3	-----	6.8	-----	1.6	1.3	-----
TOTAL	9.40	24.90	537.30	177.4	122.9	196.9	255.9	187.3	135.3	75.3	42.27	38.10
MEAN	.30	.83	17.3	5.72	4.39	6.35	8.53	6.04	4.51	2.43	1.36	1.27
MAX	.60	6.0	218	38	5.5	23	15	7.7	7.3	3.2	1.7	1.7
MIN	.20	.20	.50	1.9	3.4	3.1	6.1	5.1	3.1	1.6	.97	.94
AC-FT	19	49	1,070	352	244	391	508	372	268	149	84	76

CAL YR 1966: TOTAL 1,027.30 MEAN 2.81 MAX 218 MIN 0 AC-FT 2,040
WAT YR 1967: TOTAL 1,802.97 MEAN 4.94 MAX 218 MIN .20 AC-FT 3,580

Peak discharge (base, 35 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1930	2.80	55	1-24	2015	3.80	295
12-3	0700	3.41	182	3-13	2000	2.86	64
12-6	1730	4.82	755	4-11	0545	2.67	36

SANTA ANA RIVER BASIN

11-0590. 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 1.5 miles upstream from mouth, San Bernardino County.

DRAINAGE AREA.--47.5 sq mi.

RECORDS AVAILABLE.--January 1961 to September 1967. Prior to October 1965, published as "near San Bernardino."

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,010 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 5,390 cfs Dec. 5 (gage height, 7.25 ft), on basis of field estimate of maximum flow; no flow for most of year.

1961-67: Maximum discharge, that of Dec. 5, 1966; no flow for most of each year.

REMARKS.--Records poor. Flow partly regulated by percolation basins. Del Rosa Water Co. diverts from East Twin Creek for domestic use and irrigation. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.10	0		0	20	5.6	0		0	0
2	0	0	8.4	0		0	17	4.8	0		0	1.0
3	7.3	0	655	0		0	1.8	4.0	0		0	0
4	4.6	0	4.4	0		14	17	4.0	0		0	0
5	.40	0	1.650	0		0	17	3.3	0		0	0
6	.60	0	2.360	0		0	2.2	2.7	0		0	0
7	0	280	384	0		0	1.0	3.0	0		.20	0
8	0	27	2.7	0		0	5.6	3.3	0		0	0
9	0	11	5.3	0		0	2.2	3.0	0		0	0
10	8.9	4.8	1.4	0		0	5.6	2.6	0		0	0
11	0	.40	1.4	0		0	162	2.2	0		0	0
12	0	0	.70	0		5.7	9.8	1.8	.40		0	0
13	0	0	.70	0		83	6.5	1.4	6.5		.10	0
14	0	0	2.2	0		73	6.5	.80	2.7		0	0
15	0	.20	2.2	0		12	9.8	.20	1.4		0	0
16	0	0	1.8	0		3.3	4.8	.20	.70		0	0
17	0	0	1.8	0		.40	3.3	.10	.40		0	0
18	0	0	.70	0		0	21	.10	.20		0	0
19	0	.10	0	0		0	87	.10	0		0	0
20	0	0	0	0		0	25	.10	.10		0	0
21	0	.10	0	0		0	178	0	0		0	0
22	0	12	0	171		0	223	0	0		0	0
23	0	2.7	0	88		0	4.8	0	0		0	0
24	0	2.2	0	814		0	4.8	0	0		0	0
25	0	1.8	0	12		0	5.6	0	0		.10	0
26	0	1.8	3.4	3.3		0	7.5	0	0		0	0
27	0	1.8	0	2.2		0	4.8	0	0		0	1.0
28	0	1.8	0	1.0		0	3.3	.30	0		0	.50
29	0	.20	0	0		0	5.6	3.0	0		0	0
30	0	0	0	.30	-----	0	6.5	0	0		0	0
31	0	-----	0	.50	-----	13	-----	.10	-----		.90	-----
Total	21.80	347.90	5.096.20	1.092.30	0	204.40	859.0	46.70	12.40	0	1.30	2.50
Mean	0.703	11.6	164	35.2	0	6.59	29.0	1.51	0.413	0	0.042	0.083
Max	8.9	280	2.360	814	0	83	223	5.6	6.5	0	0.90	1.0
Min	0	0	0	0	0	0	1.8	0	0	0	0	0
Ac-ft	43	690	10.110	2.170	0	405	1.720	93	25	0	2.6	5.0

Cal yr 1966: Total 6,103.00 Mean 16.7 Max 2,360 Min 0 Ac-ft 12,110
 Wtr yr 1967: Total 7,694.50 Mean 21.1 Max 2,360 Min 0 Ac-ft 15,260

SANTA ANA RIVER BASIN

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11-0593. SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CALIF.

LOCATION (revised).--Lat 34°04'05", long 117°17'36", in San Bernardino Grant, on downstream side of E Street bridge, 0.8 mile downstream from San Timoteo Creek, 1 mile upstream from Warm Creek, and 3 miles south of San Bernardino, San Bernardino County.

RECORDS AVAILABLE.--March 1939 to September 1954, October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 970 ft (from topographic map). Prior to Nov. 10, 1950, water-stage recorder at right bank at datum 10.00 ft higher. Nov. 11, 1950 to Sept. 30, 1954, water-stage recorders on both banks at datum 10.00 ft higher.

AVERAGE DISCHARGE.--15 years (1939-54), 12.5 cfs (9,050 acre-ft per year); median of yearly mean discharges, 6.9 cfs (5,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 18,000 cfs Dec. 6 (gage height, 10.05 ft), on basis of combined discharges of contributing streams; minimum daily, 6.4 cfs July 13.

1939-54, 1966-67: Maximum stage recorded, 16.50 ft (present datum) Jan. 23, 1943, maximum discharge uncertain; no flow for many days prior to 1967.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (see sta. no. 0490). Natural flow of stream affected by ground-water withdrawals and diversions for domestic use and irrigation above station. Effluent from sewage reclamation plant causes sustained flow since station was last operated. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	10	12	12	15	11	14	10	13	10	10	15
2	25	10	12	12	15	11	25	10	15	10	10	15
3	21	10	730	13	15	11	15	10	15	10	10	13
4	22	10	15	13	15	15	20	10	14	10	10	13
5	38	10	2,320	15	14	12	21	10	13	10	10	10
6	30	10	7,740	15	14	11	16	10	10	10	10	10
7	19	88	2,840	15	14	11	13	10	10	10	10	8.5
8	17	18	407	15	14	11	12	10	10	10	10	8.5
9	15	17	132	15	14	11	11	10	11	8.0	10	10
10	21	14	21	15	14	10	10	10	14	9.0	9.0	10
11	15	13	17	16	13	10	100	9.0	16	8.0	9.0	10
12	13	13	16	16	13	10	65	9.0	20	7.5	9.0	8.5
13	13	12	16	16	13	40	60	9.0	21	6.4	9.0	8.5
14	13	14	16	16	13	25	62	9.0	24	10	9.0	12
15	13	14	16	16	13	20	60	9.0	22	9.0	9.0	10
16	13	13	16	18	12	16	40	8.5	21	9.0	9.0	8.0
17	12	13	15	18	12	14	35	8.5	15	9.0	9.0	7.0
18	12	15	15	19	12	13	32	8.5	15	9.0	9.0	8.5
19	12	16	15	15	12	13	78	8.5	15	9.0	9.0	8.0
20	12	11	15	15	12	13	36	8.5	10	9.0	9.0	8.0
21	12	13	15	15	12	12	146	8.5	10	9.0	9.0	9.0
22	12	14	15	36	12	12	218	8.5	9.5	9.0	9.0	8.0
23	12	13	13	90	12	12	26	8.5	9.0	7.5	15	11
24	12	12	12	1,000	12	12	21	8.5	8.0	9.0	11	7.5
25	12	11	12	100	12	11	20	8.5	9.0	9.0	10	10
26	10	12	12	25	11	11	18	9.0	10	9.0	10	9.0
27	10	12	12	20	11	11	15	9.0	10	9.0	10	8.0
28	10	15	12	18	11	10	13	9.0	10	9.0	10	11
29	10	14	12	18		10	11	9.0	10	9.0	9.0	10
30	10	13	12	15	- - - - -	20	10	10	10	9.0	12	13
31	10	- - - - -	12	15	- - - - -	16	- - - - -	14	- - - - -	10	15	- - - - -
Total	482	460	14,525	1,657	352	425	1,223	290.0	399.5	281.4	309.0	298.0
Mean	15.5	15.3	469	535	12.9	13.7	40.8	9.35	13.3	9.08	9.97	9.93
Max	38	88	7,740	1,000	15	40	218	14	24	10	15	15
Min	10	10	12	12	11	10	10	8.5	8.0	6.4	9.0	7.0
Ac-ft	956	912	23,810	3,290	718	843	2,430	575	792	558	613	591

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 20,711.9 Mean 56.7 Max 7,740 Min 6.4 Ac-ft 41,080

Peak discharge (base, 400 cfs)

Note.--No gage-height record or stage discharge relation indefinite Oct. 11 to Nov. 6, Dec. 11 to Jan. 8, Feb. 5 to Apr. 12, Apr. 25 to June 14, June 28 to July 7, 13-20, July 27 to Aug. 29.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	2000	4.22	491	1-24	2200	Unknown	+4,000
12-6	2330	10.05	18,000	4-22	0400	6.70	1,350

+ Estimated

SANTA ANA RIVER BASIN

11-0604. WARM CREEK NEAR SAN BERNARDINO, CALIF.

LOCATION.--Lat 34°04'50", long 117°17'50", in San Bernardino Grant, on right bank 265 ft downstream from State Highway 395 bridge, 0.1 mile downstream from Lytle Creek (east channel), and 1.9 miles southeast of San Bernardino, San Bernardino County.

DRAINAGE AREA.--15.0 sq mi.

RECORDS AVAILABLE.--February 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 975 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 695 cfs Dec. 5 (gage height, 5.75 ft), on basis of field estimate of maximum flow; no flow for most of year.

1964-67: Maximum discharge, 732 cfs Mar. 22, 1964 (gage height, 5.82 ft), from rating curve extended above 320 cfs; no flow for most of each year.

REMARKS.--Records poor. At times discharge diverted above station to Warm Creek floodway. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Oct. 3.....	0.10	Jan. 22.....	29	Apr. 2.....	1.7
10.....	4.0	23.....	21	4.....	3.1
Nov. 7.....	44	24.....	48	11.....	24
Dec. 2.....	5.3	Mar. 4.....	4.7	18.....	1.3
3.....	95	14.....	17	19.....	7.3
5.....	177	31.....	4.7	22.....	14
6.....	50	Apr. 1.....	4.2	Aug. 31.....	.80
26.....	.60				

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
October 1966.....	4.10	4.0	0	0.132	8.1
November.....	44	44	0	1.47	87
December.....	327.90	177	0	10.6	650
January 1967.....	98	48	0	3.16	194
March.....	26.4	17	0	.852	52
April.....	55.6	24	0	1.85	110
August.....	.80	.80	0	.026	1.6
Calendar year 1966.....	-	177	0	1.19	858
Water year 1966-67.....	-	177	0	1.53	1,100

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

SANTA ANA RIVER BASIN

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11-0605. 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 1967. Published with station Warm Creek near Colton, October 1950 to September 1961.

GAGE.--Graphic water-stage recorder. Altitude of gage is 965 ft (from topographic map).

EXTREMES.--1920-67: Maximum daily discharge, 25 cfs Mar. 2, 1938; no flow at times in most years.

REMARKS.--Records good. Canal diverts water from right bank of Warm Creek 1.6 miles northeast of Colton for irrigation in vicinity of Colton, Riverside and Corona. All flow passing station this year was pumped from ground-water basin. Pumping began in 1931. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.9	9.9	8.9	0	0	3.0	2.0	0.80	9.9	10	9.9	10
2	9.1	11	9.1	0	0	7.4	2.0	2.2	9.9	10	9.9	10
3	11	11	2.4	0	0	4.7	2.0	2.2	9.9	10	9.9	9.9
4	11	11	0	0	0	4.0	2.0	2.2	9.9	10	9.9	10
5	11	10	0	0	0	2.7	2.2	2.4	9.5	10	9.9	10
6	12	9.5	0	0	0	2.1	2.4	2.4	9.5	11	9.9	10
7	12	6.3	0	0	0	2.5	2.0	2.4	9.1	11	9.9	10
8	11	.70	0	.80	0	4.0	2.0	2.7	9.5	11	9.9	9.9
9	9.1	0	0	1.3	0	3.3	2.8	3.2	9.5	10	9.9	9.9
10	8.4	0	0	5.0	0	3.0	3.2	5.7	9.5	10	9.9	9.9
11	7.5	0	0	6.9	0	4.0	.80	8.4	9.5	10	9.9	10
12	4.0	0	0	6.9	0	4.0	0	8.7	9.1	10	9.9	10
13	2.0	0	0	5.7	0	2.0	0	8.7	9.5	10	9.9	11
14	2.0	0	0	5.0	0	0	0	9.8	9.9	11	9.9	11
15	5.3	0	0	5.0	1.2	1.8	0	9.5	9.9	11	9.9	11
16	6.6	0	0	7.3	3.0	2.7	0	9.8	9.5	11	9.9	11
17	6.6	0	0	8.4	3.0	2.7	0	9.9	9.5	11	9.5	11
18	8.0	0	0	8.4	3.0	.90	.20	9.9	9.1	10	9.5	11
19	9.5	0	0	8.4	3.0	0	0	8.4	9.5	10	9.5	11
20	9.7	0	0	7.2	3.0	.60	0	8.4	9.9	10	9.5	11
21	11	0	0	3.7	3.0	1.3	0	10	9.5	10	9.5	11
22	11	0	0	0	3.0	.80	0	9.2	9.5	10	9.5	11
23	11	0	0	0	3.0	.50	0	2.7	9.5	10	9.6	11
24	11	0	0	0	3.0	1.2	0	4.0	9.5	6.7	9.9	11
25	11	0	0	0	2.7	1.3	0	4.0	9.5	1.3	10	11
26	11	0	0	0	3	3.1	0	3.2	9.5	1.3	10	11
27	10	0	0	0	3	4.0	0	2.7	9.5	5.1	10	11
28	10	.50	0	0	3	4.0	0	2.7	9.5	9.9	9.4	11
29	11	4.4	0	0	0	4.0	0	5.8	9.9	9.9	10	11
30	10	6.6	0	0	-----	4.0	0	10	10	9.5	9.9	11
31	9.5	-----	0	0	-----	3.2	-----	9.9	-----	9.5	9.9	-----
Total	279.2	80.90	20.4	80.00	39.9	82.80	23.60	181.90	287.5	290.2	304.1	317.6
Mean	9.01	2.70	0.658	2.58	1.42	2.67	0.787	5.87	9.58	9.36	9.81	10.6
Max	12	11	9.1	8.4	3.0	7.4	3.2	10	10	11	10	11
Min	2.0	0	0	0	0	0	0	0.80	9.1	1.3	9.4	9.9
Ac-ft	554	160	40	159	79	164	47	361	570	576	603	630
Cal yr 1966: Total	1857.50	Mean	5.09	Max	12	Min	0	Ac-ft	3,680			
Wtr yr 1967: Total	1,988.10	Mean	5.45	Max	12	Min	0	Ac-ft	3,940			

SANTA ANA RIVER BASIN

11-0620. LYTLE CREEK NEAR FONTANA, CALIF.

LOCATION.--Lat 34°12'44", long 117°27'26", in SE¼NW¼SE¼ sec.36, T.2 N., R.6 W., on right bank 75 ft upstream from highway bridge, 0.7 mile upstream from right tributary, and 8 miles north of Fontana.

DRAINAGE AREA.--46.3 sq mi.

RECORDS AVAILABLE.--October 1918 to September 1967. Combined records of Lytle Creek and diversions, October 1898 to December 1899, October 1904 to September 1967 (published as "at mouth of canyon near Rialto" 1898-1899, 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.--Graphic water-stage recorder on creek and dual arch-culvert control (since 1964), effective at higher stages; graphic water-stage recorders and sharp-crested weirs on conduit and infiltration line. Altitude of gage is 2,380 ft (from topographic map). October 1918 to Mar. 22, 1938, at site 1 mile downstream at different datum. Prior to Nov. 20, 1963, at site 75 feet downstream at datum 4.58 ft lower.

AVERAGE DISCHARGE (creek only).--49 years, 11.3 cfs (8,180 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).
(combined).--64 years, 41.3 cfs (29,900 acre-ft per year); median of yearly mean discharges, 33 cfs (23,900 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 7,200 cfs Dec. 6 (gage height, 9.76 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement at gage height, 10.78 ft; no flow for several days.
1918-67: Maximum discharge, 25,200 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow in parts of each year.
(combined).--Maximum discharge during year, 7,200 cfs Dec. 6; minimum daily, 22 cfs Nov. 30 to Dec. 2. 1898-99, 1904-67: Maximum discharge, 25,200 cfs Mar. 2, 1938; minimum daily, 6.0 cfs Nov. 7, 1963.

REMARKS.--Records poor. No regulation above station. 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 diversions, see following page. See schematic diagram of Santa Ana River basin.

COOPERATION.--Records of discharge through infiltration line furnished by Fontana Union Water Co.; water-stage recorder graph for 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0	0	30	39	17	42	77	54	37	29	28
2	.20	0	0	30	38	17	42	80	56	37	29	28
3	.20	0	234	25	37	17	42	80	50	37	30	28
4	.10	0	45	25	36	16	64	80	48	36	30	28
5	.10	0	151	25	35	16	46	80	50	36	30	28
6	.10	0	2,260	25	34	16	46	77	48	36	31	29
7	.10	34	320	25	33	16	53	74	46	36	31	29
8	0	14	180	25	32	16	46	71	46	34	31	29
9	0	2.0	130	25	31	16	44	74	46	34	32	29
10	.10	.30	110	25	30	16	42	83	44	34	32	29
11	0	0	95	24	29	22	86	86	42	32	32	30
12	0	0	85	24	28	48	74	83	42	32	32	30
13	0	0	70	23	27	299	68	80	42	29	33	30
14	.10	0	70	22	26	160	56	80	40	29	33	30
15	.10	0	70	22	26	86	46	74	40	28	34	30
16	.10	0	70	22	25	56	46	77	38	28	34	31
17	.10	0	70	17	24	36	53	74	36	28	34	31
18	0	0	70	15	23	23	80	83	36	28	34	31
19	0	0	70	14	22	19	74	86	40	28	34	31
20	0	0	65	14	21	19	59	83	40	24	36	31
21	0	0	60	14	20	29	74	80	38	17	35	32
22	0	0	60	79	20	38	150	86	38	17	34	32
23	0	0	55	78	20	40	104	86	38	23	33	32
24	0	0	50	193	19	44	98	80	40	23	32	32
25	0	0	50	95	19	53	89	74	40	23	31	32
26	0	0	45	85	19	53	89	71	39	23	30	33
27	0	0	40	75	18	50	86	71	39	23	29	33
28	0	0	40	60	18	48	89	71	38	18	28	33
29	0	0	40	50		40	89	71	38	24	28	33
30	0	0	35	45	---	38	80	71	38	29	28	33
31	0	---	35	40	---	44	---	71	---	29	28	---
Total	1.50	50.30	4,685	1,271	749	1,408	2,057	2,414	1,280	892	982	915
Mean	0.048	1.68	151	41.0	26.8	45.4	68.6	77.9	42.7	28.8	31.7	30.5
Max	0.20	34	2,260	193	39	299	150	86	64	37	38	33
Min	0	0	0	14	18	16	42	71	36	17	28	28
Ac-ft	3.0	100	9,290	2,520	1,490	2,790	4,080	4,790	2,540	1,770	1,950	1,810

Cal yr 1966: Total 11,441.70 Mean 31.3 Max 2,260 Min 0 Ac-ft 22,690
Wtr yr 1967: Total 16,704.80 Mean 45.8 Max 2,260 Min 0 Ac-ft 33,130

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1730	4.40	205	1-24	1930	5.23	973
12-3	0745	5.40	1,160	3-13	2000	6.06	508
12-6	1700	9.76	7,200	4-22	0215	5.82	312

Note.--During the year there were lengthy periods of no gage height record and stage-discharge relation indefinite.

11-0620. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	23	22	59	68	46	70	106	93	66	57	58
2	27	23	22	59	67	46	70	109	86	66	57	58
3	28	24	241	54	65	46	70	109	80	66	58	58
4	27	23	50	54	63	45	88	109	78	65	58	58
5	27	23	166	54	62	45	60	109	80	65	58	58
6	26	24	2,260	54	61	45	75	106	78	65	59	59
7	26	24	325	54	62	45	82	103	76	65	59	59
8	26	29	185	54	61	45	75	100	75	63	59	59
9	26	30	135	54	60	44	73	103	75	63	60	59
10	26	28	115	54	59	44	71	112	73	63	60	59
11	26	27	100	53	58	50	96	115	71	61	60	45
12	26	26	93	53	57	72	79	112	71	61	61	35
13	26	26	81	52	56	304	73	109	71	58	60	35
14	26	25	82	51	55	165	74	109	69	58	60	35
15	26	25	82	51	55	103	75	103	69	57	63	35
16	25	26	90	51	54	84	75	106	67	57	61	36
17	25	25	98	46	53	64	82	103	65	57	63	36
18	24	25	96	44	52	51	103	112	65	57	63	36
19	24	24	82	43	51	47	91	115	69	57	67	36
20	24	24	94	43	50	47	88	112	69	53	66	36
21	24	24	84	43	49	57	103	109	66	46	65	37
22	24	24	79	99	48	66	155	115	66	46	64	37
23	24	24	72	83	47	68	123	115	66	52	62	37
24	24	23	79	203	48	72	127	109	69	52	61	37
25	24	23	79	100	48	81	118	103	69	52	61	37
26	24	23	74	104	48	81	118	100	68	52	60	38
27	24	23	69	104	47	78	115	101	68	52	59	38
28	24	23	68	89	47	76	118	101	67	47	57	38
29	24	23	69	79		68	118	101	67	53	58	38
30	23	22	64	74	- - - - -	66	109	101	67	58	58	38
31	23	- - - - -	64	69	- - - - -	72	- - - - -	100	- - - - -	57	58	- - - - -
Total	780	766	5,220	2,084	1,551	2,223	2,774	3,317	2,153	1,790	1,872	1,325
Mean	25.2	25.5	158	57.2	55.4	71.7	92.5	107	71.8	57.7	60.4	44.2
Max	28	54	2,260	203	68	304	155	115	93	66	63	59
Min	23	22	22	43	47	44	66	100	65	43	57	35
Ac-ft	1,550	1,520	10,350	4,130	3,080	4,410	5,500	6,580	4,270	3,550	3,710	2,630

Cal yr 1966: Total 21,296 Mean 58.3 Max 2,260 Min 22 Ac-ft 42,240
Wtr yr 1967: Total 25,855 Mean 70.8 Max 2,260 Min 22 Ac-ft 51,280

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1730		209	1-24	1930		978
12-3	0745		1,160	3-13	2000		513
12-6	1700		7,200	4-22	0215		317

SANTA ANA RIVER BASIN

11-0630. CAJON CREEK NEAR KEENBROOK, CALIF.

LOCATION.--Lat 34°16'01", long 117°27'33", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.12, T.2 N., R.6 W., on left bank 1,300 ft upstream from Lone Pine Creek and 1.2 miles north of Keenbrook.

DRAINAGE AREA.--40.6 sq mi.

RECORDS AVAILABLE.--December 1919 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,630 ft (from topographic map). Prior to Oct. 24, 1935, at site 1,000 ft downstream at different datum. Oct. 24, 1935, to Jan. 26, 1966, at site 300 ft upstream at datum 6.68 ft higher. Aug. 22, 1962, to Jan. 26, 1967, digital water-stage recorder.

AVERAGE DISCHARGE.--47 years (1920-67), 8.72 cfs (6,310 acre-ft per year); median of yearly mean discharges, 5.6 cfs (4,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 930 cfs Dec. 6 (gage height, 6.00 ft), from rating curve extended above 310 cfs; minimum daily, 2.3 cfs Oct. 1-5.

1919-67: Maximum discharge, 14,500 cfs Mar. 2, 1938 (gage height, 26.0 ft, present datum, at site then in use), result of slope-area measurement of maximum flow; minimum, 0.05 cfs June 25, 1920.

REMARKS.--Records good below 10 cfs and poor above. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	2.5	3.7	6.0	13	6.8	18	20	9.3	5.9	4.4	4.4
2	2.3	2.7	4.2	6.1	12	6.8	16	19	8.9	5.9	4.2	4.6
3	2.3	2.7	3.5	5.9	12	6.8	13	18	8.9	5.9	4.0	4.8
4	2.3	2.7	7.4	5.8	12	7.1	34	17	8.9	5.9	3.6	4.8
5	2.3	2.7	7.9	5.8	11	6.8	30	17	8.9	5.9	3.6	4.6
6	2.4	2.7	31.9	5.7	9.7	6.5	20	17	8.9	5.9	3.8	4.6
7	2.4	3.7	7.2	5.5	9.7	6.5	24	17	8.9	5.9	3.8	4.8
8	2.4	4.8	20	5.5	9.3	6.8	23	15	8.9	5.9	3.8	4.8
9	2.4	3.7	14	5.5	8.9	7.4	23	14	9.3	5.9	3.6	4.8
10	2.4	3.8	11	4.9	8.2	7.8	22	15	9.7	5.9	3.6	4.8
11	2.4	3.0	9.0	4.7	8.2	13	55	15	9.3	5.9	3.6	4.6
12	2.4	2.6	7.6	5.0	7.8	19	28	16	9.7	5.6	3.6	4.6
13	2.4	2.5	7.2	5.0	7.8	6.3	25	15	9.7	5.4	3.6	4.6
14	2.4	2.5	6.8	5.0	7.8	2.6	25	14	9.7	5.1	3.4	4.6
15	2.4	2.9	6.8	5.0	7.8	2.4	21	14	9.7	5.1	3.0	4.2
16	2.4	2.9	6.6	5.0	7.4	2.2	20	12	9.7	5.1	3.0	4.2
17	2.4	2.9	6.6	5.0	7.1	2.0	19	12	10	4.6	3.2	4.2
18	2.4	2.8	6.4	4.9	7.1	1.8	25	11	10	4.0	3.2	4.0
19	2.4	3.0	6.4	4.9	7.1	1.7	22	11	9.7	3.4	3.4	4.0
20	2.4	3.1	6.2	5.0	7.1	1.6	19	10	9.3	3.4	3.4	4.0
21	2.4	3.5	6.0	5.5	7.1	1.5	33	10	8.9	3.4	3.6	4.0
22	2.4	3.7	6.0	20	6.8	1.4	108	9.7	8.2	3.4	3.6	4.0
23	2.4	3.1	6.0	16	6.8	1.2	54	9.7	7.4	3.6	3.6	4.0
24	2.4	3.1	6.0	230	6.8	1.2	34	9.3	7.1	3.6	3.8	4.0
25	2.4	3.1	5.9	100	6.8	1.2	28	9.3	6.5	3.4	3.8	4.0
26	2.5	3.1	5.9	40	6.8	1.2	24	9.3	5.9	3.4	3.8	4.0
27	2.5	3.5	5.7	34	6.8	1.2	21	9.3	5.9	3.4	3.8	4.0
28	2.5	3.2	5.5	28	6.8	1.2	23	9.3	5.9	3.8	3.6	4.0
29	2.5	3.1	5.5	24	6.8	1.2	23	9.3	5.9	4.0	3.6	4.0
30	2.5	3.3	5.6	20	6.8	1.0	21	9.3	5.9	4.2	3.8	4.0
31	2.5	---	5.7	15	6.8	1.2	---	9.3	---	4.4	4.0	---
Total	74.5	126.2	698.7	638.7	235.7	442.3	851	402.8	255.0	147.2	112.8	130.0
Mean	2.40	4.21	22.5	20.6	8.42	14.3	28.4	13.0	8.50	4.75	3.64	4.33
Max	2.5	3.7	31.9	230	13	6.3	108	20	10	5.9	4.4	4.8
Min	2.3	2.5	3.7	4.7	6.8	6.5	13	9.3	5.9	3.4	3.0	4.0
Ac-ft	148	250	1,390	1,270	468	877	1,690	799	506	292	224	258

Cal yr 1966: Total 3,006.2 Mean 8.24 Max 319 Min 1.3 Ac-ft 5,960
 Wtr yr 1967: Total 4,114.9 Mean 11.3 Max 319 Min 2.3 Ac-ft 8,160

Peak discharge (base, 140 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1630	5.04	308	1-24	2000	5.70	680
12-3	1015	4.70	180	4-11	0430	4.42	198
12-6	2045	6.00	930	4-21	2315	4.65	165

SANTA ANA RIVER BASIN

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11-0635. 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.--15.1 sq mi.

RECORDS AVAILABLE.--December 1919 to September 1938, June 1949 to September 1967.

GAGE.--Graphic 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, graphic 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.--36 years (1920-38, 1949-67), 1.15 cfs (833 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 216 cfs Dec. 6 (gage height, 3.76 ft); minimum daily, 0.60 cfs Nov. 22-30, Dec. 4.

1919-38, 1949-67: Maximum discharge, 6,180 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow Aug. 6-8, Sept. 29-30, 1965.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	0.70	0.80	1.2	1.0	1.2	1.8	1.0	1.2	1.0	0.90	0.90
2	.80	.70	.90	1.2	1.0	1.2	1.4	1.0	1.2	1.0	.90	.90
3	.80	.70	5.0	1.2	1.0	1.4	1.4	1.0	1.2	1.0	.90	.90
4	.80	.70	.60	1.2	1.0	1.6	1.6	1.0	1.2	1.0	.90	.90
5	.80	.70	5.3	1.0	1.0	1.6	1.4	1.0	1.2	1.0	.90	.90
6	.70	.80	35	1.0	1.0	1.4	1.6	1.0	1.2	1.0	.90	.90
7	.70	4.9	1.6	1.0	1.0	1.4	1.4	1.0	1.2	.90	.80	.90
8	.70	1.0	1.2	1.0	1.0	1.4	1.4	1.0	1.2	.90	.80	.80
9	.70	.90	1.2	1.0	1.0	1.6	1.4	1.0	1.2	.90	.80	.80
10	.70	.80	1.2	1.0	1.0	1.6	1.4	1.0	1.2	.90	.80	.80
11	.70	.80	1.2	1.2	1.0	1.8	2.4	1.2	1.2	.90	.80	.80
12	.70	.80	1.2	1.2	1.0	3.3	2.2	1.2	1.2	.90	.80	.80
13	.70	.80	1.2	1.2	1.0	3.8	1.8	1.2	1.2	.90	.80	.80
14	.70	.70	1.2	1.2	1.2	1.2	1.2	1.2	1.2	.90	.80	.80
15	.70	.70	1.2	1.0	1.2	1.2	1.2	1.2	1.2	.90	.80	.80
16	.70	.70	1.2	1.0	1.2	1.2	1.2	1.2	1.2	.90	.90	.80
17	.70	.70	1.2	1.0	1.2	1.2	1.2	1.2	1.2	.90	.90	.80
18	.70	.70	1.2	1.0	1.2	1.2	1.4	1.2	1.0	.90	.90	.80
19	.70	.70	1.2	1.0	1.2	1.0	1.4	1.2	1.0	.90	.90	.80
20	.70	.70	1.2	1.0	1.2	1.0	1.4	1.2	1.0	.90	.90	.80
21	.70	.70	1.0	1.0	1.2	1.0	2.9	1.2	1.0	.90	.90	.80
22	.70	.60	1.0	2.6	1.2	1.0	5.5	1.2	1.0	.90	.90	.80
23	.70	.60	1.0	2.4	1.2	1.0	2.6	1.2	1.0	.90	.90	.80
24	.70	.60	1.0	23	1.2	1.0	1.8	1.2	1.0	.90	.90	.80
25	.70	.60	1.0	2.6	1.4	1.0	1.4	1.2	1.0	.90	.90	.80
26	.70	.60	1.0	1.6	1.4	1.0	1.0	1.2	1.0	.90	.90	.80
27	.70	.60	1.0	1.2	1.4	1.0	1.0	1.2	1.0	.90	.90	.80
28	.70	.60	1.0	1.0	1.2	1.2	1.0	1.2	1.0	.90	.90	.80
29	.70	.60	1.0	1.0	1.2	1.2	1.0	1.2	1.0	.90	.90	.80
30	.70	.60	1.2	1.0	-----	1.2	1.0	1.2	1.0	.90	.90	.80
31	.70	-----	1.2	1.0	-----	1.4	-----	1.2	-----	.90	.90	-----
Total	22.20	25.30	76.20	50.0	31.6	43.3	49.4	35.2	33.4	28.50	27.00	24.70
Mean	0.72	0.84	2.46	1.94	1.13	1.40	1.65	1.14	1.11	0.92	0.87	0.82
Max	0.80	4.9	35	23	1.4	3.8	5.5	1.2	1.2	1.0	0.90	0.90
Min	0.70	0.60	0.60	1.0	1.0	1.0	1.0	1.0	1.0	0.90	0.80	0.80
Ac-ft	44	50	151	119	63	86	98	70	66	57	54	49

Cal yr 1966: Total 295.70 Mean 0.810 Max 35 Min 0.40 Ac-ft 587
 Wtr yr 1967: Total 456.80 Mean 1.25 Max 35 Min 0.60 Ac-ft 906

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1630	2.77	80	1-24	1900	2.87	91
12-6	1700	3.76	216				

SANTA ANA RIVER BASIN

11-0636.8. DEVIL CANYON CREEK NEAR SAN BERNARDINO, CALIF.

LOCATION.--Lat 34°12'12", long 117°20'02", in Muscupiabe 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.--5.61 sq mi.

RECORDS AVAILABLE.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to September 1967. Monthly figures only for January 1914, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and broad-crested weir since July 1925 (affected by debris in most years) on creek; flow meter on diversion. 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 (creek only).--48 years (1913-14, 1920-67), 1.61 cfs (1,170 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).
(combined).--34 years (1913-14, 1934-67), 3.26 cfs (2,360 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 671 cfs Dec. 6 (gage height, 4.31 ft), from rating curve extended above 180 cfs on basis of field estimate at gage height 3.96 ft; no flow Oct. 1 to Nov. 6, Nov. 25 to Dec. 1.

1913-14, 1919-67: Maximum discharge, 3,320 cfs Mar. 2, 1938, by rainfall-runoff studies; no flow at times in most years.

REMARKS.--Records good. No regulation above station. City of San Bernardino diverts above station for municipal supply. See schematic diagram of Santa Ana River basin.

COOPERATION.--Records of diversion furnished by city of San Bernardino.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	1.7	9.2	1.5	9.0	11	4.3	1.3	0.40	0.30
2		0	.80	1.6	9.0	1.5	9.0	9.9	4.0	1.1	.40	.30
3		0	26	1.5	8.3	1.4	8.3	9.9	3.8	1.1	.40	.40
4		0	3.9	1.4	7.7	2.4	9.7	9.6	3.8	1.3	.50	1.0
5		0	58	1.4	6.9	3.1	8.3	9.6	3.8	1.1	.50	.70
6		0	162	1.4	6.7	1.9	6.0	9.2	3.5	1.0	.50	.40
7		2.6	38	1.4	4.4	1.4	8.0	9.0	3.4	1.1	.50	.40
8		.80	26	1.4	1.9	1.4	9.6	9.0	3.7	1.1	.50	.40
9		.30	12	1.4	1.8	1.4	7.9	9.9	3.4	1.1	.50	.40
10		.30	10	1.0	1.7	1.5	6.5	11	3.5	1.1	.50	.40
11		.20	9.9	.80	1.6	4.6	12	9.9	3.4	1.0	.50	.30
12		.20	9.2	.80	1.5	14	9.4	9.4	4.6	1.0	.50	.40
13		.20	8.1	.80	1.7	25	9.2	8.7	8.1	.80	.50	.40
14		.20	6.7	.80	2.0	18	9.0	8.5	6.1	.80	.50	.40
15		.20	6.0	.80	2.0	12	8.7	7.9	4.1	.80	.50	.40
16		.20	5.3	.80	1.8	11	9.9	7.3	4.0	.80	.50	.50
17		.20	4.6	.80	1.7	9.6	11	6.3	4.3	.80	.50	.40
18		.10	4.3	.80	1.7	9.4	14	5.8	3.7	2.6	.40	.30
19		.10	4.2	.80	1.6	8.7	16	5.4	3.1	2.5	.40	.30
20		.10	4.0	.80	1.6	9.0	15	5.4	3.0	.70	.40	.50
21		.10	3.9	.80	1.6	9.0	19	5.4	2.3	.60	.40	.40
22		.10	3.8	1.9	1.5	8.7	23	4.6	2.3	.60	.40	.40
23		.10	3.6	7.9	1.5	8.5	18	4.6	1.9	.50	.50	.40
24		.10	3.5	21	1.5	8.5	18	4.4	1.7	.50	.50	.40
25		0	3.4	23	1.9	8.5	17	4.4	1.7	.50	.40	.30
26		0	3.3	15	2.5	8.3	15	4.3	1.8	.50	.40	.60
27		0	3.2	11	2.0	8.1	14	4.3	1.7	.50	.40	.50
28		0	3.1	10	1.5	7.9	13	4.6	2.0	.40	.40	.40
29		0	3.0	9.6		8.3	15	4.6	1.8	.40	.40	.40
30		0	2.5	9.6	-----	7.9	14	4.6	1.6	.40	.30	.30
31		-----	2.2	9.6	-----	8.3	-----	4.6	-----	.40	.40	-----
Total	0	6.10	434.50	141.60	88.8	230.8	362.5	223.1	100.4	28.40	13.90	12.70
Mean	0	0.20	14.0	4.57	3.17	7.45	12.1	7.20	3.35	0.92	0.45	0.42
Max	0	2.6	162	23	9.2	25	23	11	8.1	2.6	0.50	1.0
Min	0	0	0	0.80	1.5	1.4	6.0	4.3	1.6	0.40	0.30	0.30
Ac-ft	0	12	862	281	176	458	719	443	199	56	28	25
(†)	58	72	938	410	357	553	796	655	431	285	219	166

Cal yr 1966: Total 699.40 Mean 1.92 Mean † 3.69 Max 162 Min 0 Ac-ft 1,390 Ac-ft † 2,670

Cal yr 1967: Total 1,642.80 Mean 4.50 Mean † 6.82 Max 162 Min 0 Ac-ft 3,250 Ac-ft † 4,940

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0900	2.83	81	3-13	1030	2.43	40
12- 6	1700	4.31	671	4-22	0030	2.48	34
1-24	2000	3.13	128				

† Combined discharge of Devil Canyon Creek and city of San Bernardino diversion.

SANTA ANA RIVER BASIN

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11-0650. LYTLE CREEK AT COLTON, CALIF.

LOCATION.--Lat 34°04'44", long 117°18'17", in San Bernardino Grant, on right bank 400 ft downstream from Colton Avenue, 1,930 ft upstream from outlet end of channel, and 1.3 miles northeast of Colton, San Bernardino County.

DRAINAGE AREA.--172 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 974.67 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--10 years, 3.66 cfs (2,650 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,600 cfs Dec. 6 (gage height, 5.67 ft), from rating curve extended above 790 cfs as explained below; no flow for several months.
1957-67: Maximum discharge, 14,800 cfs Dec. 29, 1965 (gage height, 12.40 ft, from inside highwater mark), from rating curve extended above 790 cfs on basis of computation of flow in concrete-lined channel; no flow for most of each year.

REMARKS.--Records poor. Flow partly regulated by Lytle Creek spreading grounds 3.2 miles upstream. Diversions above station for irrigation, power development, domestic use, and ground-water replenishment. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	3.0		0	0.80		0		0	6.1
2	0	0	1.5	3.0		0	.20		0		0	0
3	.50	0	100	2.2		0	0		0		0	0
4	0	0	0	0		2.1	0		0		0	0
5	0	0	361	0		0	0		0		0	0
6	0	0	1630	0		0	0		0		0	0
7	0	35	208	.10		0	.60		0		.40	0
8	0	6.1	10	.10		0	0		0		0	0
9	0	3.5	5.0	.50		0	0		0		0	0
10	0	0	4.2	.10		0	0		0		0	0
11	0	0	5.1	0		.90	29		0		0	0
12	0	0	7.2	0		.60	0		0		0	0
13	0	0	10	0		61	0		1.7		.40	7.2
14	0	0	10	0		11	0		0		8.6	0
15	0	0	12	0		0	0		0		8.6	7.2
16	0	0	7.0	0		0	0		0		4.3	0
17	0	0	7.0	0		0	0		0		0	0
18	0	0	5.0	0		0	5.1		0		0	0
19	0	0	5.0	0		0	10		0		0	0
20	0	0	6.0	0		0	6.1		0		1.0	0
21	0	0	3.0	0		0	10		0		1.0	0
22	0	0	5.0	28		0	68		0		0	0
23	0	0	4.0	23		0	10		0		0	0
24	0	0	10	416		0	4.2		.80		1.1	0
25	0	0	3.0	96		0	4.2		5.0		7.2	0
26	0	0	3.0	0		0	0		3.2		7.2	0
27	0	0	3.0	0		0	0		0		12	0
28	0	0	3.0	0		0	0		0		10	0
29	0	0	4.0	0		0	0		0		6.1	0
30	0	0	4.0	0	-----	0	0		0		10	0
31	0	-----	3.0	0	-----	4.5	-----		-----		12	-----
Total	0.50	44.6	2439.0	572.00	0	80.10	148.20	0	10.70	0	89.90	20.5
Mean	0.016	1.49	78.7	18.5	0	2.58	4.94	0	0.357	0	2.90	0.683
Max	0.50	35	1630	416	0	61	68	0	5.0	0	12	7.2
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	1.0	88	4840	1130	0	159	294	0	21	0	178	41

Cal yr 1966: Total 3465.70 Mean 9.50 Max 1630 Min 0 Ac-Ft 6870
Wtr yr 1967: Total 3405.50 Mean 9.33 Max 1630 Min 0 Ac-Ft 6750

SANTA ANA RIVER BASIN

11-0665. SANTA ANA RIVER AT RIVERSIDE NARROWS, NEAR ARLINGTON, CALIF.

LOCATION.--Lat 33°57'53", long 117°27'55", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--850 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1967. Monthly discharge only for October 1927 to January 1929, published in WSP 1315-B.

GAGE.--Digital 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 1.75 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. Prior to Jan. 8, 1963, graphic water-stage recorder.

EXTREMES.--Maximum discharge during year, 15,300 cfs Dec. 6 (gage height, 11.94 ft); minimum daily, 11 cfs Oct. 17, 26.

1927-67: Maximum discharge, 100,000 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; minimum daily, 11 cfs Oct. 17, 26, 1966.

Flood of Jan. 22, 1862, about 320,000 cfs result of slope-conveyance measurement at site 9.3 miles upstream. Stage at that site was about 5 ft higher than that of Mar. 2, 1938.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (see sta. no. 0490). Natural streamflow affected by ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. At times, since April 1948, effluent from city of Riverside disposal plant is released to river 0.6 mile upstream. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	16	17	56	27	24	40	24	45	43	43	43
2	16	19	17	41	26	24	100	23	44	40	43	40
3	17	23	1,550	33	25	32	35	23	44	43	44	37
4	17	29	186	44	24	25	40	23	43	40	43	40
5	16	37	3,430	50	23	20	30	23	44	43	40	42
6	104	43	8,800	42	22	20	25	23	44	44	39	42
7	23	442	2,950	35	36	26	23	23	44	43	42	42
8	14	337	336	36	31	25	21	23	44	42	43	43
9	16	36	130	39	26	25	24	23	44	40	43	41
10	74	22	94	42	28	108	34	22	42	44	43	40
11	33	25	65	38	26	120	415	22	40	44	43	42
12	25	17	50	44	21	126	86	22	44	42	43	42
13	23	19	55	38	26	124	41	22	44	44	39	42
14	15	16	58	38	28	117	35	22	44	44	44	42
15	17	18	44	32	23	50	35	22	44	42	44	42
16	14	16	37	27	28	40	38	22	44	40	41	41
17	11	19	27	23	30	35	38	22	42	43	42	38
18	12	18	27	22	26	30	65	21	40	43	43	41
19	13	22	25	22	23	25	220	21	44	43	41	41
20	13	27	25	22	19	24	139	21	44	43	39	41
21	14	25	23	23	30	23	44	21	45	43	44	41
22	18	20	25	500	28	22	422	20	44	42	43	41
23	15	24	27	700	19	21	100	20	44	40	44	40
24	14	26	33	1,000	22	20	60	20	43	44	44	38
25	14	24	37	483	23	20	50	45	40	45	44	42
26	11	23	37	200	23	28	40	45	45	44	42	42
27	15	21	38	100	21	27	35	43	44	44	39	42
28	18	16	38	50	25	31	30	41	44	44	43	42
29	18	17	44	40	-----	33	27	43	44	41	43	42
30	20	27	48	30	-----	76	25	41	44	40	43	42
31	19	-----	52	28	-----	182	-----	44	-----	43	43	-----
TOTAL	663	1,424	18,325	3,878	709	1,503	2,317	830	1,305	1,320	1,314	1,234
MEAN	21.4	47.5	591	125	25.3	48.5	77.2	26.8	43.5	42.6	42.4	41.1
MAX	104	442	8,800	1,000	36	182	422	45	45	45	44	43
MIN	11	16	17	22	19	20	21	20	40	40	39	37
AC-FT	1,320	2,820	36,350	7,690	1,410	2,980	4,600	1,650	2,590	2,620	2,610	2,450
CAL YR 1966: TOTAL	26,301			MEAN 72.1		MAX 8,800	MIN 11	AC-FT 52,170				
WAT YR 1967: TOTAL	34,822			MEAN 95.4		MAX 8,800	MIN 11	AC-FT 69,070				

Peak discharge (base, 500 cfs)

Note.--No gage-height record Jan. 11-31. Stage-discharge indefinite May 25 to Sept. 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	2115	5.26	2,130	3-31	1100	4.29	500
12-3	1200	7.82	2,800	4-11	1100	4.87	1,130
12-6	2100	11.94	15,300	4-22	0700	4.92	1,190
1-24	Unknown	6.08	2,770				

SANTA ANA RIVER BASIN

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11-0665.5. SHEEHAN DITCH AT RIVERSIDE NARROWS, NEAR ARLINGTON, CALIF.

LOCATION.--Lat 33°57'52", long 117°27'54", in Jurupa Grant, on left bank of ditch near left side of Santa Ana River channel, under northbound lane of highway bridge on Pedley Road, 0.6 mile downstream from sewage disposal plant, and 3.2 miles northwest of Arlington, Riverside County.

RECORDS AVAILABLE.--October 1947 to September 1967. Monthly discharge only for October 1947 to September 1963, published in WSP 1928.

GAGE.--Digital water-stage recorder. Datum of gage is 673.16 ft above mean sea level (levels by Riverside County engineer). Prior to Oct. 1, 1963, graphic water-stage recorder.

EXTREMES.--1947-67: Maximum daily discharge, 27 cfs Dec. 5, 1966; no flow at times in some years.

REMARKS.--Records good. Discharge reported herein is the effluent from city of Riverside sewage disposal plant and is used for irrigation of about 160 acres 1.5 miles downstream. Unused portion of flow is returned to the river. Releases to Sheehan ditch discontinued May 25 while new plant being constructed. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	21	21	17	21	21	19	22				
2	21	22	22	18	20	21	16	22				
3	23	22	27	21	20	21	19	22				
4	22	22	22	21	20	20	20	22				
5	24	21	27	21	18	19	20	22				
6	21	19	26	21	16	21	19	21				
7	21	22	11	20	13	21	19	19				
8	21	21	11	19	21	20	18	23				
9	19	21	11	21	21	20	16	22				
10	21	23	10	21	21	20	19	22				
11	21	23	9.2	21	20	19	20	22				
12	21	24	10	21	17	21	20	22				
13	21	22	11	21	20	23	20	20				
14	21	21	11	21	20	24	20	18				
15	20	23	11	19	20	24	18	22				
16	19	22	13	21	20	24	17	22				
17	21	23	20	21	20	24	20	22				
18	21	24	19	20	20	22	20	23				
19	21	23	20	20	18	21	20	23				
20	21	21	21	19	20	22	20	22				
21	22	22	20	18	19	24	19	19				
22	20	23	21	19	19	24	19	23				
23	19	23	21	22	20	23	17	23				
24	21	19	19	21	20	24	19	23				
25	21	21	17	21	18	24	20	18				
26	21	21	18	21	18	19	20	0				
27	22	21	19	21	19	24	20	0				
28	22	22	19	20	20	23	20	0				
29	21	22	19	18	-----	20	18	0				
30	19	22	19	19	-----	20	17	0				
31	21	-----	19	20	-----	20	-----	0	-----			-----
TOTAL	651	656	544.2	624	539	673	569	539	0	0	0	0
MEAN	21.0	21.9	17.6	20.1	19.3	21.7	19.0	17.4	0	0	0	0
MAX	24	24	27	22	21	24	20	23	0	0	0	0
MIN	19	19	9.2	17	13	19	16	0	0	0	0	0
AC-FT	1,290	1,300	1,080	1,240	1,070	1,330	1,130	1,070	0	0	0	0

CAL YR 1966: TOTAL 5,881.20

MEAN 16.1

MAX 27

MIN 0

AC-FT 11,670

WAT YR 1967: TOTAL 4,795.2

MEAN 13.1

MAX 27

MIN 0

AC-FT 9,510

SANTA ANA RIVER BASIN

11-0670. DAY CREEK NEAR ETIWANDA, CALIF.

LOCATION.--Lat 34°11'05", long 117°32'20", in NW¼NW¼SW¼ 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.--4.59 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1967. Combined records of creek and diversion, October 1950 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder and broad-crested weir since September 1938 on creek; digital water-stage recorder and Parshall flume on diversion. 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. Prior to Oct. 1, 1964, graphic water-stage recorders.

AVERAGE DISCHARGE (creek only).--40 years, 3.42 cfs (2,480 acre-ft per year); median of yearly mean discharges, 1.9 cfs (1,400 acre-ft per year).

(combined).--17 years, 3.60 cfs (2,610 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 1,330 cfs Dec. 6 (gage height, 4.28 ft), from rating curve extended above 340 cfs on basis of field estimates of flow at gage heights 3.78, 4.90 ft; minimum daily, 0.60 cfs Oct. 6, 7, Nov. 13-15.

1927-67: Maximum discharge, 4,200 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow Oct. 5 to Nov. 1, 1950.

(combined).--Maximum discharge during year, 1,330 cfs Dec. 6; minimum daily, 1.5 cfs Feb. 2.

1950-67: Maximum discharge, 1,740 cfs Dec. 29, 1965; minimum daily, 0.30 cfs for several days in 1961 and 1963.

REMARKS.--Records good. No regulation above station. Etiwanda Water Co. has diverted water above station during entire period of record. 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 2,710 acre-ft during year. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	1.3	.80	4.8	1.0	3.2	9.0	15	6.8	3.1	2.9	2.1
2	.70	1.3	.90	4.8	.90	3.3	8.7	13	6.5	2.9	2.9	2.2
3	.70	1.4	109	4.2	5.7	3.4	8.3	13	6.4	2.9	2.8	2.2
4	.70	1.6	31	3.7	8.8	3.7	8.7	14	6.2	2.9	2.7	2.2
5	.70	1.6	57	4.3	8.8	3.7	9.2	15	6.2	2.9	2.6	2.2
6	.60	1.7	306	4.8	8.6	3.8	8.6	16	6.1	2.7	2.6	2.1
7	.60	7.4	36	4.8	6.8	3.9	9.3	17	6.1	2.6	2.7	2.0
8	.70	10	24	4.7	5.2	4.0	9.2	15	6.1	2.5	2.7	2.0
9	.70	7.8	20	4.0	5.1	4.1	9.3	13	6.0	2.6	2.6	2.0
10	.70	1.1	19	3.5	4.9	4.3	9.5	12	5.8	2.7	2.5	1.9
11	.70	.70	17	3.0	4.7	5.3	12	11	5.6	2.5	2.4	1.9
12	.70	.70	16	2.5	4.6	23	11	10	7.0	2.6	2.4	1.9
13	.80	.60	15	2.2	4.5	89	11	10	7.0	2.7	2.4	2.0
14	1.2	.60	14	2.1	4.5	49	11	10	5.8	2.7	2.4	1.9
15	.80	.60	14	2.1	4.2	31	11	9.8	5.5	2.7	2.4	1.8
16	.80	.70	12	2.2	4.0	27	10	9.6	5.4	2.7	2.5	1.8
17	.70	.70	10	2.1	3.9	24	11	9.5	5.5	2.7	2.5	1.8
18	.80	.70	9.5	2.1	3.8	21	13	9.4	5.2	2.5	2.4	1.9
19	.80	.70	9.1	2.1	3.8	19	14	9.3	5.1	2.5	2.4	1.9
20	.80	.70	8.8	2.1	3.7	17	13	9.1	4.6	2.5	2.4	1.9
21	.80	.70	8.4	2.1	3.5	16	14	8.8	4.4	2.4	2.4	1.9
22	.80	.70	8.1	5.2	3.4	14	19	8.6	4.5	2.5	2.4	1.9
23	.90	.70	7.8	9.1	3.4	13	16	8.5	4.5	2.5	2.3	1.9
24	.90	.70	7.3	14	3.3	12	15	8.3	4.4	2.6	2.3	1.9
25	.90	.70	7.0	4.0	3.2	11	15	8.1	4.0	2.7	2.2	1.9
26	1.0	.70	6.7	2.0	3.1	10	15	8.0	3.8	2.7	2.2	1.9
27	1.0	.70	6.5	1.6	3.1	9.7	15	7.8	3.7	2.7	2.2	1.9
28	1.1	.70	6.3	1.3	3.1	9.2	15	7.7	3.6	2.7	2.1	1.8
29	1.1	.80	6.2	1.1	-----	8.8	16	7.6	3.4	2.8	2.1	1.8
30	1.2	.80	5.3	1.0	-----	8.3	16	7.5	3.1	2.8	2.1	1.8
31	1.3	-----	4.8	1.1	-----	8.7	-----	7.4	-----	2.9	2.1	-----
TOTAL	25.90	49.10	803.50	108.6	123.60	463.4	362.8	329.0	158.3	83.2	75.6	58.4
MEAN	.84	1.64	25.9	3.50	4.41	14.9	12.1	10.6	5.28	2.68	2.44	1.95
MAX	1.3	10	306	14	8.8	89	19	17	7.0	3.1	2.9	2.2
MIN	.60	.60	.80	1.0	.90	3.2	8.3	7.4	3.1	2.4	2.1	1.8
AC-FT	51	97	1,590	215	245	919	720	653	314	165	150	116

CAL YR 1966: TOTAL 1,586.90 MEAN 4.35 MAX 306 MIN .50 AC-FT 3,150
WAT YR 1967: TOTAL 2,641.40 MEAN 7.24 MAX 306 MIN .60 AC-FT 5,240

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0930	3.47	589	1-24	1915	2.26	63
12-6	1645	4.28	1,330	3-13	0515	2.33	108

11-0670. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	2.2	2.1	4.9	1.6	5.4	12	18	11	7.9	6.7	5.5
2	2.3	2.2	2.6	4.9	1.5	5.5	11	18	10	7.8	6.7	5.6
3	2.5	2.4	110	5.6	6.3	5.6	11	17	10	7.8	6.5	5.7
4	2.5	2.6	32	6.1	9.4	5.9	11	18	10	7.8	6.4	5.5
5	2.6	2.6	57	5.3	9.4	5.9	12	18	10	7.8	6.2	5.5
6	2.3	2.8	306	4.9	9.1	5.9	11	19	10	7.7	6.2	5.3
7	2.2	8.2	36	4.9	8.7	6.0	12	20	10	7.6	6.4	5.2
8	2.2	10	24	4.8	8.2	6.1	12	19	10	7.4	6.3	5.2
9	2.1	7.9	20	4.1	8.0	6.1	12	18	10	7.5	6.1	5.2
10	2.3	2.8	19	3.9	7.8	6.4	12	18	10	7.5	6.0	5.1
11	2.3	3.1	17	4.6	7.6	7.5	15	17	9.8	7.3	5.8	5.1
12	2.3	2.9	16	5.1	7.5	24	14	15	11	7.3	5.8	5.1
13	2.4	2.6	15	4.8	7.4	89	14	15	11	7.4	5.8	5.2
14	2.5	2.5	14	4.7	7.4	49	13	15	9.8	7.4	5.7	5.0
15	2.1	2.4	14	4.6	7.0	31	13	14	9.5	7.4	5.8	4.9
16	2.1	2.5	12	4.7	6.8	28	12	14	9.7	7.3	5.9	4.9
17	1.9	2.4	10	4.6	6.5	27	13	14	10	7.3	5.8	4.9
18	2.0	2.3	9.6	4.6	6.4	25	16	14	9.8	7.0	5.7	5.2
19	1.9	2.2	9.2	4.6	6.4	22	17	14	9.6	6.9	5.7	5.1
20	1.9	2.2	8.9	4.7	6.3	20	16	13	9.2	6.8	5.7	5.0
21	1.9	2.2	8.5	4.6	6.1	19	17	13	8.9	6.6	5.7	5.0
22	1.9	2.2	8.2	9.1	5.9	17	22	13	9.1	6.7	5.6	5.0
23	1.9	2.2	7.9	13	5.8	16	19	13	9.2	6.7	5.5	4.9
24	1.9	2.1	7.4	18	5.7	15	18	13	9.1	6.8	5.5	5.1
25	1.9	2.1	7.1	6.2	5.6	14	18	12	8.7	6.8	5.3	5.1
26	2.0	2.1	6.8	3.3	5.4	13	18	12	8.5	6.8	5.3	5.0
27	2.0	2.0	6.6	2.6	5.4	12	18	12	8.5	6.8	5.3	5.0
28	2.1	2.0	6.4	2.2	5.3	12	18	12	8.4	6.7	5.1	4.9
29	2.1	2.1	6.3	1.9		11	19	12	8.2	6.8	5.1	4.9
30	2.1	2.1	5.4	1.7	- - - - -	11	19	12	8.0	6.7	5.1	4.9
31	2.2	- - - - -	4.9	1.8	- - - - -	11	- - - - -	11	- - - - -	6.7	5.3	- - - - -
Total	56.5	89.9	809.9	150.8	184.5	532.3	445	453	287.0	223.0	180.0	154.0
Mean	2.15	3.00	26.1	5.19	6.59	17.2	14.8	14.9	9.57	7.19	5.81	5.13
Max	2.6	10	306	18	9.4	89	22	20	11	7.9	6.7	5.7
Min	1.9	2.0	2.1	1.7	1.5	5.4	11	11	8.0	6.7	5.1	4.9
Ac-ft	132	178	1,610	319	356	1,050	883	918	559	442	357	305

Cal yr 1966: Total 2,241.2 Mean 6.14 Max 306 Min 1.5 Ac-ft 4,450
Wtr yr 1967: Total 3,595.9 Mean 9.85 Max 306 Min 1.5 Ac-ft 7,130

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0930		590	1-24	1915		67
12-6	1645		1,330	3-13	0515		108

SANTA ANA RIVER BASIN

11-0680. SANTA ANA RIVER AT AUBURNDALE BRIDGE, NEAR CORONA, CALIF.

LOCATION.--Lat 33°55'25", long 117°35'50", in La Sierra (Yorba) Grant, on downstream end of first pier south of north end of Auburndale Bridge on River Road, 1.7 miles upstream from Temescal Creek, and 3.8 miles northwest of Corona, Riverside County.

DRAINAGE AREA.--1,003 sq mi.

RECORDS AVAILABLE.--May 1930 to November 1966 (irrigation seasons only); October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 514.0 ft above mean sea level. 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 different datum. Sept. 12, 1961, to Oct. 6, 1966, at site on right bank at different datum.

EXTREMES.--1966-67: Maximum discharge during year, about 15,000 cfs Dec. 7, 1966 (gage height, 9.60 ft), on basis of maximum flow for upstream station at Riverside Narrows; minimum daily, 14 cfs July 28-31.

REMARKS.--Records poor. Flow partly regulated by Big Bear Lake (see sta. no. 0490). 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. See schematic diagram of Santa Ana River basin.

COOPERATION.--Thirty discharge measurements furnished by Orange County Flood Control District.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Discharge	Date	Discharge	Date	Discharge
Feb. 28	0	June 2	2.95	July 21	0.65
Mar. 29	1.50	12	2.64	Aug. 3	2.23
May 1	4.28	July 7	2.22	30	2.43
15	1.61				

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	27	37	58	39	48	90	41	35	25	15	21
2	15	27	38	57	37	47	110	42	35	24	16	21
3	17	27	700	56	35	46	62	43	34	24	18	21
4	20	28	315	59	34	47	62	44	33	24	19	21
5	27	29	1,640	60	34	48	70	45	33	24	20	21
6	31	29	6,910	58	40	46	60	45	33	24	21	21
7	38	35	3,990	56	38	46	52	44	33	24	18	21
8	33	100	490	56	39	46	58	43	34	24	21	21
9	35	60	290	55	42	47	49	42	34	24	23	22
10	37	48	180	54	44	48	45	41	34	24	22	21
11	38	46	125	54	44	52	150	41	35	22	20	20
12	33	44	85	52	45	63	100	41	35	21	19	20
13	28	44	65	48	45	84	56	38	34	20	18	21
14	23	44	57	47	45	96	45	36	33	23	16	22
15	23	44	56	47	46	70	42	34	32	23	17	24
16	23	44	55	49	46	60	40	36	31	23	16	23
17	22	43	54	41	46	57	38	38	31	23	15	22
18	23	43	53	39	46	55	50	39	30	23	15	23
19	24	42	52	38	47	54	140	40	29	23	16	24
20	27	42	51	37	45	52	60	38	28	23	17	25
21	32	42	51	37	47	50	40	37	27	23	18	25
22	34	42	51	222	47	49	50	37	26	21	20	26
23	36	42	51	284	46	48	82	38	26	19	24	27
24	37	42	51	402	45	46	78	39	26	18	30	28
25	33	41	65	680	45	45	70	41	26	16	27	29
26	31	41	64	350	50	44	62	42	26	15	24	30
27	30	40	63	150	50	43	56	39	25	15	22	28
28	27	38	62	50	50	41	56	37	25	14	22	29
29	27	36	61	47		40	56	37	25	14	22	30
30	27	35	60	45	- - - -	38	48	36	25	14	22	30
31	27	- - - -	59	42	- - - -	100	- - - -	35	- - - -	14	21	- - - -
Total	878	1,245	15,881	3,330	1,217	1,656	1,977	1,229	913	648	614	717
Mean	28.3	41.5	512	107	43.5	53.4	55.9	39.6	30.4	20.9	19.8	23.9
Max	38	100	6,910	680	50	100	150	45	35	25	30	30
Min	15	27	37	37	34	38	38	34	25	14	15	20
Ac-ft	1,740	2,470	31,500	6,600	2,410	3,280	3,920	2,440	1,810	1,290	1,220	1,420

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 30,305 Mean 83.0 Max 6,910 Min 14 Ac-ft 60,110

11-0690. LAKE HEMET NEAR IDYLLWILD, CALIF.

LOCATION.--Lat 33°39'55", long 116°42'20", in NE¼ 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.--65.6 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

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, 9,774 acre-ft June 17, 19-24 (elevation, 4,327.58 ft); minimum, 4,591 acre-ft Nov. 7 (elevation, 4,308.33 ft).
1961-67: Maximum contents, that of June 17, 19-24; minimum, 264 acre-ft Nov. 19, 1962, Nov. 19, 1963 (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. Capacity table is dated February 1932 (furnished by Lake Hemet Municipal Water District). Lowest sluice gate silted (elevation, 4,222.6 ft). Capacity below spillway level (elevation, 4,333.0 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. See schematic diagram of Santa Ana River basin.

COOPERATION.--Elevations furnished by Lake Hemet Municipal Water District.

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	4,309.50	4,836	-
Oct. 31.....	4,308.58	4,643	-193
Nov. 30.....	4,308.75	4,678	+35
Dec. 31.....	4,319.67	7,328	+2,650
Calendar year 1966.....	-	-	+3,286
Jan. 31.....	4,321.25	7,769	+441
Feb. 28.....	4,322.08	8,010	+241
Mar. 31.....	4,323.50	8,438	+428
Apr. 30.....	4,326.08	9,262	+824
May 31.....	4,327.33	9,686	+424
June 30.....	4,327.25	9,658	-28
July 31.....	4,325.08	8,935	-723
Aug. 31.....	4,323.00	8,284	-651
Sept. 30.....	4,320.33	7,510	-774
Water year 1966-67.....	-	-	+2,674

† Elevation at 0800 hours.

SANTA ANA RIVER BASIN

11-0693. 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.

DRAINAGE AREA.--2.20 sq mi.

RECORDS AVAILABLE.--October 1961 to February 1967 (discontinued).

GAGE.--Graphic water-stage recorder with rain-gage attachment, crest-stage gage, and corrugated-pipe culvert control. Altitude of gage is 2,320 ft (from topographic map).

AVERAGE DISCHARGE.--5 years (1961-66), 0.058 cfs (42 acre-ft per year).

EXTREMES.--Maximum discharge during year, 36 cfs Dec. 6 (gage height, 5.53 ft), from rating curve extended above 5.0 cfs on basis of culvert computation of maximum flow; no flow for most of year.
1961-67: Maximum discharge of Dec. 6, 1966 was equaled Nov. 22, 1965; no flow for most of each year.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD OCTOBER 1966 TO FEBRUARY 1967

Dec. 3.....0.30	Dec. 11.....0.10	Jan. 28.....0.30	Feb. 3.....0.10
5.....18	Jan. 22......10	29......20	4......10
6.....19	24......20	30......10	5......10
7.....10	25.....2.2	31......10	8......10
8.....1.7	26.....1.0	Feb. 1......10	9......10
9......50	27......50	2......10	10......10
10......20			

	Cfs-days	Maximum	Minimum	Mean	Acre-feet	Precipitation (in inches)
December 1966.....	49.80	19	0	1.61	99	6.5
January 1967.....	4.70	2.2	0	.15	9.3	2.5
February.....	.80	.10	0	.03	1.6	-
Calendar year 1966.....	-	19	0	.219	158	11.5

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

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LOCATION —Lat 33°44'15", long 116°49'35", in SW¼SE¼NE¼ 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.

RECORDS AVAILABLE.—October 1920 to February 1927, March 1927 to September 1967; combined records of river and diversions, October 1948 to September 1967. Monthly discharge only for October 1920 and July to September 1926. published in WSP 1315-B.

AVERAGE DISCHARGE (river only).--46 years (1920-26, 1927-67), 17.0 cfs (12,310 acre-ft per year); median of yearly mean discharges, 6.0 cfs (4,300 acre-ft per year).
(combined)--19 years (1948-67), 16.8 cfs (12,160 acre-ft per year); median of yearly mean discharges, 8.6 cfs (6,200 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 5,720 cfs Dec. 6 (gage height, 9.80 ft), from rating curve extended above 1,800 cfs on basis of field estimate at gage height 10.45 ft; no flow Oct. 1 to Dec. 2. 1920-67: Maximum discharge, 45,000 cfs Feb. 16, 1927, on basis of slope-area measurement of maximum flow; no flow for several months in each year. (combined).--Maximum discharge during year, 5,720 cfs Dec. 6; minimum daily, 1.0 cfs Nov. 16-21, 27-30.

REMARKS.—Records good. Flow partly regulated by Lake Hemet (see sta. no. 0690). 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. Diversion above station began prior to 1920. See schematic diagram of Santa Ana River basin.

COOPERATION.--Records of Fairview Land and Water Co.'s pipeline furnished by Lake Hewet Municipal Water District.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	21	33	0.10	23	65	8.1	0	1.8	0.10
2			0	21	23	1.1	26	63	6.0	0	.20	87
3			255	16	18	1.6	22	65	5.0	0	.20	31
4			146	14	15	3.8	26	65	3.4	0	.20	8.5
5			1.960	14	14	4.8	46	60	2.9	0	.20	5.0
6			3.300	12	13	5.5	28	55	2.6	0	.20	9.5
7			1.420	9.6	12	5.0	29	53	1.3	0	.20	3.6
8			517	5.2	11	4.3	24	54	.40	0	.20	.10
9			206	.70	12	2.6	19	57	.40	0	.20	0
10			138	.50	12	3.5	11	94	.40	0	.20	0
11			104	.40	11	10	19	66	.30	14	.20	0
12			75	.30	10	11	32	53	.30	6.6	.10	0
13			57	.20	9.6	58	40	44	.50	59	.20	0
14			54	.20	9.6	196	51	36	.30	28	.10	0
15			49	.20	9.2	85	52	32	.10	14	.20	0
16			46	.10	4.8	63	46	28	.10	6.0	.10	0
17			44	.10	.70	65	49	25	.10	3.0	.20	0
18			43	.10	.20	58	54	22	0	1.5	.50	0
19			38	.10	.20	45	67	20	0	.50	.20	0
20			33	.10	1.0	39	65	16	0	.20	.10	0
21			31	.10	1.6	39	67	14	0	.20	.10	0
22			29	5.2	.10	31	108	13	0	.20	17	0
23			29	34	1.3	28	87	12	0	.20	49	0
24			27	22	5.2	27	83	9.2	0	.20	31	0
25			27	131	7.2	26	75	11	0	.20	4.0	0
26			29	57	6.9	22	78	10	0	.20	.50	0
27			24	46	2.7	19	87	9.2	0	.80	.50	0
28			19	41	.10	19	83	9.6	0	3.8	.40	0
29			18	33		21	82	12	0	2.8	.30	16
30			19	36	-----	19	72	12	0	2.8	.10	2.0
31		-----	22	43	-----	22	-----	10	-----	2.8	.30	-----
Total	0	0	8.759	564.10	244.40	935.30	1.551	1.095.0	32.20	147.00	108.70	162.80
Mean	0	0	283	18.2	8.73	30.2	51.7	35.3	1.07	4.74	3.51	5.43
Max	0	0	3.300	131	33	196	108	94	8.1	59	49	87
Min	0	0	0	0.10	0.10	0.10	11	9.2	0	0	0.10	0
Ac-ft	0	0	17.370	1.120	485	1.860	3.080	2.170	64	292	216	323

Cal yr 1966: Total	9,389.10	Mean	25.7	Max	3,300	Min	0	Ac-ft	18,620
Wtr yr 1967: Total	13,599.50	Mean	37.3	Max	3,300	Min	0	Ac-ft	26,970

Peak discharge (base, 100 cfs)

[illegible]

11-0695. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	2.7	1.1	26	46	19	45	94	47	21	15	20
2	3.7	2.7	1.1	26	36	20	48	91	43	20	15	102
3	3.1	2.8	258	24	34	22	44	95	40	20	14	44
4	4.1	2.8	160	24	30	22	48	95	40	20	15	27
5	4.8	2.8	1,970	24	28	22	69	90	38	20	14	25
6	4.5	3.0	1,300	25	28	24	51	85	39	20	13	34
7	4.4	4.1	1,420	31	27	22	52	83	36	19	13	29
8	4.1	6.9	520	28	26	22	46	86	32	18	12	20
9	3.9	3.7	209	20	26	21	42	91	32	17	11	18
10	4.6	2.2	140	18	26	21	43	130	32	17	10	18
11	4.8	1.8	105	18	24	22	55	100	30	30	10	18
12	2.2	1.5	83	16	23	23	57	88	30	14	9.0	18
13	1.5	1.3	66	15	23	83	60	79	34	64	8.3	19
14	2.4	1.1	62	14	23	224	71	71	32	40	8.8	19
15	2.6	1.1	56	14	22	105	72	67	32	35	9.5	20
16	2.6	1.0	52	13	20	83	66	63	31	25	8.3	19
17	2.5	1.0	50	12	20	86	69	60	31	21	8.8	19
18	2.6	1.0	48	14	19	79	74	57	30	20	9.3	20
19	2.5	1.0	43	15	18	66	87	56	29	19	15	20
20	2.5	1.0	41	14	21	58	87	54	29	18	15	20
21	2.6	1.0	39	14	23	57	94	52	28	18	17	19
22	2.7	1.1	36	21	21	49	137	50	27	19	37	20
23	2.5	1.2	34	55	18	46	112	52	26	19	64	20
24	2.5	1.1	32	44	18	45	108	49	25	19	47	20
25	2.5	1.1	32	149	20	45	100	48	24	19	26	19
26	2.5	1.1	35	78	20	44	103	45	23	19	24	17
27	2.9	1.0	32	65	20	42	113	45	22	18	23	16
28	2.9	1.0	30	56	19	40	109	46	19	17	22	12
29	2.9	1.0	29	47		43	107	49	19	16	20	28
30	2.8	1.0	27	50		41	97	51	22	15	19	23
31	2.8		27	58		44		49		15	24	
Total	96.5	56.1	8,938.2	1,028	679	1,540	2,266	2,171	922	672	557	723
Mean	3.11	1.87	288	33.2	24.2	49.7	75.5	70.0	30.7	21.7	18.0	24.1
Max	4.8	6.9	3,300	149	46	224	137	130	47	64	64	102
Min	1.5	1.0	1.1	12	18	19	42	45	19	14	8.3	12
Ac-ft	191	111	17,730	2,040	1,350	3,050	4,490	4,310	1,830	1,330	1,100	1,430

Cal yr 1966: Total **13,307.4** Mean **36.5** Max **3,300** Min **1.0** Ac-ft **26,390**
 Wtr yr 1967: Total **19,648.8** Mean **53.8** Max **3,300** Min **1.0** Ac-ft **38,970**

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1900		1,350	7-13	1400		425
12-6	2100		5,720	8-23	1900		195
1-25	0400		206	9-2	1700		800
3-14	0100		433	9-29	1630		183
5-10	1000		162				

SANTA ANA RIVER BASIN

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11-0700. BAUTISTA CREEK NEAR HEMET, CALIF.

LOCATION.--Lat 33°41'40", long 116°51'00", in NE¹/₄NE¹/₄SW¹/₄ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,250 ft (from topographic map).

AVERAGE DISCHARGE.--20 years, 0.515 cfs (373 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year).

EXTREMES.--Maximum discharge during year, 477 cfs Dec. 6 (gage height, 4.70 ft); maximum gage height, 4.95 ft Sept. 2; no flow for most of year.
1947-67: Maximum discharge, 1,440 cfs Apr. 3, 1958 (gage height, 4.65 ft); no flow for most of each year.

REMARKS.--Records poor. No regulation above station. One diversion above station for irrigation of about 15 acres. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 5.....	26	Apr. 12.....	3.0	Apr. 22.....	12
6.....	171	13.....	1.5	23.....	4.7
7.....	85	14.....	1.0	24.....	3.4
Jan. 22.....	1.6	15.....	.80	25.....	1.6
23.....	5.5	16.....	.70	26.....	.90
24.....	1.5	17.....	.60	Aug. 23.....	4.2
25.....	9.3	18.....	.50	Sept. 2.....	29
26.....	.60	19.....	1.5	3.....	.40
Mar. 14.....	.70	20.....	1.2	29.....	4.7
Apr. 11.....	2.5	21.....	1.3		

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	282	171	0	9.10	559
January 1967.....	18.50	9.3	0	.597	37
March.....	.70	.70	0	.023	1.4
April.....	37.20	12	0	1.24	74
August.....	4.2	4.2	0	.135	8.3
September.....	34.10	29	0	1.14	68
Calendar year 1966.....	-	171	0	.784	567
Water year 1966-67.....	-	171	0	1.03	748

Peak discharge (base, 20 cfs).--Dec. 6 (2330 hrs) 477 cfs (4.70 ft); Jan. 23 (0200 hrs) 23 cfs (2.63 ft); Apr. 22 (0800 hrs) 24 cfs (2.65 ft); Aug. 23 (1430 hrs) 60 cfs (3.78 ft); Sept. 2 (1700 hrs) 360 cfs (4.95 ft); Sept. 29 (1600 hrs) 95 cfs (3.92 ft).

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

SANTA ANA RIVER BASIN

11-0705. SAN JACINTO RIVER NEAR ELSINORE, CALIF.

LOCATION.--Lat 33°39'51", long 117°17'35", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--728 sq mi.

RECORDS AVAILABLE.--January 1916 to September 1967. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,270 ft (from topographic map). Prior to Feb. 13, 1916, staff gage at site 0.7 mile downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, staff gage at present site at different datum.

EXTREMES.--Maximum discharge during year, 11 cfs Mar. 7 (gage height, 2.82 ft); no flow for most of year. 1916-67: 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 maximum flow; no flow for several months in most years.

REMARKS.--Records good. Flow partly regulated by Lake Hemet (see sta. no. 0690) 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. diverted 1,683 acre-ft during year from Railroad Canyon Reservoir for irrigation below station in vicinity of Corona. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.30	5.2	0.10	0				
2			0	0	.30	3.2	.10	0				
3			0	0	.30	9.2	.10	0				
4			0	0	.30	9.9	.10	2.7				
5			0	0	.30	9.6	0	4.1				
6			0	0	.30	9.2	0	1.3				
7			0	0	.30	9.6	0	0				
8			0	0	.30	8.3	0	0				
9			0	0	.30	8.1	0	0				
10			0	0	.30	8.3	0	0				
11			0	0	.30	9.2	.10	0				
12			0	0	.30	8.9	.10	0				
13			.10	0	.30	8.9	0	0				
14			.10	0	.30	8.9	0	0				
15			.10	0	.30	8.9	0	0				
16			0	0	.30	8.9	0	0				
17			0	0	.30	8.9	0	0				
18			0	0	.30	8.9	0	0				
19			0	0	.30	8.9	.10	0				
20			0	0	.30	8.9	.10	0				
21			0	0	.30	8.9	.10	0				
22			0	.10	.20	8.9	0	0				
23			.10	.70	.10	8.9	0	0				
24			.20	.50	.10	8.9	0	0				
25			0	.70	.10	6.2	0	0				
26			0	.50	.20	.10	0	0				
27			0	.40	6.1	.10	0	0				
28			0	.40	9.9	.10	0	0				
29			0	.30		.10	0	0				
30			0	.20		.10	0	0				
31			0	.20		.10	0	0				
Total	0	0	0.60	4.00	23.00	212.30	0.90	8.10	0	0	0	0
Mean	0	0	0.019	0.129	0.821	6.85	0.030	0.261	0	0	0	0
Max	0	0	0.20	0.70	9.9	9.9	0.10	4.1	0	0	0	0
Min	0	0	0	0	0.10	0.10	0	0	0	0	0	0
Ac-ft	0	0	1.2	7.9	46	421	1.8	16	0	0	0	0

Cal yr 1966: Total 6,835.20 Mean 18.7 Max 320 Min 0 Ac-ft 13,560
Wtr yr 1967: Total 248.90 Mean 0.682 Max 9.9 Min 0 Ac-ft 494

SANTA ANA RIVER BASIN

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11-0720. TEMESCAL CREEK NEAR CORONA, CALIF.

LOCATION.--Lat 33°50'29", long 117°30'37", in El Sobrante de San Jacinto Grant, on right (revised) bank 0.2 mile downstream from unnamed tributary and 3.8 miles southeast of Corona, Riverside County.

DRAINAGE AREA.--164 sq mi (not including 768 sq mi above Elsinore Lake).

RECORDS AVAILABLE.--October 1927 to September 1967. Monthly discharge only for the period October 1927 to January 1929, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and incomplete masonry-dam control (ineffective due to sand fill). Altitude of gage is 730 ft (from topographic map). Prior to Feb. 11, 1943, at datum 6.00 ft higher.

AVERAGE DISCHARGE.--40 years, 2.77 cfs (2,010 acre-ft per year); median of yearly mean discharges, 0.07 cfs (51 acre-ft per year).

EXTREMES.--Maximum discharge during year, 560 cfs Dec. 6 (gage height, 8.50 ft), from rating curve extended above 83 cfs on basis of slope-area measurement at gage height, 9.45 ft); no flow Oct. 1 to Dec. 2.
1927-67: Maximum discharge, 14,900 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow at times in most years.

REMARKS.--Records poor. Flow regulated by several storage reservoirs. Many diversions above station for irrigation. Metropolitan Water District of Southern California reported 10 acre-ft of water was wasted from Lake Mathews into creek during year. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	1.1	3.5	2.6	2.1	3.0	2.0	1.0	1.0	0.60
2		0	0	1.1	3.5	2.6	2.2	3.0	2.0	1.0	1.0	.60
3		0	4.3	1.1	3.5	2.6	2.4	3.0	2.0	1.0	1.1	.60
4		0	0	1.1	3.5	2.6	2.8	3.0	2.0	1.0	1.0	.60
5		0	71	1.0	3.5	2.6	2.8	3.0	2.0	.90	.90	.60
6		0	251	1.0	3.3	2.6	2.8	3.0	2.1	.50	.70	.60
7		.10	40	1.0	3.3	2.4	2.8	3.0	2.1	.70	.70	.50
8		0	3.3	1.1	3.3	2.4	2.8	3.0	2.1	.70	1.0	.50
9		0	3.2	1.1	3.3	2.4	2.8	3.0	2.0	.70	1.1	.50
10		0	3.5	1.1	3.3	2.4	2.8	3.0	1.8	1.2	1.1	.50
11		0	3.5	1.1	3.2	2.2	3.0	3.0	1.6	1.2	1.2	.40
12		0	3.3	1.1	3.2	2.4	2.7	3.0	1.6	1.2	1.2	.30
13		0	3.3	1.1	3.2	2.4	2.7	2.8	1.5	1.2	1.1	.30
14		0	3.2	1.1	3.2	2.4	2.6	2.8	1.5	1.1	1.0	.30
15		0	2.6	1.1	3.2	2.2	2.6	2.6	1.5	1.0	1.0	.30
16		0	2.4	1.1	3.0	2.2	2.6	2.4	1.5	.80	.90	.30
17		0	2.4	1.1	3.0	2.4	2.6	2.4	1.7	1.0	.80	.30
18		0	2.1	1.1	3.0	2.4	2.7	2.4	1.7	1.0	.80	.30
19		0	1.5	1.1	3.0	2.8	3.2	2.4	1.7	1.1	.90	.30
20		0	1.4	1.0	3.0	3.0	3.0	2.4	1.7	1.2	1.0	.20
21		0	1.2	1.0	2.8	3.0	3.0	2.4	1.6	1.0	1.0	.20
22		0	1.3	11	2.8	2.8	3.7	2.2	1.6	1.0	1.0	.20
23		0	1.1	10	2.8	2.8	3.2	2.2	1.6	1.2	1.4	.20
24		0	1.1	13	2.8	2.7	3.2	2.2	2.0	1.0	1.2	.20
25		0	1.1	5.2	2.8	2.7	3.2	2.1	1.3	1.3	1.0	.20
26		0	1.1	3.7	2.7	2.0	3.2	2.1	1.3	1.3	.90	.20
27		0	1.1	3.5	2.7	2.1	3.2	2.1	1.3	1.3	.90	.20
28		0	1.1	3.5	2.6	2.1	3.0	2.1	1.2	1.3	.80	.20
29		0	1.1	3.5		2.1	3.0	2.2	1.0	1.2	.80	.30
30		0	1.1	3.5		2.0	3.0	2.4	1.0	1.1	.70	.30
31		- - - -	1.1	3.5	- - - -	2.1	- - - -	2.2	- - - -	.80	.60	- - - -
Total	0	0.10	414.4	83.0	87.0	76.0	85.7	80.4	50.0	32.00	29.80	10.80
Mean	0	0.003	13.4	2.68	3.11	2.45	2.86	2.59	1.67	1.03	0.961	0.360
Max	0	0.10	251	13	3.5	3.0	3.7	3.0	2.1	1.3	1.4	0.60
Min	0	0	0	1.0	2.6	2.0	2.1	2.1	1.0	0.50	0.60	0.20
Ac-ft	0	0.2	822	155	173	151	170	159	99	63	59	21

Cal yr 1966: Total 431.80 Mean 1.18 Max 251 Min 0 Ac-ft 856
Wtr yr 1967: Total 949.20 Mean 2.60 Max 251 Min 0 Ac-ft 1,880

SANTA ANA RIVER BASIN

11-0730. SAN ANTONIO CREEK NEAR CLAREMONT, CALIF.

LOCATION.--Lat 34°12'58", long 117°40'04", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--16.5 sq mi

RECORDS AVAILABLE.--January 1917 to September 1967; combined records of creek and conduit, March 1901 to December 1916 (fragmentary, published as "near Upland"), January 1917 to September 1967.

GAGE.--Digital water-stage recorder and broad-crested weir since January 1939 on creek; graphic water-stage recorder and sharp-crested weir on conduit; graphic water-stage recorder and combination rectangular-V-notch weir on river pickup. 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; creek flow estimated. Jan. 25, 1917, to Jan. 9, 1939, graphic water-stage recorder at site 50 ft downstream at different datum. Prior to Jan. 31, 1963, graphic water-stage recorder on creek.

AVERAGE DISCHARGE (creek only).--50 years (1917-67), 9.16 cfs (6,630 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

(combined).--62 years (1901-2, 1903-4, 1905-9, 1910-15, 1916-67), 21.8 cfs (15,780 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 2,080 cfs Dec. 6 (gage height, 5.64 ft), from rating curve extended above 140 cfs on basis of slope-area measurement at gage height 5.66 ft; minimum daily, 0.70 cfs Oct. 10.

1917-67: Maximum discharge, 21,400 cfs Mar. 2, 1938, on basis of slope-area measurement and rainfall-runoff studies; no flow Aug. 24-27, 31, Sept. 1, Oct. 17-21, 1951.

(combined).--Maximum discharge during year, 2,080 cfs Dec. 6; minimum daily, 9.6 cfs Nov. 28-30.

1917-67: Maximum discharge, 21,400 cfs Mar. 2, 1938; minimum daily, 0.30 cfs Dec. 8-19, 1954, Dec. 12-17, 1963.

REMARKS.--Records (creek) fair, (combined) good. No regulation above station. For records of combined discharge of San Antonio Creek and Southern California Edison Co.'s Sierra conduit, which diverts above station, see following page. See schematic diagram of Santa Ana River basin.

COOPERATION.--Twenty-one discharge measurements furnished by Los Angeles County Flood Control District. Water-stage recorder graph for conduit and records of river pickup furnished by Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	.80	1.0	41	15	3.4	27	44	60	12	1.9	1.7
2	.80	.90	1.2	37	14	3.0	28	45	57	11	1.7	1.7
3	.80	.90	37	37	13	2.8	29	42	52	11	1.7	1.7
4	.80	.90	10	35	9.7	2.5	31	42	47	12	1.6	1.7
5	.80	1.0	59	28	5.2	2.1	17	42	37	13	1.6	1.7
6	1.0	1.0	910	14	4.9	2.0	21	42	34	12	1.6	1.6
7	1.0	7.8	241	13	5.4	1.7	19	40	32	11	1.6	1.6
8	.90	4.2	165	13	6.1	1.6	23	43	31	10	2.5	1.5
9	.80	2.4	104	16	8.3	1.4	26	57	30	9.3	2.0	1.5
10	.70	1.8	110	15	9.1	1.2	28	68	28	8.8	1.7	1.5
11	.80	1.4	144	13	8.4	1.0	22	68	27	8.5	1.6	1.5
12	.80	1.3	112	13	8.0	6.1	23	78	26	8.1	1.6	1.5
13	.80	1.2	135	12	12	24	23	77	25	7.8	1.6	1.4
14	.80	1.1	171	11	17	22	21	83	24	7.8	1.6	1.4
15	.90	1.1	133	10	8.6	19	20	80	24	7.6	1.6	1.4
16	.90	1.1	127	8.8	7.6	.19	20	78	23	7.5	1.6	1.4
17	.80	1.0	109	6.8	8.0	18	20	80	23	7.3	1.6	1.4
18	.80	1.0	82	6.0	6.8	18	29	80	22	7.1	1.6	1.4
19	.80	1.0	67	5.3	5.6	18	34	79	21	6.7	1.6	1.4
20	.80	1.0	54	5.8	5.3	19	33	77	21	6.0	1.6	1.4
21	.80	1.0	43	6.1	5.1	19	36	78	20	5.5	1.6	1.4
22	.80	.90	42	12	5.1	19	48	78	20	4.9	1.6	1.4
23	.80	.90	39	12	4.8	20	44	75	19	4.3	1.6	1.4
24	.80	.90	38	32	4.4	23	45	71	18	3.6	1.6	1.4
25	.80	.90	36	28	4.4	22	44	64	17	3.0	1.6	1.4
26	.80	.90	35	29	4.1	21	46	69	15	2.4	1.6	1.4
27	.80	.90	34	28	3.9	21	49	72	14	1.8	1.6	1.4
28	.80	.80	33	25	3.9	20	51	53	13	1.7	1.6	1.4
29	.90	.80	36	20	-----	20	47	49	13	2.8	1.6	1.4
30	.90	.80	42	17	-----	21	45	48	12	7.1	1.6	1.4
31	.90	-----	50	16	-----	25	-----	48	-----	5.0	1.6	-----
TOTAL	25.70	41.70	3,200.2	565.8	213.7	416.8	949	1,950	805	226.6	51.5	44.4
MEAN	.83	1.39	103	18.3	7.63	13.4	31.6	62.9	26.8	7.31	1.66	1.48
MAX	1.0	7.8	910	41	17	25	51	83	60	13	2.5	1.7
MIN	.70	.80	1.0	5.3	3.9	1.0	17	40	12	1.7	1.6	1.4
AC-FT	51	83	6,350	1,120	424	827	1,880	3,870	1,600	449	102	88

CAL YR 1966: TOTAL 3,802.00

MEAN 10.4

MAX 910

MIN .50

AC-FT 7,540

WAT YR 1967: TOTAL 8,490.40

MEAN 23.3

MAX 910

MIN .70

AC-FT 16,840

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0630	2.30	80	1-24	1915	2.22	109
12-6	1745	5.64	2,080	5-14	1415	2.39	100

11-0730. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	9.8	9.8	61	39	26	51	65	83	34	23	22
2	10	9.9	10	57	38	26	52	66	80	33	23	22
3	10	9.9	53	58	38	26	51	63	75	33	23	22
4	10	9.9	23	55	35	26	52	64	70	34	24	22
5	10	10	70	48	30	25	41	63	60	35	24	21
6	11	10	912	35	29	25	45	63	57	34	24	21
7	11	18	242	34	30	25	43	62	55	33	24	21
8	10	13	165	35	31	25	47	65	46	32	24	20
9	10	11	113	38	33	24	39	76	45	31	23	20
10	10	11	127	37	33	24	28	90	50	31	23	20
11	10	10	162	35	32	24	22	89	49	30	23	20
12	10	10	122	36	32	29	23	100	48	30	23	20
13	10	10	138	35	35	48	23	99	45	30	24	19
14	10	10	176	34	40	46	21	105	46	30	24	18
15	10	10	147	34	33	43	20	95	47	30	22	18
16	10	10	141	33	32	43	34	96	46	28	23	18
17	10	10	128	32	32	42	42	103	46	29	22	18
18	10	10	101	30	31	41	51	103	45	29	23	18
19	10	10	87	29	30	41	55	102	44	28	23	18
20	10	10	74	30	29	42	54	100	44	28	23	18
21	10	10	63	29	29	42	55	101	43	26	22	18
22	10	10	62	34	29	43	69	101	43	26	22	18
23	10	10	59	34	29	44	65	98	42	25	22	18
24	10	9.7	58	53	28	46	65	94	41	25	22	18
25	10	9.7	56	50	28	45	64	87	40	23	21	18
26	10	9.7	55	53	27	44	61	92	38	23	22	18
27	10	9.7	53	53	27	44	70	95	37	20	22	18
28	10	9.6	51	50	27	44	72	76	35	23	22	18
29	9.9	9.6	55	44		43	68	72	35	24	22	17
30	9.9	9.6	52	41	-----	44	66	71	34	24	22	17
31	9.9	-----	52	40	-----	49	-----	71	-----	25	22	-----
Total	311.7	310.1	3,626.8	1,267	886	1,139	1,449	2,627	1,469	886	706	574
Mean	10.1	10.3	117	40.9	31.6	36.7	48.3	84.7	49.0	28.6	22.8	19.1
Max	11	18	912	51	40	49	72	105	83	35	24	22
Min	9.9	9.6	9.8	29	27	24	20	62	34	20	21	17
Ac-ft	618	615	7,190	2,510	1,750	2,260	2,870	5,210	2,910	1,760	1,400	1,140

Cal yr 1966: Total 14,032.6 Mean 38.4 Max 912 Min 9.6 Ac-ft 27,830
Wtr yr 1967: Total 15,251.6 Mean 41.8 Max 912 Min 9.6 Ac-ft 30,250

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0630		92	1-24	1915		129
12-6	1745		2,080	5-14	1415		122

SANTA ANA RIVER BASIN

11-0732. SAN ANTONIO CREEK BELOW SAN ANTONIO DAM, CALIF.

LOCATION.--Lat 34°09'26", long 117°40'50", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.1 N., R.8 W., on left wall of outlet channel, at toe of San Antonio Dam and 4.7 miles northeast of Claremont.

DRAINAGE AREA.--26.9 sq mi.

RECORDS AVAILABLE.--October 1962 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,093.94 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--5 years, 6.98 cfs (5,050 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,900 cfs Dec. 6 (gage height, unknown), on basis of gate openings at dam; no flow for much of year.

1962-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records good except those for Dec. 6, which are poor. Flow regulated by San Antonio flood-control reservoir (capacity, 9,110 acre-ft). Water diverted out of basin for power, domestic use, and irrigation. See schematic diagram of Santa Ana River basin.

COOPERATION.--Five discharge measurements furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	18	0.50	0	12	22	47	0.20		
2		0	0	17	.40	0	8.4	22	43	.20		
3		0	0	17	.40	0	18	22	41	.20		
4		0	0	16	.40	0	24	22	38	.20		
5		0	0	16	.40	0	26	22	38	.20		
6		0	526	16	16	0	24	22	38	.20		
7		.20	544	7.6	24	0	13	22	41	.20		
8		.50	155	3.4	23	0	13	22	38	.20		
9		.10	143	6.2	17	0	13	22	34	.20		
10		0	127	3.9	9.4	0	20	22	32	.20		
11		0	111	4.0	.20	0	23	23	30	.20		
12		0	101	.10	.20	0	23	23	30	.20		
13		0	101	.10	.20	14	23	24	30	.20		
14		0	111	.10	24	26	23	24	30	.20		
15		0	114	.10	18	34	23	24	26	.20		
16		0	95	.10	3.4	34	23	24	24	.20		
17		0	85	.10	.20	36	23	35	18	.20		
18		0	88	.10	.10	36	23	49	18	.40		
19		0	75	.10	.10	26	23	49	23	.70		
20		0	52	.10	.10	26	23	49	26	.20		
21		0	34	.10	.10	26	23	51	14	.20		
22		0	24	.10	.20	18	23	53	12	.20		
23		0	24	26	.20	11	23	55	10	.10		
24		0	24	43	.10	.20	23	55	9.2	12		
25		0	24	49	.10	.20	23	55	8.4	13		
26		0	24	41	.10	.20	23	55	6.9	0		
27		0	24	36	0	20	23	53	1.4	0		
28		0	24	26	0	30	23	53	.20	0		
29		0	23	7.6		26	23	53	.20	0		
30		0	18	3.1	-----	24	23	53	.20	0		
31		-----	18	.70	-----	22	-----	53	-----	0		-----
Total	0	0.80	2,709	358.60	138.80	409.60	631.4	1,133	707.50	30.20	0	0
Mean	0	0.027	87.4	11.6	4.96	13.2	21.0	36.5	23.6	0.974	0	0
Max	0	0.50	544	49	24	36	26	55	47	13	0	0
Min	0	0	0	0.10	0	0	8.4	22	0.20	0	0	0
Ac-ft	0	1.6	5,370	711	275	812	1,250	2,250	1,400	60	0	0

Cal yr 1966: Total 6,236.10 Mean 17.1 Max 544 Min 0 Ac-ft 12,370
 Wtr yr 1967: Total 6,118.90 Mean 16.8 Max 544 Min 0 Ac-ft 12,140

SANTA ANA RIVER BASIN

185

11-0734.7. CUCAMONGA CREEK NEAR UPLAND, CALIF.

LOCATION.--Lat 34°10'26", long 117°37'51", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967. Monthly discharge only for October to December 1928, published in WSP 1315-B.

GAGE.--Digital water-stage recorder and broad-crested weir since December 1938. 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. Prior to Jan. 31, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--40 years, 7.12 cfs (5,150 acre-ft per year); median of yearly mean discharges, 4.6 cfs (3,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,320 cfs Dec. 6 (gage height, 5.50 ft), from rating curve extended above 350 cfs; minimum daily, 2.5 cfs Oct. 24-26.

1927-67: Maximum discharge, 10,300 cfs Mar. 2, 1938, based on rainfall-runoff study; minimum daily, 0.30 cfs Oct. 5, 6, 1962.

REMARKS.--Records fair. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.9	2.7	4.1	8.3	18	12	20	30	19	9.3	8.7	6.3
2	3.0	2.9	5.9	8.5	19	11	20	30	19	9.6	8.7	6.3
3	3.1	3.0	332	7.9	19	11	19	30	18	9.6	8.6	6.3
4	3.1	3.1	180	7.5	18	12	23	30	18	9.6	8.5	6.2
5	3.1	3.1	323	7.4	17	12	24	29	18	9.2	8.9	6.2
6	3.0	3.3	421	7.3	16	12	22	28	17	9.7	9.0	6.2
7	3.0	9.2	80	7.5	15	11	23	28	17	9.7	9.0	6.2
8	2.8	5.7	60	7.8	15	11	23	29	17	9.4	9.3	6.2
9	2.7	4.1	48	7.4	14	11	22	30	16	9.2	9.2	6.2
10	2.9	3.6	41	7.4	14	12	22	32	16	8.9	8.9	6.2
11	3.1	3.4	36	7.4	14	18	27	31	16	8.8	8.8	6.0
12	3.1	3.3	32	7.4	14	27	24	29	16	8.5	8.7	6.0
13	3.1	3.3	30	7.2	14	101	23	28	15	8.5	8.7	6.0
14	2.9	3.0	28	6.8	14	64	23	27	15	8.4	8.6	6.0
15	2.9	3.0	26	6.2	14	41	23	26	14	8.8	9.4	6.0
16	2.9	3.1	24	6.1	13	33	23	25	14	8.7	8.0	5.8
17	2.8	3.1	22	6.1	13	29	24	26	13	8.5	5.8	5.8
18	2.7	3.2	21	6.0	13	28	26	25	13	8.4	5.8	5.8
19	2.7	3.1	19	6.0	13	27	28	25	12	8.2	5.8	5.8
20	2.7	3.2	18	6.0	13	25	30	25	12	8.2	5.7	5.8
21	2.9	3.4	17	10	13	21	32	25	11	8.0	5.7	5.8
22	2.8	3.5	16	47	13	19	36	24	11	8.4	5.6	5.8
23	2.6	3.7	14	47	13	18	38	24	10	8.5	5.7	5.8
24	2.5	3.6	14	50	12	18	34	24	10	8.5	5.9	5.7
25	2.5	3.5	13	23	12	19	32	24	10	8.4	5.9	5.7
26	2.5	3.6	12	15	12	19	31	23	9.8	8.3	5.9	5.7
27	2.7	3.7	11	16	12	19	31	23	9.7	8.3	6.2	5.6
28	2.9	4.3	10	15	12	19	31	23	9.6	8.4	6.3	5.6
29	2.8	4.6	9.6	15	-----	19	31	22	9.4	8.5	6.2	5.6
30	2.8	3.9	8.9	16	-----	18	31	22	9.4	8.6	6.0	5.6
31	2.7	-----	8.6	17	-----	19	-----	21	-----	8.7	6.5	-----
TOTAL	88.2	110.2	1,885.1	413.2	399	716	796	818	414.9	271.8	230.0	178.2
MEAN	2.85	3.67	60.8	13.3	14.3	23.1	26.5	26.4	13.8	8.77	7.42	5.94
MAX	3.1	9.2	421	50	19	101	38	32	19	9.7	9.4	6.3
MIN	2.5	2.7	4.1	6.0	12	11	19	21	9.4	8.0	5.6	5.6
AC-FT	175	219	3,740	820	791	1,420	1,580	1,620	823	539	456	353

CAL YR 1966: TOTAL 4,355.2 MEAN 11.9 MAX 421 MIN 2.5 AC-FT 8,640
WAT YR 1967: TOTAL 6,320.6 MEAN 17.3 MAX 421 MIN 2.5 AC-FT 12,540

Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0900	5.06	1,000	1-24	1900	3.33	199
12-6	0200	5.50	1,320	3-13	2000	2.73	119

SANTA ANA RIVER BASIN

11-0740. 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.--1,485 sq mi, not including 768 sq mi above Elsinore Lake.

RECORDS AVAILABLE.--May 1930 to November 1939 (irrigation seasons only), March 1940 to September 1967. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, and Santa Fe Railroad Bridge, near Prado" May 1932 to November 1939, and as "below Prado Dam, near Prado" March 1940 to September 1950.

GAGE.--Graphic water-stage recorder and concrete control since August 1944. Datum of gage is approximately 449 ft above mean sea level (Corps of Engineers Survey). Prior to Mar. 18, 1940, at about same site at various datums.

EXTREMES.--Maximum discharge during year, 1,130 cfs Dec. 9 (gage height, 4.28 ft); minimum daily, 15 cfs July 31.

1940-67: Maximum discharge, 2,260 cfs Dec. 24, 1940 (gage height, 3.20 ft); minimum daily, 12 cfs for some days in 1960.

Flood of Mar. 2, 1938, 100,000 cfs, result of slope-area measurement at site 2.5 miles downstream.

REMARKS.--Records good. Flow regulated since 1941 by Prado Reservoir (capacity, 222,800 acre-ft) and Big Bear Lake (see sta. no. 0490). Natural streamflow 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. No water pumped in 1967. See schematic diagram of Santa Ana River basin.

COOPERATION.--Fourteen discharge measurements and records of bypass flow furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	34	49	63	77	65	125	60	46	38	18	22
2	17	32	50	62	70	62	188	63	44	34	17	23
3	21	30	309	63	65	60	80	58	44	34	18	25
4	22	30	658	65	62	68	78	53	41	34	20	23
5	27	31	688	67	62	73	95	53	43	32	23	25
6	34	32	926	67	60	62	72	53	44	35	25	26
7	45	44	1.110	62	58	60	67	50	45	35	20	27
8	35	166	1.110	60	58	60	77	50	48	31	30	27
9	40	75	1.110	60	53	60	63	48	49	30	27	28
10	40	62	1.110	60	66	62	60	44	50	30	27	26
11	44	49	1.110	60	55	85	309	46	50	30	25	25
12	37	48	1.080	60	65	80	144	46	52	25	25	25
13	34	48	1.040	56	65	131	73	44	53	22	21	27
14	30	48	1.010	56	72	217	67	30	53	26	18	30
15	30	48	992	58	67	80	65	31	49	27	21	31
16	30	48	970	60	68	70	60	37	46	26	18	30
17	27	49	970	62	67	68	55	41	45	25	20	28
18	27	46	948	56	67	67	76	45	44	27	16	31
19	28	46	926	55	67	67	284	45	45	26	20	35
20	31	46	904	53	62	63	187	40	44	26	20	32
21	34	46	860	53	63	60	91	40	44	26	25	38
22	37	46	830	252	65	60	463	40	40	23	35	35
23	38	45	810	733	65	63	119	44	40	21	38	35
24	41	46	770	715	65	60	97	44	38	22	44	35
25	38	45	679	830	65	58	91	52	37	21	37	35
26	34	45	601	800	67	58	84	52	37	20	28	38
27	34	44	80	742	67	56	73	46	37	16	27	35
28	34	44	77	388	67	62	73	44	37	17	22	37
29	34	45	73	95		62	72	44	37	20	23	40
30	34	45	72	85		55	60	44	35	17	23	38
31	34	-----	65	87	-----	159	-----	45	-----	15	22	-----
Total	1.014	1.463	21.987	5.985	1.830	2.313	3.448	1.432	1.317	811	753	912
Mean	32.7	48.8	709	193	65.4	74.6	115	46.2	43.9	26.2	24.3	30.4
Max	45	166	1.110	830	77	217	463	63	53	38	44	40
Min	17	30	49	53	58	55	55	30	35	15	16	22
Ac-ft	2.010	2.900	43.610	11.870	3.630	4.590	6.840	2.840	2.610	1.610	1.490	1.810
(†)	2.010	2.900	43.610	11.870	3.630	4.590	6.840	2.840	2.610	1.610	1.490	1.810

Cal yr 1966: Total 42,401 Mean 116 Max 1.160 Min 17 Ac-ft 84.100 Ac ft + 84.100

Cal yr 1967: Total 43,255 Mean 119 Max 1.110 Min 15 Ac-ft 85.810 Ac ft + 85.810

(†) Combined discharge, in acre-ft, of river and water pumped from wells in Prado Reservoir.

11-0757.2. 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.--19.5 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 398.29 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--6 years, 0.254 cfs (184 acre-ft per year).

EXTREMES.--Maximum discharge during year, 114 cfs Dec. 6 (gage height, 0.94 ft); no flow for most of year. 1961-67: Maximum discharge, 220 cfs Dec. 1, 1965 (gage height, 1.17 ft); no flow for most of each year.

REMARKS.--Records good. Flow regulated by Carbon Canyon flood-control reservoir (capacity, 7,030 acre-ft). No diversion above station. See schematic diagram of Santa Ana River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Nov. 10..... 7.5	Dec. 11.....34	Apr. 20..... 3.6
11..... 6.8	12..... .10	21..... .90
12..... .60	28..... .10	22..... .30
Dec. 6.....23	Jan. 25.....40	23..... .40
7.....23	Apr. 14.....10	24..... .40
8..... .10	18..... .70	25..... 5.2
9.....53	19..... 3.6	26..... .80
10.....64		

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1966.....	14.90	7.5	0	0.497	30
December.....	197.20	64	0	6.36	391
January 1967.....	40	40	0	1.29	79
April.....	25.90	10	0	.863	51
Calendar year 1966.....	-	64	0	.696	504
Water year 1966-67.....	-	64	0	.762	551

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

SANTA ANA RIVER BASIN

11-0758. SANTIAGO CREEK AT MODJESKA, CALIF.

LOCATION.--Lat 33°42'32", long 117°38'05", in SE¼NW¼ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,258.77 ft above mean sea level, datum of 1929. Prior to Mar. 31, 1966, graphic water-stage recorder.

AVERAGE DISCHARGE.--6 years, 4.69 cfs (3,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,420 cfs Dec. 6 (gage height, 7.47 ft); no flow Oct. 1 to Dec. 2, Sept. 8-25.

1961-67: Maximum discharge, 1,500 cfs Nov. 22, 1965 (gage height, 6.60 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

REMARKS.--Records fair. Slight regulation by Modjeska Reservoir on Harding Creek. No diversion above station. See schematic diagram of Santa Ana River basin.

COOPERATION.--Twelve discharge measurements furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	8.7	21	6.6	7.0	22	6.6	3.6	.70	.14
2	0	0	0	8.1	19	6.5	11	20	5.5	3.5	.66	.15
3	0	0	228	7.8	18	6.7	7.7	19	5.4	3.4	.59	.15
4	0	0	165	7.6	17	8.1	8.3	18	5.3	3.3	.58	.14
5	0	0	705	7.4	16	7.1	10	17	5.0	3.0	.50	.16
6	0	0	1,060	7.1	14	6.5	8.9	16	5.1	2.8	.46	.13
7	0	0	265	7.0	14	6.1	9.1	15	4.8	2.7	.43	.07
8	0	0	115	6.8	13	5.8	9.1	14	5.1	2.4	.48	0
9	0	0	78	6.5	12	5.6	8.5	14	5.3	2.2	.47	0
10	0	0	58	5.9	12	5.7	8.3	14	5.8	2.0	.45	0
11	0	0	45	5.8	11	6.7	26	13	5.8	1.9	.41	0
12	0	0	35	5.8	10	7.1	26	13	6.4	2.2	.36	0
13	0	0	29	5.6	10	22	24	12	7.0	3.1	.35	0
14	0	0	26	5.5	10	23	23	11	5.8	3.1	.35	0
15	0	0	24	5.4	9.4	15	21	11	5.3	3.0	.28	0
16	0	0	20	5.4	8.9	12	19	10	4.8	2.8	.27	0
17	0	0	17	5.3	8.3	10	18	9.6	4.8	2.9	.24	0
18	0	0	15	5.3	7.9	9.5	19	10	5.1	2.8	.24	0
19	0	0	13	5.2	7.7	8.6	25	9.8	4.7	2.5	.24	0
20	0	0	12	5.1	7.2	7.8	26	9.5	4.5	2.4	.22	0
21	0	0	12	5.0	6.7	7.5	26	8.4	4.2	2.2	.21	0
22	0	0	11	69	6.5	6.9	41	6.9	4.0	2.1	.20	0
23	0	0	11	28	6.3	5.8	38	6.6	4.1	1.8	.19	0
24	0	0	11	114	6.1	5.3	36	6.6	4.0	1.6	.19	0
25	0	0	10	85	6.3	5.1	32	6.7	3.8	1.3	.17	0
26	0	0	10	67	7.3	4.6	29	6.6	3.8	1.1	.17	.03
27	0	0	7.5	56	7.0	4.3	27	6.7	3.7	.97	.15	.06
28	0	0	9.2	46	6.9	4.1	26	7.4	3.9	1.0	.15	.13
29	0	0	9.1	39	-----	4.2	24	7.7	3.9	.90	.19	.18
30	0	0	8.9	32	-----	3.5	23	7.4	4.0	.74	.13	.21
31	0	-----	8.9	27	-----	6.2	-----	7.7	-----	.72	.12	-----
TOTAL	0	0	3,018.6	695.3	299.5	243.9	616.9	356.6	147.5	70.03	10.15	1.55
MEAN	0	0	97.4	22.4	10.7	7.87	20.6	11.5	4.92	2.26	.33	.052
MAX	0	0	1,060	114	21	23	41	22	7.0	3.6	.70	.21
MIN	0	0	0	5.0	6.1	3.5	7.0	6.6	3.7	.72	.12	0
AC-FT	0	0	5,990	1,380	594	484	1,220	707	293	139	20	3.1

CAL YR 1966: TOTAL 3,640.30 MEAN 9.97 MAX 1,060 MIN 0 AC-FT 7,220
 WAT YR 1967: TOTAL 5,460.03 MEAN 15.0 MAX 1,060 MIN 0 AC-FT 10,830

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	1230	3.97	394	1-24	1700	3.30	270
12-6	1930	7.47	1,420				

11-0760. 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.--63.1 sq mi.

RECORDS AVAILABLE.--October 1931 to September 1960, October 1961 to September 1967.

GAGE.--Staff gage read on last day of each month. Datum of gage is at mean sea level.

AVERAGE DISCHARGE.--35 years, 16.2 cfs (11,760 acre-ft per year); median of yearly mean discharges, 9.8 cfs (7,100 acre-ft per year).

REMARKS.--Records of total inflow represents 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. Area and capacity tables 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. See schematic diagram of Santa Ana River basin.

COOPERATION.--Reservoir operation records and related data furnished by Serrano and Carpenter Irrigation Districts and Irvine Co.

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Evaporation (acre-feet)	Spill waste, and leakage (acre-feet)	Total inflow (acre-feet)	Colorado River water imported (acre-feet)	Net inflow (acre-feet)
Santiago Reservoir									
Sept. 30.....	745.0	5,900	-	-	-	-	-	-	-
Oct. 31.....	741.2	4,972	-928	1,715	106	0	893	628	265
Nov. 30.....	741.6	5,076	+104	767	47	0	918	796	122
Dec. 31.....	776.8	17,761	+12,685	17	72	0	12,774	94	12,680
Calendar year 1966.....	-	-	+7,528	18,021	1,925	0	27,474	7,361	20,113
Jan. 31.....	783.3	21,148	+3,387	25	119	0	3,531	116	3,415
Feb. 28.....	784.8	21,988	+840	837	178	0	1,855	74	1,781
Mar. 31.....	785.7	22,499	+511	756	155	0	1,422	113	1,309
Apr. 30.....	789.8	24,885	+2,386	249	159	0	2,794	116	2,678
May 31.....	791.0	25,595	+710	652	260	0	1,622	128	1,494
June 30.....	788.9	24,366	-1,229	1,996	241	0	1,008	92	916
July 31.....	786.3	22,844	-1,522	1,908	351	0	737	125	612
Aug. 31.....	785.3	21,260	-1,584	1,878	357	0	651	135	516
Sept. 30.....	781.2	20,007	-1,253	1,583	207	0	537	104	433
Water year 1966-67.....	-	-	+14,107	12,383	2,252	0	28,742	2,521	26,221

† Elevation at 1700 hours.

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

11-0775. SANTIAGO CREEK AT SANTA ANA, CALIF.

LOCATION.--Lat 33°46'09", long 117°52'54", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ 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.--95.0 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967. Monthly discharge only October to December 1928, published in WSP 1315-B.

GAGE.--Graphic 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.--39 years, 4.03 cfs (2,920 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

EXTREMES.--Maximum discharge during year, 900 cfs Nov. 7 (gage height, 4.80 ft); no flow for most of year. 1928-67: 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 sta. no. 0760). Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Distircts. 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. See schematic diagram of Santa Ana River basin.

COOPERATION.--Seven discharge measurements furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Nov. 7.....124	Jan. 23..... 1.4	Mar. 13..... 31	Apr. 18..... 7.2
8..... .20	24..... 64	14..... 2.6	19..... 11
Dec. 3.....110	25..... 2.4	31..... 12	20..... .30
4..... .10	Mar. 8..... .40	Apr. 1..... 15	21..... 1.8
5.....147	9..... 3.0	2..... .70	22..... 3.7
6..... 52	10..... 2.4	4..... .20	24..... 1.0
7..... 2.7	11..... 2.2	11..... 5.2	Sept. 28..... 16
Jan. 22..... 58	12..... 13		

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1966.....	124.20	124	0	4.14	246
December.....	311.80	147	0	10.1	618
January 1967.....	125.80	64	0	4.06	250
March.....	66.60	31	0	2.15	132
April.....	46.10	15	0	1.54	91
September.....	16	16	0	0.533	32
Calendar year 1966.....	-	147	0	1.28	925
Water year 1966-67.....	-	147	0	1.89	1,370

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

SANTA ANA RIVER BASIN

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11-0780. SANTA ANA RIVER AT SANTA ANA, CALIF.

LOCATION.--Lat 33°44'56", long 117°54'30", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ 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.

DRAINAGE AREA.--1,685 sq mi (not including 768 sq mi above Elsinore Lake).

RECORDS AVAILABLE.--January 1923 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 71.20 ft 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); 27 years (1940-67), 14.5 cfs (10,500 acre-ft per year); median of yearly mean discharges, 1.6 cfs (1,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,700 cfs Dec. 5 (gage height, 5.90 ft), from rating curve extended above 2,600 cfs; no flow for much of year.

1923-67: Maximum discharge, 46,300 cfs Mar. 3, 1938 (gage height, 10.20 ft, former site and datum), on basis of slope-area measurement of maximum flow; no flow for 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, Prado flood-control reservoir (capacity, 222,800 acre-ft) since 1940, three small flood-control reservoirs (combined capacity, 31,900 acre-ft), Big Bear Lake (see sta. no. 0490), and Santiago Reservoir (see sta. no. 0760). Discharge up to 100 cfs can be diverted from Carbon Creek to Coyote Creek, 1.5 miles upstream from mouth of Carbon Creek. See schematic diagram of Santa Ana River basin.

COOPERATION.--Six discharge measurements furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0.30	0	39					0
2		0	0	0	.20	0	.70					0
3		0	239	0	.10	0	.20					0
4		0	0	0	.10	.10	1.1					0
5		0	883	0	0	.10	0					0
6		0	1,020	0	0	0	0					0
7		212	796	0	0	0	.10					0
8		2.8	778	0	0	0	0					0
9		0	750	0	0	0	0					0
10		0	700	0	0	.10	0					0
11		0	650	0	0	.90	13					0
12		0	600	0	0	20	.10					0
13		0	550	0	0	55	0					0
14		0	550	0	0	11	0					0
15		0	600	0	0	.10	9.2					0
16		0	600	0	0	.10	0					0
17		0	612	0	0	.10	0					0
18		0	604	0	0	.10	30					0
19		0	576	0	0	.10	50					0
20		0	562	0	0	.10	.90					0
21		0	552	0	0	.10	7.5					0
22		0	548	.65	0	.10	13					0
23		0	353	440	0	.10	.40					0
24		0	243	955	0	.10	4.4					0
25		0	200	679	0	.10	0					0
26		0	150	471	0	.10	.90					0
27		0	96	438	0	.10	4.0					0
28		0	2.0	390	0	.10	3.5					13
29		0	1.0	86		.10	0					0
30		0	0	5.0	-----	.10	0					0
31		-----	0	1.0	-----	17	-----		-----			-----
Total	0	214.8	13,225.0	3,540.0	0.70	105.80	178.00	0	0	0	0	13
Mean	0	7.16	427	114	0.025	3.41	5.93	0	0	0	0	0.433
Max	0	212	1,020	955	0.30	55	50	0	0	0	0	13
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	426	26,230	7,020	1.4	210	353	0	0	0	0	26

Cal yr 1966: Total 16,141.8 Mean 44.2 Max 1,020 Min 0 Ac-ft 32,020

Wtr yr 1967: Total 17,277.30 Mean 47.3 Max 1,020 Min 0 Ac-ft 34,270

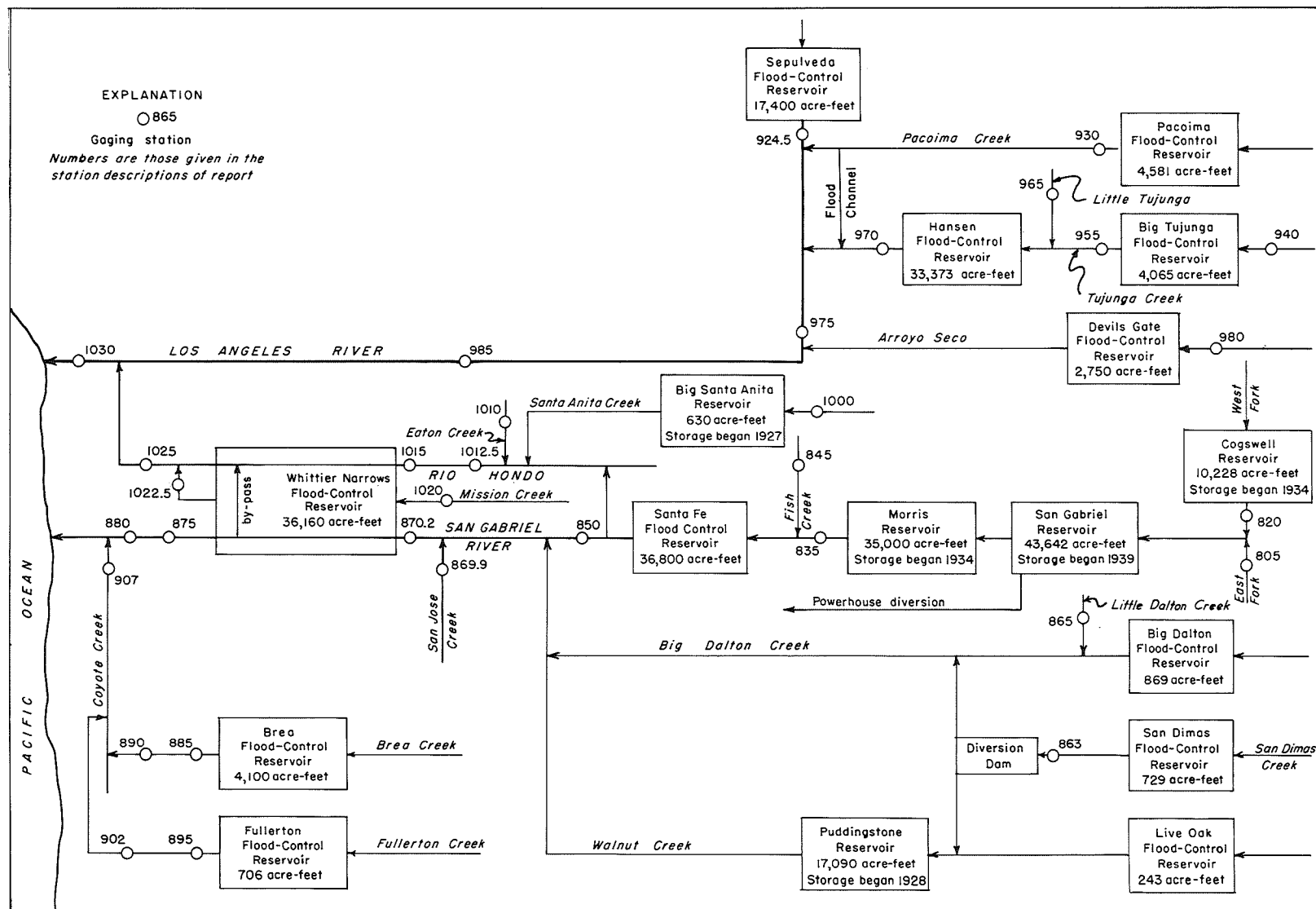


Figure 4.--Schematic diagram showing diversions and storage in San Gabriel and Los Angeles River basins.

SAN GABRIEL RIVER BASIN

193

11-0805. EAST FORK SAN GABRIEL RIVER NEAR CAMP BONITA, CALIF.

LOCATION.--Lat 34°14'09", long 117°48'18", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--84.6 sq mi.

RECORDS AVAILABLE.--December 1932 to September 1967. Prior to 1940, published as San Gabriel River near Camp Bonita.

GAGE.--Graphic 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.--34 years (1933-67), 67.7 cfs (49,010 acre-ft per year); median of yearly mean discharges, 42 cfs (30,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,220 cfs Dec. 6 (gage height, 12.55 ft); minimum daily, 14 cfs Nov. 1.

1932-67: 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. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	14	23	101	192	84	218	348	239	94	62	44
2	15	15	24	95	175	86	194	344	221	95	61	46
3	18	15	586	92	161	86	184	351	208	94	55	46
4	18	15	181	90	152	84	228	351	192	94	55	46
5	18	15	501	90	140	80	259	355	184	90	55	42
6	19	16	3,190	88	134	75	224	355	184	92	54	42
7	18	52	1,600	86	134	75	237	348	184	92	54	41
8	18	63	749	83	134	72	227	351	186	95	54	40
9	17	34	536	81	129	71	216	380	181	95	50	39
10	17	27	436	81	127	74	221	414	178	97	49	38
11	18	24	381	77	123	89	268	396	178	90	50	36
12	17	23	338	74	119	183	245	351	175	87	51	36
13	16	21	315	74	116	427	248	314	170	92	53	38
14	15	20	288	74	121	423	245	297	161	88	57	36
15	16	20	265	74	116	307	257	294	152	81	59	35
16	16	20	200	74	108	320	261	297	145	77	62	34
17	18	20	189	72	106	384	257	290	136	73	55	33
18	18	20	181	71	106	409	291	382	127	74	53	33
19	17	20	175	69	106	350	296	485	123	74	53	35
20	17	19	163	68	102	287	290	400	125	72	55	36
21	16	20	156	68	102	276	336	359	125	75	51	38
22	16	21	152	143	99	288	448	355	127	84	48	38
23	15	21	152	150	99	267	375	340	121	80	51	39
24	16	21	149	347	95	257	359	318	116	74	50	39
25	16	21	138	395	97	245	380	297	112	71	46	39
26	16	20	136	270	88	294	384	294	108	69	48	36
27	16	20	127	267	84	219	392	277	106	68	46	36
28	16	20	117	276	84	200	396	267	101	69	42	38
29	16	23	104	208		194	375	254	97	68	42	38
30	16	23	101	197	-----	189	351	248	94	65	42	36
31	15	-----	101	202	-----	203	-----	248	-----	62	41	-----
Total	517	683	11,754	4,137	3,349	6,598	3,662	10,360	4,556	2,531	1,604	1,153
Mean	16.7	22.8	379	133	120	213	289	334	152	81.6	51.7	38.4
Max	19	63	3,190	395	192	427	448	485	239	97	62	46
Min	15	14	23	68	84	71	184	248	94	62	41	33
Ac-ft	1,030	1,350	23,310	8,210	6,640	13,090	17,180	20,550	9,040	5,020	3,180	2,290

Cal yr 1966: Total 35,902 Mean 98.4 Max 3,190 Min 14 Ac-ft 71,210
Wtr yr 1967: Total 55,904 Mean 153 Max 3,190 Min 14 Ac-ft 110,900

SAN GABRIEL RIVER BASIN

11-0820. WEST FORK SAN GABRIEL RIVER AT CAMP RINCON, CALIF.

LOCATION.--Lat 34°14'28", long 117°51'45", 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 miles downstream from North Fork, and 6 miles downstream from Cogswell Dam.

DRAINAGE AREA.--104 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1967.

GAGE.--Graphic 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 1.5 miles downstream at different datum. Aug. 27, 1938, to July 3, 1941, at datum 6.41 ft higher.

AVERAGE DISCHARGE.--40 years, 63.3 cfs (45,830 acre-ft per year); median of yearly mean discharges, 33 cfs (23,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,700 cfs Dec. 6 (gage height, 13.64 ft); minimum daily, 7.0 cfs Oct. 1, 2.
1927-67: Maximum discharge, 34,000 cfs (estimated) Mar. 2, 1938; no flow at times in 1928-29.

REMARKS.--Flow regulated by Cogswell flood-control reservoir since 1934 (capacity, 9,999 acre-ft, revised). No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	8.0	17	50	326	59	142	435	184	74	69	53
2	7.0	8.0	21	49	276	57	156	416	180	71	69	55
3	13	8.0	541	48	234	57	146	368	177	71	69	55
4	12	11	164	48	218	58	187	322	174	71	66	55
5	13	12	455	48	209	58	180	322	170	74	64	53
6	13	13	2,320	48	168	57	165	314	170	74	62	53
7	14	211	1,450	46	106	54	182	314	165	74	62	53
8	13	88	797	45	98	56	165	331	170	77	62	50
9	12	38	470	45	96	56	150	322	170	74	62	48
10	12	29	300	44	92	56	156	314	170	77	62	46
11	13	25	257	42	90	72	285	311	165	77	62	45
12	13	23	234	42	87	254	243	339	165	74	60	48
13	13	21	218	41	87	616	237	322	165	71	57	48
14	12	21	205	40	102	926	226	314	156	69	60	50
15	9.9	20	212	38	115	925	196	307	137	66	55	45
16	9.9	19	226	38	79	858	190	307	111	66	64	46
17	8.9	18	132	38	76	632	190	307	104	66	62	46
18	8.9	17	129	38	76	333	253	293	104	64	62	48
19	8.0	17	118	38	77	241	388	293	100	66	60	60
20	8.0	17	92	37	77	219	356	278	94	64	57	77
21	8.9	18	72	36	70	181	408	254	97	60	55	77
22	8.9	17	69	193	67	142	630	247	94	60	55	77
23	8.9	15	65	187	65	137	515	150	94	57	55	77
24	8.0	15	61	535	65	133	498	151	91	60	55	77
25	7.0	15	59	484	70	126	540	142	86	60	55	77
26	8.0	15	58	244	67	122	594	146	86	57	55	74
27	8.9	16	57	238	65	118	592	146	88	55	55	74
28	8.9	17	54	353	62	115	592	142	88	53	55	74
29	8.9	17	52	353		115	518	150	88	53	53	74
30	8.9	17	52	364	- - - - -	111	435	184	88	53	53	74
31	8.0	- - - - -	50	361	- - - - -	127	- - - - -	190	- - - - -	56	53	- - - - -
Total	313.9	786	9,027	4,211	3,220	7,071	9,525	3,451	3,931	2,044	1,845	1,789
Mean	10.1	26.2	291	136	115	228	318	273	131	65.9	59.5	59.6
Max	14	211	2,320	535	326	926	630	435	184	77	69	77
Min	7.0	8.0	17	36	62	54	142	142	86	53	53	45
Ac-ft	623	1,560	17,900	3,350	6,390	14,030	13,890	10,760	7,800	4,050	3,660	3,550

Cal yr 1966: Total 36,912.2 Mean 101 Max 2,320 Min 7.0 Ac-ft 73,210
Wtr yr 1967: Total 52,213.9 Mean 144 Max 2,320 Min 7.0 Ac-ft 103,600

SAN GABRIEL RIVER BASIN

195

11-0845. FISH CREEK NEAR DUARTE, CALIF.

LOCATION.--Lat 34°10'00", long 117°55'25", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--6.36 sq mi.

RECORDS AVAILABLE.--July to September 1916, July 1917 to September 1967.

GAGE.--Digital water-stage recorder and broad-crested weir since July 1917, restored in December 1938. Datum of gage is 905.9 ft above mean sea level. 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. Prior to Mar. 30, 1966, graphic water-stage recorders used.

AVERAGE DISCHARGE.--50 years (1917-67), 3.97 cfs (2,870 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,670 cfs Dec. 6 (gage height, 6.22 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 6.78 ft; no flow for some days.
1916-67: Maximum discharge, 2,250 cfs Dec. 29, 1965 (gage height, 6.80 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 6.78 ft; maximum gage height, about 14.5 ft Feb. 11, 16, 1959 (from debris wave); no flow at times in some years.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	.70	1.9	5.1	20	7.5	19	23	9.2	5.3	3.2	2.1
2	.90	.70	4.1	5.1	18	7.0	20	21	8.4	5.3	3.1	2.4
3	.90	.80	206	4.7	16	7.1	15	20	8.2	5.3	3.0	2.6
4	.90	.90	25	4.2	15	7.3	16	20	7.8	5.3	2.9	2.6
5	.90	.90	119	4.2	14	6.9	15	19	7.7	5.3	2.9	2.5
6	.90	.90	688	4.2	14	6.7	14	19	7.6	5.2	3.1	2.4
7	.90	31	159	4.1	13	6.5	16	18	7.6	5.0	3.1	2.3
8	.80	4.5	72	4.1	13	6.6	14	17	7.5	4.9	3.1	2.3
9	.80	1.0	50	4.1	12	6.5	13	18	7.6	4.8	3.1	2.2
10	.90	.80	40	3.9	12	6.6	13	18	7.5	4.8	2.9	2.3
11	.90	1.0	35	3.8	11	8.1	34	17	7.2	4.7	2.7	2.2
12	.90	1.0	30	3.6	11	35	22	17	7.6	4.6	2.6	2.2
13	.90	.90	27	3.6	10	88	19	16	7.3	4.5	2.5	2.3
14	.90	1.0	23	3.6	10	49	18	15	7.0	4.6	2.4	2.5
15	.90	1.0	17	3.3	10	31	17	14	6.6	4.5	2.5	2.4
16	.80	.90	15	3.2	9.5	24	17	14	6.6	4.5	2.7	2.4
17	.70	1.0	13	3.0	9.5	19	16	14	6.8	4.5	2.5	2.4
18	.70	1.3	12	2.9	9.5	18	32	14	6.6	4.2	2.5	2.7
19	.70	1.2	10	2.9	9.5	16	33	17	6.2	4.1	2.5	2.9
20	.80	1.0	9.5	2.9	9.0	16	26	16	6.1	4.0	2.4	2.7
21	.90	.90	8.5	2.7	8.7	15	41	15	6.1	3.9	2.5	2.6
22	.90	.90	8.0	51	8.5	14	89	12	6.1	3.8	2.4	2.5
23	.70	1.0	7.3	42	8.3	13	46	12	6.0	3.7	2.3	2.5
24	.70	1.1	7.1	156	8.2	13	42	12	6.0	3.6	2.2	2.7
25	.70	1.4	6.5	100	8.1	12	37	11	5.9	3.6	2.3	2.8
26	.70	1.5	6.1	46	7.9	12	34	11	5.7	3.6	2.2	2.6
27	.70	1.6	5.7	38	7.7	11	31	10	5.5	3.4	2.1	2.4
28	.80	1.7	4.7	30	7.6	11	30	10	5.6	3.4	2.0	2.5
29	.70	1.7	4.6	27	-----	10	27	10	5.6	3.4	1.9	2.4
30	.70	1.8	5.1	26	-----	10	25	9.9	5.6	3.2	1.9	2.3
31	.60	-----	5.1	24	-----	14	-----	12	-----	3.2	1.9	-----
TOTAL	25.00	66.10	1,625.2	619.2	311.0	507.8	791	471.9	205.2	134.2	79.4	73.7
MEAN	.81	2.20	52.4	20.0	11.1	16.4	26.4	15.2	6.84	4.33	2.56	2.46
MAX	.90	31	688	156	20	88	89	23	9.2	5.3	3.2	2.9
MIN	.60	.70	1.9	2.7	7.6	6.5	13	9.9	5.5	3.2	1.9	2.1
AC-FT	50	131	3,220	1,230	617	1,010	1,570	936	407	266	157	146

CAL YR 1966: TOTAL 2,822.50 MEAN 7.73 MAX 688 MIN 0 AC-FT 5,600
WAT YR 1967: TOTAL 4,909.70 MEAN 13.5 MAX 688 MIN .60 AC-FT 9,740

Peak discharge (base, 60 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1715	2.80	93	1-24	1815	4.67	576
12-3	0630	4.70	589	3-13	0815	2.96	106
12-6	1615	6.22	1,670	4-22	0115	3.23	168

SAN GABRIEL RIVER BASIN

11-0850. SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CALIF.

LOCATION.--Lat 34°06'44", long 117°58'07", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ 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.--236 sq mi.

RECORDS AVAILABLE.--October 1942 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 400.00 ft above mean sea level (levels by Corps of Engineers).

EXTREMES.--Maximum discharge during year, 614 cfs Mar. 23-24 (gage height, 11.56 ft); no flow for much of year. 1942-67: Maximum discharge, 11,100 cfs Nov. 23, 1965 (gage height, 17.14 ft); no flow for several months of each year.

REMARKS.--Records good. Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 53,870 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft). Diversions above station for irrigation, power development, and ground-water replenishment. At times, water diverted above station to headwaters of Rio Hondo. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Twenty-three discharge measurements and records of diversion to Rio Hondo furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	418	0	53	204	176			
2			0	0	458	0	53	176	176			
3			0	0	312	0	50	180	176			
4			0	0	213	0	47	180	176			
5			0	0	172	0	41	180	176			
6			20	0	116	0	36	180	176			
7			55	0	31	0	34	180	176			
8			72	0	0	0	34	172	176			
9			123	0	0	0	32	146	176			
10			123	0	0	0	32	138	176			
11			127	1.9	0	0	34	155	176			
12			120	33	0	0	34	163	176			
13			134	0	0	0	34	167	163			
14			199	0	0	90	34	167	146			
15			222	.80	0	176	32	155	12			
16			204	9.5	0	185	30	151	13			
17			194	14	0	277	28	146	20			
18			218	12	0	347	27	159	22			
19			222	9.5	0	334	27	167	10			
20			204	9.3	0	328	25	172	0			
21			180	0	0	381	25	172	0			
22			194	0	0	538	100	176	0			
23			194	22	0	597	213	176	0			
24			204	34	0	434	196	185	0			
25			208	197	0	123	142	185	0			
26			199	325	0	116	142	180	0			
27			199	396	0	108	189	176	0			
28			110	410	0	101	222	176	0			
29			.20	403		74	232	176	0			
30			0	403	-----	50	232	176	0			
31		-----	0	410	-----	55	-----	176	-----			-----
Total	0	0	3,725.20	2,690.00	1,720	4,314	2,410	5,292	2,498	0	0	0
Mean	0	0	120	86.8	61.4	139	80.3	171	80.6	0	0	0
Max	0	0	222	410	458	597	232	204	176	0	0	0
Min	0	0	0	0	0	0	25	138	0	0	0	0
Ac-ft	0	0	7,390	5,340	3,410	8,560	4,780	10,500	4,950	0	0	0
(+)	0	0.2	14,140	6,410	3,626	10,950	6,310	12,430	6,740	0	0	0
Cal yr 1966:	Total 24,943.20	Mean 68.3	Max 1,100	Min 0	Ac-ft 49,480	Ac-ft + 62,640						
Cal yr 1967:	Total 22,649.20	Mean 62.1	Max 597	Min 0	Ac-ft 44,930	Ac-ft + 60,610						

+ Combined discharge, in acre-feet, of river and diversion.

SAN GABRIEL RIVER BASIN

197

11-0863. SAN DIMAS CREEK BELOW SAN DIMAS DAM, CALIF.

LOCATION.--Lat 34°09'10", long 117°46'18", in SW¼SE¼ 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.--16.3 sq mi.

RECORDS AVAILABLE.--October 1951 to September 1967. Prior to October 1956 monthly discharge only, published in WSP 1735.

GAGE.--Graphic 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, 1,190 cfs Dec. 6 (gage height, 4.31 ft); no flow Nov. 19 to Dec. 2. 1951-67: Maximum discharge, that of Dec. 6, 1966; no flow for part of most years.

REMARKS.--Flow regulated by San Dimas flood-control reservoir (capacity, 729 acre-ft) and at times by old water tunnel 150 ft upstream. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	1.2	0	8.8	52	9.5	13	38	22	0.20	0.10	0.10
2	2.4	1.2	0	8.8	40	9.5	13	38	22	.20	.10	.10
3	2.4	1.2	.10	8.4	30	9.5	13	35	22	.20	.10	.10
4	2.4	1.3	1.0	8.4	30	9.5	13	30	22	.20	.10	.10
5	2.4	.70	2.0	8.1	29	9.5	13	30	22	29	.10	.10
6	2.4	.70	516	8.1	29	3.9	13	30	22	44	.10	.10
7	2.4	.70	383	7.7	22	.50	13	30	20	38	.10	.10
8	2.4	8.8	63	7.7	18	.50	14	30	16	29	.10	.10
9	2.4	7.6	57	7.0	18	.50	14	34	15	29	.10	.10
10	2.2	1.7	29	7.7	17	.50	14	44	13	29	.10	.10
11	2.2	1.5	22	7.7	17	.60	14	41	13	28	.10	.10
12	2.1	1.3	22	7.7	17	.80	14	31	13	28	.10	.10
13	1.9	1.1	22	7.7	17	2.4	14	11	14	28	.10	.10
14	2.1	.50	20	7.7	17	5.8	14	16	14	29	.10	.10
15	1.9	.10	20	7.7	17	5.8	14	38	12	29	.10	.10
16	1.9	.10	20	7.7	17	5.5	14	34	12	29	.10	.10
17	1.8	.10	14	9.3	15	5.5	13	43	12	29	.10	.10
18	1.8	.10	14	8.4	13	5.5	14	48	12	28	.10	.10
19	3.1	0	14	8.4	12	5.5	31	41	12	28	.10	.10
20	3.1	0	14	7.7	12	9.0	52	33	12	27	.10	.10
21	3.0	0	14	7.0	11	12	54	33	4.6	27	.10	.10
22	3.5	0	12	7.4	11	17	130	40	.20	27	.10	.10
23	3.3	0	10	8.1	11	28	114	37	.20	27	.10	.10
24	1.9	0	9.8	17	11	28	51	26	.20	25	.10	.10
25	3.3	0	9.8	59	11	28	15	22	.20	24	.10	.10
26	4.4	0	9.5	56	11	27	16	22	.20	24	.10	.10
27	1.3	0	9.1	50	9.8	25	37	22	.20	29	.10	.10
28	1.5	0	9.1	52	9.8	25	51	22	.20	32	.10	.10
29	1.4	0	9.0	52		25	55	22	.20	26	.10	6.2
30	1.3	0	8.8	52	- - - - -	18	38	22	.20	24	.10	8.4
31	1.2	- - - - -	8.8	54	- - - - -	13	- - - - -	22	- - - - -	16	.10	- - - - -
Total	71.8	29.90	1,343.00	575.2	524.6	345.80	888	965	328.40	762.80	3.10	17.40
Mean	2.32	0.997	43.3	18.6	18.7	11.2	29.6	31.1	10.9	24.6	0.100	0.580
Max	4.4	8.8	516	59	52	28	130	48	22	44	0.10	8.4
Min	1.2	0	0	7.0	9.8	0.50	13	11	0.20	0.20	0.10	0.10
Ac-ft	142	59	2,660	1,140	1,040	686	1,760	1,910	651	1,510	6.1	35

Cal yr 1966: Total 3,405.10 Mean 9.33 Max 516 Min 0 Ac-ft 6,750
Wtr yr 1967: Total 5,855.00 Mean 16.0 Max 516 Min 0 Ac-ft 11,670

SAN GABRIEL RIVER BASIN

11-0865. LITTLE DALTON CREEK NEAR GLENDORA, CALIF.

LOCATION.--Lat 34°10'03", long 117°50'15", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--2.72 sq mi.

RECORDS AVAILABLE.--December 1938 to September 1967. January 1929 to November 1938, at site 0.8 mile downstream; records not equivalent because diversion was not included.

GAGE.--Graphic 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.--29 years, 0.741 cfs (536 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 325 cfs Dec. 6 (gage height, 3.17 ft); no flow Oct. 1 to Nov. 5. 1938-67: Maximum discharge, 1,700 cfs Nov. 20, 1961 (gage height, 5.24 ft); 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 December 1938, diversion by Glendora Irrigating Company then in use. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.10	2.7	7.4	2.7	5.3	5.8	2.7	1.9	1.6	0.80
2		0	.60	2.7	6.8	2.7	4.6	5.3	2.5	1.7	.80	.80
3		0	22	2.6	6.0	2.9	4.1	4.8	2.9	1.7	.80	.70
4		0	4.2	2.5	6.0	2.9	4.6	4.8	3.3	1.7	.80	.70
5		0	26	2.5	5.8	2.7	4.6	4.8	3.3	1.7	.80	.70
6		.50	147	2.7	5.6	2.5	5.0	5.6	3.3	1.7	.80	.50
7		3.1	34	2.5	5.6	2.3	5.8	5.3	3.3	1.6	.80	.40
8		.80	26	2.5	5.3	2.2	4.8	4.8	3.1	1.6	.90	.30
9		.40	15	2.3	5.0	2.2	4.3	4.8	3.3	1.5	.90	.40
10		.20	11	2.3	5.0	2.2	3.9	4.8	3.1	1.3	.80	.40
11		.20	10	2.2	4.3	3.3	8.5	4.8	2.9	1.3	.80	.20
12		.10	8.0	2.2	4.1	6.4	4.6	4.8	2.9	1.3	.80	.20
13		.10	7.0	2.2	4.1	12	4.1	4.8	2.9	1.5	.80	.30
14		.10	6.0	2.2	4.3	7.8	4.1	4.8	2.5	1.3	.80	.10
15		.10	5.0	2.2	4.3	5.0	4.6	4.6	2.3	1.3	.70	.10
16		.10	4.7	2.2	3.9	4.1	4.3	4.6	2.3	1.2	.70	.10
17		.20	4.5	2.0	3.9	3.7	4.1	4.6	2.3	1.2	.60	.10
18		.10	4.5	2.0	3.9	3.9	6.8	4.6	2.3	1.2	.60	.20
19		.10	4.3	2.0	4.1	3.9	6.0	4.6	2.2	1.0	.60	.30
20		.20	4.1	2.0	3.9	3.5	5.8	4.3	2.2	1.2	.60	.30
21		.20	4.0	2.2	3.3	3.5	7.8	4.3	2.0	.80	.60	.30
22		.20	3.6	10	3.3	3.5	14	4.3	2.0	.90	.60	.40
23		.20	3.4	6.2	3.3	3.3	10	4.1	1.9	1.0	.60	.30
24		.20	3.2	25	3.3	3.1	9.7	3.7	1.9	1.2	.60	.30
25		.20	3.2	25	3.5	3.1	8.8	3.7	1.9	1.0	.60	.30
26		.20	3.2	11	3.3	3.1	8.0	3.5	1.9	1.2	.60	.50
27		.10	3.0	8.5	2.9	2.9	7.7	3.3	1.9	1.2	.60	.60
28		.10	3.0	8.0	2.7	2.9	7.7	3.3	1.7	1.3	.50	.60
29		.10	2.9	8.0		2.9	7.1	3.3	1.9	1.5	.50	.60
30		.10	2.8	7.7	- - - - -	2.7	6.6	2.9	1.9	1.5	.40	.60
31		- - - - -	2.7	7.4	- - - - -	3.7	- - - - -	3.5	- - - - -	1.6	.30	- - - - -
Total	0	7.90	379.00	155.5	124.9	113.6	187.3	137.2	74.6	42.10	21.90	12.10
Mean	0	0.263	12.2	5.34	4.46	3.66	6.24	4.43	2.49	1.36	0.706	0.403
Max	0	3.1	147	25	7.4	12	14	5.8	3.3	1.9	1.6	0.80
Min	0	0	0.10	2.0	2.7	2.2	3.9	2.9	1.7	0.80	0.30	0.10
Ac-ft	0	16	752	328	248	225	372	272	148	84	43	24

Cal yr 1966: Total 725.40 Mean 1.99 Max 147 Min 0 Ac-ft 1,440
 Wtr yr 1967: Total 1,266.10 Mean 3.47 Max 147 Min 0 Ac-ft 2,510

SAN GABRIEL RIVER BASIN

199

11-0869.9. SAN JOSE CREEK NEAR EL MONTE, CALIF.

LOCATION.--Lat 34°01'55", long 118°00'40", in El Monte Grant, on right bank of San Jose flood channel, 1,650 ft upstream from Workman Mill Road bridge, and 2.7 miles southeast of El Monte, Los Angeles County.

DRAINAGE AREA.--87.8 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 248.52 ft above mean sea level (levels by Los Angeles County Flood Control District).

EXTREMES.--Maximum discharge during year, 10,200 cfs Jan. 24 (gage height, 6.80 ft, from outside gage); minimum daily, 2.8 cfs Oct. 9.

1964-67: Maximum discharge, that of Jan. 24, 1967; no flow for some days in some years.

REMARKS.--No regulation above station. One small diversion for ground-water recharge. At times effluent from city of Pomona's sewage reclamation plant is released to creek above Spadra and at Lemon Street. The 200 cfs bypass from San Jose flood channel to the original San Jose Creek channel has been closed since Oct. 1, 1964. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	4.6	12	8.7	14	13	172	10	12	9.3	8.5	16
2	5.2	7.1	37	8.7	14	14	46	12	12	10	8.5	14
3	5.2	7.1	824	8.7	15	12	8.5	11	11	9.3	8.9	13
4	5.2	8.3	14	9.1	12	23	27	10	11	8.9	8.9	12
5	5.8	8.3	1.310	10	12	12	12	10	10	9.3	9.3	12
6	5.2	8.3	1.270	11	12	11	10	9.3	10	10	8.9	12
7	4.1	593	120	11	12	11	118	8.9	9.3	10	9.3	12
8	4.1	95	18	11	12	12	13	11	10	9.3	10	12
9	2.8	14	14	11	12	12	10	13	10	8.9	9.3	11
10	11	14	20	10	12	13	11	16	11	9.3	8.9	11
11	8.3	13	27	10	11	58	199	10	10	8.9	9.3	12
12	7.1	13	20	10	11	50	12	9.3	12	8.5	8.9	12
13	5.8	14	9.1	11	11	161	11	9.3	13	8.5	10	12
14	5.2	15	9.1	12	12	44	10	8.5	11	8.5	10	11
15	3.7	14	9.1	10	11	11	10	8.9	9.3	8.5	9.3	10
16	5.8	14	9.1	8.7	12	11	10	8.9	10	8.5	9.3	11
17	4.6	16	9.1	11	12	10	10	10	10	8.5	9.3	11
18	3.7	14	7.8	9.6	12	11	138	8.9	10	8.1	8.9	12
19	3.2	14	6.6	9.1	12	10	122	8.9	9.3	8.5	9.3	12
20	2.8	14	8.3	10	12	9.3	17	8.9	9.3	8.5	8.9	12
21	3.2	14	9.1	10	12	10	274	8.9	10	8.9	10	12
22	3.2	14	9.1	772	9.3	10	256	8.9	9.3	8.9	11	11
23	4.1	19	9.6	350	11	10	17	9.3	10	8.5	11	11
24	4.1	8.3	8.7	2,290	8.5	9.3	58	9.3	9.3	8.5	11	12
25	4.6	8.9	8.3	158	11	10	12	9.3	8.9	8.9	11	12
26	4.1	8.9	14	25	12	10	12	10	9.3	9.3	11	11
27	4.1	9.6	9.6	18	12	11	11	10	9.3	8.9	11	12
28	4.6	12	9.6	20	12	10	18	11	10	8.1	12	18
29	4.6	13	9.1	18		11	15	12	9.3	8.1	12	12
30	5.2	12	9.1	22	- - - - -	12	10	12	9.3	8.1	11	12
31	5.8	- - - - -	9.6	27	- - - - -	114	- - - - -	13	- - - - -	8.5	13	- - - - -
Total	151.0	1,020.4	3,850.0	3,920.6	330.8	725.6	1,659.5	316.5	304.9	274.0	307.7	363
Mean	4.87	34.0	125	126	11.8	23.4	55.3	10.2	10.2	8.84	9.93	12.1
Max	11	593	1,310	2,290	15	161	274	16	13	10	13	18
Min	2.8	4.6	6.6	8.7	8.5	9.3	8.5	8.5	8.9	8.1	8.5	10
Ac-ft	300	2,020	7,660	7,780	656	1,440	3,290	628	605	543	610	720

Cal yr 1966: Total 7,054.30 Mean 19.3 Max 1,310 Min 0 Ac-ft 13,990
Wtr yr 1967: Total 13,234.0 Mean 36.3 Max 2,290 Min 2.8 Ac-ft 26,250

SAN GABRIEL RIVER BASIN

11-0870.2. SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CALIF.

LOCATION.--Lat 34°02'00", long 118°02'14", in La Puente Grant, on downstream side of bridge near center, on San Gabriel River Parkway, 0.8 mile downstream from San Jose Flood channel, 1.75 miles upstream from axis of Whittier Narrows Dam, and 1.8 miles south of El Monte, Los Angeles County.

DRAINAGE AREA.--353 sq mi.

RECORDS AVAILABLE.--October 1955 to September 1957, October 1963 to September 1967.

GAGE --Graphic water-stage recorder. Altitude of gage is 220 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 17,300 cfs Jan. 24 (gage height, 8.25 ft), from rating curve extended above 7,100 cfs on basis of flood-routing study; minimum daily, 0.80 cfs Oct. 27.
1955-57, 1963-67: Maximum discharge, that of Jan. 24, 1967; no flow for part of most years.

REMARKS.--Records good. Flow regulated by San Gabriel, Cogswell, and Santa Fe flood-control reservoirs (combined capacity, 90,670 acre-ft), several small flood-control reservoirs (combined capacity, 19,100 acre-ft), and Morris Reservoir (capacity, 35,000 acre-ft). Many diversions above station for irrigation, power development, and ground-water replenishment. Colorado River water released to the San Gabriel River at a site 4.2 miles upstream from gage and 460 ft downstream from San Bernardino Road for ground-water replenishment. Los Angeles County Flood Control District diverted 15,680 acre-ft of water from San Gabriel River below Santa Fe Dam to Rio Hondo during year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of Colorado River water released to river and diversion from San Gabriel River below Santa Fe Dam to Rio Hondo furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	157	135	97	13	123	90	233	93	11	8.0	8.0	101
2	157	122	134	14	134	90	100	93	7.0	8.0	7.0	14
3	157	135	1,690	12	151	93	16	93	7.0	8.0	7.0	9.0
4	162	135	25	16	141	110	144	93	7.0	8.0	8.0	9.0
5	168	131	2,730	12	154	101	50	110	7.0	8.0	8.0	9.0
6	168	102	2,530	9.0	79	74	152	135	7.0	8.0	7.0	8.0
7	168	1,270	358	9.0	20	9.0	214	162	7.0	8.0	9.0	7.0
8	162	117	97	8.0	35	10	45	120	7.0	9.0	10	7.0
9	162	10	140	8.0	78	10	127	78	7.0	8.0	9.0	6.0
10	190	6.0	122	9.0	70	10	131	81	8.0	7.0	8.0	6.0
11	174	26	131	11	73	102	363	59	8.0	7.0	7.0	6.0
12	162	114	152	11	74	79	26	51	8.0	6.0	6.0	7.0
13	157	118	104	17	74	278	131	51	11	6.0	7.0	7.0
14	131	122	97	54	75	79	152	51	11	6.0	9.0	7.0
15	131	122	110	59	75	14	127	39	8.0	7.0	8.0	6.0
16	135	127	114	62	80	12	127	13	7.0	7.0	8.0	6.0
17	135	118	122	65	80	12	135	12	6.0	7.0	9.0	6.0
18	146	118	122	74	78	11	294	11	6.0	6.0	8.0	7.0
19	146	122	127	78	78	11	185	10	6.0	6.0	8.0	7.0
20	146	95	114	78	76	11	33	10	7.0	7.0	7.0	6.0
21	146	29	114	67	78	11	385	9.0	7.0	8.0	7.0	6.0
22	146	106	85	1,290	77	10	474	9.0	7.0	8.0	8.0	6.0
23	146	118	74	803	80	44	24	9.0	7.0	8.0	7.0	7.0
24	74	114	57	3,590	72	93	125	9.0	7.0	8.0	8.0	7.0
25	2.7	106	62	231	20	13	22	9.0	7.0	9.0	8.0	7.0
26	1.3	97	78	40	11	10	31	9.0	7.0	11	8.0	8.0
27	.80	97	46	33	12	10	72	9.0	8.0	10	8.0	13
28	47	97	47	84	90	63	148	9.0	10	7.0	8.0	15
29	146	93	40	84		46	66	10	10	8.0	8.0	14
30	140	97	38	57	-----	131	90	13	8.0	8.0	6.0	14
31	131	-----	12	51	-----	210	-----	16	-----	7.0	7.0	-----
Total	4,094.80	4,199.0	9,769	6,949.0	2,188	1,847.0	4,222	1,476.0	231.0	237.0	241.0	338.0
Mean	132	140	315	224	42.4	59.6	141	47.6	7.70	7.65	7.77	11.3
Max	190	1,270	2,730	3,590	154	278	474	162	11	11	10	101
Min	0.80	6.0	12	8.0	11	9.0	16	9.0	6.0	6.0	6.0	6.0
Ac-ft	3,120	3,330	19,380	13,780	4,340	3,660	3,370	2,930	458	470	478	670
(†)	10,360	7,700	464	6,770	9,670	4,480	9,740	7,050	1,360	0	3,480	6,530

Cal yr 1966: Total 50,497.50 Mean 138 Max 2,730 Min 0.80 Ac-ft 100,200 Ac-ft † 71,880
Wtr yr 1967: Total 35,791.80 Mean 98.1 Max 3,590 Min 0.80 Ac-ft 70,990 Ac-ft † 66,600

† Colorado River water, in acre-ft, released to San Gabriel River at site 4.2 miles upstream.

11-0871. RIO HONDO FLOOD-FLOW CHANNEL AT WHITTIER NARROWS DAM, CALIF.

LOCATION.--Lat 34°01'27", long 118°04'10", in La Merced Grant, on upstream side of left abutment of Rosemead Boulevard bridge, 1,100 ft north of axis of Whittier Narrows Dam, 2.2 miles northeast of Montebello, Los Angeles County.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 196.90 ft above mean sea level (Corps of Engineers bench mark).

EXTREMES.--1965-66: Maximum discharge, 11,100 cfs Nov. 23 (elevation, 203.54 ft); no flow most of year.
1966-67: Maximum discharge, 16,500 cfs Jan. 24 (elevation, 204.35 ft, from outside staff); no flow most of year.

REMARKS.--Records good in 1966 and poor in 1967. Flow regulated by operation of gates on San Gabriel River side of dam. Flow reported herein is San Gabriel water passed to the Rio Hondo. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Twenty-five discharge measurements furnished by Los Angeles County Flood Control District; one furnished by Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEARS OCTOBER 1965 TO SEPTEMBER 1967

Nov. 14, 1965..	0.10	Dec. 4, 1965..	96	Jan. 1, 1966..	1,080	Jan. 18, 1966..	175
15.....	.10	5.....	88	2.....	809	19.....	192
16.....	237	6.....	95	3.....	627	20.....	185
17.....	444	7.....	172	4.....	713	21.....	168
18.....	132	8.....	175	5.....	757	22.....	96
22.....	1,810	9.....	230	6.....	682	23.....	93
23.....	5,650	10.....	293	7.....	497	24.....	96
24.....	7,160	11.....	1.3	8.....	136	25.....	190
25.....	2,810	12.....	125	9.....	45	26.....	169
26.....	1,470	13.....	55	10.....	41	27.....	6.7
27.....	88	14.....	60	11.....	98	28.....	.30
28.....	87	15.....	20	12.....	84	Sept. 1....	5.8
29.....	78	16.....	28	13.....	59	2.....	.90
30.....	71	17.....	2.8	14.....	136	Dec. 5.....	70
Dec. 1.....	44	29.....	2,340	15.....	136	6.....	148
2.....	27	30.....	608	16.....	168	Jan. 24, 1967..	2,650
3.....	33	31.....	1,340	17.....	180	25.....	23

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1965.....	20,037.20	7,160	0	668	39,740
December.....	5,833.1	2,340	0	188	11,570
January 1966.....	7,619.00	1,080	0	246	15,110
September.....	6.70	5.8	0	.223	13
Calendar year 1965.....	-	-	-	-	-
Water year 1965-66.....	-	7,160	0	91.8	66,440
December 1966.....	218	148	0	7.03	432
January 1967.....	2,673	2,650	0	86.2	5,300
Calendar year 1966.....	-	1,080	0	21.5	15,560
Water year 1966-67.....	-	2,650	0	7.92	5,730

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

SAN GABRIEL RIVER BASIN

11-0875 SAN GABRIEL RIVER AT PICO, CALIF.

LOCATION.--Lat 34°00'23", 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.--448 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967. Since 1954, Colorado River water released to San Gabriel River above station. Records since 1954 not equivalent.

GAGE.--Graphic water-stage recorder. Datum of gage is 172.50 ft above mean sea level. 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, 5,680 cfs Jan. 23 (gage height, 9.58 ft); minimum daily, 0.30 cfs Oct. 27.

1928-67: Maximum discharge, 22,700 cfs Mar. 2, 1938; no flow for periods in most years.

REMARKS.--Flow regulated by Cogswell Reservoir since 1934 and San Gabriel flood-control reservoir since 1939 (combined capacity, 53,870 acre-ft), Morris Reservoir since 1934 (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir since October 1942 (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir since January 1956 (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Diversions for irrigation, power development, and ground-water replenishment. For Colorado River water released to San Gabriel River at site 6.7 miles upstream for ground-water replenishment in the San Gabriel River (see sta. no. 0870.2). During the year, 15,740 acre-ft was diverted from the San Gabriel River below Santa Fe Dam and 5,730 acre-ft was diverted from above Whittier Narrows Dam to Rio Hondo. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	119	78	30	125	78	229	112	13	5.8	4.0	15
2	84	90	120	30	116	87	152	112	12	5.9	4.0	25
3	139	116	1,640	27	119	90	8.8	99	12	5.9	4.0	11
4	143	109	28	30	129	108	120	96	12	6.0	4.2	12
5	141	106	2,270	24	139	90	44	111	11	6.0	4.4	12
6	112	93	2,240	10	95	79	132	184	11	6.1	4.6	9.0
7	125	1,430	522	9.9	26	30	293	205	11	6.1	4.8	8.4
8	119	151	94	9.7	41	28	41	144	10	6.2	5.0	8.4
9	129	4.1	141	9.5	99	27	119	45	11	6.2	5.2	8.4
10	157	12	106	9.3	84	20	122	58	12	6.3	5.4	8.4
11	139	31	106	9.1	56	87	452	54	13	6.4	5.3	8.4
12	129	129	154	8.8	58	56	23	44	14	6.4	5.2	8.4
13	112	146	96	22	54	304	128	36	15	6.5	5.1	8.4
14	93	143	80	59	56	112	154	26	16	6.2	5.0	8.4
15	96	143	82	78	75	12	122	28	16	5.9	4.8	8.4
16	109	146	109	75	87	9.3	146	17	15	5.6	4.7	8.4
17	99	122	122	75	90	13	150	13	14	5.3	4.5	8.4
18	112	102	116	78	93	23	375	9.3	13	5.0	4.4	8.4
19	112	112	116	81	87	24	336	9.3	12	4.7	4.3	8.4
20	116	92	90	90	84	24	38	9.3	11	4.4	4.1	8.4
21	122	11	88	54	87	24	354	9.2	9.0	4.4	4.0	8.4
22	112	96	80	1,250	93	23	489	9.1	8.0	4.3	3.9	8.4
23	116	109	84	821	99	49	26	9.0	7.7	4.2	3.8	8.4
24	76	96	57	472	87	112	131	8.9	7.4	4.1	3.7	8.4
25	1.2	93	52	472	15	22	18	8.8	7.0	4.0	3.7	8.4
26	.50	72	78	45	7.6	9.3	28	8.8	6.7	3.9	3.6	8.4
27	.30	58	47	32	7.1	3.6	63	8.8	6.4	3.9	3.5	8.4
28	24	75	31	75	53	49	140	9.3	6.0	3.9	3.5	8.4
29	119	72	42	81	20	75	75	9.3	5.7	3.9	3.4	8.4
30	122	75	44	58	-----	109	93	11	5.7	3.9	3.3	8.4
31	109	-----	30	52	-----	230	-----	13	-----	4.0	3.3	-----
Total	3,152.00	4,163.1	3,953	4,187.3	2,201.7	1,952.2	4,611.8	1,537.1	323.6	151.4	132.7	285.6
Mean	102	139	289	135	78.6	63.0	154	49.6	10.8	5.21	4.28	9.52
Max	157	1,430	2,270	1,250	139	304	489	205	16	6.5	5.4	25
Min	0.30	4.1	28	8.8	7.1	3.6	8.8	8.8	5.7	3.9	3.3	8.4
Ac-ft	6,250	3,250	17,760	3,310	4,370	3,870	9,150	3,050	642	320	253	556
Cal yr 1966: Total	37,329.10		Mean 102	Max 2,270	Min 0		Ac-ft 74,040					
Wtr yr 1967: Total	31,661.50		Mean 86.7	Max 2,270	Min 0		Ac-ft 62,800					

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LOCATION.--Lat 33°48'43", long 118°05'24", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.24, T.4 S., R.12 W., on right levee, 455 ft upstream from Spring Street bridge, 1.3 miles upstream from Coyote Creek, and 1.3 miles northwest of Los Alamitos.

RECORDS AVAILABLE.--October 1927 to September 1951, October 1952 to September 1967. Monthly discharge only for October 1927 to September 1936, published in WSP 1315-B.

AVERAGE DISCHARGE.--39 years, 22.2 cfs (16,070 acre-ft per year); median of yearly mean discharges, 3.2 cfs (2,300 acre-ft per year).

REMARKS.--Flow regulated by San Gabriel flood-control reservoir since 1939 and Cogswell flood-control reservoir since 1934 (combined capacity, 53,870 acre-ft), Morris Reservoir since 1934 (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir since October 1942 (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir since January 1956 (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Many diversions 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 reported 15,740 acre-ft from San Gabriel River below Santa Fe Dam and 5,730 acre-ft from above Whittier Narrows Dam was diverted to Rio Hondo during year. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.20	0	0	0.30	0	121	0	0	1.2	0.50	2.4
2	.10	0	10	0	.10	0	185	0	0	1.2	.50	1.8
3	0	.20	1,950	0	.20	0	.30	0	0	.50	.50	.20
4	0	0	25	0	.20	3.6	0	0	0	1.2	1.2	.50
5	0	0	1,960	0	.10	.20	.10	0	0	1.2	1.2	1.6
6	0	.20	1,860	0	.10	0	0	0	0	.30	1.2	1.8
7	0	1,190	616	0	0	0	73	0	0	.30	.50	2.0
8	0	210	42	0	0	0	2.1	0	.50	.50	1.2	1.8
9	0	.10	31	0	0	0	0	0	1.4	.50	.50	1.6
10	0	1.0	.50	0	0	0	0	1.8	1.4	.50	1.2	1.6
11	0	0	0	0	0	7.9	310	0	1.4	.50	1.2	1.4
12	0	0	0	0	0	7.8	.68	0	2.5	.50	1.4	1.6
13	0	0	0	0	0	182	0	0	.50	1.4	1.4	1.8
14	0	0	0	0	0	154	0	0	0	1.2	1.4	.30
15	0	0	0	0	0	.20	0	0	.20	1.2	1.4	1.2
16	0	0	0	.10	0	0	0	0	.20	.50	1.2	.50
17	0	0	0	.10	0	0	0	0	.20	1.2	1.2	.20
18	0	0	0	.10	.10	0	143	0	.30	1.2	1.2	.30
19	0	0	0	.10	.10	0	196	0	.20	1.2	1.4	.30
20	.20	3.8	0	.10	0	0	20	0	1.2	1.2	1.4	.20
21	0	1.8	0	.10	0	0	163	0	1.6	.50	.50	.10
22	0	0	0	1,090	0	0	565	0	1.4	1.2	.30	.20
23	0	.20	0	872	.10	0	2.0	1.2	1.2	1.6	.20	.20
24	.10	0	0	662	0	0	47	.20	1.2	1.2	.20	.30
25	.20	0	0	466	0	0	2.0	0	1.4	1.2	.10	.20
26	.20	0	0	5.7	0	0	0	0	.50	.50	.20	.10
27	.20	0	0	0	0	0	0	0	1.2	.30	.20	.30
28	.30	0	0	0	0	0	5.9	0	1.2	.30	.20	.36
29	.20	0	0	0	0	0	11	0	1.2	.30	.20	2.5
30	.10	0	0	1.8	-----	0	.20	0	1.2	.30	.20	1.4
31	.20	-----	0	8.1	-----	157	-----	0	-----	.50	.30	-----
Total	1.90	1,407.5	6,494.50	3,106.20	1.30	522.70	1,853.40	3.20	22.10	25.40	24.30	64.4
Mean	0.061	46.9	210	100	0.046	16.9	61.8	0.103	0.737	0.819	0.784	2.15
Max	0.30	1,190	1,950	1,090	0.30	182	565	1.8	2.5	1.6	1.4	.36
Min	0	0	0	0	0	0	0	0	0	0.30	0.10	0.10
Ac-ft	3.8	2,790	12,880	6,160	2.6	1,040	3,680	6.3	44	50	48	128
Cal yr 1966: Total	9,306.70		Mean 25.5	Max 1,960	Min 0	Ac-ft 13,450						
Wtr yr 1967: Total	13,526.90		Mean 37.1	Max 1,960	Min 0	Ac-ft 26,830						

SAN GABRIEL RIVER BASIN

11-0885. BREA CREEK BELOW DAM, NEAR FULLERTON, CALIF.

LOCATION.--Lat 33°53'16", long 117°55'32", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--21.6 sq mi.

RECORDS AVAILABLE.--January 1942 to September 1967.

GAGE.--Graphic water-stage recorder and V-notch sharp-crested weir since October 1946. Datum of gage is 196.67 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 4, 1964, at datum 1.03 ft higher.

AVERAGE DISCHARGE.--25 years, 0.767 cfs (555 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 406 cfs Dec. 3 (gage height, 4.78 ft); no flow for many days.

1942-67: Maximum discharge, 655 cfs Feb. 29, 1944 (gage height, 6.13 ft, present datum); no flow for parts of most years.

REMARKS.--Records fair. Flow regulated by Brea flood-control reservoir (capacity, 4,100 acre-ft). No diversion above station. Since August 1966, low flow mostly the result of irrigation waste water from golf course 0.75 mile upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	0.10	0	0.10	0.10	4.6	0.10	0.20	0	0.10	.10
2	.10	.10	3.9	0	.20	.10	6.2	.10	.20	0	.10	.10
3	.10	.10	155	0	.10	0	.50	.10	.20	0	.10	.20
4	.10	.10	1.2	0	.10	.30	.60	.10	.20	0	.10	.10
5	.10	.10	190	.20	.10	0	.30	.10	.20	0	.10	.20
6	.10	.10	152	.20	0	0	.10	.10	.10	0	.10	.10
7	.10	73	24	.10	.10	.10	.10	.10	.20	.10	.10	.20
8	.20	1.4	1.3	.10	0	.10	.10	.20	.20	.10	.20	.20
9	.10	.10	.50	.10	.10	.10	.10	.20	.20	.10	.20	.10
10	.10	0	.20	.10	.10	.10	.10	.20	.20	.10	.10	.20
11	.10	0	0	0	0	3.0	22	.10	.20	.10	.20	.20
12	0	0	0	.10	.10	.80	1.2	.20	.20	.10	.10	.20
13	.10	0	0	0	0	5.0	.30	.20	.10	.10	.10	.20
14	.10	0	0	0	.20	5.4	.20	.20	.20	.10	1.1	.20
15	.10	.10	0	.10	0	1.2	.10	.20	.20	.10	.10	.20
16	.10	.10	0	0	0	.70	0	.20	.20	.10	.10	.20
17	.10	.10	.10	0	.10	.50	0	.20	.20	.10	.10	.20
18	.10	.10	.10	0	.10	.40	.20	.20	.20	.10	.10	.20
19	.10	.10	.20	0	.10	.40	7.1	.20	.20	.10	.10	.20
20	.10	.20	.20	.10	.10	.30	12	.20	.20	.10	.10	.20
21	.10	.10	0	.10	.10	.30	1.9	.20	.10	.10	.10	.30
22	.10	.10	0	55	.10	.20	6.3	.20	.10	.10	.10	.30
23	.10	.10	0	54	.10	.20	1.2	.20	.10	.10	.10	.20
24	.10	.20	0	152	.10	.10	1.5	.30	.10	.10	.20	.20
25	.10	.10	0	172	0	.10	.90	.20	.10	.10	.10	.30
26	.10	.10	0	2.0	0	.10	.20	.20	.10	.10	.10	.30
27	.10	.10	0	1.3	0	.10	.10	.20	.10	.10	.20	.20
28	.10	.10	0	.80	.10	.10	.20	.20	.10	.10	.10	7.0
29	.10	.10	0	.30		.10	.40	.20	.10	.10	.20	.10
30	.10	.10	0	.40	-----	.10	.20	.20	.10	.10	.20	.10
31	.10	-----	0	1.2	-----	2.0	-----	.20	-----	.10	.20	-----
Total	3.10	76.90	528.80	440.20	2.10	22.00	58.70	5.50	4.80	2.50	4.90	12.50
Mean	0.100	2.56	17.1	14.2	0.075	0.710	2.29	0.177	0.160	0.081	0.158	0.417
Max	0.20	73	190	172	0.20	5.4	22	0.30	0.20	0.10	1.1	7.0
Min	0	0	0	0	0	0	0	0.10	0.10	0	0.10	0.10
Ac-ft	6.1	153	1,050	873	4.2	44	136	11	9.5	5.0	9.7	25

Cal yr 1966: Total 692.90 Mean 1.90 Max 190 Min 0 Ac-ft 1,370
 Wtr yr 1967: Total 1,172.00 Mean 3.21 Max 190 Min 0 Ac-ft 2,320

SAN GABRIEL RIVER BASIN

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11-0890. BREA CREEK AT FULLERTON, CALIF.

LOCATION.--Lat 33°52'25", long 117°55'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.3 S., R.10 W., between Malden Avenue and Spadra Road at Fullerton.

DRAINAGE AREA.--23.6 sq mi.

RECORDS AVAILABLE.--October 1930 to September 1967.

GAGE.--Graphic 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.--37 years, 1.16 cfs (840 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 413 cfs Nov. 7 (gage height, 1.42 ft); no flow for some days. 1930-67: 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 since January 1942 (capacity, 4,100 acre-ft). No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.60	0.90	0.60	0.60	0.30	0.60	28	0	0.90	1.6	0.90	0.90
2	.60	.90	6.1	.90	.60	.60	7.1	.20	1.2	1.6	.90	.40
3	.80	.90	125	.60	.30	.60	1.6	.30	1.2	1.5	1.0	.60
4	.90	.60	1.4	.60	.20	.60	.90	.30	1.2	.90	.90	.60
5	.90	.60	158	.90	0	.60	1.6	.50	1.2	1.9	.90	.60
6	1.2	.60	128	1.6	0	.60	.30	.60	1.2	.60	.90	.60
7	.90	78	20	.60	0	.60	0	.90	1.2	.90	.90	.60
8	.90	3.2	0	.60	0	.60	.10	1.2	1.2	.90	1.0	.60
9	.90	.90	0	.60	0	.60	0	1.2	1.2	.90	.90	.60
10	.90	.90	0	.70	0	.60	0	1.0	1.2	.90	.90	.60
11	.90	.90	0	.70	0	7.5	24	.60	1.2	.60	.90	.60
12	.20	.90	0	.60	0	15	2.2	.60	1.4	.60	.90	.60
13	.20	.90	0	.60	.90	26	.90	.60	.90	1.2	.90	1.2
14	.20	.60	.30	.60	.60	7.7	.20	.60	.90	1.2	2.4	.70
15	.30	.30	.30	.60	.60	1.7	0	.90	1.2	1.2	2.5	.70
16	.60	.30	.30	.60	.60	0	0	1.2	1.2	.90	2.2	.60
17	.60	.60	.50	.60	.60	0	0	1.2	1.2	1.2	1.9	.60
18	.60	.30	.60	.60	.60	0	14	1.2	1.2	1.2	1.6	.90
19	.90	.40	.80	.60	.60	0	22	1.2	1.2	1.6	1.3	.60
20	.80	.90	1.1	.60	.60	0	6.0	1.2	1.2	1.6	1.1	.60
21	.60	.50	.60	.80	.60	0	8.9	1.2	1.2	1.6	1.5	.70
22	.60	.50	.60	74	.60	.20	13	.90	1.2	1.6	.90	.30
23	.60	.50	.60	47	.90	.20	1.6	.90	1.2	1.2	.90	.30
24	.60	.40	.60	134	.60	.10	8.2	1.0	1.2	.90	.90	.30
25	.60	.60	.90	103	.60	.10	1.6	1.0	1.2	.90	1.0	.60
26	.60	.30	1.6	3.4	.60	.20	.60	1.0	1.2	1.2	.90	.70
27	.60	.30	1.2	2.2	.60	.30	.30	1.0	1.2	1.2	.90	.60
28	.60	.50	.60	1.2	.60	.30	.60	1.0	1.2	1.2	.70	9.8
29	.60	.60	.60	.80	.60	.60	.60	1.0	1.2	1.2	.90	.60
30	.60	.60	.60	1.5	-----	.10	0	1.2	1.2	.90	.90	.60
31	.80	-----	.60	2.9	-----	17	-----	.90	-----	.90	.70	-----
Total	20.70	98.40	451.50	384.60	11.60	83.00	144.30	26.60	35.30	35.80	35.10	27.70
Mean	0.668	3.28	14.6	12.4	0.414	2.68	4.81	0.858	1.18	1.15	1.13	0.923
Max	1.2	78	158	134	0.90	26	28	1.2	1.4	1.9	2.5	9.8
Min	0.20	0.30	0	0.60	0	0	0	0	0.90	0.60	0.70	0.30
Ac-ft	41	195	896	763	23	165	286	53	70	71	70	55
Cal yr 1966: Total	656.90		Mean	1.83	Max	158	Min	0	Ac-ft 1,320			
Wtr yr 1967: Total	1,354.60		Mean	3.71	Max	158	Min	0	Ac-ft 2,690			

SAN GABRIEL RIVER BASIN

11-0895. FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CALIF.

LOCATION.--Lat 33°53'45", long 117°53'07", in NE¼NW¼SW¼ 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.--4.94 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967.

GAGE.--Graphic 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 (135 acre-ft per year); median of yearly discharges, 0.02 cfs (14 acre-ft per year); 13 years (1954-67), 0.426 cfs (308 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 128 cfs Jan 24 (gage height, 2.49 ft); no flow for most of year. 1941-67: Maximum discharge, 298 cfs Mar. 16, 1943 (gage height, 3.80 ft); no flow at times each year.

REMARKS.--Records good. Flow regulated by Fullerton flood-control reservoir (capacity 706 acre-ft). Small tributary formerly entering below station diverted into reservoir since December 1954. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0.10	0	5.0					
2		0	.10	0	.10	0	2.6					
3		0	19	0	.10	0	0					
4		0	5.8	0	0	0	0					
5		0	20	0	0	0	0					
6		0	25	0	0	0	0					
7		4.8	24	0	0	0	0					
8		0	21	0	0	0	0					
9		0	4.2	0	0	0	0					
10		0	0	0	0	0	0					
11		0	0	0	0	0	2.4					
12		0	0	0	0	.30	0					
13		0	0	0	0	1.4	0					
14		0	0	0	0	.40	0					
15		0	0	0	0	0	0					
16		0	0	0	0	0	0					
17		0	0	0	0	0	0					
18		0	0	0	0	0	.60					
19		0	0	0	0	0	2.6					
20		0	0	0	0	0	.10					
21		0	0	0	0	0	.10					
22		0	0	7.5	0	0	1.7					
23		0	0	12	0	0	0					
24		0	0	30	0	0	.50					
25		0	0	57	0	0	0					
26		0	0	3.8	0	0	0					
27		0	0	0	0	0	0					
28		0	0	0	0	0	0					
29		0	0	0	0	0	0					
30		0	0	0	0	0	0					
31		-----	0	.20	-----	1.3	-----		-----			-----
Total	0	4.8	119.10	110.50	0.30	3.40	15.60	0	0	0	0	0
Mean	0	0.150	3.84	3.56	0.011	0.110	0.520	0	0	0	0	0
Max	0	4.8	25	57	0.10	1.4	5.0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	9.5	236	219	0.6	6.7	31	0	0	0	0	0

Cal yr 1966 : Total 134.90 Mean 0.370 Max 25 Min 0 Ac-ft 268
Wtr yr 1967 : Total 253.70 Mean 0.695 Max 57 Min 0 Ac-ft 503

SAN GABRIEL RIVER BASIN

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11-0902. FULLERTON CREEK AT RICHMAN AVENUE, AT FULLERTON, CALIF.

LOCATION.--Lat 33°51'45", long 117°55'55", in NW¼SW¼SE¼ sec.33, T.3 S., R.10 W., on right bank 125 ft east of Richman Avenue, in Fullerton.

DRAINAGE AREA.--12.1 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 126.4 ft above mean sea level (levels by Orange County Flood Control District).

AVERAGE DISCHARGE.--8 years, 1.13 cfs (818 acre-ft per year).

EXTREMES.--Maximum discharge during year, 719 cfs Nov. 7 (gage height, 4.71 ft); no flow for many days. 1959-67: Maximum discharge, that of Nov. 7, 1966; no flow for many days in each year.

REMARKS.--Flow regulated by Fullerton flood-control reservoir (capacity, 706 acre-ft). No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records furnished by Orange County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	0.10	0.40	0	0.10	23	0	0	0.10	0.10	0.20
2	.10	.10	3.0	.20	0	.10	3.4	0	.10	.10	.10	.20
3	.10	.10	150	.20	0	0	.10	0	.10	.10	.10	.20
4	.10	.10	.20	.20	0	5.1	.40	.10	.10	.10	.10	.20
5	.10	.10	180	.10	0	0	.10	.10	.10	.10	.10	.20
6	.10	.10	110	.10	0	0	0	0	.20	.10	.10	.20
7	.10	87	40	.20	.10	.10	.20	.10	.40	.10	.10	.20
8	.10	3	14	.20	.10	0	0	.10	.10	.10	.10	.10
9	.10	.10	4.2	.20	.10	0	0	.10	0	.10	.20	.10
10	.10	.10	0	.20	0	0	0	0	.10	.10	.20	.10
11	.10	.10	0	.10	.10	2.6	15	0	.10	.10	.20	.10
12	.10	.10	0	.20	.10	5.7	.10	0	.10	.10	.20	.20
13	.10	.10	.10	.10	.10	7.9	0	.10	.10	.10	.20	.20
14	0	.10	0	.10	0	1.9	0	.10	.10	.10	.20	.20
15	0	.10	0	.10	0	0	0	.10	0	.10	.20	.20
16	0	.10	.10	.10	.10	0	0	.10	.20	.10	.20	.20
17	.10	.10	.10	.10	.10	0	0	.10	.10	.10	.20	.20
18	.10	.10	.10	.10	.10	0	15	.10	.10	.10	.20	.10
19	.10	.10	.10	.10	.10	0	17	.10	.10	.10	.20	.10
20	.10	.10	.20	.20	0	0	.90	.10	.40	.20	.20	0
21	.10	.10	.10	.10	.10	0	2.6	0	.40	.20	.20	.10
22	.10	.10	.10	.10	.10	0	7.4	.10	.40	.20	.20	.10
23	.10	.10	.50	.40	.10	0	.30	.10	.20	.10	.20	.10
24	.10	.10	.20	150	0	0	10	.30	.10	.20	.20	.10
25	.10	.10	.20	52	0	0	.20	.60	.10	.10	.20	.10
26	.10	.10	.10	7.8	.10	0	0	.50	.10	.20	.20	.10
27	.10	.10	.10	.10	.10	0	0	.10	.10	.10	.10	.10
28	.10	.10	.10	0	.10	0	.30	0	.10	.10	.10	1.6
29	.10	.10	.10	0	0	0	0	0	.10	.20	.10	.10
30	.10	.10	.10	1.4	-----	.10	0	0	.10	.20	.20	.10
31	.10	-----	.40	.70	-----	13	-----	0	-----	.10	.20	-----
Total	2.80	92.80	504.20	328.30	1.60	36.60	96.00	3.00	4.20	3.80	5.10	5.70
Mean	0.090	3.09	16.3	10.6	0.057	1.18	3.20	0.097	0.140	0.123	0.165	0.190
Max	0.10	87	180	150	0.10	13	23	0.60	0.40	0.20	0.20	1.6
Min	0	0.10	0	0	0	0	0	0	0	0.10	0.10	0
Ac-ft	5.6	184	1,000	651	3.2	73	190	6.0	8.3	7.5	10	11
Cal yr 1966: Total	725.50				Mean 1.99	Max 180	Min 0	Ac-ft 1,440				
Wtr yr 1967: Total	1,084.10				Mean 2.97	Max 180	Min 0	Ac-ft 2,150				

SAN GABRIEL RIVER BASIN

11-0907. COYOTE CREEK AT LOS ALAMITOS, CALIF.

LOCATION.--Lat 33°48'38", long 118°04'28", in NW¼NE¼SW¼ sec.19, T.4 S., R.1 W., on right bank about 250 ft downstream from center line of Spring Street, 0.5 mile northwest of Los Alamitos, Orange County.

DRAINAGE AREA.--136 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 7.37 ft above mean sea level (levels by Los Angeles County Flood Control District).

EXTREMES.--Maximum discharge during year, 6,880 cfs Jan. 22 (gage height, 4.98 ft); minimum daily, 1.4 cfs Aug. 12.

1963-67: Maximum discharge, that of Jan. 22, 1967; no flow Jan. 25, Feb. 15-17, 1964.

REMARKS.--Flows up to 100 cfs can be diverted from present Carbon Creek channel to Coyote Creek through the original Carbon Creek channel. No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	2.5	2.9	3.8	6.5	3.8	293	2.9	3.3	3.3	4.2	14
2	2.8	1.6	2.5	3.8	4.6	4.6	95	2.0	3.8	3.8	3.3	20
3	3.0	2.9	1.620	3.8	3.8	4.6	7.1	2.0	3.8	4.2	4.2	2.0
4	2.3	4.6	5.4	3.8	3.8	5.1	11	2.5	4.2	4.2	4.6	2.5
5	2.6	4.6	1.620	3.3	3.8	5.0	8.3	4.2	5.0	2.9	4.2	3.8
6	2.5	5.0	789	3.3	4.2	5.0	5.0	7.7	4.6	3.3	4.2	4.6
7	2.0	966	134	2.9	4.2	4.6	33	6.5	4.6	4.2	4.2	2.9
8	2.0	69	4.0	2.5	4.2	5.0	6.5	5.9	4.2	5.0	4.2	3.3
9	2.0	5.0	15	2.0	5.9	5.5	5.9	6.5	4.6	2.5	4.2	3.8
10	2.5	4.2	7.7	1.6	4.6	6.5	4.2	30	3.8	2.9	3.8	4.2
11	4.6	4.2	5.0	2.9	4.6	7.9	276	3.8	3.3	3.8	2.0	4.2
12	3.3	3.8	4.6	2.5	5.5	8.3	10	2.9	5.9	4.6	1.4	5.5
13	2.9	2.5	4.6	2.5	4.6	177	5.9	2.9	4.6	4.6	2.9	4.6
14	2.0	2.9	3.8	2.9	5.0	8.1	5.0	2.5	2.5	4.6	2.5	4.6
15	2.0	5.0	4.2	2.9	3.3	11	4.6	2.5	2.5	4.6	3.8	3.3
16	2.0	3.8	4.2	2.5	3.3	7.7	3.8	2.9	4.6	4.2	5.0	3.3
17	2.5	6.5	4.6	2.9	2.9	5.5	5.0	3.8	4.2	2.9	4.6	2.9
18	2.9	4.6	3.8	2.9	3.8	9.5	219	3.3	3.3	3.3	5.5	3.8
19	2.9	3.8	4.2	2.9	4.2	4.6	288	2.9	2.9	2.9	5.5	2.5
20	3.8	15	4.2	2.9	3.8	4.2	33	3.3	3.3	2.5	4.2	2.5
21	5.0	15	4.2	2.9	3.3	3.8	175	3.3	3.3	2.5	2.9	3.3
22	4.2	4.6	3.8	1.110	2.9	3.8	237	5.0	3.3	2.5	3.8	3.3
23	4.6	4.2	4.6	739	4.2	3.3	14	2.0	2.9	2.9	3.3	3.3
24	3.3	4.2	4.6	1.840	4.2	4.2	155	1.6	3.8	3.8	2.0	3.3
25	2.5	3.8	4.6	524	4.2	4.6	11	5.9	1.6	3.8	2.5	3.3
26	1.6	3.8	4.6	4.8	3.8	5.9	6.5	9.5	2.0	4.6	2.9	3.8
27	2.5	3.8	4.6	11	3.8	7.1	4.2	3.3	3.8	4.2	3.3	4.6
28	2.9	3.3	5.0	9.5	4.2	9.5	19	2.9	2.9	4.2	3.8	183
29	2.5	3.3	4.6	8.9		14	17	4.6	2.5	3.3	3.3	4.6
30	2.5	2.9	4.2	14	-----	3.3	3.8	4.6	3.3	3.3	5.9	2.9
31	2.9	-----	4.2	58	-----	252	-----	4.2	-----	3.8	3.8	-----
Total	88.1	1.166.4	4.399.8	4.423.9	117.2	879.6	1.971.8	147.9	108.4	113.2	116.0	313.7
Mean	2.84	38.9	142	143	4.19	28.4	55.7	4.77	3.61	3.65	3.74	10.5
Max	5.0	956	1.620	1.840	6.5	252	293	30	5.9	5.0	5.5	183
Min	1.6	1.6	2.9	1.6	2.9	3.3	3.8	1.6	1.6	2.5	1.4	2.0
Ac-ft	175	2,310	3,730	3,770	232	1,740	3,910	293	215	225	230	622
Cal yr 1966: Total	3,640.2		Mean	23.7	Max	1.620	Min	1.6	Ac-ft	17,140		
Wtr yr 1967: Total	1,846.0		Mean	37.9	Max	1.840	Min	1.4	Ac-ft	27,450		

11-0924.5. 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.--158 sq mi.

RECORDS AVAILABLE.--January 1929 to February 1938, May 1938 to September 1967. 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, 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.--Graphic water-stage recorder. Datum of gage is 652.7 ft above mean sea level (revised). 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.--37 years (1929-37, 1938-67), 25.2 cfs (18,240 acre-ft per year); median of yearly mean discharges, 18 cfs (13,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,000 cfs Nov. 7 (gage height, 9.70 ft); minimum daily, 3.8 cfs Nov. 25.

1929-37, 1938-67: Maximum discharge, 13,000 cfs Dec. 29, 1965 (gage height, 10.98 ft); no flow Sept. 19, 20, 1930.

Flood of Mar. 2, 1938, amounted to 12,000 cfs (estimated).

REMARKS.--Records good. Flow regulated since December 1941 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. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Eleven discharge measurements furnished by Los Angeles County Flood Control District. Records of released water from reservoirs furnished by City of Los Angeles.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	34	5.4	5.4	15	13	315	6.9	7.9	8.5	6.4	23
2	28	36	271	5.0	12	8.5	26	6.4	5.9	7.9	6.4	11
3	27	38	1,150	6.9	6.9	8.5	16	6.9	6.9	7.9	6.4	6.4
4	27	40	31	5.9	4.6	8.5	203	6.9	5.9	7.9	7.4	5.9
5	28	40	1,420	5.9	5.0	6.9	22	15	5.4	7.9	7.4	5.9
6	30	44	1,630	9.8	5.0	6.9	5.4	33	5.4	7.9	6.4	8.5
7	30	4,160	129	5.4	6.9	6.9	126	33	5.0	7.9	6.4	9.1
8	30	57	24	5.0	9.7	6.9	14	34	5.0	6.9	6.4	9.7
9	30	15	12	5.9	5.9	6.9	12	52	5.4	6.9	6.4	9.1
10	28	11	5.9	9.7	5.4	6.9	16	36	7.4	6.9	7.4	7.9
11	27	7.9	5.0	11	5.0	111	445	9.1	8.5	6.9	8.5	8.5
12	27	7.9	8.6	7.4	5.0	571	16	15	9.1	7.4	7.4	8.5
13	27	7.9	8.4	5.9	5.0	323	6.9	30	9.1	7.9	7.9	7.9
14	26	7.4	6.4	5.9	5.9	84	5.0	30	9.1	7.9	7.9	7.9
15	27	8.5	5.0	5.9	6.4	8.5	5.0	30	9.7	7.9	8.5	7.9
16	27	11	5.0	6.9	5.0	7.4	5.0	33	9.7	7.9	8.5	6.4
17	32	9.1	5.4	15	5.0	8.5	5.0	34	9.1	7.4	7.4	5.9
18	34	7.4	4.6	8.5	5.0	7.9	275	36	9.1	7.4	8.5	6.9
19	38	7.4	4.6	6.9	5.0	7.9	54	28	9.1	7.4	8.5	7.4
20	38	289	5.8	6.4	5.0	7.4	14	8.5	9.1	7.4	7.9	7.4
21	38	20	8.8	5.9	5.4	8.5	134	8.5	9.1	7.4	8.5	7.4
22	36	10	6.9	2,140	5.0	25	155	8.5	9.1	6.9	8.5	7.4
23	34	11	5.0	82	5.4	24	10	7.9	8.5	6.9	8.5	6.9
24	33	5.0	5.0	1,100	5.0	24	120	7.9	7.9	6.9	8.5	6.4
25	36	3.8	4.6	45	75.0	25	15	8.5	7.9	6.9	9.1	8.5
26	33	4.2	4.6	20	5.9	25	26	7.9	7.9	6.9	9.1	8.5
27	28	4.2	5.0	10	6.4	25	26	7.4	8.5	6.4	9.1	7.9
28	27	5.0	5.4	5.0	7.4	26	108	7.4	8.5	6.4	9.1	7.4
29	28	5.4	9.7	5.0		25	15	7.4	9.1	6.4	9.1	37
30	30	4.6	5.9	150	-----	25	6.9	7.4	9.1	6.4	9.7	5.4
31	32	-----	5.4	25	-----	316	-----	8.5	-----	6.4	12	-----
Total	946	4,911.7	4,803.4	3,732.6	244.2	1,755.0	2,212.2	571.0	237.4	226.0	249.2	340.6
Mean	30.5	164	155	120	8.72	56.9	73.7	18.4	7.91	7.29	8.04	11.4
Max	38	4,150	1,630	2,140	75	571	445	52	9.7	8.5	12	74
Min	26	3.8	4.6	5.0	4.6	6.9	5.0	6.4	5.0	6.4	6.4	5.4
Ac-ft	1,880	9,740	9,530	7,400	484	3,500	4,390	1,130	471	448	494	676
(†)	1,540	333	0	0	0	254	149	394	0	0	0	0

Cal yr 1966: Total 16,890.1 Mean 46.3 Max 4,160 Min 3.8 Ac-ft 33,500 Ac-ft + 4,480
 Cal yr 1967: Total 20,239.3 Mean 55.4 Max 4,160 Min 3.8 Ac-ft 40,140 Ac-ft + 2,680

† Release, in acre-feet, from city of Los Angeles distributing reservoirs. This is included in flow that passes station.

LOS ANGELES RIVER BASIN

11-0930. PACOIMA CREEK NEAR SAN FERNANDO, CALIF.

LOCATION.--Lat 34°20'07", long 118°23'50", in SE¼NE¼ 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.

DRAINAGE AREA.--28.5 sq mi.

RECORDS AVAILABLE.--March to July 1916 (fragmentary), December 1916 to September 1967.

GAGE.--Graphic water-stage recorder and flume or weir control since June 1937. 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.--50 years (1917-67), 8.95 cfs (6,480 acre-ft per year); median of yearly mean discharges, 4.1 cfs (3,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 197 cfs July 6 (gage height, 2.10 ft); no flow for much of year. 1916-67: Maximum discharge, 2,440 cfs Mar. 3, 1938; no flow for several months in most years.

REMARKS.--Flow regulated since February 1929 by Pacoima flood-control reservoir (capacity, 4,581 acre-ft). Flow passing over Pacoima Dam spillway enters creek below station. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	0	0	0	127	0	0	118	8.9	0.30	0.40	
2	6.8	0	0	0	111	0	0	112	12	.40	.20	
3	6.0	0	0	1.3	101	0	0	98	16	.40	.20	
4	5.8	0	0	4.0	99	0	0	98	20	.40	.20	
5	5.8	0	0	3.1	97	.10	0	98	22	30	.20	
6	5.8	0	0	3.0	96	.10	0	98	22	148	.20	
7	5.3	.40	74	3.0	94	.10	0	96	56	193	124	
8	4.4	.20	146	3.0	92	.10	0	70	91	133	188	
9	4.4	.10	137	3.0	29	.10	0	60	89	103	140	
10	4.5	.10	132	3.0	14	.10	91	73	97	112	115	
11	4.2	0	118	3.0	14	.10	31	72	96	119	119	
12	4.2	0	111	3.0	14	1.0	98	72	80	119	129	
13	4.0	0	116	3.0	14	27	121	67	57	62	125	
14	4.0	0	137	3.0	14	126	41	66	47	9.7	120	
15	4.0	0	150	3.0	14	131	0	66	17	.30	111	
16	4.1	0	156	2.8	14	102	0	66	9.9	.20	35	
17	3.1	0	153	2.8	5.4	102	0	66	9.9	.20	0	
18	2.6	0	146	2.8	0	101	14	67	9.9	1.0	0	
19	2.8	0	99	2.8	0	101	81	67	10	4.3	0	
20	1.4	0	11	2.8	0	101	100	67	6.0	3.7	0	
21	.20	0	5.0	2.8	0	101	100	67	.30	2.2	0	
22	.10	0	5.0	6.4	0	100	100	67	.20	2.2	0	
23	.10	0	2.5	56	0	100	120	67	.20	2.2	0	
24	0	0	0	31	0	100	133	67	.30	2.2	0	
25	0	0	0	102	.10	99	151	67	.30	2.2	0	
26	0	0	0	105	0	60	144	28	.30	2.2	0	
27	0	0	0	100	0	14	144	9.6	.30	2.2	0	
28	0	0	0	90	0	26	145	9.2	.30	2.2	0	
29	0	0	0	89	0	26	149	8.2	.30	2.2	0	
30	0	0	0	60	-----	6.3	123	8.6	.30	2.2	0	
31	0	-----	0	100	-----	1.9	-----	8.9	-----	1.9	0	-----
Total	90.60	0.80	1.698.5	794.6	949.50	1.426.9	1.886	2.004.5	779.40	1.063.80	1.207.40	0
Mean	2.92	0.027	54.8	25.6	33.9	46.0	62.9	64.7	26.0	34.3	38.9	0
Max	7.0	0.40	156	105	127	131	151	118	97	193	188	0
Min	0	0	0	0	0	0	0	8.2	0.20	0.20	0	0
Ac-ft	180	1.6	3.370	1.580	1.880	2.830	3.740	3.980	1.550	2.110	2.390	0
Cal yr 1966: Total	5.610.00			Mean 15.4	Max 150	Min 0		Ac-ft 11.130				
Wtr yr 1967: Total	11.902.00			Mean 32.6	Max 193	Min 0		Ac-ft 23.610				

LOS ANGELES RIVER BASIN

211

11-0934.9. NORTH FORK MILL CREEK NEAR LA CANADA, CALIF.

LOCATION.--Lat 34°19'03", long 118°08'00", in Angeles National Forest on right upstream end of culvert on Angeles Forest Highway, 0.2 mile west of Hidden Springs, and 8.8 miles northeast of La Canada, Los Angeles County.

DRAINAGE AREA.--5.79 sq mi.

RECORDS AVAILABLE.--Water years 1960-66 (annual maximum), June 1966 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment. Altitude of gage is 3,060 ft (from topographic map).

EXTREMES.--1966: Maximum discharge during period June to September, 0.4 cfs June 16 (gage height, 1.66 ft); no flow most of time.

1966-67: Maximum discharge during water year, 178 cfs Dec. 6 (gage height, 5.40 ft), from rating curve extended above 10 cfs as explained below; no flow Oct. 1-15.

1960-67: Maximum discharge, 480 cfs Dec. 29, 1965 (gage height, 13.2 ft from crest-stage gage, 9.4 ft for recording gage), from rating curve extended above 10 cfs on basis of computation of flow through culverts at gage-heights 4.00 and 9.4 ft; no flow at times in each year.

REMARKS.--Records poor except those above 10 cfs, which are good. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD JUNE 1966 TO SEPTEMBER 1966

June 15.....0.20	June 25.....0.20	July 4.....0.10	July 15.....0.10
16......20	26......20	7......10	16......10
17......20	27......20	8......10	17......10
18......20	28......10	9......10	18......10
19......20	29......10	10......10	19......10
20......20	30......10	11......10	20......10
21......20	July 1......10	12......10	21......10
22......20	2......10	13......10	22......10
23......20	3......10	14......10	23......10
24......20			

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
June 1966.....	-	-	-	-	-
July.....	2,10	0,10	0	0.068	42
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1965-66.....	-	-	-	-	-

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

LOS ANGELES RIVER BASIN

11-0934.9. North Fork Mill Creek near La Canada, Calif.--Continued

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	0.10	1.4	1.0	1.0	1.1	19	4.9	1.4	1.2	0.40
2	0	.10	.40	1.2	1.0	1.0	1.6	19	4.6	1.4	1.1	.70
3	0	.20	18	1.2	1.0	.80	2.0	18	4.2	1.4	1.1	.70
4	0	.30	1.8	1.1	1.0	.80	3.9	17	3.9	1.3	1.0	.50
5	0	.30	29	1.0	1.0	.70	3.5	17	3.5	1.3	.90	.40
6	.10	.60	114	.90	.90	.70	2.0	17	2.8	1.3	.90	.40
7	.10	6.5	50	.90	.90	.60	7.2	17	2.8	1.2	.80	.40
8	.10	1.8	7.0	.90	.90	.60	6.5	16	3.2	1.2	.90	.40
9	.10	.80	6.5	.80	.90	.50	5.3	17	4.6	1.1	.80	.40
10	.10	.40	4.9	.80	.90	.50	4.6	17	4.6	1.1	.70	.40
11	.10	.40	3.9	.80	.80	1.8	9.0	15	4.6	1.0	.60	.40
12	.10	.20	3.9	.80	.80	5.3	7.5	15	4.6	1.0	.60	.40
13	.10	.20	3.5	.70	.80	17	7.5	13	3.5	1.5	.60	.40
14	.10	.20	3.2	.70	2.0	13	8.0	13	2.8	2.0	.60	.40
15	.10	.10	2.4	.70	2.2	5.6	8.5	12	2.8	2.0	.60	.40
16	.10	.20	2.0	.80	2.2	4.6	7.0	12	2.2	2.0	.60	.40
17	.10	.20	2.0	.90	2.2	3.9	6.5	11	2.0	2.0	.60	.40
18	.10	.20	1.8	1.4	2.2	2.8	9.8	11	1.6	2.0	.60	.60
19	.10	.20	1.8	2.8	2.0	2.2	9.0	10	1.6	2.0	.60	.60
20	.10	.60	1.6	4.2	1.8	2.0	9.0	9.5	2.0	2.0	.60	.60
21	.20	.20	1.4	4.6	1.8	1.6	13	8.5	1.6	2.0	.60	.70
22	.10	.20	1.2	12	1.8	1.0	23	8.0	1.6	2.0	.50	.80
23	.10	.10	1.1	10	1.8	.90	23	7.5	1.6	1.8	.50	.80
24	.10	.10	1.1	19	2.0	.80	22	7.5	1.6	1.8	.50	.80
25	.10	.10	1.1	8.5	2.0	.80	22	7.0	1.6	1.8	.50	.70
26	.10	.10	1.0	2.0	1.5	.70	22	7.0	1.5	1.8	.40	.60
27	.20	.10	.90	1.5	1.5	.70	22	7.0	1.5	1.6	.40	.70
28	.20	.10	.90	1.0	1.5	.60	22	6.5	1.5	1.6	.40	.70
29	.20	.10	1.0	1.0		.60	21	6.0	1.4	1.6	.40	.70
30	.10	.10	1.2	1.0	- - - - -	.60	19	5.3	1.4	1.4	.40	.70
31	.10	- - - - -	1.4	1.0	- - - - -	1.1	- - - - -	6.0	- - - - -	1.2	.40	- - - - -
Total	3.00	14.80	270.10	85.60	40.40	74.80	328.5	371.8	82.1	48.8	20.40	16.50
Mean	0.097	0.493	8.71	2.76	1.44	2.41	11.0	12.0	2.74	1.57	0.658	0.550
Max	0.20	6.5	114	19	2.2	17	23	19	4.9	2.0	1.2	0.80
Min	0	0.10	0.10	0.70	0.80	0.50	1.1	5.3	1.4	1.0	0.40	0.40
Ac-ft	6.0	29	536	170	80	148	652	737	163	97	40	33
Cal yr 1966: Total -			Mean -	Max -	Min -	Ac-ft -						
Wtr yr 1967: Total	1.356.80	Mean	3.72	Max	114	Min	0	Ac-ft	2.690			

LOS ANGELES RIVER BASIN

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11-0940. 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,650 ft (from topographic map).

AVERAGE DISCHARGE.--19 years, 8.01 cfs (5,800 acre-ft per year); median of yearly mean discharges, 2.6 cfs (1,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,630 cfs Dec. 6 (gage height, 9.22 ft); minimum daily, 0.80 cfs Oct. 1-2, 14-20, 24.

1948-67: Maximum discharge, 6,550 cfs Dec. 29, 1965 (gage height, 13.75 ft); no flow at times in most years.

Maximum discharge recorded since November 1930, 14,800 cfs Jan. 23, 1943, but was exceeded by flood of Mar. 2, 1938.

REMARKS.--No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	1.0	2.4	11	36	12	29	89	30	12	6.3	3.7
2	.80	1.0	3.5	10	32	12	30	84	28	12	6.3	4.2
3	.90	1.0	111	9.7	28	12	34	80	26	12	5.9	4.2
4	.90	1.1	42	9.7	26	12	64	76	26	12	5.7	4.0
5	1.0	1.1	112	9.7	25	12	76	70	26	12	5.5	4.0
6	1.1	1.1	814	9.4	24	12	54	64	25	12	5.5	4.0
7	1.0	28	278	9.1	22	11	62	59	25	12	5.3	4.0
8	1.0	18	92	9.1	21	11	54	58	25	12	5.3	4.0
9	1.0	4.7	40	8.8	19	11	48	58	25	11	5.1	3.8
10	1.0	3.2	27	8.8	18	12	46	60	25	11	4.9	3.8
11	1.0	3.1	25	8.8	15	12	74	59	24	10	4.9	3.7
12	1.0	2.8	24	8.8	15	45	62	57	24	9.7	5.1	3.7
13	.90	2.8	23	8.8	15	148	70	53	24	10	5.3	3.7
14	.80	2.7	22	8.6	15	117	79	48	24	10	5.3	3.6
15	.80	2.5	19	8.0	15	70	79	46	22	9.7	5.5	3.6
16	.80	2.4	17	7.8	15	53	70	42	21	9.4	5.5	3.7
17	.80	2.2	16	7.6	15	42	63	40	21	8.8	5.5	3.7
18	.80	2.2	15	7.6	15	39	90	39	20	8.6	5.5	3.8
19	.80	2.2	14	7.8	15	33	86	36	19	8.0	5.5	3.8
20	.80	2.8	13	8.6	14	28	76	33	18	7.8	5.5	3.8
21	.90	3.0	13	8.8	14	26	94	31	18	7.6	5.5	3.8
22	.90	2.6	12	25	14	24	142	31	17	7.6	5.5	3.8
23	.90	2.6	13	36	13	23	128	30	17	7.3	6.8	3.8
24	.80	2.6	13	147	13	23	135	30	17	7.3	4.6	3.8
25	.90	2.6	12	113	13	23	142	30	16	7.3	3.7	3.8
26	.90	2.6	12	67	13	22	154	30	15	7.3	3.7	3.7
27	1.0	2.6	12	64	13	22	149	30	15	6.8	3.7	3.7
28	1.0	2.7	12	52	13	21	133	30	14	6.8	3.7	3.6
29	1.0	2.6	11	45	13	22	120	30	13	6.6	3.7	3.6
30	1.0	2.5	11	42	-----	21	101	30	13	6.6	3.7	3.6
31	1.0	-----	11	41	-----	26	-----	30	-----	6.3	3.7	-----
Total	28.30	112.3	1,841.9	818.5	506	957	2,544	1,483	633	287.5	157.7	114.0
Mean	0.913	3.74	59.4	26.4	18.1	30.9	84.8	47.8	21.1	9.27	5.09	3.80
Max	1.1	28	814	147	36	148	154	89	30	12	6.8	4.2
Min	0.80	1.0	2.4	7.6	13	11	29	30	13	6.3	3.7	3.6
Ac-ft	56	223	3,650	1,620	1,000	1,900	5,050	2,940	1,260	570	313	226

Cal yr 1966: Total 5,373.90 Mean 14.7 Max 814 Min 0.40 Ac-ft 10,660

Wtr yr 1967: Total 9,483.20 Mean 26.0 Max 814 Min 0.80 Ac-ft 13,810

LOS ANGELES RIVER BASIN

11-0955. TUJUNGA CREEK NEAR SUNLAND, CALIF.

LOCATION.--Lat 34°18'02", long 118°16'04", 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 4 miles northeast of Sunland.

DRAINAGE AREA.--106 sq mi.

RECORDS AVAILABLE.--October 1916 to September 1967.

GAGE.--Graphic 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.--50 years, 26.5 cfs (19,190 acre-ft per year); median of yearly mean discharges, 13 cfs (9,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,900 cfs Dec. 6 (gage height, 11.75 ft) minimum daily, 10 cfs Oct. 30 to Nov. 3.

1916-67: Maximum discharge, 50,000 cfs (estimated) Mar. 2, 1938; minimum, 0.10 cfs at times in some years.

REMARKS.--Flow regulated since July 1931 by Big Tujunga flood-control reservoir (capacity, 4,240 acre-ft). Several small diversions above station for irrigation. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	10	12	22	128	23	53	220	89	30	27	14
2	13	10	14	22	85	22	55	202	87	31	26	14
3	13	10	157	38	70	22	47	202	85	32	26	14
4	12	11	42	85	48	22	47	180	85	33	26	14
5	12	11	109	85	47	22	44	155	85	33	26	14
6	12	12	906	82	46	22	43	152	85	32	26	14
7	12	54	406	69	46	22	53	152	85	32	26	15
8	11	24	318	70	46	22	49	152	84	32	26	14
9	11	18	283	43	46	22	46	152	84	32	26	14
10	12	16	236	20	42	22	45	152	82	32	26	13
11	12	14	245	18	38	27	100	141	80	31	26	13
12	12	14	240	18	37	78	70	127	80	31	26	13
13	12	13	232	18	37	172	65	123	78	32	26	13
14	12	13	154	17	37	173	62	121	76	32	26	13
15	12	13	72	17	37	198	56	121	76	32	26	13
16	12	13	61	17	37	188	76	113	74	31	26	13
17	12	13	29	17	37	178	74	94	74	30	26	14
18	12	13	27	17	36	172	171	74	69	30	44	15
19	12	13	26	17	35	170	254	79	43	29	66	16
20	12	15	26	17	34	168	245	87	41	29	66	16
21	12	14	25	18	34	165	258	85	40	28	95	16
22	12	13	24	64	34	136	293	85	39	29	121	16
23	12	13	23	46	33	44	257	87	38	28	121	15
24	12	13	23	216	33	43	242	85	36	29	119	16
25	12	12	23	225	35	42	228	84	35	28	101	16
26	12	13	22	175	34	42	225	84	34	28	17	20
27	12	12	22	162	33	41	213	85	32	28	14	25
28	12	12	22	155	29	41	251	87	30	27	14	26
29	11	12	22	150		41	248	89	28	27	13	26
30	10	12	22	148	-----	40	245	89	29	27	13	26
31	10	-----	22	143	-----	52	-----	90	-----	27	13	-----
Total	368	436	3,845	2,211	1,234	2,432	4,125	3,749	1,883	932	1,260	481
Mean	11.9	14.5	124	71.3	44.1	78.5	138	121	62.8	30.1	40.6	16.0
Max	13	54	906	225	128	198	293	220	89	33	121	26
Min	10	10	12	17	29	22	43	74	28	27	13	13
Ac-ft	730	865	7,630	4,390	2,450	4,820	3,180	7,440	3,730	1,850	2,500	954

Cal yr 1966: Total 13,883.7 Mean 38.0 , Max 906 Min 4.0 Ac-ft 27,540
Wtr yr 1967: Total 22,956 Mean 52.9 Max 906 Min 10 Ac-ft 45,530

LOS ANGELES RIVER BASIN

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11-0965. LITTLE TUJUNGA CREEK NEAR SAN FERNANDO, CALIF.

LOCATION.--Lat 34°16'28", long 118°22'18", in Tujunga Grant, on downstream side of Foothill Boulevard Bridge, 4 miles east of San Fernando, Los Angeles County.

DRAINAGE AREA.--21.1 sq mi.

RECORDS AVAILABLE.--October 1928 to September 1967. Monthly discharge for April 1931, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and concrete control since May 1940. Datum of gage is 1,068.39 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Nov. 30, 1964, at datum 0.5 ft lower.

AVERAGE DISCHARGE.--39 years, 2.35 cfs (1,700 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

EXTREMES.--Maximum discharge during year, 901 cfs Dec. 6 (gage height, 3.40 ft); no flow for most of year. 1928-67: Maximum discharge, 8,500 cfs (estimated) Mar. 2, 1938; no flow for several months each year.

REMARKS.--No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	2.4	0	8.4	20	3.8			
2		0	0	0	1.7	0	8.3	19	3.5			
3		0	4.6	0	.80	0	8.2	17	3.5			
4		0	9.5	0	0	0	8.1	16	3.2			
5		0	150	0	0	0	8.0	14	3.2			
6		0	358	0	0	0	11	14	3.2			
7		13	59	0	0	0	14	14	2.5			
8		0	22	0	0	0	17	13	2.5			
9		0	7.5	0	0	0	19	13	2.5			
10		0	3.5	0	0	0	22	13	3.0			
11		0	2.5	0	0	0	24	11	2.5			
12		0	2.1	0	0	24	21	9.0	2.1			
13		0	1.1	0	0	43	19	8.5	2.5			
14		0	0	0	0	37	17	8.0	3.0			
15		0	0	0	0	20	15	8.0	0			
16		0	0	0	0	19	13	7.0	0			
17		0	0	0	0	18	11	7.0	0			
18		0	0	0	0	16	38	6.5	0			
19		0	0	0	0	14	35	6.5	0			
20		0	0	0	0	12	23	5.5	0			
21		0	0	0	0	10	25	4.5	0			
22		0	0	9.8	0	7.9	53	3.8	0			
23		0	0	1.9	0	5.5	39	3.8	0			
24		0	0	60	0	4.6	38	3.8	0			
25		0	0	38	0	4.4	34	4.0	0			
26		0	0	18	0	4.1	28	4.0	0			
27		0	0	10	0	4.0	25	4.0	0			
28		0	0	8.0	0	3.8	28	4.2	0			
29		0	0	5.0		3.6	27	4.2	0			
30		0	0	4.0	-----	3.4	24	4.2	0			
31		-----	0	2.2	-----	1.6	-----	4.2	-----			-----
Total	0	13	661.2	156.9	4.90	270.3	661.0	274.7	41.0	0	0	0
Mean	0	0.433	21.3	5.06	0.175	8.72	22.0	8.86	1.37	0	0	0
Max	0	13	358	60	2.4	43	53	20	3.8	0	0	0
Min	0	0	0	0	0	0	8.0	3.8	0	0	0	0
Ac-ft	0	26	1,310	311	9.7	536	1,310	545	81	0	0	0

Cal yr 1966: Total 927.9 Mean 2.54 Max 358 Min 0 Ac-ft 1840
Wtr yr 1967: Total 2,083.00 Mean 5.71 Max 358 Min 0 Ac-ft 4,130

LOS ANGELES RIVER BASIN

11-0970. 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.--150 sq mi.

RECORDS AVAILABLE.--May 1932 to February 1938, August 1940 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic 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, 5,130 cfs Dec. 22 (gage height, 4.78 ft); no flow for most of year. 1940-67: Maximum discharge, that of Dec. 22, 1966; 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, 33,373 acre-ft). Several small diversions for domestic use and irrigation. Water reported herein is that which passed Hansen Dam. Los Angeles County Flood Control District diverted water from outlet channel upstream from gage to spreading grounds during year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	103		0	120	66			
2			0	0	91		0	91	66			
3			0	0	66		0	64	66			
4			0	0	53		0	16	71			
5			0	0	45		0	0	76			
6			47	0	31		0	0	35			
7			7.9	0	15		0	0	0			
8			3.3	0	.80		0	0	0			
9			0	0	0		0	0	0			
10			0	0	0		0	0	0			
11			0	0	0		0	0	0			
12			0	0	0		0	0	0			
13			0	0	0		0	0	0			
14			0	0	0		0	0	0			
15			0	0	0		0	0	0			
16			3.0	0	0		0	0	0			
17			0	0	0		0	0	0			
18			0	0	0		0	38	0			
19			0	0	0		0	71	0			
20			0	0	0		0	71	0			
21			0	0	0		0	76	0			
22			404	0	0		0	76	0			
23			0	0	0		0	76	0			
24			0	0	0		0	81	0			
25			0	0	0		0	81	0			
26			0	0	0		0	76	0			
27			0	0	0		0	71	0			
28			0	0	0		93	71	0			
29			0	0	0		145	71	0			
30			0	64	-----		165	71	0			
31		-----	0	109	-----		-----	71	-----			-----
Total	0	0	465.2	173	404.80	0	403	1,292	380	0	0	0
Mean	0	0	15.0	5.58	14.5	0	13.4	41.7	12.7	0	0	0
Max	0	0	404	109	103	0	165	120	76	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	920	343	803	0	799	2,560	750	0	0	0
(†)	0	0	5,970	3,620	1,990	5,520	6,640	9,580	3,690	0	2,080	0
Cal yr 1966: Total	4,871.9	Mean	13.3	Max	416	Min	0	Ac-ft	9,660	Ac-ft †	25,930	
Wtr yr 1967: Total	3,118.00	Mean	8.54	Max	404	Min	0	Ac-ft	6,180	Ac-ft †	39,090	

† Combined discharge, in acre-feet, of creek and diversion.

LOS ANGELES RIVER BASIN

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11-0975. LOS ANGELES RIVER AT LOS ANGELES, CALIF.

LOCATION.--Lat 34°04'52", long 118°13'36", on right bank near Figueroa Street, Los Angeles, 800 ft upstream from Arroyo Seco.

DRAINAGE AREA.--514 sq mi.

RECORDS AVAILABLE.--October 1929 to September 1967.

GAGE.--Graphic 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.--38 years, 60.0 cfs (43,440 acre-ft per year); median of yearly mean discharges, 34 cfs (24,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 32,100 cfs Nov. 7 (gage height, 10.10 ft); minimum daily, 0.40 cfs Oct. 3-9, 11-20.

1929-67: Maximum discharge, 67,000 cfs Mar. 2, 1938; no flow at times in some years.

REMARKS.--Flow regulated since September 1940 by Hansen flood-control reservoir and since December 1941 by Sepulveda flood-control reservoir (combined capacity, 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. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	0.50	7.2	10	23	5.8	645	10	12	6.7	6.7	85
2	.50	.50	551	9.2	35	5.8	195	13	9.2	5.0	6.7	41
3	.40	.60	2,630	12	18	5.4	19	12	8.2	5.0	6.7	50
4	.40	.60	41	16	14	6.2	316	16	5.8	5.4	6.7	12
5	.40	.60	2,040	16	12	5.4	74	9.8	5.8	5.8	6.2	9.8
6	.40	.60	2,640	22	14	5.0	24	16	9.2	6.7	5.4	9.2
7	.40	7.720	308	24	16	6.7	331	9.2	18	6.7	5.0	5.0
8	.40	171	62	16	23	5.8	32	13	18	5.8	5.8	5.4
9	.40	25	33	18	18	5.4	18	12	16	5.0	6.2	5.8
10	.50	12	18	21	21	5.0	6.2	6.2	7.7	5.4	5.8	5.8
11	.40	8.7	21	21	18	325	1,130	22	8.2	6.7	5.8	6.7
12	.40	6.2	16	20	14	1,560	56	8.7	9.2	6.2	5.4	5.4
13	.40	4.2	20	16	15	908	20	9.2	9.2	5.8	4.2	5.0
14	.40	4.6	18	14	16	272	18	9.2	8.7	5.8	3.8	4.6
15	.40	5.0	18	12	14	38	21	14	8.2	14	4.6	4.6
16	.40	5.4	15	14	16	19	23	15	10	5.8	4.2	3.8
17	.40	4.2	14	16	16	9.2	14	13	9.8	6.7	4.6	3.4
18	.40	3.8	14	20	10	7.7	994	14	7.7	6.7	4.2	3.4
19	.40	2.5	14	15	9.8	18	288	15	7.2	7.2	3.8	4.6
20	.40	412	13	15	9.8	6.7	52	8.2	9.8	7.2	3.8	4.2
21	.50	90	16	12	14	5.4	485	7.7	14	8.7	3.8	4.2
22	.50	14	414	4,700	13	6.2	551	8.2	9.2	7.7	4.6	4.2
23	.50	14	16	680	14	7.2	46	7.7	6.7	6.7	3.8	3.8
24	.50	7.7	11	4,850	14	8.2	398	6.7	7.7	5.4	4.2	3.4
25	.50	4.6	8.7	330	126	5.4	82	8.7	6.2	5.4	4.2	3.1
26	.50	3.8	7.7	60	19	5.4	62	6.7	7.2	5.8	3.8	4.2
27	.50	3.4	8.7	52	16	6.2	41	12	8.7	5.4	3.4	5.0
28	.50	5.8	12	41	8.2	10	262	12	16	5.8	3.1	171
29	.50	19	16	33		8.2	149	10	14	5.0	4.2	159
30	.50	8.2	14	74		6.7	35	6.7	7.7	4.2	4.2	39
31	.50		12	182		775		12		5.8	4.6	
Total	14.50	8,558.50	9,029.3	11,341.2	556.8	4,064.0	6,387.2	399.7	295.3	195.5	149.5	671.6
Mean	0.468	285	291	366	19.9	131	213	12.9	9.84	6.31	4.82	22.4
Max	1.2	7.720	2,640	4,850	126	1,560	1,130	62	18	14	6.7	171
Min	0.40	0.50	7.2	9.2	8.2	5.0	6.2	6.7	5.8	4.2	3.1	3.1
Ac-ft	29	16,980	17,910	22,490	1,100	8,060	12,670	793	586	388	297	1,330

Cal yr 1966: Total 23,957.00 Mean 65.6 Max 7.720 Min 0.10 Ac-ft 47,520
Wtr yr 1967: Total 41,663.10 Mean 114 Max 7.720 Min 0.40 Ac-ft 82,640

LOS ANGELES RIVER BASIN

11-0980. 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.--16.0 sq mi.

RECORDS AVAILABLE.--December 1910 to September 1967.

GAGE.--Graphic water-stage recorder and broad-crested weir since November 1938. 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.--53 years (1913-15, 1916-67), 8.83 cfs (6,390 acre-ft per year); median of yearly mean discharges, 4.6 cfs (3,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,530 cfs Dec. 6 (gage height, 4.80 ft), from rating curve extended above 1,100 cfs; minimum daily, 1.5 cfs Nov. 19.

1910-67: Maximum discharge, 8,620 cfs Mar. 2, 1938 (gage height, 9.42 ft, present datum), on basis of slope-area measurement of maximum flow; no flow at times in some years.

REMARKS.--Records good. Minor regulation by debris dam 1.5 miles upstream. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Nine discharge measurements furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	2.1	2.3	11	34	11	38	56	20	13	7.9	5.4
2	2.3	2.1	11	11	30	10	41	52	17	12	7.9	9.3
3	2.3	2.1	288	11	28	11	34	52	17	12	7.9	6.6
4	2.3	2.1	42	11	27	11	34	49	17	11	7.6	5.4
5	2.3	2.1	145	11	25	11	32	47	17	11	7.4	5.2
6	2.3	2.1	618	11	24	10	28	44	17	10	7.4	5.0
7	2.3	54	212	10	24	10	34	40	17	10	7.4	4.7
8	2.1	16	114	9.3	23	10	28	38	18	9.6	7.4	4.4
9	1.7	6.0	68	9.0	22	10	27	38	18	9.3	7.4	4.4
10	1.9	4.2	55	9.0	21	10	26	37	18	9.0	7.1	4.2
11	2.1	3.2	45	8.7	21	21	67	36	18	8.7	6.6	4.0
12	2.1	3.2	39	8.5	20	112	43	34	19	8.7	6.6	4.0
13	2.1	2.7	33	8.5	20	269	39	32	18	9.0	6.3	4.2
14	2.1	2.1	26	8.2	19	142	36	30	17	9.3	6.0	4.2
15	1.9	1.9	22	8.2	18	75	38	29	16	9.0	6.0	4.0
16	1.9	2.1	20	8.5	16	64	34	28	16	8.7	6.0	4.0
17	1.9	1.9	19	8.2	16	59	34	27	16	8.7	6.0	4.0
18	1.9	1.9	18	8.2	15	52	71	27	16	8.5	5.7	4.2
19	1.9	1.5	17	7.9	15	46	75	26	15	8.2	5.7	4.2
20	1.9	2.3	15	7.9	14	44	60	24	15	8.2	5.7	4.0
21	1.9	3.2	15	8.2	14	40	76	24	14	8.2	5.7	4.0
22	1.9	2.7	14	7.0	14	38	116	23	14	7.9	5.7	4.2
23	1.9	2.5	14	4.6	14	35	76	22	14	7.6	5.7	4.0
24	1.9	2.5	13	233	14	34	74	22	13	8.5	5.7	4.2
25	1.9	2.5	13	119	15	32	59	22	13	8.2	5.4	4.2
26	1.9	2.7	13	58	13	31	64	22	13	7.6	5.4	4.2
27	2.1	2.7	12	45	12	30	66	22	13	7.3	5.2	4.0
28	2.3	3.0	12	40	11	30	66	22	13	7.4	4.7	4.0
29	2.3	3.0	11	40		28	63	21	13	7.4	4.4	4.2
30	2.1	2.5	11	36	---	26	57	20	13	7.4	4.7	4.7
31	2.1	---	11	36	---	35	---	24	---	7.6	5.0	---
Total	63.7	142.9	1,948.3	917.3	539	1,347	1,536	990	475	2,790	193.6	1,371
Mean	2.05	4.76	62.8	29.6	19.2	43.5	51.2	31.9	15.8	9.00	6.25	4.57
Max	2.3	54	618	233	34	269	116	56	20	13	7.9	9.3
Min	1.7	1.5	2.3	7.9	11	10	26	20	13	7.3	4.4	4.0
Ac-ft	126	283	3,860	1,820	1,070	2,670	3,050	1,950	942	553	384	272

Cal yr 1966: Total 4,828.7 Mean 13.2 Max 618 Min 1.3 Ac-ft 9,580
 Wtr yr 1967: Total 3,568.9 Mean 23.5 Max 618 Min 1.5 Ac-ft 17,000

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0630	3.73	638	3-13	0730	3.45	475
12- 6	1600	4.80	1530	4-18	1600	2.63	151
1-22	1245	2.88	234	4-22	0200	2.93	234
1-24	1815	4.23	994				

11-0985. LOS ANGELES RIVER NEAR DOWNEY, CALIF.

LOCATION.--Lat 33°56'58", long 118°10'23", 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.--599 sq mi.

RECORDS AVAILABLE.--March 1928 to September 1967.

GAGE.--Graphic 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.--39 years, 96.9 cfs (70,150 acre-ft per year); median of yearly mean discharges, 59 cfs (42,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 37,000 cfs Nov. 7 (gage height, 7.16 ft); minimum daily, 6.0 cfs Oct. 3.

1928-67: Maximum discharge, 79,700 cfs Mar. 2, 1938, on basis of slope-area measurements; no flow for parts of some years.

REMARKS.--Flow regulated since July 1941 by Hansen flood-control reservoir and since December 1941 by Sepulveda flood-control reservoir (combined capacity, 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 for domestic use and irrigation above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	8.4	18	24	43	24	686	27	28	20	23	157
2	6.0	6.5	577	20	56	22	304	30	26	17	23	48
3	7.9	6.5	4,190	22	35	20	42	26	25	18	23	88
4	8.4	8.4	131	28	28	42	213	32	21	18	23	29
5	9.4	6.5	2,850	28	24	14	140	28	21	19	21	29
6	10	6.5	3,970	29	29	14	43	34	23	20	21	28
7	10	10,000	835	32	31	17	325	27	31	19	21	21
8	11	302	100	26	36	17	72	31	32	20	22	19
9	11	50	69	25	35	15	34	35	32	20	22	18
10	30	28	51	29	35	16	19	77	20	21	21	17
11	8.4	22	48	29	31	451	1,440	48	19	22	22	19
12	7.9	18	47	34	28	1,450	111	25	25	25	19	19
13	8.4	14	34	25	29	1,020	34	24	23	23	18	18
14	8.4	14	31	23	32	462	32	20	22	21	20	17
15	7.4	16	30	24	28	196	30	28	24	28	20	20
16	7.9	15	29	24	31	114	36	31	27	23	20	16
17	9.4	16	28	28	30	82	28	29	27	21	19	16
18	12	13	27	31	24	56	988	28	25	20	18	18
19	6.5	11	26	27	23	57	354	32	27	20	17	18
20	7.0	325	29	23	24	48	105	24	29	20	18	16
21	7.4	296	31	21	28	23	592	22	36	22	18	17
22	7.0	50	350	5,590	25	22	672	25	29	22	20	19
23	6.5	36	35	753	27	22	115	26	25	21	20	18
24	8.4	30	24	5,350	28	24	229	22	26	24	20	17
25	8.4	21	23	636	155	20	122	24	25	24	21	17
26	8.4	19	22	193	50	17	92	22	27	24	19	19
27	6.5	17	21	182	26	18	50	27	27	22	18	20
28	7.4	17	21	53	26	22	154	26	34	22	20	199
29	6.5	32	27	43		22	239	26	31	19	21	133
30	7.0	19	28	83	-----	19	54	22	21	18	21	97
31	7.9	-----	27	221	-----	956	-----	32	-----	23	20	-----
Total	276.8	11,433.8	13,739	14,656	1,007	5,312	7,395	910	788	656	629	1,187
Mean	8.93	381	443	473	36.0	171	246	29.4	26.3	21.2	20.3	39.6
Max	30	10,000	4,190	5,590	155	1,450	1,440	77	36	28	23	199
Min	6.0	6.5	18	20	23	14	19	20	19	17	17	16
Ac-ft	549	22,680	27,250	29,070	2,000	10,540	14,670	1,800	1,550	1,300	1,250	4,350

Cal yr 1966: Total 37,580.9 Mean 103 Max 10,000 Min 6.0 Ac-ft 74,540
Wtr yr 1967: Total 57,989.6 Mean 159 Max 10,000 Min 6.0 Ac-ft 115,000

LOS ANGELES RIVER BASIN

11-1000. SANTA ANITA CREEK NEAR SIERRA MADRE, CALIF.

LOCATION.--Lat 34°11'30", long 118°00'59", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--9.71 sq mi.

RECORDS AVAILABLE.--July 1916 to September 1967.

GAGE.--Digital 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. Prior to Jan. 31, 1963, graphic water-stage recorder.

AVERAGE DISCHARGE.--51 years, 6.04 cfs (4,370 acre-ft per year); median of yearly mean discharges, 3.5 cfs (2,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,360 cfs Dec. 6 (gage height, 7.60 ft, from inside gage), from rating curve extended above 440 cfs on basis of slope-area measurement at gage height 12.33 ft; minimum daily, 1.8 cfs Nov. 5.

1916-67: Maximum discharge, 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 Mar. 31 to May 2, which are poor. Debris dams above station built in December 1959 cause little or no regulation. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	1.9	2.6	12	29	15	31	45	21	11	7.5	5.5
2	2.0	1.9	4.7	12	28	17	35	43	19	10	7.4	6.0
3	2.0	1.9	255	11	25	17	30	43	19	10	7.3	6.2
4	2.0	1.9	41	11	24	17	27	41	18	10	7.1	6.2
5	2.0	1.8	153	10	23	16	25	40	18	10	7.0	5.7
6	2.0	1.9	681	10	23	15	24	38	18	10	7.1	5.4
7	2.0	40	250	9.8	22	12	25	36	17	10	7.3	5.3
8	2.0	13	100	9.6	21	11	23	35	17	9.6	7.3	5.2
9	2.0	6.1	64	9.4	20	11	22	35	17	9.3	7.1	5.1
10	2.0	5.0	47	9.2	20	11	21	35	17	9.1	6.9	5.0
11	2.0	4.3	40	9.0	19	14	50	34	17	8.9	6.6	4.8
12	2.1	3.9	35	8.8	19	67	40	33	18	8.8	6.4	5.0
13	2.1	3.8	30	8.6	18	135	35	31	17	8.8	6.2	5.1
14	2.1	3.6	27	8.5	19	81	31	30	16	8.8	6.4	5.0
15	2.3	3.4	24	8.4	18	54	28	29	15	8.7	6.4	4.5
16	2.1	3.3	22	8.3	18	43	27	28	15	8.6	6.5	4.4
17	2.1	3.3	20	8.2	18	39	27	27	15	8.7	6.3	4.5
18	2.1	3.2	18	8.2	18	36	50	27	14	8.4	6.2	4.8
19	2.0	3.0	17	8.3	17	32	50	26	14	8.2	6.2	5.0
20	2.0	3.1	17	8.0	17	30	45	25	13	8.0	6.1	4.9
21	2.0	3.4	16	7.7	16	28	54	24	13	7.9	6.3	4.7
22	2.0	3.1	17	58	16	26	70	23	13	7.8	6.3	4.7
23	2.1	3.0	19	50	16	24	130	23	13	7.6	6.1	4.6
24	2.0	2.9	20	181	16	23	70	23	12	7.5	6.0	4.8
25	2.0	2.9	22	123	17	22	60	23	12	7.5	5.8	4.6
26	2.0	2.8	20	68	17	21	58	22	12	7.3	5.8	4.4
27	2.0	2.7	18	52	16	19	52	22	11	7.2	5.6	4.2
28	2.0	2.6	17	43	16	23	50	22	11	7.2	5.6	4.4
29	2.0	2.6	15	39	-----	25	48	22	11	7.4	5.4	4.3
30	2.0	2.6	14	35	-----	23	46	21	11	7.4	5.3	4.3
31	1.9	-----	13	33	-----	29	-----	26	-----	7.4	5.3	-----
TOTAL	62.9	138.9	2,039.3	878.0	546	936	1,284	932	454	267.1	198.8	148.6
MEAN	2.03	4.63	65.8	28.3	19.5	30.2	42.8	30.1	15.1	8.62	6.41	4.95
MAX	2.3	40	681	181	29	135	130	45	21	11	7.5	6.2
MIN	1.9	1.8	2.6	7.7	16	11	21	21	11	7.2	5.3	4.2
AC-FT	125	276	4,040	1,740	1,080	1,860	2,550	1,850	901	530	394	295

CAL YR 1966: TOTAL 4,879.1

MEAN 13.4

MAX 681

MIN 1.7

AC-FT 9,680

WAT YR 1967: TOTAL 7,885.6

MEAN 21.6

MAX 681

MIN 1.8

AC-FT 15,640

Peak discharge (base, 40 cfs)

Note.--No gage-height record Mar. 31 to May 2.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1700	2.20	96	1-24	1830	5.20	675
12-3	0630	5.50	750	3-13	0745	3.01	206
12-6	1715	7.66	1,360	4-23	Unknown	Unknown	Unknown

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.

DRAINAGE AREA.--91.2 sq mi.

RECORDS AVAILABLE.--February 1956 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 220 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 23.8 cfs (17,230 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,790 cfs Jan. 24 (gage height, 4.43 ft); minimum daily, 0.70 cfs Jan. 21, Apr. 9.

1956-67: 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. Los Angeles County Flood Control District diverted 15,680 acre-ft of water from San Gabriel River below Santa Fe Dam to Rio Hondo for ground-water recharge during year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Sixteen discharge measurements and records of diversion furnished by the Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	2.7	2.7	1.6	73	1.7	237	6.7	2.1	1.1	3.6	33
2	2.3	3.1	388	1.1	118	1.7	4.9	7.6	2.5	.80	3.6	14
3	1.9	3.1	970	1.1	48	1.4	2.9	8.8	2.5	2.1	3.4	16
4	2.1	3.4	7.2	1.1	1.1	8.1	9.9	6.8	1.4	1.9	3.4	17
5	2.1	3.4	697	2.1	.80	1.6	2.9	6.4	1.7	1.9	2.5	17
6	2.1	3.8	956	1.4	1.4	1.7	2.3	4.4	2.7	2.7	1.9	19
7	2.5	1.110	36	.80	1.6	1.9	9.4	1.9	3.1	2.5	3.1	19
8	2.5	4.8	74	1.0	1.4	1.6	1.1	2.9	2.7	2.5	3.6	17
9	1.2	2.0	156	1.6	1.4	1.4	.70	4.4	2.3	1.1	7.6	20
10	5.9	1.9	118	1.6	1.4	2.4	3.3	4.3	1.2	2.5	18	20
11	1.9	1.9	94	1.6	1.2	77	385	2.5	1.6	3.1	19	18
12	2.5	1.4	82	1.9	.80	269	24	2.5	8.1	2.3	18	18
13	2.3	1.4	82	1.9	1.2	278	10	1.6	4.1	2.7	19	16
14	2.3	1.7	82	1.2	1.1	43	2.3	1.4	2.3	3.6	23	16
15	2.1	1.9	82	1.2	1.0	2.2	3.1	1.9	1.9	3.0	24	18
16	1.1	1.9	82	2.3	1.0	1.6	2.9	2.3	2.7	3.0	28	18
17	1.9	1.9	82	1.6	1.2	1.6	2.9	2.3	3.4	2.7	28	18
18	2.1	1.7	94	1.0	1.2	10	224	2.3	1.7	2.7	26	16
19	2.1	1.6	124	1.1	.80	28	80	2.3	1.7	2.7	26	16
20	1.9	5.5	112	1.2	1.4	40	7.6	2.9	2.3	2.7	16	17
21	2.3	2.8	124	.70	2.1	70	274	2.3	2.3	2.7	9.2	17
22	2.1	5.0	130	1.370	3.1	100	154	4.1	2.1	2.9	19	16
23	1.1	2.4	112	93	3.4	112	2.3	2.9	2.1	2.9	19	16
24	1.9	1.2	100	1.610	2.3	106	106	2.9	1.6	2.9	19	16
25	1.9	1.2	100	54	6.6	70	2.5	4.0	1.2	3.1	18	16
26	2.7	1.2	100	3.4	.80	25	2.9	3.4	1.7	3.1	17	27
27	2.7	1.1	128	52	3.4	3.1	2.9	2.7	2.9	3.6	15	16
28	2.7	1.6	156	112	1.7	3.6	11	1.7	2.3	3.6	15	29
29	2.7	2.3	59	112		3.6	10	1.9	1.9	3.6	17	15
30	1.7	2.5	1.7	142	- - - - -	2.9	5.4	3.0	2.1	1.6	22	10
31	2.9	- - - - -	1.6	53	- - - - -	163	- - - - -	7.3	- - - - -	2.9	23	- - - - -
Total	69.4	1,180.4	5,373.2	3,650.50	282.40	1,433.1	1,597.20	112.4	72.2	80.50	470.9	541
Mean	2.24	39.3	173	118	10.1	46.2	53.2	3.63	2.41	2.60	15.2	18.0
Max	5.9	1,110	970	1,610	118	278	385	8.8	8.1	3.6	28	33
Min	1.1	1.1	1.6	0.70	0.80	1.4	0.70	1.4	1.2	0.80	1.9	10
Ac-ft	138	2,340	10,650	7,240	550	2,840	3,170	223	143	150	934	1,070

Cal yr 1966: Total 10,515.60 Mean 28.8 Max 1,110 Min 0.40 Ac-ft 20,850
Wtr yr 1967: Total 14,863.20 Mean 40.7 Max 1,610 Min 0.70 Ac-ft 29,480

LOS ANGELES RIVER BASIN

11-1015. RIO HONDO NEAR MONTEBELLO, CALIF.

LOCATION.--Lat 34°02'00", long 118°04'22", in Potrero Grande Grant, on right bank 900 ft upstream from Mission Bridge and 2 miles northeast of Montebello, Los Angeles County.

DRAINAGE AREA.--116 sq mi (excluding area above Santa Fe Dam).

RECORDS AVAILABLE.--October 1928 to September 1967.

GAGE.--Graphic 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, 8,130 cfs Jan. 24 (gage height, 12.35 ft); minimum daily, 3.4 cfs Nov. 6.

1928-67: 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; no flow for some days in 1964, 1965.

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 above station. Since 1957, at times, imported Colorado River water has been released to Rio Hondo 1.6 miles above station for ground-water recharge. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	188	4.4	148	4.6	75	126	274	83	212	7.0	7.0	132
2	179	3.6	336	4.4	140	126	123	103	212	6.3	7.3	30
3	193	4.1	1,160	4.9	85	126	157	106	212	6.6	7.0	26
4	203	4.1	19	4.6	56	144	184	106	205	6.6	7.0	26
5	198	4.1	815	4.6	140	123	159	104	218	6.3	6.6	74
6	191	3.4	1,140	4.9	144	59	128	101	225	7.0	6.6	148
7	188	1,490	203	4.4	133	9.0	195	91	178	7.0	7.0	154
8	156	24	62	4.1	95	8.0	159	101	13	7.0	7.3	154
9	173	6.0	184	4.0	55	7.3	130	112	7.7	6.0	13	173
10	156	6.3	131	96	65	8.3	130	128	6.6	7.0	26	133
11	196	6.0	98	103	55	171	526	131	6.6	8.5	29	86
12	186	4.9	96	104	64	376	100	133	22	7.7	25	179
13	154	4.9	98	113	65	346	154	133	9.0	7.7	25	220
14	112	4.9	104	92	65	91	119	133	6.6	8.0	26	222
15	112	4.9	106	90	61	9.4	93	135	7.7	8.0	27	235
16	118	4.1	104	92	61	9.9	93	139	8.0	7.0	28	235
17	116	3.6	107	110	61	9.9	126	108	7.7	7.7	29	230
18	103	45	116	130	64	17	457	10	7.0	7.3	26	232
19	99	123	129	130	64	52	313	74	6.6	8.0	27	235
20	69	82	154	133	65	78	156	146	7.0	8.0	22	240
21	87	44	154	87	66	109	494	146	7.0	8.0	14	232
22	112	144	158	1,890	66	124	248	139	7.3	8.0	38	218
23	85	144	150	119	68	130	9.4	140	7.0	8.5	69	212
24	158	146	121	2,120	54	126	134	146	7.0	7.0	68	220
25	218	150	107	78	19	96	88	178	6.6	7.3	81	220
26	230	150	103	14	7.0	50	139	220	6.6	7.3	99	227
27	225	160	136	88	54	9.4	79	220	7.0	7.3	98	218
28	88	160	162	137	114	60	82	220	7.0	7.3	104	242
29	6.3	154	99	131		140	39	218	7.3	7.0	96	168
30	5.6	148	6.6	168	-----	115	75	215	7.3	6.0	96	160
31	5.3	-----	5.3	111	-----	182	-----	220	-----	6.6	99	-----
Total	4,340.2	3,253.3	6,511.9	6,212.5	2,091.0	3,048.2	5,183.4	4,239	1,647.6	2,250	1,220.8	5,281
Mean	140	108	210	200	74.7	98.3	173	137	54.9	7.26	39.4	176
Max	230	1,490	1,160	2,120	144	376	526	220	225	8.5	104	242
Min	5.3	3.4	5.3	4.1	7.0	7.3	9.4	10	6.6	6.0	6.6	26
Ac-ft	3,610	6,450	12,920	12,320	4,150	6,050	10,280	3,410	3,270	446	2,420	10,470
Ac-ft†	3,270	3,180	492	2,590	3,140	1,880	5,790	7,970	2,730	0	1,160	9,060

Cal yr 1966: Total 43,148.7 Mean 118 Max 1,490 Min 2.4 Ac-ft 85,580 Ac-ft + 60,850
Wtr yr 1967: Total 43,253.9 Mean 119 Max 2,120 Min 3.4 Ac-ft 85,790 Ac-ft + 46,260

† Colorado River water, in acre-ft, released to Rio Hondo via Alhambra Wash, 1.6 miles upstream, for ground-water recharge in Rio Hondo 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.--4.16 sq mi.

RECORDS AVAILABLE.--October 1929 to September 1967. Yearly estimated for 1938, published in WSP 1315-B. Prior to October 1944, published as Rio Hondo Slough near Montebello.

GAGE.--Graphic water-stage recorder. Datum of gage is 187.7 ft above mean sea level. Prior to Nov. 3, 1938, at datum 6.30 ft higher.

AVERAGE DISCHARGE.--38 years, 12.1 cfs (8,760 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14 cfs Apr. 22 (gage height, 7.13 ft); no flow Oct. 1 to Nov. 6, Nov. 8-16.
1929-67: Maximum discharge not determined, occurred Mar. 2, 1938; no flow at times in some years.

REMARKS.--Flow is almost entirely from ground-water seepage. Flow partially regulated above station by Legg Lake. No diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.50	0.70	2.4	3.3	3.6	6.5	5.5	3.2	5.0	2.9
2		0	.60	.60	2.4	3.1	5.0	6.5	5.4	3.3	4.2	3.0
3		0	2.0	.60	2.4	3.0	5.0	6.4	5.6	3.3	3.7	3.4
4		0	.80	.60	2.0	3.2	5.0	6.3	5.3	3.3	3.7	3.5
5		0	1.2	.60	2.1	3.3	5.2	6.3	5.0	3.3	3.8	3.3
6		0	1.4	.80	2.2	3.2	5.2	6.3	4.2	3.2	3.8	4.2
7		.30	1.3	.80	2.2	3.0	5.3	6.3	3.6	3.2	3.4	4.6
8		0	1.2	.80	2.2	2.6	5.3	6.0	3.2	4.8	3.4	4.8
9		0	1.2	.90	1.9	2.4	5.2	6.1	3.1	9.4	4.3	4.8
10		0	1.2	1.0	1.8	2.4	5.2	6.2	3.0	8.7	4.3	4.7
11		0	1.1	1.0	1.7	3.0	8.0	6.3	2.9	8.9	3.8	4.3
12		0	1.1	1.0	1.7	4.6	6.1	6.3	2.8	10	3.5	4.3
13		0	1.1	1.0	1.8	4.5	6.6	6.4	2.8	11	3.2	4.2
14		0	1.2	.90	1.7	4.8	6.5	6.3	2.8	11	3.7	4.3
15		0	1.2	.90	1.9	4.3	6.2	6.0	2.8	9.8	3.9	4.9
16		0	1.1	1.0	1.9	4.5	6.2	4.5	2.8	8.8	3.7	5.2
17		.10	1.0	1.0	2.0	4.5	6.1	4.8	2.7	8.2	3.3	5.2
18		.30	.90	1.0	2.0	4.3	6.7	5.1	2.7	8.0	3.0	5.2
19		.80	.90	1.0	2.0	4.2	7.7	5.1	2.9	7.7	3.1	5.1
20		.70	.90	1.1	2.0	4.2	7.2	5.1	2.7	9.0	3.2	4.9
21		.60	.80	1.0	2.0	4.0	10	5.1	2.6	8.8	2.8	4.4
22		.60	.80	3.0	2.1	4.1	13	5.2	2.4	8.4	3.0	4.2
23		.80	.80	2.0	2.1	3.8	9.1	5.2	2.4	6.2	3.3	4.2
24		.60	.90	7.0	2.4	3.3	9.2	5.2	2.4	5.3	3.1	4.4
25		.80	.90	3.0	2.9	2.7	8.2	5.3	2.4	4.0	3.1	4.5
26		.90	1.0	2.5	3.1	2.4	7.8	5.3	2.4	5.0	3.1	4.5
27		.90	1.0	2.3	3.0	2.1	7.3	5.3	2.4	5.9	3.2	5.2
28		.80	1.2	2.6	3.2	2.1	7.0	5.4	2.4	5.6	3.6	5.6
29		.80	1.1	2.5		2.5	6.9	5.4	2.0	5.2	3.5	5.8
30		.70	.90	2.5	-----	2.7	6.7	5.4	2.2	4.9	3.1	6.0
31		-----	.80	2.7	-----	3.3	-----	5.5	-----	4.9	2.9	-----
Total	0	9.70	32.10	48.40	61.1	105.4	202.5	177.1	95.4	202.3	108.7	135.6
Mean	0	0.323	1.04	1.56	2.18	3.40	6.75	5.71	3.18	6.53	3.51	4.52
Max	0	0.90	2.0	7.0	3.2	4.8	13	6.5	5.6	11	5.0	6.0
Min	0	0	0.50	0.60	1.7	2.1	3.6	4.5	2.0	3.2	2.8	2.9
Ac-ft	0	19	64	96	121	209	402	351	189	401	216	259

Cal yr 1966: Total 90.70 Mean 0.248 Max 2.0 Min 0 Ac-ft 180
Wtr yr 1967: Total 1,178.50 Mean 3.23 Max 13 Min 0 Ac-ft 2,340

LOS ANGELES RIVER BASIN

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 1967.

GAGE.--Graphic 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, 5.4 cfs Dec. 4; no flow for many days.
1955-67: Maximum daily discharge, 18 cfs Jan. 6, 1959; no flow for many days in most years.

REMARKS.--Records good. Flow is almost entirely from ground-water seepage. Flow regulated or diverted above station at Whittier Narrows Dam. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	0	0	0.50	1.2	1.40	0.90	1.1	1.2	1.4	0	2.2
2	.40	0	0	.50	1.2	1.6	.90	1.3	1.2	1.4	1.0	2.3
3	.40	0	4.3	.50	1.2	1.6	.90	1.4	1.2	1.2	1.8	2.0
4	.30	0	5.4	.40	1.2	1.6	.90	1.5	1.2	1.1	1.8	1.9
5	.20	0	.60	.40	1.9	1.6	.90	1.5	1.2	1.1	1.8	2.2
6	.10	0	1.7	.40	1.7	1.6	.90	1.5	1.3	1.2	1.8	2.0
7	0	.20	1.7	.40	1.2	1.6	1.0	1.5	1.5	1.2	1.8	1.9
8	0	.20	1.5	.40	1.2	1.6	1.0	1.5	1.5	1.2	1.9	1.8
9	0	0	1.4	.40	1.2	1.6	1.1	1.5	1.5	1.2	1.9	1.7
10	0	0	1.4	.40	1.2	1.6	1.2	1.5	1.5	1.3	1.9	1.8
11	0	0	1.3	.40	1.2	1.6	1.1	1.5	1.5	1.3	1.8	1.8
12	0	0	1.1	.40	1.2	1.5	1.1	1.5	1.5	1.3	1.7	1.9
13	0	0	1.0	.40	2.2	1.4	1.1	1.5	1.5	1.3	1.7	1.9
14	0	0	.90	.40	2.1	1.3	1.1	1.6	1.5	1.3	1.8	1.9
15	0	0	.80	.40	1.2	1.3	1.0	1.6	1.4	1.3	1.9	1.9
16	0	0	.70	.40	1.2	1.3	.90	1.6	1.4	1.3	1.9	1.9
17	0	0	.60	.40	1.2	1.3	1.1	1.7	1.4	1.3	1.8	1.9
18	0	0	.60	.40	1.1	1.3	1.1	1.4	1.0	1.1	1.7	1.9
19	0	0	.60	.50	1.1	1.3	1.0	1.3	.90	1.1	1.6	1.9
20	0	0	.60	.50	1.1	1.3	1.0	1.2	1.2	.40	1.6	2.0
21	0	0	.60	.50	1.1	1.3	1.0	1.2	1.3	0	1.6	2.0
22	0	0	.60	.70	2.4	1.3	1.0	1.2	1.3	0	1.7	1.9
23	0	0	.60	1.2	1.9	1.3	1.0	1.2	1.3	0	1.8	1.9
24	0	0	.60	2.1	1.0	1.3	1.0	1.3	1.3	0	1.8	1.9
25	0	0	.60	1.5	1.0	1.2	1.0	1.3	1.3	0	1.8	1.9
26	0	.10	.60	1.2	1.1	1.1	1.1	1.3	1.3	0	1.8	1.8
27	0	0	.60	1.2	1.1	1.1	1.3	1.3	1.3	0	1.9	1.8
28	0	0	.60	1.2	1.1	1.1	1.3	1.3	1.3	0	2.0	1.8
29	0	0	.70	1.2	1.1	1.1	1.2	1.3	1.3	0	2.0	1.8
30	0	0	.70	1.2	1.1	1.1	1.1	1.2	1.3	0	2.3	1.8
31	0	- - - -	.60	1.2	- - - -	.90	- - - -	1.1	- - - -	0	2.3	- - - -
Total	1.80	0.50	33.00	21.70	37.5	42.20	31.20	42.9	39.60	24.00	54.2	57.4
Mean	0.058	0.016	1.06	0.700	1.34	1.36	1.04	1.38	1.32	0.774	1.75	1.91
Max	0.40	0.20	5.4	2.1	2.4	1.6	1.3	1.7	1.5	1.4	2.3	2.3
Min	0	0	0	0.40	1.0	0.90	0.90	1.1	0.90	0	0	1.7
Ac-ft	3.6	1.0	65	43	74	84	62	85	79	48	108	114

Cal yr 1966: Total 67.50 Mean 0.185 Max 6.3 Min 0 Ac-ft 134
Wtr yr 1967: Total 386.00 Mean 1.06 Max 5.4 Min 0 Ac-ft 766

11-1023. RIO HONDO BELOW WHITTIER NARROWS DAM, CALIF.

LOCATION.--Lat 34°01'00", long 118°05'15", in Paso de Bartolo Grant, on right levee, 0.25 mile upstream from Beverly Boulevard, 0.4 mile downstream from axis of Whittier Narrows Dam, 1.0 mile northeast of Montebello, Los Angeles County.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 175 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 19,100 cfs Jan. 24 (gage height, 9.73 ft), from rating curve extended above 1,200 cfs on basis of computation of maximum flow in concrete-lined channel; no flow Oct. 29-31.

REMARKS.--Records good. Flow regulated by Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft). There are several small flood-control reservoirs (combined capacities, 1,700 acre-ft) and several small debris basins above Whittier Narrows Dam. Many diversions for domestic use and irrigation. At times flow is diverted from San Gabriel River to Rio Hondo from sites below Santa Fe Dam and above Whittier Narrows Dam. See schematic diagram of San Gabriel and Los Angeles River basins.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	192	6.8	136	6.8	75	116	191	101	226	71	55	134
2	178	8.4	236	6.8	121	116	184	126	226	71	36	63
3	176	12	793	6.8	101	116	184	126	233	71	19	59
4	186	8.4	259	6.8	67	131	188	126	226	59	16	59
5	197	8.4	639	6.8	136	111	178	126	233	55	12	94
6	174	8.4	955	6.8	136	77	148	126	233	55	10	154
7	196	910	350	6.8	116	14	226	126	203	55	6.8	154
8	185	335	257	6.8	86	6.8	172	126	30	59	8.4	166
9	194	12	191	34	63	6.8	142	156	12	67	10	184
10	190	6.8	154	91	63	12	142	172	14	67	10	152
11	214	6.8	131	91	67	132	518	160	16	67	10	117
12	204	6.8	131	96	67	291	121	160	35	43	10	191
13	194	6.8	131	96	67	403	191	160	34	30	10	240
14	136	5.2	136	91	67	130	148	160	36	61	10	254
15	128	5.2	120	86	67	36	121	160	57	55	10	261
16	134	3.6	131	81	67	30	116	160	59	55	10	261
17	136	2.3	126	86	67	24	126	119	63	55	10	254
18	113	34	121	91	67	28	434	16	59	55	10	254
19	118	116	148	91	67	44	336	65	55	55	10	247
20	94	94	154	91	67	67	154	166	55	63	12	261
21	98	50	148	71	67	91	382	172	55	67	12	254
22	138	136	148	1,320	67	106	296	191	55	76	12	240
23	102	136	142	400	67	116	47	233	55	76	272	240
24	154	136	121	5,050	63	116	159	219	55	76	160	254
25	243	148	116	205	44	101	70	219	55	76	101	254
26	246	148	111	157	34	59	148	247	55	36	116	256
27	240	148	131	67	59	24	96	247	55	44	116	247
28	96	148	154	136	121	64	96	240	67	51	126	263
29	0	148	90	126		136	63	226	76	51	116	191
30	0	136	19	159	- - - - -	126	91	226	76	51	111	184
31	0	- - - - -	8.4	140	- - - - -	175	- - - - -	233	- - - - -	51	116	- - - - -
Total	4,656	2,930.9	6,487.4	3,920.4	2,156	3,005.6	5,468	5,100	2,709	1,824	1,543.2	5,942
Mean	150	97.7	209	288	77.0	97.0	182	165	90.3	58.8	49.8	198
Max	246	910	955	5,050	136	403	518	247	233	76	272	263
Min	0	2.3	8.4	6.8	34	6.8	47	16	12	30	6.8	59
Ac-ft	9,240	5,810	12,870	17,690	4,280	5,960	10,850	10,120	5,370	3,620	3,060	11,790

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total 50,742.1 Mean 139 Max 5,060 Min 0 Ac-ft 100,600

LOS ANGELES RIVER BASIN

11-1025. RIO HONDO NEAR DOWNEY, CALIF.

LOCATION.--Lat 33°56'48", long 118°09'43", in San Antonio Grant, on left bank 700 ft upstream from Stewart and Gray Road Bridge, 1.0 mile upstream from mouth, and 1.5 miles west of Downey, Los Angeles County.

DRAINAGE AREA.--143 sq mi (excluding area above Santa Fe Dam).

RECORDS AVAILABLE.--March 1928 to September 1967.

GAGE.--Graphic 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 datum 1.5 ft lower.

EXTREMES.--Maximum discharge during year, 20,100 cfs Jan. 24 (gage height, 9.47 ft); no flow for some days. 1928-67: Maximum discharge, 24,400 cfs Mar. 3, 1938 (gage height, 12.0 ft, present datum), from rating curve extended above 10,000 cfs on basis of slope-area measurement of maximum flow; no flow for part of each year.

REMARKS.--Flow regulated since January 1956 by Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft). There are several small flood-control reservoirs (combined capacity, 1,700 acre-ft) and several debris basins above Whittier Narrows Dam. 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 above station. Since 1937 much of the flow in Rio Hondo has been diverted to percolation basin from a site 5.5 miles upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.10	0.30	0	0.30	1.0	67	0.10	0.20	0.20	1.4	4.4
2	.30	0	.64	0	.30	.50	3.6	.10	.30	.10	1.0	1.0
3	.30	.10	617	0	.30	.10	.20	.20	.50	.20	5.2	.30
4	.30	.20	4.4	0	.30	2.0	1.8	.10	.30	.20	4.4	.20
5	.20	.30	346	0	.30	0	.30	.10	.30	0	1.4	.30
6	.20	.20	612	0	0	0	.10	.20	.30	.10	.30	.30
7	.30	1.240	.26	0	0	0	32	.20	.30	0	.10	.30
8	.30	11	1.8	0	0	.30	.30	.30	.30	0	0	.50
9	.30	3.6	1.0	0	0	.30	.30	.30	1.4	.20	.10	.30
10	8.3	.50	.30	0	0	.30	.30	.30	.50	0	.30	1.4
11	.30	.30	.30	0	.20	38	139	.20	.30	0	.30	1.0
12	.30	.20	1.0	0	.30	53	1.0	.20	1.4	0	.20	1.0
13	.30	.10	.50	0	.30	94	.30	0	.30	0	.20	1.4
14	.30	.10	.30	.20	.30	32	.20	.20	.20	.20	.20	1.8
15	.30	0	.30	.20	.20	.20	.10	.30	.20	.30	.20	1.4
16	.30	0	.20	.30	.20	0	.30	.30	.20	.30	.30	1.0
17	.20	.30	.10	.30	.20	0	.20	.30	.30	.30	.30	.30
18	.10	.20	0	.50	.30	0	72	.20	.20	.30	.30	.30
19	.10	.30	0	.30	.20	0	43	.20	.10	.30	.30	1.8
20	.20	7.3	.20	1.0	.30	0	6.7	.20	.20	.30	.30	.30
21	.30	.50	.20	.30	.30	.10	157	.30	.30	.30	.30	.30
22	.10	.20	.20	1.360	.50	.10	82	.30	.30	.50	.50	.30
23	0	.10	0	214	1.0	.20	1.0	.30	.20	.30	.30	.30
24	0	0	0	5.120	1.0	.10	45	.30	.20	.30	.20	.30
25	0	0	0	94	3.6	.20	.50	.30	.20	.30	.30	.30
26	0	0	0	.30	.50	.30	.30	0	.20	1.0	.30	1.0
27	.20	0	0	.30	.50	.20	.30	0	0	.50	.30	3.6
28	.20	.20	0	.30	.50	.20	6.9	.10	0	1.0	.30	47
29	.30	.30	0	.30	0	0	.30	.20	.20	1.0	.30	1.4
30	.30	.30	0	.30	-----	0	.20	.20	.20	1.0	.30	.30
31	.20	-----	0	.30	-----	74	-----	.30	-----	1.0	.50	-----
Total	14.70	1.266.40	1.676.10	6.792.90	11.90	307.10	672.20	6.30	9.60	10.20	20.40	74.10
Mean	0.474	42.2	54.1	219	0.425	9.91	22.4	0.203	0.320	0.329	0.658	2.47
Max	8.3	1.240	617	5.120	3.6	94	157	0.30	1.4	1.0	5.2	47
Min	0	0	0	0	0	0	0.10	0	0	0	0	0.20
Ac-ft	29	2.510	3.320	13.470	24	609	1.330	12	19	20	40	146

Cal yr 1966: Total 7.184.20 Mean 19.7 Max 1.240 Min 0 Ac-ft 14.250
Wtr yr 1967: Total 10.861.90 Mean 29.8 Max 5.120 Min 0 Ac-ft 21.540

LOS ANGELES RIVER BASIN

227

11-1030. LOS ANGELES RIVER AT LONG BEACH, CALIF.

LOCATION.--Lat 33°49'02", long 118°12'20", 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.

DRAINAGE AREA.--832 sq mi.

RECORDS AVAILABLE.--December 1928 to September 1967.

GAGE.--Graphic 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.--38 years (1929-67), 143 cfs (103,500 acre-ft per year); median of yearly mean discharges, 92 cfs (66,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 43,700 cfs Nov. 7 (gage height, 9.96 ft); minimum daily, 9.9 cfs Oct. 16.

1928-67: 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 since September 1940 by Hansen flood-control reservoir and since December 1941 by Sepulveda flood-control reservoir (combined capacity, 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. AVERAGE DISCHARGE represents flow to the ocean, regardless of upstream development. See schematic diagram of San Gabriel and Los Angeles River basins.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	19	30	26	57	33	1,010	30	47	28	34	111
2	15	15	468	23	66	31	716	35	36	23	34	141
3	16	16	6,320	24	56	28	73	34	35	20	38	99
4	17	19	197	34	48	76	216	39	28	24	38	39
5	16	15	4,560	33	39	26	292	34	27	24	34	37
6	18	14	5,350	35	36	22	57	35	31	29	30	40
7	15	12,400	1,470	41	40	24	502	30	41	28	26	32
8	16	513	257	31	43	28	114	33	42	28	31	30
9	14	76	94	31	43	24	45	38	44	26	33	29
10	46	49	62	37	42	24	30	63	32	24	32	26
11	23	38	58	40	40	507	1,940	58	26	28	31	28
12	16	34	58	47	36	2,050	144	35	34	32	29	28
13	16	24	48	37	34	1,890	40	30	37	32	26	27
14	15	21	48	33	49	801	41	26	32	30	24	27
15	12	29	41	30	37	225	36	31	31	35	31	30
16	9.9	31	39	31	38	121	46	42	36	33	30	27
17	10	34	34	39	37	79	34	38	34	27	31	22
18	16	25	30	42	31	52	1,370	38	30	28	29	24
19	16	24	30	39	28	57	880	43	28	28	27	28
20	16	287	36	37	28	48	121	34	32	27	26	27
21	16	404	37	35	33	26	1,250	30	40	30	24	26
22	14	47	375	3,970	32	30	1,410	31	40	31	30	26
23	11	37	76	1,840	34	34	122	37	30	26	30	25
24	12	30	31	10,400	35	38	933	35	28	27	30	22
25	14	17	24	1,450	162	31	129	34	25	30	29	22
26	18	17	22	275	95	25	94	34	24	31	30	24
27	16	18	25	210	39	31	58	38	30	30	24	41
28	16	24	32	83	36	35	85	38	36	32	23	515
29	16	48	35	56	34	34	462	37	39	29	29	173
30	14	25	37	78	-----	27	58	32	31	28	28	218
31	16	-----	33	478	-----	1,330	-----	34	-----	27	30	-----
Total	508.9	14,350	19,967	24,555	1,294	7,797	12,318	1,126	1,006	875	921	1,944
Mean	16.4	478	644	792	46.2	252	411	36.3	33.5	28.2	29.7	54.8
Max	46	12,400	6,320	10,400	162	2,050	1,940	63	47	35	38	515
Min	9.9	14	22	23	28	22	30	26	24	20	23	22
Ac-ft	1,010	23,460	39,600	43,720	2,570	15,470	24,430	2,230	2,000	1,740	1,830	3,860
Cal yr 1966: Total	56,244.3		Mean	154	Max	12,400	Min	3.0	Ac-ft	111,600		
Wtr yr 1967: Total	86,671.9		Mean	237	Max	12,400	Min	9.9	Ac-ft	171,900		

BALLONA CREEK BASIN

11-1035. BALLONA CREEK NEAR CULVER CITY, CALIF.

LOCATION (revised).--Lat 33°59'54", long 118°24'05", in La Ballona Grant, 500 ft upstream from Sawtelle Boulevard Bridge, 1.7 miles south of Culver City, Los Angeles County, and 4.1 miles upstream from mouth. Prior to Aug. 11, 1967 at site 500 ft downstream.

DRAINAGE AREA.--89.5 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 1967 (after December 1950, flow of Sepulveda Creek excluded).

GAGE.--Graphic water-stage recorder. Datum of gage is 11.98 ft 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. 3, 1961, at datum 0.72 ft lower and Oct. 24, 1961, to Aug. 10, 1967, at datum 0.92 ft lower at site 500 ft downstream.

AVERAGE DISCHARGE.--22 years (1928-50), 35.2 cfs (25,480 acre-ft per year); 17 years (1950-67), 40.1 cfs (29,030 acre-ft per year); median of yearly mean discharges, 31 cfs (22,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 13,900 cfs Nov. 7 (gage height, 10.20 ft); minimum daily, 6.7 cfs Apr. 9.

1928-67: Maximum discharge, 19,000 cfs Mar. 2, 1938 (gage height, 15.4 ft, datum then in use); no flow in parts of some years.

REMARKS.--No regulation above station. City of Los Angeles at times discharges imported Owens River water from several distribution reservoirs 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	13	9.5	10	17	13	405	13	15	14	18	51
2	10	13	739	10	15	15	44	14	14	12	15	14
3	12	14	1,280	14	13	12	13	13	14	14	14	11
4	14	10	45	13	13	36	60	14	9.5	14	13	11
5	12	13	1,690	13	12	12	12	13	14	14	10	13
6	15	14	1,110	12	15	12	12	14	13	14	8.8	13
7	15	3,020	36	9.5	14	12	136	12	13	13	10	12
8	13	28	16	8.8	14	10	7.4	17	14	13	10	11
9	12	13	15	14	14	8.8	6.7	14	12	8.1	14	11
10	35	16	12	14	13	12	13	15	10	12	14	11
11	14	12	9.5	16	10	246	569	15	7.4	12	10	12
12	12	13	14	15	10	875	13	16	9.5	13	10	12
13	14	8.8	14	14	13	349	9.5	17	13	15	10	12
14	12	9.5	14	10	12	121	10	16	12	15	12	14
15	9.5	10	14	10	12	13	9.5	20	14	13	13	13
16	9.5	10	14	15	12	8.8	8.1	18	14	14	13	13
17	12	13	15	12	12	12	9.5	16	13	13	14	11
18	13	14	12	15	12	9.5	454	12	12	13	18	12
19	12	12	13	13	8.8	9.5	181	14	16	14	12	12
20	14	183	14	12	12	10	13	10	18	14	11	11
21	13	17	14	12	10	13	652	10	14	14	13	11
22	13	13	15	2,910	10	12	134	14	14	10	13	11
23	9.5	10	9.5	72	13	12	13	17	15	14	12	11
24	14	8.1	10	1,900	12	12	290	12	10	13	12	10
25	17	8.8	8.1	67	82	13	16	13	9.5	13	12	12
26	14	9.5	8.8	24	12	9.5	15	14	16	14	11	12
27	13	8.8	10	20	15	12	13	13	14	15	12	12
28	14	20	12	18	14	15	90	9.5	14	15	12	220
29	8.8	12	13	13		16	16	15	14	12	14	28
30	8.8	13	12	143	- - - - -	12	14	13	15	16	14	12
31	10	- - - - -	12	39	- - - - -	411	- - - - -	13	- - - - -	17	18	- - - - -
Total	407.1	3,559.5	5,210.4	5,468.3	421.8	2,334.1	3,238.7	436.5	392.9	417.1	392.8	619
Mean	13.1	119	168	176	15.1	75.3	108	14.1	14.0	13.5	12.7	20.6
Max	35	3,020	1,690	2,910	82	875	652	20	18	17	18	220
Min	8.8	8.1	8.1	8.8	8.8	8.8	6.7	9.5	7.4	8.1	8.8	10
Ac-ft	807	7,060	10,330	10,850	837	4,630	6,420	866	779	827	779	1,230

Cal yr 1966: Total 15,647.8 Mean 42.9 Max 3,020 Min 6.7 Ac-ft 31,040
Wtr yr 1967: Total 22,898.2 Mean 62.7 Max 3,020 Min 6.7 Ac-ft 45,420

TOPANGA CREEK BASIN

229

11-1040. TOPANGA CREEK NEAR TOPANGA BEACH, CALIF.

LOCATION.--Lat 34°03'52", 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.--18.0 sq mi.

RECORDS AVAILABLE.--January 1930 to September 1938, October 1939 to September 1967.

GAGE.--Graphic 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.--36 years, 4.97 cfs (3,600 acre-ft per year); median of yearly mean discharges, 1.6 cfs (1,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,280 cfs Jan. 24 (gage height, 8.02 ft); minimum daily, 0.10 cfs Oct. 1 to Nov. 6.

1930-38, 1939-67: Maximum discharge, 7,960 cfs Mar. 2, 1938; no flow at times in some 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	0.20	1.0	11	2.5	12	6.1	2.0	0.80	0.30	0.20
2	.10	.10	9.6	1.0	11	2.5	8.9	5.8	1.8	.80	.30	.20
3	.10	.10	91	1.0	9.2	2.5	4.2	5.5	1.7	.70	.30	.20
4	.10	.10	6.1	1.0	8.2	2.6	9.5	5.0	1.7	.70	.30	.20
5	.10	.10	51	1.0	7.8	2.3	6.8	5.0	1.4	.70	.30	.20
6	.10	.10	277	1.0	6.8	2.1	4.2	4.7	1.4	.70	.30	.20
7	.10	59	51	.90	6.4	2.3	7.5	4.2	1.4	.70	.30	.20
8	.10	2.0	17	.90	5.8	2.0	4.7	3.9	1.7	.70	.30	.20
9	.10	.40	12	.90	5.5	2.0	3.9	3.9	1.5	.60	.30	.20
10	.10	.20	8.5	.90	5.0	2.0	3.6	3.9	1.4	.50	.30	.20
11	.10	.20	6.4	.90	4.7	4.2	30	3.6	1.4	.50	.30	.20
12	.10	.20	5.0	1.0	4.4	30	10	3.6	1.3	.50	.30	.20
13	.10	.20	3.9	.90	4.2	31	6.8	3.1	1.3	.50	.30	.20
14	.10	.20	2.9	.90	4.2	12	5.8	2.9	1.2	.50	.30	.20
15	.10	.20	2.5	.90	3.9	7.5	5.2	2.8	1.2	.50	.30	.20
16	.10	.20	2.1	1.0	3.9	5.8	4.7	2.8	1.2	.40	.20	.20
17	.10	.20	2.0	1.0	3.6	5.2	4.4	2.6	1.2	.40	.20	.20
18	.10	.20	2.0	.90	3.4	4.4	22	2.6	1.3	.40	.20	.20
19	.10	.20	1.8	.90	3.4	4.2	14	2.6	1.2	.40	.20	.20
20	.10	.30	1.8	.90	3.1	3.9	8.9	2.6	1.1	.30	.20	.20
21	.10	.50	1.7	.90	2.9	3.6	17	2.6	1.1	.30	.20	.20
22	.10	.30	1.5	220	2.9	2.9	29	2.1	1.0	.30	.20	.20
23	.10	.30	1.5	60	2.8	3.1	15	2.1	1.0	.30	.20	.20
24	.10	.30	1.4	559	2.8	2.9	21	2.0	1.0	.30	.20	.20
25	.10	.30	1.4	112	3.4	2.8	13	2.0	1.0	.20	.20	.20
26	.10	.20	1.3	46	2.9	2.8	10	2.1	.90	.20	.20	.20
27	.10	.20	1.3	29	2.8	2.6	8.5	2.1	.90	.20	.20	.20
28	.10	.20	1.2	23	2.6	2.6	10	2.1	.90	.20	.20	.30
29	.10	.20	1.2	18		2.6	9.2	2.0	.90	.20	.20	.20
30	.10	.20	1.2	15	- - - -	2.5	6.8	2.0	.90	.30	.20	.20
31	.10	- - - -	1.0	13	- - - -	11	- - - -	2.0	- - - -	.30	.20	- - - -
Total	3.10	57.00	568.50	1124.80	138.6	170.4	316.6	100.3	38.00	14.10	7.70	6.10
Mean	0.10	2.23	18.3	36.3	4.95	5.50	10.6	3.24	1.27	0.455	0.248	0.203
Max	0.10	59	277	569	11	31	30	6.1	2.0	0.80	0.30	0.30
Min	0.10	0.10	0.20	0.90	2.6	2.0	3.6	2.0	0.90	0.20	0.20	0.20
Ac-ft	6.1	133	1130	2230	275	338	628	199	75	28	15	12
Cal yr 1966: Total	1321.50				Mean 3.62	Max 277	Min 0.10	Ac-ft 2,620				
Wtr yr 1967: Total	2555.20				Mean 7.00	Max 569	Min 0.10	Ac-ft 5,070				

MALIBU CREEK BASIN

11-1055. MALIBU CREEK AT CRATER CAMP, NEAR CALABASAS, CALIF.

LOCATION.--Lat 34°04'40", 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.--105 sq mi.

RECORDS AVAILABLE.--January 1931 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 432.82 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Nov. 16, 1954, at datum 2.31 ft lower.

AVERAGE DISCHARGE.--36 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, 10,200 cfs Jan. 24 (gage height, 12.40 ft); minimum daily, 0.90 cfs Oct. 3, 4, 6-10, 17, 18.

1931-67: Maximum discharge, 20,600 cfs Dec. 29, 1965 (gage height, 17.27 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in some years.

REMARKS.--Flow regulated by many small recreational reservoirs. Small diversions above station for domestic 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.4	1.9	11	61	13	23	39	5.6	3.4	2.1	1.6
2	1.0	1.4	6.2	7.8	51	12	38	24	5.4	3.6	2.1	1.6
3	.90	1.4	231	8.5	48	12	27	15	5.0	3.4	2.0	1.7
4	.90	1.7	42	12	46	12	21	15	5.0	3.2	2.1	1.7
5	1.0	1.7	138	8.5	37	12	22	15	5.0	3.1	2.3	1.7
6	.90	2.7	1710	8.5	38	11	12	15	5.6	2.6	2.3	1.7
7	.90	373	648	8.9	37	11	15	14	4.3	2.4	2.1	1.7
8	.90	34	156	7.8	30	11	14	13	4.1	2.8	2.1	1.6
9	.90	10	87	7.2	33	11	11	12	4.8	2.9	2.3	1.4
10	.90	4.6	63	6.7	30	10	12	15	4.7	2.9	2.0	1.4
11	1.2	3.4	49	8.2	30	15	58	17	4.7	2.8	1.8	1.3
12	1.1	3.2	38	7.8	23	42	30	18	4.7	2.9	1.8	1.3
13	1.0	2.7	34	7.0	33	108	20	15	3.9	2.8	1.7	1.2
14	1.0	2.4	30	6.7	25	60	19	8.9	4.1	2.8	1.8	1.4
15	1.0	1.9	26	6.3	24	39	19	7.8	3.9	2.6	1.8	1.7
16	1.0	1.7	23	5.6	22	32	17	15	3.8	2.4	1.8	1.7
17	.90	1.9	19	6.3	22	29	16	19	3.8	2.4	1.8	1.7
18	.90	1.7	16	5.9	22	24	36	14	3.9	2.3	1.7	1.4
19	1.0	1.7	15	4.8	19	22	52	7.4	3.9	2.6	1.7	1.3
20	1.0	2.7	17	4.8	22	19	40	8.5	3.8	2.4	1.7	1.2
21	1.2	3.2	14	5.4	18	17	52	7.8	3.8	2.0	2.0	1.2
22	1.2	2.4	12	659	15	17	86	7.8	3.9	2.3	2.0	1.3
23	1.2	2.4	12	306	15	16	60	6.7	3.8	2.3	2.0	1.3
24	1.4	1.9	14	2710	11	19	232	6.7	3.4	2.4	1.8	1.4
25	1.3	1.7	11	845	18	15	182	6.3	3.2	2.3	1.8	2.0
26	1.3	1.9	11	294	19	12	116	5.4	2.8	2.4	1.6	1.7
27	1.4	1.9	10	159	16	13	48	5.4	2.6	2.3	1.7	1.4
28	1.7	1.7	8.9	106	14	11	46	5.4	2.9	2.0	1.8	1.8
29	1.7	1.9	8.2	83		9.3	46	5.6	3.1	2.1	1.7	2.1
30	1.7	1.9	7.4	74	- - - - -	8.5	41	6.1	3.2	2.1	1.6	2.3
31	1.7	- - - - -	10	68	- - - - -	16	- - - - -	5.6	- - - - -	2.1	1.3	- - - - -
Total	35.20	476.1	3,458.6	5,459.7	779	658.8	1,411	376.4	1,227	80.6	58.3	46.8
Mean	1.14	15.9	112	176	27.8	21.3	47.0	12.1	4.09	2.60	1.88	1.56
Max	1.7	373	1,710	2,710	61	108	232	39	5.6	3.6	2.3	2.3
Min	0.90	1.4	1.9	4.8	11	8.5	11	5.4	2.6	2.0	1.3	1.2
Ac-ft	70	944	6,880	10,830	1,550	1,310	2,800	747	243	160	116	93

Cal yr 1966: Total 7,997.00 Mean 21.9 Max 1,710 Min 0.80 Ac-ft 15,860
Wtr yr 1967: Total 12,973.20 Mean 35.5 Max 2,710 Min 0.90 Ac-ft 25,730

SANTA CLARA RIVER BASIN

231

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.--644 sq mi.

RECORDS AVAILABLE.--October 1952 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 794.93 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--15 years, 17.2 cfs (12,450 acre-ft per year); median of yearly mean discharges, 6.5 cfs (4,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,530 cfs Jan. 24 (gage height, 9.21 ft); minimum daily, 0.1 cfs for some days in October.

1952-67: Maximum discharge, 32,000 cfs Dec. 29, 1965 (gage height, 11.50 ft), on basis of slope-area measurement of maximum flow; no flow at times in some years.

REMARKS.--Records fair. No regulation above station. Flow affected by pumping from wells along stream for irrigation.

COOPERATION.--Water-stage recorder graph and 49 discharge measurements furnished by Ventura County Flood Control District; eight discharge measurements furnished by Los Angeles County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.70	1.6	8.6	55	28	125	185	45	15	4.0	5.0
2	.30	.80	2.4	8.6	48	30	125	193	45	15	4.0	5.0
3	.30	.90	208	8.6	52	32	116	179	45	15	4.0	5.0
4	.30	1.0	12	10	39	34	97	155	45	14	4.0	5.0
5	.60	1.1	157	10	43	32	143	157	43	14	4.0	5.0
6	.60	1.3	1.150	9.3	43	30	102	173	41	13	4.5	4.5
7	.20	256	149	8.6	43	28	102	137	39	12	4.5	4.5
8	.20	6.8	32	7.9	45	26	75	125	38	11	4.5	4.5
9	.10	2.9	9.3	7.9	45	26	48	111	37	11	4.5	4.0
10	.20	2.6	5.8	7.9	43	26	55	106	36	10	4.5	4.0
11	.20	2.6	5.8	7.2	41	39	116	102	35	8.6	5.0	3.0
12	.20	2.4	5.1	5.8	55	143	116	92	34	7.9	5.0	3.0
13	.20	2.4	4.4	5.8	45	482	167	80	33	7.7	5.0	3.0
14	.10	2.2	4.4	8.6	37	225	116	72	33	7.3	5.0	3.0
15	.10	2.2	3.7	8.6	32	149	149	65	33	7.0	5.0	3.0
16	.10	2.2	5.1	10	24	106	143	58	30	7.0	5.1	3.0
17	.10	2.2	6.5	9.3	21	125	116	54	24	7.0	5.1	3.0
18	.10	2.2	6.5	7.2	28	92	201	53	23	7.0	5.8	3.0
19	.10	2.2	6.5	8.6	30	58	185	52	21	6.5	6.0	3.0
20	.10	2.2	6.5	9.3	26	58	111	51	20	6.5	6.0	3.0
21	.20	1.8	8.6	8.6	26	92	217	48	18	6.0	6.0	3.0
22	.20	1.6	7.2	770	37	48	620	48	18	5.5	6.0	3.0
23	.10	1.4	5.1	376	34	37	450	48	18	5.0	6.0	3.0
24	.10	1.4	5.1	1,850	34	32	422	48	17	4.6	6.0	3.7
25	.20	1.4	5.1	793	45	37	337	48	17	4.5	5.8	4.4
26	.20	1.4	5.1	193	39	43	319	48	16	4.0	5.8	3.7
27	.30	1.6	5.1	137	30	62	155	48	16	4.0	5.8	3.0
28	.50	1.8	5.8	116	30	62	257	48	16	4.0	5.6	2.6
29	.60	1.6	7.9	83		48	233	48	15	4.0	5.0	2.3
30	.60	1.6	8.6	62	- - - - -	48	209	48	15	4.0	5.0	1.8
31	.60	- - - - -	8.6	43	- - - - -	149	- - - - -	45	- - - - -	4.0	5.0	- - - - -
Total	8.00	322.50	1,853.8	4,599.4	1,080	2,427	5,627	2,735	866	252.1	157.5	107.0
Mean	0.258	10.8	59.8	148	38.6	78.3	188	88.2	28.9	8.13	5.08	3.57
Max	0.60	266	1,150	1,850	65	482	620	193	45	15	6.0	5.0
Min	0.10	0.70	1.6	5.8	21	26	48	45	15	4.0	4.0	1.8
Ac-ft	15	640	3,680	9,120	2,140	4,810	11,160	5,420	1,720	500	312	212

Cal yr 1966: Total 5,092.80 Mean 14.0 Max 1,150 Min 0 Ac-ft 10,100
Wtr yr 1967: Total 20,035.30 Mean 54.9 Max 1,850 Min 0.10 Ac-ft 39,740

Peak discharge (base, 750 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1630	6.40	1,340	1-24	1800	9.21	6,530
12-3	0900	5.55	625	3-13	0400	5.80	860
12-6	1800	7.53	2,840				

SANTA CLARA RIVER BASIN

11-1096. PIRU CREEK ABOVE LAKE PIRU, CALIF.

LOCATION.--Lat 34°31'40", long 118°45'21", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.5 N., R.18 W., on right bank at Blue Point, 1.0 mile downstream from Agua Blanca Creek, 4.6 miles upstream from Santa Felicia Dam, and 8.0 miles northeast of Piru.

DRAINAGE AREA.--372 sq mi.

RECORDS AVAILABLE.--October 1955 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,063.62 ft above mean sea level (levels by Ventura County Water Resources Division). Prior to May 11, 1966, graphic water-stage recorder.

AVERAGE DISCHARGE.--12 years, 43.3 cfs (31,350 acre-ft per year); median of yearly mean discharges, 15 cfs (10,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,640 cfs Dec. 6 (gage height, 8.26 ft); minimum daily, 0.50 cfs Oct. 9.

1955-67: Maximum discharge, 12,200 cfs Feb. 10, 1962 (gage height, 12.20 ft), from rating curve extended above 4,000 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

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

COOPERATION.--Six discharge measurements furnished by the Ventura County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.1	0.80	17	32	135	35	117	292	70	25	8.9	3.1
2	1.3	0.70	21	32	114	34	119	278	68	23	8.6	3.3
3	1.4	0.80	349	31	98	33	98	274	66	21	8.2	4.1
4	1.3	1.1	138	29	89	34	165	275	63	21	7.8	4.4
5	1.2	1.2	206	29	79	34	207	272	61	21	7.1	4.1
6	1.3	1.8	1,910	29	68	32	162	250	59	21	6.6	3.7
7	0.90	460	994	28	61	31	182	242	60	20	7.5	3.5
8	0.70	249	424	27	54	30	198	243	61	20	7.5	3.4
9	0.50	62	278	27	47	30	153	260	60	20	7.9	3.4
10	0.70	37	202	27	44	31	144	251	60	20	7.9	3.9
11	1.0	26	158	27	41	68	221	222	59	19	7.7	4.2
12	1.2	23	122	26	39	508	169	197	58	19	6.4	4.0
13	1.2	21	87	27	39	864	174	177	56	19	6.0	3.9
14	1.0	18	76	26	39	486	162	161	56	18	5.5	3.8
15	1.1	15	73	26	39	293	152	144	52	18	4.7	3.4
16	1.0	12	71	25	40	261	143	138	50	18	4.9	3.2
17	1.0	11	70	23	42	294	127	133	50	17	6.8	3.6
18	1.0	11	68	23	41	221	254	125	49	15	6.4	5.8
19	0.90	8.2	66	22	42	183	264	116	47	14	5.5	16
20	0.90	29	64	23	42	155	205	109	47	13	5.7	12
21	1.0	33	63	23	40	132	373	102	42	12	5.4	8.0
22	1.0	23	61	270	38	121	524	98	39	12	5.0	7.0
23	1.0	21	57	188	38	117	436	96	38	12	4.7	6.0
24	0.90	18	54	512	38	112	415	92	37	12	4.4	6.4
25	0.90	17	51	444	54	103	413	91	36	11	4.2	6.8
26	0.90	17	48	277	49	92	425	89	33	10	4.2	7.2
27	1.0	17	45	201	43	84	420	88	32	9.6	4.7	7.5
28	1.0	17	41	168	38	84	410	84	30	9.6	5.1	7.3
29	1.1	17	37	152	-----	84	374	78	28	9.8	3.9	6.3
30	1.1	22	34	153	-----	80	326	73	27	9.7	3.3	6.3
31	1.1	-----	33	155	-----	118	-----	71	-----	9.5	3.1	-----
TOTAL	32.70	1,190.60	5,918	3,082	1,531	4,784	7,532	5,121	1,494	499.2	185.6	165.6
MEAN	1.05	39.7	191	99.4	54.7	154	251	165	49.8	16.1	5.99	5.52
MAX	2.1	460	1,910	512	135	864	524	292	70	25	8.9	16
MIN	.50	.70	17	22	38	30	98	71	27	9.5	3.1	3.1
AC-FT	65	2,360	11,740	6,110	3,040	9,490	14,940	10,160	2,960	990	368	328

CAL YR 1966: TOTAL 17,868.90 MEAN 49.0 MAX 1,910 MIN .10 AC-FT 35,440
WAT YR 1967: TOTAL 31,535.70 MEAN 86.4 MAX 1,910 MIN .50 AC-FT 62,550

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1500	5.15	1,200	1-24	1600	5.49	1,410
12-6	2200	8.26	4,640	3-13	0700	5.21	1,210

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 north-east of Piru, Ventura County.

DRAINAGE AREA.--425 sq mi.

RECORDS AVAILABLE.--May 1955 to September 1967.

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, 84,895 acre-ft June 15-23 (elevation, 1,022.10 ft); minimum contents, 10,134 acre-ft Nov. 18 (elevation, 943.35 ft).
1955-67: 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. Capacity table is based on surveys made in 1949 and 1958. 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 1966 TO SEPTEMBER 1967

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	952.45	13,587	-
Oct. 31.....	951.55	13,196	-391
Nov. 30.....	944.85	10,617	-2,579
Dec. 31.....	969.55	22,659	+12,042
Calendar year 1966.....	-	-	-24,073
Jan. 31.....	978.10	28,297	+5,638
Feb. 28.....	980.60	30,047	+1,750
Mar. 31.....	991.80	38,365	+8,318
Apr. 30.....	1,012.55	55,823	+17,458
May 31.....	1,021.05	63,866	+8,043
June 30.....	1,021.95	64,747	+881
July 31.....	1,014.90	57,995	-6,752
Aug. 31.....	a992.25	38,715	-19,280
Sept. 30.....	974.90	26,121	-12,594
Water year 1966-67.....	-	-	+12,534

† Elevation at 0700 hours.

a Estimated.

SANTA CLARA RIVER BASIN

11-1098. PIRU CREEK BELOW SANTA FELICIA DAM, CALIF.

LOCATION.--Lat 34°27'37", long 118°45'04", in Temescal Grant, on right bank 750 ft downstream from Santa Felicia Dam, 1 mile upstream from Lime Canyon, and 4 miles northeast of Piru, Ventura County.

DRAINAGE AREA.--425 sq mi.

RECORDS AVAILABLE.--October 1955 to September 1967.

GAGE.--Digital 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 1.5 miles downstream. Prior to May 10, 1966, graphic water-stage recorder.

EXTREMES.--Maximum daily discharge during year, 400 cfs Nov. 11, 12; no flow Nov. 8, 9.
1955-67: 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 (see Sta. No. 1097). No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.1	8.0	5.1	39	40	5.5	12	3.3	41	39	351	296
2	5.2	7.8	3.8	39	40	7.3	28	3.3	41	39	351	295
3	5.4	7.7	0.60	39	40	7.7	41	3.5	41	40	351	294
4	7.1	7.7	0.40	39	40	7.1	18	3.5	41	40	351	293
5	9.9	7.7	0.60	39	40	7.5	3.3	3.5	41	40	352	292
6	10	7.7	1.0	39	40	8.0	3.1	3.5	23	41	352	286
7	8.7	3.4	2.9	39	40	8.3	3.3	3.5	0.39	41	352	285
8	8.1	0	1.6	40	40	8.3	3.3	3.5	0.16	41	352	285
9	8.0	0	6.7	39	40	8.0	3.3	3.5	0.14	42	352	284
10	7.7	194	9.2	39	39	8.2	3.3	3.5	0.14	42	352	284
11	7.7	400	5.7	29	41	8.2	3.3	3.5	0.14	42	352	280
12	7.4	400	2.9	17	41	5.4	3.3	3.7	0.14	42	352	279
13	7.2	398	3.1	39	41	3.3	3.5	3.7	20	42	352	279
14	7.2	396	22	39	41	3.3	3.4	3.9	38	43	352	278
15	6.6	396	44	39	41	28	3.3	29	39	43	353	278
16	6.4	393	42	39	41	28	3.3	41	39	43	352	274
17	6.2	257	42	39	41	29	3.4	16	39	43	351	275
18	6.0	4.5	41	25	41	40	3.5	23	39	180	322	278
19	6.0	3.5	40	38	41	40	3.5	41	39	259	348	216
20	5.8	2.8	40	37	41	40	3.3	41	39	260	347	193
21	5.6	0.20	41	37	41	40	3.4	42	39	260	322	193
22	5.5	0.20	41	18	41	40	3.3	42	39	260	297	193
23	5.6	3.2	41	2.2	41	40	3.3	42	39	260	297	193
24	5.5	4.5	41	2.3	41	40	3.3	41	39	260	299	193
25	7.6	4.6	41	2.2	14	40	3.3	41	39	260	300	193
26	7.2	4.7	41	2.2	1.3	39	3.3	41	39	260	300	193
27	6.2	4.7	41	29	1.3	39	3.3	41	39	260	299	192
28	7.4	4.6	41	42	1.3	40	3.3	41	39	260	298	192
29	8.0	4.7	41	42	-----	40	3.3	42	39	260	300	191
30	8.0	5.0	31	32	-----	41	3.3	42	39	260	300	191
31	7.9	-----	39	16	-----	23	-----	42	-----	326	300	-----
TOTAL	216.2	2,931.20	753.60	956.9	990.9	723.1	185.5	697.4	911.11	4,328	10,309	7,448
MEAN	6.97	97.7	24.3	30.9	35.4	23.3	6.18	22.5	30.4	140	333	248
MAX	10	400	44	42	41	41	41	42	41	326	353	296
MIN	5.1	0	.40	2.2	1.3	3.3	3.1	3.3	.14	39	297	191
AC-FT	429	5,810	1,490	1,900	1,970	1,430	368	1,380	1,810	8,580	20,450	14,770

CAL YR 1966: TOTAL 31,176.30 MEAN 85.4 MAX 400 MIN 0 AC-FT 61,840
WAT YR 1967: TOTAL 30,450.91 MEAN 83.4 MAX 400 MIN 0 AC-FT 60,400

SANTA CLARA RIVER BASIN

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11-1105. HOPPER CREEK NEAR PIRU, CALIF.

LOCATION.--Lat 34°24'03", long 118°49'32", in NE¼NE¼SW¼ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 590 ft (from topographic map).

AVERAGE DISCHARGE.--35 years, 4.97 cfs (3,600 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,450 cfs Dec. 6 (gage height, 6.40 ft); no flow for many days. 1930-32, 1933-36, 1937-67: Maximum discharge, 8,000 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow for several months in most years.

REMARKS.--Records good. No regulation above station. Some pumping along stream for irrigation.

COOPERATION.--Water-stage recorder graph and 53 discharge measurements furnished by Ventura County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	4.9	7.4	3.8	16	18	6.2	2.1	0.80	0.20
2		0	17	4.9	6.7	3.8	25	17	6.0	2.0	.80	.80
3		0	211	4.9	6.1	3.8	14	16	5.8	2.0	.80	.80
4		0	.60	4.9	5.8	3.8	32	16	5.6	1.8	.80	.60
5		0	197	4.9	5.8	3.8	24	15	5.4	2.0	.70	.60
6		0	905	4.6	5.5	3.8	10	14	5.2	2.0	.70	.60
7		195	74	4.3	5.2	3.8	28	14	5.1	1.8	.70	.50
8		6.7	24	4.0	5.2	3.8	14	13	5.2	1.8	.70	.40
9		.50	15	4.0	5.2	4.0	9.0	13	5.2	1.7	.80	.40
10		.10	11	4.0	5.2	4.0	7.8	13	5.1	1.7	.70	.50
11		0	9.8	4.0	5.2	8.2	59	12	4.9	1.7	.60	.40
12		0	9.8	4.0	5.2	329	24	12	4.9	1.6	.60	.40
13		0	9.0	3.8	4.9	180	17	11	4.5	1.5	.60	.50
14		0	8.2	3.8	4.9	50	13	10	3.8	1.5	.60	.60
15		0	7.4	3.6	4.6	18	9.8	9.7	3.2	1.5	.60	.50
16		0	6.7	3.6	4.6	14	7.8	8.9	3.0	1.4	.60	.50
17		0	6.1	3.6	4.6	12	9.0	8.4	2.8	1.4	.60	.60
18		0	5.8	3.4	4.6	10	104	7.9	2.7	1.4	.60	.60
19		0	5.5	3.4	4.3	9.0	54	7.4	2.4	1.3	.60	.70
20		5.6	5.2	3.4	4.0	7.8	37	6.9	2.3	1.2	.60	.60
21		1.6	5.2	3.4	4.0	7.0	138	6.4	2.2	1.2	.60	.60
22		.90	5.2	248	4.0	6.7	137	6.2	2.3	1.1	.60	.60
23		0	5.2	28	3.8	6.4	51	6.2	2.3	1.0	.60	.60
24		0	5.2	469	3.8	6.4	42	6.2	2.3	1.0	.50	.70
25		0	5.2	73	6.7	6.4	32	6.2	2.4	.90	.50	.80
26		0	5.2	21	5.2	6.1	27	6.4	2.4	.80	.40	.80
27		0	4.9	14	4.0	5.8	24	6.7	2.2	.80	.40	.80
28		0	4.9	9.0	3.8	5.8	21	6.7	2.2	.80	.40	1.0
29		0	4.9	7.4		5.5	21	6.7	2.2	.80	.30	.90
30		0	4.9	9.4	-----	5.5	20	6.4	2.2	.80	.30	.90
31		-----	4.9	9.0	-----	29	-----	6.4	-----	.80	.20	-----
Total	0	210.40	1,583.80	973.2	140.3	757.0	1,027.4	313.7	112.0	43.40	18.30	18.50
Mean	0	7.01	51.1	31.4	5.01	24.7	34.2	10.1	3.73	1.40	0.590	0.617
Max	0	195	905	469	7.4	329	138	18	6.2	2.1	0.80	1.0
Min	0	0	0	3.4	3.8	3.8	7.8	6.2	2.2	0.80	0.20	0.20
Ac-ft	0	417	3,140	1,930	278	1,520	2,040	622	222	86	36	37

Cal yr 1966: Total 2,431.00 Mean 6.66 Max 905 Min 0 Ac-ft 4,820
 Wtr yr 1967: Total 5,207.00 Mean 14.3 Max 905 Min 0 Ac-ft 10,330

Peak discharge (base, 90 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	0830	4.68	474	4- 4	1900	1.87	115
12- 3	0030	4.62	684	4-12	0330	2.35	198
12- 6	1600	6.40	4,450	4-18	1230	2.87	358
1-24	1530	4.85	1,650	4-21	2130	3.11	454
3-12	1700	3.43	595				

SANTA CLARA RIVER BASIN

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.--49.5 sq mi.

RECORDS AVAILABLE.--January 1948 to September 1967. Monthly discharge only for January to July 1948 and yearly estimate for water year 1948 (incomplete), published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 3,500.65 ft above mean sea level (levels by Ventura County Water Resources Division).

AVERAGE DISCHARGE.--20 years (1947-67), 8.94 cfs (6,470 acre-ft per year); median of yearly mean discharges, 2.7 cfs (2,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,840 cfs Dec. 6 (gage height, 9.85 ft); minimum daily, 0.30 cfs Oct. 1-14.

1948-67: Maximum discharge, that of Dec. 6, 1966; no flow for many days in most years.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station. Records of water temperatures for the water-year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.70	1.0	6.3	29	8.0	24	66	14	3.9	1.9	0.70
2	.30	.70	17	6.0	26	7.6	27	61	13	3.7	1.9	.90
3	.30	.70	165	6.0	22	7.6	32	57	13	3.5	1.8	.80
4	.30	.70	3.0	5.5	20	7.2	121	55	12	3.2	1.6	.70
5	.30	.70	218	5.5	19	6.9	105	51	12	3.5	1.6	.70
6	.30	1.1	1590	5.5	16	6.6	78	47	11	3.5	1.6	.70
7	.30	189	207	5.0	15	6.6	95	44	11	3.2	1.6	.70
8	.30	11	59	5.0	14	6.6	82	42	10	3.0	1.6	.70
9	.30	3.6	32	5.0	13	6.6	70	39	10	3.0	1.6	.70
10	.30	2.0	22	5.0	13	6.9	64	38	9.8	2.8	1.4	.70
11	.30	1.5	16	4.5	12	38	78	35	9.4	2.8	1.3	.70
12	.30	1.0	15	4.5	11	269	71	32	9.0	2.8	1.2	.60
13	.30	.90	14	4.5	11	230	70	30	9.0	2.8	1.2	.60
14	.30	.80	14	4.5	11	136	65	28	8.6	2.8	1.2	.60
15	.40	.80	14	4.5	11	95	63	27	8.3	2.8	1.2	.60
16	.40	.70	13	4.0	10	85	58	25	7.6	2.8	1.2	.60
17	.40	.60	12	4.0	9.8	69	54	23	7.2	2.8	1.2	.60
18	.40	.60	11	4.0	9.4	58	115	21	7.2	2.8	1.2	.60
19	.40	.50	11	4.0	9.4	48	109	20	6.9	2.8	1.2	.60
20	.40	.50	10	4.0	9.0	39	95	19	6.6	2.6	1.2	.60
21	.50	1.5	9.8	4.0	8.6	35	160	17	6.0	2.4	1.2	.70
22	.50	5.0	9.0	200	8.3	32	171	17	5.7	2.4	1.2	.80
23	.50	3.0	8.3	15	8.3	28	152	17	5.7	2.4	1.2	.80
24	.50	2.0	8.0	350	8.3	25	129	17	5.5	2.4	1.2	.80
25	.50	1.0	7.6	210	11	24	118	16	5.2	2.3	1.2	.90
26	.50	.90	7.6	59	9.8	22	111	16	4.9	2.3	1.2	.90
27	.60	.80	7.2	49	9.0	20	103	15	4.7	2.4	1.2	.90
28	.60	.70	6.9	42	8.0	19	102	15	4.4	2.4	1.1	.90
29	.60	.60	6.6	38		18	82	14	4.2	2.3	.90	.90
30	.60	.50	6.6	38	- - - - -	17	73	14	4.2	2.3	.80	.90
31	.70	- - - - -	6.6	36	- - - - -	25	- - - - -	14	- - - - -	2.1	.70	- - - - -
Total	12.70	234.10	2528.2	1138.3	361.9	1402.6	2677 ¹	932	246.1	86.8	40.60	21.90
Mean	0.41	7.80	81.6	36.7	12.9	45.2	89.2	30.1	8.20	2.80	1.31	0.73
Max	0.70	189	1590	350	29	269	171	66	14	3.9	1.9	0.90
Min	0.30	0.50	1.0	4.0	8.0	6.6	24	14	4.2	2.1	0.70	0.60
Ac-ft	25	464	5010	2260	718	2780	5310	1850	488	172	81	43

Cal yr 1966: Total 4,955.20 Mean 13.6 Max 1590 Min 0.30 Ac-ft 9,830
 Wtr yr 1967: Total 9,682.20 Mean 26.5 Max 1590 Min 0.30 Ac-ft 19,200

Peak discharge (base, 50 cfs)

Note.--No gage-height record Nov. 10-30, Jan. 2-24.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	1600	6.27	736	3-12	2200	5.28	350
12- 3	0100	6.28	741	4- 4	1900	5.13	293
12- 6	1700	9.85	3,840	4-18	1400	4.53	173
1-24	1600	5.62	467	4-21	2000	4.85	237

SANTA CLARA RIVER BASIN

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11-1130. SESPE CREEK NEAR FILLMORE, CALIF.

LOCATION.--Lat 34°27'03", long 118°55'30", in NE¼NW¼NE¼ 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.--251 sq mi.

RECORDS AVAILABLE.--September 1911 to September 1913, October 1927 to September 1967; combined records of creek and canal, October 1927 to September 1967. Published as "at Sespe", prior to 1935.

GAGE.--Graphic water-stage recorder on creek; graphic water-stage recorder and Parshall flume on canal. Altitude of gage is 580 ft (from topographic map). Prior to Sept. 30, 1913, staff gage, and Oct. 1, 1927, to Nov. 4, 1934, graphic water-stage recorder, at site 3 miles downstream at different datum. Nov. 5, 1934, to Mar. 2, 1938, graphic water-stage recorder at same site at different datum (destroyed by flood; re-established at present datum Feb. 2, 1939). Prior to Jan. 17, 1946, staff gage read once daily on Fillmore Irrigation Co.'s canal.

AVERAGE DISCHARGE (creek only).--42 years, 94.7 cfs (68,560 acre-ft per year); median of yearly mean discharges, 49 cfs (35,500 acre-ft per year).
(combined).--40 years, 100 cfs (72,400 acre-ft per year); median of yearly mean discharges, 52 cfs (37,600 acre-ft per year).

EXTREMES (creek only).--Maximum discharge during year, 21,600 cfs Dec. 6 (gage height, 13.40 ft); minimum daily, 0.20 cfs Oct. 14-20.

1927-67: Maximum discharge, 56,000 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; no flow at times in some years.

(combined).--Maximum discharge during year, 21,600 cfs Dec. 6; minimum daily, 4.8 cfs Oct. 19.

1927-67: Maximum discharge, 56,000 cfs Mar. 2, 1938; minimum daily, 1.1 cfs July 31, Aug. 2, 1951.

REMARKS.--Records good. No regulation above station. Fillmore Irrigation Co. has diverted water one mile upstream since September 1911. For records of combined discharge of Sespe Creek and Fillmore Irrigation Co.'s canal, see following page. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.60	0.30	21	58	236	68	227	450	102	40	13	4.5
2	.40	.30	84	56	216	68	242	439	98	38	12	4.5
3	.30	.40	1,900	54	198	66	232	417	94	35	12	5.8
4	.30	.40	311	54	183	65	442	395	92	34	11	5.5
5	.30	.40	1,600	54	174	65	684	365	90	34	11	5.5
6	.40	.50	10,400	54	160	63	417	340	87	33	11	5.2
7	.30	774	2,440	53	150	62	527	340	85	33	11	5.0
8	.30	334	621	53	145	60	456	332	83	30	9.4	5.0
9	.30	76	380	53	140	60	385	336	81	28	9.4	5.0
10	.30	43	296	51	129	60	360	314	79	26	9.0	5.0
11	.30	32	246	51	122	91	646	288	76	24	8.6	5.0
12	.30	25	216	49	120	2,500	480	264	73	23	7.4	5.0
13	.30	21	186	49	122	3,220	406	242	71	22	7.4	5.0
14	.20	19	155	49	114	1,310	385	228	69	21	7.1	5.0
15	.20	18	138	48	110	754	370	216	68	21	6.8	5.0
16	.20	17	129	48	106	594	340	210	65	22	6.4	5.0
17	.20	16	122	48	102	540	314	207	62	21	6.1	5.2
18	.20	14	114	47	98	417	1,060	195	60	19	5.8	5.2
19	.20	12	106	47	94	350	945	183	59	18	5.8	5.5
20	.20	31	100	47	90	304	700	174	58	17	5.5	6.4
21	.30	44	94	47	88	268	1,390	160	55	15	5.5	6.4
22	.30	34	90	1,160	83	250	1,820	150	54	15	5.2	6.4
23	.30	28	85	433	79	232	1,120	145	53	14	5.2	6.4
24	.30	26	81	3,300	77	213	916	142	51	16	5.0	6.4
25	.30	22	77	1,540	85	195	780	131	49	16	5.0	7.1
26	.30	21	74	637	81	177	724	122	48	16	5.0	7.1
27	.30	19	71	444	73	162	732	118	47	16	4.8	7.1
28	.30	19	67	355	68	155	658	118	46	15	4.8	7.4
29	.30	20	63	304	68	145	582	114	44	14	4.8	6.8
30	.30	19	60	268	---	136	504	106	43	14	4.8	6.8
31	.30	---	59	264	---	223	---	104	---	14	4.5	---
Total	9.10	1,686.30	20,386	9,775	3,443	12,873	13,844	7,345	2,042	704	230.3	171.2
Mean	0.29	56.2	658	315	123	415	628	237	58.1	22.7	7.43	5.71
Max	0.60	774	10,400	3,300	236	3,220	1,820	450	102	40	13	7.1
Min	0.20	0.30	21	47	68	60	227	104	43	14	4.5	4.5
Ac-ft	18	3,340	40,440	19,390	6,830	25,530	37,380	14,570	4,050	1,400	457	340

Cal yr 1966: Total 39,659.40 Mean 109 Max 10,400 Min 0.20 Ac-ft 73,660
Wtr yr 1967: Total 77,508.90 Mean 212 Max 10,400 Min 0.20 Ac-ft 153,700

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	1600	6.64	1,720	1-24	1500	9.77	9,110
12- 3	0200	8.17	4,440	3-13	0030	8.75	6,050
12- 6	1600	13.40	21,600	4-21	2400	7.50	3,100

SANTA CLARA RIVER BASIN

11-1130. 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	4.9	24	60	237	69	227	450	110	49	22	13
2	6.1	4.9	86	58	217	69	242	440	107	47	22	13
3	6.0	5.1	1,900	56	199	67	232	420	103	45	21	14
4	5.9	5.3	311	55	184	66	442	398	101	44	20	14
5	6.0	5.5	1,600	55	175	66	684	368	100	44	19	14
6	6.0	5.9	10,400	55	161	63	417	342	98	43	19	14
7	5.9	776	2,440	54	151	62	527	342	97	43	19	14
8	5.7	335	622	54	145	60	456	335	95	40	18	14
9	5.4	76	381	55	141	61	385	338	93	38	19	14
10	5.4	43	296	54	131	61	360	315	91	37	18	14
11	5.6	33	246	55	124	92	646	290	87	36	18	14
12	5.7	26	216	56	122	2,500	480	267	85	35	16	14
13	5.6	22	186	56	124	3,220	406	245	82	34	16	14
14	5.1	20	155	56	118	1,310	385	231	80	33	16	14
15	5.1	19	139	55	114	754	370	220	78	33	17	14
16	5.0	17	130	55	110	595	340	214	75	32	16	13
17	4.9	16	122	56	106	541	314	212	72	31	16	13
18	4.9	15	114	55	102	418	1,060	200	70	31	16	13
19	4.8	14	108	55	98	351	945	189	68	30	16	13
20	4.9	32	102	56	93	305	700	179	67	29	15	13
21	5.1	44	96	55	88	269	1,390	165	64	27	14	13
22	5.2	34	92	1,160	83	251	1,820	155	63	27	14	14
23	5.0	28	87	434	81	233	1,120	150	62	26	14	14
24	5.0	27	83	3,300	80	214	916	144	60	26	14	14
25	5.0	23	79	1,540	88	196	780	137	58	25	14	14
26	5.1	23	76	638	82	178	724	130	56	25	14	14
27	5.3	21	73	445	74	164	732	126	55	25	14	14
28	5.4	20	69	356	71	159	658	126	54	24	14	14
29	5.4	22	65	305		149	582	122	53	24	13	14
30	5.1	22	62	269	-----	140	504	114	52	24	13	14
31	5.0	-----	61	265	-----	223	-----	112	-----	23	13	-----
Total	166.9	1,739.6	20,421	9,878	3,499	12,906	13,844	7,476	2,336	1,030	510	412
Mean	5.38	58.0	659	319	125	416	628	241	77.9	33.2	16.5	13.7
Max	6.3	776	10,400	3,300	237	3,220	1,820	450	110	49	22	14
Min	4.8	4.9	24	54	71	60	227	112	52	23	13	13
Ac-ft	331	3,450	40,500	19,590	6,940	25,600	37,380	14,830	4,630	2,040	1,010	817

Cal yr : Total 41,520.8 Mean 114 Max 10,400 Min 4.8 Ac-ft 82,360
Wtr yr : Total 79,218.5 Mean 217 Max 10,400 Min 4.8 Ac-ft 157,100

Peak discharge (base, 1,300 cfs)--(Same as those listed on previous page).

SANTA CLARA RIVER BASIN

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11-1135. SANTA PAULA CREEK NEAR SANTA PAULA, CALIF.

LOCATION.--Lat 34°23'44", long 119°04'32", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.4 N., R.21 W., on right bank 15 ft upstream from Santa Paula Water Works diversion dam, 200 ft upstream from Mud Creek, and 3 miles north of Santa Paula.

DRAINAGE AREA.--40.0 sq mi.

RECORDS AVAILABLE.--October 1927 to September 1967. March 1912 to September 1913, at site 2.5 miles upstream; records not equivalent.

GAGE.--Digital water-stage recorder and concrete diversion dam control. Altitude of gage is 650 ft (from topographic map). Oct. 1, 1927, to Feb. 19, 1931, at site 500 ft downstream at different datum. Feb. 20, 1931, to Dec. 5, 1963, at same site and datum. Dec. 6, 1963, to July 29, 1965, at site 50 ft upstream at same datum. Prior to Aug. 8, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--40 years, 18.9 cfs (13,680 acre-ft per year); median of yearly mean discharges, 8.9 cfs (6,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,500 cfs Dec. 6 (gage height, 6.43 ft); minimum daily, 1.3 cfs Nov. 1.

1927-67: Maximum discharge, 13,500 cfs Mar. 2, 1938 (gage height, 10.56 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1949, 1951-52, 1965.

REMARKS.--Records good prior to May 3 and poor thereafter. No regulation above station. Diversion above station for irrigation of 60 acres by Santa Paula Water Works began prior to October 1927; 247 acre-ft was diverted during year.

COOPERATION.--Record of diversion furnished by Santa Paula Water Works.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	1.3	4.4	21	58	22	30	132	43	21	12	9.8
2	1.9	1.4	52	21	51	22	24	125	41	20	12	9.7
3	2.0	1.5	276	20	47	23	17	115	40	20	11	9.6
4	2.3	1.6	24	20	45	23	36	110	39	19	11	9.6
5	2.6	2.0	304	20	42	22	39	105	38	19	11	9.6
6	2.5	3.9	1,660	20	40	22	29	100	37	18	11	9.6
7	2.5	168	559	19	38	22	56	95	36	18	11	9.6
8	2.5	32	221	19	35	22	43	90	35	17	10	9.6
9	2.5	12	107	20	34	43	36	85	34	17	10	9.6
10	2.6	8.1	75	20	33	65	35	80	33	16	10	9.6
11	2.6	7.1	59	20	32	89	168	76	32	16	10	9.5
12	2.7	6.3	50	19	31	461	121	72	31	16	10	9.5
13	2.2	5.8	48	19	30	472	112	70	30	15	10	9.5
14	2.0	5.4	46	19	30	318	105	67	30	15	10	9.5
15	1.9	5.1	39	19	29	224	105	65	29	15	10	9.5
16	2.1	4.9	37	22	28	168	98	63	29	15	10	9.4
17	1.8	4.8	35	23	28	136	96	60	28	14	10	9.3
18	1.5	4.5	33	22	27	112	254	57	28	14	10	9.2
19	1.5	4.6	32	22	27	93	255	54	27	14	10	9.2
20	1.5	8.3	31	22	26	78	218	52	26	14	10	9.0
21	1.6	6.4	30	22	25	65	277	50	25	14	10	9.0
22	1.8	5.4	29	246	25	54	312	48	25	13	10	9.0
23	1.6	5.2	28	58	24	45	312	46	24	13	10	9.0
24	1.4	5.4	27	487	25	40	294	45	24	13	10	9.0
25	1.6	5.7	26	375	27	34	237	44	23	13	10	9.0
26	1.9	5.6	25	241	25	30	209	42	23	13	10	8.8
27	2.0	5.3	24	175	23	25	191	42	23	13	10	8.8
28	1.9	5.4	23	137	23	21	171	43	23	12	10	8.8
29	1.8	5.3	23	109	-----	19	158	43	23	12	10	8.8
30	1.6	5.0	22	85	-----	16	144	44	22	12	10	8.8
31	1.4	-----	22	66	-----	71	-----	45	-----	12	10	-----
TOTAL	61.8	343.3	3,971.4	2,408	908	2,857	4,182	2,165	901	473	319	278.9
MEAN	1.99	11.4	128	77.7	32.4	92.2	139	69.8	30.0	15.3	10.3	9.30
MAX	2.7	168	1,660	487	58	472	312	132	43	21	12	9.8
MIN	1.4	1.3	4.4	19	23	16	17	42	22	12	10	8.8
AC-FT	123	681	7,880	4,780	1,800	5,670	8,290	4,290	1,790	938	633	553

CAL YR 1966: TOTAL 9,623.9 MEAN 26.4 MAX 1,660 MIN 1.3 AC-FT 19,090
WAT YR 1967: TOTAL 18,868.4 MEAN 51.7 MAX 1,660 MIN 1.3 AC-FT 37,420

Peak discharge (base, 200 cfs)

Note.--Stage-discharge relation indefinite May 3 to Sept. 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1730	3.19	344	3-12	2315	3.80	820
12-6	1530	6.43	4,500	4-22	0130	3.26	446
1-24	1500	4.45	1,500				

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 $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ 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 1967. Published as "near Matilija" prior to October 1953.

GAGE.--Digital water-stage recorder. Datum of gage is 1,160.20 ft above mean sea level (levels by Ventura County Water Resources Division). Prior to Feb. 16, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--19 years, 22.0 cfs (15,930 acre-ft per year); median of yearly mean discharges, 8.6 cfs (6,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,190 cfs Dec. 6 (gage height, 9.80 ft); minimum daily, 2.4 cfs Nov. 1.

1948-67: Maximum discharge, 8,800 cfs Jan. 15, 1952 (gage height, 12.1 ft), from rating curve extended above 5,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.30 cfs Oct. 17-20, 25, 27, 1951.

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

COOPERATION.--Thirty-five discharge measurements furnished by Ventura County Flood Control District; two discharge measurements furnished by Ventura River Municipal Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.1	2.4	7.2	30	64	26	51	126	46	23	11	8.3
2	3.2	2.5	39	30	61	26	51	117	45	22	11	8.3
3	3.2	2.7	215	30	59	26	47	112	44	22	10	8.3
4	3.2	2.8	41	29	56	25	105	106	42	22	10	8.3
5	3.1	2.8	335	29	54	25	113	99	41	21	10	8.3
6	3.2	4.0	2,170	28	51	23	90	95	40	21	10	8.3
7	3.3	89	615	27	48	23	101	90	39	20	10	8.3
8	3.1	35	215	26	46	22	91	89	39	19	10	8.3
9	3.0	21	135	25	45	22	82	88	39	17	10	8.3
10	3.2	17	110	22	44	22	80	85	38	16	10	8.3
11	3.2	15	94	21	42	30	108	81	37	16	10	8.3
12	3.2	13	84	21	41	230	93	76	36	16	10	8.3
13	3.1	11	72	21	39	287	89	73	36	16	10	8.3
14	3.1	11	64	21	37	164	86	69	34	16	10	8.3
15	3.2	9.7	58	21	37	116	84	65	33	15	10	8.3
16	3.0	9.7	56	21	36	98	79	61	31	14	9.5	8.3
17	3.0	9.7	53	20	34	85	75	59	32	14	9.1	8.3
18	3.0	9.2	52	20	33	77	133	57	30	14	9.1	8.3
19	3.2	8.8	48	20	33	68	129	56	29	14	9.1	8.3
20	3.0	10	46	20	31	65	115	55	27	14	8.7	8.3
21	3.0	8.8	43	20	30	62	194	54	26	14	8.7	8.3
22	2.9	8.4	41	139	33	63	248	52	26	14	8.7	8.3
23	3.0	7.2	38	46	34	56	220	50	26	13	8.3	8.3
24	3.0	7.5	35	613	35	54	201	50	25	13	8.3	8.3
25	3.1	7.6	34	284	35	52	183	50	26	12	8.3	8.3
26	2.9	8.3	32	166	32	48	172	50	25	12	8.3	8.3
27	3.1	7.8	32	114	29	48	160	50	24	12	8.3	8.3
28	3.1	9.0	31	92	27	47	152	50	24	12	8.3	8.3
29	3.0	8.6	31	80	-----	49	142	49	23	12	8.3	8.3
30	2.7	8.0	30	74	-----	49	134	47	23	12	8.3	8.3
31	2.7	-----	30	68	-----	54	-----	47	-----	12	8.3	-----
TOTAL	95.1	367.5	4,886.2	2,178	1,146	2,042	3,608	2,208	986	490	289.6	249.0
MEAN	3.07	12.3	158	70.3	40.9	65.9	120	71.2	32.9	15.8	9.34	8.30
MAX	3.3	89	2,170	613	64	287	248	126	46	23	11	8.3
MIN	2.7	2.4	7.2	20	27	22	47	47	23	12	8.3	8.3
AC-FT	189	729	9,690	4,320	2,270	4,050	7,160	4,380	1,960	972	574	494

CAL YR 1966: TOTAL 13,190.9 MEAN 36.1 MAX 2,170 MIN 2.4 AC-FT 26,160
WAT YR 1967: TOTAL 18,545.4 MEAN 50.8 MAX 2,170 MIN 2.4 AC-FT 36,780

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1300	3.43	237	1-24	1245	6.71	1,660
12-3	0245	4.03	542	3-12	2145	4.37	562
12-6	1715	9.80	5,190	4-21	1630	3.51	287

VENTURA RIVER BASIN

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11-1155. MATILIJA CREEK AT MATILIJA HOT SPRINGS, CALIF.

LOCATION.--Lat 34°28'58", long 119°18'03", in SW¼NW¼SW¼ 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 1967. Combined monthly records for creek and diversion, May 1951 to September 1967. Prior to October 1953, published as "at Matilija."

GAGE.--Graphic 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, 3,410 cfs Dec. 6 (gage height, 7.40 ft); minimum daily, 0.80 cfs Oct. 25.
1927-67: Maximum discharge, 15,900 cfs Mar. 2, 1938, on basis of slope-area measurement of maximum flow; minimum daily, 0.10 cfs for several days in some years of regulated flow.

REMARKS.--Records good. Flow regulated March 1948 to March 1964 and partly regulated since March 1964; water diverted at dam by Matilija conduit to Ventura River basin and Ojai Valley for irrigation since May 1951. Ventura River Municipal Water District reports no diversion during year.

COOPERATION.--Six discharge measurements furnished by Ventura County Flood Control District; seven discharge measurements furnished by Ventura River Municipal Water District.

Corrections.--Diversion April to September 1966 were not noted in Basic Data Report. Corrected monthly and annual figures follow:

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total							394.1	379	238.3	155.8	104.5	97.3
Mean							13.1	12.2	7.94	5.03	3.37	3.24
Max							20	14	11	6.4	4.3	3.6
Min							5.8	11	5.4	4.3	2.8	2.9
Ac-ft							782	752	473	309	207	193
Ac-ft †							887	920	683	547	479	229

Calendar year 1965: Max	2,900	Min	0.20	Mean	45.2	Ac-ft	32,720	Mean †	45.4	Ac-ft †	32,870
Water year 1965-66: Max	2,900	Min	0.30	Mean	57.5	Ac-ft	41,630	Mean †	58.9	Ac-ft †	42,660

† Combined discharge of creek and diversion.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	1.0	7.2	33	3.5	25	82	150	26	24	16	9.3
2	3.5	1.6	8.2	33	3.5	12	82	145	25	24	15	9.3
3	3.5	3.0	117	225	4.0	7.2	42	228	57	23	14	9.3
4	3.5	4.4	52	130	24	3.1	87	332	57	23	14	9.3
5	162	5.0	262	125	30	3.1	138	125	48	23	14	9.3
6	242	5.6	707	120	47	3.1	111	128	41	23	14	9.3
7	97	7.6	533	120	30	3.1	120	237	41	24	16	9.0
8	6.6	5.8	213	118	16	3.1	112	288	41	24	16	9.0
9	6.0	5.6	148	196	4.0	3.3	97	100	42	24	16	9.0
10	6.0	5.2	120	75	4.0	3.4	103	103	45	24	16	9.0
11	6.0	5.2	326	7.2	4.0	3.8	186	268	45	24	16	8.7
12	6.0	5.2	219	12	4.0	25	90	212	43	24	16	8.7
13	6.0	5.2	77	7.0	23	125	62	80	40	24	16	8.7
14	5.8	5.2	80	7.0	32	234	96	80	40	20	13	8.7
15	6.0	6.6	68	7.0	36	245	96	299	39	16	9.3	8.7
16	5.6	7.2	294	7.0	38	230	91	106	39	16	9.6	8.5
17	6.0	7.5	158	7.0	17	158	100	62	39	16	10	8.5
18	5.8	8.2	50	7.0	4.0	96	146	63	40	16	10	8.7
19	3.9	6.8	49	7.2	4.0	86	142	250	38	16	11	8.5
20	.90	6.4	47	7.2	4.0	74	132	60	35	16	11	8.5
21	.90	6.4	232	7.5	4.0	30	199	57	35	16	10	8.5
22	.90	6.6	138	185	4.0	11	248	97	34	16	9.9	8.5
23	.90	6.8	41	100	4.0	11	233	180	34	16	9.9	8.5
24	.90	6.8	40	58	4.0	11	216	52	34	16	9.9	8.5
25	.90	7.0	40	212	4.0	11	200	56	34	16	9.9	8.5
26	.90	7.2	39	368	4.0	11	190	52	30	16	10	8.5
27	1.0	7.2	183	332	14	47	185	49	25	16	11	8.7
28	1.0	7.2	107	237	25	62	175	49	25	16	11	9.3
29	1.0	7.2	38	94	---	63	170	28	25	16	11	9.0
30	1.0	7.2	37	80	---	62	160	24	25	16	9.9	9.0
31	1.0	---	35	79	---	69	---	24	---	16	9.0	---
Total	595.90	177.9	4,465.4	3,003.1	395.0	1,731.2	4,091	3,940.8	1,098.6	600	384.4	265.0
Mean	19.2	5.93	144	96.9	14.1	55.8	136	127	36.6	19.4	12.4	8.83
Max	242	8.2	707	368	47	245	248	299	57	24	16	9.3
Min	0.80	1.0	7.2	7.0	3.5	3.1	42	24	2.6	16	9.0	8.5
Ac-ft	1,180	353	8,860	5,960	783	3,430	8,110	7,820	2,180	1,190	762	526

Cal yr 1966: Total	13,724.60	Mean	37.6	Mean †	39.0	Max	710	Min	0.30	Ac-ft	27,220	Ac-ft †	28,250
Wtr yr 1967: Total	20,748.30	Mean	56.8	Mean †	56.8	Max	707	Min	0.80	Ac-ft	41,150	Ac-ft †	41,150

† Combined discharge, in acre-ft, of creek and Matilija conduit.

VENTURA RIVER BASIN

11-1160. NORTH FORK MATILIJA CREEK AT MATILIJA HOT SPRINGS, CALIF.

LOCATION.--Lat 34°29'33", long 119°18'20", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967. Prior to October 1953, published as "at Matilija".

GAGE.--Graphic water-stage recorder and concrete control since September 1966. Datum of gage is 1,142.02 ft above mean sea level (levels by Ventura County Flood Control District). Prior to Nov. 12, 1948, at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--38 years, 9.02 cfs (6,530 acre-ft per year); median of yearly mean discharges, 4.0 cfs (2,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,000 cfs Dec. 6 (gage height, 4.47 ft); minimum daily, 0.70 cfs Nov. 7.

1928-32, 1933-67: Maximum discharge, 5,580 cfs Mar. 2, 1938; minimum daily, 0.10 cfs for several days in some years.

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

COOPERATION.--Water-stage recorder graph and 18 discharge measurements furnished by Ventura County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	0.80	2.4	7.9	21	8.4	27	47	17	9.4	5.8	3.7
2	1.2	.70	14	7.4	20	8.4	27	46	16	8.9	5.8	3.7
3	1.2	.80	72	7.4	19	8.4	25	42	15	8.9	5.8	3.7
4	1.2	1.0	14	7.4	18	8.4	48	41	15	8.9	5.8	3.7
5	1.2	1.2	101	7.4	17	7.9	40	40	15	8.9	5.4	3.7
6	1.2	1.9	702	7.0	17	7.9	31	36	15	8.9	5.4	3.4
7	1.2	57	133	7.0	16	7.9	40	35	15	8.4	5.4	3.4
8	1.2	7.9	58	7.0	15	7.9	33	34	15	8.4	5.4	3.4
9	1.2	3.7	38	6.6	15	7.9	30	33	14	7.9	5.4	3.4
10	1.2	2.8	30	6.6	14	7.9	31	31	14	7.9	5.1	3.4
11	1.3	2.6	24	6.6	14	18	54	30	14	7.4	4.8	3.4
12	1.3	2.4	21	6.6	14	289	44	29	14	7.4	4.8	3.4
13	1.3	2.1	19	6.6	13	232	40	28	14	7.4	4.8	3.4
14	1.2	1.9	17	6.2	12	110	36	25	14	7.4	4.8	3.4
15	1.2	1.9	17	6.2	12	80	35	24	14	7.4	4.8	3.1
16	1.2	1.9	15	6.2	12	64	34	23	13	7.0	4.4	3.1
17	1.2	1.9	14	6.2	12	54	31	22	13	7.0	4.4	3.1
18	1.2	1.9	14	6.2	11	47	81	22	13	7.0	4.4	3.4
19	1.0	1.9	13	6.2	11	41	68	22	12	6.6	4.4	3.4
20	1.0	2.8	13	5.8	11	38	62	21	12	6.6	4.4	3.4
21	1.2	2.8	12	5.8	10	34	146	21	12	6.2	4.0	3.4
22	1.2	2.4	11	134	10	31	173	20	11	6.2	4.0	3.4
23	1.0	2.4	11	21	10	30	110	20	11	6.2	4.0	3.4
24	.80	2.4	10	250	9.4	29	92	19	11	6.2	4.0	3.4
25	.80	2.4	10	110	11	28	84	19	11	6.2	3.7	3.4
26	1.0	2.4	9.4	58	10	25	76	19	11	6.2	3.7	3.4
27	1.2	2.4	8.9	41	9.4	23	68	18	10	6.2	3.4	3.4
28	1.2	2.6	8.9	33	8.9	22	64	18	10	5.8	3.4	3.7
29	1.0	2.6	8.4	28		21	60	18	9.4	5.8	3.4	3.7
30	.80	2.4	8.4	24	- - - - -	21	56	18	9.4	5.8	3.4	3.7
31	.80	- - - - -	7.9	22	- - - - -	27	- - - - -	18	- - - - -	5.8	3.4	- - - - -
Total	34.90	123.90	1,437.3	861.3	372.7	1,345.0	1,746	839	389.8	224.3	141.7	103.5
Mean	1.10	4.13	46.4	27.8	13.3	43.4	58.2	27.1	13.0	7.24	4.57	3.45
Max	1.3	57	702	250	21	289	173	47	17	9.4	5.8	3.7
Min	0.80	0.70	2.4	5.8	8.9	7.9	25	18	9.4	5.8	3.4	3.1
Ac-ft	69	246	2,850	1,710	739	2,670	3,460	1,660	773	445	281	205

Cal yr 1966: Total 3,840.50 Mean 10.5 Max 702 Min 0.70 Ac-ft 7,620
Wtr yr 1967: Total 7,619.40 Mean 20.9 Max 702 Min 0.70 Ac-ft 15,110

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	1400	2.50	220	3-12	2100	3.13	551
12- 2	2400	2.68	292	4- 4	1830	2.31	148
12- 6	1400	4.47	2,000	4-18	1030	2.49	216
1-24	1400	3.25	640	4-21	1830	2.65	280

11-1165.5. 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 of Meiners Oaks, Ventura County.

DRAINAGE AREA.--76.4 sq mi.

RECORDS AVAILABLE.--May 1959 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 744.60 ft above mean sea level (Bureau of Reclamation bench mark).

EXTREMES.--Maximum discharge during year, 4,640 cfs Dec. 6 (gage height, 6.00 ft), from rating curve extended above 65 cfs as explained below; no flow for many days.

1959-67: Maximum discharge, 7,900 cfs Dec. 29, 1965 (gage height, 7.20 ft), from rating curve extended above 65 cfs on basis of slope-area measurement at gage-height 7.1 ft; no flow for several months in most years.

REMARKS.--Records good. Flow regulated by Matilija Reservoir (see sta. no. 1150). Flows up to 500 cfs diverted since May 1959 at Robles diversion dam to Casitas Reservoir on Coyote Creek. Flow reported herein is that released through gates in Robles diversion dam.

COOPERATION.--Seven discharge measurements furnished by Ventura River Municipal Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	4.7	9.6	0	16	12	5.5	12	12	11	8.2
2	0	0	7.2	9.6	0	17	12	6.9	12	11	10	8.2
3	0	0	17	11	0	14	11	9.6	12	10	9.6	7.5
4	.10	0	24	14	0	10	11	6.9	12	10	9.6	6.3
5	.90	0	14	18	0	9.6	11	7.5	12	8.9	8.9	5.2
6	0	0	1.150	18	0	8.9	9.6	8.2	12	8.9	10	5.7
7	25	8.2	277	18	0	8.9	8.9	8.2	12	8.9	13	5.2
8	5.2	12	6.0	18	0	8.9	8.2	8.9	12	10	13	4.2
9	2.0	7.5	14	19	0	8.9	7.5	9.6	12	12	12	5.2
10	1.8	5.2	20	26	0	8.9	7.5	8.9	12	10	12	6.3
11	1.8	5.2	21	8.2	0	12	2.6	8.9	12	11	11	5.7
12	1.6	4.7	12	11	0	23	0	8.2	12	14	11	5.7
13	.40	4.2	0	7.5	0	18	0	8.2	15	14	11	5.7
14	0	3.7	0	7.5	3.7	16	5.6	9.6	17	14	10	5.7
15	0	3.7	0	7.5	8.9	16	8.9	9.6	17	15	8.2	5.2
16	3.8	7.5	0	6.9	10	13	8.2	9.6	17	13	8.2	5.2
17	1.2	7.5	13	6.9	9.6	9.6	7.5	8.9	17	11	8.2	5.2
18	1.0	7.5	20	6.9	9.6	8.9	2.6	11	17	14	8.2	5.2
19	.90	4.7	80	6.3	9.6	8.8	0	14	17	14	8.2	5.2
20	0	4.7	60	5.7	8.9	11	0	14	17	16	8.2	4.7
21	0	4.7	27	5.7	8.9	11	16	14	17	13	8.2	4.7
22	0	4.7	22	35	8.9	13	1.5	13	17	13	6.9	4.7
23	0	4.2	14	0	10	13	0	14	17	13	6.9	4.7
24	0	4.2	14	49	11	14	0	14	17	12	6.9	4.7
25	0	4.2	14	1.9	12	14	0	14	17	13	6.3	4.2
26	0	4.2	14	0	11	14	0	14	17	13	6.3	4.2
27	0	4.2	10	0	11	14	0	16	20	13	6.9	3.7
28	0	4.2	10	0	14	12	0	14	20	13	6.9	3.7
29	0	4.7	10	0		12	0	13	14	13	6.3	3.7
30	0	4.7	9.6	0	-----	12	0	13	14	13	7.5	3.7
31	0	-----	9.6	0	-----	12	-----	13	-----	12	8.2	-----
Total	45.70	130.3	1.894.1	327.2	147.1	388.4	151.6	334.2	448	378.7	278.6	157.5
Mean	1.47	4.34	61.1	10.6	5.25	12.5	5.05	10.8	14.9	12.2	8.99	5.25
Max	25	12	1.150	49	14	23	16	16	20	16	13	8.2
Min	0	0	0	0	0	8.8	0	5.5	12	8.9	6.3	3.7
Ac-ft	91	258	3.760	649	292	770	301	663	889	751	553	312

Cal yr 1966: Total 3,632.40 Mean 9.95 Max 1.150 Min 0 Ac-ft 7,200
Wtr yr 1967: Total 4,681.40 Mean 12.8 Max 1.150 Min 0 Ac-ft 9,290

VENTURA RIVER BASIN

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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 307.25 ft above mean sea level (levels by Ventura County Flood Control District). Prior to Jan. 30, 1962, at datum 0.30 ft higher.

AVERAGE DISCHARGE.--18 years, 6.94 cfs (5,020 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,280 cfs Dec. 6 (gage height, 11.02 ft), from rating curve extended above 2,000 cfs; no flow Oct. 1 to Nov. 6, Nov. 8-20, 23-30.

1949-67: Maximum discharge, that of Dec. 6, 1966; no flow for several months in each year.

REMARKS.--Records poor. No regulation above station; pumping from wells along creek for irrigation.

COOPERATION.--Water-stage recorder graph, and 36 discharge measurements furnished by Ventura County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.30	3.6	12	5.0	18	41	19	13	7.9	4.6
2		0	10	3.5	10	5.0	13	40	19	13	7.8	4.5
3		0	15.4	3.4	9.8	4.6	9.8	39	18	13	7.7	4.5
4		0	20	3.4	9.3	4.2	20	38	18	13	7.6	4.5
5		0	47.4	3.4	8.8	3.9	16	36	17	13	7.6	4.5
6		0	2,150	3.4	8.3	3.9	13	33	17	13	7.5	4.5
7		50	200	3.4	8.3	3.9	20	32	17	12	7.5	4.4
8		0	50	3.4	7.8	4.2	13	30	16	12	7.5	4.4
9		0	25	3.4	7.3	4.2	13	29	16	12	7.4	4.4
10		0	15	3.4	7.3	4.6	15	29	15	12	7.4	4.3
11		0	10	3.4	7.3	9.3	110	28	15	12	7.4	4.3
12		0	9.0	3.4	6.9	25	36	27	15	11	7.4	4.3
13		0	8.0	3.4	6.9	8.4	25	27	15	11	7.3	4.2
14		0	7.5	3.4	6.5	5.6	21	26	15	11	7.2	4.2
15		0	7.0	3.4	6.5	3.2	20	26	15	11	7.1	4.2
16		0	6.8	3.4	6.5	18	20	25	15	11	7.0	4.2
17		0	6.6	3.4	6.5	12	18	24	15	11	6.9	4.1
18		0	6.2	3.4	6.5	10	5.3	24	15	11	6.8	4.1
19		0	6.0	3.4	6.5	9.8	6.5	24	14	10	6.6	4.1
20		0	5.8	3.4	6.1	9.3	5.4	24	14	10	6.5	4.0
21		1.5	5.4	3.4	5.7	9.3	100	23	14	10	6.4	4.0
22		50	5.2	400	5.7	9.3	140	24	14	9.6	6.3	4.0
23		0	5.1	30	5.7	8.8	106	23	14	9.4	6.2	4.0
24		0	5.0	79.4	5.7	8.8	100	24	14	9.2	6.0	3.9
25		0	4.8	150	6.5	8.3	83	25	13	8.8	5.7	3.9
26		0	4.6	40	6.1	8.3	5.5	26	13	8.6	5.6	3.9
27		0	4.5	35	5.7	7.8	5.4	25	13	8.5	5.4	3.8
28		0	4.3	30	5.3	7.3	50	24	13	8.4	5.2	3.8
29		0	4.1	25		6.5	4.6	22	13	8.2	5.1	3.8
30		0	3.9	20	-----	6.1	4.4	20	13	8.1	4.9	3.8
31		-----	3.8	15	-----	21	-----	20	-----	8.0	4.8	-----
Total	0	62.00	3,231.90	1,610.7	201.5	410.4	1,360.8	858	454	331.8	207.7	125.2
Mean	0	2.07	10.4	52.0	7.20	13.2	45.4	27.7	15.1	10.7	6.70	4.17
Max	0	50	2,150	79.4	12	8.4	140	41	19	13	7.9	4.6
Min	0	0	0.30	3.4	5.3	3.9	9.8	20	13	8.0	4.8	3.8
Ac-ft	0	123	6,410	3,190	400	814	2,700	1,700	900	658	412	248

Cal yr 1966: Total 4,113.90 Mean 11.3 Max 2,150 Min 0 Ac-ft 2,150
 Wtr yr 1967: Total 8,854.00 Mean 24.3 Max 2,150 Min 0 Ac-ft 17,560

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	0700	6.48	560	1-24	1500	7.56	2,490
12-3	0045	6.79	746	4-11	0200	5.68	332
12-6	1500	11.02	7,280	4-21	2230	5.43	218

Note.--No gage-height record Nov. 21, 22, Dec. 7 to Jan. 23, Jan. 25-31, July 7 to Sept. 30.

VENTURA RIVER BASIN

245

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 560 ft (from topographic map). Prior to Feb. 8, 1965, graphic water-stage recorder.

AVERAGE DISCHARGE.--9 years, 4.18 cfs (3,030 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,430 cfs Dec. 6 (gage height, 9.08 ft), from rating curve extended above 2,100 cfs as explained below; minimum daily, 0.10 cfs Oct. 2, 5-25.
1958-67: Maximum discharge, 4,470 cfs Nov. 24, 1965 (gage height, 9.10 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

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

COOPERATION.--One discharge measurement furnished by Ventura River Municipal Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.20	0.20	0.60	3.2	14	3.5	8.2	13	4.1	2.9	1.4	0.90
2	0.10	0.20	28	3.2	13	3.5	8.3	12	4.1	2.9	1.4	0.90
3	0.20	0.20	143	3.1	11	3.5	6.6	11	4.0	2.9	1.5	0.90
4	0.20	0.20	10	3.1	11	3.5	16	11	3.9	2.9	1.5	0.89
5	0.10	0.20	169	3.0	9.6	3.3	13	10	3.9	2.9	1.5	0.89
6	0.10	0.30	1,120	3.0	8.9	3.2	9.8	9.5	3.9	3.0	1.4	0.85
7	0.10	13	125	3.0	8.4	3.2	13	8.8	3.8	2.9	1.4	0.85
8	0.10	1.9	49	2.8	8.0	3.1	11	8.2	3.9	2.7	1.3	0.85
9	0.10	0.40	27	2.8	7.4	3.1	9.3	8.0	3.9	2.6	1.2	0.83
10	0.10	0.30	20	2.7	7.2	3.2	9.1	7.8	3.8	2.6	1.2	0.84
11	0.10	0.30	15	2.7	6.9	4.1	37	7.5	3.8	2.4	1.1	0.81
12	0.10	0.30	13	2.7	6.6	36	16	7.2	3.8	2.4	1.2	0.82
13	0.10	0.30	11	2.7	6.1	61	13	6.7	3.7	2.4	1.1	0.85
14	0.10	0.30	9.6	2.6	5.9	35	12	6.2	3.7	2.5	1.2	0.83
15	0.10	0.30	8.4	2.6	5.8	19	12	6.1	3.6	2.4	1.1	0.83
16	0.10	0.30	7.6	2.6	5.6	15	11	5.8	3.6	2.4	1.1	0.83
17	0.10	0.30	7.0	2.6	5.2	13	9.9	5.8	3.7	2.4	1.0	0.83
18	0.10	0.40	6.4	2.5	5.1	11	35	5.7	3.7	2.4	0.99	0.88
19	0.10	0.40	6.1	2.5	5.0	9.6	35	5.8	3.5	2.3	1.0	0.86
20	0.10	0.50	5.7	2.5	4.8	8.7	24	5.5	3.4	2.2	0.98	0.85
21	0.10	0.40	5.3	2.5	4.4	8.1	52	5.2	3.3	2.1	1.1	0.86
22	0.10	0.40	5.0	86	4.3	7.5	62	5.3	3.2	2.1	1.1	0.86
23	0.10	0.40	4.6	17	4.2	7.2	41	5.1	3.3	1.9	1.1	0.87
24	0.10	0.50	4.2	429	4.1	6.8	33	5.1	3.3	1.9	1.0	0.90
25	0.10	0.50	3.9	97	4.9	6.5	26	5.1	3.3	1.9	0.95	0.88
26	0.20	0.50	4.0	45	4.0	6.3	22	5.0	3.3	1.8	0.97	0.88
27	0.20	0.50	3.9	29	3.8	6.0	19	5.0	3.1	1.8	0.95	0.86
28	0.20	0.50	3.7	22	3.7	5.9	17	4.8	3.0	1.7	0.97	0.95
29	0.20	0.50	3.5	18	-----	5.7	15	4.8	2.9	1.6	0.94	0.99
30	0.20	0.60	3.5	17	-----	5.5	14	4.6	2.9	1.6	0.95	0.94
31	0.20	-----	3.4	15	-----	9.2	-----	4.6	-----	1.4	0.92	-----
TOTAL	4.00	25.10	1,826.40	833.4	188.9	320.2	610.2	216.2	107.4	71.9	35.52	26.08
MEAN	.13	.84	58.9	26.9	6.75	10.3	20.3	6.97	3.58	2.32	1.15	.87
MAX	.20	13	1,120	429	14	61	62	13	4.1	3.0	1.5	.99
MIN	.10	.20	.60	2.5	3.7	3.1	6.6	4.6	2.9	1.4	.92	.81
AC-FT	7.9	50	3,620	1,650	375	635	1,210	429	213	143	70	52

CAL YR 1966: TOTAL 2,491.30 MEAN 6.83 MAX 1,120 MIN .10 AC-FT 4,940

WAT YR 1967: TOTAL 4,265.30 MEAN 11.7 MAX 1,120 MIN .10 AC-FT 8,460

Peak discharge (base, 150 cfs).--Dec. 6 (1445) 4,430 cfs (9.08 ft); Jan. 24 (1330) 2,110 cfs (7.72 ft).

VENTURA RIVER BASIN

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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 610 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 3.96 cfs (2,870 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,650 cfs Dec. 6 (gage height, 8.10 ft), from rating curve extended above 1,200 cfs as explained below; no flow for many days.

1958-67: Maximum discharge, 2,670 cfs Nov. 24, 1965 (gage height, 8.12 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; no flow for part of each year.

Flood of Mar. 2, 1938, 3,780 cfs, result of slope-area measurement at site 2.0 miles downstream.

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

COOPERATION.--Seven discharge measurements furnished by Ventura River Municipal Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	20	2.9	17	3.5	11	14	4.6	1.6	20	10
2		0	24	2.9	14	3.5	12	14	4.6	1.4	30	10
3		0	90	2.9	13	3.3	9.6	14	4.3	1.4	30	10
4		0	16	2.7	12	3.3	19	13	4.3	1.4	20	10
5		0	139	2.5	10	3.1	16	12	4.0	1.4	20	20
6		0	867	2.5	9.6	3.1	12	12	4.0	1.4	30	10
7		14	153	2.5	9.1	2.9	16	11	4.0	1.2	40	10
8		2.0	47	2.3	8.7	2.9	14	10	4.0	1.0	40	10
9		10	26	2.3	8.7	2.9	12	10	4.0	1.0	40	10
10		0	18	2.3	8.3	2.9	13	10	4.0	.90	30	10
11		0	14	2.1	7.9	4.3	31	9.6	4.0	.90	20	10
12		0	13	2.1	7.5	53	16	9.1	4.0	.90	10	10
13		0	12	2.0	7.1	66	14	8.7	4.0	.80	10	10
14		0	9.6	2.0	6.4	36	13	8.3	3.8	.80	10	10
15		0	7.5	2.0	6.1	19	12	7.9	3.1	.70	10	10
16		0	6.7	2.0	5.8	14	11	7.5	2.3	.70	10	10
17		0	6.1	2.0	5.8	12	10	7.1	2.1	.60	10	10
18		0	5.2	2.0	5.5	10	33	7.1	2.3	.60	10	10
19		0	4.9	2.0	5.2	9.6	32	7.1	2.5	.50	10	10
20		0	4.9	2.0	4.9	14	26	6.7	3.0	.50	10	10
21		0	4.6	2.0	4.9	16	55	6.4	2.7	.50	10	10
22		0	4.0	158	4.6	12	62	6.1	2.7	.40	10	10
23		0	3.8	22	4.6	8.7	44	5.8	2.9	.40	10	10
24		0	3.5	436	4.3	7.9	36	5.5	2.7	.40	10	10
25		0	3.5	109	4.9	7.9	29	5.2	2.7	.30	10	10
26		0	3.5	45	4.0	7.5	25	5.2	2.3	.30	10	0
27		0	3.5	30	3.8	7.5	22	5.2	2.0	.30	10	0
28		10	3.3	23	3.8	7.0	20	5.2	1.8	.30	10	10
29		10	3.3	19		6.7	18	5.2	1.6	.20	10	10
30		10	3.3	19	-----	6.7	16	5.2	1.6	.20	10	10
31		-----	3.1	18	-----	11	-----	4.9	-----	.20	10	-----
Total	0	16.40	1503.50	927.0	207.5	368.2	659.6	259.0	95.9	23.20	5.20	2.90
Mean	0	0.547	48.5	29.9	7.41	11.9	22.0	8.35	3.20	0.748	0.168	0.097
Max	0	14	867	436	17	66	62	14	4.6	1.6	0.40	0.20
Min	0	0	0.20	2.0	3.8	2.9	9.6	4.9	1.6	0.20	0.10	0
Ac-ft	0	32	2980	1840	412	730	1310	514	190	46	10	5.8

Cal yr 1966: Total 2,118.90 Mean 5.74 Max 867 Min 0 Ac-ft 4,200
 Wtr yr 1967: Total 4,068.40 Mean 11.1 Max 867 Min 0 Ac-ft 8,070

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0030	4.00	379	1-24	1330	6.40	1,600
12-6	1430	8.10	2,650	3-12	2200	3.18	195
1-22	0830	4.30	540				

VENTURA RIVER BASIN

247

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 1967; combined records of river and diversion, October 1932 to September 1967.

GAGE.--Graphic water-stage recorder on river; digital water-stage recorder and Parshall flume on diversion. 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. Prior to Feb. 8, 1965, graphic water-stage recorder on diversion.

AVERAGE DISCHARGE (river only).--40 years (1911-13, 1929-67), 53.7 cfs (38,880 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year). (combined).--35 years, 63.0 cfs (45,610 acre-ft per year); median of yearly mean discharges, 25 cfs (18,100 acre-ft per year).

EXTREMES (river only).--Maximum discharge during year, 9,900 cfs Dec. 6 (gage height, 17.30 ft), from rating curve extended above 4,100 cfs; no flow Oct. 8 to Nov. 6, Nov. 10 to Dec. 1. 1911-14, 1929-67: 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 maximum flow; no flow at times in many years. (combined).--Maximum discharge during year, 9,910 cfs Dec. 6; minimum daily, 0.80 cfs Nov. 11. 1932-67: Maximum discharge, 39,200 cfs Mar. 2, 1938; minimum daily, 0.10 cfs Sept. 3, 4, 13, 1961.

REMARKS.--Records good. Flow partly regulated since March 1948 by Matilija Reservoir and since October 1959 by Casitas Reservoir (capacity, 267,000 acre-ft). Water diverted since May 1951 through pipeline at dam (Matilija Reservoir) to Ojai Valley for irrigation. Water diverted to Casitas Reservoir on Coyote Creek since January 1959. Diversion by city of Ventura for municipal supply began prior to 1911. For records of combined discharge of river and Ventura City diversion, see following page. AVERAGE DISCHARGE (river only) represents flow to ocean, regardless of upstream development.

COOPERATION.--One discharge measurement furnished by Ventura County Flood Control District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0	0	16	33	15	55	53	23	19	2.8	5.4
2	.10	0	6.4	15	29	13	53	56	23	20	2.2	5.4
3	.10	0	180	13	28	14	36	52	22	19	2.2	4.8
4	.10	0	13	12	28	12	56	50	24	19	2.0	5.6
5	.10	0	538	14	26	13	65	39	24	13	2.6	5.4
6	.10	0	3,610	16	22	11	123	30	17	16	5.9	4.8
7	.10	57	690	19	21	15	61	28	13	11	6.1	4.8
8	0	4.0	130	19	19	11	32	32	14	8.2	2.8	5.6
9	0	0	53	17	19	14	25	34	14	8.5	3.4	8.6
10	0	0	30	22	19	19	35	36	20	7.6	4.4	7.1
11	0	0	25	20	19	29	223	33	19	7.6	4.0	7.1
12	0	0	17	16	19	100	60	29	16	7.9	7.1	6.3
13	0	0	12	15	16	174	50	30	14	4.8	7.5	5.4
14	0	0	10	14	13	96	26	27	14	2.6	7.5	5.6
15	0	0	9.3	15	14	52	25	21	18	2.2	8.2	4.4
16	0	0	7.1	14	16	32	30	20	17	2.2	8.6	4.8
17	0	0	9.5	12	18	21	27	21	19	2.0	9.0	8.2
18	0	0	11	12	17	18	111	15	20	1.7	8.2	8.2
19	0	0	21	12	15	20	127	13	19	1.7	8.6	6.7
20	0	0	23	14	14	22	82	18	15	1.7	9.0	6.7
21	0	0	13	17	9.8	24	110	25	15	1.9	9.0	7.1
22	0	0	14	260	8.9	18	185	23	12	1.9	8.6	6.3
23	0	0	12	49	6.9	12	161	16	17	1.9	9.0	7.1
24	0	0	12	1,440	8.5	9.6	148	18	17	3.0	6.7	6.7
25	0	0	13	236	22	21	119	15	17	4.4	6.0	6.7
26	0	0	15	86	16	24	95	17	20	5.6	6.3	6.0
27	0	0	14	65	13	16	80	28	20	6.0	8.6	5.0
28	0	0	12	52	12	10	74	25	18	6.6	7.1	6.7
29	0	0	11	46		12	53	25	18	3.0	6.0	5.0
30	0	0	11	44		12	58	35	16	3.4	7.9	5.0
31	0		14	42		77		25		5.0	8.6	
Total	0.70	61.0	5,536.3	2,644	502.1	936.6	2,395	889	535	218.4	195.9	182.5
Mean	0.022	2.03	178	85.3	17.9	30.2	79.8	28.7	17.8	7.05	6.32	6.08
Max	0.10	57	3,610	1,440	33	174	223	56	24	20	9.0	8.6
Min	0	0	0	12	8.5	9.6	25	13	13	1.7	2.0	4.4
Ac-ft	1.4	121	10,980	5,240	996	1,860	4,750	1,760	1,060	433	389	362

Cal yr 1966: Total 3,506.30 Mean 23.3 Max 3,610 Min 0 Ac-ft 16,870
Wtr yr 1967: Total 14,096.50 Mean 38.6 Max 3,610 Min 0 Ac-ft 27,960

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0230	10.97	708	1-24	1400	15.35	5,240
12-6	1530	17.30	9,900	4-11	0230	11.55	1,020
1-22	1200	12.10	1,150				

VENTURA RIVER BASIN

11-1185. Ventura River near Ventura, Calif.--Continued

Combined discharge, in cubic feet per second, of Ventura River and Ventura City diversion near Ventura, Calif., water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	8.4	6.8	20	37	24	61	62	37	32	22	18
2	6.5	8.2	13	20	33	26	58	60	38	31	21	19
3	8.6	8.0	187	22	31	25	43	57	36	30	20	18
4	9.8	7.9	19	22	30	21	66	56	36	30	20	18
5	9.6	7.8	544	24	30	22	69	55	36	29	21	18
6	9.4	7.6	3,620	24	27	20	129	52	35	29	24	18
7	9.3	65	694	24	27	24	69	47	34	26	18	18
8	6.0	11	138	26	26	20	44	46	36	27	22	17
9	5.7	7.2	62	26	24	21	36	46	34	28	21	18
10	9.0	5.0	36	31	24	24	42	47	34	26	22	17
11	8.8	.80	29	29	24	34	230	44	32	24	22	17
12	8.7	4.0	24	25	24	106	70	40	34	24	23	20
13	9.0	4.5	21	25	24	181	61	39	33	24	24	18
14	7.9	5.7	18	19	21	103	38	37	33	28	20	17
15	8.4	7.4	17	20	20	61	37	39	35	28	19	17
16	5.4	7.3	16	23	19	42	37	44	33	29	18	16
17	6.0	7.2	16	21	19	30	33	41	35	28	19	16
18	9.0	7.0	16	22	22	26	118	42	33	27	20	17
19	8.9	7.0	28	22	20	25	135	42	34	25	21	17
20	8.9	5.1	32	22	18	27	90	40	32	26	21	17
21	8.8	5.8	22	24	20	27	116	39	31	25	21	17
22	8.8	7.0	23	266	21	25	192	39	35	26	21	16
23	8.7	6.6	21	56	22	25	168	38	36	26	22	17
24	8.7	4.4	19	1,450	17	24	155	39	31	24	20	18
25	8.7	5.6	16	242	26	26	126	42	33	24	20	18
26	7.5	5.4	16	94	23	26	102	43	33	25	20	18
27	7.6	5.3	20	69	20	23	87	43	33	24	22	18
28	8.4	6.7	21	56	23	20	81	42	32	25	20	19
29	5.6	7.0	20	50		22	73	41	31	21	20	19
30	5.6	6.7	20	47	-----	22	67	44	32	22	20	18
31	7.9	-----	20	45	-----	82	-----	39	-----	23	20	-----
Total	247.6	252.60	5,754.8	2,866	672	1,184	2,633	1,385	1,017	816	644	529
Mean	7.99	8.42	186	92.5	24.0	38.2	87.8	44.7	33.9	26.3	20.8	17.6
Max	9.8	65	3,620	1,450	37	181	230	62	38	32	24	20
Min	5.4	0.80	68	19	17	20	33	37	31	21	18	16
Ac-ft	491	501	11,410	5,680	1,330	2,350	5,220	2,750	2,020	1,620	1,280	1,050

Cal yr 1966: Total 11,640.30 Mean 31.9 Max 3,620 Min 0.80 Ac-ft 23,090
Wtr yr 1967: Total 18,001.00 Mean 49.3 Max 3,620 Min 0.80 Ac-ft 35,700

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0230		715	1-24	1400		5,250
12-6	1530		9,910	4-11	0230		1,020
1-22	1200		1,160				

CARPINTERIA CREEK BASIN

249

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 1967.

GAGE.--Graphic 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.--26 years, 1.93 cfs (1,400 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,720 cfs Dec. 6 (gage height, 8.60 ft), from rating curve extended above 810 cfs; no flow for many days.

1941-67: Maximum discharge, that of Dec. 6, 1966; no flow at times in each year.

REMARKS.--Records good. No regulation above station. 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.40	5.2	0.20	2.6	5.8	0	0	0	
2		0	22	.40	4.4	0	3.0	5.5	0	0	0	
3		0	109	.20	4.0	0	1.8	5.0	0	.50	0	
4		0	3.5	.20	3.6	0	3.1	4.6	.90	.80	0	
5		0	54	.20	2.8	0	3.4	4.6	.30	.20	0	
6		0	802	.20	2.5	0	2.4	4.0	0	0	.40	
7		3.9	99	.20	2.4	0	4.2	3.2	0	0	.40	
8		.30	38	.20	2.0	0	3.4	3.0	0	.20	0	
9		0	21	.20	1.9	0	2.6	3.2	0	.30	0	
10		0	14	.20	1.8	.40	2.8	3.6	.70	.30	0	
11		0	9.6	.10	1.5	1.8	11	3.4	1.2	.40	0	
12		0	6.4	.10	1.5	16	6.6	3.2	.40	.50	0	
13		0	4.8	.10	1.3	23	5.5	3.0	0	.10	0	
14		1.3	3.4	.10	1.1	12	5.0	2.8	0	0	0	
15		2.6	2.0	.20	1.3	7.8	5.0	2.4	0	0	0	
16		2.4	1.6	.20	1.2	6.0	4.8	2.2	0	.30	0	
17		1.3	1.4	0	1.0	5.0	4.6	1.2	0	0	0	
18		.60	1.2	0	.80	4.2	16	1.4	.80	0	0	
19		0	1.1	.10	.80	3.4	17	1.2	.30	0	0	
20		.50	1.3	.20	.60	3.0	14	.60	0	0	0	
21		.20	1.4	0	.50	2.6	23	1.3	0	0	0	
22		0	1.1	.77	.50	2.4	26	.50	0	0	0	
23		0	1.0	12	.40	2.0	19	.10	0	0	0	
24		0	1.0	352	.30	1.6	15	0	0	0	0	
25		0	.80	85	1.0	1.5	12	.10	.80	0	0	
26		0	.80	31	.40	1.5	10	.10	.20	0	0	
27		0	.80	19	.30	1.2	9.4	0	0	0	0	
28		0	.70	14	.10	1.2	8.5	0	0	0	0	
29		0	.60	11		1.0	7.5	0	0	0	0	
30		0	.60	9.7		1.0	6.6	0	0	0	0	
31		0	.50	8.5		3.1		0		0		
Total	0	13.10	1,204.60	632.70	45.20	101.90	255.8	66.00	5.60	3.60	0.80	0
Mean	0	0.44	38.9	20.4	1.61	3.29	8.53	2.13	0.19	0.12	0.03	0
Max	0	3.9	802	352	5.2	23	26	5.8	1.2	0.80	0.40	0
Min	0	0	0	0	0.10	0	1.8	0	0	0	0	0
Ac-ft	0	26	2,390	1,250	90	202	507	131	11	7.1	1.6	0

Cal yr 1966: Total 1,333.20 Mean 3.65 Max 802 Min 0 Ac-ft 2,640
Wtr yr 1967: Total 2,329.30 Mean 6.38 Max 802 Min 0 Ac-ft 4,620

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0100	5.50	485	3-12	2230	3.56	62
12- 6	1430	8.60	2,720	4-21	1630	3.40	46
1-24	1400	7.80	1,980				

ATASCADERO CREEK BASIN

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.--18.8 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967. Prior to October 1947, published as Alascadero Creek near Goleta.

GAGE.--Graphic water-stage recorder. Altitude of gage is 20 ft (from topographic map).

AVERAGE DISCHARGE.--26 years, 3.12 cfs (3,260 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

EXTREMES.--Maximum discharge during year, about 5,000 cfs (includes 3,000 cfs overflow) Jan. 24 (maximum gage height recorded, 12.80 ft), from discharge in main channel plus overflow; no flow for many days.
1941-67: Maximum discharge, that of Jan. 24, 1967; no flow for many days in each year.

REMARKS.--Records fair. No regulation above station. Small diversions for irrigation above station. At times low flow results from return irrigation waste water. At other times Lake Cachuma water is wasted to channel. Forest fire in September 1964 denuded a large portion of the drainage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0.10	9.0	0.20	13	4.2	0.10	0		0
2	0	0	121	.10	8.0	.20	6.6	3.3	.10	0		0
3	0	0	172	.10	7.5	.20	2.5	3.3	.10	0		0
4	0	0	17	.10	5.0	.20	39	3.0	.10	0		0
5	0	0	102	.10	3.5	.10	12	3.0	.10	0		0
6	0	2.6	720	.10	2.5	.10	5.8	2.5	.10	0		0
7	0	99	84	.10	1.5	.10	27	2.5	.10	0		0
8	0	4.6	22	.10	1.0	.10	8.4	2.2	.10	0		0
9	0	.50	12	.10	.60	.10	5.4	2.0	.10	0		0
10	0	.20	8.9	.10	.60	.10	10	2.0	.10	.10		0
11	0	.20	7.4	.10	.60	2.2	47	2.0	.10	.10		0
12	0	.10	5.4	.10	.60	57	12	1.8	.10	.10		.10
13	.10	0	3.9	.10	.60	33	8.9	1.8	.10	.10		.20
14	0	0	2.8	.20	.60	21	8.4	1.2	.10	.10		.20
15	0	0	1.6	.20	.60	13	7.9	1.0	.10	0		.20
16	0	0	1.8	.20	.60	16	7.4	.80	.10	0		.10
17	0	0	1.1	.10	.60	13	7.0	.70	.20	.10		.10
18	0	0	.80	.10	.60	9.9	39	.80	.20	0		0
19	0	0	.50	.10	.60	8.9	28	.80	.10	0		0
20	0	.10	.30	.10	.60	8.4	14	.80	.10	0		0
21	0	.30	.20	.10	.60	7.4	26	.60	.10	0		0
22	0	.10	.20	151	.60	7.4	21	.60	.30	0		0
23	0	0	.20	14	.60	7.4	7.4	.40	.20	0		0
24	0	0	.10	963	.60	7.0	9.4	.40	.10	0		0
25	0	0	.10	103	4.1	6.6	6.6	.20	.10	0		0
26	0	0	.10	32	.40	7.0	6.6	.30	.10	0		0
27	0	0	.10	24	.20	7.0	6.6	.30	.10	0		0
28	0	.10	.10	20	.20	7.0	6.6	.20	.10	0		0
29	0	.40	.10	18		7.4	6.6	.20	.10	0		0
30	0	.10	.10	22	- - - -	7.9	5.4	.10	0	0		0
31	0	- - - -	.10	9.9	- - - -	19	- - - -	.10	- - - -	0		- - - -
Total	0.10	108.30	1,285.90	1,359.30	52.50	274.90	411.50	43.10	3.40	0.60	0	0.90
Mean	0.003	3.61	41.5	43.8	1.88	8.87	13.7	1.39	0.11	0.02	0	0.03
Max	0.10	99	720	963	9.0	57	39	4.2	0.30	0.10	0	0.20
Min	0	0	0	0.10	0.20	0.10	2.5	0.10	0	0	0	0
Ac-ft	0.2	215	2,550	2,700	104	545	816	85	6.7	1.2	0	1.8

Cal yr 1966: Total 1,687.50 Mean 4.62 Max 720 Min 0 Ac-ft 3,350
Wtr yr 1967: Total 3,540.50 Mean 9.70 Max 963 Min 0 Ac-ft 7,020

Peak discharge (base, 70 cfs revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 7	1200	7.75	297	3-12	1600	7.38	175
12- 2	2400	10.21	993	4- 4	1600	7.68	235
12- 6	1500	12.05	1,840	4-11	0100	7.25	172
1-24	1300	unknown	5,000	4-18	1000	6.70	103

SAN JOSE CREEK BASIN

251

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 1967.

GAGE.--Digital water-stage recorder and concrete low-water control since October 1962. Datum of gage is 95.61 ft above mean sea level (levels by Santa Barbara County Road Department). Prior to Dec. 24, 1955, at datum 5.50 ft higher. Dec. 24, 1955, to Jan. 10, 1960, at datum 1.5 ft higher. Prior to Apr. 18, 1966, graphic water-stage recorder.

AVERAGE DISCHARGE.--26 years, 1.77 cfs (1,280 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,620 cfs Jan. 24 (gage height, 9.08 ft), from rating curve extended above 280 cfs on basis of slope-area measurement at gage height, 9.32 ft; minimum daily, 0.06 cfs Sept. 3. 1941-67: 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 good except those for period of no gage-height record, which are poor. No regulation above station. Many small diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.40	.80	9.4	1.1	4.9	3.5	.86	.27	.16	.14
2	.20	.10	68	.80	8.6	1.1	5.5	3.2	.93	.40	.22	.10
3	.10	.10	75	.70	7.4	1.1	3.5	3.1	.81	.41	.17	.06
4	.10	.10	4.0	.70	6.5	1.1	16	3.0	.81	.48	.41	.17
5	.10	.10	52	.70	5.8	1.2	9.2	3.0	.80	.43	.70	.21
6	.20	.10	390	.70	5.2	1.2	4.6	2.8	.78	.39	1.1	.20
7	.20	28	84	.70	4.7	1.2	17	2.7	.68	.30	.57	.45
8	.20	3.1	12	.60	4.3	1.2	8.7	2.6	.68	.29	.36	.68
9	.20	.70	6.5	.60	4.0	1.2	6.1	2.2	.71	.29	.23	.63
10	.20	.50	4.5	.60	3.7	.97	6.2	2.1	.67	.27	.30	.64
11	.10	.40	3.4	.70	3.3	3.0	26	1.8	.67	.21	.31	.47
12	.10	.40	3.0	.70	3.0	27	11	1.6	.71	.23	.25	.30
13	.10	.40	2.8	.70	2.6	15	8.1	1.6	.65	.26	.23	.27
14	.10	.40	2.5	.70	2.8	9.9	6.7	1.5	.66	.25	.25	.40
15	.20	.40	2.5	.60	2.5	5.5	6.0	1.5	.58	.25	.25	.39
16	.10	.40	1.8	.70	2.2	5.5	5.2	1.4	.48	.28	.33	.37
17	.20	.40	1.3	.70	2.0	5.0	4.7	1.3	.50	.25	.40	.34
18	.20	.40	1.2	.60	1.7	3.8	15	1.4	.53	.25	.46	.36
19	.10	.40	1.2	.60	1.5	3.2	11	1.5	.48	.25	.51	.16
20	.10	.50	1.1	.60	1.3	2.2	8.5	1.5	.46	.25	.58	.17
21	.10	.50	1.1	.70	1.2	2.3	15	1.4	.38	.21	.64	.17
22	.10	.50	1.0	105	1.1	1.9	16	1.3	.39	.14	.48	.22
23	.10	.50	1.0	11	1.2	2.2	9.8	1.2	.39	.14	.32	.19
24	.10	.40	1.0	346	1.5	2.5	9.2	.96	.40	.14	.25	.23
25	.10	.40	.90	150	1.6	2.1	7.4	.85	.48	.12	.22	.29
26	.10	.40	.90	24	1.3	1.5	6.2	.92	.48	.10	.27	.20
27	.10	.40	.80	17	1.2	1.5	5.3	.88	.39	.11	.32	.18
28	.10	.50	.80	13	1.1	1.4	4.8	.81	.29	.10	.36	.27
29	.10	.40	.80	11	-----	1.4	4.5	.81	.29	.10	.20	.28
30	.10	.40	.80	11	-----	1.4	4.0	.81	.34	.14	.17	.27
31	.10	-----	.80	10	-----	6.9	-----	.84	-----	.17	.12	-----
TOTAL	4.00	41.40	727.10	712.20	92.7	116.57	266.1	54.08	17.28	7.48	11.14	8.81
MEAN	.13	1.38	23.5	23.0	3.31	3.76	8.87	1.74	.58	.24	.36	.29
MAX	.20	28	390	346	9.4	27	26	3.5	.93	.48	1.1	.68
MIN	.10	.10	.40	.60	1.1	.97	3.5	.81	.29	.10	.12	.06
AC-FT	7.9	82	1,440	1,410	184	231	528	107	34	15	22	17

CAL YR 1966: TOTAL 960.70 MEAN 2.63 MAX 390 MIN 0 AC-FT 1,910
WAT YR 1967: TOTAL 2,058.86 MEAN 5.64 MAX 390 MIN .06 AC-FT 4,080

Peak discharge (base, 100 cfs)

Note.--No gage-height record Jan. 31 to Mar. 1.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-7	1115	4.17	352	1-24	1230	9.08	1,620
12-2	2315	4.99	558	4-4	1730	2.94	105
12-6	1400	7.92	1,280	4-11	0015	2.95	109
1-22	0015	4.69	482				

GAVIOTA CREEK BASIN

11-1205.5. GAVIOTA CREEK NEAR GAVIOTA, CALIF.

LOCATION.--Lat 34°29'16", long 120°13'34", in Nuestra Senora Del Refugio Grant, on left bank, 1.6 miles upstream from mouth and 1.3 miles northwest of Gaviota, Santa Barbara County.

DRAINAGE AREA.--18.8 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 100 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 4,000 cfs Jan. 24 (gage height, 8.40 ft), from rating curve extended above 450 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.20 cfs Oct. 23 to Nov. 3.

REMARKS.--Records good. No regulation. Small pumping for domestic and resort use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.20	0.60	1.2	5.1	1.8	11	5.4	2.6	1.5	0.80	0.60
2	.40	.20	.30	1.2	4.5	1.8	5.1	5.1	2.6	1.4	.80	.60
3	.40	.20	14	1.2	4.2	1.8	3.6	4.8	2.6	1.2	.80	.60
4	.40	.30	1.6	1.2	3.9	2.0	30	4.8	2.6	1.2	.60	.60
5	.40	.30	8.5	1.2	3.4	1.8	14	4.5	2.6	1.2	.60	.60
6	.40	.40	137	1.2	3.4	1.8	7.8	4.2	2.4	1.2	.60	.60
7	.40	1.5	20	1.2	3.1	1.8	12	4.2	2.4	1.2	.60	.60
8	.40	.50	5.0	1.1	2.8	1.5	7.0	3.9	2.4	1.2	.60	.60
9	.40	.40	2.8	1.1	2.2	1.0	5.8	3.9	2.4	1.2	.60	.60
10	.40	.40	2.2	1.1	2.6	.60	11	4.2	2.4	1.1	.60	.60
11	.40	.30	1.6	1.0	2.6	1.1	20	3.9	2.6	1.1	.60	.60
12	.40	.30	1.4	1.0	2.6	8.1	8.2	3.6	2.6	1.0	.60	.60
13	.40	.40	1.2	1.0	2.4	6.0	7.4	3.4	2.2	1.0	.60	.60
14	.40	.80	1.0	1.0	2.2	3.6	7.0	3.4	2.0	1.0	.60	.60
15	.40	.50	1.0	1.0	2.2	2.8	6.2	3.6	1.8	1.0	.60	.60
16	.30	.60	.80	1.0	2.2	6.4	5.4	3.1	1.8	1.0	.60	.60
17	.30	.60	.80	1.0	2.2	4.2	4.8	2.8	2.2	1.0	.60	.60
18	.30	.50	.80	.90	2.2	3.3	11	2.8	2.4	1.0	.60	.60
19	.30	.50	.80	.90	2.2	2.8	12	2.8	2.2	1.0	.60	.60
20	.30	1.2	.80	1.0	2.2	2.6	9.7	2.8	2.0	1.0	.60	.60
21	.30	.60	.80	1.4	2.0	2.6	14	2.8	1.8	.80	.60	.60
22	.30	.60	.80	158	2.0	2.6	17	2.8	1.8	.80	.60	.60
23	.20	.60	.80	28	2.0	2.6	12	2.8	1.8	.80	.60	.60
24	.20	.60	.80	954	2.0	2.6	12	2.8	1.8	.80	.60	.80
25	.20	.60	1.5	105	3.4	2.4	9.7	2.8	2.0	.80	.60	1.4
26	.20	.60	1.2	42	2.0	2.4	8.2	2.6	2.0	.80	.60	.80
27	.20	.60	1.1	15	2.0	2.4	7.8	2.6	1.6	.80	.60	.60
28	.20	1.0	1.0	11	1.8	2.4	6.2	2.6	1.6	.80	.60	.60
29	.20	.80	1.1	8.2	2.0	2.0	5.4	2.6	1.6	.80	.50	.60
30	.20	.60	1.2	8.2	2.2	2.2	5.4	2.6	1.6	.80	.50	.60
31	.20	- - - -	1.2	6.6	- - - -	5.4	- - - -	2.6	- - - -	.80	.60	- - - -
Total	9.90	16.70	243.40	1,358.90	75.4	86.4	296.7	106.8	54.4	31.30	19.00	19.20
Mean	0.319	0.557	7.85	43.8	2.69	2.79	9.89	3.45	2.15	1.01	0.613	0.640
Max	0.40	1.5	137	954	5.1	8.1	30	5.4	2.6	1.5	0.80	1.4
Min	0.20	0.20	0.60	0.90	1.8	0.60	3.6	2.6	1.6	0.80	0.50	0.60
Ac-ft	20	33	483	2,700	150	171	588	212	128	62	38	38

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 2,328.10 Mean 6.38 Max 954 Min 0.20 Ac-ft 4,620

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2100	4.45	390	1-24	1100	8.40	4,000
12- 6	1330	4.80	530	4- 4	1800	4.02	246
1-22	0600	5.05	655				

11-1206. JALAMA CREEK NEAR LOMPOC, CALIF.

LOCATION.--Lat 34°30'50", long 120°29'02", in San Julian Grant, on downstream side of right bridge pier on Jalama Road, 0.6 mile downstream from Gasper Creek, 1.4 miles upstream from mouth, and 8.9 miles southwest of Lompoc, Santa Barbara County.

DRAINAGE AREA.--20.5 sq mi.

RECORDS AVAILABLE.--September 1965 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 80 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 1,710 cfs Jan. 24 (gage height, 8.05 ft); no flow Oct. 15, 23-25, Aug. 13 to Sept. 30.

1965-67: Maximum discharge, that of Jan. 26, 1967; no flow for many days in most years.

REMARKS.--Records good. No regulation or diversion above station. Some pumping from wells for irrigation of about 400 acres.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.10	0.60	0.50	5.3	1.4	1.7	3.0	1.0	0.60	0.20	
2	.20	.10	24	.50	3.8	1.5	2.2	3.0	1.0	.60	.20	
3	.20	.10	11	.50	3.2	1.5	1.2	2.8	.90	.70	.20	
4	.20	.10	1.4	.50	3.0	1.5	4.9	2.6	.90	.70	.20	
5	.20	.30	3.2	.60	2.8	1.4	4.4	2.6	1.0	.90	.20	
6	.20	.50	19	.50	2.6	1.2	2.2	2.6	1.0	.90	.20	
7	.10	1.5	6.8	.50	2.4	1.2	2.8	2.4	.90	.80	.20	
8	.10	1.2	1.7	.60	2.2	1.2	1.8	2.4	1.0	.60	.20	
9	.10	.70	1.1	.60	2.0	1.2	1.7	3.0	1.0	.50	.20	
10	.10	.50	.90	.60	2.0	1.2	1.5	3.2	1.0	.50	.20	
11	.10	.50	.70	.60	2.0	1.5	5.0	2.8	1.0	.40	.10	
12	.10	.40	.70	.60	1.8	2.0	2.8	2.2	.90	.40	.10	
13	.10	.40	.70	.40	1.8	2.2	2.0	1.8	.90	.40	0	
14	.10	.40	.70	.40	1.8	1.8	1.8	1.7	.80	.40	0	
15	0	.50	.60	.40	1.7	1.4	1.8	1.7	.70	.40	0	
16	.10	.70	.60	.40	1.7	3.4	1.5	1.7	.70	.40	0	
17	.10	.70	.60	.40	1.5	2.8	1.4	1.5	.80	.40	0	
18	.10	.60	.60	.40	1.5	1.0	8.8	1.4	.80	.40	0	
19	.10	.60	.60	.40	1.5	1.4	6.3	1.7	.70	.40	0	
20	.10	1.2	.60	.40	1.5	1.4	3.8	1.5	.60	.30	0	
21	.10	1.0	.50	.40	1.4	1.2	13	1.4	.50	.30	0	
22	.10	.70	.50	27	1.4	1.2	14	1.2	.50	.20	0	
23	0	.70	.50	4.1	1.4	1.1	7.0	1.2	.50	.20	0	
24	0	.60	.50	303	1.5	1.1	13	1.2	.60	.20	.10	
25	0	.60	.50	21	2.2	1.1	6.3	1.1	.60	.20	0	
26	.10	.50	.50	9.6	1.7	1.1	4.7	1.1	.60	.10	0	
27	.10	.50	.50	5.6	1.5	1.1	4.1	1.1	.60	.20	0	
28	.10	.80	.50	4.1	1.2	1.1	3.8	1.0	.70	.20	0	
29	.10	1.0	.50	3.5		1.1	3.5	1.0	.60	.20	0	
30	.10	.70	.50	9.6	-----	1.1	3.0	1.0	.60	.10	0	
31	.10	-----	.50	10	-----	2.0	-----	1.0	-----	.10	0	-----
Total	3.30	18.2	81.6	407.70	58.4	45.4	132.0	57.9	23.40	12.70	2.30	0
Mean	0.106	0.607	2.63	13.2	2.08	1.46	4.40	1.87	0.780	0.410	0.074	0
Max	0.20	1.5	24	303	5.3	3.4	14	3.2	1.0	0.90	0.20	0
Min	0	0.10	0.50	0.40	1.2	1.0	1.2	1.0	0.50	0.10	0	0
Ac-ft	6.5	36	161	809	116	90	262	115	46	25	4.6	0

Cal yr 1966: Total 935.9 Mean 2.56 Max 99 Min 0 Ac-ft 1850

Wtr yr 1967: Total 842.9 Mean 2.30 Max 303 Min 0 Ac-ft 1670

Peak discharge (base, 150 cfs).--Jan. 24 (1000 hrs) 1,710 cfs (8.05 ft).

SANTA YNEZ RIVER BASIN

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 1967. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

GAGE.--Water-stage recorder on lake; digital 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. Prior to Apr. 15, 1966, graphic water-stage recorder on outlet conduit.

AVERAGE DISCHARGE.--36 years (1931-67), 5.61 cfs (4,060 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).

REMARKS.--Records of total inflow represent all water reaching Jameson Lake, including precipitation on the lake. Net discharge computed on basis of records of storage, diversion (draft) to the city of Montecito, spill and release to river, and evaporation. Records of net discharge exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from Colorado land pan using coefficient of 0.80. Area and capacity tables are based on surveys made in 1961. Lake capacity at spillway level (gage height, 223.82 ft) 6,596 acre-ft. Dead storage, 220 acre-ft, below lowest outlet at gage height 139.0 ft, included in these records. There is no regulation or diversion above station. 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 DISCHARGE, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Gage height (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 discharge (acre-feet)
Jameson Lake									
Sept. 30.....	2,212.31	5,071	-	-	-	-	-	-	-
Oct. 31.....	2,210.78	4,885	-186	147	0	24	-15	1	-16
Nov. 30.....	2,211.03	4,915	+30	72	0	8	110	73	37
Dec. 31.....	2,223.92	6,610	+1,695	12	1,150	4	2,861	138	2,723
Calendar year 1966.....	-	-	-33	1,880	3,895	398	6,140	227	5,913
Jan. 31.....	2,224.03	6,626	+16	6	1,950	7	1,979	114	1,865
Feb. 28.....	2,223.92	6,610	-16	39	621	17	661	9	652
Mar. 31.....	2,224.01	6,623	+13	74	1,280	18	1,385	91	1,294
Apr. 30.....	2,224.03	6,636	+3	23	1,980	15	2,021	106	1,915
May. 31.....	2,224.83	6,743	+117	133	280	50	580	0	580
June 30.....	2,224.62	6,712	-31	178	3	64	214	0	214
July 31.....	2,223.54	6,555	-157	191	0	73	107	0	107
Aug. 31.....	2,220.00	6,336	-219	209	0	64	54	0	54
Sept. 30.....	2,220.53	6,133	-203	202	0	37	36	10	26
Water year 1966-67.....	-	-	+1,062	1,286	7,264	381	9,993	542	9,451

† Gage height at 2400 hours.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net discharge may appear. This arises primarily from the difficulty of computing net discharge 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.

11-1220. 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 1967. 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; digital water-stage recorder and sharp-crested weir on diversion. Spill and release measured at river gaging station below dam (see sta. no. 1230). 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. Prior to Apr. 15, 1966, graphic water-stage recorder on diversion.

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 Colorado Land pan using coefficient of 0.80. Area and capacity tables are based on surveys made in 1956. Reservoir capacity at spillway level (elevation, 1,399.82 ft), 14,777 acre-ft (increased to 15,210 acre-ft with flash boards in place). 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 sta. no. 1210).

COOPERATION.--Reservoir-operation records and related data furnished by city of Santa Barbara.

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Month	Elevation (feet) †	Contents (acre- feet)	Change in contents (acre- feet)	Draft release (acre- feet)	Spill and release (acre- feet)	Evapo- ration (acre- feet)	Total inflow (acre- feet)	Rain on reservoir (acre- feet)	Net inflow (acre- feet)
Gibraltar Reservoir									
Sept. 30.....	1,389.72	10,879	-	-	-	-	-	-	-
Oct. 31.....	1,387.27	10,071	-808	763	13	114	82	1	81
Nov. 30.....	1,389.03	10,645	+574	324	31	36	965	250	715
Dec. 31.....	1,399.48	14,632	+3,987	60	37,300	19	41,366	320	41,046
Calendar year 1966....	-	-	-291	6,667	58,007	1,641	66,024	691	65,333
Jan. 31.....	1,400.06	14,880	+248	296	19,380	44	19,968	269	19,699
Feb. 28.....	1,399.68	14,718	-162	175	6,990	76	7,079	20	7,059
Mar. 31.....	1,400.07	14,884	+166	279	16,320	81	16,846	248	16,598
Apr. 30.....	1,397.93	13,981	-903	146	29,670	57	28,970	257	28,713
May. 31.....	1,400.45	15,049	+1,068	912	9,980	170	12,130	2	12,128
June 30.....	1,400.22	14,949	-100	649	2,940	196	3,685	1	3,684
July 31.....	1,399.55	14,662	-287	678	629	264	1,284	0	1,284
Aug. 31.....	1,397.89	13,965	-697	704	8	254	269	0	269
Sept. 30.....	1,396.76	13,504	-461	605	0	220	364	0	364
Water year 1966-67....	-	-	+2,625	5,591	123,261	1,531	133,008	1,368	131,640

† Elevation at 1800 hours.

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 YNEZ RIVER BASIN

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 1967 (monthly discharge only prior to October 1941).

GAGE.--Graphic water-stage recorder; graphic water-stage recorder and combination sharp-crested weir on "release to river" gage. Datum of gage is 1,227 ft above mean sea level. Graphic water-stage recorder on Gibraltar Reservoir used as supplementary gage. Prior to Apr. 17, 1952, graphic 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, graphic water-stage recorder, at same site at datum 5.00 ft higher.

EXTREMES.--Maximum discharge during year, 17,500 cfs Dec. 6 (gage height, 17.50 ft), from rating curve extended above 1,200 cfs on basis of computation of maximum flow over dam and flow through partly opened gates; no flow Aug. 14 to Sept. 30.

1920-67: Maximum discharge, 35,500 cfs Mar. 2, 1938, computed from spillway rating; no flow at times in most years.

REMARKS.--Records fair. Flow regulated by Jameson Lake and Gibraltar Reservoir (see sta. nos. 1210, 1220). City of Santa Barbara diverted 5,591 acre-ft during the water year from Gibraltar Reservoir; Montecito County Water District diverted 1,286 acre-ft during the water year from Jameson Lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.33	0.16	0.11	122	222	83	231	231	71	26	0.70	
2	.33	.17	4.2	120	202	81	264	356	72	26	.60	
3	.33	.18	5.3	104	182	79	231	546	71	24	.50	
4	.33	.18	.78	94	162	79	278	534	70	22	.40	
5	.35	.18	1.8	92	175	77	370	284	67	20	.30	
6	.31	.28	9.890	87	158	80	297	160	63	20	.30	
7	.31	.84	4.000	88	144	74	417	168	62	18	.20	
8	.31	.78	600	91	138	74	398	175	61	17	.20	
9	.28	.47	426	94	136	71	327	391	58	16	.20	
10	.25	.39	338	86	132	70	326	435	56	15	.10	
11	.28	.36	276	67	130	94	592	294	55	14	.10	
12	.28	.33	249	25	128	972	454	245	54	12	.10	
13	.19	.33	216	27	124	1,360	418	228	51	12	.10	
14	.13	.33	190	24	122	695	406	85	50	10	0	
15	.13	.33	190	33	114	490	386	13	48	9.3	0	
16	.13	.33	158	39	112	414	366	12	47	7.6	0	
17	.13	.33	138	68	108	402	312	12	47	7.4	0	
18	.13	.33	128	99	102	350	632	12	49	6.4	0	
19	.14	.33	187	102	104	255	621	17	48	5.6	0	
20	.15	.39	201	95	102	234	564	18	48	4.6	0	
21	.15	.28	172	87	96	240	734	44	43	4.2	0	
22	.15	.14	146	1,130	90	231	1,010	79	39	3.3	0	
23	.15	.11	162	360	88	216	860	83	36	3.1	0	
24	.15	.11	152	2,880	82	208	770	86	35	2.6	0	
25	.15	.10	146	1,310	92	192	705	82	33	2.3	0	
26	.15	.10	142	743	94	188	650	80	32	2.0	0	
27	.15	.09	132	538	97	182	630	77	31	1.8	0	
28	.15	.12	152	346	90	172	618	74	29	1.6	0	
29	.15	.12	144	297		158	606	72	29	1.3	0	
30	.16	.11	138	261	-----	160	586	71	28	1.0	0	
31	.16	-----	122	264	-----	235	-----	68	-----	.90	0	-----
Total	6.49	15.86	18,807.19	9,773	3,526	8,226	15,059	5,032	1,483	317.00	3.80	0
Mean	0.21	0.53	607	315	126	265	503	162	49.4	10.2	0.12	0
Max	0.35	8.4	9,890	2,880	222	1,350	1,010	546	72	26	0.70	0
Min	0.13	0.09	0.11	24	82	70	231	68	28	0.90	0	0
Ac-ft	13	31	37,300	19,380	6,990	16,320	29,870	9,980	2,940	629	7.5	0

Cal yr 1966: Total 29,246.87 Mean 80.1 Max 9,890 Min 0 Ac-ft 53,010
Wtr yr 1967: Total 62,249.34 Mean 171 Max 9,890 Min 0 Ac-ft 123,470

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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 787.8 ft above mean sea level, datum of 1929.

EXTREMES.--Maximum discharge during year, 22,500 cfs Dec. 6 (gage height, 12.90 ft), from rating curve extended above 9,200 cfs as explained below; no flow Oct. 1 to Nov. 6, Nov. 10 to Dec. 1, July 27 to Sept. 30.

1947-67: Maximum discharge, 33,000 cfs Jan. 15, 1952 (gage height, 15.6 ft), from rating curve extended above 9,200 cfs on basis of slope-area measurement of maximum flow for station below Gibraltar Dam; no flow for several months in each year.

REMARKS.--Records good except those above 1,000 cfs, which are fair. Flow regulated by Jameson Lake and Gibraltar Reservoir (see Sta. Nos. 1210, 1220). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Flow affected by intermittent pumping for irrigation and from infiltration gallery in river bed at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	59	302	64	305	532	104	34		
2		0	71	59	250	62	374	338	104	29		
3		0	524	59	208	60	296	701	101	27		
4		0	26	53	155	60	389	692	98	22		
5		0	96	38	149	59	531	528	92	19		
6		0	9,770	25	137	57	398	240	88	16		
7		127	4,040	24	110	55	535	226	82	13		
8		29	987	23	82	53	526	222	80	12		
9		.20	564	22	81	51	422	365	78	12		
10		0	422	21	80	49	412	628	75	12		
11		0	320	20	78	70	935	398	72	8.9		
12		0	275	19	75	912	647	374	68	6.0		
13		0	226	14	75	1,820	540	296	66	5.0		
14		0	175	14	72	976	512	239	62	4.2		
15		0	137	14	70	708	484	90	60	3.8		
16		0	131	14	68	556	458	75	59	3.8		
17		0	90	13	66	512	328	70	57	3.5		
18		0	72	13	64	446	637	68	57	2.3		
19		0	66	18	62	349	862	68	57	2.0		
20		0	118	19	62	275	701	66	55	1.6		
21		0	95	16	60	285	858	64	53	1.0		
22		0	75	1,870	59	275	1,340	88	51	1.2		
23		0	66	704	57	250	1,150	125	49	1.4		
24		0	72	4,120	55	236	1,040	128	48	1.0		
25		0	64	2,330	72	218	930	125	46	.80		
26		0	60	984	70	204	850	122	45	.70		
27		0	59	806	70	191	810	119	43	0		
28		0	60	580	68	183	782	113	41	0		
29		0	70	458		175	764	110	40	0		
30		0	64	356	-----	157	728	107	37	0		
31		-----	60	368	-----	279	-----	104	-----	0		-----
Total	0	156.20	18,855	13,133	2,757	9,657	19,544	7,421	1,968	243.20	0	0
Mean	0	5.21	608	424	98.5	312	651	239	65.6	7.85	0	0
Max	0	127	9,770	4,120	302	1,820	1,340	701	104	34	0	0
Min	0	0	0	13	55	49	296	64	37	0	0	0
Ac-ft	0	310	37,400	26,050	5,470	19,150	38,760	14,170	3,900	482	0	0
Cal yr 1966 : Total	30,834.50	Mean	84.5	Max	9,770	Min	0	Ac-ft	61,160			
Wtr yr 1967 : Total	73,734.40	Mean	202	Max	9,770	Min	0	Ac-ft	146,300			

SANTA YNEZ RIVER BASIN

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.

RECORDS AVAILABLE.--October 1941 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic 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.--26 years, 13.8 cfs (9,990 acre-ft per year); median of yearly mean discharges, 6.3 cfs (4,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,800 cfs Dec. 6 (gage height, 10.30 ft), from rating curve extended above 2,100 cfs; no flow Oct. 1 to Nov. 6, Nov. 10 to Dec. 2.
1941-67: Maximum discharge, that of Dec. 6, 1966; no flow at times in 1953-67.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	22	42	16	42	150	48	18	5.9	1.7
2		0	0	20	35	16	44	155	46	18	5.9	1.5
3		0	355	19	31	16	44	150	44	16	5.4	1.5
4		0	17	19	30	16	85	146	42	16	5.4	1.5
5		0	600	19	28	15	81	134	42	16	5.4	1.5
6		0	3,680	18	26	15	65	130	42	16	5.4	1.2
7		1.2	563	18	26	15	120	126	39	16	5.4	1.0
8		6.8	250	16	25	14	100	122	37	16	5.4	1.0
9		.50	126	15	24	13	78	118	37	15	5.4	1.0
10		0	88	15	22	13	73	110	37	14	4.9	1.0
11		0	68	14	20	18	184	104	37	13	4.4	1.0
12		0	57	14	20	247	110	100	35	12	3.6	1.0
13		0	50	14	20	343	100	94	33	11	3.6	1.0
14		0	44	13	20	163	97	91	33	11	3.3	1.0
15		0	39	12	19	81	94	84	31	10	3.0	1.0
16		0	35	12	18	75	84	81	31	9.7	3.0	1.0
17		0	33	12	16	73	78	75	30	9.0	2.6	1.0
18		0	31	11	16	57	151	75	30	9.0	2.4	1.0
19		0	30	11	16	50	150	73	28	8.3	2.1	1.2
20		0	28	10	16	44	130	70	26	8.3	2.1	1.3
21		0	26	10	16	39	277	65	26	7.6	2.1	1.3
22		0	26	69	16	37	329	62	25	7.0	2.1	1.3
23		0	25	39	16	35	235	60	25	6.4	1.9	1.3
24		0	25	366	16	33	230	60	24	5.9	1.9	1.3
25		0	24	174	18	33	220	60	24	5.9	1.9	1.3
26		0	24	84	16	33	220	57	24	5.9	1.9	1.3
27		0	22	73	16	33	220	55	20	5.9	1.9	1.2
28		0	22	57	16	33	210	52	20	5.9	1.7	1.2
29		0	22	46		33	170	52	19	5.9	1.7	1.3
30		0	22	48	-----	31	155	50	18	5.9	1.7	1.5
31		-----	22	60	-----	46	-----	50	-----	5.9	1.7	-----
Total	0	8.50	6,364	1,330	600	1,686	4,196	2,811	953	330.5	105.1	36.4
Mean	0	0.28	205	42.9	21.4	54.4	140	90.7	31.8	10.7	3.39	1.21
Max	0	6.8	3,680	366	42	343	329	155	48	18	5.9	1.7
Min	0	0	0	10	16	13	42	50	18	5.9	1.7	1.0
Ac-ft	0	17	12,620	2,640	1,190	3,340	3,320	5,580	1,890	656	208	72

Cal yr 1966: Total 9,096.50 Mean 24.9 Max 3,680 Min 0 Ac-ft 13,040
Wtr yr 1967: Total 13,420.50 Mean 50.5 Max 3,680 Min 0 Ac-ft 36,540

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0200	7.75	1,980	3-12	2100	6.75	840
12- 6	1400	10.30	5,800	4- 7	1100	5.89	210
1-22	1330	5.98	240	4-11	0030	6.10	334
1-24	1630	7.05	1,160	4-21	2400	6.52	663

SANTA YNEZ RIVER BASIN

259

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 1967. Prior to October 1960, published as Cachuma Reservoir near Santa Ynez.

GAGE.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929 (Bureau of Reclamation bench mark).

EXTREMES.--Maximum contents during year, 206,894 acre-ft Mar. 13 (elevation, 750.65 ft); minimum, 165,149 acre-ft Dec. 2 (elevation, 736.18 ft).

1952-67: Maximum contents, that of Mar. 13, 1967; minimum, since initial filling in April 1958, 117,872 acre-ft Nov. 13, 1965 (elevation 716.63 ft).

REMARKS.--Reservoir is formed by earth-fill dam. Storage began November 1952. Capacity table is based on surveys made in January 1953. Dead storage below outlet gate to river (elevation, 600 ft), 3,114 acre-ft, included in contents. 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. Water diverted to Tecolote Tunnel for use by city of Santa Barbara and nearby communities, to Santa Ynez River Water Conservation District, and to Cachuma Recreation Area.

COOPERATION.--Reservoir elevations and diversion figures furnished by Bureau of Reclamation.

MONTH-END ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Total Diversions (acre-feet)
Sept. 30.....	737.58	168,926	-	-
Oct. 31.....	736.48	165,955	-2,971	1,861
Nov. 30.....	736.20	165,203	-752	890
Dec. 31.....	749.91	204,598	+39,395	595
Calendar year 1966.....	-	-	+38,535	19,464
Jan. 31.....	750.22	205,558	+960	605
Feb. 28.....	750.20	205,496	-62	440
Mar. 31.....	750.27	205,714	+218	522
Apr. 30.....	750.25	205,652	-62	422
May 31.....	750.22	205,558	-94	1,450
June 30.....	750.07	205,092	-466	2,112
July 31.....	748.54	200,398	-4,694	2,643
Aug. 31.....	746.82	195,210	-5,188	3,150
Sept. 30.....	745.61	191,622	-3,588	2,286
Water year 1966-67.....	-	-	+22,696	16,976

† Elevation at 0845 hours.

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 1967.

GAGE.--Graphic 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, 10,000 cfs Jan. 24 (gage height, 10.60 ft), from rating curve extended above 2,200 cfs; no flow Oct. 1 to Nov. 1, Sept. 12-25.
1928-31, 1932-67: 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 fair. Flow regulated by Jameson Lake since December 1930, Gibraltar Reservoir, and Lake Cachuma since November 1952 (see Sta. Nos. 1210, 1220, 1255). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma 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 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.30	59	436	76	359	785	76	26	16	1.2
2		.20	.30	59	242	73	362	366	76	25	15	6.1
3		2.4	4.7	59	205	71	428	290	80	27	15	5.9
4		4.0	.40	59	220	66	513	759	89	42	14	5.6
5		4.2	71	55	195	58	829	773	76	41	14	5.3
6		5.7	201	44	188	56	730	492	90	43	13	5.9
7		8.8	97	43	180	56	511	400	80	43	12	5.6
8		5.9	10	43	164	56	604	359	69	48	10	5.0
9		4.0	48	43	164	139	645	332	61	48	9.2	5.6
10		6.8	107	43	150	58	604	589	61	48	8.8	5.6
11		5.9	72	43	138	72	1,300	526	57	45	8.4	4.4
12		5.6	44	43	132	972	752	428	54	44	8.0	0
13		5.6	71	43	120	3,480	655	338	52	44	8.0	0
14		3.7	108	39	116	1,330	730	362	48	44	8.4	0
15		1.8	103	37	116	851	765	195	45	40	8.8	0
16		.80	84	37	120	625	660	132	44	36	8.4	0
17		.60	84	36	112	685	616	128	43	37	8.8	0
18		.60	73	36	110	670	723	128	42	36	8.8	0
19		.70	67	36	110	572	1,070	125	42	35	8.4	0
20		1.1	67	36	102	429	1,170	125	42	37	7.6	0
21		1.2	68	36	104	282	1,160	106	42	37	7.6	0
22		1.8	75	820	104	285	1,730	67	39	29	7.2	0
23		1.9	82	1,330	102	282	1,610	68	37	9.2	6.8	0
24		2.0	82	4,040	94	285	1,330	68	36	14	6.5	0
25		2.0	83	2,210	82	280	1,120	69	35	31	6.2	0
26		7.7	76	1,370	80	258	826	61	33	30	6.2	1.0
27		4.2	69	758	78	265	1,030	70	30	30	6.2	2.8
28		2.8	69	564	76	255	1,050	74	29	29	4.8	5.9
29		1.5	69	476		238	962	75	28	29	2.0	8.5
30		.60	67	464	-----	225	855	75	27	29	1.9	5.9
31		-----	59	464	-----	241	-----	76	-----	20	2.0	-----
Total	0	94.10	2,111.70	13,425	4,040	13,301	25,699	8,441	1,563	1,076.2	268.0	80.3
Mean	0	3.14	68.1	433	144	429	857	272	52.1	34.7	8.65	2.68
Max	0	8.8	201	4,040	436	3,480	1,730	785	90	48	16	8.5
Min	0	0	0.30	36	76	56	359	61	27	9.2	1.9	0
Ac-ft	0	187	4,190	26,630	3,010	26,380	50,970	16,740	3,100	2,130	532	159

Cal yr 1966: Total 3,294.90 Mean 9.03 Max 201 Min 0 Ac-ft 6,540
Wtr yr 1967: Total 70,099.30 Mean 192 Max 4,040 Min 0 Ac-ft 139,000

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.

RECORDS AVAILABLE.--October 1940 to September 1967. Monthly discharge only for January 1941 and yearly estimate for water year 1941 (incomplete) published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Altitude of gage is 520 ft (from topographic map). Prior to Oct. 1, 1955, at datum 1.00 ft higher.

AVERAGE DISCHARGE.--27 years, 3.27 cfs (2,370 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,260 cfs Dec. 6 (gage height, 5.35 ft), from rating curve extended above 2,000 cfs; no flow for most of year.

1940-67: 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 fair. No regulation above station. Small diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0		0	4.2	5.9	0.60	0		
2			0	0		0	5.1	5.4	.50	0		
3			45	0		0	5.5	5.6	.40	0		
4			0	0		0	67	4.4	.30	0		
5			68	0		0	25	5.1	.20	.30		
6			1.020	0		0	10	5.9	.20	.30		
7			25	0		0	24	5.6	.20	.40		
8			10	0		0	12	5.9	.20	.30		
9			5.0	0		0	8.0	6.2	.20	.30		
10			1.0	0		0	5.0	4.6	.20	.20		
11			.50	0		0	61	4.6	.10	.20		
12			.10	0		29	15	4.8	.10	0		
13			.10	0		50	9.7	4.6	.10	0		
14			.10	0		26	7.5	3.6	.10	0		
15			.10	0		5.0	7.5	2.9	.20	0		
16			.10	0		4.0	6.2	2.3	.10	0		
17			.10	0		3.5	6.2	2.3	.10	0		
18			.10	0		3.5	7.4	2.1	.10	0		
19			.10	0		3.0	6.5	1.8	0	0		
20			.10	0		3.0	37	1.8	0	0		
21			.10	0		2.8	31	1.6	0	0		
22			.10	.60		2.6	45	1.1	0	0		
23			0	0		2.6	26	1.0	0	0		
24			0	123		2.6	30	.90	0	0		
25			0	10		3.6	17	.90	0	0		
26			0	1.0		2.8	12	.90	0	0		
27			0	.10		2.6	9.3	.80	0	0		
28			0	0		2.3	8.9	.70	0	0		
29			0	0		2.2	8.9	.70	0	0		
30			0	0	-----	2.2	7.5	.70	0	0		
31		-----	0	0	-----	5.5	-----	.60	-----	0		-----
Total	0	0	1,175.60	134.70	0	158.8	650.5	95.30	3.90	2.00	0	0
Mean	0	0	37.9	4.35	0	5.12	21.7	3.07	0.130	0.065	0	0
Max	0	0	1.020	123	0	49	71	6.2	0.60	0.40	0	0
Min	0	0	0	0	0	0	4.2	0.60	0	0	0	0
Ac-ft	0	0	2,330	267	0	315	1,290	189	7.7	4.0	0	0

Cal yr 1966: Total 1,203.60 Mean 3.30 Max 1.020 Min 0 Ac-ft 2,390
 Wtr yr 1967: Total 2,220.80 Mean 6.08 Max 1.020 Min 0 Ac-ft 4,400

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0130	3.12	460	3-31	0530	2.00	82
12- 6	1500	5.35	4,260	4- 4	1730	2.82	391
1-24	1430	3.30	965	4-11	0230	2.53	189
3-12	1930	2.10	109	4-18	1030	2.75	205

SANTA YNEZ RIVER BASIN

11-1284. ALISAL CREEK NEAR SOLVANG, CALIF.

LOCATION.--Lat 34°35'01", long 120°08'37", in Nojoqui Grant, on right bank at footbridge, 0.1 mile upstream from mouth, and 0.9 mile southwest of Solvang, Santa Barbara County.

DRAINAGE AREA.--12.2 sq mi.

RECORDS AVAILABLE.--October 1954 to September 1955, October 1955 to September 1956 (monthly discharge only), October 1956 to September 1967.

GAGE.--Graphic 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.--13 years, 5.80 cfs (4,200 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,280 cfs Jan. 24 (gage height, 10.50 ft), on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Dec. 1, Dec. 4, Aug. 6 to Sept. 30.
1954-67: Maximum discharge, that of Jan. 24, 1967; no flow for several months in each year.

REMARKS.--Records good. No regulation or diversion above station. At times waste irrigation water pumped from Santa Ynez River causes minor flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.40	13	3.1	17	15	2.9	1.0	0.30	
2			1.8	.40	12	2.9	19	13	2.9	1.0	.30	
3			16	.40	11	2.9	12	13	2.7	1.0	.20	
4			0	.40	9.4	3.1	50	12	2.7	1.0	.10	
5			3.8	.40	9.0	2.7	38	11	2.7	.90	.10	
6			87	.40	8.0	2.5	27	11	2.7	.80	0	
7			24	.40	7.7	2.5	34	10	2.7	.70	0	
8			8.4	.40	7.1	2.5	26	9.9	2.7	.70	0	
9			5.0	.40	6.8	2.3	22	9.4	2.7	.70	0	
10			3.3	.30	6.1	2.3	22	9.0	2.5	.70	0	
11			2.5	.30	5.8	9.2	43	8.7	2.5	.70	0	
12			1.9	.30	5.2	46	29	8.4	2.5	.70	0	
13			1.6	.30	5.2	33	25	8.0	2.3	.70	0	
14			1.6	.30	4.7	29	21	7.7	2.1	.70	0	
15			1.3	.30	4.4	19	19	7.4	2.1	.70	0	
16			1.0	.30	4.1	19	17	7.1	2.1	.70	0	
17			1.0	.30	3.8	17	16	6.8	2.1	.60	0	
18			.90	.30	3.8	17	46	6.4	2.1	.60	0	
19			.80	.30	3.6	15	32	6.1	1.9	.60	0	
20			.80	.30	3.3	11	28	5.8	1.8	.60	0	
21			.70	.90	3.3	9.9	37	5.5	1.6	.60	0	
22			.70	200	3.1	9.4	43	5.2	1.5	.60	0	
23			.60	38	2.9	8.7	34	5.0	1.5	.60	0	
24			.60	915	2.7	8.0	31	4.7	1.3	.60	0	
25			.60	150	5.0	7.4	26	4.7	1.3	.60	0	
26			.50	59	4.1	7.1	24	4.4	1.3	.60	0	
27			.50	39	3.3	6.4	22	4.1	1.3	.60	0	
28			.40	27	3.1	6.1	19	3.8	1.1	.50	0	
29			.40	22		5.5	17	3.6	1.1	.40	0	
30			.40	19		5.2	16	3.3	1.0	.40	0	
31			.40	17		12		3.1		.40	0	
Total	0	0	168.50	1,493.80	161.5	327.7	812	233.1	61.7	21.00	1.00	0
Mean	0	0	5.44	48.2	5.77	10.6	27.1	7.52	2.06	0.677	0.032	0
Max	0	0	87	915	13	46	50	15	2.9	1.0	0.30	0
Min	0	0	0	0.30	2.7	2.3	12	3.1	1.0	0.40	0	0
Ac-ft	0	0	334	2,960	320	650	1,610	452	122	42	2.0	0

Cal yr 1966: Total 1,505.60 Mean 4.12 Max 199 Min 0 Ac-ft 2,990
Wtr yr 1967: Total 3,280.30 Mean 8.99 Max 915 Min 0 Ac-ft 6,510

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0100	3.96	101	3-12	1600	3.15	118
12- 6	1500	5.08	292	4- 4	1530	3.40	172
1-22	0400	6.30	710	4-18	0830	3.20	128
1-24	1130	10.50	4,280				

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 1967.

GAGE.--Digital 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, graphic water-stage recorder on center bridge pier at same datum. Prior to May 12, 1966, graphic water-stage recorder.

EXTREMES.--Maximum discharge during year, 10,200 cfs Jan. 24 (gage height, 10.04 ft), from rating curve extended above 2,500 cfs; no flow for many days.
1928-36, 1946-67: 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. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see sta. nos. 1210, 1220, 1255). 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 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	65	427	88	329	745	66	32	13	0
2	0	0	1.5	65	379	84	356	485	62	34	11	0
3	0	0	20	65	332	82	372	235	60	34	10	0
4	0	0	0	65	338	82	556	665	63	33	9.1	0
5	0	0	1.5	65	310	74	802	729	73	37	7.7	0
6	0	0	1,560	57	294	71	706	494	69	33	9.2	0
7	0	0	431	54	282	69	557	422	64	26	6.2	0
8	0	0	70	54	259	68	555	367	48	27	5.0	0
9	0	0	40	54	248	100	574	328	35	31	3.3	0
10	0	0	93	53	235	75	567	517	30	31	2.4	0
11	0	0	95	54	219	83	1,250	523	32	28	1.4	0
12	0	0	59	53	200	613	942	431	26	26	1.4	0
13	0	0	56	52	192	3,470	662	332	24	24	1.0	0
14	0	0	95	53	180	1,540	713	368	23	21	1.1	0
15	0	0	103	50	173	968	777	225	21	18	.67	0
16	0	0	90	49	173	649	691	137	22	17	.65	0
17	0	0	86	49	162	685	607	125	23	18	.94	0
18	0	0	86	48	152	646	826	122	27	15	.86	0
19	0	0	76	48	150	552	1,100	119	29	14	.37	0
20	0	0	72	48	140	446	1,200	117	30	13	.60	0
21	0	0	72	49	133	305	1,180	113	34	13	.59	0
22	0	0	73	857	133	292	1,740	74	35	11	.25	0
23	0	0	83	1,730	124	279	1,810	66	33	9.1	.20	0
24	0	0	84	4,300	119	272	1,380	63	30	6.8	.17	0
25	0	0	84	2,920	109	270	1,100	62	31	5.3	.16	0
26	0	0	84	1,470	102	246	812	61	31	9.6	.10	0
27	0	0	75	984	94	242	919	61	27	14	.11	0
28	0	0	75	825	90	226	1,020	68	27	17	.11	0
29	0	0	75	789	-----	211	929	69	26	18	.06	0
30	0	0	75	644	-----	202	822	71	31	20	0	0
31	0	-----	68	452	-----	222	-----	71	-----	20	0	-----
TOTAL	0	0	3,883	16,121	5,749	13,212	25,854	8,265	1,132	655.8	87.64	0
MEAN	0	0	125	520	205	426	862	267	37.7	21.2	2.83	0
MAX	0	0	1,560	4,300	427	3,470	1,810	745	73	37	13	0
MIN	0	0	0	48	90	68	329	61	21	5.3	0	0
AC-FT	0	0	7,700	31,980	11,400	26,210	51,280	16,390	2,250	1,300	174	0

Cal yr 1966: Total 7,151.80 Mean 19.6 Max 1,560 Min 0 Ac-ft 14,190
Wat yr 1967: Total 74,959.44 Mean 205 Max 4,300 Min 0 Ac-ft 148,700

SANTA YNEZ RIVER BASIN

11-1298. ZACA CREEK NEAR BUELLTON, CALIF.

LOCATION.--Lat 34°38'55", long 120°11'00", in San Carlos de Jonata Grant, on upstream end of left pier of bridge on frontage road, 0.9 mile upstream from Dry Creek, 2.4 miles north of Buellton, and 4.0 miles upstream from mouth, Santa Barbara County.

DRAINAGE AREA.--32.8 sq mi.

RECORDS AVAILABLE.--September 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 471.54 ft above mean sea level.

EXTREMES.--Maximum discharge during year, 191 cfs Dec. 6 (gage height, 4.70 ft); no flow for most of year. 1963-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records good. Some regulation by Zaca Lake. Some pumping from wells along stream for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.10	0	0.30	4.3	0.30			
2			0	0	0	0	.10	4.0	1.2			
3			0	0	0	0	0	3.8	1.3			
4			0	0	0	0	.90	3.4	1.2			
5			0	0	0	0	2.4	3.2	1.2			
6			64	0	0	0	1.4	3.2	1.0			
7			23	0	0	0	3.0	3.2	.90			
8			2.1	0	0	0	3.2	3.0	.80			
9			.10	0	0	0	2.2	3.0	.80			
10			0	0	0	0	2.1	3.2	.70			
11			0	0	0	0	6.8	3.2	.40			
12			0	0	0	0.1	5.8	3.0	.50			
13			0	0	0	4.4	4.0	2.8	.30			
14			0	0	0	5.5	3.4	2.6	0			
15			0	0	0	2.4	3.0	2.6	.10			
16			0	0	0	1.7	2.4	2.2	.10			
17			0	0	0	.90	2.0	2.0	.10			
18			0	0	0	.50	8.0	2.0	.30			
19			0	0	0	0	19	2.0	.40			
20			0	0	0	0	13	1.8	.10			
21			0	0	0	0	11	1.5	0			
22			0	.80	0	0	18	1.2	.10			
23			0	0	0	0	12	1.0	.10			
24			0	17	0	0	8.8	.90	.10			
25			0	8.6	0	0	6.8	.90	.10			
26			0	2.0	0	0	6.5	.90	0			
27			0	.50	0	0	6.1	.70	0			
28			0	0	0	0	5.5	.30	0			
29			0	0	0	0	5.2	.30	0			
30			0	.20	-----	0	4.6	.20	0			
31		-----	0	.10	-----	.50	-----	.20	-----			-----
Total	0	0	89.20	29.20	0.10	16.00	157.50	56.60	12.10	0	0	0
Mean	0	0	2.88	0.942	0.004	0.516	5.58	2.15	0.403	0	0	0
Max	0	0	64	17	0.10	5.5	19	4.3	1.3	0	0	0
Min	0	0	0	0	0	0	0	0.20	0	0	0	0
Ac-ft	0	0	177	58	0.2	32	332	132	24	0	0	0

Cal yr 1966: Total 92.60 Mean 0.254 Max 64 Min 0 Ac-ft 184
 Wtr yr 1967: Total 380.70 Mean 1.04 Max 64 Min 0 Ac-ft 755

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1700	4.70	191	4-19	1600	2.81	31
1-24	1800	3.28	83	4-22	0500	2.68	21

SANTA YNEZ RIVER BASIN

265

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.

DRINAGE AREA.--668 sq mi.

RECORDS AVAILABLE.--June 1948 to September 1952 (irrigation seasons only); October 1952 to September 1965; October 1965 to September 1967 (wading stages only).

GAGE.--Digital 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. Prior to May 12, 1966, graphic water-stage recorder.

REMARKS.--Records good. This is a project station. Discharge above wading stages not reported herein. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see Sta. Nos. 1210, 1220, 1255). 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. Records of sediment data for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	56	445	101	329	-	80	20	2.8	.14
2	0	0	0	55	395	98	335	-	81	19	1.9	.14
3	0	0	0	56	311	91	342	261	81	18	1.1	.14
4	0	0	0	55	333	93	-	-	81	15	.77	.14
5	0	0	.10	55	287	85	-	-	77	14	.67	.05
6	0	0	-	50	268	82	-	-	87	12	.59	0
7	0	0	-	43	258	78	-	404	78	11	.50	0
8	0	0	111	42	228	75	478	327	66	11	.48	0
9	0	0	43	41	213	91	493	275	56	12	.45	0
10	0	0	59	41	219	94	504	428	51	14	.38	0
11	0	0	86	41	192	51	-	479	53	14	.43	0
12	0	0	52	40	171	-	-	364	50	13	.42	0
13	0	0	38	39	163	-	-	279	45	12	.34	0
14	0	0	61	39	155	-	-	291	41	12	.31	0
15	0	0	83	38	148	-	-	190	37	10	.26	0
16	0	0	78	37	153	463	-	105	37	9.7	.23	0
17	0	0	71	37	148	-	-	92	36	9.2	.23	0
18	0	0	71	36	139	-	-	87	37	7.9	.22	0
19	0	0	66	36	140	-	-	84	38	6.0	.20	0
20	0	0	58	35	133	452	-	83	38	4.8	.20	0
21	0	0	57	36	126	332	-	82	37	3.7	.20	0
22	0	0	57	-	133	296	-	75	37	3.0	.20	0
23	0	0	67	-	123	288	-	76	35	2.4	.20	0
24	0	0	73	-	123	286	-	75	32	1.9	.19	0
25	0	0	74	-	115	288	-	77	30	1.6	.17	0
26	0	0	75	-	109	267	-	77	31	1.1	.17	0
27	0	0	67	-	105	260	-	78	29	.91	.17	0
28	0	0	66	-	102	246	-	78	27	.78	.17	0
29	0	0	67	498	-----	230	-	79	26	.63	.17	0
30	0	0	67	475	-----	229	-	79	23	.61	.17	0
31	0	-----	62	445	-----	255	-----	80	-----	2.4	.16	-----
TOTAL	0	0	-	-	5,435	-	-	-	1,457	263.63	14.45	0.61
MEAN	0	0	-	-	194	-	-	-	48.6	8.50	.47	.020
MAX	0	0	-	-	445	-	-	-	87	20	2.8	.14
MIN	0	0	-	-	102	-	-	-	23	.61	.16	0
AC-FT	0	0	-	-	10,780	-	-	-	2,890	523	.29	1.2

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wat yr 1967: Total - Mean - Max - Min - Ac-ft -

SANTA YNEZ RIVER BASIN

11-1315. SANTA YNEZ RIVER AT COOPER'S REEF, NEAR LOMPOC, CALIF.

LOCATION.--Lat 34°36'48", long 120°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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Dec. 7, 1962, graphic water-stage recorder.

EXTREMES.--Maximum discharge during year, 10,200 cfs Jan. 24 (gage height, 12.25 ft), from rating curve extended above 5,100 cfs; no flow Oct. 27, Nov. 2-6, 9, 10, 12-14.

1954-67: Maximum discharge, that of Jan. 24, 1967; no flow for several months in some years.

REMARKS.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see sta. nos. 1210, 1220, 1255). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along banks of river for irrigation in valley upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	60	580	97	381	1,150	73	12	1.1	.37
2	.10	0	.10	58	475	96	511	988	69	13	.90	.40
3	.10	0	.50	56	344	92	466	331	68	12	.70	.37
4	.10	0	10	54	354	94	566	682	65	12	.70	.35
5	.10	0	25	52	311	81	1,100	1,050	79	11	.70	.35
6	.10	0	1,000	51	291	78	954	826	82	12	.69	.35
7	.10	.10	900	49	289	75	701	573	81	13	.74	.34
8	.10	.10	121	46	262	72	638	455	73	13	.71	.31
9	.10	0	46	44	234	69	616	362	60	11	.68	.29
10	.10	0	28	44	237	105	637	547	50	15	.65	.31
11	.10	.10	56	44	209	72	1,300	736	50	17	.68	.31
12	.10	0	49	41	187	528	1,360	531	51	15	.70	.31
13	.10	0	26	39	172	4,100	624	381	45	14	.62	.30
14	.10	0	37	38	161	3,000	688	386	40	14	.60	.30
15	.10	.10	61	36	148	1,470	791	295	38	14	.58	.29
16	.10	.10	67	33	150	876	784	189	35	13	.56	.31
17	.10	.10	58	32	148	853	588	161	34	12	.55	.26
18	.10	.10	58	30	139	887	876	145	36	11	.50	.27
19	.10	.10	58	29	136	815	1,330	136	36	8.9	.51	.28
20	.10	.10	54	30	135	619	1,640	126	34	7.1	.50	.27
21	.10	.10	52	32	130	405	1,570	119	30	5.4	.50	.23
22	.10	.10	52	429	131	322	2,070	107	28	3.9	.52	.26
23	.10	.10	54	1,630	127	310	2,620	84	28	3.2	.50	.27
24	.10	.10	63	3,590	125	307	2,180	75	25	2.8	.48	.25
25	.10	.10	65	5,330	123	308	1,760	74	21	2.0	.45	.21
26	.10	.10	65	1,800	106	288	1,300	74	19	1.8	.45	.22
27	0	.10	63	1,480	100	287	1,200	68	18	1.7	.46	.22
28	.10	.10	58	939	100	273	1,570	74	15	1.3	.44	.24
29	.10	.10	56	564	-----	259	1,420	76	13	1.1	.40	.24
30	.10	.10	58	613	-----	248	1,290	77	12	1.3	.40	.22
31	.10	-----	61	621	-----	266	-----	77	-----	1.3	.39	-----
TOTAL	3.00	2.00	3,301.70	17,894	5,904	17,352	33,531	10,955	1,308	275.8	18.36	8.70
MEAN	.097	.067	107	577	211	560	1,118	353	43.6	8.90	.59	.29
MAX	.10	.10	1,000	5,330	580	4,100	2,620	1,150	82	17	1.1	.40
MIN	0	0	.10	29	100	69	381	68	12	1.1	.39	.21
AC-FT	6.0	4.0	6,550	35,490	11,710	34,420	66,510	21,730	2,590	547	36	17

Cal yr 1966: Total 8,709.10 Mean 23.9 Max 1,000 Min 0 Ac-ft 17,270
 Wat yr 1967: Total 90,553.56 Mean 248 Max 5,330 Min 0 Ac-ft 179,600

Note.--No gage-height record Nov. 29 to Dec. 7, Jan. 1-4.

SANTA YNEZ RIVER BASIN

267

11-1325. SALSIPUEDES CREEK NEAR LOMPOC, CALIF.

LOCATION.--Lat 34°35'20", long 120°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.

RECORDS AVAILABLE.--January 1941 to September 1967.

GAGE.--Digital water-stage recorder and concrete low-water control. Altitude of gage is 240 ft (from topographic map). Prior to Sept. 29, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--26 years, 8.31 cfs (6,020 acre-ft per year); median of yearly mean discharges, 3.4 cfs (2,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,090 cfs Jan. 24 (gage height, 14.46 ft); minimum daily, 0.30 cfs Oct. 20 to Nov. 6.

1941-67: Maximum discharge, 11,400 cfs Mar. 15, 1952 (gage height, 20.8 ft); no flow at times in some years.

REMARKS.--Records good except those for periods of indefinite stage-discharge relation, which are poor. No regulation above station. Small diversions for irrigation above station. Records of sediment data for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.30	1.0	2.2	16	4.5	9.8	8.5	3.4	2.2	.78	.68
2	.40	.30	1.8	2.1	12	4.5	9.9	8.3	3.4	2.1	.77	.67
3	.40	.30	2.1	2.1	11	5.2	5.9	8.6	3.4	2.0	.77	.67
4	.40	.30	.70	2.0	9.5	5.9	27	8.4	3.4	2.0	.76	.66
5	.40	.30	.90	2.0	8.8	4.6	16	7.7	3.4	1.9	.76	.66
6	.40	.30	73	1.9	7.9	4.5	8.2	7.7	3.4	1.8	.75	.66
7	.40	1.0	37	1.9	7.6	4.1	13	7.2	3.3	1.7	.74	.65
8	.40	1.0	21	1.8	8.5	3.9	8.6	6.7	3.3	1.6	.74	.65
9	.40	.70	12	1.8	6.9	3.9	6.6	6.7	3.2	1.6	.73	.65
10	.40	.50	10	1.7	6.7	3.9	6.1	6.7	3.1	1.5	.72	.64
11	.40	.40	8.0	1.7	6.2	4.8	23	6.7	3.1	1.4	.72	.64
12	.40	.40	7.0	1.6	5.8	8.2	9.7	6.7	3.1	1.3	.72	.64
13	.40	.50	6.0	1.6	5.3	8.2	7.3	6.7	3.0	1.3	.72	.64
14	.40	.50	5.0	1.6	5.2	7.3	6.2	6.2	3.0	1.2	.72	.64
15	.40	.50	4.5	1.5	4.7	4.7	6.1	6.2	2.9	1.2	.72	.64
16	.40	.60	4.0	1.5	4.5	13	5.9	6.2	2.9	1.1	.72	.63
17	.40	.70	3.7	1.5	4.9	11	5.4	5.8	2.8	1.1	.72	.63
18	.40	.70	3.5	1.5	4.9	7.3	30	4.9	2.8	1.0	.71	.63
19	.40	.70	3.3	1.5	4.9	6.6	26	4.9	2.7	1.0	.71	.63
20	.30	.90	3.2	1.5	4.7	6.0	15	4.5	2.7	1.0	.70	.62
21	.30	1.2	3.0	1.6	4.5	5.5	58	4.5	2.7	.96	.70	.62
22	.30	1.0	2.9	147	4.5	5.5	41	4.5	2.6	.92	.70	.62
23	.30	.90	2.8	37	4.5	5.3	19	3.7	2.6	.90	.70	.62
24	.30	.90	2.7	1,470	4.6	4.9	35	3.7	2.6	.89	.70	.61
25	.30	.70	2.6	89	7.1	5.1	15	3.7	2.5	.88	.70	.60
26	.30	.70	2.5	36	5.0	4.7	12	4.1	2.5	.85	.69	.60
27	.30	.70	2.4	24	4.5	5.1	11	3.4	2.4	.83	.68	.60
28	.30	1.0	2.4	19	4.5	5.0	10	3.4	2.4	.81	.68	.59
29	.30	1.2	2.3	15	-----	5.1	10	3.4	2.3	.80	.68	.59
30	.30	1.0	2.3	35	-----	5.1	8.9	3.4	2.2	.79	.68	.58
31	.30	-----	2.2	28	-----	9.7	-----	3.4	-----	.78	.68	-----
TOTAL	11.20	20.20	235.80	1,936.6	185.2	183.1	465.6	176.5	87.1	39.41	22.27	18.96
MEAN	.36	.67	7.61	62.5	6.61	5.91	15.5	5.69	2.90	1.27	.72	.63
MAX	.40	1.2	73	1,470	16	13	58	8.6	3.4	2.2	.78	.68
MIN	.30	.30	.70	1.5	4.5	3.9	5.4	3.4	2.2	.78	.68	.58
AC-FT	22	40	468	3,840	367	363	924	350	173	78	44	38

CAL YR 1966: TOTAL 2,460.90

MEAN 6.74

MAX 420

MIN .30

AC-FT 4,880

WAT YR 1967: TOTAL 3,381.94

MEAN 9.27

MAX 1,470

MIN .30

AC-FT 6,710

Peak discharge (base, 100 cfs)

Note.--Stage-discharge relation indefinite Dec. 10, to Jan. 21, June 6 to Sept. 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1600	3.38	365	1-24	1045	14.46	7,090
1-22	0715	3.91	528	4-21	1015	2.57	173

SANTA YNEZ RIVER BASIN

11-1330. SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CALIF.

LOCATION.--Lat 34°38'21", long 120°25'39", in Canada de Salsipuedes Grant, on left bank 0.4 mile upstream from State Highway 150, 1.9 miles east of Lompoc, Santa Barbara County, and 2.1 miles downstream from Salsipuedes Creek.

DRAINAGE AREA.--789 sq mi.

RECORDS AVAILABLE.--April 1947 to September 1952 (irrigation seasons only); October 1952 to September 1963, October 1964 to September 1967.

GAGE.--Graphic water-stage recorder (supplemental gage used Dec. 6 to Aug. 16). Altitude of gage is 90 ft (from topographic map). Prior to Mar. 23, 1953, at site 700 ft upstream at different datum. Mar. 23, 1953, to Feb. 10, 1962, at site 500 ft upstream at datum 5.00 ft higher, and Feb. 11, 1962, to Sept. 30, 1965, at datum 3.00 ft higher. Sept. 30, 1965 to Aug. 17, 1967, at same site at datum 3.00 ft higher. Since October 1960, supplemental gage at site 0.5 mile downstream at different datum.

EXTREMES.--Maximum discharge during year, 16,000 cfs Jan. 25 (gage height, 12.70 ft, from supplemental gage); no flow Oct. 1 to Dec. 5.

1952-63, 1964-67: Maximum discharge, that of Jan. 25, 1967; no flow at times in each year.

REMARKS.--Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir and since November 1952 by Lake Cachuma (see Sta. Nos. 1210, 1220, 1255). Water diverted out of Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along banks of river for irrigation in valley upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	58	524	92	272	900	91	21	3.3	1.0
2			0	56	456	90	321	803	88	20	3.0	1.0
3			0	56	373	87	318	405	83	19	2.8	.90
4			0	54	330	87	345	528	79	18	2.7	.90
5			0	52	315	86	587	760	77	17	2.5	.90
6			25	51	300	82	600	676	75	17	2.4	.90
7			742	50	266	77	496	508	74	18	2.3	.90
8			252	45	252	72	456	436	72	19	2.2	.90
9			75	43	229	68	452	370	66	22	2.1	.90
10			36	42	227	78	472	402	63	20	2.0	.90
11			34	40	205	70	715	524	60	22	1.9	.90
12			51	40	194	157	1,150	448	55	22	1.8	.90
13			40	39	189	2,300	750	374	47	22	1.7	1.0
14			31	38	189	2,450	735	348	46	21	1.5	1.0
15			41	36	169	1,090	780	312	44	20	1.2	1.0
16			57	36	164	692	770	242	42	19	1.2	1.0
17			58	36	160	630	650	224	40	18	1.2	1.0
18			56	36	148	625	761	182	39	16	1.2	1.0
19			58	36	138	570	1,010	173	38	14	1.2	1.0
20			56	36	129	532	1,280	158	37	12	1.2	1.0
21			50	36	126	496	1,320	160	35	10	1.2	1.0
22			51	297	122	454	1,690	151	34	8.5	1.2	1.0
23			51	1,180	114	436	1,980	143	32	7.5	1.2	1.0
24			56	3,790	111	404	1,850	138	30	6.5	1.2	1.0
25			60	3,220	108	373	1,480	130	29	6.0	1.2	1.0
26			63	1,940	104	345	1,180	124	27	5.5	1.0	1.0
27			65	1,540	102	316	978	118	26	5.0	1.0	1.0
28			60	914	96	295	1,230	112	24	4.5	1.0	1.2
29			50	670		283	1,110	107	23	4.0	1.0	1.2
30			62	635	-----	247	988	102	22	3.8	1.0	1.2
31		-----	60	540	-----	252	-----	97	-----	3.5	1.0	-----
Total	0	0	2,250	20,642	5,840	13,856	26,746	10,165	1,498	441.8	51.4	29.6
Mean	0	0	72.6	666	209	447	892	328	49.9	14.3	1.66	0.987
Max	0	0	742	3,220	524	2,450	1,980	900	91	22	3.3	1.2
Min	0	0	0	36	96	68	272	97	22	3.5	1.0	0.90
Ac-ft	0	0	4,460	40,940	11,580	27,480	53,050	20,160	2,970	876	102	59

Cal yr 1966: Total 9,741.10 Mean 26.7 Max 742 Min 0 Ac-ft 19,320

Wtr yr 1967: Total 81,519.8 Mean 223 Max 3,220 Min 0 Ac-ft 161,700

SANTA YNEZ RIVER BASIN

269

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 1967.

GAGE.--Graphic 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. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

EXTREMES.--Maximum discharge during year, 15,000 cfs Jan. 25 (gage height, 15.60 ft, from floodmark), on basis of maximum discharge for station at Pine Canyon; no flow Oct. 1 to Dec. 6, July 22 to Sept. 30. 1954-67: Maximum discharge, that of Jan. 25, 1967; no flow for several months in each year.

REMARKS.--Records poor. This is a project station. Discharge above wading stages generally not reported here-in. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see sta. nos. 1210, 1220, 1255). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along bank of river for irrigation in valley upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	44	524	90	291	853	80	11		
2			0	39	512	89	346	644	77	9.1		
3			0	38	373	89	340	348	75	8.1		
4			0	37	329	89	375	394	71	7.3		
5			0	36	313	86	663	610	69	6.1		
6			0	35	298	82	699	571	70	4.8		
7			580	32	266	81	540	432	69	4.6		
8			316	27	252	80	458	368	68	4.4		
9			54	25	229	78	462	324	60	4.2		
10			7.2	24	227	88	482	335	54	2.8		
11			.40	24	205	80	748	452	50	3.6		
12			17	24	194	116	1,240	380	48	4.2		
13			12	24	189	1,880	555	330	45	4.2		
14			2.2	22	189	2,490	535	300	40	3.4		
15			4.5	22	169	1,140	580	285	34	3.0		
16			26	21	164	732	570	216	32	2.6		
17			32	20	164	664	480	188	31	2.4		
18			30	20	148	671	648	178	29	2.3		
19			33	20	146	632	991	174	26	1.0		
20			33	20	144	554	1,270	168	26	.90		
21			26	20	142	464	1,300	164	24	.20		
22			26	243	110	371	1,560	154	24	0		
23			26	1,150	110	351	2,100	136	22	0		
24			34	3,730	107	333	1,750	130	20	0		
25			42	3,230	106	321	1,380	124	18	0		
26			46	1,940	100	307	1,070	114	16	0		
27			47	1,540	95	291	863	107	16	0		
28			46	914	92	279	1,180	102	15	0		
29			45	670		261	1,030	96	13	0		
30			46	635	-----	248	950	90	11	0		
31		-----	46	540	-----	274	-----	85	-----	0		-----
Total	0	0	1,577.30	20,166	5,897	13,311	25,466	3,852	1,233	90.20	0	0
Mean	0	0	50.9	651	211	429	849	286	41.1	2.91	0	0
Max	0	0	580	3,230	524	2,490	2,100	853	80	11	0	0
Min	0	0	0	20	92	78	291	85	11	0	0	0
Ac-ft	0	0	3,130	40,000	11,700	26,400	50,510	17,560	2,450	179	0	0

Cal yr 1966: Total 7,750.40 Mean 21.2 Max 639 Min 0 Ac-ft 15,370

Wtr yr 1967: Total 76,592.50 Mean 210 Max 3,230 Min 0 Ac-ft 151,900

Note.--Discharge Jan. 23 to Feb. 21, Mar. 13 to Apr. 12, Apr. 18 to May 1 was above wading stages and was prorated between that for stations at Narrows and Pine Canyon.

SANTA YNEZ RIVER BASIN

11-1350. SANTA YNEZ RIVER AT PINE CANYON, NEAR LOMPOC, CALIF.

LOCATION.--Lat 34°40'20", long 120°29'30", in Lompoc Grant, on right bank at Floradale Avenue bridge crossing, 2.1 miles upstream from Santa Lucia Creek, and 3 miles northwest of Lompoc, Santa Barbara County.

DRAINAGE AREA.--832 sq mi.

RECORDS AVAILABLE.--May 1941 to October 1946, August 1964 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 55 ft (from topographic map). Prior to Aug. 24, 1964, at different datum. Prior to Feb. 16, 1965, graphic water-stage recorder.

EXTREMES.--Maximum discharge during year, 15,000 cfs Jan. 25 (gage height, 16.10 ft), on basis of maximum flow for station at narrows; no flow Aug. 5-24.

1941-46, 1964-67: Maximum discharge, 32,000 cfs (based on station near Lompoc) Jan. 23, 1943 (gage height, 21.0 ft, datum then in use, from high-water marks); no flow at times in 1946, 1966, 1967.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see sta. nos. 1210, 1220, 1255). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara and Goleta for municipal supply. Water pumped from wells along bank for irrigation in valley upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.70	1.4	40	524	98	291	853	76	11	1.4	.63
2	.50	.70	3.9	35	512	94	373	794	72	9.6	1.5	.51
3	.60	.90	22	34	373	93	368	388	66	9.1	1.3	.48
4	.50	.90	14	33	329	95	405	451	65	8.1	1.2	.60
5	.60	.90	30	33	313	93	739	720	64	7.7	0	1.1
6	.50	1.0	45	33	298	88	798	666	66	6.7	0	.92
7	.60	12	580	32	266	87	643	474	65	6.3	0	1.1
8	.60	8.8	307	27	252	85	539	402	62	5.9	0	1.3
9	.60	2.1	64	24	229	81	511	358	57	5.6	0	1.2
10	.60	1.7	12	23	227	98	538	368	53	4.9	0	1.3
11	.60	1.4	13	23	205	98	782	510	48	5.2	0	1.6
12	.70	1.4	15	23	194	130	1,330	429	47	6.9	0	1.3
13	.70	1.4	15	22	189	1,880	558	364	45	7.0	0	1.3
14	.70	1.4	10	24	189	2,510	549	321	41	6.5	0	1.3
15	.60	1.4	15	21	169	1,180	629	307	39	6.2	0	1.2
16	.60	1.3	22	21	164	773	642	221	36	6.1	0	1.2
17	.70	1.4	29	19	164	697	527	177	34	5.7	0	1.0
18	.60	1.4	27	18	148	713	648	162	32	4.9	0	1.5
19	.60	1.3	29	18	146	694	991	151	29	4.2	0	1.2
20	.60	2.4	31	17	144	576	1,270	141	28	2.8	0	1.3
21	.60	1.8	26	17	142	464	1,300	137	27	2.6	0	1.3
22	.60	3.4	26	199	137	371	1,560	130	24	2.3	0	1.4
23	.40	1.7	26	1,150	134	351	2,230	112	23	2.0	0	1.4
24	.40	1.6	30	4,300	126	333	1,750	100	21	2.4	0	1.4
25	.50	1.4	36	8,230	125	321	1,380	94	20	2.0	.02	1.7
26	.60	1.4	39	1,940	111	307	1,070	94	17	1.9	.38	1.7
27	.50	1.3	42	1,540	101	291	863	90	15	1.8	.39	1.7
28	.60	2.3	41	914	98	279	1,180	86	14	1.7	.64	3.5
29	.60	1.6	40	670	-----	261	1,030	83	13	1.3	.69	2.5
30	.60	1.5	42	635	-----	248	950	81	12	1.0	.62	.84
31	.70	-----	41	540	-----	274	-----	78	-----	1.6	.56	-----
TOTAL	17.90	62.50	1,674.3	20,655	6,009	13,663	26,444	9,342	1,211	151.0	8.70	39.48
MEAN	.58	2.08	54.0	666	215	441	881	301	40.4	4.87	.28	1.32
MAX	.70	12	580	8,230	524	2,510	2,230	853	76	11	1.5	3.5
MIN	.40	.70	1.4	17	98	81	291	78	12	1.0	0	.48
AC-FT	36	124	3,320	40,970	11,920	27,100	52,450	18,530	2,400	300	17	78

Cal yr 1966: Total 8,519.40 Mean 23.3 Max 639 Min 0 Ac-ft 16,900
 Wat yr 1967: Total 79,277.88 Mean 217 Max 8,230 Min 0 Ac-ft 157,200

Note.--No gage-height record Jan. 25 to Feb. 21.

SAN ANTONIO CREEK BASIN

271

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 down-stream 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.--135 sq mi.

RECORDS AVAILABLE.--October 1955 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 160 ft (from topographic map). Prior to June 27, 1958, at datum 2.00 ft higher. Prior to Sept. 28, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--12 years, 5.49 cfs (3,970 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 149 cfs Jan. 24 (gage height, 4.96 ft); minimum daily, 0.40 cfs Oct. 2, 5-9, 19, 20.
1955-67: Maximum discharge, 1,300 cfs Feb. 19, 1962 (gage height, 9.35 ft); minimum daily, 0.10 cfs June 19, 20, 1957.

REMARKS.--Records good. No regulation above station. Flow affected by pumping from wells along stream for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	.50	1.2	2.5	7.0	3.4	6.6	2.9	1.3	.91	.58	.65
2	.40	.50	1.6	2.5	5.5	3.3	6.2	2.7	2.7	.90	.58	.65
3	.60	.60	8.4	2.5	4.8	3.2	4.5	2.4	1.8	.91	.61	.62
4	.50	.60	4.4	2.5	4.6	3.6	5.1	2.2	1.5	.92	.59	.63
5	.40	.60	2.6	2.5	4.4	3.7	7.9	2.1	1.3	.90	.56	.63
6	.40	.70	12	2.5	4.3	3.2	5.1	1.9	1.3	.88	.57	.65
7	.40	1.4	10	2.4	4.1	3.2	20	1.8	1.3	.81	.61	.65
8	.40	1.9	4.4	2.4	4.0	3.1	11	1.7	1.3	.78	.60	.65
9	.40	1.5	3.2	2.4	4.0	3.1	6.3	1.8	1.3	.77	.61	.63
10	.50	.90	2.8	2.4	3.9	3.0	4.8	2.6	1.3	.74	.63	.62
11	.50	.90	2.4	2.4	4.0	3.1	19	2.4	1.2	.73	.61	.68
12	.50	.80	2.3	2.4	3.9	5.6	13	2.1	1.2	.69	.59	.67
13	.50	.90	2.3	2.4	3.9	7.4	7.1	1.8	1.2	.68	.57	.72
14	.50	.70	2.4	2.2	3.9	5.7	5.6	1.7	1.3	.66	.62	.78
15	.50	.80	2.4	2.1	3.8	4.3	4.8	1.6	1.3	.67	.60	.85
16	.50	.80	2.0	2.2	3.7	8.6	5.2	1.6	1.3	.67	.56	.85
17	.50	.90	2.2	2.3	3.5	11	4.5	1.4	1.2	.69	.60	.81
18	.50	.90	2.3	2.2	3.5	5.5	9.6	1.3	1.3	.66	.57	.83
19	.40	.90	2.3	2.2	3.6	4.0	18	1.4	1.3	.65	.57	.80
20	.40	1.3	2.3	2.3	3.5	3.5	15	1.4	1.2	.65	.56	.73
21	.50	1.4	2.5	2.4	3.4	3.2	13	1.4	1.2	.62	.58	.75
22	.50	1.3	2.5	22	3.4	3.0	22	1.3	1.1	.61	.59	1.0
23	.50	1.5	2.4	12	3.4	2.9	12	1.3	1.1	.62	.60	.79
24	.50	1.2	2.5	62	3.3	2.7	29	1.3	1.0	.61	.61	.77
25	.50	1.2	2.6	29	5.4	2.6	12	1.3	1.0	.56	.60	.83
26	.50	1.1	2.6	12	5.0	2.4	6.7	1.2	.99	.57	.62	.81
27	.50	1.0	2.4	6.6	3.9	2.4	5.0	1.2	.96	.58	.65	.80
28	.60	1.1	2.4	5.5	3.5	2.4	4.0	1.2	.97	.61	.67	.80
29	.50	1.3	2.5	5.2	-----	2.3	3.6	1.2	.97	.60	.65	.87
30	.60	1.2	2.7	6.8	-----	2.3	3.2	1.2	.93	.61	.64	.98
31	.50	-----	2.5	11	-----	5.4	-----	1.2	-----	.58	.64	-----
TOTAL	15.30	30.40	101.1	221.8	115.2	123.1	289.8	52.6	37.82	21.84	18.64	22.50
MEAN	.49	1.01	3.26	7.15	4.11	3.97	9.66	1.70	1.26	.70	.60	.75
MAX	.80	1.9	12	62	7.0	11	29	2.9	2.7	.92	.67	1.0
MIN	.40	.50	1.2	2.1	3.3	2.3	3.2	1.2	.93	.56	.56	.62
AC-FT	30	60	201	440	229	244	575	104	75	43	37	45

CAL YR 1966: TOTAL 817.20 MEAN 2.24 MAX 44 MIN .20 AC-FT 1,620
WAT YR 1967: TOTAL 1,050.10 MEAN 2.88 MAX 62 MIN .40 AC-FT 2,080

Peak discharge (base, 50 cfs).--Jan. 24 (1900 hrs) 149 cfs (4.96 ft).

SAN ANTONIO CREEK BASIN

11-1361.5. SAN ANTONIO CREEK TRIBUTARY NEAR CASMALIA, CALIF.

LOCATION.--Lat 34°48'45", long 120°31'30", in Todos Santos Y San Antonio Grant, on right bank at culvert under Lompoc-Casmalia Road, 1.8 miles south of Casmalia, Santa Barbara County.

DRAINAGE AREA.--0.28 sq mi.

RECORDS AVAILABLE.--Water years 1960-64 (annual maximum), August 1964 to September 1967.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Altitude of gage is 480 ft (from topographic map). Sept. 18, 1959, to Aug. 20, 1964, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during year, 4.3 cfs Jan. 24 (gage height, 5.28 ft, from crest-stage gage); no flow for most of year.

1959-67: Maximum discharge, 8.4 cfs Feb. 10, 1962 (gage height, 5.51 ft, from crest-stage gage), by computation of maximum flow through culvert; no flow for most of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Nov. 8..... 0.10
Dec. 6..... .10
Jan. 24..... .20
Apr. 24..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1966.....	0.10	0.10	0	0.003	0.2
December.....	.10	.10	0	.003	.2
January 1967.....	.20	.20	0	.006	.4
April.....	.10	.10	0	.003	.2
Calendar year 1966.....	-	.20	0	.001	.8
Water year 1966-67.....	-	.20	0	.001	1.0

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

SANTA MARIA RIVER BASIN

11-1366.5. ALISO CANYON CREEK NEAR NEW CUYAMA, CALIF.

LOCATION.--Lat 34°59'00", long 119°46'30", in Cuyama Grant, at culvert on State Highway 166, 5.8 miles northwest of New Cuyama, Santa Barbara County.

DRAINAGE AREA.--16.1 sq mi.

RECORDS AVAILABLE.--Water years 1960-63 (annual maximum), October 1963 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and arch-culvert control. Altitude of gage is 1,880 ft (from topographic map). Sept. 30, 1959, to July 24, 1963, crest-stage gage at same site at different datum. July 25 to Nov. 5, 1963, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 208 cfs Dec. 6 (gage height, 6.47 ft), based on computation of maximum flow through culvert; no flow all year except Dec. 6.

1959-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: November, 1.3; December, 3.7; January, 1.0; February, 0.1; March, 0.4; April, 2.6; August, 0.1; September, 0.8; the water year, 10.0.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Dec. 6..... 53

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
December 1966.....	53	53	0	1.71	105
Calendar year 1966.....	-	53	0	.145	105
Water year 1966-67.....	-	53	0	.145	105

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

SANTA MARIA RIVER BASIN

273

11-1368. CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CALIF.

LOCATION.--Lat 35°01'20", long 120°13'10", in SW¼ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 760 ft (from topographic map). Prior to October 1959, staff gage at different site and datum.

AVERAGE DISCHARGE.--10 years, 20.4 cfs (14,770 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,680 cfs Dec. 6 (gage height, 11.26 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement at gage height 10.85 ft; no flow Oct. 1 to Nov. 9, Nov. 12 to Dec. 1.

1903-05, 1959-67: Maximum discharge observed, about 10,000 cfs Mar. 13, 1905 (gage height, 10.0 ft, site and datum then in use); no flow at times in most years.

REMARKS.--Records good. No regulation above station. Pumping from wells along stream for irrigation in upper Cuyama Valley.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	7.7	5.3	8.9	23	121	16	7.3	3.8	1.8
2		0	1.2	7.3	4.2	8.5	21	104	16	7.3	3.8	1.8
3		0	10	6.9	3.5	8.5	18	92	16	6.5	3.6	1.8
4		0	4.4	6.9	2.9	8.5	39	82	16	6.5	3.3	1.8
5		0	311	6.9	2.6	8.1	74	76	16	6.5	3.3	1.8
6		0	5,290	6.5	2.3	8.1	66	69	16	6.5	3.1	1.8
7		0	2,100	6.5	2.2	8.1	293	60	16	6.5	3.1	1.6
8		0	339	6.5	2.1	8.1	234	57	17	6.5	2.9	1.6
9		0	115	6.5	2.0	8.1	142	56	17	5.8	2.9	1.6
10		.70	60	6.1	1.9	8.1	111	56	17	5.8	2.7	1.6
11		.40	38	6.1	1.7	9.8	286	49	18	5.2	2.5	1.5
12		0	29	6.1	1.6	2.3	200	43	18	4.9	2.5	1.5
13		0	26	5.8	1.6	4.1	121	37	18	4.9	2.3	1.5
14		0	21	5.8	1.6	6.1	82	32	18	4.6	2.3	1.5
15		0	19	5.8	1.4	5.2	69	27	18	4.6	2.1	1.4
16		0	18	5.8	1.4	4.4	57	23	18	4.6	2.1	1.1
17		0	16	5.8	1.4	3.6	36	21	18	4.6	2.1	1.1
18		0	14	5.8	1.4	2.6	307	19	18	4.6	2.1	1.1
19		0	13	5.8	1.3	2.2	660	17	18	4.3	2.1	1.1
20		0	12	5.8	1.2	1.9	381	16	16	4.3	2.1	1.0
21		0	11	5.8	1.1	1.8	412	15	15	4.3	2.1	1.0
22		0	10	3.1	1.1	1.6	679	15	14	4.3	2.1	3.8
23		0	10	2.6	1.1	1.5	516	15	13	4.3	2.1	2.7
24		0	9.8	254	1.1	1.4	370	14	12	4.3	2.0	2.0
25		0	9.3	243	1.4	1.3	258	15	11	4.1	2.0	1.4
26		0	9.3	9.5	1.1	1.3	226	15	9.3	4.1	2.0	1.1
27		0	8.9	5.3	9.8	1.2	214	15	8.9	4.1	2.1	1.1
28		0	8.5	3.5	9.3	1.1	196	15	8.1	4.1	2.1	1.0
29		0	8.5	2.8		1.1	189	16	7.7	4.1	2.1	1.4
30		0	8.5	4.5	- - - -	1.1	151	16	7.3	3.8	2.0	1.4
31		- - - -	8.1	6.7	- - - -	3.2	- - - -	16	- - - -	3.8	2.0	- - - -
Total	0	1.10	8,538.5	1,009.2	524.1	582.8	6,431	1,224	447.3	157.1	77.3	46.9
Mean	0	0.037	275	32.6	18.7	18.8	214	39.5	14.9	5.07	2.49	1.56
Max	0	0.70	5,290	254	5.3	6.1	679	121	18	7.3	3.8	3.8
Min	0	0	0	5.8	9.3	8.1	18	15	7.3	3.8	2.0	1.0
Ac-ft	0	2.2	16,940	2,000	1,040	1,160	12,760	2,430	887	312	153	93

Cal yr 1966: Total 9,028.10 Mean 24.7 Max 5,290 Min 0 Ac-ft 17,910
Wtr yr 1967: Total 19,039.30 Mean 52.2 Max 5,290 Min 0 Ac-ft 37,760

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1500	11.26	9,680	4-18	2400	6.00	761
1-24	1330	5.87	509	4-22	0300	6.11	860
4-7	1000	5.55	400				

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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 650 ft (from topographic map). Prior to Oct. 1, 1966, at datum 2.00 ft higher.

AVERAGE DISCHARGE.--8 years, 5.94 cfs (4,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,500 cfs Dec. 6 (gage height, 10.30 ft), on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Dec. 4, Jan. 18-23, July 15 to Sept. 30.
1959-67: Maximum discharge, that of Dec. 6, 1966; no flow for all or part of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	.30	58	2.5	3.5	61	4.3	.60		
2			0	.30	43	2.3	3.5	54	4.3	.50		
3			0	.30	30	2.2	3.5	48	4.0	.40		
4			0	.30	22	2.1	3.5	43	3.4	.40		
5			714	.30	17	2.0	3.5	39	2.9	.40		
6			4,090	.30	14	1.9	3.5	35	2.6	.40		
7			550	.30	12	1.9	95	31	2.4	.40		
8			200	.30	10	1.8	81	29	2.2	.40		
9			100	.30	9.6	1.7	60	28	2.0	.40		
10			70	.20	8.8	1.6	55	27	1.9	.40		
11			40	.20	8.0	1.5	135	24	1.7	.40		
12			21	.20	7.5	1.4	87	19	1.5	.30		
13			10	.20	7.0	1.4	61	19	1.5	.20		
14			7.0	.20	6.6	5.6	49	16	1.5	.10		
15			4.0	.10	6.2	4.0	45	15	1.5	0		
16			2.5	.10	5.8	3.0	38	14	1.5	0		
17			1.5	.10	5.4	2.0	35	14	1.5	0		
18			1.1	0	5.0	1.5	291	13	1.5	0		
19			.90	0	4.7	11	455	13	1.5	0		
20			.90	0	4.5	7.0	438	13	1.5	0		
21			.90	0	4.3	6.0	440	12	1.5	0		
22			.80	0	4.0	5.0	330	11	1.3	0		
23			.80	0	3.7	4.5	462	11	1.3	0		
24			.70	7.5	3.5	4.2	254	11	1.3	0		
25			.70	109	3.3	3.9	198	11	1.3	0		
26			.60	46	3.0	3.7	148	10	1.2	0		
27			.60	30	2.8	3.6	114	9.7	1.2	0		
28			.50	20	2.6	3.6	92	8.0	1.0	0		
29			.50	15		3.6	84	7.2	.70	0		
30			.40	11	-----	3.6	73	6.4	.70	0		
31		-----	.40	73	-----	3.6	-----	5.2	-----	0		-----
Total	0	0	5,819.80	383.00	312.3	248.6	4,151.0	657.5	56.70	5.30	0	0
Mean	0	0	188	12.4	11.2	8.02	138	21.2	1.89	0.171	0	0
Max	0	0	4,090	109	58	56	462	61	4.3	0.60	0	0
Min	0	0	0.40	0	2.6	1.4	3.5	5.2	0.70	0	0	0
Ac-ft	0	0	11,540	760	619	493	3,230	1,300	112	10	0	0

Cal yr 1966: Total 5,819.80 Mean 15.9 Max 4,090 Min 0 Ac-ft 11,540
Wtr yr 1967: Total 11,634.20 Mean 31.9 Max 4,090 Min 0 Ac-ft 2,408.0

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1400	10.30	8,500	3-14	0500	1.94	70
1-24	1600	3.03	330	4-7	1200	2.35	163
1-31	0030	2.14	101	4-18	1500	3.35	600

Note.--No gage-height record Dec. 8 to Jan. 23, Jan. 27-29, Feb. 1 to Mar. 13, Mar. 15 to Apr. 6.

SANTA MARIA RIVER BASIN

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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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 640 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 14.0 cfs (10,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,300 cfs Dec. 6 (gage height, 14.55 ft, from profile of flood-marks), on basis of slope-area measurement of maximum flow; no flow Oct. 31 to Nov. 6.

1959-67: Maximum discharge, that of Dec. 6, 1966; no flow for many days in most years.

REMARKS.--Records good except those above 300 cfs, which are poor. No regulation above station. Some diversions by pumping for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0	0.20	9.4	71	17	42	112	15	3.6	1.6	1.0
2	.10	0	.70	9.4	54	14	40	100	15	3.6	1.6	1.2
3	.10	0	35	10	44	17	38	89	15	3.4	1.6	1.3
4	.10	0	1.0	10	42	15	44	84	15	3.2	1.6	1.3
5	.10	0	1.050	11	36	14	63	76	14	3.2	1.6	1.4
6	.10	0	3,470	11	30	14	52	71	14	3.2	1.6	1.4
7	.10	.10	500	11	30	13	175	68	13	3.2	1.6	1.5
8	.10	.10	270	11	28	14	139	64	12	3.1	1.6	1.6
9	.10	.10	150	10	26	14	110	61	12	3.1	1.6	1.8
10	.20	.10	100	9.4	25	14	99	58	12	3.1	1.6	1.8
11	.20	.10	75	8.8	24	37	265	55	11	3.0	1.5	1.9
12	.20	.10	51	8.2	23	215	175	50	10	3.0	1.4	1.9
13	.20	.10	50	7.2	21	313	153	48	10	2.6	1.4	2.0
14	.20	.10	50	6.7	20	218	150	45	9.6	2.6	1.4	2.0
15	.20	.10	48	5.8	20	136	144	43	9.3	2.6	1.3	2.0
16	.20	.10	45	4.8	19	290	139	40	8.7	2.6	1.3	2.0
17	.20	.10	43	4.8	19	396	133	36	7.8	2.5	1.3	2.0
18	.20	.10	41	5.3	18	191	350	34	7.5	2.4	1.3	2.0
19	.20	.10	36	5.3	18	144	535	32	7.2	2.4	1.2	2.0
20	.10	.30	33	5.3	17	117	471	29	6.2	2.2	1.2	2.0
21	.10	.20	30	5.3	16	93	453	28	6.2	2.0	1.2	2.0
22	.10	.20	27	20	16	76	502	26	5.4	1.9	1.2	1.9
23	.10	.20	24	17	16	71	448	25	5.4	1.8	1.2	1.6
24	.10	.20	21	522	16	61	645	24	4.6	1.8	1.1	1.4
25	.10	.20	18	394	20	55	499	22	4.6	1.6	1.1	1.4
26	.10	.20	15	118	18	48	300	21	3.8	1.6	1.1	1.5
27	.10	.20	12	102	17	44	220	19	3.8	1.6	1.1	1.5
28	.10	.20	10	78	17	39	183	19	4.0	1.6	1.1	1.5
29	.10	.20	10	63		34	153	18	4.0	1.6	1.1	1.6
30	.10	.20	10	171	-----	33	130	16	3.8	1.6	1.1	1.6
31	0	-----	10	154	-----	55	-----	15	-----	1.6	1.1	-----
Total	4.00	3.60	11,235.90	1,808.7	721	2,812	6,850	1,428	269.9	77.3	41.70	50.1
Mean	0.129	0.120	362	58.3	25.8	90.7	228	46.1	9.00	2.49	1.35	1.67
Max	0.20	0.30	3,470	522	71	396	645	112	15	3.6	1.6	2.0
Min	0	0	0.20	4.8	16	13	38	15	3.8	1.6	1.1	1.0
Ac-ft	7.9	7.1	22,290	3,590	1,430	5,580	13,590	2,830	535	153	83	99

Cal yr 1966: Total 12,128.10 Mean 33.2 Max 3,470 Min 0 Ac-ft 24,050
Wtr yr 1967: Total 25,302.20 Mean 69.3 Max 3,470 Min 0 Ac-ft 50,190

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-3	0500	5.20	380	3-16	1900	5.55	680
12-6	0600	14.55	14,300	4-7	1100	5.52	246
1-24	1300	6.10	1,420	4-11	0700	5.75	345
1-30	2000	4.77	429	4-19	2000	6.25	600
3-13	0430	5.35	536	4-23	2400	6.43	725

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.--1,133 sq mi (revised).

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 390 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 382 cfs Aug. 24 (gage height, 5.15 ft); no flow Oct. 1 to Dec. 5, Dec. 8 to Jan. 19.

1958-67: Maximum discharge, 548 cfs Feb. 10, 1962 (gage height, 5.76 ft); no flow for part of each year.

REMARKS.--Records good. Flow regulated since February 1959 by Twitchell Reservoir (capacity, 240,000 acre-ft). Some pumping from wells along stream for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	2.7	2.6	3.4	3.4	174	229	342	358
2			0	0	2.4	2.3	2.2	2.8	60	229	350	355
3			0	0	2.4	2.2	1.4	3.0	209	229	360	352
4			0	0	2.3	2.3	3.1	2.8	213	229	358	350
5			0	0	2.2	2.2	3.6	2.6	213	229	358	345
6			.30	0	1.9	2.0	3.0	2.4	213	233	355	342
7			0	0	1.9	1.6	5.3	2.3	213	237	355	342
8			0	0	1.9	1.6	3.2	2.2	213	237	355	342
9			0	0	2.0	1.8	1.9	2.3	211	237	352	342
10			0	0	2.0	1.8	1.9	3.0	213	237	352	342
11			0	0	1.6	2.8	5.4	2.6	215	243	352	345
12			0	0	2.0	4.2	3.6	2.3	217	258	350	345
13			0	0	1.4	6.4	2.3	1.9	217	265	350	345
14			0	0	1.5	5.1	2.0	1.9	217	265	350	345
15			0	0	1.4	3.0	2.6	1.8	217	270	350	348
16			0	0	1.4	4.7	2.6	8.5	221	270	348	348
17			0	0	1.4	4.2	2.2	91	227	278	345	348
18			0	0	1.4	3.4	6.9	94	213	278	345	345
19			0	0	1.5	1.4	8.8	96	215	282	355	335
20			0	.30	1.4	1.4	5.4	105	231	282	358	332
21			0	.40	1.4	1.3	8.4	113	231	288	360	340
22			0	5.1	3.2	1.2	11	117	231	292	365	345
23			0	2.4	1.0	1.4	5.6	133	231	305	362	338
24			0	15	1.4	1.4	6.7	147	231	305	380	335
25			0	11	3.2	1.3	5.6	157	233	310	378	332
26			0	3.4	2.4	1.3	4.8	141	233	315	349	330
27			0	2.4	2.0	1.3	4.2	159	233	322	239	330
28			0	2.0	2.4	1.3	4.2	179	233	350	237	330
29			0	1.9		1.3	4.2	181	231	350	235	246
30			0	3.8		5.2	3.4	193	229	345	240	29
31			0	5.4		5.8		203		342	355	
Total	0	0	0.30	53.10	53.7	79.8	128.9	2,154.8	6,438	3,541	10,540	9,851
Mean	0	0	0.010	1.71	1.92	2.57	4.30	69.8	215	276	340	329
Max	0	0	0.30	15	3.2	6.4	11	203	233	350	380	358
Min	0	0	0	0	1.0	1.2	1.9	1.8	60	229	235	29
Ac-ft	0	0	0.6	105	107	158	256	4,290	12,770	10,940	20,910	19,560

Cal yr 1966: Total 2,262.50 Mean 62.0 Max 227 Min 0 Ac-ft 4,490

Wtr yr 1967: Total 37,860.60 Mean 104 Max 380 Min 0 Ac-ft 75,100

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 1967. 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.--Digital 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. Prior to Dec. 7, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--24 years, 31.9 cfs (23,090 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 23,200 cfs Dec. 6 (gage height, 15.75 ft), from rating curve extended above 1,700 cfs on basis of slope-area measurements at gage heights 10.08 and 15.75 ft; minimum daily, 1.0 cfs Nov. 1, 2, 4, 5.
1929-33, 1943-67: Maximum discharge, that of Dec. 6, 1966; minimum daily since 1943, 0.40 cfs for several days in 1947, 1951, 1957, and 1961.
Flood of Mar. 2, 1938, 11,000 cfs (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 fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.8	1.0	10	49	189	59	108	390	110	39	12	19
2	1.8	1.0	33	49	158	55	114	382	111	41	11	17
3	1.9	1.1	971	48	147	55	131	376	102	38	12	15
4	1.8	1.0	88	46	126	53	346	378	97	37	11	13
5	1.8	1.0	797	47	129	51	289	359	96	37	10	11
6	1.8	1.5	9,810	44	137	46	263	355	91	39	9.0	10
7	1.6	10	2,550	43	138	44	400	361	86	34	8.0	9.1
8	1.6	8.0	450	42	136	42	360	350	81	31	7.5	7.7
9	1.6	7.0	300	42	134	40	357	347	78	30	7.5	6.3
10	1.7	6.0	250	40	132	40	361	314	76	24	7.5	6.0
11	1.7	5.0	200	35	129	45	716	270	73	23	7.0	6.0
12	1.7	4.0	170	35	123	426	460	236	70	25	7.0	5.5
13	1.6	3.9	145	33	121	661	420	198	61	24	7.0	5.5
14	1.4	3.7	139	34	117	380	447	173	60	21	7.0	5.2
15	1.4	3.5	127	33	114	186	455	156	58	17	7.0	18
16	1.4	3.3	113	33	112	160	425	140	58	18	6.5	17
17	1.3	3.2	99	33	107	168	406	129	63	19	6.5	17
18	1.3	3.1	90	32	100	123	746	124	70	22	6.5	17
19	1.2	3.1	86	34	98	120	710	119	67	20	6.0	17
20	1.3	3.4	81	30	91	125	609	115	54	19	6.0	20
21	1.5	35	83	33	88	122	698	105	54	17	5.5	22
22	1.5	20	76	208	81	122	914	110	51	15	5.5	23
23	1.2	16	73	99	76	119	806	107	52	14	5.0	22
24	1.2	12	72	1,370	74	114	764	107	51	16	5.0	21
25	1.2	16	65	700	87	108	788	107	49	17	50	24
26	1.4	13	62	370	82	109	782	108	49	15	35	24
27	1.4	10	54	262	69	113	600	107	46	15	30	22
28	1.5	9.2	50	214	63	114	500	105	46	15	26	50
29	1.5	32	50	198	-----	125	450	107	39	15	24	62
30	1.2	13	53	206	-----	134	400	107	41	14	22	24
31	1.1	-----	49	254	-----	227	-----	109	-----	13	20	-----
TOTAL	46.4	280.6	17,196	4,696	3,158	4,286	14,825	6,451	2,040	724	390.0	536.3
MEAN	1.50	9.35	555	151	113	138	494	208	68.0	23.4	12.6	17.9
MAX	1.9	35	9,810	1,370	189	661	914	390	111	41	50	62
MIN	1.1	1.0	10	30	63	40	108	105	39	13	5.0	5.2
AC-FT	92	557	34,110	9,310	6,260	8,500	29,400	12,800	4,050	1,440	774	1,060

CAL YR 1966: TOTAL 23,536.1 MEAN 64.5 MAX 9,810 MIN 1.0 AC-FT 46,680
WAT YR 1967: TOTAL 54,629.3 MEAN 150 MAX 9,810 MIN 1.0 AC-FT 108,400

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1230	2.77	131	4-4	1945	5.24	1,220
12-3	0315	6.96	2,960	4-7	0800	4.03	515
12-6	1630	15.75	23,200	4-11	0315	5.40	1,490
1-22	1245	5.51	1,630	4-18	1230	5.07	1,260
1-24	1530	7.03	3,030	4-22	0245	4.87	1,120
3-12	2315	5.38	1,270	9-28	2330	5.81	515
3-31	0615	4.54	716				

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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 550 ft (from topographic map).

AVERAGE DISCHARGE.--24 years, 5.31 cfs (3,840 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,200 cfs Dec. 6 (gage height, 8.23 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Dec. 4, July 11 to Sept. 30.

1943-67: Maximum discharge, that of Dec. 6, 1966; no flow for most of each year.

REMARKS.--Records good. Perennial low flow from basin above sinks beneath streambed before reaching station. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	3.2	4.6	5.0	4.2	8.5	14	0.90		
2			0	2.9	3.8	4.5	3.2	7.5	13	.80		
3			0	2.9	3.2	4.3	2.6	7.0	12	.40		
4			0	2.7	2.6	4.2	5.0	5.5	12	.30		
5			4.9	2.7	2.2	4.1	10.6	5.0	11	.30		
6			4.200	2.7	1.7	4.0	6.2	5.5	11	.20		
7			8.25	2.5	1.6	3.6	2.32	5.0	10	.10		
8			1.58	2.5	1.6	3.2	1.50	4.5	9.8	.10		
9			7.8	2.5	1.5	2.8	8.8	4.1	9.3	.10		
10			4.4	2.1	1.2	2.4	7.8	3.8	8.8	.10		
11			3.3	1.9	9.8	2.0	2.46	3.4	8.3	0		
12			2.7	1.6	8.3	1.1	1.58	3.2	7.9	0		
13			2.4	1.9	7.5	3.7	1.11	3.0	7.5	0		
14			1.9	1.9	6.0	4.4	8.8	2.8	7.5	0		
15			1.4	1.9	5.7	2.8	9.2	2.5	7.5	0		
16			1.2	1.9	5.7	2.3	7.6	2.4	7.5	0		
17			1.1	1.8	5.5	2.2	6.4	2.2	7.5	0		
18			9.3	1.6	5.5	2.0	2.91	2.0	8.8	0		
19			7.9	1.5	5.4	1.8	4.23	1.8	7.5	0		
20			6.6	1.3	5.3	1.6	3.22	1.7	6.4	0		
21			6.4	1.3	5.2	1.5	4.11	1.7	5.7	0		
22			6.1	1.0	5.1	1.4	5.02	1.7	5.1	0		
23			5.8	7.5	5.0	1.3	4.00	1.6	4.5	0		
24			5.5	1.15	6.0	1.1	3.00	1.6	3.9	0		
25			5.2	1.22	7.0	7.9	2.25	1.5	3.4	0		
26			4.9	5.5	6.5	8.8	2.00	1.4	2.9	0		
27			4.6	3.6	6.0	7.9	1.75	1.4	2.3	0		
28			4.4	2.8	5.5	7.9	1.50	1.4	1.9	0		
29			4.2	2.4		7.5	1.00	1.4	1.6	0		
30			3.9	3.1	-----	7.1	9.0	1.4	1.2	0		
31		-----	3.7	5.4	-----	4.2	-----	1.4	-----	0		-----
Total	0	0	5,582.7	5,27.8	3,51.0	4,01.2	5,300	999	2,19.8	3.30	0	0
Mean	0	0	1.80	1.70	1.25	1.29	1.77	3.22	7.33	0.106	0	0
Max	0	0	4,200	1.22	4.6	4.4	5.02	8.5	1.4	0.90	0	0
Min	0	0	0	1.3	5.0	2.0	2.6	1.4	1.2	0	0	0
Ac-ft	0	0	11,070	1,050	696	796	10,510	1,980	436	6.5	0	0

Cal yr 1966: Total 5,948.8 Mean 16.3 Max 4,200 Min 0 Ac-ft 11,800
 Wtr yr 1967: Total 13,384.80 Mean 36.7 Max 4,200 Min 0 Ac-ft 26,550

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1600	8.23	11,200	4-11	0600	4.32	370
1-24	1700	4.58	331	4-21	2200	4.93	784
4-7	1100	4.33	355				

SANTA MARIA RIVER BASIN

279

11-1393.5. FOXEN CREEK NEAR SISQUOC, CALIF.

LOCATION.--Lat 34°48'58", long 120°13'26", in La Laguna Grant, on left upstream wingwall to culvert on Foxen Canyon road, 3.0 miles upstream from mouth and 3.7 miles southeast of Sisquoc, Santa Barbara County.

DRAINAGE AREA.--16.8 sq mi (revised).

RECORDS AVAILABLE.--September 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 650 ft, revised (from topographic map).

EXTREMES.--Maximum discharge during year, 5.7 cfs Apr. 21 (gage height, 1.33 ft), from rating curve extended above 2.1 cfs; no flow for many days.

1965-67: Maximum discharge, that of Apr. 21, 1967; no flow for many days each year.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 3.4 cfs Dec. 29, 1965 (gage height, 1.26 ft), superceding figure published in 1966 report.

REMARKS.--Records good. Small diversion dam for irrigation of about 160 acres above gage. Some pumping from wells along stream above gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.10	0.10	0.20	0.10	0.30	0.40	0.20	0.20	0.10	0.10
2		0	.10	.10	.10	.10	.30	.30	.20	.20	.10	.10
3		0	.10	.10	.10	.10	.30	.30	.10	.20	.10	.10
4		0	0	.10	.10	.10	.60	.30	.10	.20	.10	.10
5		0	.20	.10	.10	.10	.40	.30	.10	.20	.10	.10
6		0	1.3	.10	.10	.10	.40	.30	.10	.20	.10	.10
7		.20	.70	.10	.10	.10	.80	.20	.10	.20	.10	.10
8		0	.10	.10	.10	.10	.40	.20	.20	.20	.10	.10
9		0	.10	.10	.10	.10	.30	.20	.20	.20	.10	.10
10		0	.10	.10	.10	.10	.40	.20	.20	.10	.10	.10
11		0	.10	0	.10	.10	.60	.20	.10	.10	.10	.10
12		0	.10	0	.10	.20	.40	.20	.10	.10	.10	.10
13		0	.10	0	.10	.20	.40	.20	.10	.10	.10	.10
14		0	.10	0	.10	.20	.40	.20	.10	.10	.10	.10
15		0	.10	0	.10	.10	.40	.20	.10	.10	.10	.10
16		0	.10	0	.10	.10	.40	.20	.10	.10	.10	.10
17		0	.10	0	.10	.10	.50	.20	.10	.10	.10	.10
18		0	.10	0	.10	.10	.80	.20	.20	.10	.10	.10
19		0	.10	0	.10	.10	2.3	.20	.10	.10	.10	.10
20		.10	.10	0	.10	.10	1.3	.20	.10	.10	.10	.10
21		.10	.10	0	.10	.10	2.6	.20	.10	.10	.10	.10
22		.10	.10	.40	.10	.10	3.7	.20	.10	.10	.10	.20
23		.10	.10	.10	.10	.10	1.8	.20	.10	.10	.10	.20
24		.10	.10	2.2	.10	.10	1.8	.20	.10	.10	.10	.20
25		.10	.10	.90	.10	.10	1.3	.20	.10	.10	.10	.10
26		.10	.10	.40	.10	.10	.80	.20	.20	.10	.10	0
27		.10	.10	.30	.10	.10	.60	.20	.20	.10	.10	.10
28		.10	.10	.30	.10	.10	.60	.20	.20	.10	.10	.20
29		.10	.10	.20		.10	.50	.20	.20	.10	.10	.20
30		.10	.10	.20		.20	.40	.20	.20	.10	.10	.20
31		---	.10	.20	---	.30	---	.20	---	.10	.10	---
Total	0	1.30	4.90	6.20	2.90	3.70	25.80	6.90	4.10	4.00	3.10	3.50
Mean	0	0.043	0.158	0.200	0.104	0.119	0.850	0.222	0.137	0.129	0.100	0.117
Max	0	0.20	1.3	2.2	0.20	0.30	3.7	0.40	0.20	0.20	0.10	0.20
Min	0	0	0.10	0	0	0.10	0.30	0.20	0.10	0.10	0.10	0
Ac-ft	0	2.6	9.7	12	5.8	7.3	51	14	8.1	7.9	6.1	6.9

Cal yr 1966: Total 24.20 Mean 0.066 Max 1.3 Min 0 Ac-ft 48

Wtr yr 1967: Total 66.40 Mean 0.182 Max 3.7 Min 0 Ac-ft 132

Peak discharge (base, 5.0 cfs).--Apr. 21 (1700 hrs) 5.7 cfs (1.33 ft).

SANTA MARIA RIVER BASIN

11-1395. TEPUSQUET CREEK NEAR SISQUOC, CALIF.

LOCATION.--Lat 34°52'20", long 120°14'35", in NE 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.--28.7 sq mi (revised).

RECORDS AVAILABLE.--October 1943 to September 1967.

GAGE.--Digital water-stage recorder. Concrete control since July 1957. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 9, 1948, at datum 0.9 ft higher. Prior to Sept. 24, 1962, graphic water-stage recorder.

AVERAGE DISCHARGE.--24 years, 1.29 cfs (890 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

EXTREMES.--Maximum discharge during year, 788 cfs Dec. 6 (gage height, 5.48 ft), from rating curve extended above 220 cfs on basis of computation of maximum flow at contracted opening; no flow Oct. 29.
1943-67: Maximum discharge, that of Dec. 6, 1966; no flow at times in some years.

REMARKS.--Records good. No regulation above station. Some diversion by pumping from wells along stream to irrigate about 100 acres above gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.30	.40	2.9	2.1	1.7	9.0	2.8	1.2	1.0	.56
2	.20	.10	.50	.50	2.7	1.8	1.4	8.5	2.3	1.2	1.0	.54
3	.20	.10	.40	.60	2.5	1.6	1.1	7.5	2.4	1.2	1.0	.53
4	.20	.10	.30	.60	2.8	1.5	1.4	6.6	2.4	1.2	1.0	.52
5	.20	.10	.50	.70	2.9	1.4	1.5	6.2	2.4	1.2	1.0	.54
6	.20	.10	476	.70	2.8	1.4	1.1	5.8	2.7	1.2	1.0	.53
7	.20	.30	158	.70	2.8	1.4	3.6	5.4	2.9	1.2	1.0	.53
8	.10	.20	13	.70	2.8	1.5	2.2	5.0	2.9	1.2	1.0	.50
9	.10	.20	2.4	.60	3.0	1.5	1.3	5.6	3.1	1.2	1.0	.50
10	.10	.20	1.5	.60	3.2	1.5	.90	5.0	2.8	1.2	1.0	.48
11	.20	.20	1.1	.60	3.2	1.5	11	4.4	2.7	1.1	.90	.47
12	.20	.20	1.1	.70	3.2	1.7	10	3.9	2.5	1.1	.90	.48
13	.10	.20	1.1	.80	3.3	2.9	2.7	3.6	2.1	1.1	.90	.49
14	.10	.20	1.1	.80	3.2	2.6	1.6	3.5	2.0	1.1	.90	.49
15	.10	.20	1.0	.90	3.2	2.2	1.7	3.4	1.9	1.1	.90	.50
16	.10	.20	.90	.90	3.3	4.6	1.2	3.3	1.9	1.1	.80	.45
17	.10	.20	.90	1.0	3.3	4.8	.90	3.2	1.9	1.1	.80	.44
18	.10	.20	.80	1.1	3.2	3.5	32	3.4	1.7	1.1	.80	.44
19	.10	.30	.70	1.2	3.4	2.9	80	3.1	1.6	1.1	.80	.45
20	.10	.30	.70	1.3	3.6	2.4	28	3.1	1.4	1.1	.80	.48
21	.20	.30	.70	1.4	4.3	2.3	12	3.2	1.2	1.1	.70	.48
22	.20	.30	.70	1.4	5.2	2.1	58	3.5	1.2	1.1	.70	.48
23	.10	.30	.60	1.4	5.4	2.2	45	3.5	1.2	1.1	.70	.44
24	.10	.30	.60	28	5.7	2.1	37	3.4	1.2	1.1	.70	.42
25	.10	.30	.50	20	5.5	2.1	26	3.1	1.3	1.1	.70	.44
26	.10	.30	.50	6.5	4.7	1.9	20	3.2	1.3	1.1	.60	.43
27	.10	.30	.50	3.3	3.5	1.9	17	3.0	1.3	1.1	.60	.40
28	.10	.40	.40	3.0	3.0	1.9	14	3.0	1.3	1.1	.60	.43
29	0	.30	.50	3.2	-----	1.8	12	3.0	1.3	1.1	.60	.43
30	.10	.30	.40	5.2	-----	1.7	10	2.8	1.3	1.0	.59	.42
31	.10	-----	.40	7.5	-----	2.2	-----	2.9	-----	1.0	.61	-----
TOTAL	4.00	6.80	668.10	96.30	98.6	67.0	436.30	134.1	59.0	34.9	25.60	14.29
MEAN	.13	.23	21.6	3.11	3.52	2.16	14.5	4.33	1.97	1.13	.83	.48
MAX	.20	.40	476	28	5.7	4.8	80	9.0	3.1	1.2	1.0	.56
MIN	0	.10	.30	.40	2.5	1.4	.90	2.8	1.2	1.0	.59	.40
AC-FT	7.9	13	1,330	191	196	133	865	266	117	69	51	28

CAL YR 1966: TOTAL 806.10 MEAN 2.21 MAX 476 MIN 0 AC-FT 1,600
WAT YR 1967: TOTAL 1,644.99 MEAN 4.51 MAX 476 MIN 0 AC-FT 3,260

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1445	5.48	788	4-11	1900	2.50	18
1-24	1430	3.07	141	4-19	0300	3.08	94
3-16	1430	2.21	12	4-22	0645	2.91	68

SANTA MARIA RIVER BASIN

281

11-1400. SISQUOC RIVER NEAR GAREY, CALIF.

LOCATION.--Lat 34°53'38", long 120°18'20", in SW¼ 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 1967. Records for water year 1941 incomplete, yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 354.8 ft above mean sea level (Santa Barbara County bench mark). Prior to Aug. 27, 1954, at site 3 miles upstream at different datum. Aug. 27, 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. October 1, 1959, to Dec. 30, 1965, at datum 6.00 ft higher. Since Oct. 1, 1959, supplemental gage near left bank at same datum.

AVERAGE DISCHARGE.--27 years, 33.3 cfs (24,110 acre-ft per year); median of yearly mean discharges, 6.6 cfs (4,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 22,600 cfs Dec. 6 (gage height, 13.5 ft), on basis of slope-area measurement of maximum flow; no flow for many days.

1940-67: Maximum discharge, that of Dec. 6, 1966; no flow for several months in each year.

REMARKS.--Records poor. No regulation above station. Pumping from wells along stream for irrigation of about 7,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.6	3.0	150	3.7	63	339	56	0	0	1.2
2		0	8.6	2.0	130	1.6	62	325	52	0	0	0
3		0	475	1.0	110	1.9	63	318	46	0	0	0
4		0	89	.90	100	1.3	232	311	41	0	0	0
5		0	400	.80	80	2.2	216	297	38	0	0	.40
6		0	9,900	.70	70	1.0	152	285	34	.10	0	.50
7		0	3,400	.60	60	1.2	498	290	31	.10	0	.50
8		0	500	.50	50	.4	386	285	30	0	0	1.4
9		0	200	.40	45	.2	279	279	27	0	0	0
10		0	150	.30	39	.2	268	297	25	0	0	0
11		0	100	.20	35	4.5	850	311	23	0	0	1.6
12		0	80	.10	30	131	564	264	21	.20	0	1.5
13		0	63	0	25	527	510	210	18	0	0	2.1
14		0	50	0	20	454	490	202	15	0	0	1.4
15		0	42	0	15	308	480	192	12	0	0	.20
16		0	35	0	13	279	460	183	10	0	0	0
17		0	30	0	11	296	415	170	11	0	0	0
18		0	25	0	9.1	216	847	162	11	0	0	2.0
19		0	21	0	7.2	180	1,340	153	8.6	0	0	0
20		0	18	0	4.5	150	1,140	134	4.8	0	0	2.4
21		1.7	16	0	3.6	125	1,240	120	1.4	0	0	2.7
22		8.6	14	150	3.9	107	1,420	104	0	0	0	.10
23		7.6	12	100	3.6	89	1,150	96	0	0	0	0
24		5.2	11	750	3.0	75	1,210	93	0	0	0	0
25		5.2	10	500	7.2	63	1,030	88	0	0	5.2	2.1
26		6.0	9.0	350	7.2	59	806	82	0	0	13	2.4
27		5.6	8.0	220	2.0	56	753	74	.20	0	9.6	4.4
28		6.0	7.0	200	1.8	52	632	65	.10	0	8.1	4.1
29		8.1	6.0	180		47	512	61	0	0	5.6	55
30		9.1	5.0	190		49	384	58	.10	0	2.0	34
31		-----	4.0	200	-----	145	-----	58	-----	0	0	-----
Total	0	53.1	15,696.2	2,850.5	1,036.1	3,426.2	13,462	5,906	516.20	0.40	43.5	120.00
Mean	0	2.10	506	92.0	37.0	111	615	191	17.2	0.01	1.40	4.00
Max	0	9.1	9,900	750	150	527	1,420	339	56	0.20	13	55
Min	0	0	4.0	0	1.8	0.2	62	58	0	0	0	0
Ac-ft	0	125	31,130	5,650	2,050	6,800	36,620	11,710	1,020	0.8	86	238

Cal yr 1966: Total 17,468.8 Mean 47.9 Max 9,900 Min 0 Ac-ft 34,620
Wtr yr 1967: Total 43,120.20 Mean 132 Max 9,900 Min 0 Ac-ft 95,450

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2000	13.5	22,600	4-11	0430	6.80	1,860
1-24	unknown	unknown	unknown	4-22	0430	6.95	2,160
3-13	0100	5.70	800	9-29	0530	7.08	226
3-31	0730	5.78	530				

SANTA MARIA RIVER BASIN

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 1967. Monthly discharge only, October 1940 to January 1941, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and supplemental gage near right bank. Datum of gage is 64.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1934 (Corps of Engineers bench mark). Prior to Aug. 11, 1955, at site 100 ft upstream at same datum.

AVERAGE DISCHARGE.--27 years, 30.3 cfs (21,940 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 16,000 cfs Dec. 6 (gage height, 8.20 ft), on basis of field estimate of maximum flow; no flow for most of year.

1940-67: Maximum discharge, 32,800 cfs Jan. 16, 1952 (gage height, 8.18 ft); no flow for several months of each year.

REMARKS.--Records poor. Flow of Cuyama River regulated since February 1959 by Twitchell Reservoir (capacity, 240,000 acre-ft). Several small surface diversions and extensive pumping from wells for irrigation along stream above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	5.0	0	12	1.2				
2			0	0	2.5	0	1.5	0				
3			129	0	1.0	0	.20	0				
4			42	0	.5	0	1.1	0				
5			3.1	0	0	0	157	0				
6			5,920	0	0	0	15	0				
7			5,600	0	0	0	81	0				
8			322	0	0	0	29	0				
9			24	0	0	0	10	0				
10			0	0	0	0	29	0				
11			0	0	0	0	202	0				
12			0	0	0	12	55	0				
13			0	0	0	286	30	0				
14			0	0	0	104	15	0				
15			0	0	0	4.9	10	0				
16			0	0	0	4.1	5.0	0				
17			0	0	0	14	1.0	0				
18			0	0	0	.20	97	0				
19			0	0	0	0	458	0				
20			0	0	0	0	233	0				
21			0	0	0	0	144	0				
22			0	50	0	0	600	0				
23			0	45	0	0	450	0				
24			0	100	0	0	300	0				
25			0	50	0	0	200	0				
26			0	20	0	0	100	0				
27			0	15	0	0	50	0				
28			0	12	0	0	25	0				
29			0	10	0	0	10	0				
30			0	9.0	-----	0	5.0	0				
31		-----	0	7.5	-----	23	-----	0	-----			-----
Total	0	0	12,040.1	328.5	9.0	448.20	3,325.80	1.2	0	0	0	0
Mean	0	0	388	10.6	0.32	14.5	111	0.04	0	0	0	0
Max	0	0	5,920	100	5.0	286	600	1.2	0	0	0	0
Min	0	0	0	0	0	0	0.2	0	0	0	0	0
Ac-ft	0	0	23,880	652	18	889	6,600	2.4	0	0	0	0
Cal yr 1966: Total	12,040.1	Mean	33.0	Max	5,920	Min	0	Ac-ft	23,880			
Wtr yr 1967: Total	16,152.80	Mean	44.3	Max	5,920	Min	0	Ac-ft	32,040			

11-1411.5. ARROYO GRANDE ABOVE PHOENIX CREEK NEAR ARROYO GRANDE, CALIF.

LOCATION.--Lat 35°11'03", long 120°26'11", in Arroyo Grande Grant on right bank at county road bridge 100 ft upstream from Phoenix Creek, 8.8 miles northeast of Arroyo Grande, San Luis Obispo County.

DRAINAGE AREA.--13.4 sq mi.

RECORDS AVAILABLE.--June to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 550 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 6.1 cfs July 19 (gage height, 2.01 ft); minimum daily, 0.91 cfs Sept. 5.

REMARKS.--Records good. No regulation or diversion above station. Records of suspended-sediment loads for the period in 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, JUNE TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1									-	2.9	1.8	1.3
2									-	2.9	1.8	1.3
3									-	2.9	1.7	1.1
4									-	3.1	1.6	.93
5									-	3.0	1.6	.91
6									-	3.0	1.6	1.1
7									-	2.9	1.6	1.1
8									-	2.8	1.6	1.3
9									-	2.8	1.6	1.3
10									-	2.3	1.6	1.4
11									-	2.6	1.6	1.3
12									-	2.9	1.6	1.3
13									-	2.8	1.5	1.3
14									-	2.6	1.5	1.3
15									-	2.3	1.6	1.3
16									-	2.4	1.6	1.3
17									-	2.5	1.6	1.3
18									-	2.3	1.6	1.3
19									-	2.2	1.6	1.3
20									-	2.1	1.5	1.3
21									2.3	1.9	1.6	1.3
22									2.5	1.8	1.6	1.3
23									2.5	1.8	1.8	1.3
24									2.6	1.9	1.7	1.3
25									2.6	1.9	1.7	1.3
26									2.7	1.8	1.8	1.3
27									2.7	1.8	1.9	1.3
28									2.8	1.8	1.8	1.3
29									2.9	1.7	1.6	1.3
30									2.9	1.7	1.4	1.3
31		-----			-----		-----		-----	1.7	1.4	-----
TOTAL									-	73.1	50.5	37.74
MEAN									-	2.36	1.63	1.26
MAX									-	3.1	1.9	1.4
MIN									-	1.7	1.4	.91
AC-FT									-	145	100	75

ARROYO GRANDE BASIN

11-1412.8. LOPEZ CREEK NEAR ARROYO GRANDE, CALIF.

LOCATION.--Lat 35°13'48", long 120°28'22", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.16, T.31 S., R.14 E., on right bank 0.7 mile upstream from unnamed tributary, 3.2 miles upstream from mouth and 9.2 miles northeast of Arroyo Grande.

DRAINAGE AREA.--21.4 sq mi.

RECORDS AVAILABLE.--July to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 540 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 9.0 cfs July 30 (gage height, 2.44 ft); minimum daily, 4.3 cfs Sept. 4.

REMARKS.--Records good. Small diversions for domestic use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1967

DAY	UCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1										-	5.5	4.4
2										-	5.5	4.7
3										-	5.5	4.5
4										-	5.4	4.3
5										-	5.3	4.4
6										-	5.3	4.7
7										-	5.2	4.6
8										-	5.2	4.6
9										-	5.2	4.6
10										-	5.0	4.6
11										-	4.9	4.5
12										-	4.8	4.6
13										-	4.8	4.7
14										-	4.8	4.7
15										-	4.7	4.7
16										-	4.7	4.7
17										-	4.7	4.7
18										-	4.6	4.6
19										-	4.6	4.4
20										-	4.6	4.4
21										5.6	4.7	4.9
22										5.9	4.7	5.6
23										5.9	4.5	5.1
24										5.8	4.5	5.1
25										5.7	4.5	5.0
26										5.7	4.6	4.9
27										5.8	4.6	4.5
28										5.7	4.5	4.7
29										5.5	4.5	5.1
30										5.6	4.4	4.9
31		-----			-----		-----		-----	5.5	4.4	-----
TOTAL										-	150.2	141.2
MEAN										-	4.85	4.71
MAX										-	5.5	5.6
MIN										-	4.4	4.3
AC-FT										-	298	280

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 1967. Records for water year 1940 incomplete, yearly estimate published in WSP 1315-B.

GAGE.--Digital 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. Prior to Sept. 5, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 19.9 cfs (14,410 acre-ft per year); median of yearly mean discharges, 8.3 cfs (6,010 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,400 cfs Dec. 6 (gage height, 12.88 ft); minimum discharge, 0.10 cfs Oct. 21-28, Oct. 31 to Nov. 4.

1939-67: Maximum discharge, 5,400 cfs Dec. 6, 1966 (gage height, 12.88 ft); no flow for several days in some years.

REMARKS.--Records poor. Many small and intermittent diversions by pumping from stream for irrigation of about 4,000 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.3	.10	3.8	18	125	17	63	122	31	22	20	9.6
2	3.7	.10	5.7	18	91	15	62	113	30	22	19	9.9
3	4.0	.10	8.4	17	76	13	61	100	29	22	19	10
4	4.0	.10	6.0	17	67	14	63	92	28	21	19	8.5
5	3.9	.20	24	16	62	12	64	84	28	21	18	8.2
6	3.7	.60	3,040	16	51	11	63	78	27	21	18	9.1
7	3.4	2.0	461	16	45	11	195	74	27	21	15	9.1
8	2.1	1.7	161	16	40	11	126	69	26	20	13	9.1
9	.90	1.8	74	16	36	10	91	65	26	20	17	7.9
10	1.9	1.9	63	16	33	11	84	63	26	20	16	9.1
11	2.9	1.8	56	16	30	35	211	60	26	20	15	8.8
12	2.1	1.7	48	15	27	157	133	58	26	20	9.9	9.1
13	1.6	2.2	42	15	24	163	106	55	25	20	11	9.6
14	.60	2.2	37	15	22	120	92	53	25	20	11	9.9
15	.40	2.3	33	14	20	79	89	51	24	20	12	11
16	.80	2.5	31	14	19	279	78	50	23	20	13	10
17	.20	2.8	29	14	18	276	72	48	23	20	12	9.6
18	.20	2.8	27	14	17	173	199	46	23	20	12	9.1
19	.20	2.8	26	15	16	120	255	45	23	20	12	9.4
20	.20	3.7	25	15	15	90	209	44	23	20	12	9.9
21	.10	3.4	23	15	14	75	263	42	23	20	13	9.9
22	.10	4.2	22	40	14	67	285	40	23	20	14	9.5
23	.10	3.5	22	26	14	63	288	39	23	20	17	8.7
24	.10	3.3	21	765	22	62	354	38	23	20	13	8.6
25	.10	3.6	21	324	34	59	285	37	22	20	13	7.9
26	.10	3.5	21	153	30	55	245	36	22	19	13	7.7
27	.10	3.6	20	88	26	54	216	36	22	19	12	9.0
28	.10	3.8	20	70	20	51	182	35	22	19	11	11
29	.60	3.8	20	60	-----	50	158	34	22	20	11	12
30	.20	3.7	19	168	-----	48	134	33	22	22	10	11
31	.10	-----	19	215	-----	64	-----	31	-----	19	9.9	-----
TOTAL	41.80	69.80	4,428.9	2,237	1,008	2,265	4,726	1,771	743	628	430.8	282.2
MEAN	1.35	2.33	143	72.2	36.0	73.1	158	57.1	24.8	20.3	13.9	9.41
MAX	4.0	4.2	3,040	765	125	279	354	122	31	22	20	12
MIN	.10	.10	3.8	14	14	10	61	31	22	19	9.9	7.7
AC-FT	83	138	8,780	4,440	2,000	4,490	9,370	3,510	1,470	1,250	854	560

CAL YR 1966: TOTAL 6,561.20
WAT YR 1967: TOTAL 18,631.50

MEAN 18.0
MEAN 51.0

MAX 3,040
MAX 3,040

MIN .10
MIN .10

AC-FT 13,010
AC-FT 36,960

Peak discharge (base, 40 cfs)

Note.--No gage-height record Feb. 6 to Mar. 10.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1630	12.88	5,400	4- 4	1845	2.34	78
1-24	1500	7.27	1,720	4- 7	1000	3.36	260
1-30	1930	3.77	387	4-11	0615	3.41	273
3-12	0200	3.30	245	4-19	1230	3.51	303
3-16	1900	4.22	570	4-21	0945	3.75	375
3-31	0615	2.34	78	4-23	2015	4.02	520

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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 264.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Mar. 12, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 9.95 cfs (7,200 acre-ft per year); median of yearly mean discharges, 8.0 cfs (5,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,050 cfs Dec. 6 (gage height, 10.00 ft), from rating curve extended above 930 cfs as explained below; no flow Oct. 1 to Nov. 21.

1957-67: Maximum discharge, 2,520 cfs Feb. 1, 1960 (gage height, 10.36 ft), from rating curve extended above 930 cfs on basis of slope-area measurement of maximum flow; no flow at times in each year.

Flood of December 1955, reached a stage of 15.2 ft, from floodmarks.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	12	5.7	60	6.4	26	27	7.5	3.1	1.2	.45
2	0	0	250	5.7	55	6.3	24	25	7.3	3.1	1.2	.45
3	0	0	200	5.4	49	6.1	19	24	6.6	2.7	1.2	.50
4	0	0	200	5.4	38	6.0	20	23	6.4	2.7	1.1	.31
5	0	0	698	5.0	30	5.9	19	21	6.3	2.9	1.1	.12
6	0	0	791	4.7	27	5.6	55	18	6.2	2.6	1.1	.14
7	0	0	80	4.7	24	5.4	58	17	6.1	2.5	1.0	.14
8	0	0	62	4.7	22	5.4	30	16	6.0	2.4	1.0	.14
9	0	0	51	4.5	19	5.2	27	16	5.7	2.4	.97	.16
10	0	0	36	4.0	18	5.2	40	16	5.6	2.3	.95	.16
11	0	0	29	4.0	16	14	63	15	5.6	2.2	.92	.14
12	0	0	24	3.8	15	40	37	14	5.5	2.2	.93	.14
13	0	0	19	3.6	14	43	29	13	5.4	2.1	.87	.10
14	0	0	17	3.6	13	30	27	13	5.1	2.0	.85	.10
15	0	0	16	3.4	12	21	32	12	4.7	2.0	.82	.11
16	0	0	14	3.4	11	260	26	12	4.6	1.9	.80	.11
17	0	0	13	3.0	10	118	29	11	4.5	1.9	.77	.11
18	0	0	12	3.0	9.9	63	74	11	4.7	1.8	.75	.12
19	0	0	11	3.0	9.5	51	72	9.0	4.5	1.8	.73	.12
20	0	0	11	2.8	8.9	38	51	8.7	4.3	1.7	.71	.12
21	0	0	10	6.8	8.2	29	112	8.3	3.9	1.7	.68	.14
22	0	20	10	60	7.9	25	63	8.1	3.8	1.6	.66	.19
23	0	13	9.6	12	7.7	23	79	8.1	3.7	1.6	.80	.22
24	0	9.0	8.9	418	7.7	21	69	8.0	3.7	1.5	.80	.22
25	0	7.0	8.6	47	13	20	53	8.1	3.7	1.5	.72	.22
26	0	6.0	8.2	26	8.2	19	44	8.1	3.7	1.5	.60	.22
27	0	5.5	7.8	20	7.2	18	40	7.8	3.5	1.4	.55	.25
28	0	5.0	7.1	17	6.7	17	37	7.7	3.4	1.4	.60	.25
29	0	25	6.8	24	-----	16	32	7.5	3.3	1.3	.60	.25
30	0	15	6.8	248	-----	21	28	7.4	3.3	1.3	.60	.12
31	0	-----	6.2	73	-----	27	-----	7.0	-----	1.3	.50	-----
TOTAL	0	105.5	2,636.0	1,035.2	527.9	971.5	1,315	407.8	148.7	62.4	26.05	5.82
MEAN	0	3.52	85.0	33.4	18.9	31.3	43.8	13.2	4.96	2.01	.84	.19
MAX	0	25	791	418	60	260	112	27	7.5	3.1	1.2	.50
MIN	0	0	5.2	2.8	6.7	5.2	19	7.0	3.3	1.3	.50	.10
AC-FT	0	209	5,230	2,050	1,050	1,930	2,610	809	295	124	52	12

CAL YR 1966: TOTAL 3,882.30 MEAN 10.6 MAX 791 MIN 0 AC-FT 7,700
WAT YR 1967: TOTAL 7,241.87 MEAN 19.8 MAX 791 MIN 0 AC-FT 14,360

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0845	10.00	2,050	1-30	1545	6.57	888
1-24	0845	8.57	1,710	3-16	1000	6.72	948

Note.--No gage-height record Nov. 5 to Dec. 5, July 7 to Aug. 21.

ARROYO DE LA CRUZ BASIN

287

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.--41.2 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 22 ft (from topographic map). Prior to Dec. 14, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 54.4 cfs (39,380 acre-ft per year); median of yearly mean discharges, 45 cfs (32,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 35,200 cfs Dec. 6 (gage height, 15.27 ft), from rating curve extended above 7,600 cfs as explained below; no flow Oct. 1 to Nov. 19, Aug. 13 to Sept. 30.
1950-67: Maximum discharge, 35,200 cfs Dec. 6, 1966 (gage height, 15.27 ft), from rating curve extended above 7,600 cfs on basis of slope-area measurements at gage heights 12.40 and 15.27 ft; no flow for several months in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	45	14	239	25	112	94	17	4.7	.68	0
2	0	0	1,300	13	162	24	112	87	17	4.5	.60	0
3	0	0	575	13	128	22	89	79	15	4.3	.56	0
4	0	0	595	12	104	22	96	74	15	4.1	.52	0
5	0	0	3,120	12	94	21	99	68	14	3.6	.48	0
6	0	0	8,640	11	80	20	155	64	14	3.6	.44	0
7	0	0	590	10	71	19	317	59	14	3.6	.40	0
8	0	0	263	9.9	64	18	141	55	13	3.4	.32	0
9	0	0	170	10	59	18	114	52	13	3.1	.28	0
10	0	0	119	9.5	55	18	175	56	12	2.9	.20	0
11	0	0	94	9.5	52	48	293	47	11	2.9	.16	0
12	0	0	74	9.0	48	454	150	44	11	2.6	.08	0
13	0	0	64	8.6	45	299	124	40	9.9	2.6	0	0
14	0	0	56	8.3	43	178	112	38	9.5	2.5	0	0
15	0	0	48	7.9	40	137	118	35	9.0	2.3	0	0
16	0	0	42	7.9	38	2,070	108	33	8.3	2.3	0	0
17	0	0	37	7.2	36	555	102	32	7.9	2.2	0	0
18	0	0	33	6.9	35	263	275	30	7.6	2.2	0	0
19	0	0	31	6.9	33	173	263	29	7.6	2.2	0	0
20	0	70	26	6.9	32	135	170	26	7.2	2.0	0	0
21	0	2.8	26	150	29	114	320	25	6.6	1.9	0	0
22	0	103	25	768	28	105	206	23	6.2	1.9	0	0
23	0	60	23	164	27	93	254	22	5.2	1.7	0	0
24	0	37	22	2,370	27	84	287	21	5.2	1.6	0	0
25	0	28	21	386	52	76	168	20	4.7	1.4	0	0
26	0	22	19	183	35	71	139	20	4.5	1.2	0	0
27	0	18	18	122	29	66	126	18	4.3	1.2	0	0
28	0	17	17	94	26	62	116	17	5.0	1.2	0	0
29	0	128	17	160	-----	59	108	17	5.5	1.1	0	0
30	0	67	16	1,760	-----	69	101	17	5.0	1.0	0	0
31	0	-----	15	466	-----	163	-----	16	-----	.84	0	-----
TOTAL	0	552.8	16,143	6,756.5	1,711	5,481	4,950	1,258	285.2	76.64	4.72	0
MEAN	0	18.4	521	218	61.1	177	165	40.6	9.51	2.47	.15	0
MAX	0	128	8,640	2,370	239	2,070	320	94	17	4.7	.68	0
MIN	0	0	15	6.9	26	18	89	16	4.3	.84	0	0
AC-FT	0	1,100	32,620	13,400	3,390	10,870	9,820	2,500	506	152	9.4	0

CAL YR 1966: TOTAL 23,288.00 MEAN 63.8 MAX 8,640 MIN 0 AC-FT 46,190
WAT YR 1967: TOTAL 37,218.86 MEAN 102 MAX 8,640 MIN 0 AC-FT 73,820

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0800	15.27	35,200	1-30	1215	8.70	6,000
1-22	0045	7.61	4,000	3-16	1115	7.94	4,550
1-24	0915	9.76	8,400				

BIG SUR RIVER BASIN

11-1430. BIG SUR RIVER NEAR BIG SUR, CALIF.

LOCATION.--Lat 36°14'45", long 121°46'20", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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 1967. Prior to October 1959, published as Sur River at Big Sur.

GAGE.--Digital 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. Oct. 1, 1951, to Apr. 18, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 92.6 cfs (67,040 acre-ft per year); median of yearly mean discharges, 71 cfs (51,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,510 cfs Dec. 6 (gage height, 10.30 ft), from rating curve extended above 1,400 cfs as explained below; minimum daily, 8.2 cfs Oct. 11.

1950-67: 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, 3.7 cfs Oct. 7, 1961.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.9	9.4	50	58	800	91	235	409	113	53	33	19
2	9.4	9.9	415	58	660	89	218	369	105	52	32	18
3	9.9	9.9	360	55	550	88	205	333	97	50	31	19
4	9.9	9.9	268	55	458	89	213	304	92	50	29	18
5	9.9	11	1,420	53	397	84	223	280	91	50	28	19
6	9.4	16	3,260	53	341	81	505	268	86	49	28	20
7	9.0	36	1,170	51	304	78	660	250	86	47	28	20
8	8.5	15	630	51	271	77	535	230	85	46	28	20
9	8.5	13	405	50	247	74	454	225	84	45	28	20
10	8.5	13	316	49	225	79	463	228	82	44	28	20
11	8.2	12	249	47	208	268	486	202	79	43	25	20
12	9.0	12	192	46	192	280	450	190	77	42	25	21
13	9.0	12	167	45	179	337	417	179	78	41	25	20
14	9.0	12	149	44	169	310	385	169	76	40	25	21
15	9.0	15	135	43	161	277	393	165	73	39	25	20
16	9.0	115	122	42	153	1,680	353	157	71	39	25	20
17	8.5	32	111	41	147	1,130	337	153	70	39	24	20
18	9.0	22	106	38	137	775	580	147	70	39	23	20
19	8.5	28	97	38	131	605	550	141	70	37	23	21
20	9.0	145	92	37	125	490	535	137	67	37	23	20
21	9.0	91	88	629	118	417	770	129	64	37	23	21
22	9.0	78	84	1,030	113	365	745	125	64	37	23	25
23	9.0	52	79	401	108	325	825	120	64	37	23	23
24	9.0	39	76	1,610	108	295	864	115	61	36	23	20
25	9.0	32	72	1,010	131	271	770	111	61	33	22	20
26	9.0	29	70	700	106	250	690	108	60	34	22	20
27	9.4	26	68	525	100	230	625	105	58	36	21	19
28	9.9	48	65	417	95	218	560	103	56	36	21	19
29	9.9	103	62	555	-----	205	500	100	56	35	21	20
30	9.9	61	61	1,120	-----	241	445	97	54	34	20	20
31	9.4	-----	60	1,040	-----	274	-----	95	-----	33	20	-----
TOTAL	283.6	1,107.1	10,499	9,991	6,734	10,073	14,991	5,744	2,250	1,270	775	603
MEAN	9.15	36.9	339	322	241	325	500	185	75.0	41.0	25.0	20.1
MAX	9.9	145	3,260	1,610	800	1,680	864	409	113	53	33	25
MIN	8.2	9.4	50	37	95	74	205	95	54	33	20	18
AC-FT	563	2,200	20,820	19,820	13,360	19,980	29,730	11,390	4,460	2,520	1,540	1,200

CAL YR 1966: TOTAL 26,501.3 MEAN 72.6 MAX 3,260 MIN 8.2 AC-FT 52,560
WAT YR 1967: TOTAL 64,320.7 MEAN 176 MAX 3,260 MIN 8.2 AC-FT 127,600

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2015	6.77	1,590	1-30	1600	6.94	1,700
12- 6	1100	10.30	4,510	3-16	1045	8.26	2,710
1-21	2330	8.48	2,880	4- 6	2345	5.35	715
1-24	0700	8.65	3,020	4-23	1900	5.84	984

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 270 ft (from topographic map). Prior to Apr. 21, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 69.1 cfs (50,030 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,750 cfs Dec. 6 (gage height, 9.50 ft); no flow Oct. 1 to Dec. 2, Sept. 6-30.
1957-67: Maximum discharge, 7,100 cfs Apr. 2, 1958 (gage height, 10.50 ft); no flow at times in 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 maximum flow).

REMARKS.--Records fair. Flow regulated by Los Padres Reservoir (capacity, 3,000 acre-ft) and San Clemente Reservoir (capacity, 1,600 acre-ft). Small diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	35	730	72	286	413	109	1.7	.60	.20
2	0	0	0	34	518	69	266	386	116	1.8	.60	.19
3	0	0	31	32	461	68	246	352	100	1.7	.59	.16
4	0	0	14	31	388	70	244	328	94	1.9	.60	.12
5	0	0	68	30	330	64	241	306	95	1.9	.58	.06
6	0	0	2,850	30	278	60	390	285	90	1.9	.48	0
7	0	0	1,000	29	246	57	622	267	84	1.7	.49	0
8	0	0	484	29	217	56	521	248	77	1.8	.45	0
9	0	0	311	29	197	54	455	237	75	1.9	.53	0
10	0	0	233	28	177	54	452	247	73	1.9	.73	0
11	0	0	190	26	164	187	507	229	70	2.1	.64	0
12	0	0	160	25	152	323	455	217	70	1.8	.60	0
13	0	0	130	25	143	500	428	186	70	1.5	.54	0
14	0	0	110	21	135	430	408	179	64	1.5	.52	0
15	0	0	98	20	127	353	430	169	59	1.4	.48	0
16	0	0	89	19	121	1,950	398	164	56	1.1	.48	0
17	0	0	78	19	116	1,330	393	160	37	1.2	.44	0
18	0	0	69	17	109	905	590	149	33	1.0	.35	0
19	0	0	63	17	105	702	598	142	33	1.0	.30	0
20	0	0	52	19	100	574	567	135	32	.98	.30	0
21	0	0	51	45	95	485	870	128	29	.80	.30	0
22	0	0	55	750	91	430	762	123	24	.89	.30	0
23	0	0	48	258	87	388	865	116	21	.93	.32	0
24	0	0	45	1,510	85	338	915	111	21	.99	.30	0
25	0	0	43	1,030	104	304	752	108	19	.80	.29	0
26	0	0	41	630	91	276	671	105	18	.79	.25	0
27	0	0	50	452	82	252	608	101	17	.78	.24	0
28	0	0	30	363	77	231	549	100	15	.81	.25	0
29	0	0	52	440	-----	229	494	99	23	.75	.23	0
30	0	0	24	795	-----	231	448	95	2.1	.61	.19	0
31	0	-----	35	975	-----	345	-----	92	-----	.61	.20	-----
TOTAL	0	0	6,504	7,763	5,526	11,387	15,431	5,977	1,626.1	40.54	13.17	0.73
MEAN	0	0	210	250	197	367	514	193	54.2	1.31	.42	.024
MAX	0	0	2,850	1,510	730	1,950	915	413	116	2.1	.73	.20
MIN	0	0	0	17	77	54	241	92	2.1	.61	.19	0
AC-FT	0	0	12,900	15,400	10,960	22,590	30,610	11,860	3,230	80	26	1.5

CAL YR 1966: TOTAL 13,854.20 MEAN 38.0 MAX 2,850 MIN 0 AC-FT 27,480
WAT YR 1967: TOTAL 54,268.54 MEAN 149 MAX 2,850 MIN 0 AC-FT 107,600

Peak discharge (base, 1,000 'cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1300	9.50	4,750	1-30	1930	6.48	1,280
1-22	0300	6.86	1,630	3-16	1145	8.53	3,700
1-24	1000	7.85	2,680	4.23	1830	6.45	1,120

CARMEL RIVER BASIN

11-1432.5. CARMEL RIVER NEAR CARMEL, CALIF.

LOCATION.--Lat 36°32'20", long 121°52'25", in Canada de la Segunda Grant, on right bank 0.3 mile downstream from Potrero Canyon and 3 miles east of Carmel, Monterey County.

DRAINAGE AREA.--246 sq mi.

RECORDS AVAILABLE.--August 1962 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 45 ft (from topographic map). Prior to Nov. 15, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years, 87.3 cfs (63,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,420 cfs Dec. 6 (gage height, 12.26 ft), from rating curve extended above 3,000 cfs; no flow Oct. 1 to Dec. 5.
1962-67: Maximum discharge, 7,420 cfs Dec. 6, 1966 (gage height, 12.26 ft), from rating curve extended above 3,000 cfs; maximum gage height, 14.72 ft Jan. 31, 1963; no flow at times in each year.

REMARKS.--Records good. Flow regulated by Los Padres Reservoir (capacity, 3,000 acre-ft) and San Clemente Reservoir (capacity, 1,600 acre-ft). Small diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	34	803	95	381	542	136	19	1.4	.10
2	0	0	0	34	629	95	354	502	146	15	1.4	.10
3	0	0	0	32	556	86	330	464	132	12	1.3	.10
4	0	0	0	31	475	92	318	439	123	11	1.2	.10
5	0	0	0	30	394	89	318	408	123	9.7	1.0	.10
6	0	0	3,040	29	339	84	418	384	119	8.3	.70	.10
7	0	0	1,090	28	306	75	740	360	110	7.5	.81	.10
8	0	0	372	27	270	72	646	339	101	6.7	.75	.10
9	0	0	223	26	250	71	566	324	100	6.4	.69	.10
10	0	0	170	24	228	72	710	327	97	5.8	.67	.10
11	0	0	136	23	209	158	686	303	93	5.2	.60	.10
12	0	0	112	23	195	285	590	290	95	4.9	.50	.10
13	0	0	90	23	187	566	550	268	93	4.3	.44	.10
14	0	0	80	21	178	527	513	245	83	4.1	.40	.10
15	0	0	69	18	164	394	558	235	80	4.2	.39	.10
16	0	0	65	16	158	2,460	513	225	78	3.6	.36	.11
17	0	0	59	15	154	1,670	488	216	69	2.8	.31	.10
18	0	0	49	15	144	1,010	722	202	65	2.2	.30	.15
19	0	0	45	14	127	803	785	195	68	1.7	.30	.19
20	0	0	42	14	123	677	740	187	71	1.6	.30	.18
21	0	0	40	31	117	582	1,180	176	65	1.5	.30	.20
22	0	0	38	570	112	516	1,000	166	58	1.5	.30	.20
23	0	0	41	270	107	464	1,110	156	52	1.7	.25	.20
24	0	0	40	1,410	103	415	1,200	148	50	1.9	.18	.20
25	0	0	37	1,050	117	375	990	150	46	1.9	.13	.12
26	0	0	35	668	116	345	870	146	44	1.6	.18	.10
27	0	0	34	513	103	315	791	140	41	1.5	.13	.13
28	0	0	40	422	97	293	713	134	37	1.5	.10	.20
29	0	0	41	495	-----	293	641	138	41	1.6	.10	.20
30	0	0	46	794	-----	283	594	131	36	1.6	.10	.20
31	0	-----	31	1,040	-----	432	-----	125	-----	1.5	.10	-----
TOTAL	0	0	6,065	7,740	6,761	13,694	20,015	8,065	2,452	153.8	15.69	3.98
MEAN	0	0	196	250	241	442	667	260	81.7	4.96	.51	.13
MAX	0	0	3,040	1,410	803	2,460	1,200	542	146	19	1.4	.20
MIN	0	0	0	14	97	71	318	125	36	1.5	.10	.10
AC-FT	0	0	12,030	15,350	13,410	27,160	39,700	16,000	4,860	305	31	7.9

CAL YR 1966: TOTAL 15,469.10 MEAN 42.4 MAX 3,040 MIN 0 AC-FT 30,680
WAT YR 1967: TOTAL 64,965.47 MEAN 178 MAX 3,040 MIN 0 AC-FT 128,900

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1600	12.26	7,420	3-16	1445	10.50	4,850
1-24	1345	8.76	2,900	4-21	1100	6.84	1,360
1-30	2315	6.66	1,250				

ARROYO DEL REY BASIN

291

11-1433. ARROYO DEL REY AT DEL REY OAKS, CALIF.

LOCATION.--Lat 36°35'47", long 121°50'50", in Noche Buena Grant on right bank at culvert on Rosita Avenue, at Del Rey Oaks, Monterey County, and 1,000 ft upstream from State Highway 1.

DRAINAGE AREA.--14.3 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 15 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 31 cfs Apr. 23 (gage height, 2.63 ft), from rating curve extended above 4 cfs; no flow for many days.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.10	0	1.2	.30	.26	1.9	.34	.10	0	0
2	0	0	.50	0	.67	.30	.65	1.4	.15	.10	0	0
3	0	0	.20	0	.49	.30	.26	1.1	.10	.11	0	.10
4	0	0	.40	0	.38	.30	.28	.88	.11	.10	0	0
5	0	0	1.3	0	.29	.30	.33	.68	.10	.10	0	0
6	0	.60	3.3	0	.30	.30	.80	.49	.10	.10	0	.06
7	0	.10	.96	0	.30	.30	2.2	.33	.10	.10	0	.10
8	0	0	.40	0	.30	.10	1.1	.33	.10	.10	0	.10
9	0	0	.20	0	.10	.10	.61	.21	.10	.10	0	.04
10	0	0	.20	0	.20	0	.75	.27	.10	.10	0	.06
11	0	0	.10	0	.10	1.3	4.0	.15	.10	.11	0	0
12	0	0	.10	0	.10	1.1	3.1	.10	.10	.10	0	0
13	0	0	.10	0	.20	2.3	2.0	.10	.10	.10	0	0
14	0	0	.10	0	.20	2.1	1.4	.10	.10	.10	0	0
15	0	.30	.10	0	.20	.88	2.7	.10	.10	.10	0	.05
16	0	.30	.10	0	.20	.87	3.0	.07	.10	.10	.10	.03
17	0	.10	.10	0	.30	.37	2.3	.02	.10	.10	.10	0
18	0	.10	.10	0	.20	.07	3.1	.04	.10	.10	.10	0
19	0	.30	.10	0	.20	0	3.7	.02	.10	.10	.10	0
20	0	.30	.10	0	.20	0	3.3	0	.10	0	.10	.07
21	0	.40	.10	1.5	.20	0	16	0	.10	.10	0	.12
22	0	.30	.10	1.8	.20	0	11	0	.10	.10	0	.10
23	0	.10	.10	.40	.20	0	9.4	0	.10	.10	0	0
24	0	.10	.10	4.3	.20	0	20	0	.10	.10	0	0
25	0	.10	.10	1.4	.40	0	10	0	.10	0	0	.01
26	0	.10	.10	.60	.20	0	6.8	0	.10	0	0	.07
27	0	.10	.10	.40	.30	0	5.1	0	.10	0	0	.07
28	0	.50	0	.30	.30	.03	4.6	0	.10	.10	0	.09
29	0	.20	0	.70	-----	0	4.3	0	.10	.10	0	.02
30	0	.10	0	4.0	-----	.23	2.7	0	.10	0	0	0
31	0	-----	0	2.4	-----	31	-----	0	-----	0	0	-----
TOTAL	0	4.10	9.26	17.80	8.13	42.55	125.74	8.29	3.30	2.52	0.50	1.09
MEAN	0	.14	.30	.57	.29	1.37	4.19	.27	.11	.081	.016	.036
MAX	0	.60	3.3	4.3	1.2	31	20	1.9	.34	.11	.10	.12
MIN	0	0	0	0	.10	0	.26	0	.10	0	0	0
AC-FT	0	8.1	18	35	16	84	249	16	6.6	5.0	1.0	2.2

CAL YR 1966: TOTAL -
WAT YR 1967: TOTAL 223.28

MEAN -
MEAN .61

MAX -
MAX 31

MIN -
MIN 0

AC-FT -
AC-FT 443

Peak discharge (base, 5 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0400	1.04	6.5	3-11	0415	1.08	6.1
1-21	2145	1.17	9.1	3-13	1645	1.03	5.2
1-24	0930	1.49	18	4-23	1945	2.63	31
1-30	1430	1.13	8.3				

SALINAS RIVER BASIN

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 AREA.--74.1 sq mi.

RECORDS AVAILABLE.--July 1942 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,347.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Jan. 6, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--25 years, 14.9 cfs (10,790 acre-ft per year); median of yearly mean discharges, 7.4 cfs (5,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,100 cfs Dec. 6 (gage height, 14.23 ft), from rating curve extended above 4,800 cfs as explained below; no flow Oct. 10-12.

1942-67: Maximum discharge, 14,100 cfs Dec. 6, 1966 (gage height, 14.23 ft), from rating curve extended above 4,800 cfs on basis of slope-area measurement of maximum flow; no flow at times.

REMARKS.--Records good except those for period of backwater from beaver dams, which are poor. No regulation or diversion above station. Water is stored in Salinas Reservoir below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.10	1.4	4.7	106	7.7	80	74	7.1	3.0	.85	.34
2	.10	.10	52	4.5	75	7.3	75	66	6.7	2.9	.82	.34
3	.10	.10	105	4.3	58	7.3	58	60	6.4	2.7	.78	.34
4	.10	.20	23	4.2	49	7.7	83	53	6.3	2.5	.75	.34
5	.10	.20	1,080	4.1	41	6.9	117	48	5.8	2.4	.72	.34
6	.10	.40	5,400	3.9	34	6.2	94	44	5.4	2.3	.70	.34
7	.10	.50	562	3.9	31	6.2	500	41	5.2	2.2	.67	.34
8	.10	.40	220	3.9	28	5.9	247	38	4.9	2.1	.65	.34
9	.10	.20	117	3.7	25	5.9	161	35	5.4	2.0	.62	.35
10	0	.20	85	3.7	22	5.6	150	35	5.1	1.9	.60	.35
11	0	.20	62	3.7	20	91	347	32	4.7	1.9	.58	.35
12	0	.40	45	3.7	19	707	203	29	4.8	1.8	.55	.36
13	.10	.40	30	3.7	17	671	147	26	4.1	1.8	.52	.37
14	.10	.40	25	3.7	15	369	121	23	4.1	1.7	.51	.39
15	.10	.40	21	3.7	14	200	116	21	4.2	1.6	.49	.42
16	.10	.50	17	3.7	13	422	104	20	4.2	1.6	.47	.44
17	.10	.50	15	3.7	12	343	92	18	4.1	1.5	.46	.46
18	.10	.40	14	3.5	12	196	353	17	4.1	1.5	.44	.47
19	.10	.50	11	3.5	11	134	300	16	4.1	1.4	.43	.49
20	.10	1.7	10	3.9	10	103	240	15	4.1	1.4	.41	.50
21	.10	.90	9.0	3.9	9.3	85	540	14	4.0	1.3	.40	.50
22	.10	1.1	8.4	39	8.7	72	300	13	4.0	1.3	.38	.50
23	.10	.70	7.6	15	8.7	60	305	12	4.0	1.2	.38	.50
24	.10	.70	7.2	984	8.7	51	310	11	4.0	1.2	.37	.50
25	.10	.70	6.7	296	15	44	220	10	4.0	1.1	.36	.50
26	.20	.70	6.4	106	12	40	160	9.7	4.0	1.1	.36	.50
27	.20	.70	5.9	62	9.3	35	130	9.2	3.8	1.1	.35	.50
28	.20	1.7	5.5	45	8.2	32	110	8.8	3.6	1.0	.35	.50
29	.20	1.7	5.3	35	-----	29	98	8.3	3.4	1.0	.34	.50
30	.10	1.7	5.1	190	-----	32	86	7.8	3.2	.97	.34	.50
31	.10	-----	4.9	205	-----	89	-----	7.3	-----	.93	.34	-----
TOTAL	3.10	18.40	7,967.4	2,058.6	691.9	3,871.7	5,847	822.1	138.8	52.40	15.99	12.67
MEAN	.10	.61	257	66.4	24.7	125	195	26.5	4.63	1.69	.52	.42
MAX	.20	1.7	5,400	984	106	707	540	74	7.1	3.0	.85	.50
MIN	0	.10	1.4	3.5	8.2	5.6	58	7.3	3.2	.93	.34	.34
AC-FT	6.2	37	15,800	4,080	1,370	7,680	11,600	1,630	275	104	32	25
CAL YR 1966: TOTAL 9,188.30 MEAN 25.2 MAX 5,400 MIN 0 AC-FT 18,220												
WAT YR 1967: TOTAL 21,500.06 MEAN 58.9 MAX 5,400 MIN 0 AC-FT 42,640												

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0115	6.26	613	3-13	0145	6.51	1,040
12- 6	1100	14.23	14,100	3-16	1745	5.73	740
1-24	1245	9.26	2,860	4- 7	0745	5.75	748
1-30	2045	5.36	611				

Note.--Backwater from beaver dams June 15 to Sept. 30.

SALINAS RIVER BASIN

293

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 northwest of Pozo.

DRAINAGE AREA.--9.61 sq mi.

RECORDS AVAILABLE.--June 1942 to September 1967. Prior to October 1961 low-water records only. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 1,312.99 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Dec. 8, 1961, graphic water-stage recorder at site 250 ft downstream at datum 11.83 ft lower. Dec. 8, 1961, to Jan. 6, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years (1961-67), 0.26 cfs (188 acre-ft per year).

EXTREMES.--Maximum discharge during year, 199 cfs Dec. 6 (gage height, 5.11 ft), from rating curve extended above 30 cfs as explained below; no flow Oct. 1 to Nov. 19.

1961-67: Maximum discharge, 199 cfs Dec. 6, 1966 (gage height, 5.11 ft), from rating curve extended above 30 cfs on basis of slope-area measurement of maximum flow.

1942-67: No flow at times in many years.

REMARKS.--Records good. Small diversions above station for irrigation and stock reservoir.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.10	.30	.44	.30	.48	.56	.39	.50	.09	.10
2	0	0	.70	.30	.39	.32	.37	.50	.39	.39	.10	.11
3	0	0	.20	.20	.39	.30	.36	.44	.39	.29	.10	.10
4	0	0	.20	.20	.34	.29	.45	.50	.39	.25	.10	.11
5	0	0	4.8	.20	.34	.25	.35	.50	.39	.25	.11	.12
6	0	0	53	.25	.34	.27	.41	.44	.39	.22	.11	.13
7	0	0	.70	.25	.34	.27	.67	.44	.39	.22	.10	.14
8	0	0	.50	.25	.34	.27	.38	.44	.44	.21	.10	.14
9	0	0	.40	.26	.34	.28	.38	.44	.44	.18	.11	.14
10	0	0	.40	.26	.34	.29	.78	.39	.39	.18	.11	.14
11	0	0	.40	.26	.34	.98	.84	.34	.39	.17	.11	.11
12	0	0	.40	.29	.34	.75	.40	.34	.44	.18	.12	.12
13	0	0	.30	.29	.34	.46	.39	.34	.44	.17	.10	.13
14	0	0	.30	.29	.34	.38	.35	.34	.44	.16	.11	.13
15	0	0	.30	.29	.34	.38	.44	.34	.50	.14	.11	.14
16	0	0	.30	.29	.34	1.2	.39	.34	.50	.14	.12	.17
17	0	0	.30	.29	.34	.45	.43	.34	.56	.15	.14	.19
18	0	0	.30	.29	.34	.42	.90	.34	.63	.16	.14	.21
19	0	0	.30	.29	.33	.37	.90	.29	.56	.16	.11	.22
20	0	.10	.30	.29	.32	.35	.50	.29	.63	.15	.11	.20
21	0	.10	.30	.44	.30	.33	1.2	.25	.56	.13	.09	.24
22	0	.10	.30	1.4	.30	.34	.90	.39	.56	.13	.10	.33
23	0	.10	.30	.34	.31	.34	1.0	.39	.63	.12	.09	.32
24	0	.10	.30	33	.34	.33	1.1	.39	.63	.13	.09	.34
25	0	.10	.30	.90	.49	.34	.56	.39	.56	.13	.10	.30
26	0	.10	.30	.56	.32	.30	.50	.39	.56	.13	.10	.24
27	0	.10	.30	.56	.32	.31	.50	.39	.50	.11	.08	.22
28	0	.10	.30	.50	.32	.34	.50	.39	.50	.13	.09	.28
29	0	.10	.30	.50	-----	.34	.50	.39	.50	.12	.10	.15
30	0	.10	.30	.90	-----	.52	.50	.39	.50	.11	.10	.12
31	0	-----	.30	.56	-----	.49	-----	.39	-----	.12	.10	-----
TOTAL	0	1.10	67.50	45.00	9.67	12.56	17.43	12.10	14.59	5.63	3.24	5.39
MEAN	0	.037	2.18	1.45	.35	.41	.58	.39	.49	.18	.10	.18
MAX	0	.10	53	.33	.49	1.2	1.2	.56	.63	.50	.14	.34
MIN	0	0	.10	.20	.30	.25	.35	.25	.39	.11	.08	.10
AC-FT	0	2.2	134	89	19	25	35	24	29	11	6.4	11

CAL YR 1966: TOTAL 95.70 MEAN .26 MAX 53 MIN 0 AC-FT 190
 WAT YR 1967: TOTAL 194.21 MEAN .53 MAX 53 MIN 0 AC-FT 385

Peak discharge (base, 15 cfs).--Dec. 6 (1400) 199 cfs (5.11 ft); Jan. 24 (1015) 180 cfs (5.05 ft).

SALINAS RIVER BASIN

11-1445. SALINAS RESERVOIR NEAR POZO, CALIF.

LOCATION.--Lat 35°20'15", long 120°30'05", in NW¼ 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 1967.

GAGE.--Graphic 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, 34,600 acre-ft Dec. 6 (elevation, 1,310.85 ft); minimum, 19,400 acre-ft Nov. 12 to Dec. 1.

1941-67: Maximum contents, 34,600 acre-ft Dec. 6, 1966 (elevation, 1,310.85 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-FT)

1,220.3	0	1,270	8,650
1,225	210	1,275	10,600
1,230	510	1,280	12,800
1,235	880	1,285	15,300
1,240	1,400	1,290	18,300
1,245	2,100	1,295	21,700
1,250	3,000	1,300	25,200
1,255	4,100	1,310	33,700
1,260	5,400	1,320	44,400
1,265	6,900	1,325	50,400

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,300	19,600	19,400	25,100	26,100	26,200	26,000	26,000	26,000	25,500	24,500	23,600
2	20,300	19,600	19,600	25,100	26,200	26,200	26,000	26,100	26,000	25,500	24,500	23,500
3	20,300	19,500	19,800	25,100	26,300	26,200	26,100	26,100	26,000	25,500	24,500	23,500
4	20,300	19,500	19,900	25,100	26,300	26,200	26,200	26,000	26,000	25,500	24,400	23,500
5	20,300	19,500	24,100	25,100	26,300	26,200	26,200	26,000	26,000	25,400	24,400	23,500
6	20,200	19,500	32,000	25,100	26,300	26,200	26,100	25,900	26,000	25,400	24,400	23,400
7	20,200	19,500	27,700	25,100	26,400	26,200	26,800	25,900	25,900	25,300	24,300	23,400
8	20,200	19,500	26,500	25,100	26,400	26,200	26,500	26,000	25,900	25,300	24,300	23,400
9	20,200	19,500	25,900	25,100	26,300	26,200	26,100	26,100	25,900	25,300	24,300	23,300
10	20,200	19,500	25,800	25,100	26,300	26,100	26,200	26,000	25,900	25,200	24,200	23,300
11	20,100	19,500	26,000	25,100	26,300	26,600	26,600	26,000	25,900	25,200	24,200	23,300
12	20,100	19,400	25,900	25,100	26,300	27,700	26,400	26,000	25,900	25,200	24,200	23,200
13	20,100	19,400	25,200	25,100	26,300	27,400	26,100	26,100	25,900	25,100	24,200	23,200
14	20,000	19,400	24,900	25,100	26,200	26,700	26,200	26,100	25,900	25,100	24,100	23,200
15	20,000	19,400	24,900	25,100	26,200	26,300	26,200	26,100	25,800	25,100	24,100	23,200
16	20,000	19,400	25,000	25,000	26,200	26,900	26,100	26,100	25,800	25,000	24,100	23,100
17	20,000	19,400	25,000	25,000	26,200	26,700	25,800	26,000	25,800	25,000	24,100	23,100
18	19,900	19,400	25,000	25,000	26,200	26,300	26,400	25,900	25,800	25,000	24,000	23,100
19	19,900	19,400	25,000	25,000	26,200	26,000	26,700	25,900	25,800	25,000	24,000	23,100
20	19,900	19,400	25,000	25,000	26,200	26,100	26,500	26,000	25,800	24,900	23,900	23,000
21	19,800	19,400	25,100	25,100	26,200	26,200	26,800	26,000	25,800	24,900	23,900	23,000
22	19,800	19,400	25,100	25,400	26,200	26,100	26,700	26,000	25,800	24,900	23,900	23,000
23	19,800	19,400	25,100	25,500	26,200	26,100	26,700	26,000	25,800	24,800	23,800	23,000
24	19,800	19,400	25,100	28,400	26,200	26,000	26,700	26,000	25,700	24,800	23,800	23,000
25	19,700	19,400	25,100	27,000	26,200	26,000	26,400	26,000	25,700	24,800	23,800	22,900
26	19,700	19,400	25,100	26,300	26,200	26,100	26,200	26,000	25,700	24,700	23,800	22,900
27	19,700	19,400	25,100	26,100	26,200	26,000	26,100	26,000	25,700	24,700	23,700	22,900
28	19,700	19,400	25,100	26,000	26,200	26,000	26,000	26,000	25,600	24,700	23,700	22,900
29	19,600	19,400	25,100	26,200	-----	26,100	26,100	26,000	25,600	24,600	23,700	22,900
30	19,600	19,400	25,100	26,500	-----	26,100	26,100	26,000	25,600	24,600	23,600	22,900
31	19,600	-----	25,100	26,300	-----	26,100	-----	26,000	-----	24,600	23,600	-----
(+)	1,292.01	1,291.67	1,299.86	1,301.40	1,301.24	1,301.09	1,301.13	1,301.01	1,300.47	1,299.12	1,297.71	1,296.65
(#)	-700	-200	+5,700	+1,200	-100	-100	0	-100	-400	-1,000	-1,000	-700
(++)	404	299	268	329	144	0	0	0	429	520	504	411
MAX	20,300	19,600	32,000	28,400	26,400	27,700	26,800	26,100	26,000	25,500	24,500	23,600
MIN	19,600	19,400	19,400	25,000	26,100	26,000	25,800	25,900	25,600	24,600	23,600	22,900

Cal yr 1966..... † - 300 †† 4,460
 Wat yr 1967..... † + 2,600 †† 3,310

† 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 NE¼ 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 south-east of Santa Margarita.

DRAINAGE AREA.--114 sq mi.

RECORDS AVAILABLE.--July 1942 to September 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 1,148.66 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

AVERAGE DISCHARGE.--25 years, 14.6 cfs (10,570 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,900 cfs Dec. 6 (gage height, 12.45 ft), from rating curve extended above 3,100 cfs as explained below; no flow for several months.
1942-67: Maximum discharge, 11,900 cfs Dec. 6, 1966 (gage height, 12.45 ft), from rating curve extended above 3,100 cfs on basis of computation of flow over dam; no flow at times during 1944, 1947-66.

REMARKS.--Records good. Flow regulated by Salinas Reservoir beginning in 1941 and water diverted to Camp San Luis Obispo and city of San Luis Obispo (see sta. no. 1445).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	.30	.30	326	6.8	135	137	.50	.80	.40	.40
2		0	.60	.30	109	6.2	135	61	.40	3.0	.40	.40
3		0	2.3	.20	32	5.5	48	88	.40	3.0	.40	.40
4		0	.90	.20	60	5.2	57	105	.20	2.7	.40	.40
5		0	17	.20	64	2.7	196	80	.20	2.5	.40	.40
6		0	6,640	.20	58	16	196	87	.20	2.7	.40	.40
7		0	3,290	.20	24	13	340	32	.20	2.5	.40	.40
8		0	850	.20	38	12	500	23	.10	2.3	.50	.40
9		0	475	.20	47	8.6	410	23	.10	2.3	.50	.40
10		0	233	.20	47	12	258	64	.10	2.7	.60	.40
11		0	10	.20	42	4.4	335	31	.10	2.3	.70	.40
12		0	68	.20	11	473	425	1.5	.10	2.1	.40	.40
13		0	410	.20	15	946	390	3.0	.10	.90	.40	.40
14		0	194	.20	26	730	139	9.7	.10	.60	.40	.40
15		0	2.7	.20	26	490	154	11	0	.60	.30	.40
16		0	1.8	.20	22	505	198	9.7	0	.50	.40	.40
17		0	1.3	.20	20	575	298	36	.10	.60	.40	.40
18		0	1.2	.10	15	470	330	82	.10	.60	.40	.40
19		0	1.2	.10	12	355	515	1.5	.20	.50	.40	.40
20		0	.90	.10	11	107	535	1.0	.10	.40	.40	.40
21		.60	.70	.30	11	62	570	.80	0	.40	.40	.40
22		.90	.70	2.9	12	150	625	.60	0	.40	.40	.40
23		.60	.60	.20	7.9	93	550	.60	0	.40	.40	.40
24		.60	.60	952	11	138	590	2.3	0	.40	.30	.40
25		.20	.60	1,370	31	53	510	4.4	0	.40	.10	.40
26		0	.50	550	19	42	415	1.0	0	.40	.20	.40
27		0	.50	298	14	75	298	.70	0	.50	.30	.40
28		0	.40	144	13	46	200	.70	0	.70	.40	.40
29		.40	.40	5.2	-----	3.0	132	.60	0	.50	.40	.40
30		.40	.40	214	-----	76	132	.60	0	.40	.40	.40
31		-----	.40	420	-----	156	-----	.60	-----	.40	.40	-----
Total	0	3.70	12,206.00	3,960.50	1,123.9	5,677.0	9,616	857.90	3.30	38.50	12.30	12.00
Mean	0	.12	394	128	40.1	183	320	27.7	.11	1.24	.40	.40
Max	0	.90	6,640	1,370	326	946	625	137	.50	3.0	.70	.40
Min	0	0	.30	.10	7.9	2.7	48	.60	0	.40	.10	.40
Ac-ft	0	7.3	24,210	7,860	2,230	11,260	19,070	1,700	6.5	76	24	24
Cal yr 1966: Total	13,306.5	Mean	36.5	Max	6,640	Min	0	Ac-ft	26,390			
Wtr yr 1967: Total	33,511.1	Mean	91.8	Max	6,640	Min	0	Ac-ft	66,470			

SALINAS RIVER BASIN

11-1470. JACK CREEK NEAR TEMPLETON, CALIF.

LOCATION.--Lat 35°34'00", long 120°48'10", 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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 980 ft (from topographic map). Prior to Jan. 4, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--18 years, 13.8 cfs (9,990 acre-ft per year); median of yearly mean discharges, 9.3 cfs (6,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,070 cfs Dec. 6 (gage height, 9.58 ft), from rating curve extended above 1,500 cfs as explained below; no flow for several months.

1949-67: Maximum discharge, 5,070 cfs Dec. 6, 1966 (gage height, 9.58 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 9.56 ft; no flow for several months in each year.

REMARKS.--Records good. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	7.7	108	11	52	34	7.6	1.6	.39	.04
2	0	0	174	7.5	83	11	67	30	7.3	1.5	.42	.03
3	0	0	126	7.3	60	10	46	28	7.1	1.3	.36	.02
4	0	0	70	7.3	46	10	41	26	6.9	1.3	.33	.02
5	0	0	1,320	7.2	36	9.6	39	25	6.8	1.4	.30	.02
6	0	0	2,780	6.8	30	9.6	133	23	6.4	1.2	.35	.01
7	0	0	267	6.6	26	9.5	231	21	6.0	.55	.31	.01
8	0	0	101	6.6	23	9.3	115	20	5.7	.89	.35	.01
9	0	0	63	6.4	21	9.2	78	19	5.6	.76	.30	.01
10	0	0	42	6.3	20	9.1	88	20	5.2	.74	.29	0
11	0	0	32	6.4	18	24	166	18	5.1	.72	.32	0
12	0	0	26	6.3	18	112	94	17	5.0	.25	.32	0
13	0	0	22	6.2	17	197	69	16	4.6	.36	.28	0
14	0	0	20	6.0	16	135	55	15	4.2	.46	.27	0
15	0	0	18	5.8	15	72	57	14	4.1	.45	.25	0
16	0	0	16	5.8	14	523	46	14	3.8	.62	.23	0
17	0	0	15	5.7	14	254	40	13	3.5	.55	.23	0
18	0	0	14	5.6	13	136	161	12	3.6	.49	.23	0
19	0	0	13	5.5	13	91	145	12	3.5	.46	.19	0
20	0	0	13	5.6	12	64	107	11	3.4	.40	.18	0
21	0	0	12	7.7	12	49	247	10	2.9	.53	.19	0
22	0	0	12	259	12	40	140	10	2.6	.45	.18	0
23	0	0	12	41	12	34	136	9.7	2.6	.41	.17	0
24	0	0	11	1,290	11	30	143	9.2	2.5	.43	.16	0
25	0	0	10	219	17	27	100	9.2	2.5	.36	.14	0
26	0	0	9.8	113	13	25	79	9.2	2.3	.46	.12	0
27	0	0	9.1	86	12	23	63	8.8	2.2	.32	.10	0
28	0	0	8.8	61	11	22	53	8.5	2.0	.37	.10	0
29	0	0	8.8	55	-----	20	45	8.2	1.9	.38	.10	0
30	0	0	8.6	345	-----	37	38	7.7	1.7	.37	.10	0
31	0	-----	7.9	197	-----	84	-----	7.5	-----	.44	.08	-----
TOTAL	0	0	5,242.0	2,802.3	703	2,097.3	2,874	486.0	128.6	20.52	7.34	0.17
MEAN	0	0	169	90.4	25.1	67.7	95.8	15.7	4.29	.66	.24	.006
MAX	0	0	2,780	1,290	108	523	247	34	7.6	1.6	.42	.04
MIN	0	0	0	5.5	11	9.1	38	7.5	1.7	.25	.08	0
AC-FT	0	0	10,400	5,560	1,390	4,160	5,700	964	255	41	15	.3

CAL YR 1966: TOTAL 6,794.50 MEAN 18.6 MAX 2,780 MIN 0 AC-FT 13,480
WAT YR 1967: TOTAL 14,361.23 MEAN 39.3 MAX 2,780 MIN 0 AC-FT 28,490

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2030	6.13	1,230	1-30	1630	5.73	996
12- 6	1000	9.58	5,070	3-16	1030	6.33	1,370
1-24	0945	9.03	4,250	4- 6	2115	5.15	690

SALINAS RIVER BASIN

297

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 1967.

GAGE.--Digital water-stage recorder with rain-gage attachment. Altitude of gage is 860 ft (from topographic map). Prior to Apr. 7, 1966, graphic water-stage recorder at same site and datum. Auxiliary tipping-bucket rain gage 5.3 miles west of gage. Altitude of gage is 1,270 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 15.5 cfs (11,220 acre-ft).

EXTREMES.--Maximum discharge during year, 3,680 cfs Dec. 6 (gage height, 10.53 ft), from rating curve extended above 1,300 cfs; no flow for several months.

1961-67: Maximum discharge, 3,680 cfs Dec. 6, 1966 (gage height, 10.53 ft), from rating curve extended above 1,300 cfs; no flow for several months in each year.

REMARKS.--Records good. Some regulation and pumping above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	1.1	4.2	97	6.0	46	34	4.2	1.9	.26	0.
2	0	0	123	3.8	65	5.8	55	30	4.2	1.7	.26	.03
3	0	0	83	3.8	50	5.4	41	27	3.8	1.5	.19	.03
4	0	0	47	3.8	40	5.2	41	25	3.8	1.7	.16	0
5	0	0	997	3.5	34	5.0	43	23	3.8	1.7	.13	.03
6	0	0	2,190	3.5	30	4.7	114	21	3.5	1.7	.09	.03
7	0	0	228	3.2	26	4.5	235	18	3.5	1.5	.06	0
8	0	0	89	3.2	23	4.3	114	16	3.2	1.5	.03	.03
9	0	0	51	3.2	18	4.2	76	15	3.2	1.3	0	0
10	0	0	36	3.2	17	4.2	79	16	3.2	1.2	0	.03
11	0	0	28	3.2	16	34	159	14	3.2	1.2	0	0
12	0	0	23	3.2	14	44	86	12	3.2	1.0	0	.03
13	0	0	19	3.2	13	83	66	11	3.2	1.0	0	0
14	0	0	16	3.2	12	65	54	10	2.9	1.0	0	.03
15	0	0	14	2.9	10	43	61	9.8	2.6	1.0	0	0
16	0	0	12	2.9	9.8	433	48	9.2	2.6	1.2	0	.03
17	0	0	11	2.9	9.8	315	41	8.1	2.6	1.5	0	0
18	0	0	9.8	2.9	9.4	142	118	7.6	2.6	1.3	0	.03
19	0	0	8.6	2.9	9.0	89	118	7.1	2.6	1.0	0	.03
20	0	0	8.1	2.9	8.8	64	89	6.6	2.6	.90	0	0
21	0	0	7.1	4.2	8.2	51	188	6.1	2.3	.80	0	.03
22	0	.70	6.6	90	7.8	42	127	5.6	2.1	.70	0	0
23	0	.90	6.1	19	7.4	36	135	5.2	2.1	.60	0	.03
24	0	.20	6.1	654	7.2	31	157	4.7	2.1	.54	0	.03
25	0	.10	5.6	163	11	25	106	4.7	2.3	.54	.03	7.6
26	0	0	5.2	79	9.2	23	82	4.7	2.3	.47	.03	7.6
27	0	0	4.7	53	8.0	21	64	4.7	2.1	.41	0	.60
28	0	.10	4.7	41	7.2	18	54	5.2	2.1	.41	.03	.16
29	0	1.4	4.7	45	-----	17	46	4.7	1.9	.41	0	.11
30	0	1.8	4.7	357	-----	30	38	4.2	1.9	.35	.03	.08
31	0	-----	4.2	200	-----	65	-----	4.2	-----	.30	.03	-----
TOTAL	0	5.20	4,054.3	1,770.8	577.8	1,720.3	2,681	374.4	85.7	32.33	1.33	16.57
MEAN	0	.17	131	57.1	20.6	55.5	89.4	12.1	2.86	1.04	.043	.55
MAX	0	1.8	2,190	654	97	433	235	34	4.2	1.9	.26	7.6
MIN	0	0	1.1	2.9	7.2	4.2	38	4.2	1.9	.30	0	0
AC-FT	0	10	8,040	3,510	1,150	3,410	5,320	743	170	64	2.6	33
(+)	0	6.0	-	8.9	.8	7.0	7.5	.1	.1	0	0	.4
(+)	0	8.3	-	8.5	1.2	8.6	9.0	.2	0	0	0	.5

CAL YR 1966: TOTAL 5,378.70 MEAN 14.7 MAX 2,190 MIN 0 AC-FT 10,670
WAT YR 1967: TOTAL 11,319.73 MEAN 31.0 MAX 2,190 MIN 0 AC-FT 22,450

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2130	7.04	870	1-30	1630	7.25	975
12- 6	0445	10.53	3,680	3-16	1115	7.19	945
1-24	0930	9.04	2,230				

† Precipitation, in inches.

‡ Precipitation, in inches, at auxiliary gage.

SALINAS RIVER BASIN

11-1476. HUERHUERO CREEK NEAR CRESTON, CALIF.

LOCATION.--Lat 35°35'00", long 120°33'15", in NE $\frac{1}{4}$ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 930 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 1.59 cfs (1,150 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,640 cfs Dec. 6 (gage height, 7.51 ft); no flow for several months.
1958-67: Maximum discharge, 1,640 cfs Dec. 6, 1966 (gage height, 7.51 ft); no flow for several months in each year.

REMARKS.--Records fair. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	.10	.50	.20	22	76	.50			
2			0	.10	.40	.20	22	66	.40			
3			0	.10	.40	.20	21	59	.30			
4			0	.10	.30	.20	22	48	.20			
5			0	.10	.30	.20	25	39	.20			
6			605	.10	.30	.20	23	30	.20			
7			60	.10	.30	.20	130	26	.30			
8			2.4	.10	.20	.20	93	22	.30			
9			.90	.10	.20	.20	64	17	.10			
10			.20	.10	.20	.30	54	16	.10			
11			.20	.10	.20	4.1	132	12	.10			
12			.10	.10	.20	8.8	83	7.4	.20			
13			.10	.10	.30	16	65	5.9	.20			
14			.10	.10	.20	8.0	58	5.0	.10			
15			.10	.10	.20	2.4	58	4.4	.10			
16			.10	.10	.20	27	44	4.0	.10			
17			.10	.10	.20	91	36	3.8	.10			
18			.10	.10	.30	62	90	3.5	.10			
19			.10	.10	.30	30	108	3.3	0			
20			.10	.10	.20	15	90	3.1	.30			
21			.10	.10	.20	12	146	2.8	0			
22			.10	.10	.30	11	152	2.6	0			
23			.10	.10	.30	10	126	2.4	0			
24			.10	4.2	.30	8.6	176	2.2	0			
25			.10	1.6	.40	6.9	129	2.0	0			
26			.10	.80	.20	5.4	127	1.7	0			
27			.10	.60	.20	3.9	120	1.5	0			
28			.10	.60	.20	3.6	115	1.2	0			
29			.10	.50	-----	2.8	99	1.0	0			
30			.10	1.9	-----	2.2	86	.80	0			
31		-----	.10	1.0	-----	2.4	-----	.60	-----			-----
Total	0	0	670.70	13.50	7.50	356.90	2,516	470.20	3.90	0	0	0
Mean	0	0	21.6	.44	.27	11.5	83.9	15.2	.13	0	0	0
Max	0	0	605	4.2	.50	91	176	7.6	.50	0	0	0
Min	0	0	0	.10	.20	.20	21	.60	0	0	0	0
Ac-ft	0	0	1,330	27	15	708	4,990	933	7.7	0	0	0

Cal yr 1966: Total 677.4 Mean 1.86 Max 605 Min 0 Ac-ft 1,340
Wtr yr 1967: Total 4,038.7 Mean 11.1 Max 605 Min 0 Ac-ft 8,010

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1400	7.51	1,640	4-11	0630	3.04	208
3-12	2400	2.84	86	4-19	0130	2.73	133
3-17	0030	2.58	77	4-21	1200	3.47	252
3-31	0230	2.01	46	4-24	0800	3.36	212
4- 7	1230	2.85	170				

SALINAS RIVER BASIN

299

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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,069.0 ft above mean sea level (planetable survey).

AVERAGE DISCHARGE.--9 years, 2.31 cfs (1,670 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,100 cfs Dec. 6 (gage height, 10.45 ft); no flow for most of year.
1958-67: Maximum discharge, 6,100 cfs Dec. 6, 1966 (gage height, 10.45 ft); no flow for many months in each year.

REMARKS.--Records poor. No regulation; small diversions above station for irrigation.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	2.3	0	0					
2			0	0	.50	0	0					
3			0	0	.20	0	0					
4			0	0	0	0	0					
5			0	0	0	0	.90					
6			2,780	0	0	0	2.5					
7			531	0	0	0	44					
8			4.0	0	0	0	31					
9			2.0	0	0	0	11					
10			1.5	0	0	0	4.0					
11			1.2	0	0	1.8	17					
12			.90	0	0	.20	22					
13			.70	0	0	32	7.1					
14			.60	0	0	4.0	2.0					
15			.40	0	0	.70	.50					
16			.20	0	0	31	.20					
17			.10	0	0	23	0					
18			0	0	0	5.3	14					
19			0	0	0	1.0	30					
20			0	0	0	.50	40					
21			0	0	0	.10	29					
22			0	0	0	0	30					
23			0	0	0	0	8.7					
24			0	14.7	0	0	14					
25			0	50	0	0	7.1					
26			0	3.7	0	0	5.7					
27			0	1.0	0	0	3.0					
28			0	.50	0	0	1.0					
29			0	.20	-----	0	.30					
30			0	15	-----	0	.10					
31		-----	0	35	-----	0	-----		-----			-----
Total	0	0	3,322.6	252.40	3.00	99.60	325.10	0	0	0	0	0
Mean	0	0	107	8.14	.11	3.21	10.8	0	0	0	0	0
Max	0	0	2,780	147	2.3	32	44	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	6,590	501	6.0	198	645	0	0	0	0	0

Cal yr 1966: Total 3,341.5 Mean 9.15 Max 2,780 Min 0 Ac-ft 6,630
Wtr yr 1967: Total 4,002.7 Mean 11.0 Max 2,780 Min 0 Ac-ft 7,940

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2030	10.45	6,100	3-16	2000	4.27	153
1-24	1700	5.82	680	4- 7	1000	3.96	104
1-30	2200	4.28	149				

SALINAS RIVER BASIN

11-1485. ESTRELLA RIVER NEAR ESTRELLA, CALIF.

LOCATION.--Lat 35°42'35", long 120°38'20", in NW¼NW¼ 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.--924 sq mi, not including Carrizo Plains.

RECORDS AVAILABLE.--October 1954 to September 1967. Prior to October 1962, published as Estrella Creek near Estrella.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 710 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 14.4 cfs (10,420 acre-ft per year); median of yearly mean discharges, 3.1 cfs (2,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 17,600 cfs Dec. 6 (gage height, 9.20 ft, in gage well, 9.8 ft, from outside high-water marks), from rating curve extended above 2,000 cfs as explained below; no flow for several months.

1954-67: Maximum discharge, 17,600 cfs Dec. 6, 1966 (gage height, 9.20 ft, in gage well, 9.8 ft, from outside high-water marks), from rating curve extended above 2,000 cfs on basis of slope-area measurements at gage heights 7.20 and 9.20 ft; no flow for several months in each year.

REMARKS.--Records fair. No regulation; pumpage from wells along river for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	5.4	6.2	4.7	13	33	2.2			
2			0	5.4	1.9	4.7	14	26	3.4			
3			0	4.7	1.1	4.7	14	21	2.2			
4			0	4.7	6.8	4.0	14	16	2.8			
5			0	5.4	6.1	2.8	17	15	2.2			
6			6.880	4.7	5.4	2.8	56	14	3.4			
7			4.090	4.0	5.4	2.2	122	11	2.2			
8			248	4.0	4.7	4.0	427	11	1.1			
9			84	4.0	4.7	4.7	175	9.0	.80			
10			37	4.0	4.7	6.1	88	8.2	.60			
11			21	4.0	4.7	24	97	7.5	.60			
12			15	4.0	4.7	31	320	6.8	.30			
13			11	4.0	4.7	29	160	6.1	.40			
14			9.0	4.0	4.7	142	97	5.4	.30			
15			8.2	4.0	4.7	91	84	5.4	.20			
16			8.2	4.0	4.7	72	72	5.4	.20			
17			7.5	4.0	4.0	101	58	5.4	0			
18			6.8	4.0	4.7	110	55	5.4	0			
19			6.8	4.0	6.8	41	794	5.4	0			
20			6.8	4.7	6.8	11	490	4.7	.10			
21			6.1	6.8	6.8	9.0	326	4.0	0			
22			6.1	14	6.8	6.1	552	3.4	0			
23			6.1	14	6.8	6.1	332	3.4	0			
24			6.1	52	6.8	6.1	200	4.7	0			
25			6.1	412	8.2	6.8	170	3.4	0			
26			6.1	118	7.5	6.8	107	4.0	0			
27			5.4	35	6.1	7.5	75	4.7	0			
28			5.4	14	4.7	8.2	55	4.0	0			
29			5.4	11	-----	9.0	52	3.4	0			
30			5.4	18	-----	9.8	41	3.4	0			
31		-----	5.4	62	-----	11	-----	2.8	-----			-----
Total	0	0	11.5029	8438	234.0	779.1	5,077	262.9	23.00	0	0	0
Mean	0	0	371	27.2	8.36	25.1	169	8.48	.77	0	0	0
Max	0	0	6.880	412	62	142	794	33	3.4	0	0	0
Min	0	0	0	4.0	4.0	22	13	2.8	0	0	0	0
Ac-ft	0	0	22,820	1,670	464	1,550	10,070	521	46	0	0	0

Cal yr 1966: Total 12,164.5 Mean 33.3 Max 6,880 Min 0 Ac-ft 24,130
Wtr yr 1967: Total 18,722.7 Mean 51.2 Max 6,880 Min 0 Ac-ft 37,140

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	2200	9.20	17,600	4- 8	0100	3.42	720
1-25	0330	3.93	770	4-12	0300	3.03	401
3-14	0200	2.77	242	4-19	0300	3.90	1,200
3-17	1230	2.74	224	4-22	1330	3.66	790

SALINAS RIVER BASIN

301

11-1488. NACIMIENTO RIVER NEAR BRYSON, CALIF.

LOCATION.--Lat 35°48'06", long 121°06'50", in NW¼ 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 1967. Records for February to April 1901, published in WSP 66 and 75, have been found to be unreliable and should not be used.

GAGE.--Digital water-stage recorder. Altitude of gage is 860 ft (from topographic map). Prior to Sept. 27, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--12 years, 161 cfs (116,600 acre-ft per year); median of yearly mean discharges, 128 cfs (92,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28,400 cfs Dec. 6 (gage height, 23.78 ft), from rating curve extended above 13,000 cfs as explained below; no flow Oct. 1 to Nov. 19, Aug. 6 to Sept. 30.

1955-67: 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 maximum flow; no flow at times in each year.

REMARKS.--Records good. No storage or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1962 report: 1961.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	40	52	1,150	92	500	345	71	15	.80	0
2	0	0	1,500	50	814	86	505	313	83	14	.60	0
3	0	0	1,030	48	630	83	413	291	71	13	.40	0
4	0	0	516	47	510	89	417	270	66	13	.20	0
5	0	0	6,060	45	430	81	377	253	63	12	.05	0
6	0	0	19,800	42	369	76	650	235	61	11	0	0
7	0	0	3,180	42	317	73	1,460	219	58	11	0	0
8	0	0	1,300	41	281	73	796	206	56	11	0	0
9	0	0	756	41	253	68	580	194	52	9.8	0	0
10	0	0	516	40	229	68	595	203	52	9.1	0	0
11	0	0	380	38	206	676	964	182	50	7.8	0	0
12	0	0	297	38	191	2,540	640	173	50	7.8	0	0
13	0	0	245	37	179	2,040	520	161	48	6.5	0	0
14	0	0	204	35	161	1,270	443	152	46	6.5	0	0
15	0	0	175	34	149	838	457	143	42	5.9	0	0
16	0	0	154	33	140	5,960	417	137	40	5.9	0	0
17	0	0	135	32	131	2,210	393	131	36	5.4	0	0
18	0	0	120	32	125	1,180	766	122	35	4.4	0	0
19	0	0	110	30	122	820	874	113	35	4.9	0	0
20	0	154	100	30	113	630	718	104	35	4.4	0	0
21	0	62	92	483	101	520	1,230	98	32	3.6	0	0
22	0	114	85	3,600	98	439	1,010	92	30	3.2	0	0
23	0	50	81	540	95	385	958	86	27	2.8	0	0
24	0	30	76	9,950	95	341	1,020	81	25	2.8	0	0
25	0	22	72	2,890	194	305	772	78	24	2.8	0	0
26	0	18	68	1,490	140	281	640	76	22	2.5	0	0
27	0	15	64	1,040	110	260	550	76	21	2.1	0	0
28	0	17	59	742	98	239	480	71	20	2.3	0	0
29	0	130	57	886	-----	222	430	71	19	2.0	0	0
30	0	61	57	2,970	-----	260	381	68	17	1.7	0	0
31	0	-----	55	2,280	-----	706	-----	66	-----	1.3	0	-----
TOTAL	0	673	37,384	27,658	7,431	22,911	19,956	4,810	1,287	205.5	2.05	0
MEAN	0	22.4	1,206	892	265	739	665	155	42.9	6.63	.066	0
MAX	0	154	19,800	9,950	1,150	5,960	1,460	345	83	15	.80	0
MIN	0	0	40	30	95	68	377	66	17	1.3	0	0
AC-FT	0	1,330	74,150	54,860	14,740	45,440	39,580	9,540	2,550	408	4.1	0

CAL YR 1966: TOTAL 56,906.50 MEAN 156 MAX 19,800 MIN 0 AC-FT 112,900
WAT YR 1967: TOTAL 122,317.55 MEAN 335 MAX 19,800 MIN 0 AC-FT 242,600

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2030	11.94	7,520	1-24	0900	23.38	27,600
12- 6	1130	23.78	28,400	1-30	1615	10.78	5,990
1-22	0215	14.29	10,900	3-16	1045	13.87	10,300

SALINAS RIVER BASIN

11-1494. NACIMIENTO RIVER BELOW NACIMIENTO DAM, NEAR BRADLEY, CALIF.

LOCATION.--Lat 35°45'41", long 120°51'16", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 597 ft above mean sea level (Corps of Engineers bench mark). Prior to Sept. 14, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 242 cfs (175,200 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 3,270 cfs Jan. 26 (gage height, 9.07 ft); minimum daily, 0.20 cfs Dec. 22-26.

1957-67: Maximum discharge, 5,220 cfs Apr. 7, 1958 (gage height, 10.28 ft); no flow for many days in each year except 1964, 1966-67.

REMARKS.--Records good. Flow regulated by Nacimiento Dam (usable capacity, 340,000 acre-ft). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	276	230	.30	6.4	1,590	12	12	17	652	363	772	754
2	276	228	.90	6.4	2,840	12	12	17	555	363	766	754
3	276	228	1.0	6.4	2,780	12	11	17	369	363	760	748
4	276	228	.60	6.4	2,750	12	12	17	366	363	748	748
5	273	225	1.7	7.6	2,800	12	12	17	366	360	748	742
6	270	225	52	7.2	2,650	12	12	17	366	357	748	776
7	270	173	106	7.2	2,550	12	13	17	366	348	742	862
8	270	125	2.4	6.8	2,300	11	12	19	363	366	736	862
9	268	125	.90	6.8	2,040	11	12	34	363	366	784	856
10	265	123	.60	6.8	1,840	11	12	35	363	366	892	850
11	265	123	.50	6.8	1,680	14	12	52	363	363	874	844
12	262	122	.40	5.4	1,520	15	12	76	363	363	868	881
13	260	122	.20	8.0	1,400	14	12	75	363	363	862	970
14	258	122	.30	8.0	1,280	13	12	61	363	416	862	964
15	255	122	.30	8.8	1,200	12	12	53	363	470	856	958
16	255	122	.40	8.8	1,120	14	12	56	363	470	844	952
17	252	122	.40	8.8	1,040	13	12	69	360	465	838	940
18	250	120	.40	8.8	988	12	14	93	360	515	826	934
19	250	120	.40	7.6	928	11	17	97	354	565	820	922
20	248	122	.40	8.8	833	11	17	97	354	565	808	441
21	245	122	.30	10	754	11	19	104	504	652	802	40
22	245	122	.20	12	724	11	17	100	487	712	808	39
23	242	120	.20	10	571	11	17	94	312	706	814	38
24	240	118	.20	17	230	11	18	524	366	700	808	38
25	238	118	.20	12	17	11	17	1,160	366	700	796	38
26	238	118	.20	1,780	14	11	17	291	366	700	790	38
27	238	118	.30	3,160	12	11	17	664	363	742	784	37
28	235	62	.30	3,000	12	11	17	658	363	790	784	37
29	232	1.7	2.0	2,560	-----	10	18	658	363	784	784	37
30	232	.90	3.7	2,840	-----	12	18	658	363	778	778	37
31	230	-----	4.2	1,400	-----	12	-----	658	-----	778	766	-----
TOTAL	7,890	4,027.60	181.90	14,948.8	38,463	368	427	6,505	11,588	16,212	24,868	17,137
MEAN	255	134	5.87	482	1,374	11.9	14.2	210	386	523	802	571
MAX	276	230	106	3,160	2,840	15	19	1,160	652	790	892	970
MIN	230	.90	.20	5.4	12	10	11	17	312	348	736	37
AC-FT	15,650	7,990	361	29,650	76,290	730	847	12,900	22,980	32,160	49,320	33,990

CAL YR 1966: TOTAL 85,980.20 MEAN 236 MAX 566 MIN .10 AC-FT 170,500
WAT YR 1967: TOTAL 142,616.30 MEAN 391 MAX 3,160 MIN .20 AC-FT 282,900

SALINAS RIVER BASIN

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11-1499. SAN ANTONIO RIVER NEAR LOCKWOOD, CALIF.

LOCATION.--Lat 35°53'48", long 121°05'14", in Los Ojitos Grant, on downstream side of highway bridge, 0.4 mile upstream from Tule Canyon, and 3.3 miles south of Lockwood, Monterey County.

DRAINAGE AREA.--223 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 800.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 11,000 cfs Dec. 6 (gage height, 9.2 ft, from floodmarks), from rating curve extended above 1,200 cfs as explained below; no flow for several months.

1965-67: Maximum discharge, 11,000 cfs Dec. 6, 1966 (gage height, 9.2 ft, from floodmarks), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

REMARKS.--Records fair. No regulation; some pumping above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	46	728	10	267	267	64	25		
2			0	48	560	10	240	246	64	21		
3			486	46	484	8.0	214	240	63	20		
4			656	36	430	6.4	204	235	63	20		
5			2,470	39	364	5.2	204	220	62	16		
6			7,830	39	310	5.2	227	220	61	14		
7			1,200	37	261	5.2	759	220	60	5.8		
8			567	34	235	5.2	560	204	60	4.8		
9			553	32	220	3.8	511	145	54	4.8		
10			454	32	199	3.5	406	145	54	4.8		
11			394	34	186	20	483	127	54	2.6		
12			352	32	172	260	442	118	54	2.6		
13			310	32	149	546	382	118	54	2.6		
14			294	36	82	382	340	136	51	2.3		
15			272	34	60	283	294	136	51	2.0		
16			256	32	48	2,140	294	132	46	.80		
17			240	32	43	1,540	267	127	46	.70		
18			225	32	36	1,050	380	114	39	.60		
19			220	34	30	872	442	110	39	.50		
20			209	34	25	693	430	107	41	.40		
21			118	36	21	700	630	110	36	0		
22			96	880	21	637	644	110	34	0		
23			85	340	16	525	582	107	32	0		
24			85	2,600	16	412	760	92	27	0		
25			69	1,360	20	388	623	75	30	0		
26			72	840	14	352	567	72	27	0		
27			63	686	11	316	484	69	27	0		
28			54	567	10	272	424	67	25	0		
29			57	588	---	225	400	66	25	0		
30			43	1,180	---	195	322	65	25	.60		
31			46	1,110	---	322	---	64	---	0		
Total	0	0	17,776	10,908	4,751	12,192.5	12,782	4,264	1,368	151.90	0	0
Mean	0	0	573	352	170	393	426	138	45.6	4.90	0	0
Max	0	0	7,830	2,600	728	2,140	760	267	64	2.5	0	0
Min	0	0	0	32	10	3.5	204	64	25	0	0	0
Ac-ft	0	0	35,260	21,640	9,420	24,180	25,350	8,460	2,710	301	0	0

Cal yr 1966: Total 26,424.50 Mean 72.4 Max 7,830 Min 0 Ac-ft 52,410
 Wtr yr 1967: Total 64,193.40 Mean 176 Max 7,830 Min 0 Ac-ft 127,300

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 3	0500	3.70	1,770	3-31	0800	2.28	400
12- 6	1100	9.20	11,000	4- 7	0500	2.89	840
1-22	0530	4.84	2,970	4-11	0700	2.46	525
1-24	1145	7.23	6,930	4-18	1700	2.33	442
1-30	1630	4.88	2,990	4-21	1700	2.87	826
3-13	0100	3.20	880	4-24	0200	3.04	968
3-16	1300	5.82	4,500				

Note.--Dec. 3-21 computed from thrice-daily wire-weight gage readings.

SALINAS RIVER BASIN

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.--2,536 sq mi.

RECORDS AVAILABLE.--October 1948 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 442.69 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 2, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--19 years, 383 cfs (277,300 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 34,000 cfs Dec. 7 (gage height, 16.2 ft, from floodmarks); minimum daily, 37 cfs Dec. 3-5.

1948-67: Maximum discharge, 34,000 cfs Dec. 7, 1966 (gage height, 16.2 ft, from floodmarks); no flow at times in 1951, 1954-55, 1957.

REMARKS.--Records fair. Flow partly regulated by Salinas Reservoir (see sta. no. 1445), Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft), and San Antonio Reservoir beginning in October 1965 (usable capacity, 350,000 acre-ft). Several small diversions above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	282	236	55	85	3,500	492	581	660	717	398	717	711
2	287	240	49	82	4,400	483	601	600	752	401	717	690
3	292	240	37	80	4,300	460	624	530	587	394	717	678
4	300	244	37	79	4,100	437	592	480	560	391	710	676
5	296	248	37	80	3,800	407	580	450	560	385	703	685
6	292	248	3,830	78	3,600	391	610	410	558	384	696	697
7	274	248	21,200	75	3,300	380	958	380	562	379	696	768
8	269	188	4,910	73	3,000	382	1,770	350	565	375	696	791
9	260	170	2,410	72	2,700	376	1,610	314	526	385	696	809
10	260	160	1,650	70	2,440	363	1,350	270	493	385	780	817
11	269	156	833	70	2,270	367	1,380	282	479	375	796	827
12	278	149	504	69	2,130	568	1,740	305	468	365	804	819
13	274	152	359	66	1,970	1,700	1,450	282	460	360	804	893
14	264	149	395	66	1,830	2,390	1,210	278	450	332	812	905
15	264	140	419	65	1,740	1,870	983	269	447	416	820	893
16	260	143	276	65	1,680	2,020	836	269	433	467	820	883
17	244	140	219	65	1,600	2,910	834	264	415	569	804	866
18	236	130	191	65	1,560	1,790	898	264	407	569	773	846
19	240	127	175	65	1,510	1,250	1,480	296	410	545	759	848
20	240	134	162	66	1,440	1,020	1,930	292	412	569	752	820
21	248	124	148	67	1,360	922	1,820	264	408	575	759	400
22	256	121	138	80	1,320	777	2,450	244	595	607	773	203
23	256	118	128	275	1,280	600	2,210	188	411	620	796	138
24	256	115	120	842	1,110	350	2,070	166	409	640	792	108
25	256	115	113	4,820	788	300	2,130	828	420	647	781	93
26	252	118	110	2,490	623	285	1,740	661	413	647	785	80
27	252	121	103	3,780	571	270	1,500	634	407	647	788	73
28	244	124	97	3,960	513	260	1,130	717	397	682	787	62
29	240	96	93	3,490	-----	255	960	703	400	689	768	52
30	240	68	92	3,400	-----	320	800	696	396	656	757	43
31	236	-----	88	4,400	-----	501	-----	689	-----	703	733	-----
TOTAL	8,117	4,762	36,578	29,040	60,435	24,896	38,827	13,035	14,517	15,597	23,591	17,174
MEAN	262	159	1,257	937	2,158	803	1,294	420	484	503	761	572
MAX	300	248	21,200	4,820	4,400	2,910	2,450	828	752	703	820	905
MIN	236	68	37	65	513	255	580	166	396	332	696	43
AC-FT	16,100	9,450	77,310	57,600	119,900	49,380	77,010	25,850	28,790	30,940	46,790	34,060

CAL YR 1966: TOTAL 141,341 MEAN 387 MAX 21,200 MIN 36 AC-FT 280,300
 WAT YR 1967: TOTAL 288,969 MEAN 792 MAX 21,200 MIN 37 AC-FT 573,200

Note.--Dec. 3-7 computed from telemark readings furnished by Monterey County Flood Control and Water Conservation District.

SALINAS RIVER BASIN

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11-1513. SAN LORENZO CREEK BELOW BITTERWATER CREEK, NEAR KING CITY, CALIF.

LOCATION.--Lat 36°18'05", long 121°03'55", in NE $\frac{1}{4}$ sec.23, T.19 S., R.8 E., on right bank 1.3 miles downstream from Bitterwater Creek, 5 miles northeast of King City, and 10 miles upstream from mouth. Prior to Apr. 24, 1967, at site 500 ft upstream.

DRAINAGE AREA.--233 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 431.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Apr. 24, 1967, graphic or digital water-stage recorder at site 500 ft upstream at datum 5.00 ft higher.

AVERAGE DISCHARGE.--9 years, 6.99 cfs (5,060 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,630 cfs Dec. 6 (gage height, 9.74 ft); minimum daily, 0.10 cfs for several months.

1958-67: Maximum discharge, 3,630 cfs Dec. 6, 1966 (gage height, 9.74 ft); no flow for many days in 1961.

REMARKS.--Records good. No regulation; small diversions above station.

REVISIONS (water years).--1962 report: 1961. 1965 report: 1964.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	.70	40	1.4	32	34	5.9	.20	.13	.23
2	.10	.10	.20	.80	22	1.3	29	30	6.5	.20	.14	.20
3	.10	.10	.20	.80	15	1.3	27	28	6.8	.20	.13	.20
4	.10	.10	1.6	.68	11	1.2	27	26	6.6	.20	.12	.20
5	.10	.10	.20	1.0	8.5	1.2	61	25	6.7	.20	.10	.20
6	.10	.10	1,740	.88	6.9	1.2	46	22	6.3	.20	.10	.22
7	.10	.10	137	.80	5.6	1.1	228	21	5.7	.20	.10	.22
8	.10	.10	33	.95	4.8	1.1	64	20	5.1	.20	.13	.21
9	.10	.10	13	.89	3.6	1.0	28	20	4.3	.19	.19	.20
10	.10	.10	6.1	.91	3.6	.97	22	21	3.9	.18	.10	.20
11	.10	.10	1.9	1.1	3.4	63	160	19	3.5	.18	.14	.20
12	.10	.10	1.7	1.1	2.3	398	105	19	3.3	.20	.15	.20
13	.10	.10	.90	.97	1.2	426	45	18	2.9	.23	.12	.20
14	.10	.10	.80	.87	1.0	278	26	17	2.8	.27	.17	.18
15	.10	.10	.40	.86	1.0	74	22	16	2.5	.24	.20	.20
16	.10	.10	.40	.90	1.0	373	27	15	2.2	.20	.20	.20
17	.10	.10	.20	.85	1.0	191	18	14	1.7	.20	.20	.15
18	.10	.10	.20	.80	1.0	67	85	13	1.4	.20	.20	.19
19	.10	.10	.20	.94	1.0	35	97	12	1.2	.17	.20	.17
20	.10	.10	.20	1.0	1.0	28	157	11	1.0	.16	.20	.10
21	.10	.10	.20	292	1.0	24	171	10	.90	.13	.20	.16
22	.10	.10	.20	118	1.0	20	154	9.3	.70	.10	.20	.10
23	.10	.10	.20	67	1.0	18	82	8.7	.60	.10	.20	.10
24	.10	.10	.20	664	1.0	15	138	7.9	.50	.13	.30	.10
25	.10	.10	.20	170	2.0	14	77	7.6	.40	.15	.30	.10
26	.10	.10	.30	55	4.0	13	62	7.2	.30	.14	.27	.10
27	.10	.10	.30	30	1.6	11	53	7.0	.30	.13	.20	.10
28	.10	.10	.30	20	1.5	9.7	47	6.7	.20	.14	.20	.10
29	.10	.10	.30	17	-----	9.6	43	6.5	.20	.10	.22	.10
30	.10	.10	.70	187	-----	10	37	6.3	.20	.10	.23	.10
31	.10	-----	.80	119	-----	37	-----	6.1	-----	.13	.24	-----
TOTAL	3.10	3.00	1,942.00	1,756.80	148.0	2,126.07	2,170	484.3	84.60	5.37	5.58	4.93
MEAN	.10	.10	62.6	56.7	5.29	68.6	72.3	15.6	2.82	.17	.18	.16
MAX	.10	.10	1,740	664	40	426	228	34	6.8	.27	.30	.23
MIN	.10	.10	.10	.68	1.0	.97	18	6.1	.20	.10	.10	.10
AC-FT	6.2	6.0	3,850	3,480	294	4,220	4,300	961	168	11	11	9.8

CAL YR 1966: TOTAL 2,462.90 MEAN 6.75 MAX 1,740 MIN .10 AC-FT 4,890
WAT YR 1967: TOTAL 8,733.75 MEAN 23.9 MAX 1,740 MIN .10 AC-FT 17,320

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1200	9.74	3,630	1-30	1815	6.60	830
1-22	1015	5.95	518	3-13	0130	6.31	685
1-24	1400	8.70	2,400	3-16	1615	6.27	665

SALINAS RIVER BASIN

11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.

LOCATION.--Lat 36°14'15"; long 121°28'50", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 780 ft (from topographic map). Prior to Oct. 1, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 137 cfs (99,180 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,200 cfs Dec. 6 (gage height, 12.50 ft); minimum daily, 1.0 cfs Oct. 1.
1961-67: Maximum discharge, 15,200 cfs Dec. 6, 1966 (gage height, 12.50 ft); no flow Oct. 1-5, 1961, Aug. 25-27, 1966.

REMARKS.--Records good. No regulation; small diversion for fishponds above station by pumping. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1966, superseding figures published in 1966 report, are given herewith:

Nov. 13, 1965.....	29
14.....	159
15.....	84
16.....	184
17.....	490
18.....	576
19.....	238
20.....	134
21.....	97
22.....	102
23.....	348

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1965.....	4,182.8	576	4.0	139	8,300
Cal yr 1965.....	43,034.1	3,090	2.6	118	85,360
Wtr yr 1966.....	23,938.5	1,040	0	65.6	47,480

SALINAS RIVER BASIN

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11-1518.7. ARROYO SECO NEAR GREENFIELD, CALIF.--Continued

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	2.3	35	73	1,160	140	378	552	160	59	18	11
2	1.2	2.2	695	70	955	136	350	517	154	57	18	8.0
3	1.2	2.2	489	68	830	126	330	487	141	52	17	9.9
4	1.2	2.1	402	66	715	140	350	463	135	49	19	7.5
5	1.5	2.0	3,280	64	646	129	341	437	133	47	20	7.5
6	1.3	2.3	8,480	62	578	124	755	413	128	48	15	8.0
7	1.2	5.6	1,640	60	522	119	920	394	123	47	14	8.1
8	1.2	5.0	865	58	475	115	690	378	118	46	14	8.0
9	1.2	3.4	594	57	423	113	586	371	115	45	14	8.3
10	1.1	3.0	454	55	375	112	582	382	111	43	14	8.9
11	1.2	2.7	363	54	345	658	630	347	108	41	13	9.4
12	1.2	2.6	303	53	318	1,270	570	325	106	40	11	9.6
13	1.2	2.6	263	51	300	1,110	526	304	103	38	11	9.1
14	1.3	2.6	235	50	288	850	493	287	100	37	10	8.7
15	1.6	2.7	205	48	273	750	500	275	97	35	9.2	8.9
16	1.7	64	185	46	258	4,250	458	262	94	33	8.5	8.3
17	1.6	24	168	44	245	2,000	472	248	89	31	7.9	8.1
18	1.7	12	154	43	230	1,270	715	234	87	30	7.5	7.8
19	1.8	11	142	42	220	950	666	223	84	28	11	8.3
20	1.8	177	133	41	207	745	618	211	82	27	12	8.1
21	1.8	106	125	538	189	650	980	201	77	26	7.3	7.7
22	1.8	98	116	1,320	179	582	885	190	73	27	7.5	11
23	1.9	50	109	444	171	522	1,000	182	71	28	8.5	12
24	2.0	30	104	3,240	168	458	1,030	173	70	26	7.9	11
25	2.0	24	98	1,560	215	419	895	167	68	24	7.4	11
26	2.0	19	94	1,020	175	375	820	162	65	23	7.4	10
27	2.2	17	89	815	161	348	745	156	63	23	7.6	9.1
28	2.2	26	85	686	152	324	686	154	62	23	7.3	8.5
29	2.2	94	84	900	-----	308	634	151	60	22	7.3	10
30	2.4	50	80	1,970	-----	351	582	145	57	21	6.9	10
31	2.4	-----	75	1,600	-----	475	-----	142	-----	19	8.7	-----
TOTAL	50.1	845.3	20,144	15,198	10,773	19,919	19,187	8,933	2,934	1,095	347.9	271.8
MEAN	1.62	28.2	650	490	385	643	640	288	97.8	35.3	11.2	9.06
MAX	2.4	177	8,480	3,240	1,160	4,250	1,030	552	160	59	20	12
MIN	1.0	2.0	35	41	152	112	330	142	57	19	6.9	7.5
AC-FT	99	1,680	39,960	30,140	21,370	39,510	38,060	17,720	5,820	2,170	690	539
CAL YR 1966:	TOTAL	35,642.30	MEAN	97.7	MAX	8,480	MIN	0	AC-FT	70,700		
WAT YR 1967:	TOTAL	99,698.1	MEAN	273	MAX	8,480	MIN	1.0	AC-FT	197,700		

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2030	7.54	3,360	1-30	1230	7.24	3,870
12- 6	1000	12.50	15,200	3-12	1830	5.71	2,160
1-22	0015	8.47	4,920	3-16	0915	9.47	7,770
1-24	0745	9.96	8,740				

SALINAS RIVER BASIN

11-1520. ARROYO SECO NEAR SOLEDAD, CALIF.

LOCATION.--Lat 36°16'50", long 121°19'20", in SW¼ 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 1967. Records for water year 1902 incomplete, yearly estimate published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 342.20 ft above mean sea level (Corps of Engineers bench-mark). Prior to June 16, 1929, staff gage, and June 16, 1929, to Dec. 2, 1941, graphic 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.--66 years, 161 cfs (116,600 acre-ft per year); median of yearly mean discharges, 126 cfs (91,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 27,700 cfs Dec. 6 (gage height, 16.30 ft), from rating curve extended above 12,000 cfs as explained below; no flow Oct. 1 to Nov. 14.
1901-67: Maximum discharge, 28,300 cfs Apr. 3, 1958 (gage height, 16.40 ft, present datum), from rating curve extended above 12,000 cfs on basis of slope-area measurement at gage height 16.30 ft; no flow at times during several years.

REMARKS.--Records good. No regulation or large diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	50	80	1,000	135	450	624	178	59	21	5.8
2		0	585	79	776	133	405	570	185	58	20	5.4
3		0	1,060	79	630	133	362	540	172	55	19	5.8
4		0	203	77	525	137	378	505	168	53	19	5.4
5		0	4,530	75	455	129	382	485	160	52	18	5.0
6		0	16,300	75	400	123	734	445	155	50	17	5.0
7		0	2,290	73	342	121	1,160	425	144	49	16	5.4
8		0	1,080	72	300	117	797	405	142	48	16	5.4
9		0	660	70	286	117	684	400	135	48	16	5.4
10		0	460	69	254	113	648	410	133	46	16	5.4
11		0	346	68	247	435	746	387	131	44	15	5.4
12		0	278	67	222	884	648	362	125	43	14	5.4
13		0	231	66	205	887	600	338	123	41	12	5.4
14		0	205	64	195	642	564	310	112	40	12	5.4
15		1.3	185	63	198	525	558	296	108	39	12	5.4
16		27	170	62	190	5,010	520	282	106	38	11	5.4
17		56	158	61	182	2,000	500	268	103	37	10	5.8
18		28	144	59	175	1,320	731	258	103	36	9.0	5.8
19		21	135	58	168	1,080	720	240	103	34	9.0	6.2
20		124	127	57	160	832	660	231	99	32	8.6	6.6
21		115	121	63	165	708	1,040	222	96	34	8.6	7.8
22		96	113	1,740	158	672	1,010	213	91	32	7.8	8.2
23		73	108	390	155	576	1,100	202	88	32	7.8	9.0
24		49	104	3,500	151	520	1,230	198	86	31	7.8	10
25		38	99	1,310	165	455	1,050	192	85	31	7.4	10
26		31										
27		27	94	924	162	425	949	190	82	26	7.4	9.0
28		26	91	582	146	378	846	180	79	24	7.4	8.2
29		76	88	450	142	346	741	180	76	24	7.0	8.2
30		72	86	628	---	346	720	178	73	24	7.0	10
31		---	85	1,620	---	330	630	178	72	23	6.6	8.2
		---	82	1,460	---	540	---	170	---	22	6.2	---
Total	0	860.3	30,268	14,041	8,154	20,169	21,563	9,884	3,513	1,205	371.6	199.4
Mean	0	28.7	976	453	291	651	719	319	117	38.9	12.0	6.65
Max	0	124	16,300	3,500	1,000	5,010	1,230	624	185	59	21	10
Min	0	0	50	57	142	113	362	170	72	22	6.2	5.0
Ac-ft	0	1,710	60,040	27,850	16,170	40,000	42,770	19,600	6,970	2,390	737	396

Cal yr 1966: Total 46,131.2 Mean 126 Max 16,300 Min 0 Ac-ft 91,500
Wtr yr 1967: Total 110,228.3 Mean 302 Max 16,300 Min 0 Ac-ft 219,700

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2330	10.90	6,250	1-24	1000	13.10	13,800
12- 6	1200	16.30	27,700	1-30	1500	9.80	3,950
1-22	0230	10.82	6,050	3-16	1100	12.85	12,800

SALINAS RIVER BASIN

309

11-1525. SALINAS RIVER NEAR SPRECKELS, CALIF.

LOCATION.--Lat 36°37'50", long 121°40'40", in El Toro Grant, on first pier near left end of bridge on Salinas-Monterey highway; 0.5 mile upstream from El Toro Creek, 2 miles west of Spreckels, Monterey County, and 4 miles south of Salinas.

DRAINAGE AREA.--4,157 sq mi.

RECORDS AVAILABLE.--January 1900 to August 1901, October 1929 to September 1967. Records for water year 1930 incomplete, yearly estimate published in WSP 1315-B. Published as "near Salinas" 1900-1901.

GAGE.--Digital water-stage recorder. Datum of gage is 19.87 ft 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. July 29, 1940, to Feb. 7, 1967, graphic water-stage recorder at same site and datum. Mar. 17, 1941, to June 30, 1961, supplementary wire-weight or staff gages and since July 1, 1961, auxiliary graphic water-stage recorder at site 80 ft upstream at same datum.

AVERAGE DISCHARGE.--38 years (1929-67), 395 cfs (286,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 19,500 cfs Dec. 9 (gage height, 22.70 ft); minimum daily, 1.4 cfs Nov. 14.

1900-1901, 1929-67: 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 fair. 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 and Alisal sewage disposal plant. Flow partly regulated by Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft) and San Antonio Reservoir beginning in October 1965 (usable capacity, 350,000 acre-ft). Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.8	1.7	2.1	255	4,440	590	815	1,590	460	150	216	278
2	2.8	2.1	3.1	245	4,360	534	770	1,500	470	145	213	280
3	2.7	1.7	5.9	232	3,020	491	865	1,370	487	140	213	278
4	2.6	1.8	5.4	220	3,730	447	890	1,290	479	135	203	296
5	2.6	1.8	7.1	209	3,600	408	920	1,210	418	130	203	293
6	2.6	2.1	18	201	3,330	377	902	1,050	375	125	199	282
7	2.6	2.6	3,880	195	3,270	350	1,090	986	345	120	201	268
8	3.0	2.1	7,080	185	3,140	328	1,620	914	328	115	209	259
9	3.0	1.8	16,400	177	3,050	304	1,730	865	311	110	205	282
10	2.8	1.8	5,730	169	2,780	287	2,000	825	300	104	199	319
11	2.4	1.7	2,800	160	2,480	283	1,860	770	290	98	197	334
12	2.4	1.8	1,910	152	2,310	382	1,830	632	280	93	213	338
13	2.1	1.5	1,500	143	2,160	764	1,860	655	270	88	250	332
14	2.1	1.4	1,220	138	1,970	1,410	1,870	618	260	80	280	322
15	2.3	1.6	1,000	130	1,780	1,720	1,720	584	250	72	296	352
16	2.6	2.1	880	124	1,640	2,020	1,530	549	240	64	296	388
17	2.2	1.7	815	119	1,570	4,240	1,390	503	230	61	296	404
18	2.2	1.6	715	113	1,490	3,620	1,310	462	220	82	290	420
19	1.8	1.6	638	110	1,410	3,380	1,480	424	210	91	280	428
20	1.7	2.2	582	106	1,340	2,790	1,590	388	205	94	270	462
21	1.7	2.2	530	110	1,270	2,160	2,100	363	200	94	270	486
22	2.0	2.2	490	132	1,200	1,800	2,740	344	200	102	290	501
23	2.1	1.8	446	578	1,120	1,530	2,820	317	205	109	280	293
24	1.7	1.8	415	422	1,060	1,330	3,070	290	250	125	268	172
25	1.8	1.8	387	2,270	1,020	1,140	3,210	267	230	166	273	118
26	1.8	2.0	362	2,840	904	1,050	2,930	242	210	179	273	100
27	2.1	2.1	338	3,750	759	968	2,780	305	190	189	270	80
28	2.2	2.2	320	2,840	653	891	2,440	388	180	189	293	65
29	2.2	2.1	302	3,540	-----	789	2,120	355	170	173	305	55
30	2.2	2.1	285	3,680	-----	705	1,840	417	160	185	293	45
31	2.1	-----	270	4,100	-----	706	-----	440	-----	197	285	-----
TOTAL	71.2	57.0	49,336.6	27,645	60,856	37,788	54,092	20,913	8,423	3,805	7,829	8,530
MEAN	2.30	1.90	1,592	892	2,173	1,219	1,803	675	281	123	253	284
MAX	3.0	2.6	16,400	4,100	4,440	4,240	3,210	1,590	487	197	305	501
MIN	1.7	1.4	2.1	106	653	283	770	242	160	61	197	45
AC-FT	141	113	97,860	54,830	120,700	74,950	107,300	41,480	16,710	7,550	15,530	16,920

CAL YR 1966: TOTAL 60,277.20 MEAN 165 MAX 16,400 MIN .60 AC-FT 119,600
WAT YR 1967: TOTAL 279,345.8 MEAN 765 MAX 16,400 MIN 1.4 AC-FT 554,100

Note.--No gage-height record June 10 to July 12.

SALINAS RIVER BASIN

11-1525.4. EL 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, Monterey County.

DRAINAGE AREA.--31.9 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967. Prior to October 1962, published as Toro Creek near Spreckels.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 210 ft (from topographic map). Prior to Feb. 8, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 0.43 cfs (311 acre-ft per year).

EXTREMES.--Maximum discharge during year, 131 cfs Apr. 21 (gage height, 4.56 ft), from rating curve extended above 32 cfs; no flow for several months.

1961-67: Maximum discharge, 131 cfs Apr. 21, 1967 (gage height, 4.56 ft), from rating curve extended above 32 cfs; no flow for many days in each year.

REMARKS.--Records good. No regulation or diversion above station except for minor stock ponds.

REVISIONS (water year).--1964 report: 1962(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	.20	.10	.04	.21	3.2	.27	.05	.02	.01
2	0	0	0	.20	.10	.04	.42	2.2	.34	.03	.02	.02
3	0	0	0	.20	.10	.04	.21	1.8	.27	.03	.02	.02
4	0	0	0	.10	0	.06	.21	1.6	.21	.03	.01	0
5	0	0	.20	.10	0	.04	.21	1.3	.21	.03	.02	0
6	0	0	1.2	.10	0	.04	.70	1.0	.21	.03	.02	0
7	0	.10	.20	.10	0	.04	7.2	.92	.21	.02	.04	0
8	0	0	.10	.10	.03	.04	3.2	.92	.21	.04	.04	0
9	0	0	.10	.10	.03	.04	1.8	.80	.11	.04	.03	0
10	0	0	.10	.10	.04	.04	2.2	.80	.11	.03	.03	0
11	0	0	.10	.10	.03	.42	15	.70	.11	.03	.03	0
12	0	0	.10	.10	.03	.27	9.1	.60	.11	.02	.04	0
13	0	0	.10	.10	.03	.70	6.1	.60	.11	.02	.03	0
14	0	0	.10	.10	.03	.50	4.4	.60	.11	.02	.03	.01
15	0	0	.10	.10	.03	.11	13	.50	.11	.03	.04	.01
16	0	0	.10	.10	.03	.50	11	.42	.11	.03	.02	.01
17	0	0	.10	.10	.04	.16	7.3	.34	.11	.03	.01	.01
18	0	0	.10	.10	.04	.11	21	.34	.11	.03	.01	.01
19	0	0	.20	.10	.04	.11	30	.34	.11	.02	.02	.01
20	0	0	.20	.10	.04	.11	24	.34	.06	.02	.02	0
21	0	0	.20	.10	.04	.11	78	.27	.05	.02	.02	.02
22	0	0	.20	.10	.04	.11	31	.27	.11	.03	.02	.02
23	0	0	.20	0	.04	.11	38	.34	.06	.02	.02	.02
24	0	0	.20	1.4	.04	.11	29	.34	.11	.03	.01	.02
25	0	0	.20	.20	.11	.11	19	.34	.11	.03	.01	.02
26	0	0	.20	.10	.06	.11	13	.21	.11	.02	.01	.01
27	0	0	.20	0	.04	.11	11	.21	.06	.02	.01	.02
28	0	.10	.20	0	.04	.11	8.1	.27	.08	.02	.01	.02
29	0	0	.20	.30	-----	.11	5.7	.27	.04	.02	.01	.02
30	0	0	.20	.90	-----	.16	4.4	.21	.04	.02	.01	.01
31	0	-----	.20	.50	-----	.42	-----	.21	-----	.02	.01	-----
TOTAL	0	0.20	5.30	5.90	1.15	4.98	394.46	22.26	3.98	0.87	0.64	0.29
MEAN	0	.007	.17	.19	.041	.16	13.1	.72	.13	.028	.021	.010
MAX	0	.10	1.2	1.4	.11	.70	78	3.2	.34	.06	.04	.02
MIN	0	0	0	0	0	.04	.21	.21	.04	.02	.01	0
AC-FT	0	.4	11	12	2.3	9.9	782	44	7.9	1.7	1.3	.6

CAL YR 1966: TOTAL 94.60 MEAN .26 MAX 19 MIN 0 AC-FT 188
 WAT YR 1967: TOTAL 440.03 MEAN 1.21 MAX 78 MIN 0 AC-FT 873

Peak discharge (base, 5 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-7	0815	3.66	11	4-21	0330	4.56	131
4-11	1500	3.79	19	4-23	1615	4.45	108
4-15	1745	3.92	30				

PAJARO RIVER BASIN

311

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 390 ft (from topographic map). Prior to Apr. 19, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 4.28 cfs (3,100 acre-ft).

EXTREMES.--Maximum discharge during year, 1,490 cfs Jan. 24 (gage height, 5.17 ft), from rating curve extended above 560 cfs; no flow for several months.

1961-67: Maximum discharge, 3,490 cfs Jan. 31, 1963 (gage height, 6.85 ft), from rating curve extended above 560 cfs; no flow for several months in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.10	.20	32	.70	13	4.2	1.0	.33	0	0
2	0	0	12	.20	16	.70	9.0	3.7	1.5	.28	0	0
3	0	0	4.8	.20	10	.70	6.8	3.2	1.5	.27	0	0
4	0	0	19	.20	7.4	.60	6.5	2.9	1.3	.24	0	0
5	0	0	107	.20	5.9	.60	5.6	2.5	1.1	.23	0	0
6	0	0	294	.20	5.0	.50	17	2.3	1.1	.22	0	0
7	0	0	26	.20	4.2	.50	34	2.2	1.1	.19	0	0
8	0	0	7.2	.20	3.4	.50	18	2.0	1.1	.18	0	0
9	0	0	3.3	.20	2.8	.50	12	1.8	1.1	.17	0	0
10	0	0	2.2	.20	2.6	.50	19	2.2	.93	.15	0	0
11	0	0	1.6	.20	2.4	4.2	33	1.7	.92	.14	0	0
12	0	0	1.3	.20	2.2	13	17	1.6	.92	.10	0	0
13	0	0	1.1	.20	2.0	50	11	1.5	.92	.09	0	0
14	0	0	.90	.20	1.9	44	8.9	1.4	.92	.08	0	0
15	0	0	.80	.20	1.6	15	30	1.3	.86	.08	0	0
16	0	.10	.80	.10	1.6	188	19	1.3	.77	.07	0	0
17	0	0	.70	.10	1.5	53	30	1.2	.75	.07	0	0
18	0	0	.60	.11	1.4	24	63	1.2	.70	.06	0	0
19	0	.10	.60	.11	1.3	14	52	1.1	.70	.04	0	0
20	0	.20	.60	.12	1.1	8.8	42	1.0	.70	.03	0	0
21	0	.10	.60	.77	1.0	6.8	68	.97	.62	.01	0	0
22	0	.10	.50	107	.97	5.8	63	.92	.58	0	0	0
23	0	.10	.40	11	.85	4.9	71	.90	.56	0	0	0
24	0	0	.40	439	.84	4.1	63	.90	.52	0	0	0
25	0	0	.40	111	.96	3.4	30	.90	.50	0	0	0
26	0	0	.40	22	.81	3.1	16	.90	.43	0	0	0
27	0	0	.30	9.4	.73	2.8	11	.90	.41	0	0	0
28	0	.10	.30	5.5	.70	2.7	8.1	.80	.38	0	0	0
29	0	.10	.30	94	-----	2.7	6.3	.80	.37	0	0	0
30	0	.10	.30	282	-----	8.0	5.0	.80	.34	0	0	0
31	0	-----	.30	81	-----	22	-----	.80	-----	0	0	-----
TOTAL	0	1.00	488.80	1,242.44	113.16	486.10	788.2	49.89	24.60	3.03	0	0
MEAN	0	.033	15.8	40.1	4.04	15.7	26.3	1.61	.82	.098	0	0
MAX	0	.20	294	439	32	188	71	4.2	1.5	.33	0	0
MIN	0	0	.10	.10	.70	.50	5.0	.80	.34	0	0	0
AC-FT	0	2.0	970	2,460	224	964	1,560	99	49	6.0	0	0

CAL YR 1966: TOTAL 686.20 MEAN 1.88 MAX 294 MIN 0 AC-FT 1,360
WAT YR 1967: TOTAL 3,197.22 MEAN 8.76 MAX 439 MIN 0 AC-FT 6,340

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1000	4.37	859	1-30	1030	4.41	887
1-21	2315	4.29	803	3-16	0845	3.57	439
1-24	0600	5.17	1,490	4-23	1700	2.76	167

PAJARO RIVER BASIN

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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 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 445 ft (from topographic map). Prior to May 26, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 15.2 cfs (11,000 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,700 cfs Mar. 16 (gage height, 6.39 ft); minimum daily, 0.20 cfs Oct. 28.

1951-67: 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 maximum flow over dam; no flow at times in most years.

REMARKS.--Records good. Flow regulated by Chesbro Reservoir (see sta. no. 1534.8). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	.50	.60	1.8	155	13	80	41	15	3.8	3.6	18
2	1.1	.60	2.0	1.8	122	13	48	37	15	4.2	3.6	18
3	1.2	.70	.90	1.8	104	13	39	33	15	4.2	3.6	18
4	1.3	.80	1.6	2.0	93	12	37	31	13	4.1	3.6	18
5	1.3	.90	2.1	2.1	66	12	40	29	13	3.9	3.6	18
6	1.2	1.0	2.3	2.1	52	12	147	30	14	3.6	3.6	18
7	1.1	.90	1.5	2.1	50	12	148	27	14	3.4	3.6	18
8	1.2	.90	1.5	2.0	51	12	91	25	13	3.4	3.6	18
9	1.2	.90	1.5	2.0	56	13	72	25	13	3.6	3.6	13
10	1.1	1.0	1.5	2.2	56	13	78	25	8.5	3.3	3.6	9.6
11	1.1	1.1	1.5	2.2	74	8.2	124	22	5.2	3.2	3.5	9.6
12	1.1	.90	1.7	2.2	106	5.8	92	22	4.7	3.3	3.4	9.6
13	1.1	.90	1.7	2.2	106	6.1	71	20	3.6	3.5	3.4	9.6
14	1.1	.90	1.7	2.2	106	5.4	58	17	3.6	3.7	9.4	10
15	1.1	.90	1.7	2.2	106	4.4	61	17	3.6	3.9	20	10
16	1.1	1.1	1.7	2.2	106	882	58	18	3.6	3.9	18	9.6
17	.90	1.1	1.7	2.2	104	422	59	17	3.6	3.9	18	9.6
18	.80	1.1	1.7	2.2	104	205	96	16	3.6	3.9	18	10
19	.80	1.1	1.7	2.2	104	142	111	15	3.6	3.5	18	9.6
20	.70	1.0	1.7	2.2	104	110	113	15	3.6	3.5	18	9.6
21	.60	.70	1.8	10	81	97	209	14	3.6	3.6	18	10
22	.60	.50	1.8	4.2	14	84	198	14	4.6	3.6	18	10
23	.60	.50	1.8	3.1	14	68	151	15	5.6	3.6	18	10
24	.50	.50	1.8	11	14	38	123	15	3.6	3.6	18	10
25	.40	.30	1.8	13	14	44	101	15	3.6	3.6	18	9.8
26	.30	.30	1.8	112	14	49	91	15	3.6	3.6	19	9.1
27	.30	.30	1.8	113	14	48	78	15	3.6	3.6	19	9.2
28	.20	.40	1.8	91	13	43	72	15	3.6	3.6	19	9.2
29	.30	.60	1.8	237	-----	37	70	14	3.6	3.6	18	9.2
30	.50	.60	1.8	443	-----	55	50	15	3.6	3.6	18	9.1
31	.60	-----	1.8	304	-----	151	-----	15	-----	3.6	18	-----
TOTAL	26.50	23.00	52.10	1,383.2	2,003	2,629.9	2,766	644	211.2	113.4	366.7	359.4
MEAN	.85	.77	1.68	44.6	71.5	84.8	92.2	20.8	7.04	3.66	11.8	12.0
MAX	1.3	1.1	2.3	443	155	882	209	41	15	4.2	20	18
MIN	.20	.30	.60	1.8	13	4.4	37	14	3.6	3.2	3.4	9.1
AC-FT	53	46	103	2,740	3,970	5,220	5,490	1,280	419	225	727	713

CAL YR 1966: TOTAL 1,573.30 MEAN 4.31 MAX 24 MIN .10 AC-FT 3,120
 WAT YR 1967: TOTAL 10,578.40 MEAN 29.0 MAX 882 MIN .20 AC-FT 20,980

PAJARO RIVER BASIN

11-1537. PAJARO RIVER NEAR GILROY, CALIF.

LOCATION.--Lat 36°56'55", long 121°30'40", on boundary between Las Animas and Llano del Tequisquite 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 123.88 ft above mean sea level (levels by Corps of Engineers). Prior to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 37.4 cfs (27,080 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,810 cfs Mar. 16 (gage height, 9.97 ft); minimum daily, 0.10 cfs Oct. 9 to Nov. 5.

1959-67: Maximum discharge, 5,320 cfs Feb. 1, 1963 (gage height, 13.81 ft), from rating curve extended above 2,100 cfs; no flow for many days in 1961-62.

REMARKS.--Records good. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft), Chesbro Reservoir (see sta. no. 1534.8) and San Felipe Lake. Many diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.10	.30	3.2	1,380	17	201	300	26	14	5.2	6.0
2	.20	.10	1.0	3.4	1,080	17	157	230	25	14	6.2	7.5
3	.20	.10	10	3.4	848	17	134	180	24	13	6.1	7.6
4	.20	.10	3.0	3.4	630	17	122	145	23	14	5.9	5.7
5	.20	.10	60	3.4	468	16	116	119	24	14	4.7	5.2
6	.20	.20	433	3.6	315	15	245	107	24	14	4.3	5.6
7	.20	.20	408	3.4	227	16	540	98	24	13	4.7	5.8
8	.20	.30	261	3.4	167	17	468	87	23	14	4.8	7.5
9	.10	.30	191	3.6	127	18	390	77	23	13	4.6	6.4
10	.10	.30	119	3.6	100	18	333	74	22	11	4.7	8.6
11	.10	.30	66	3.8	82	22	504	75	22	12	4.0	7.9
12	.10	.30	31	3.8	99	25	423	69	23	13	4.1	9.2
13	.10	.30	17	4.3	102	47	365	65	23	13	3.7	9.7
14	.10	.30	11	4.0	94	151	301	60	23	12	3.4	9.9
15	.10	.30	8.4	4.0	91	192	373	56	22	11	4.7	8.5
16	.10	.30	6.8	4.3	88	1,580	360	53	21	9.7	5.1	9.3
17	.10	.30	5.7	4.3	84	1,310	308	47	21	8.6	5.2	8.5
18	.10	.30	5.1	4.6	65	791	420	42	20	8.8	5.6	6.7
19	.10	.30	4.8	4.6	48	543	662	39	20	8.2	6.0	6.0
20	.10	.30	4.6	4.6	38	398	777	38	19	8.6	7.6	5.5
21	.10	.30	4.3	82	28	291	1,060	34	18	10	6.5	5.2
22	.10	.30	3.8	1,150	23	206	1,150	31	17	7.9	8.4	4.5
23	.10	.30	3.8	187	20	155	1,060	29	16	7.0	7.9	5.4
24	.10	.30	3.7	1,220	18	108	1,270	28	15	7.4	8.1	5.3
25	.10	.30	3.6	1,430	18	79	1,080	26	15	7.5	6.5	5.1
26	.10	.30	3.6	972	17	73	876	24	15	7.8	6.3	4.7
27	.10	.30	3.5	802	17	69	693	23	15	7.6	4.4	4.6
28	.10	.30	3.4	573	17	62	546	23	16	5.5	3.7	5.8
29	.10	.30	3.3	884	-----	54	443	23	15	6.6	4.6	5.3
30	.10	.30	3.3	1,660	-----	54	363	22	14	6.4	5.8	6.1
31	.10	-----	3.2	1,960	-----	174	-----	22	-----	5.3	6.2	-----
TOTAL	3.90	7.80	1,686.20	10,996.7	6,291	6,552	15,740	2,246	608	317.9	168.6	199.1
MEAN	.13	.26	54.4	355	225	211	525	72.5	20.3	10.3	5.44	6.64
MAX	.20	.30	433	1,960	1,380	1,580	1,270	300	26	14	8.4	9.9
MIN	.10	.10	.30	3.2	17	15	116	22	14	5.3	3.4	4.5
AC-FT	7.7	15	3,340	21,810	12,480	13,000	31,220	4,450	1,210	631	334	395

CAL YR 1966: TOTAL 6,559.30 MEAN 18.0 MAX 746 MIN .10 AC-FT 13,010
WAT YR 1967: TOTAL 44,817.20 MEAN 123 MAX 1,960 MIN .10 AC-FT 88,890

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1700	6.55	718	4-7	1830	5.74	714
1-22	0615	8.40	1,820	4-11	0245	5.29	570
1-24	1700	8.70	2,000	4-15	1645	5.13	534
1-30	2215	9.72	2,630	4-22	0630	7.46	1,350
3-16	1630	9.95	2,810				

PAJARO RIVER BASIN

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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 1967.

GAGE.--Digital water-stage recorder with rain-gage attachment. Datum of gage is 486.47 ft above mean sea level, datum of 1929. Prior to Aug. 10, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 29.4 cfs (21,280 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,200 cfs Jan. 21 (gage height, 13.00 ft); minimum daily, 0.10 cfs Oct. 1, 26.

1961-67: Maximum discharge, 6,580 cfs Oct. 13, 1962 (gage height, 13.18 ft); no flow July 12 to Oct. 22, 1961, Oct. 1, 1964.

REMARKS.--Records good. Minor regulation and diversion above station affects low flows. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.30	9.6	7.2	248	19	100	66	21	7.0	1.7	.27
2	.30	.30	475	6.8	186	18	81	61	21	7.5	1.9	.42
3	.30	.20	85	6.4	144	18	71	56	17	7.0	1.7	1.0
4	.40	.40	177	6.6	116	18	68	52	16	6.6	1.9	1.3
5	.30	.20	407	6.6	97	16	63	50	15	6.2	1.9	.45
6	.40	1.6	533	6.2	83	16	329	46	15	5.9	2.2	.37
7	.40	3.4	154	6.2	74	16	204	43	14	5.3	2.2	1.4
8	.40	1.2	72	6.0	64	15	143	39	14	5.9	2.2	1.5
9	.30	1.0	46	5.9	58	14	114	38	13	5.7	1.9	1.6
10	.30	.80	34	5.9	53	15	186	42	14	4.7	2.0	1.3
11	.30	.80	28	5.7	47	63	184	36	14	4.0	2.3	1.5
12	.40	.80	23	5.7	44	247	138	33	13	4.2	1.9	1.1
13	.30	.70	20	5.5	41	236	114	31	13	4.0	1.6	.94
14	.40	.70	18	5.5	37	144	98	29	12	3.5	.95	1.0
15	.40	1.3	16	5.3	35	101	100	28	12	4.0	.63	1.4
16	.30	19	15	5.1	33	1,660	84	26	12	4.0	.95	.88
17	.40	2.9	14	5.1	31	373	124	24	12	4.0	1.1	.57
18	.30	1.8	13	5.0	30	233	158	23	11	3.8	.72	1.0
19	.20	3.0	12	5.0	28	166	145	22	12	3.6	.85	.88
20	.30	46	12	5.9	26	125	126	21	11	2.7	1.3	.97
21	.30	29	11	2,500	25	102	256	20	11	3.0	1.6	.63
22	.40	22	10	888	24	84	200	19	10	3.0	1.4	.96
23	.40	8.4	9.8	272	23	78	185	18	9.8	3.6	1.3	1.4
24	.30	5.4	9.6	981	24	66	165	18	9.6	3.2	1.5	1.4
25	.30	4.2	9.3	328	25	60	141	18	9.8	2.9	1.4	1.4
26	.10	3.6	8.6	211	21	56	120	17	9.1	2.5	.75	.93
27	.20	3.0	8.2	161	20	50	104	16	8.4	2.8	.52	.46
28	.40	13	7.9	134	19	47	92	16	8.2	2.7	.45	.56
29	.20	40	7.7	402	-----	43	81	16	8.4	2.5	.44	.97
30	.30	12	7.7	824	-----	167	72	15	7.2	2.7	.62	.98
31	.20	-----	7.5	379	-----	157	-----	16	-----	2.2	.44	-----
TOTAL	9.60	227.00	2,260.9	7,197.6	1,656	4,423	4,046	955	373.5	130.7	42.32	29.54
MEAN	.31	7.57	72.9	232	59.1	143	135	30.8	12.5	4.22	1.37	.98
MAX	.40	46	533	2,500	248	1,660	329	66	21	7.5	2.3	1.6
MIN	.10	.20	7.5	5.0	19	14	63	15	7.2	2.2	.44	.27
AC-FT	19	450	4,480	14,280	3,280	8,770	8,030	1,890	741	259	84	59
(+)	0	7.9	8.4	15.2	.4	10.7	6.6	.5	.8	0	0	0

CAL YR 1966: TOTAL 4,169.30 MEAN 11.4 MAX 533 MIN .10 AC-FT 8,270
WAT YR 1967: TOTAL 21,351.16 MEAN 58.5 MAX 2,500 MIN .10 AC-FT 42,350

Peak discharge (base, 800 cfs)

+ Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1700	10.26	2,780	1-30	0930	9.83	2,480
12- 6	0830	8.78	1,810	3-16	0300	10.95	3,280
1-21	2030	13.00	5,200	3-30	1730	6.93	842
1-24	0530	11.73	3,930	4- 6	1230	7.11	914

PAJARO RIVER BASIN

11-1541. BODFISH CREEK NEAR GILROY, CALIF.

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.--October 1959 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 360 ft (from topographic map). Prior to Feb. 28, 1968, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 3.57 cfs (2,580 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,120 cfs Jan. 21 (gage height, 7.94 ft); no flow Oct. 1 to Nov. 5, Nov. 11-14.
1959-67: Maximum discharge, 1,240 cfs Jan. 31, 1963 (gage height, 8.25 ft), from rating curve extended above 580 cfs; no flow for many days in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.80	.60	32	1.8	10	15	11	1.5	.41	.31
2	0	0	17	.60	22	1.8	8.9	13	4.6	1.5	.42	.30
3	0	0	5.5	.50	17	1.8	7.8	12	4.2	1.5	.36	.28
4	0	0	15	.50	14	1.7	8.2	11	3.9	2.5	.31	.27
5	0	0	74	.50	13	1.7	8.6	10	3.8	1.8	.31	.24
6	0	.20	135	.50	12	1.5	51	9.3	3.6	1.3	.32	.22
7	0	.30	21	.50	11	1.5	46	8.6	3.5	1.2	.30	.25
8	0	.10	9.3	.50	10	1.5	23	8.2	3.4	1.2	.30	.21
9	0	.10	5.9	.50	8.9	1.2	18	6.8	3.1	1.3	.30	.19
10	0	.10	4.4	.50	8.2	1.2	28	7.1	2.8	1.4	.30	.18
11	0	0	3.4	.50	7.1	1.8	31	11	2.8	1.3	.33	.17
12	0	0	2.9	.40	6.1	3.5	20	6.1	2.9	1.2	.30	.11
13	0	0	2.4	.30	5.8	6.1	16	5.2	3.4	1.2	.27	.12
14	0	0	2.2	.30	4.9	7.1	15	4.9	2.5	1.2	.25	.14
15	0	.20	2.0	.30	4.3	5.8	32	5.2	2.5	1.2	.28	.16
16	0	2.0	1.7	.30	3.8	300	21	6.1	2.6	1.2	.38	.15
17	0	.30	1.4	.30	3.5	47	22	5.5	2.8	1.3	.38	.15
18	0	.20	1.4	.30	3.0	23	28	5.2	2.6	1.5	.40	.16
19	0	.50	1.2	.31	2.8	15	26	4.6	2.2	1.3	.36	.15
20	0	4.0	1.1	.53	2.6	11	23	4.5	2.1	1.5	.41	.12
21	0	1.8	1.0	191	2.4	10	43	4.2	2.1	1.8	.48	.25
22	0	1.5	1.0	88	2.4	8.9	42	4.1	2.1	1.7	.40	.33
23	0	.50	.80	17	2.2	8.6	40	4.0	2.4	1.3	.45	.41
24	0	.30	.70	168	2.2	7.5	51	4.0	2.3	.80	.32	.44
25	0	.30	.70	43	2.4	6.8	43	4.0	2.0	.82	.28	.47
26	0	.30	.70	22	2.2	6.4	30	3.9	1.8	.83	.28	.53
27	0	.30	.60	15	2.2	5.8	25	3.8	1.8	.93	.33	.34
28	0	1.5	.60	12	2.0	5.5	21	3.5	1.8	.93	.36	.31
29	0	4.0	.60	62	-----	5.2	19	3.0	1.5	.82	.35	.34
30	0	.90	.60	172	-----	13	17	2.6	1.5	.46	.38	.31
31	0	-----	.74	66	-----	17	-----	2.7	-----	.46	.31	-----
TOTAL	0	19.40	315.64	864.74	210.0	530.7	774.5	199.1	89.6	38.95	10.63	7.61
MEAN	0	.65	10.2	27.9	7.50	17.1	25.8	6.42	2.99	1.26	.34	.25
MAX	0	4.0	135	191	32	300	51	15	11	2.5	.48	.53
MIN	0	0	.60	.30	2.0	1.2	7.8	2.6	1.5	.46	.25	.11
AC-FT	0	38	626	1,720	417	1,050	1,540	395	178	77	21	15

CAL YR 1966: TOTAL 504.74 MEAN 1.38 MAX 135 MIN 0 AC-FT 1,000
WAT YR 1967: TOTAL 3,060.87 MEAN 8.39 MAX 300 MIN 0 AC-FT 6,070.

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0715	5.53	366	1-30	1015	5.91	458
1-21	2115	7.94	1,120	3-16	0745	7.34	899
1-24	0600	6.75	705				

PAJARO RIVER BASIN

317

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 southwest 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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 190 ft (from topographic map). Prior to Feb. 28, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 33.3 cfs (24,110 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,880 cfs Mar. 16 (gage height, 15.87 ft), from rating curve extended above 3,300 cfs; no flow for several months.

1959-67: Maximum discharge, 9,490 cfs (revised) Feb. 1, 1963 (gage height, 17.66 ft), from rating curve extended above 3,300 cfs; no flow for several months in each year.

REVISIONS.--The maximum discharge for the water year 1963 has been revised to 9,490 cfs Feb. 1, 1963 (gage height, 17.66 ft), superseding figure published in 1963 report and WSP 1830-A.

REMARKS.--Records good. Flow regulated by Uvas Reservoir (see sta. no. 1540.2). Diversion above station for irrigation and municipal supply of city of Gilroy.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1963, superseding figures published in 1963 report and WSP 1830-A, are given herewith:

Jan. 31, 1963.....2,720
Feb. 1, 1963.....4,740

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
January 1963.....	3,035	2,720	0	97.9	8,020
February.....	13,115	4,740	56	488	26,010
Wtr yr 1963.....	30,676.8	4,740	0	84.0	60,850
Cal yr 1963.....	30,439.8	4,740	0	83.4	60,380

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	658	23	199	170	69	0	4.0	1.4
2	0	0	0	0	434	21	172	155	74	0	4.0	.72
3	0	0	0	0	315	18	159	142	61	0	4.9	.41
4	0	0	0	0	234	16	155	132	52	0	3.7	.38
5	0	0	121	0	193	14	149	120	48	0	1.8	.29
6	0	0	820	0	170	11	375	114	45	0	1.4	.31
7	0	0	178	0	150	9.8	434	104	45	0	1.4	.53
8	0	0	64	0	134	8.3	283	98	45	0	1.5	.54
9	0	0	36	0	140	6.4	228	92	30	0	.73	.55
10	0	0	23	0	130	5.9	260	102	21	0	.55	.62
11	0	0	18	0	113	25	360	92	16	0	2.4	.53
12	0	0	13	0	101	141	258	87	13	0	2.9	.14
13	0	0	11	0	91	302	216	79	13	0	2.7	.03
14	0	0	8.4	0	80	261	196	75	14	0	2.2	.22
15	0	0	6.8	0	67	187	224	65	12	0	3.1	.61
16	0	0	5.2	0	59	3,910	196	64	7.2	0	2.6	.66
17	0	0	4.0	0	58	1,260	196	65	6.0	0	1.8	.61
18	0	0	2.9	0	55	580	270	61	3.4	0	1.5	1.0
19	0	0	2.1	0	51	342	248	59	2.7	0	1.6	1.3
20	0	0	1.5	0	46	239	234	58	2.5	0	1.2	1.4
21	0	0	1.2	830	42	189	354	57	2.0	2.5	1.5	.94
22	0	0	.56	2,010	39	168	381	60	1.7	5.6	2.2	1.2
23	0	0	0	654	38	151	348	66	1.5	6.0	2.1	2.5
24	0	0	0	2,300	38	139	351	64	3.9	4.6	2.7	2.5
25	0	0	0	1,090	43	133	308	62	2.5	3.4	2.2	2.5
26	0	0	0	613	34	125	265	61	2.5	4.0	3.5	1.9
27	0	0	0	430	30	118	234	62	1.4	2.9	5.4	1.1
28	0	0	0	348	27	112	214	63	.79	3.7	3.8	1.6
29	0	0	0	855	-----	106	203	62	.43	5.2	2.1	2.2
30	0	0	0	1,810	-----	162	185	59	.13	4.0	2.4	1.7
31	0	-----	0	1,210	-----	288	-----	57	-----	4.3	2.2	-----
TOTAL	0	0	1,316.66	12,150	3,570	9,071.4	7,655	2,607	596.65	46.2	76.08	30.39
MEAN	0	0	42.5	392	128	293	255	84.1	19.9	1.49	2.45	1.01
MAX	0	0	820	2,300	658	3,910	434	170	74	6.0	5.4	2.5
MIN	0	0	0	0	27	5.9	149	57	.13	0	.55	.03
AC-FT	0	0	2,610	24,100	7,080	17,990	15,180	5,170	1,180	92	151	60

CAL YR 1966: TOTAL 2,546.26 MEAN 6.98 MAX 820 MIN 0 AC-FT 5,050
WAT YR 1967: TOTAL 37,119.38 MEAN 102 MAX 3,910 MIN 0 AC-FT 73,630

PAJARO RIVER BASIN

11-1565, SAN BENITO RIVER NEAR WILLOW CREEK SCHOOL, CALIF.

LOCATION.--Lat 36°36'34", long 121°12'07", in SE¹₄SE¹₄ sec.21, T.15 S., R.7 E., on left bank 1.3 miles downstream from Willow Creek, 0.9 mile northwest of Willow Creek School, and 10 miles northwest of San Benito.

DRAINAGE AREA.--249 sq mi.

RECORDS AVAILABLE.--October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Altitude of gage is 930 ft (from topographic map). Prior to Jan. 28, 1948, graphic water-stage recorder at site 0.9 mile downstream at different datum. Jan. 28, 1948, to Nov. 10, 1955, graphic water-stage recorder at same site and datum. Nov. 11, 1955, to Sept. 30, 1965, graphic water-stage recorder at site 0.9 mile downstream at different datum. Oct. 1, 1965, to Apr. 5, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 23.1 cfs (16,720 acre-ft per year); median of yearly mean discharges, 13 cfs (9,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 471 cfs Jan. 24 (gage height, 7.97 ft); minimum daily, 0.10 cfs for many days.
1939-67: Maximum discharge, 8,210 cfs Apr. 3, 1958 (gage height, 8.35 ft, site and datum then in use), from rating curve extended above 600 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1947, 1956, 1959, 1961-65.
Flood of February 1938, reached a stage of about 9.0 ft, from floodmarks.

REMARKS.--Records good. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Small diversion above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.20	.60	2.4	20	14	17	67	40	84	76	66
2	.10	.10	1.9	2.5	16	19	16	69	41	84	76	66
3	.20	.10	2.5	2.7	14	20	12	68	40	83	76	66
4	.20	.10	4.8	3.1	12	20	12	66	40	82	76	66
5	.20	.20	20	3.2	12	22	17	68	40	67	75	66
6	.20	.20	126	3.0	12	22	21	68	45	51	76	66
7	.20	.20	127	2.9	11	21	66	70	48	93	77	66
8	.20	.20	25	2.9	11	22	117	69	47	99	78	65
9	.10	.20	15	3.0	10	22	92	70	45	103	78	65
10	.10	.20	11	2.9	9.7	22	68	72	49	74	76	65
11	.10	.20	9.2	2.8	9.4	28	80	69	54	47	74	65
12	.10	.20	8.1	2.7	9.4	37	96	64	58	73	73	64
13	.20	.20	7.1	2.7	9.2	97	88	60	63	78	72	64
14	.10	.20	6.5	2.6	8.9	44	73	56	64	78	71	63
15	.10	.20	5.9	2.5	8.9	32	64	50	64	79	71	63
16	.10	.30	5.4	2.5	8.7	33	61	45	66	80	70	62
17	.10	.20	5.0	2.4	8.7	57	53	43	65	82	70	62
18	.10	.20	4.7	2.4	8.7	31	62	41	64	82	69	63
19	.10	.60	4.5	2.5	8.7	25	98	42	68	81	69	63
20	.10	1.1	4.2	2.4	8.4	20	108	42	68	81	68	62
21	.10	.90	3.7	5.0	8.2	16	130	42	68	81	68	61
22	.10	.80	3.5	23	8.2	14	170	42	67	81	67	69
23	.10	.60	3.4	21	8.2	11	160	42	69	82	66	64
24	.10	.60	3.3	146	8.2	8.4	152	42	71	82	66	63
25	.10	.50	3.2	120	8.9	7.7	118	42	71	81	66	61
26	.10	.50	3.2	35	9.2	7.5	108	42	74	80	66	59
27	.10	.50	3.0	23	8.7	7.0	97	42	82	80	66	57
28	.10	.60	3.0	18	8.2	6.8	78	42	82	81	66	56
29	.10	.50	2.9	18	-----	6.4	69	42	83	77	66	58
30	.10	.50	2.7	25	-----	6.4	67	41	83	73	66	57
31	.20	-----	2.4	58	-----	10	-----	41	-----	75	66	-----
TOTAL	3.90	11.10	428.70	546.1	284.5	709.2	2,370	1,659	1,819	2,454	2,200	1,893
MEAN	.13	.37	13.8	17.6	10.2	22.9	79.0	53.5	60.6	79.2	71.0	63.1
MAX	.20	1.1	127	146	20	97	170	72	83	103	78	69
MIN	.10	.10	.60	2.4	8.2	6.4	12	41	40	47	66	56
AC-FT	7.7	22	850	1,080	564	1,410	4,700	3,290	3,610	4,870	4,360	3,750
CAL YR 1966:	TOTAL	3,981.60		MEAN 10.9	MAX 127	MIN .10	AC-FT 7,900					
WAT YR 1967:	TOTAL	14,378.50		MEAN 39.4	MAX 170	MIN .10	AC-FT 28,520					

PAJARO RIVER BASIN

319

11-1567. PESCADERO CREEK NEAR PAICINES, CALIF.

LOCATION.--Lat 36°41'40", long 121°18'35", in SE¼ 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 1967.

GAGE.--Graphic water-stage recorder and, since Sept. 10, 1963, concrete control. Altitude of gage is 720 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 0.84 cfs (608 acre-ft per year).

EXTREMES.--Maximum discharge during year, 68 cfs Apr. 23 (gage height, 5.87 ft), from rating curve extended above 6 cfs; minimum daily, 0.10 cfs Oct. 19.
1959-67: Maximum discharge, 68 cfs Apr. 23, 1967 (gage height, 5.87 ft); from rating curve extended above 6 cfs; no flow at times in each year except in 1967.

REMARKS.--Records good. No regulation; large groundwater withdrawals above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	.40	.70	1.0	2.1	1.0	2.4	21	3.0	1.2	.50	1.2
2	.40	.40	1.9	1.0	1.8	1.0	3.0	18	3.0	1.2	.50	1.4
3	.40	.50	2.6	1.0	1.6	1.0	2.1	16	3.0	1.2	.40	1.2
4	.40	.50	2.2	1.0	1.4	1.0	2.4	14	2.6	1.2	.40	1.0
5	.40	.60	6.6	1.0	1.4	1.0	1.8	12	2.6	1.2	.70	1.2
6	.40	.60	19	1.0	1.4	1.0	1.8	10	2.6	1.4	.90	.90
7	.40	.70	3.0	1.0	1.4	1.0	2.4	10	2.6	1.4	.90	.70
8	.40	.70	1.6	1.0	1.4	1.0	6.2	6.6	2.4	1.8	.90	.90
9	.40	.50	1.6	1.0	1.4	1.0	4.0	5.8	2.4	2.1	.60	1.0
10	.40	.50	1.4	1.0	1.4	1.0	2.1	6.2	2.4	1.4	.90	1.2
11	.40	.50	1.4	1.0	1.4	1.6	11	5.4	2.1	1.2	.90	1.0
12	.40	.60	1.2	1.2	1.4	1.8	9.9	6.2	2.1	1.0	.70	.90
13	.40	.60	1.2	1.2	1.4	1.8	5.8	6.6	2.1	.90	.90	.70
14	.30	.60	1.2	1.2	1.2	1.4	4.4	5.4	1.8	.90	1.0	.70
15	.20	.60	1.2	1.2	1.2	1.2	5.1	5.0	1.8	.90	1.0	1.0
16	.30	.60	1.2	1.2	1.2	2.1	6.2	4.7	1.8	.90	.70	1.0
17	.20	.60	1.2	1.0	1.2	1.6	4.7	4.0	1.6	1.0	.90	1.4
18	.20	.50	1.2	1.0	1.2	1.2	20	3.3	1.8	1.0	.70	1.4
19	.10	.60	1.0	.90	1.4	1.2	29	3.6	1.8	1.0	.90	1.4
20	.20	.70	1.0	1.0	1.2	1.2	28	3.6	1.8	1.0	1.0	1.4
21	.40	.70	1.2	1.6	1.2	1.2	49	3.3	1.8	1.2	1.2	1.4
22	.40	.60	1.2	3.4	1.2	1.4	52	3.3	1.8	1.4	1.0	1.6
23	.40	.60	1.2	1.2	1.2	1.4	53	3.0	1.6	1.2	.90	1.6
24	.40	.50	1.0	5.4	1.4	1.4	60	3.0	1.6	.90	1.0	1.8
25	.40	.50	1.0	2.6	1.6	1.4	49	2.6	1.8	.90	1.0	1.6
26	.40	.50	1.0	1.4	1.4	1.2	38	2.6	2.1	.60	1.2	1.6
27	.40	.50	1.0	1.2	1.2	1.2	34	2.4	1.8	.60	1.0	1.6
28	.40	.60	1.0	1.2	1.2	1.2	29	2.4	1.6	.60	1.4	1.6
29	.40	.70	1.0	2.5	-----	1.4	26	2.4	1.4	.50	1.2	1.6
30	.40	.70	1.0	7.1	-----	3.6	25	2.4	1.2	.70	1.2	1.8
31	.40	-----	1.0	3.0	-----	-----	-----	2.4	-----	.70	1.2	-----
Total	11.10	17.20	64.00	51.50	38.5	41.7	567.3	197.2	62.0	33.20	27.7	37.80
Mean	.36	.57	2.06	1.66	1.38	1.34	18.9	6.36	2.07	1.07	.89	1.26
Max	.40	.70	1.9	7.1	2.1	3.6	60	21	3.0	2.1	1.4	1.8
Min	.10	.40	.70	.90	1.2	1.0	1.8	2.4	1.2	.50	.40	.70
Ac-ft	22	34	127	102	76	83	1,130	391	123	66	55	75

Cal yr 1966: Total 343.7 Mean .94 Max 19 Min 0 Ac-ft 682
Wtr yr 1967: Total 1,149.2 Mean 3.15 Max 60 Min .10 Ac-ft 2,280

Peak discharge (base, 10 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	0700	5.72	51	1-30	1130	5.53	29
1-22	0030	5.36	14	4-23	2000	5.87	68
1-24	0830	5.38	16				

PAJARO RIVER BASIN

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 1967. Yearly estimate only for 1940 and monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital 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). Prior to Jan. 4, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 13.2 cfs (9,560 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 1,140 cfs Jan. 24 (gage height, 5.21 ft); minimum daily, 0.25 cfs Mar. 26-29.

1939-67: 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, 1965.

Flood in February 1938, reached a stage of about 9.0 ft, from floodmarks.

REMARKS.--Records fair. No regulation; diversions above station for irrigation can divert total flow in summer months, and since 1962, diversions into basin above station from San Benito River for percolation and irrigation.

REVISIONS (water year).--1963 report: 1962.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.71	.93	.82	115	1.0	118	31	13	8.2	18	17
2	.55	.71	1.2	.93	53	1.0	31	18	18	8.8	19	17
3	.55	.71	.93	.82	25	1.0	76	12	20	9.8	18	16
4	.55	.71	1.0	.82	14	1.0	46	7.7	18	9.8	18	18
5	.55	.71	1.4	.93	6.6	2.2	64	5.7	18	9.8	18	20
6	.40	.82	109	.93	3.3	3.3	37	3.3	16	7.7	19	21
7	.40	2.4	88	.93	1.6	1.2	390	2.8	16	7.7	20	18
8	.35	.60	24	.93	1.2	1.2	144	3.5	16	8.8	14	14
9	.35	.50	3.3	.93	1.0	.93	49	2.2	14	7.7	4.4	12
10	.35	.50	1.3	.93	1.0	.93	28	.71	14	7.7	3.1	10
11	.35	.50	1.0	.93	1.0	.93	180	.55	14	8.8	2.2	10
12	.35	.45	1.0	.93	1.0	.82	112	.71	14	8.8	2.6	10
13	.30	.45	.93	.93	1.0	3.3	41	8.8	14	8.8	9.3	11
14	.30	.50	.93	.93	1.0	4.7	22	9.3	15	9.3	17	6.6
15	.30	.55	.93	.93	1.0	1.9	26	9.3	15	9.3	21	3.8
16	.30	.55	.93	.93	1.0	2.2	106	12	16	9.3	21	3.5
17	.30	.55	.93	.93	1.0	16	27	11	14	9.3	21	3.3
18	.30	.60	.82	1.0	1.0	5.7	324	11	14	8.8	18	2.4
19	.30	.82	.82	1.0	1.0	1.9	296	11	13	5.7	17	2.4
20	.30	.82	.82	1.2	1.0	.71	245	11	12	5.4	17	2.4
21	.30	.82	.82	1.4	1.0	.45	532	11	11	5.1	16	2.4
22	.30	.82	.82	3.5	1.0	.35	345	11	11	5.1	16	2.4
23	.30	.82	.82	3.3	1.0	.35	250	11	11	5.1	15	2.4
24	.30	.82	.82	285	1.0	.30	500	11	12	5.1	14	2.4
25	.30	.82	.82	94	1.2	.35	225	11	12	5.1	14	2.4
26	.30	.82	.82	18	1.0	.25	130	11	10	5.1	14	2.2
27	.30	.82	.82	3.5	1.0	.25	91	11	11	5.4	14	2.2
28	.35	.93	.82	1.6	1.0	.25	70	11	18	6.0	16	2.4
29	.45	.82	.82	37	-----	.40	66	11	18	9.8	16	2.2
30	.55	.93	.82	153	-----	.93	46	12	15	10	16	2.2
31	.60	-----	.82	405	-----	121	-----	12	-----	11	16	-----
TOTAL	11.70	22.58	249.19	1,023.98	239.9	176.80	4,617	294.57	433	242.3	464.6	241.6
MEAN	.38	.75	8.04	33.0	8.57	5.70	154	9.50	14.4	7.82	15.0	8.05
MAX	.60	2.4	109	405	115	121	532	31	20	11	21	21
MIN	.30	.45	.82	.82	1.0	.25	22	.55	10	5.1	2.2	2.2
AC-FT	23	45	494	2,030	476	351	9,160	584	859	481	922	479

CAL YR 1966: TOTAL 2,118.77

MEAN 5.80

MAX 460

MIN .10

AC-FT 4,200

WAT YR 1967: TOTAL 8,017.22

MEAN 22.0

MAX 532

MIN .25

AC-FT 15,900

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1800	4.99	879	4-18	0830	4.58	484
1-24	1330	5.21	1,140	4-21	1430	5.04	934
1-30	2130	5.00	890	4-24	0015	4.93	813
4- 7	1030	4.72	598				

PAJARO RIVER BASIN

321

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 370 ft (from topographic map). Prior to Jan. 19, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--18 years, 25.1 cfs (18,170 acre-ft per year); median of yearly mean discharges, 7.5 cfs (5,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,900 cfs Jan. 25 (gage height, 7.71 ft); no flow for several months. 1949-67: 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 fair. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Several small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	71	4.5	37	124	8.8	24	18	17
2	0	0	0	0	23	5.8	22	100	8.8	24	39	16
3	0	0	0	0	11	8.8	43	44	14	26	43	17
4	0	0	0	0	6.8	4.7	25	24	37	27	42	18
5	0	0	.20	0	6.3	4.0	40	20	42	27	39	17
6	0	0	102	0	5.8	3.6	22	17	34	21	42	17
7	0	0	313	0	6.1	8.8	195	28	34	11	41	36
8	0	0	35	0	8.6	13	220	28	28	34	40	39
9	0	0	8.3	0	8.1	13	105	26	28	39	41	34
10	0	0	10	0	7.3	13	54	30	32	40	41	24
11	0	0	9.7	0	6.8	15	119	31	40	24	41	20
12	0	0	7.6	0	6.6	8.6	183	29	39	8.3	41	19
13	0	0	5.8	0	6.1	30	115	28	40	25	39	19
14	0	0	4.5	0	6.1	34	64	25	44	28	38	20
15	0	0	3.1	0	5.6	7.1	47	22	46	28	37	18
16	0	0	2.2	0	5.4	6.1	84	19	44	29	37	18
17	0	0	1.6	0	4.9	19	43	17	44	30	37	19
18	0	0	1.1	0	5.1	9.9	193	15	44	32	36	18
19	0	0	.60	.02	5.1	4.9	372	14	43	40	36	17
20	0	0	.50	.02	4.7	6.8	430	13	43	47	36	17
21	0	0	.40	.18	4.7	10	575	9.9	43	48	34	20
22	0	0	.30	5.8	4.3	9.1	776	9.4	40	47	34	28
23	0	0	.20	13	3.6	8.3	545	8.8	39	48	34	32
24	0	0	.20	209	3.6	7.1	872	9.9	39	42	34	29
25	0	0	.10	570	4.3	6.6	585	10	40	35	35	29
26	0	0	0	31	5.1	6.3	340	10	41	36	36	27
27	0	0	0	7.3	5.1	6.1	238	10	43	36	29	26
28	0	0	0	4.0	4.9	5.8	203	8.8	36	37	25	26
29	0	0	0	17	-----	5.4	178	8.1	26	23	25	26
30	0	0	0	143	-----	5.8	152	8.3	25	6.8	23	26
31	0	-----	0	359	-----	15	-----	8.1	-----	4.9	19	-----
TOTAL	0	0	506.40	1,359.32	246.0	306.1	6,877	755.3	1,065.6	928.0	1,092	689
MEAN	0	0	16.3	43.8	8.79	9.87	229	24.4	35.5	29.9	35.2	23.0
MAX	0	0	313	570	71	34	872	124	46	48	43	39
MIN	0	0	0	0	3.6	3.6	22	8.1	8.8	4.9	18	16
AC-FT	0	0	1,000	2,700	488	607	13,640	1,500	2,110	1,840	2,170	1,370

CAL YR 1966: TOTAL 2,450.00 MEAN 6.71 MAX 470 MIN 0 AC-FT 4,860
WAT YR 1967: TOTAL 13,824.72 MEAN 37.9 MAX 872 MIN 0 AC-FT 27,420

PAJARO RIVER BASIN

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 1967. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "near Chittenden."

GAGE.--Digital water-stage recorder. Datum of gage is 82.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1955. Prior to May 13, 1949, wire-weight gage on former bridge 100 ft downstream at same datum except that graphic 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. May 13, 1949, to Sept. 30, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 144 cfs (104,300 acre-ft per year); median of yearly mean discharges, 77 cfs (55,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,720 cfs Mar. 16 (gage height, 17.77 ft); minimum daily, 0.10 cfs Oct. 7, 8.

1939-67: Maximum discharge, 24,000 cfs Dec. 24, 1955 (gage height, 32.46 ft), 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. Flow regulated by Hernandez Reservoir (capacity, 18,700 acre-ft), Pacheco Lake (capacity, 6,150 acre-ft), Cheshbro Reservoir (see sta. no. 1534.8), Uvas Reservoir (see sta. no. 1540.2), and San Felipe Lake. Many diversions above station for irrigation. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.60	2.3	12	2,520	42	469	588	69	26	10	7.8
2	.50	.50	2.5	12	1,660	38	374	532	101	25	11	6.6
3	.30	.60	1.9	12	1,220	37	330	456	86	25	12	9.3
4	.20	.60	3.4	12	909	35	322	377	77	25	11	12
5	.20	.70	30	14	703	32	304	331	71	25	9.0	8.0
6	.20	1.0	1,230	14	526	28	518	306	68	26	8.2	5.2
7	.10	1.7	1,060	14	402	25	1,240	281	67	26	7.8	4.9
8	.10	1.8	459	14	324	25	1,030	269	65	24	8.2	4.6
9	.20	1.7	300	14	277	24	832	248	62	22	8.4	5.1
10	.30	1.5	196	14	245	23	703	245	60	21	8.0	5.5
11	.50	1.6	132	14	214	30	1,160	233	57	22	7.6	6.0
12	.50	1.6	70	15	207	87	937	222	55	23	7.1	8.0
13	.40	1.6	43	15	206	398	784	200	53	23	6.6	10
14	.30	1.7	30	14	192	467	664	175	51	21	6.6	14
15	.40	1.8	23	14	177	368	745	155	48	19	6.6	14
16	.30	2.3	19	14	168	4,030	769	139	46	18	6.8	15
17	.30	2.3	17	13	161	3,470	646	127	44	16	6.9	14
18	.40	2.2	15	12	155	1,430	889	116	42	15	6.6	13
19	.20	2.2	15	12	152	913	1,300	108	40	15	6.3	11
20	.40	2.5	14	12	144	715	1,440	105	37	16	5.9	9.7
21	.40	3.0	14	88	138	568	1,840	98	35	17	5.5	8.8
22	.50	3.0	14	3,670	115	464	2,230	93	33	15	9.0	8.0
23	.50	2.8	14	1,270	64	396	1,940	85	31	13	12	7.6
24	.40	2.5	13	3,110	54	332	2,210	83	29	13	12	7.3
25	.40	2.4	13	3,400	58	275	1,900	79	28	14	11	6.1
26	.40	2.4	13	1,890	54	248	1,480	75	28	14	12	4.9
27	.50	2.5	12	1,270	45	227	1,170	71	29	12	12	5.2
28	.50	2.0	12	930	42	210	957	66	30	10	8.0	5.5
29	.50	2.1	12	1,570	-----	194	807	66	28	11	8.0	5.0
30	.40	2.2	12	3,320	-----	179	699	65	26	11	8.5	4.1
31	.50	-----	12	4,580	-----	579	-----	63	-----	10	9.0	-----
TOTAL	11.20	55.40	3,804.1	25,365	11,132	15,889	30,689	6,057	1,496	573	267.6	246.2
MEAN	.36	1.85	123	818	398	513	1,023	195	49.9	18.5	8.63	8.21
MAX	.50	3.0	1,230	4,580	2,520	4,030	2,230	588	101	26	12	15
MIN	.10	.50	1.9	12	42	23	304	63	26	10	5.5	4.1
AC-FT	22	110	7,550	50,310	22,080	31,520	60,870	12,010	2,970	1,140	531	488
CAL YR 1966: TOTAL	12,514.30			MEAN 34.3	MAX 1,230	MIN .10	AC-FT 24,820					
WAT YR 1967: TOTAL	95,585.50			MEAN 262	MAX 4,580	MIN .10	AC-FT 189,600					

Note.--No gage-height record June 17 to Aug. 10. Aug. 11 to Sept. 30 computed from thrice-weekly wire-weight gage readings.

PAJARO RIVER BASIN

323

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 310 ft (from topographic map). Prior to June 30, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 9.00 cfs (6,520 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,100 cfs Mar. 16 (gage height, 6.25 ft), from rating curve extended above 450 cfs as explained below; no flow for several days.
1957-67: Maximum discharge, 1,970 cfs Apr. 2, 1958 (gage height, 7.55 ft), from rating curve extended above 450 cfs on basis of estimate of maximum flow over dam; maximum gage height, 7.62 ft Jan. 31, 1963; no flow at times.

REMARKS.--Records good. No regulation; Watsonville Water Works can divert up to 8.0 cfs daily above station for municipal supply, domestic use, and irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	6.3	1.5	80	7.0	35	24	14	2.6	.23	.50
2	0	0	66	1.5	60	6.2	29	23	16	2.5	.39	.14
3	0	0	27	1.4	50	5.3	24	21	12	2.5	.23	.10
4	0	0	49	1.5	40	5.3	25	19	9.4	3.1	.24	.16
5	0	.10	137	1.6	33	5.0	22	18	8.3	3.2	.21	.10
6	0	5.8	173	1.3	29	4.8	95	16	8.0	2.1	.30	.10
7	.10	4.8	50	1.2	24	4.8	70	15	7.8	2.0	.31	.10
8	0	2.2	28	1.1	21	4.8	52	14	7.7	3.1	.34	.36
9	.10	.50	20	1.1	19	4.5	43	15	7.7	2.2	.43	.15
10	.10	.40	15	1.1	17	4.8	58	23	6.7	2.0	.84	.15
11	0	.30	11	1.2	15	17	64	16	5.5	2.4	.52	.25
12	0	.30	8.7	1.2	14	35	52	13	5.2	1.4	.47	.33
13	0	.30	7.2	1.2	13	36	43	12	4.7	1.0	.43	.15
14	0	.40	6.1	1.2	12	27	35	11	4.4	1.8	1.1	.14
15	.10	2.5	5.5	1.2	11	24	42	11	4.6	2.0	1.5	.12
16	0	13	5.1	1.1	10	386	33	10	4.4	1.3	.55	.13
17	0	2.7	4.7	1.2	9.7	119	40	9.5	4.3	2.7	.30	.15
18	0	.70	4.6	1.1	9.4	64	51	9.3	4.3	2.1	.62	.12
19	0	4.5	4.4	1.1	9.1	48	46	8.9	4.3	1.1	.31	.04
20	0	19	3.9	3.9	8.8	40	38	8.8	4.5	1.8	.89	.14
21	0	13	3.9	464	8.5	34	71	8.5	4.3	.80	.95	.72
22	0	5.2	3.2	185	8.2	29	61	8.1	3.7	.37	1.3	.22
23	0	2.1	2.9	61	7.9	32	58	8.1	3.8	.37	1.5	.10
24	0	1.2	2.7	235	8.2	25	56	7.5	3.8	.38	1.5	.10
25	0	.80	2.5	94	12	21	48	7.5	3.5	.42	.18	.09
26	.10	.60	2.9	67	8.5	19	42	7.0	3.6	.51	.21	.07
27	.10	.70	2.1	52	7.0	17	35	7.1	4.1	1.1	.24	.05
28	0	8.0	1.9	50	7.0	16	32	7.0	3.7	2.0	.64	.09
29	0	21	1.9	128	-----	14	29	7.1	2.9	.88	1.0	.05
30	0	6.1	1.8	264	-----	47	26	6.7	2.6	.23	.60	.17
31	0	-----	1.6	140	-----	53	-----	6.0	-----	.24	.90	-----
TOTAL	0.60	116.20	659.9	1,767.7	552.3	1,155.5	1,355	378.1	179.8	50.20	19.23	5.09
MEAN	.019	3.87	21.3	57.0	19.7	37.3	45.2	12.2	5.99	1.62	.62	.17
MAX	.10	21	173	464	80	386	95	24	16	3.2	1.5	.72
MIN	0	0	1.6	1.1	7.0	4.5	22	6.0	2.6	.23	.18	.04
AC-FT	1.2	230	1,310	3,510	1,100	2,290	2,690	750	357	100	38	10

CAL YR 1966: TOTAL 1,180.40 MEAN 3.23 MAX 173 MIN 0 AC-FT 2,340
WAT YR 1967: TOTAL 6,239.62 MEAN 17.1 MAX 464 MIN 0 AC-FT 12,380

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0915	4.55	472	1-30	1030	5.03	610
1-21	2000	6.13	1,050	3-16	1015	6.25	1,100
1-24	0545	5.77	888				

PAJARO RIVER BASIN

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 80 ft (from topographic map). Prior to Dec. 3, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 13.5 cfs (9,770 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,800 cfs Mar. 16 (gage height, 9.66 ft), from rating curve extended above 830 cfs as explained below; no flow for many days.

1956-67: Maximum discharge, 2,680 cfs Apr. 2, 1958 (gage height, 12.59 ft), from rating curve extended above 830 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 maximum flow).

REMARKS.--Records fair. No regulation; Watsonville Water Works can divert up to 8.0 cfs daily above station for municipal supply, domestic use, and irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	3.1	.20	153	6.6	53	42	21	.70	.30	.10
2	0	0	97	.20	94	6.6	44	38	21	.60	.30	.10
3	0	0	57	.20	75	6.2	39	34	16	.70	.20	.20
4	0	0	73	.40	59	5.8	39	30	12	.70	.30	.10
5	0	0	261	.40	50	4.8	35	27	9.6	.70	.30	.10
6	0	2.3	362	.50	43	4.1	179	26	9.6	.70	.30	.20
7	0	2.7	103	.40	39	4.1	123	25	7.6	.60	.20	.80
8	0	.20	44	.30	34	3.9	88	25	7.3	.60	.30	.10
9	0	.10	27	.30	30	3.4	71	23	6.9	.60	.30	.10
10	0	.10	20	.50	28	3.9	90	32	7.3	.60	.30	.10
11	0	.10	21	.60	26	2.6	99	24	6.6	.60	.20	.10
12	0	.10	16	1.0	24	4.9	74	21	5.1	.60	.20	.10
13	0	0	10	1.2	22	5.0	61	18	4.8	.60	.20	.10
14	0	0	5.8	.70	19	4.3	54	16	4.1	.70	.20	.20
15	0	1.9	3.4	.70	17	3.7	61	16	3.4	.60	.20	1.0
16	0	11	3.1	.70	16	873	52	14	4.1	.40	.20	.60
17	0	2.4	1.8	.60	15	209	57	13	2.6	.50	.20	.20
18	0	.30	1.0	.60	14	106	75	13	2.3	.50	.20	.20
19	0	3.7	.70	.60	12	74	68	12	2.1	.40	.20	.10
20	0	36	.40	.80	11	54	61	11	1.8	.40	.20	.10
21	0	24	.60	698	11	46	103	11	1.6	.50	.20	.10
22	0	6.2	.50	413	11	40	106	9.2	1.6	.40	.20	.20
23	0	.70	.40	93	8.4	42	99	8.4	.80	.40	.20	.20
24	0	0	.40	493	8.4	36	93	8.4	1.0	.40	.20	.20
25	0	0	.40	195	10	30	82	6.6	.70	.30	.20	.20
26	0	0	.40	103	11	28	72	6.9	.70	.30	.20	.30
27	0	0	.30	71	8.0	26	64	5.8	.70	.30	.10	.40
28	0	3.4	.60	63	7.6	25	58	6.2	.70	.30	.20	.50
29	0	36	.70	263	-----	25	52	8.0	.80	.30	.10	.40
30	0	5.8	.60	568	-----	68	46	8.0	1.0	.30	.10	.40
31	0	-----	.40	281	-----	78	-----	8.4	-----	.30	.20	-----
TOTAL	0	137.00	1,115.60	3,251.90	856.4	2,014.4	2,198	546.9	164.80	15.60	6.70	7.50
MEAN	0	4.57	36.0	103	30.6	65.0	73.3	17.6	5.49	.50	.22	.25
MAX	0	36	362	698	153	873	179	42	21	.70	.30	1.0
MIN	0	0	.30	.20	7.6	3.4	35	5.8	.70	.30	.10	.10
AC-FT	0	272	2,210	6,450	1,700	4,000	4,360	1,080	327	31	13	15

CAL YR 1966: TOTAL 1,788.50 MEAN 4.90 MAX 362 MIN 0 AC-FT 3,550
WAT YR 1967: TOTAL 10,314.80 MEAN 28.3 MAX 873 MIN 0 AC-FT 20,460

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1015	6.62	905	1-30	1100	7.28	1,080
1-21	2245	9.63	1,790	3-16	0845	9.66	1,800
1-24	0615	8.63	1,490				

PAJARO RIVER BASIN

325

11-1594. GREEN VALLEY CREEK NEAR CORRALITOS, CALIF.

LOCATION.--Lat 36°58'37", long 121°46'31", in Los Corralitos Grant, on right bank at culvert on Green Valley road and 1.9 miles southeast of Corralitos, Santa Cruz County.

DRAINAGE AREA.--7.05 sq mi.

RECORDS AVAILABLE.--Water years 1961-63 (annual maximum), October 1963 to September 1967; discontinued as a continuous-record station; converted to a crest-stage partial record station.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 165 ft (from topographic map). Aug. 31, 1960, to Oct. 4, 1963, crest-stage gage at same site and datum.

EXTREMES.--Maximum discharge during year, 768 cfs Jan. 21 (gage height, 5.45 ft), from rating curve extended above 97 cfs as explained below; no flow for many days.

1960-67: Maximum discharge, 925 cfs Jan. 31, 1963 (gage height, 6.35 ft), from rating curve extended above 97 cfs on basis of computations of maximum flow through culvert at gage heights 4.45 and 6.35 ft and slope-area measurement at gage height 2.17 ft.

1963-67: No flow for many days in each year.

REMARKS.--Records good. No regulation; pumpage from wells along creek for irrigation affects flow at this station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	.30	.30	23	1.4	16	8.6	4.7	.20	.10	
2		0	12	.20	17	1.2	17	7.5	3.0	.20	.10	
3		0	5.6	.10	14	1.2	9.5	6.4	2.2	.20	.10	
4		0	25	.10	14	1.0	8.2	5.6	1.7	.20	.10	
5		0	63	.10	11	.90	7.6	4.8	1.4	.20	.10	
6		0	94	0	11	1.0	33	4.8	1.4	.20	.10	
7		0	20	0	9.8	1.0	30	4.0	1.2	.20	.10	
8		0	9.2	0	7.5	.90	20	3.4	1.2	.20	.10	
9		0	6.4	0	6.4	.90	16	3.4	1.2	.20	.10	
10		0	4.8	0	6.0	.70	22	4.0	1.0	.20	.10	
11		0	4.0	0	5.2	3.0	20	3.0	.90	.40	.10	
12		0	3.0	0	4.8	4.0	16	2.7	.90	.30	0	
13		0	2.7	0	4.4	6.0	14	2.4	.90	.30	0	
14		0	2.2	0	4.0	3.0	14	1.9	.70	.20	0	
15		.30	1.7	0	3.0	1.0	16	1.7	.70	.20	0	
16		.40	1.4	0	3.0	221	13	1.4	.70	.20	.10	
17		.10	1.2	0	2.2	22	14	1.4	.70	.20	.10	
18		.10	.90	0	2.2	19	16	1.4	.60	.20	.10	
19		.30	.90	0	1.9	12	14	1.4	.60	.10	.10	
20		1.0	.90	.10	1.7	9.0	14	1.4	.50	.10	.10	
21		.20	1.0	132	1.7	7.5	25	1.4	.40	.10	.10	
22		.20	1.0	76	3.7	6.6	26	1.2	.30	.10	.60	
23		.10	1.0	17	3.4	8.2	26	1.0	.30	.10	.80	
24		.10	.90	115	2.7	6.7	26	1.0	.20	.10	1.2	
25		.10	.90	30	4.0	5.5	24	1.0	.20	.10	1.0	
26		.10	.90	21	2.4	4.8	18	.90	.20	.10	.50	
27		.10	.60	17	1.9	4.2	15	.90	.20	.10	0	
28		.40	.50	15	1.7	3.8	14	.70	.20	.10	.50	
29		.50	.50	49	- - - -	3.6	11	.70	.20	.10	.60	
30		.20	.50	119	- - - -	11	9.8	.70	.20	.10	.60	
31		- - - -	.30	45	- - - -	20	- - - -	.90	- - - -	.10	.60	- - - -
Total	0	4.20	267.30	636.90	173.6	392.10	525.1	81.60	28.60	5.30	8.10	0
Mean	0	.14	8.62	20.5	6.20	12.6	17.5	2.63	.95	.17	.26	0
Max	0	1.0	94	132	23	221	33	8.6	4.7	.40	1.2	0
Min	0	0	.30	0	1.7	.70	7.6	.70	.20	.10	0	0
Ac-ft	0	8.3	530	1,260	344	778	1,040	162	57	11	16	0
(+)	0	5.6	5.6	9.0	.3	7.5	5.9	.3	1.3	0	0	0
Cal yr 1966: Total 378.20 Mean 1.04 Max 94 Min 0 Ac-ft 750												
Wtr yr 1967: Total 2,122.80 Mean 5.82 Max 221 Min 0 Ac-ft 4,210												

Peak discharge (base, 100 cfs)

† Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	1000	1.90	197	1-30	0930	2.47	283
1-21	2230	5.45	768	3-16	0730	4.35	584
1-24	0515	4.19	558				

PAJARO RIVER BASIN

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 1967. 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 during year, 7,750 acre-ft Mar. 31 (elevation, 526.0 ft); minimum observed, 66 acre-ft Nov. 13 (elevation, 468.3 ft). Maximum contents observed during period 1955-67, 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, 30.4 sq mi. Records available, December 1957 to September 1967. 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, 11,030 acre-ft Mar. 16 (elevation, 490.5 ft); minimum observed, 150 acre-ft Nov. 6 (elevation 417.5 ft). Maximum contents observed during period 1957-67, 11,030 acre-ft Mar. 16, 1967 (elevation, 490.5 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 (including momentary storage above spillway crest),
water year October 1966 to September 1967

Date	Chesboro Reservoir	Uvas Reservoir
Sept. 30-----	100	224
Oct. 31-----	70	160
Nov. 30-----	68	640
Dec. 31-----	2,180	5,230
Jan. 31-----	7,500	10,270
Feb. 28-----	6,260	10,040
Mar. 31-----	7,700	10,140
Apr. 30-----	7,600	10,120
May 31-----	7,480	10,020
June 30-----	7,370	9,280
July 31-----	7,100	7,250
Aug. 31-----	6,420	5,230
Sept. 30-----	5,700	3,860

Note.--Contents at 0800 hours on first day of following month.

APTOS CREEK BASIN

327

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 10 ft (from topographic map). Prior to May 10, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 7.34 cfs (5,310 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,310 cfs Mar. 16 (gage height, 8.53 ft); minimum, 0.40 cfs Oct. 29. 1958-67: Maximum discharge, 2,110 cfs Jan. 31, 1963 (gage height, 10.82 ft), from rating curve extended above 980 cfs; no flow July 1-3, 1966.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.60	2.9	2.4	40	5.4	30	20	11	3.5	2.5	2.0
2	.50	.60	2.8	2.3	35	5.3	22	19	13	3.5	2.5	2.0
3	.60	.60	8.4	2.2	25	5.3	20	18	9.4	3.5	2.5	2.0
4	.60	.80	33	2.1	20	5.1	21	17	8.2	3.2	2.5	1.9
5	.60	.80	117	2.0	18	5.0	19	16	7.9	3.0	2.3	1.8
6	.60	9.4	54	2.0	15	4.8	98	15	7.6	2.0	2.3	1.8
7	.50	7.5	20	1.9	14	4.8	59	14	7.5	3.0	2.3	1.9
8	.60	1.3	13	1.9	13	4.8	40	14	7.1	2.8	2.3	2.0
9	.60	1.0	10	1.8	12	4.5	30	14	6.9	2.8	2.5	2.0
10	.60	.90	8.6	1.8	11	4.7	41	15	6.7	2.8	2.5	2.0
11	.60	.80	7.6	1.8	9.9	13	55	13	6.3	2.8	2.3	1.9
12	.60	.70	6.8	1.7	9.1	24	36	12	5.9	2.6	2.3	1.9
13	.50	.70	6.2	1.7	8.5	29	28	11	5.9	2.5	2.3	1.9
14	.50	.80	5.7	1.7	7.9	24	25	11	5.6	2.5	2.1	2.0
15	.60	2.1	5.3	1.7	7.9	20	25	10	5.5	2.5	2.1	2.0
16	.60	5.5	4.9	1.7	7.6	558	21	9.9	5.2	2.5	2.1	2.0
17	.60	1.8	4.6	1.6	7.1	72	22	9.5	5.2	2.5	2.1	2.0
18	.60	1.2	4.3	1.6	6.7	43	30	9.1	5.2	2.5	2.0	2.0
19	.60	2.6	4.1	1.6	6.5	32	31	8.8	5.2	2.4	2.0	1.9
20	.50	9.0	3.9	10	6.3	25	26	8.7	4.8	2.5	2.0	1.7
21	.60	8.1	3.7	315	5.9	21	68	8.4	4.8	2.5	2.1	1.7
22	.60	3.1	3.5	183	5.8	18	48	8.2	4.5	2.5	2.1	1.8
23	.60	1.8	3.4	38	5.5	18	40	7.9	4.5	2.5	2.1	1.8
24	.60	1.4	3.2	228	6.4	15	37	7.7	4.2	2.5	2.0	1.8
25	.60	1.1	3.1	72	7.5	13	32	7.6	4.2	2.4	2.0	1.8
26	.60	.90	3.0	40	5.9	10	30	7.4	4.2	2.5	2.0	1.8
27	.70	.80	2.9	27	5.5	7.1	26	7.3	4.0	2.5	2.0	1.8
28	.80	2.5	2.8	40	5.5	6.7	25	7.1	4.0	2.5	2.0	1.8
29	.70	12	2.7	130	-----	6.3	23	7.0	3.8	2.5	2.0	1.7
30	.70	3.2	2.6	276	-----	22	21	6.9	3.5	2.5	2.0	1.7
31	.60	-----	2.5	109	-----	41	-----	6.7	-----	2.5	2.0	-----
TOTAL	18.50	87.60	421.7	1,503.5	328.5	1,067.8	1,029	347.2	181.8	83.8	67.8	56.4
MEAN	.60	2.92	13.6	48.5	11.7	34.4	34.3	11.2	6.06	2.70	2.19	1.88
MAX	.80	12	117	315	40	558	98	20	13	3.5	2.5	2.0
MIN	.50	.60	2.5	1.6	5.5	4.5	19	6.7	3.5	2.4	2.0	1.7
AC-FT	37	174	836	2,980	652	2,120	2,040	689	361	166	134	112

CAL YR 1966: TOTAL 1,049.10 MEAN 2.87 MAX 117 MIN 0 AC-FT 2,080
WAT YR 1967: TOTAL 5,193.60 MEAN 14.2 MAX 558 MIN .50 AC-FT 10,300

Peak discharge (base, 100 cfs)

Note.--No gage-height record Dec. 9 to Jan. 20.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1815	4.76	109	1-30	1045	7.23	733
12- 5	0015	5.90	360	3-16	0245	8.53	1,310
1-21	1815	7.63	873	4- 6	1245	5.23	212
1-24	0615	7.34	772				

SOQUEL CREEK BASIN

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 220 ft (from topographic map). Prior to May 5, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 12.1 cfs (8,760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,530 cfs Jan. 24 (gage height, 11.47 ft, from high-water mark in well), from rating curve extended above 740 cfs as explained below; minimum, 0.70 cfs Oct. 1, 2. 1958-67: Maximum discharge, 4,530 cfs Jan. 24, 1967 (gage height, 11.47 ft, from high-water mark in well), from rating curve extended above 740 cfs on basis of slope-area measurement at gage height 7.96 ft; minimum, 0.40 cfs July 16, 1961.

REMARKS.--Records good. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	1.6	8.0	4.0	80	8.2	39	27	13	5.2	3.2	2.3
2	.80	1.6	227	4.0	38	7.9	32	23	19	5.2	3.4	2.2
3	.80	1.6	40	3.8	34	7.9	28	22	12	4.6	3.4	2.2
4	.80	1.6	116	3.7	31	7.3	27	21	10	4.6	3.4	2.2
5	.80	1.7	217	3.6	28	6.9	27	20	9.5	4.6	3.4	2.2
6	.80	6.1	156	3.6	26	6.7	154	18	9.2	4.4	3.4	2.2
7	.80	3.8	43	3.6	24	6.7	73	17	9.0	4.3	3.4	2.1
8	.80	1.9	24	3.5	22	6.6	53	16	8.5	4.3	2.9	2.1
9	.80	1.6	17	3.5	20	6.7	42	16	8.1	4.3	3.0	2.1
10	.80	1.4	14	3.4	18	7.3	103	16	7.8	4.3	2.9	2.1
11	.90	1.4	12	3.3	17	31	85	15	7.7	4.9	2.9	2.0
12	.90	1.4	11	3.2	15	57	50	14	7.3	4.5	2.7	2.0
13	1.0	1.4	9.6	3.2	15	61	38	13	7.1	4.9	2.5	2.0
14	1.0	1.5	8.9	3.1	14	37	36	13	6.9	4.9	2.5	2.0
15	1.1	6.7	8.2	3.1	13	63	38	12	6.8	4.9	2.5	2.0
16	1.1	16	7.4	3.1	12	990	32	12	6.6	4.9	2.5	2.0
17	1.3	3.2	6.8	3.0	12	126	41	11	6.4	4.9	2.5	1.9
18	1.3	2.5	6.5	3.0	11	70	48	11	6.4	4.6	2.3	1.9
19	1.4	11	6.2	3.0	11	54	47	10	6.3	4.6	2.1	1.9
20	1.4	39	5.8	7.5	10	45	42	10	6.4	4.6	2.1	1.9
21	1.4	15	5.5	900	9.7	41	117	9.9	6.3	4.6	2.3	1.9
22	1.5	10	5.3	400	9.5	35	60	9.5	6.2	4.6	2.3	1.8
23	1.5	4.9	5.0	70	9.1	36	57	9.3	5.8	4.7	2.3	1.8
24	1.5	3.8	4.9	430	9.8	29	52	8.4	5.8	3.8	2.3	1.8
25	1.4	3.4	4.7	79	13	26	45	8.1	5.8	3.2	2.3	1.8
26	1.5	3.2	4.6	56	9.6	24	40	8.0	5.8	3.1	2.3	1.8
27	1.6	3.0	4.7	46	9.1	21	36	7.8	5.8	3.0	2.3	1.8
28	1.6	22	4.4	44	8.7	20	34	8.3	5.8	2.9	2.5	1.7
29	1.6	29	4.3	170	-----	19	31	8.6	5.2	3.0	2.4	1.7
30	1.6	7.8	4.3	380	-----	81	29	8.5	5.2	3.0	2.3	1.7
31	1.5	-----	4.1	150	-----	59	-----	8.2	-----	3.0	2.3	-----
TOTAL	36.00	209.1	996.2	2,757.2	529.5	1,997.2	1,536	411.6	231.7	132.8	82.6	59.1
MEAN	1.16	6.97	32.1	90.2	18.9	64.4	51.2	13.3	7.72	4.28	2.66	1.97
MAX	1.6	39	227	900	80	990	154	27	19	5.2	3.4	2.3
MIN	.70	1.4	4.1	3.0	8.7	6.6	27	7.8	5.2	2.9	2.1	1.7
AC-FT	71	415	1,980	5,550	1,050	3,960	3,050	816	460	263	164	117

CAL YR 1966: TOTAL 2,423.00 MEAN 6.64 MAX 227 MIN .70 AC-FT 4,810
WAT YR 1967: TOTAL 9,419.00 MEAN 24.7 MAX 990 MIN .70 AC-FT 17,890

Peak discharge (base, 300 cfs)

Note.--No gage-height Jan. 7-25.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1700	6.03	918	1-30	1000	---	2,400
12- 5	0100	5.94	867	3-16	0230	9.64	3,250
1-21	1300	---	3,700	3-30	1800	4.88	352
1-24	0500	11.47	4,530	4- 6	1100	5.14	463

SOQUEL CREEK BASIN

329

11-1600. SOQUEL CREEK AT SOQUEL, CALIF.

LOCATION.--Lat 36°59'29", long 121°57'17", in NE¼ 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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 21.38 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--16 years, 43.9 cfs (31,780 acre-ft per year); median of yearly mean discharges, 30 cfs (21,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,410 cfs Jan. 24 (gage height, 14.76 ft), from rating curve extended above 2,900 cfs as explained below; minimum daily, 1.0 cfs Oct. 14.

1951-67: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 22.33 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.10 cfs Aug. 12, 19, 1964.

REMARKS.--Records good. No regulation; small diversion above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.6	23	13	183	29	99	103	36	12	6.8	5.2
2	1.3	1.5	468	13	151	27	92	96	54	12	7.2	4.9
3	1.6	1.8	161	12	128	26	93	87	35	13	7.1	4.6
4	1.6	1.8	277	12	117	25	100	79	28	13	7.1	4.3
5	1.6	2.0	722	11	100	24	102	73	25	13	7.1	4.3
6	1.6	13	568	11	92	23	577	67	24	12	7.1	4.3
7	1.6	15	219	11	84	22	220	61	22	12	7.1	4.0
8	1.6	4.9	110	10	79	22	158	56	21	11	7.1	3.8
9	1.5	3.2	78	10	74	21	156	54	19	11	6.8	3.5
10	1.5	3.0	60	10	64	22	322	58	19	11	7.8	3.5
11	1.8	2.8	48	10	59	108	306	52	18	10	6.8	3.8
12	1.8	2.8	41	9.8	55	200	187	48	17	9.6	6.8	3.0
13	1.5	2.8	35	9.8	50	211	158	46	16	9.2	6.5	2.8
14	1.0	2.8	31	9.6	48	144	156	43	16	9.2	6.2	4.0
15	1.3	9.2	28	9.6	45	159	161	40	15	8.8	6.2	4.0
16	1.3	58	26	9.4	42	2,190	136	36	15	8.8	6.2	3.8
17	1.1	11	23	9.4	41	383	172	34	15	8.8	6.2	3.0
18	1.1	6.8	21	9.4	39	179	268	30	15	8.8	5.8	3.5
19	1.3	15	19	9.2	38	169	233	29	15	8.8	5.5	2.8
20	1.3	73	18	18	36	173	187	28	14	8.4	5.2	2.2
21	1.5	43	18	2,330	35	181	471	26	14	8.4	5.8	2.4
22	1.3	29	17	879	34	169	252	26	13	8.1	5.5	2.6
23	1.6	17	17	286	33	179	235	25	13	8.4	5.8	2.8
24	1.6	12	16	1,310	35	145	220	23	12	8.4	5.8	3.0
25	1.5	9.6	16	235	42	126	156	22	12	8.4	5.5	3.5
26	1.5	8.4	15	169	35	117	147	22	12	8.4	5.5	4.0
27	1.8	8.1	15	141	32	104	136	22	12	8.1	5.2	4.3
28	1.8	17	14	133	31	94	129	21	12	7.8	5.2	4.3
29	2.0	87	14	612	-----	85	123	21	12	7.8	5.2	4.6
30	1.8	27	13	1,050	-----	257	110	19	12	7.8	4.9	4.6
31	1.6	-----	13	328	-----	167	-----	19	-----	7.3	4.6	-----
Total	46.7	490.1	3,144	7,690.2	1,802	5,781	5,862	1,366	563	2,993	191.6	111.4
Mean	1.51	16.3	101	248	64.4	186	195	44.1	18.8	9.65	6.18	3.71
Max	2.0	87	722	2,330	183	2,190	577	103	54	13	7.2	5.2
Min	1.0	1.5	13	9.2	31	21	92	19	12	7.3	4.6	2.2
Ac-ft	93	972	6,240	15,250	3,570	11,470	11,630	2,710	1,120	594	380	221

Cal yr 1966: Total 6,808.2 Mean 18.7 Max 722 Min .60 Ac-ft 13,500
Wtr yr 1967: Total 27,347.3 Mean 74.9 Max 2,330 Min .10 Ac-ft 54,240

Peak discharge (base, 750 cfs)

Note.--No gage-height record Dec. 18 to Jan. 19.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1800	8.18	1,740	3-16	0400	13.37	5,190
12- 5	0200	8.44	1,870	3-30	1930	6.45	915
1-21	1400	12.21	4,260	4- 6	1200	7.26	1,300
1-24	0600	14.76	6,410	4-10	2130	6.15	765
1-30	1100	10.00	2,750				

GH 2.98

Disch 0.10 cfs

SAN LORENZO RIVER BASIN

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 to 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 390 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 10.5 cfs (7,600 acre-ft per year); median of yearly mean discharges, 7.3 cfs (5,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,430 cfs Mar. 16 (gage height, 6.50 ft), from rating curve extended above 1,200 cfs as explained below; minimum daily, 0.10 cfs Oct. 10.
1957-67: Maximum discharge, 3,700 cfs Apr. 2, 1958 (gage height, 7.70 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; no flow at times, caused by filling of pools upstream.

REMARKS.--Records good. No known regulation; only small diversion above station for individual use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.30	4.2	3.3	7.9	6.8	31	26	8.1	3.7	2.0	1.2
2	.30	.30	181	3.3	48	6.8	26	24	11	3.4	2.1	1.1
3	.30	.20	28	3.2	36	6.8	23	22	8.3	3.4	2.1	1.2
4	.30	.30	89	3.2	30	6.5	23	21	7.3	3.4	2.0	1.4
5	.30	.30	212	3.2	25	6.5	23	21	7.3	3.3	2.0	1.6
6	.30	2.2	108	3.2	22	6.5	140	19	7.3	3.0	2.0	1.6
7	.30	1.7	38	2.9	20	6.3	65	18	7.3	3.0	2.0	1.6
8	.30	.70	21	2.8	18	6.3	46	17	7.3	3.0	2.0	1.6
9	.30	.60	16	2.8	16	6.0	37	16	7.0	3.0	2.0	1.5
10	.10	.50	14	2.8	15	6.0	79	16	7.0	3.0	2.0	1.5
11	.20	.50	11	2.7	14	22	81	16	6.2	2.8	2.0	1.5
12	.30	.50	9.8	2.7	13	40	54	15	6.5	2.8	2.0	1.5
13	.20	.50	8.6	2.7	12	42	43	14	6.0	2.8	2.0	1.5
14	.20	.50	7.8	2.7	11	28	38	13	5.8	2.8	2.0	1.6
15	.20	2.4	7.3	2.6	11	74	37	12	5.8	2.7	2.0	1.6
16	.20	8.9	6.8	2.5	11	1,080	31	12	5.5	2.7	2.0	1.5
17	.20	1.6	6.3	2.5	10	170	40	11	5.5	2.7	2.0	1.5
18	.20	1.2	5.8	2.5	9.8	76	44	11	5.5	2.7	2.0	1.5
19	.20	6.5	5.6	2.5	9.4	52	42	10	5.5	2.5	2.0	1.5
20	.20	2.3	5.3	6.7	9.0	39	39	9.8	5.1	2.4	2.0	1.5
21	.20	14	5.3	878	8.3	34	91	9.4	4.9	2.4	2.0	1.5
22	.20	11	5.1	262	8.1	29	62	8.6	4.6	2.4	2.0	1.5
23	.20	3.7	4.9	59	8.1	29	57	8.3	4.6	2.4	2.1	1.6
24	.20	2.2	4.7	475	8.3	23	50	8.1	4.2	2.2	2.0	1.4
25	.30	1.8	4.7	89	9.4	21	43	7.8	4.2	2.2	2.0	1.4
26	.30	1.6	4.2	42	7.8	19	40	7.6	4.2	2.2	2.2	1.3
27	.30	1.6	3.9	30	7.6	18	37	7.3	4.2	2.2	2.1	1.3
28	.30	5.6	3.8	30	7.0	18	33	7.3	3.9	2.2	1.9	1.3
29	.30	11	3.8	219	-----	16	30	7.3	3.9	2.0	1.7	1.3
30	.20	4.2	3.8	445	-----	41	28	7.3	3.7	2.0	1.5	1.3
31	.20	-----	3.4	154	-----	43	-----	7.0	-----	2.0	1.3	-----
Total	7.50	109.40	833.1	2,743.8	483.8	1,978.5	1,413	409.8	177.7	83.3	61.0	43.4
Mean	.24	3.65	26.9	88.5	17.3	63.8	47.1	13.2	5.92	2.69	1.97	1.45
Max	.30	23	212	878	79	1,080	140	26	11	3.7	2.2	1.6
Min	.10	.20	3.4	2.5	7.0	6.0	23	7.0	3.7	2.0	1.3	1.1
Ac-ft	15	217	1,650	5,440	960	3,920	2,800	813	352	165	121	86

Cal yr 1966: Total 1,831.5 Mean 5.02 Max 212 Min .10 Ac-ft 3,630
Wtr yr 1967: Total 8,344.3 Mean 22.9 Max 1,080 Min .10 Ac-ft 16,550

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1600	4.40	720	1-24	0430	6.18	2,110
12- 4	2400	4.51	786	1-30	1000	5.07	1,150
1-21	1600	5.50	1,480	3-16	0200	6.50	2,430

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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 217.0 ft above mean sea level (levels by Topographic Division). Prior to Apr. 23, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--31 years, 135 cfs (97,740 acre-ft per year); median of yearly mean discharges, 100 cfs (72,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,400 cfs Jan. 21 (gage height, 14.34 ft); minimum daily, 9.2 cfs Oct. 19.

1937-67: 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 maximum flow; minimum, 0.8 cfs (regulated) June 25, 1939; minimum daily, 7.5 cfs July 1, 1939.

REMARKS.--Records good. Flow regulated by Loch Lomond Reservoir since 1961 (capacity, 8,400 acre-ft). Many small diversions above station for domestic supply. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	11	72	47	933	133	485	322	113	59	44	30
2	12	12	1,070	47	692	123	387	303	140	56	40	30
3	15	12	443	45	558	115	340	286	111	56	35	29
4	14	12	643	44	463	105	346	271	103	55	38	29
5	12	12	1,820	44	397	100	338	257	104	55	38	28
6	12	50	1,050	43	343	97	1,150	245	105	55	39	27
7	12	48	509	42	310	95	831	229	105	53	38	27
8	12	23	282	41	285	92	598	214	102	53	38	27
9	12	18	194	41	274	90	489	209	97	52	38	27
10	12	17	166	40	256	98	712	217	97	52	38	28
11	13	16	133	40	236	342	820	197	89	50	38	29
12	13	17	116	39	221	451	616	190	90	50	37	26
13	12	17	104	38	209	516	510	179	89	50	37	26
14	12	17	94	38	198	387	459	170	84	51	35	26
15	13	54	87	37	205	395	478	162	80	47	35	26
16	12	202	82	37	191	5,040	410	154	79	45	34	27
17	10	35	76	36	176	1,320	575	145	78	47	34	28
18	9.4	23	72	36	166	747	745	139	77	46	33	27
19	9.2	96	68	36	157	553	625	134	76	45	32	26
20	9.4	340	66	103	148	447	537	130	76	44	32	25
21	9.5	156	63	6,350	142	397	753	123	73	43	32	26
22	9.7	162	59	2,530	136	342	652	118	71	43	33	26
23	10	61	57	714	135	352	702	113	68	44	33	27
24	10	39	56	2,620	136	298	666	108	67	41	32	28
25	10	33	54	953	172	280	558	102	66	39	31	26
26	10	29	53	611	151	270	493	98	65	39	31	26
27	11	26	51	459	138	252	451	99	65	40	31	25
28	11	61	50	419	132	236	409	96	64	39	31	26
29	11	124	50	1,810	-----	229	377	95	62	37	30	25
30	11	62	50	3,040	-----	563	346	96	59	38	30	25
31	11	-----	47	1,600	-----	689	-----	92	-----	41	29	-----
TOTAL	353.2	1,785	7,737	21,980	7,560	15,154	16,858	5,293	2,555	1,465	1,076	808
MEAN	11.4	59.5	250	709	270	489	562	171	85.2	47.3	34.7	26.9
MAX	15	340	1,820	6,350	933	5,040	1,150	322	140	59	44	30
MIN	9.2	11	47	36	132	90	338	92	59	37	29	25
AC-FT	701	3,540	15,350	43,600	15,000	30,060	33,440	10,500	5,070	2,510	2,130	1,600

CAL YR 1966: TOTAL 26,383.3

MEAN 72.3

MAX 1,820

MIN 9.2

AC-FT 52,330

WAT YR 1967: TOTAL 82,624.2

MEAN 226

MAX 6,350

MIN 9.2

AC-FT 163,900

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1845	8.44	3,590	1-30	1200	10.54	5,600
12- 5	0130	8.99	4,080	3-16	0845	12.66	8,100
1-21	1530	14.34	10,400	4- 6	1300	6.44	2,060
1-24	0745	11.09	6,210				

SAN LORENZO RIVER BASIN

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 1967.

GAGE.--Digital 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, graphic 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. July 28, 1952, to Nov. 2, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--18 years, 20.2 cfs (14,620 acre-ft per year); median of yearly mean discharges, 17 cfs (12,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,500 cfs Jan. 24 (gage height, 14.64 ft); minimum daily, 0.80 cfs Oct. 1, 2, 6.

1940-43, 1952-67: Maximum discharge, 8,100 cfs Dec. 22, 1955 (gage height, 22.04 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of maximum flow; minimum, 0.10 cfs Aug. 18, 1954, Sept. 17, 1955.

REVISIONS.--The maximum discharge for the water year 1961 has been revised to 318 cfs Nov. 26, 1960 (gage height, 7.56 ft), superseding figure published in 1961 report.

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

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1961, superseding figures published in 1961 report, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1960		1961-Con.		1961-Con.		1961-Con.	
Nov. 12	6.5	Jan. 28	8.8	Mar. 18	18	Mar. 31	9.4
13	31	29	12	19	16	Apr. 1	8.8
25	23	30	27	20	18	2	7.6
26	78	31	106	21	12	3	7.1
30	8.2	Feb. 1	31	22	11	4	6.5
Dec. 1	56	2	23	23	10	5	5.9
2	33	3	13	24	20	6	5.3
3	8.8	Mar. 5	11	25	19	7	5.3
		6	9.4	26	19	22	8.8
1961		14	6.5	27	21	23	7.6
Jan. 25	20	15	50	28	17		
26	70	16	15	29	13		
27	19	17	43	30	10		

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
November 1960-----	197.9	78	0.9	6.60	393
December-----	192.0	56	2.2	6.19	381
Calendar year 1960-----	4,279.4	603	.9	11.7	8,490
January 1961-----	330.9	106	2.2	10.7	656
February-----	155.9	31	1.8	5.57	309
March-----	393.6	50	2.2	12.7	781
April-----	138.1	8.8	2.2	4.60	274
Water year 1960-61-----	1,693.1	106	.6	4.64	3,360
Calendar year 1961-----	1,677.8	106	.6	4.60	3,330

SAN LORENZO RIVER BASIN

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11-1615. BRANCIFORTE CREEK AT SANTA CRUZ, CALIF.--Continued

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	1.1	18	4.8	65	7.1	57	16	7.2	2.8	2.5	1.9
2	.80	.90	259	4.7	42	6.7	44	14	11	2.6	2.2	1.8
3	1.1	1.1	54	4.5	35	6.3	34	12	8.0	2.7	2.3	1.9
4	1.0	1.2	410	4.4	32	6.3	42	11	7.0	2.7	2.1	2.0
5	.90	1.1	445	4.7	29	6.0	35	10	6.7	2.8	2.0	1.9
6	.80	32	284	4.3	26	6.1	284	9.7	6.4	2.6	2.1	1.9
7	.90	11	106	3.9	23	6.0	163	9.1	6.2	2.8	2.1	1.8
8	.90	2.0	53	3.8	22	6.0	98	8.6	5.7	2.8	2.0	1.6
9	.90	1.5	33	3.3	20	5.9	74	8.4	5.5	2.7	2.1	1.7
10	1.0	1.6	27	2.3	19	5.8	178	8.9	5.3	2.8	2.0	1.7
11	1.2	1.6	20	2.2	18	34	150	8.4	6.0	2.6	1.8	1.7
12	1.1	1.7	16	2.3	17	65	89	7.8	4.8	2.7	1.6	1.7
13	.90	1.6	14	2.1	16	77	69	7.3	3.6	2.6	1.8	1.5
14	1.0	1.7	13	2.1	14	44	59	6.9	3.6	2.6	1.8	1.6
15	1.0	20	11	2.0	13	75	57	6.6	3.6	2.7	1.7	1.5
16	1.0	26	9.9	2.0	12	738	42	6.3	3.6	2.9	1.7	1.4
17	1.1	3.6	8.9	1.8	11	145	62	6.0	3.6	2.8	1.8	1.7
18	1.0	2.4	8.1	1.8	11	78	80	5.8	3.6	2.9	1.7	1.7
19	1.1	34	7.6	1.8	9.8	53	81	5.5	3.4	2.8	1.6	1.7
20	1.1	54	7.1	20	9.2	44	65	5.3	3.3	2.8	1.7	1.6
21	1.1	21	6.7	1,250	8.1	46	265	5.2	3.3	2.8	1.9	1.6
22	1.1	11	6.2	321	7.4	36	112	5.1	3.2	2.7	1.9	1.7
23	1.1	6.7	6.0	58	7.1	55	111	5.0	3.1	3.0	1.9	1.5
24	1.0	5.1	5.8	785	9.7	38	95	4.9	3.0	3.2	1.8	1.6
25	1.2	4.5	5.8	137	17	34	74	4.8	3.2	3.1	2.1	1.8
26	1.2	4.2	5.6	71	8.6	32	51	4.7	3.1	3.1	1.8	1.7
27	1.2	3.9	5.3	47	7.8	31	37	4.6	3.1	3.0	2.1	1.8
28	1.2	21	5.1	54	7.6	30	27	4.6	3.1	2.8	2.2	1.6
29	1.1	20	5.1	442	-----	29	22	4.3	2.8	2.4	2.1	1.7
30	.90	8.5	5.2	622	-----	159	18	4.7	2.9	2.5	1.9	1.5
31	.90	-----	5.0	130	-----	109	-----	5.0	-----	2.5	1.8	-----
TOTAL	31.60	306.00	1,866.4	3,995.8	517.3	2,014.2	2,575	226.5	138.9	86.0	60.1	50.8
MEAN	1.02	10.2	60.2	129	18.5	65.0	85.8	7.31	4.63	2.77	1.94	1.69
MAX	1.2	54	445	1,250	65	738	284	16	11	3.2	2.5	2.0
MIN	.80	.90	5.0	1.8	7.1	5.8	18	4.3	2.8	2.4	1.6	1.4
AC-FT	63	607	3,700	7,930	1,030	4,000	5,110	449	276	171	119	101

CAL YR 1966: TOTAL 3,954.50 MEAN 10.8 MAX 445 MIN .70 AC-FT 7,840
WAT YR 1967: TOTAL 11,868.60 MEAN 32.5 MAX 1,250 MIN .80 AC-FT 23,540

Peak discharge (base, 600 cfs)

Note,---No gage-height record May 1 to June 4.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1515	9.20	1,070	3-16	0300	12.58	2,440
12- 4	2300	11.17	1,820	3-30	1800	7.78	635
1-21	1700	12.08	2,210	4- 6	1145	8.56	863
1-24	0615	14.64	3,500	4-21	0830	7.70	625
1-30	1015	11.37	1,900				

SCOTT CREEK BASIN

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 left 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 30 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 26.1 cfs (18,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,900 cfs Jan. 21 (gage height, 8.80 ft), from rating curve extended above 900 cfs; minimum daily, 0.5 cfs for several days.

1958-67: Maximum discharge, 1,970 cfs Feb. 13, 1962 (gage height, 9.36 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 7.35 ft; minimum daily, 0.3 cfs for several days in 1961.

REMARKS.--Records good except those above 600 cfs, which are fair. No regulation; small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.60	17	12	324	35	123	94	39	16	6.5	4.2
2	.60	.50	125	12	231	34	112	87	84	14	6.5	4.2
3	.70	.60	77	11	182	32	103	82	56	14	6.5	4.2
4	.70	.60	124	10	148	31	101	76	44	14	6.3	4.0
5	.70	.80	367	9.6	138	29	103	73	38	14	6.0	3.7
6	.70	3.4	199	9.4	132	28	202	70	36	13	5.8	3.7
7	.60	4.9	110	9.1	124	27	187	66	34	12	5.6	3.7
8	.60	2.5	73	9.1	110	27	150	65	32	12	5.6	3.6
9	.60	1.8	57	9.1	97	27	132	61	32	11	5.6	3.6
10	.60	1.5	51	8.7	90	26	166	63	31	11	5.6	3.6
11	.60	1.6	43	8.7	82	46	211	57	28	11	5.6	3.6
12	.70	1.5	37	8.7	76	50	170	56	27	11	5.6	3.4
13	.60	1.5	34	8.4	72	57	148	54	26	11	5.6	3.4
14	.60	2.0	31	8.4	68	51	138	52	25	10	5.6	3.4
15	.50	5.0	28	8.1	63	48	144	50	24	10	5.4	3.4
16	.50	17	26	8.1	61	361	130	47	23	9.7	5.1	3.4
17	.50	6.0	24	7.8	56	180	149	44	22	9.7	5.1	3.4
18	.50	4.2	23	7.5	53	117	184	41	21	9.4	4.9	3.4
19	.50	7.2	22	7.8	52	94	163	40	21	9.1	4.7	3.4
20	.50	24	21	19	48	86	146	38	20	8.7	4.7	2.9
21	.50	19	20	1,190	47	89	166	37	19	8.4	4.7	2.9
22	.50	27	20	759	44	79	152	35	19	8.4	4.7	3.1
23	.60	12	19	387	44	90	166	34	18	8.4	4.7	3.2
24	.60	7.8	18	605	46	81	168	31	18	8.1	4.7	3.2
25	.50	6.0	18	329	47	75	152	31	18	7.8	4.7	3.2
26	.50	5.6	17	213	41	70	138	30	18	7.5	4.7	3.2
27	.60	4.9	16	161	38	65	132	29	18	7.1	4.7	2.9
28	.70	8.5	15	151	37	62	121	29	18	7.1	4.7	2.9
29	.70	38	15	515	61	112	103	29	17	6.8	4.4	2.9
30	.60	18	14	742	-----	122	103	27	16	5.8	4.4	2.9
31	.60	-----	13	512	-----	156	-----	26	-----	6.3	4.2	-----
Total	18.20	234.00	1,674	5,756.5	2,551	2,336	4,372	1,554	842	312.3	162.9	102.6
Mean	.59	7.80	54.0	186	91.1	75.4	146	50.1	28.1	10.1	5.25	3.42
Max	.70	38	367	1,190	324	361	211	94	84	16	6.5	4.2
Min	.50	.50	13	7.5	37	26	101	26	16	5.8	4.2	2.9
Ac-ft	36	464	3,320	11,420	5,060	4,630	8,670	3,080	1,670	619	323	204

Cal yr 1966: Total **5,928.0** Mean **16.2** Max **367** Min **.40** Ac-ft **11,760**
 Wtr yr 1967: Total **19,915.5** Mean **54.6** Max **1,190** Min **.50** Ac-ft **39,500**

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1700	3.06	381	1-30	1000	6.17	1,240
12- 5	0030	4.09	712	3-16	1400	3.83	634
1-21	2100	8.80	1,900	3-30	1930	2.82	306
1-24	0400	5.00	950	4- 6	1230	2.81	303

PESCADERO CREEK BASIN

335

11-1625. PESCADERO CREEK NEAR PESCADERO, CALIF.

LOCATION.--Lat 37°15'40", long 122°19'40", in SW¼ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 62.3 ft above mean sea level, datum of 1929. Prior to Nov. 8, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 41.6 cfs (30,120 acre-ft per year); median of yearly mean discharges, 25 cfs (18,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,100 cfs Jan. 21 (gage height, 15.59 ft); minimum daily, 0.50 cfs Oct. 21, 22.

1951-67: 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 maximum flow; no flow at times.

REMARKS.--Records good. Small diversions above station by pumping. Minor regulation in San Mateo County Memorial Park. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1962 report: 1961.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.3	1.2	10	11	342	24	191	95	26	13	7.5	4.6
2	1.5	1.2	130	11	246	23	141	88	40	13	7.5	4.6
3	1.4	1.0	119	9.8	198	22	115	82	34	13	7.5	4.5
4	1.7	1.0	63	9.3	162	22	109	76	28	13	7.4	4.3
5	1.6	1.6	383	9.0	136	21	108	72	27	13	7.2	8.2
6	1.5	4.4	243	7.8	116	20	494	67	26	12	7.1	4.8
7	1.5	11	132	6.9	100	19	320	63	25	11	7.0	4.3
8	1.4	6.1	81	6.6	87	19	250	59	24	11	6.8	4.0
9	1.1	4.1	57	6.6	78	18	198	57	23	12	6.7	3.4
10	1.3	3.6	50	6.6	70	19	228	61	23	12	6.6	3.4
11	1.3	3.3	41	6.6	63	71	308	53	22	12	6.5	6.2
12	1.0	3.3	35	6.6	59	122	218	50	22	11	6.4	4.7
13	.70	3.5	31	6.6	55	160	179	48	22	10	6.2	3.0
14	.70	3.6	28	6.3	51	142	161	45	21	10	6.1	2.7
15	.90	7.3	25	6.2	47	102	186	43	20	10	6.0	2.8
16	.80	42	23	6.2	45	1,600	172	41	20	10	5.9	2.6
17	1.0	12	21	6.1	42	443	186	40	19	10	5.8	2.5
18	.80	7.4	19	5.9	40	227	299	38	18	9.5	5.7	1.8
19	.60	8.1	19	5.9	37	171	237	36	18	9.3	5.6	4.4
20	.70	47	18	10	34	142	202	35	18	9.1	5.4	2.8
21	.50	36	17	2,300	32	126	215	35	17	8.9	5.3	2.1
22	.50	22	17	1,360	32	105	210	33	17	8.6	5.1	2.0
23	.90	13	17	299	32	101	209	29	16	8.8	4.8	2.0
24	1.0	9.8	16	709	31	85	211	30	16	8.5	4.6	2.2
25	1.2	7.7	16	321	34	74	178	30	15	8.1	4.4	2.0
26	1.3	6.7	16	208	30	66	157	29	15	7.8	4.4	2.2
27	1.1	5.7	14	162	28	60	145	28	15	7.6	4.4	2.1
28	1.2	7.7	14	157	27	57	128	29	14	7.3	4.4	1.9
29	1.1	18	13	728	-----	54	116	29	14	7.5	4.4	1.9
30	1.6	13	13	851	-----	158	105	28	14	7.5	4.4	2.1
31	1.5	-----	12	619	-----	292	-----	25	-----	7.5	4.5	-----
TOTAL	34.70	312.3	1,693	7,865.0	2,254	4,565	5,976	1,474	629	312.0	181.6	100.1
MEAN	1.12	10.4	54.6	254	80.5	147	199	47.5	21.0	10.1	5.86	3.34
MAX	1.7	47	383	2,300	342	1,600	494	95	40	13	7.5	8.2
MIN	.50	1.0	10	5.9	27	18	105	25	14	7.3	4.4	1.8
AC-FT	69	619	3,360	15,600	4,470	9,050	11,850	2,920	1,250	619	360	199

CAL YR 1966: TOTAL 6,866.10 MEAN 18.8 MAX 383 MIN .40 AC-FT 13,620
WAT YR 1967: TOTAL 25,396.70 MEAN 69.6 MAX 2,300 MIN .50 AC-FT 50,370

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2015	6.70	570	1-30	1615	8.64	1,410
12- 5	0415	6.38	510	3-16	0930	12.01	2,920
1-21	1600	15.59	4,100	3-30	2045	5.67	511
1-24	0815	8.34	1,290	4- 6	1415	6.57	738

PESCADERO CREEK BASIN

11-1625.4. BUTANO CREEK NEAR PESCADERO, CALIF.

LOCATION.--Lat 37°14'01", long 122°21'56", in Butano Grant, on right bank 0.15 mile below unnamed tributary and 1.7 miles southeast of Pescadero, San Mateo County.

DRAINAGE AREA.--18.3 sq mi.

RECORDS AVAILABLE.--Occasional low-flow measurements, water years 1957, 1959-62, and annual maximum, water years 1959-62. June 1962 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 70 ft (from topographic map). February 1957 to June 22, 1962, crest-stage gage at site 250 ft downstream at same datum. June 23, 1962, to Sept. 28, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 1,510 cfs Jan. 21 (gage height, 18.35 ft); minimum daily, 0.40 cfs Oct. 14, 18, 25, 26.

1959-67: Maximum discharge, 1,600 cfs Feb. 13, 1962 (gage height, 10.04 ft, crest-stage gage, from flood-marks), by slope-area measurement of maximum flow.

1962-67: No flow July 29 to Aug. 1, 1964.

REMARKS.--Records good. No regulation; small diversions above station for irrigation.

COOPERATION.--Two discharge measurements furnished by California Department of Water Resources.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.60	.70	7.7	5.8	168	14	118	40	14	7.1	3.9	2.4
2	.80	.60	95	5.7	126	14	93	36	37	7.0	3.9	2.5
3	.80	.70	63	5.5	99	14	78	32	25	6.6	4.0	2.6
4	.60	.70	55	5.1	81	13	80	30	18	6.3	3.8	2.3
5	.60	.80	267	5.0	67	13	85	28	16	6.0	3.7	2.3
6	.60	2.8	137	4.9	58	13	309	26	15	6.0	3.8	2.3
7	.70	4.6	75	4.8	51	13	194	24	15	6.1	3.6	2.2
8	.60	1.8	50	4.7	45	12	126	23	14	6.1	3.5	2.0
9	.90	1.5	37	4.7	41	12	93	22	14	6.4	3.4	2.1
10	.80	1.3	31	4.6	36	13	106	23	13	5.9	3.3	2.4
11	.60	1.3	24	4.6	33	40	131	20	13	5.7	2.8	2.0
12	.60	1.2	21	4.6	29	41	97	19	13	5.4	3.0	2.0
13	.60	1.3	18	4.5	27	47	78	18	13	5.3	3.3	2.0
14	.40	1.2	16	4.4	25	48	68	17	12	5.2	3.1	2.0
15	.60	4.5	14	4.2	23	45	75	16	12	5.1	3.0	2.0
16	.60	26	13	4.2	22	485	62	16	11	5.2	2.6	2.0
17	.60	5.0	12	4.2	20	192	76	15	11	5.1	2.9	2.3
18	.40	3.2	11	4.1	19	110	109	15	11	4.7	2.8	2.0
19	.50	6.1	10	4.1	18	80	88	14	10	4.5	2.6	2.0
20	.60	37	9.7	17	17	65	73	14	10	4.5	2.8	1.8
21	.60	18	8.9	1,040	16	60	84	14	9.8	4.6	2.7	1.6
22	.60	9.9	8.4	459	15	48	80	14	9.5	4.5	2.6	1.9
23	.60	6.4	8.0	167	15	50	94	13	9.1	4.8	2.5	1.8
24	.60	4.9	7.7	336	15	41	93	13	8.8	4.7	2.3	2.2
25	.40	4.2	7.4	180	18	35	80	12	8.8	4.5	2.0	1.9
26	.40	3.7	7.2	128	15	31	69	12	8.4	4.4	2.1	1.8
27	.60	3.4	6.9	100	15	27	63	12	8.3	4.3	2.3	1.8
28	.80	6.4	6.7	110	14	27	54	13	7.9	4.1	2.4	1.9
29	1.0	15	6.7	382	-----	24	48	12	7.6	4.0	2.1	1.9
30	.90	7.9	6.2	457	-----	80	43	11	7.3	4.3	2.3	1.8
31	.80	-----	5.9	285	-----	158	-----	11	-----	4.0	2.3	-----
TOTAL	19.80	182.10	1,046.4	3,750.7	1,128	1,865	2,847	585	382.5	162.4	91.4	61.8
MEAN	.64	6.07	33.8	121	40.3	60.2	94.9	18.9	12.8	5.24	2.95	2.06
MAX	1.0	37	267	1,040	168	485	309	40	37	7.1	4.0	2.6
MIN	.40	.60	5.9	4.1	14	12	43	11	7.3	4.0	2.0	1.6
AC-FT	39	361	2,080	7,440	2,240	3,700	5,650	1,160	759	322	181	123

CAL YR 1966: TOTAL 3,779.60 MEAN 10.4 MAX 267 MIN .40 AC-FT 7,500

WAT YR 1967: TOTAL 12,122.10 MEAN 33.2 MAX 1,040 MIN .40 AC-FT 24,040

Peak discharge (base, 170 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1800	8.57	337	3-16	1015	12.04	749
12- 5	0230	9.44	437	3-30	1900	8.71	352
1-21	1445	18.35	1,510	4- 6	1230	10.20	528
1-24	0600	10.80	600	4-10	2100	7.82	184
1-29	0615	11.95	738				

PURISIMA CREEK BASIN

337

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 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 380 ft (from topographic map). Prior to Sept. 7, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 3.01 cfs (2,180 acre-ft per year).

EXTREMES.--Maximum discharge during year, 343 cfs Jan. 21 (gage height, 5.42 ft), from rating curve extended above 140 cfs as explained below; minimum daily, 0.30 cfs Nov. 3, 4, 9-14.

1958-67: Maximum discharge, 343 cfs Jan. 21, 1967 (gage height, 5.42 ft), from rating curve extended above 140 cfs on basis of slope-area measurement at gage height 5.28 ft; minimum daily, 0.20 cfs Dec. 28, 29, 1959, Sept. 3-5, 1961.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.40	1.9	1.0	45	3.1	19	11	4.7	2.5	2.0	1.6
2	.40	.40	7.0	.90	32	3.1	16	10	12	2.5	2.0	1.6
3	.60	.20	6.2	.80	23	3.1	15	9.5	11	2.8	2.0	1.6
4	.60	.30	4.0	.80	19	3.1	14	9.1	8.3	3.2	2.0	1.6
5	.60	.40	19	1.0	15	2.9	14	8.8	7.1	3.2	1.9	1.6
6	.60	1.4	9.0	1.0	13	2.8	43	8.4	6.6	3.2	1.9	1.6
7	.70	.70	7.0	1.0	11	2.8	35	7.8	6.2	3.1	1.9	1.6
8	.70	.40	5.0	1.0	10	2.7	27	7.5	6.0	3.1	1.9	1.6
9	.50	.30	4.0	1.0	8.9	2.5	22	7.3	5.7	3.1	1.9	1.6
10	.50	.30	3.3	1.0	8.2	2.6	24	7.5	6.2	3.0	1.9	1.4
11	.60	.30	2.5	1.0	7.8	6.0	26	7.4	6.3	3.0	1.9	1.4
12	.50	.30	2.0	1.0	6.7	10	23	7.0	6.5	2.8	1.9	1.4
13	.50	.30	1.6	1.0	6.3	9.8	19	6.6	7.3	2.7	1.9	1.4
14	.50	.30	1.4	1.1	6.0	8.6	18	6.2	7.0	2.6	1.8	1.4
15	.50	2.0	1.4	1.1	5.6	7.8	18	6.0	6.4	2.5	1.8	1.4
16	.50	3.2	1.3	1.1	5.6	49	17	5.8	5.7	2.5	1.8	1.4
17	.40	.70	1.3	1.1	5.3	30	18	5.6	5.2	2.3	1.8	1.4
18	.40	.50	1.1	1.3	4.8	20	21	5.3	5.0	2.3	1.8	1.3
19	.60	1.9	1.1	1.1	4.8	16	21	5.3	4.9	2.1	1.8	1.2
20	.60	5.1	1.0	7.1	4.5	14	19	5.3	4.8	2.0	1.8	1.1
21	.60	2.6	1.0	176	4.2	14	19	5.0	4.6	2.0	1.8	1.1
22	.60	1.6	1.0	79	3.9	12	18	4.9	4.4	2.0	1.8	1.3
23	.60	1.1	1.0	21	3.9	14	18	4.8	4.1	2.0	1.7	1.4
24	.50	.90	1.0	23	3.6	13	19	4.8	3.9	2.3	1.7	1.3
25	.50	.70	1.0	18	3.6	12	18	4.7	3.8	2.0	1.7	1.4
26	.60	.60	1.1	15	3.6	11	16	4.5	3.6	2.0	1.7	1.1
27	.60	.60	1.1	12	3.4	11	16	4.5	3.3	2.0	1.7	1.1
28	.60	1.6	1.0	17	3.1	9.8	14	4.5	3.1	2.0	1.7	1.1
29	.60	3.1	1.0	58	-----	9.3	13	4.8	3.0	2.0	1.7	1.1
30	.50	1.8	1.0	90	-----	16	12	4.7	2.7	2.0	1.7	1.1
31	.50	-----	1.0	60	-----	23	-----	4.5	-----	2.0	1.7	-----
TOTAL	16.90	34.10	92.3	595.40	271.8	345.0	592	199.1	169.4	76.8	56.6	41.2
MEAN	.55	1.14	2.98	19.2	9.71	11.1	19.7	6.42	5.65	2.48	1.83	1.37
MAX	.70	5.1	19	176	45	49	43	11	12	3.2	2.0	1.6
MIN	.40	.30	1.0	.80	3.1	2.5	12	4.5	2.7	2.0	1.7	1.1
AC-FT	34	68	183	1,180	539	684	1,170	395	336	152	112	82

CAL YR 1966: TOTAL 679.50 MEAN 1.86 MAX 30 MIN .30 AC-FT 1,350
 WAT YR 1967: TOTAL 2,490.60 MEAN 6.82 MAX 176 MIN .30 AC-FT 4,940

Peak discharge (base, 30 cfs)

Note.--No gage-height record July 28 to Sept. 6.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1400	5.42	343	3-16	1330	4.36	83
1-24	0530	4.05	32	4-6	1045	4.26	67
1-30	0930	4.85	161				

PILARCITOS CREEK BASIN

11-1626.3. PILARCITOS CREEK AT HALF MOON BAY, CALIF.

LOCATION.--Lat 37°28'07", long 122°26'08", on north boundary of Miramontes Grant, on left bank 0.2 mile downstream from State Highway 1, 0.5 mile northwest of town of Half Moon Bay, San Mateo County, and 1.0 mile upstream from mouth.

DRAINAGE AREA.--27.2 sq mi.

RECORDS AVAILABLE.--July 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 23.59 ft above mean sea level, datum of 1929.

EXTREMES.--1966: No flow July to September.

1966-67: Maximum discharge during year, 1,020 cfs Jan. 21 (gage height, 9.85 ft); no flow Oct. 1 to Nov. 10, Nov. 13, 14.

REMARKS.--Records fair. Flow slightly regulated by storage in Pilarcitos Lake (capacity, 3,100 acre-ft, majority of water imported for domestic use). Small diversions for irrigation above station by pumping.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.4	1.8	114	9.0	32	35	7.9	5.2	2.2	.60
2		0	14	2.4	74	8.4	30	34	22	5.2	2.5	.40
3		0	10	2.6	56	7.9	29	36	19	4.8	2.9	.60
4		0	10	3.0	45	7.9	27	28	13	4.8	2.2	.80
5		0	37	3.2	35	7.9	43	27	11	4.4	2.2	.50
6		0	40	2.3	29	7.9	269	27	10	4.0	2.2	.60
7		0	21	2.3	26	6.5	128	25	9.6	3.6	2.5	.30
8		0	15	2.3	23	6.5	100	23	9.0	3.6	4.0	.10
9		0	11	2.1	26	5.6	60	22	9.0	4.0	2.2	.10
10		0	11	2.1	23	6.0	110	23		3.6	1.4	.20
11		.20	7.8	1.8	22	9.0	95	23	9.0	3.2	.80	.30
12		.20	7.2	2.4	21	15	72	23	7.9	1.9	1.2	.20
13		0	6.6	2.4	19	14	52	20	7.9	1.9	1.2	.20
14		0	6.3	2.1	18	10	48	17	7.9	1.9	1.2	.20
15		3.0	5.4	1.6	17	12	46	16	7.4	2.2	.80	.20
16		6.5	5.4	1.5	16	83	45	16	6.5	2.9	.80	.20
17		5.8	4.6	1.6	16	58	65	15	6.5	3.2	.60	.20
18		4.6	4.4	1.6	14	41	64	14	6.5	3.2	.60	.30
19		7.5	3.8	1.8	14	31	50	14	6.5	3.2	.60	.20
20		13	3.4	19	12	28	45	14	6.5	2.9	1.2	.20
21		5.4	3.0	652	12	28	50	14	6.0	3.6	1.0	.10
22		3.8	3.0	339	12	23	58	14	6.0	3.2	.80	.20
23		3.0	3.2	88	11	26	60	13	5.2	3.6	1.2	.40
24		2.8	2.8	146	10	22	56	12	5.6	3.6	.80	.40
25		2.3	2.8	93	11	19	54	12	5.6	3.2	1.4	.50
26		2.1	2.4	71	10	18	53	12	5.6	1.9	1.6	.40
27		2.1	2.1	59	9.6	16	51	12	5.6	1.9	1.6	.50
28		4.8	2.1	81	9.0	16	47	12	5.2	1.9	1.0	.40
29		4.8	2.1	217	-----	15	43	13	4.8	2.5	.60	.20
30		3.4	1.8	389	-----	67	39	9.6	4.8	2.2	.50	.20
31		-----	1.6	220	-----	38	-----	8.4	-----	2.2	.60	-----
Total	0	75.30	254.2	2,414.9	704.6	662.6	1,921	584.0	246.5	99.5	44.40	9.70
Mean	0	2.51	8.20	77.9	25.2	21.4	64.0	18.8	8.22	3.21	1.43	.32
Max	0	13	40	652	114	83	269	36	22	5.2	4.0	.80
Min	0	0	1.6	1.5	9.0	5.6	27	8.4	4.8	1.9	.50	.10
Ac-ft	0	149	504	4,790	1,400	1,310	3,810	1,160	489	197	88	19

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 7,016.7 Mean 19.2 Max 652 Min 0 Ac-ft 13,920

Peak discharge (base, 70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2200	9.85	1,020	4-6	0930	7.13	582
1-24	0430	5.93	256	4-10	-	4.44	170
1-30	1000	9.32	890	4-17	1900	4.07	124
3-16	0900	3.95	117	4-22	0030	3.90	106
3-30	1700	4.88	232				

COLMA CREEK BASIN

339

11-1627.2. COLMA CREEK AT SOUTH SAN FRANCISCO, CALIF.

LOCATION.--Lat 37°39'14", long 122°25'31", in Buri Buri Grant, on left bank in Orange Memorial Park, 1.0 mile southwest of South San Francisco Post Office, San Mateo County.

DRAINAGE AREA.--10.9 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 12.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Tipping-bucket rain gage 2.5 miles upstream.

EXTREMES.--Maximum discharge during year, 1,120 cfs Mar. 11 (gage height, 7.98 ft); minimum daily, 0.20 cfs for many days.
1964-67: Maximum discharge, 1,120 cfs Mar. 11, 1967 (gage height, 7.98 ft); maximum gage height, 8.00 ft Jan. 20, 1964; no flow Oct. 5, 26, 1963.

REMARKS.--Records good except those below 5.0 cfs, which are poor. Low flow affected by return flow from urban irrigation. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	.40	6.7	.30	1.4	1.0	5.3	2.1	3.6	1.2	1.2	.90
2	.40	.30	9.6	.30	1.0	1.0	3.0	1.8	5.7	1.2	1.2	.90
3	.40	.30	9.2	.20	8.2	.90	3.0	1.8	4.0	1.2	1.2	.90
4	.20	.20	5.5	.20	4.6	1.2	2.5	1.8	1.2	1.2	.90	1.2
5	.20	.20	12.5	.20	4.0	1.2	5.0	1.8	.90	.80	.90	.70
6	.20	.40	6.8	.20	4.0	.90	19.7	2.1	.90	.60	.90	.70
7	.30	1.4	3.4	.20	3.4	.90	2.2	1.4	.90	1.2	.70	.70
8	.30	.90	6.7	.20	3.0	.70	1.0	.90	.90	1.2	.70	.90
9	.30	.70	4.2	.20	2.5	.60	6.0	8.4	.90	.90	.70	1.2
10	.30	.50	1.1	.20	2.1	2.3	5.4	3.7	.90	.70	.70	1.2
11	.30	.40	3.0	.20	2.1	9.5	4.5	.90	.90	.60	.90	.70
12	.30	.30	2.1	.20	2.1	1.7	7.4	.90	.90	.60	.90	.90
13	.30	.30	1.4	.20	2.5	2.9	5.3	1.2	.90	.60	.90	.70
14	.20	3.6	1.4	.20	2.1	6.0	6.0	1.2	.90	.40	.90	.70
15	.20	6.4	1.8	.20	1.8	2.3	1.8	.90	.90	.60	1.2	.60
16	.20	1.8	.90	.20	1.4	7.9	3.0	1.2	.90	.70	.90	.70
17	.20	2.5	.70	.20	1.4	7.4	2.4	.90	.90	1.2	.90	.70
18	.30	.90	.70	.30	1.4	5.8	2.6	.90	.90	1.2	1.2	.70
19	.30	8.7	.70	.30	1.4	2.5	9.8	.90	.90	1.2	1.4	.70
20	.30	4.8	.60	15.6	1.4	8.8	1.0	1.2	.90	1.2	1.4	.70
21	.40	1.8	.60	4.62	1.8	5.5	3.3	.90	.90	1.4	1.4	.60
22	.40	4.6	.90	4.8	1.8	2.5	6.0	.90	.90	1.4	1.4	.70
23	.40	2.5	1.2	3.9	1.8	4.9	4.5	.90	.90	1.2	1.2	.70
24	.30	2.5	.90	19.9	1.2	1.8	1.1	.90	1.2	.90	1.8	.70
25	.20	2.1	.70	2.4	4.1	1.8	6.0	.90	1.2	1.2	1.4	.70
26	.30	2.1	.70	2.7	2.5	1.8	4.0	.90	.90	1.2	1.8	.70
27	.40	2.1	.90	1.2	1.5	1.8	6.0	.70	1.2	1.4	1.8	.60
28	.20	4.7	1.2	9.4	1.2	4.0	4.8	.90	.90	1.4	1.8	.60
29	.20	1.5	.60	10.8	-----	1.4	2.5	.70	1.2	1.4	7.9	.70
30	.20	1.8	.30	18.7	-----	6.7	3.0	.70	.90	1.4	2.5	.70
31	.20	-----	.30	3.8	-----	2.7	-----	.70	-----	1.2	2.1	-----
Total	8.80	36.760	47.520	1,398.20	100.1	424.40	628.6	45.10	90.40	32.60	44.80	23.10
Mean	.28	12.3	15.3	45.1	3.58	13.7	21.0	1.45	3.01	1.05	1.45	.77
Max	.40	8.7	12.5	4.62	1.4	9.5	19.7	8.4	5.7	1.4	7.9	1.2
Min	.20	.20	.30	.20	1.2	.60	2.5	.70	.90	.40	.70	.60
Ac-ft	1.7	7.29	9.43	2,770	199	84.2	1,250	8.9	17.9	6.5	8.9	4.6
(+)	0	5.3	4.6	10.8	.5	4.8	6.0	.3	1.4	0	0	0

Cal yr 1966: Total 1,667.2 Mean 4.57 Max 12.5 Min .10 Ac-ft 3,310
Wtr yr 1967: Total 3,638.9 Mean 9.97 Max 4.62 Min .20 Ac-ft 7,220

Peak discharge (base, 600 cfs)

+ Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1230	7.37	898	1-30	0730	6.88	742
1-21	1900	7.95	1,110	3-11	0030	7.98	1,120
1-24	0300	7.91	1,090	4-6	0500	7.21	847

COLMA CREEK BASIN

11-1627.22 SPRUCE BRANCH AT SOUTH SAN FRANCISCO, CALIF.

LOCATION.--Lat 37°38'46", long 122°25'15", in Buri Buri Grant, on right bank 0.5 mile upstream from mouth and 1.0 mile southwest of South San Francisco Post Office, San Mateo County.

DRAINAGE AREA.--1.68 sq mi.

RECORDS AVAILABLE.--February 1965 to September 1967.

GAGE.--Graphic water-stage recorder and concrete culvert control. Datum of gage is 5.50 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

EXTREMES.--Maximum discharge during year, 372 cfs Jan. 24 (gage height, 14.82 ft), from rating curve extended above 72 cfs as explained below; no flow at times.
1965-67: Maximum discharge, 372 cfs Jan. 24, 1967 (gage height, 14.82 ft), from rating curve extended above 72 cfs on basis of indirect measurements of theoretical flow through culvert; no flow at times in each year.

REMARKS.--Records good. No regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	1.6	0.10	0.80	0.10	0.30	0.10	1.0	0.20	0.10	0.20
2	.10	.10	26	.10	.50	.10	.20	.20	10	.20	.10	.10
3	.10	.10	1.6	.10	.40	.10	.20	.20	.50	.20	.20	.20
4	.10	.10	16	.10	.40	.10	.20	.20	.10	.20	.20	.20
5	.10	.10	27	.10	.20	.10	11	.20	.10	.20	.20	.20
6	.10	9.60	14	.10	.20	.10	42	.20	.10	.20	.20	.10
7	.10	.10	6.0	.10	.20	.10	.80	.20	.10	.10	.10	.10
8	.10	.10	.80	.10	.10	.10	.20	.20	.20	.10	.10	.10
9	.20	.10	7.9	.10	.10	.10	.20	1.0	.10	.20	.20	.20
10	.10	.10	.80	.10	.10	10	15	1.5	.10	.20	.10	.20
11	.10	.10	.20	.10	.10	27	3.7	.10	.10	.20	.10	.20
12	.20	.10	.10	.10	.10	2.2	.20	.10	.10	.20	.10	.20
13	.10	.10	.10	.10	.20	3.6	.10	.10	.20	.20	.10	.20
14	.20	.80	.10	.10	.10	.20	.20	.10	.10	.40	.10	.20
15	.20	19	.10	.10	.20	6.2	3.5	.10	.20	.20	.10	.20
16	.20	3.1	.10	.10	.20	20	.10	.10	.20	.20	.20	.20
17	.20	.20	.10	.10	.20	.50	.80	.40	.20	.20	.20	.20
18	.20	.10	.10	.10	.20	.50	6.7	.60	.20	.10	.20	.20
19	.10	17	.10	.10	.20	.40	3.0	.40	.20	.20	.10	.20
20	.10	8.3	.10	36	.20	1.5	1.7	.20	.20	.10	0	.20
21	.10	5.6	.10	113	.10	.50	5.4	.10	.20	.10	.10	.10
22	.10	.20	.10	4.5	.20	.20	.50	0	.20	.10	.10	0
23	.40	.10	.10	6.7	.20	1.2	6.1	0	.20	.10	.10	.20
24	.20	.10	.10	51	.40	.10	3.4	0	.20	.10	.10	0
25	.20	.10	.10	2.6	.20	.10	.10	0	.20	.10	.10	0
26	.20	.10	.10	2.6	.10	.10	.10	0	.20	.20	.10	0
27	.20	.20	.10	1.8	.10	.10	.20	0	.20	.20	.10	0
28	.20	14	.10	13	.10	1.2	.10	.10	.20	.20	.10	0
29	.20	1.6	.10	23	- - - -	.10	.10	.10	.20	.20	.10	0
30	.10	.20	.10	35	- - - -	19	.10	.10	.20	.10	.10	0
31	.10	- - - -	.10	3.3	- - - -	5.0	- - - -	.10	- - - -	.20	.10	- - - -
Total	4.70	81.50	103.90	294.40	6.10	100.60	113.40	6.70	16.00	5.40	3.80	3.90
Mean	.15	2.72	3.35	9.50	.22	3.25	3.78	.22	.53	.17	.12	.13
Max	.40	19	27	113	.80	27	42	1.5	10	.40	.20	.20
Min	.10	.10	.10	.10	.10	.10	.10	0	.10	.10	0	0
Ac-ft	9.3	162	206	584	12	200	225	13	32	11	7.5	7.7

Cal yr 1966: Total 375.2 Mean 1.03 Max 31 Min 0 Ac-ft 744
Wtr yr 1967: Total 740.4 Mean 2.03 Max 113 Min 0 Ac-ft 1,470

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1900	13.65	342	3-11	0030	14.70	368
1-24	0300	14.82	372	3-16	0345	9.96	206

REDWOOD CREEK BASIN

341

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.

RECORDS AVAILABLE.--September 1959 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 83.92 ft above mean sea level, datum of 1929. Prior to May 25, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 0.87 cfs (630 acre-ft per year).

EXTREMES.--Maximum discharge during year, 446 cfs Jan. 21 (gage height, 7.56 ft), from rating curve extended above 170 cfs as explained below; no flow for many days.

1959-67: Maximum discharge, 644 cfs Jan. 31, 1963 (gage height, 9.36 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of maximum flow and computation of maximum flow through culvert; no flow for many days in each year.

REMARKS.--Records good. Low flow at times affected by return flow from urban irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.20	.20	4.0	.40	2.6	.97	.16	.05	0	0
2	0	0	7.5	.20	2.8	.40	1.7	.95	.76	.21	0	0
3	0	0	1.1	.20	2.3	.40	1.4	.89	.27	.06	0	0
4	0	0	2.9	.10	2.0	.30	1.4	.87	.17	.06	0	0
5	0	0	16	.10	1.8	.30	2.1	.87	.16	.10	0	0
6	0	.30	9.8	.10	2.1	.30	29	.84	.19	.08	0	0
7	0	0	3.2	.10	2.1	.30	5.3	.79	.18	.07	0	.10
8	0	0	1.4	.10	1.6	.30	2.5	.89	.15	.06	.20	0
9	0	0	.80	.10	1.2	.30	1.9	.64	.15	.07	0	0
10	0	0	1.0	.10	1.2	.50	7.8	.87	.14	.12	0	0
11	0	0	.70	.10	1.0	3.0	4.8	.67	.14	.12	0	0
12	0	0	.60	.10	1.0	19	2.2	.62	.17	.11	0	0
13	0	0	1.0	.10	.90	11	1.6	.59	.16	.13	0	.10
14	0	0	1.1	.10	.80	2.8	1.5	.58	.16	.13	0	0
15	0	1.1	.40	.10	.80	2.6	2.0	.56	.16	.08	0	0
16	0	.60	.30	.10	.60	47	1.3	.50	.16	0	0	.10
17	0	0	.30	.10	.60	3.4	6.2	.40	.16	0	0	0
18	0	0	.30	.10	.60	2.0	4.6	.33	.18	0	0	0
19	0	.70	.20	.10	.60	1.5	4.1	.32	.14	0	0	0
20	0	2.0	.20	11	.40	1.5	2.1	.31	.13	0	0	0
21	0	.60	.20	211	.40	1.3	3.1	.27	.15	0	0	0
22	0	.30	.20	28	.40	1.2	2.0	.26	.12	0	0	0
23	0	0	.20	7.5	.40	1.7	3.1	.24	.11	0	0	0
24	0	0	.20	31	.50	1.0	3.2	.37	.08	0	0	0
25	0	0	.20	7.1	.60	.80	1.9	.18	.08	0	0	0
26	0	0	.20	3.2	.40	.80	1.5	.18	.09	0	0	0
27	0	.10	.20	2.5	.40	.80	1.5	.18	.08	0	0	0
28	0	.90	.20	7.3	.40	.90	1.2	.15	.07	0	0	0
29	0	.10	.20	31	-----	.80	1.1	.16	.08	0	0	0
30	0	.10	.20	50	-----	23	1.0	.17	.08	0	0	0
31	0	-----	.20	11	-----	8.5	-----	.18	-----	0	0	-----
TOTAL	0	6.80	51.20	402.80	31.90	138.10	105.7	15.80	4.83	1.45	0.20	0.30
MEAN	0	.23	1.65	13.0	1.14	4.45	3.52	.51	.16	.047	.007	.010
MAX	0	2.0	16	211	4.0	47	29	.97	.76	.21	.20	.10
MIN	0	0	.20	.10	.40	.30	1.0	.15	.07	0	0	0
AC-FT	0	13	102	799	63	274	210	31	9.6	2.9	.4	.6

CAL YR 1966: TOTAL 169.30 MEAN .46 MAX 16 MIN 0 AC-FT 336
WAT YR 1967: TOTAL 759.08 MEAN 2.08 MAX 211 MIN 0 AC-FT 1,510

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1330	7.56	446	3-16	0045	4.61	150
1-24	0400	5.43	228	3-30	1600	4.58	147
1-30	0830	6.79	364	4- 6	0900	4.20	118
3-12	1715	3.78	90				

ATHERTON DRAINAGE CHANNEL BASIN

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 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 146.18 ft above mean sea level, datum of 1929. Prior to July 12, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 0.14 cfs (101 acre-ft per year).

EXTREMES.--Maximum discharge during year, 87 cfs Jan. 24 (gage height, 3.38 ft); no flow for many days.

1958-67: Maximum discharge, 87 cfs Jan. 24, 1967 (gage height, 3.38 ft); no flow at times in each year. Flood of Apr. 2, 1958, reached a stage of about 4.2 ft, from floodmarks.

REMARKS.--Records good except those below 1.0 cfs, which are fair. Low flow affected by runoff from urban irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	C	C	.20	C	.20	0	.20	.10	0	C	.04	0
2	0	0	3.8	C	.20	0	.10	.10	.30	0	.03	.02
3	0	0	.10	C	.10	0	.10	.10	0	0	.04	.02
4	C	C	1.1	C	.10	0	.30	.10	0	C	.03	.02
5	C	0	4.9	C	.10	0	.60	0	0	.10	.03	.02
6	0	1.0	3.1	C	.10	0	8.6	0	0	C	.02	.02
7	C	0	.90	C	.10	0	.70	C	0	.10	.03	.03
8	0	0	.20	C	.10	0	.20	0	0	.10	.02	.03
9	C	0	.30	C	.10	0	.10	.10	0	.10	.03	.02
10	C	0	.20	C	.10	.30	1.6	.10	0	.10	.05	.02
11	C	0	.10	0	.10	1.2	.50	.10	0	.10	.06	.02
12	0	0	.10	0	.10	4.4	.10	0	0	0	.03	.02
13	C	0	C	0	.10	2.3	.10	C	0	.02	.02	.03
14	0	0	0	0	0	.20	.10	0	0	.05	.03	.02
15	C	1.7	C	0	.10	1.5	.30	0	0	.03	.03	.02
16	0	.60	C	0	0	6.8	.10	0	0	.03	.03	.02
17	0	.10	C	0	0	.20	.60	0	0	.03	.03	.04
18	0	0	C	0	0	.10	.60	C	0	.03	.03	.02
19	0	.90	0	0	C	.10	.70	C	0	.03	.07	.02
20	C	1.5	0	5.6	C	.10	.20	0	0	.02	.02	0
21	C	1.2	C	45	C	.10	.70	0	0	.03	.04	0
22	0	.10	0	1.2	0	0	.20	0	.10	.03	C	0
23	C	0	0	.40	0	.20	.70	C	.10	.02	C	0
24	C	0	0	13	.10	0	.50	0	0	.03	0	0
25	C	0	C	.50	0	0	.20	C	0	.03	0	0
26	C	0	0	.30	C	0	.10	0	0	.03	0	0
27	C	0	0	.20	0	0	.10	0	.10	.02	0	0
28	0	1.1	C	1.5	0	.10	.10	C	.10	.04	C	0
29	0	.10	C	7.2	-----	0	.10	0	0	.03	C	0
30	0	0	0	12	-----	5.6	.10	C	.10	.02	C	0
31	0	-----	0	1.1	-----	1.5	-----	0	-----	.03	C	-----
TOTAL	0	8.30	15.00	88.00	1.70	24.70	18.60	0.70	0.70	1.16	C.71	0.41
MEAN	0	.28	.48	2.84	.061	.80	.62	.023	.023	.037	.023	.014
MAX	0	1.7	4.9	45	.20	6.8	8.6	.10	.30	.10	.07	.04
MIN	0	0	0	0	0	0	.10	0	0	C	0	0
AC-FT	0	16	30	175	3.4	49	37	1.4	1.4	2.2	1.4	.8

CAL YR 1966: TOTAL 39.60

MEAN .11

MAX 4.9

MIN 0

AC-FT 79

WAT YR 1967: TOTAL 159.98

MEAN .44

MAX 45

MIN 0

AC-FT 317

Peak discharge (base, 20 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1245	3.25	79	3-16	0015	2.88	57
1-24	0415	3.38	87	3-30	1430	2.94	61
1-30	0830	3.26	80	4-6	0830	2.57	40

SAN FRANCISQUITO CREEK BASIN

343

11-1629.4. SAN FRANCISQUITO CREEK BELOW LADERA DAMSITE, NEAR STANFORD UNIVERSITY, 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 1967. Prior to October 1962, published as "below Ladera dam-site."

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 177.47 ft above mean sea level, datum of 1929. Prior to Dec. 27, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 16.1 cfs (11,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,890 cfs Jan. 21 (gage height, 14.81 ft); no flow for many days. 1961-67: Maximum discharge, 2,890 cfs Jan. 21, 1967 (gage height, 14.81 ft); maximum gage height, 16.04 ft Jan. 31, 1963; no flow at times in each year.

REMARKS.--Records good. Flow regulated by Searsville Lake (capacity, 952 acre-ft). Small diversions from Searsville Lake for irrigation on Stanford University campus.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.20	.90	129	5.0	129	20	4.0	.58	.06	.05
2	0	0	.28	.80	72	2.8	74	11	17	.53	.08	.05
3	0	0	.17	.80	54	2.0	38	22	17	.48	.10	.05
4	0	0	5.2	.80	42	1.1	28	24	8.3	.46	.15	.04
5	0	0	115	.80	33	1.1	55	22	5.2	.43	.20	.04
6	0	0	64	.80	20	2.1	516	22	5.2	.44	.18	.04
7	0	0	27	.80	18	3.5	226	19	8.2	.47	.21	.03
8	0	0	18	.80	13	4.0	114	15	7.3	.36	.17	.03
9	0	0	9.4	.80	9.1	4.3	73	12	5.1	.31	.13	.03
10	0	0	10	.80	14	4.9	168	21	4.8	.23	.16	.03
11	0	0	5.9	.80	15	75	203	19	3.5	.20	.10	.03
12	0	0	4.2	.80	13	161	92	16	3.4	.22	.10	.04
13	0	0	3.8	.80	12	155	65	20	2.4	.15	.16	.03
14	0	0	3.9	.80	11	93	55	19	1.9	.21	.16	.03
15	0	0	2.9	.80	9.8	30	89	9.0	2.0	.24	.13	.03
16	0	0	2.0	.80	9.7	840	72	1.7	2.2	.31	.11	.04
17	0	0	1.8	.80	9.3	183	116	2.8	2.2	.24	.08	.04
18	0	0	1.6	.70	9.6	90	176	4.7	2.8	.15	.06	.04
19	0	0	1.5	.70	9.1	62	147	5.7	1.9	.15	.04	.04
20	0	1.9	1.4	28	6.3	45	79	5.7	1.2	.09	.04	.03
21	0	2.4	1.4	1,930	3.9	56	98	6.0	1.1	.12	.05	.03
22	0	1.0	1.2	540	4.0	45	87	5.7	.96	.11	.05	.03
23	0	.30	1.1	103	4.5	63	96	3.4	.97	.17	.06	.05
24	0	.10	1.1	450	6.1	48	109	1.0	.79	.14	.06	.04
25	0	.10	1.0	135	9.5	40	72	.90	.73	.13	.04	.03
26	0	.10	.90	72	7.6	34	56	1.0	2.5	.12	.04	.04
27	0	0	.90	49	6.8	19	55	1.0	2.2	.13	.05	.04
28	0	.20	.90	84	6.9	12	50	1.2	1.8	.11	.05	.04
29	0	.40	1.1	514	-----	20	42	1.7	.71	.05	.06	.04
30	0	.30	1.0	711	-----	320	36	3.0	.63	.08	.06	.04
31	0	-----	.90	310	-----	330	-----	3.0	-----	.04	.06	-----
TOTAL	0	6.80	334.30	4,941.10	558.2	2,751.8	3,216	319.50	117.99	7.45	3.00	1.12
MEAN	0	.23	10.8	159	19.9	88.8	107	10.3	3.93	.24	.097	.037
MAX	0	2.4	115	1,930	129	840	516	24	17	.58	.21	.05
MIN	0	0	.20	.70	3.9	1.1	28	.90	.63	.04	.04	.03
AC-FT	0	13	663	9,800	1,110	5,460	6,380	634	234	15	6.0	2.2

CAL YR 1966: TOTAL 1,765.00 MEAN 4.84 MAX 132 MIN 0 AC-FT 3,500
WAT YR 1967: TOTAL 12,257.26 MEAN 33.6 MAX 1,930 MIN 0 AC-FT 24,310

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1430	14.81	2,890	3-16	0945	10.19	1,490
1-24	0500	8.67	1,110	3-30	1645	8.29	1,010
1-30	1015	9.60	1,340	4- 6	1500	8.00	946

SAN FRANCISQUITO CREEK BASIN

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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 115.75 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--28 years, 17.6 cfs (12,740 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,000 cfs Jan. 21 (gage height, 8.60 ft); no flow for many days.
1930-41, 1950-67: 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 of 700 acre-ft above station to Los Trancos and Lagunita Canals for irrigation on Stanford University campus below station. Low flow affected by waste water from Stanford Linear Accelerator.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.60	0.10	167	4.8	157	26	2.1	1.2	0.10	0.10
2	0	.10	14	.10	94	3.2	92	14	13	1.1	.10	.10
3	0	.10	12	.10	70	2.8	51	28	18	1.1	.10	.10
4	0	.10	.30	.10	57	2.2	38	30	9.5	1.1	.10	.10
5	0	.10	81	.20	45	1.9	64	26	5.6	1.2	.10	.10
6	0	1.6	56	.20	28	1.7	612	26	4.6	1.2	.20	.20
7	0	.30	15	.20	20	2.2	283	24	7.0	.80	.30	.10
8	0	.10	4.4	.20	16	1.9	148	19	5.9	.70	.20	.10
9	0	.10	.20	.20	13	2.2	98	15	4.2	.50	.20	.20
10	0	.10	.20	.20	20	3.0	201	25	3.0	.40	.20	.20
11	0	.10	.10	.20	21	85	241	23	3.2	.30	.10	.20
12	0	.20	.10	.20	18	214	118	19	2.6	.40	.10	.10
13	0	.20	.10	.20	15	202	83	22	1.7	.50	.10	.10
14	0	.30	.10	.20	13	122	72	21	1.4	.30	.10	.10
15	0	2.2	.10	.20	11	45	112	11	1.5	.40	.20	.10
16	0	2.9	.10	.20	12	1,010	91	3.2	1.6	.60	.20	.10
17	.10	.20	.10	.20	11	216	137	3.2	1.7	.20	.10	.10
18	0	8.8	.10	.20	12	91	216	4.6	2.0	.20	.10	.20
19	0	.80	.10	.20	11	72	183	6.2	1.2	.20	.10	.10
20	.10	3.5	.10	18	8.1	51	104	6.4	.90	.10	.10	0
21	.10	2.4	.10	2,360	5.4	56	133	6.4	.80	.10	.20	.20
22	.10	.10	.10	616	4.8	48	114	5.9	.70	.10	.20	.20
23	.20	.10	.10	107	4.6	64	125	3.7	2.0	.10	.10	.20
24	.10	.10	.10	570	4.6	50	132	1.2	1.4	.10	.20	.40
25	0	.10	.10	159	9.1	41	94	1.1	1.4	.10	.40	.20
26	.10	.10	.10	81	7.6	36	72	1.0	2.6	.10	.50	.20
27	.10	.10	.10	61	6.2	20	69	1.0	3.0	.10	.60	.20
28	0	.40	.10	91	5.6	14	62	1.0	2.6	.10	.30	.30
29	0	.60	.10	611	---	22	52	1.2	1.7	.10	.10	.20
30	0	.50	.10	874	---	356	45	1.6	1.3	.10	.10	.20
31	0	---	.10	377	---	404	---	1.6	---	.10	.10	---
Total	.90	26.30	185.80	5,928.40	710.0	3,244.9	3,999	378.3	108.20	13.60	5.60	4.70
Mean	.03	.88	5.99	191	25.4	105	133	12.2	3.61	.44	.18	.16
Max	.20	8.8	81	2,360	167	1,010	612	30	18	1.2	.60	.40
Min	0	0	.10	.10	4.6	1.7	38	1.0	.70	.10	.10	0
Ac-ft	1.8	52	369	11,760	1,410	6,440	7,930	750	215	27	11	9.3

Cal yr 1966 : Total 1,538.9 Mean 4.22 Max 135 Min 0 Ac-ft 3,050
Wtr yr 1967 : Total 14,605.7 Mean 40.0 Max 2,360 Min 0 Ac-ft 28,970

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1400	8.60	4,000	3-16	0800	5.72	1,900
1-24	0500	5.17	1,520	3-30	1730	4.95	1,360
1-30	1000	5.40	1,680	4- 6	1030	4.75	1,220

MATADERO CREEK BASIN

345

11-1660. MATADERO CREEK AT PALO ALTO, CALIF.

LOCATION.--Lat 37°25'10", long 122°08'10", in Rincon 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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 22.07 ft (revised) above mean sea level, datum of 1929. Prior to Sept. 25, 1958, at site 150 ft downstream at different datum.

AVERAGE DISCHARGE.--15 years, 1.36 cfs (985 acre-ft per year); median of mean annual discharges, 0.70 cfs (510 acre-ft per year).

EXTREMES.--Maximum discharge during year, 765 cfs Jan. 24 (gage height, 4.65 ft), from rating curve extended above 150 cfs on basis of step backwater analysis at gage height, 3.68 and 5.33 ft; no flow for most of year. 1952-67: Maximum discharge, 854 cfs Dec. 22, 1955 (gage height, 9.60 ft), from rating curve extended above 390 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 9.88 ft Dec. 23, 1955, site and datum then in use (backwater from culvert); no flow for many months in each year.

REMARKS.--Records good except those above 200 cfs, which are fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	3.7	0	2.1	0.80	0			
2		0	13	0	1.9	0	.90	.70	.50			
3		0	.40	0	1.4	0	.70	.60	0			
4		0	2.1	0	1.0	0	1.4	.50	0			
5		0	23	0	.80	0	.80	.40	0			
6		5.6	17	0	.60	0	60	.40	0			
7		.10	7.1	0	.70	0	26	.40	0			
8		0	.60	0	.40	0	4.0	.30	0			
9		0	.50	0	.30	0	1.7	.30	0			
10		0	.60	0	.20	0	16	.70	.10			
11		0	0	.10	.20	14	9.4	.70	0			
12		0	0	0	.10	28	2.5	.30	0			
13		0	0	0	.10	29	1.4	.30	0			
14		0	0	0	.10	4.8	1.6	.30	0			
15		4.2	0	0	.60	5.3	12	.30	0			
16		5.1	0	0	.10	105	1.7	.20	0			
17		0	0	0	0	4.0	16	.20	0			
18		.10	0	0	0	1.6	13	.20	0			
19		1.6	0	0	0	1.0	12	.10	0			
20		8.2	0	7.3	0	.90	2.7	.10	0			
21		1.8	0	307	0	.50	21	.10	0			
22		.40	0	42	0	.50	4.0	.10	0			
23		.20	0	3.6	0	.50	7.2	.10	0			
24		0	0	142	0	.30	8.9	.20	0			
25		0	0	8.6	.20	.20	2.3	.10	0			
26		0	0	2.3	0	.20	1.9	.10	0			
27		0	0	1.2	0	.20	1.4	.10	.10			
28		3.8	0	9.4	0	.20	3.3	.10	0			
29		0	0	61	-----	.10	1.2	0	0			
30		0	0	128	-----	33	.90	0	0			
31		-----	0	17	-----	19	-----	0	-----			-----
Total	0	31.10	64.30	729.50	12.40	248.30	238.0	8.70	0.70	0	0	0
Mean	0	1.04	2.07	23.5	.44	8.01	7.93	.28	.02	0	0	0
Max	0	8.2	23	307	3.7	105	60	.80	.50	0	0	0
Min	0	0	0	0	0	0	.70	0	0	0	0	0
Ac-ft	0	62	128	1,450	25	492	472	17	1.4	0	0	0

Cal yr 1966: Total 197.7 Mean .54 Max 24 Min 0 Ac-ft 392
Wtr yr 1967: Total 1,333.0 Mean 3.65 Max 307 Min 0 Ac-ft 2,640

Peak discharge (base, 100 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2100	4.55	735	3-16	0500	2.70	290
1-24	0430	4.65	765	3-30	1600	2.20	198
1-30	0900	4.40	690	4-6	0900	2.50	252
3-11	0300	1.63	102				

STEVENS CREEK BASIN

11-1664.8. STEVENS CREEK RESERVOIR NEAR MONTE VISTA, CALIF.

LOCATION.--Lat 37°17'55", long 122°04'34", in NW¼ 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 1967. 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, 4,090 acre-ft Mar. 16 (elevation, 539.70 ft); minimum observed, 171 acre-ft Nov. 4 (elevation, 470.94 ft).
1935-67: Maximum contents observed, 4,100 acre-ft Dec. 26, 1955 (elevation, 538.61 ft); maximum elevation, 539.70 ft Mar. 16, 1967; no contents for part of most years.

REMARKS.--Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,860 acre-ft 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 (including momentary storage above spillway crest),
water year October 1966 to September 1967

Date	Contents
Sept. 30-----	208
Oct. 31-----	173
Nov. 30-----	369
Dec. 31-----	929
Jan. 31-----	3,900
Feb. 28-----	3,870
Mar. 31-----	3,990
Apr. 30-----	3,610
May 31-----	3,780
June 30-----	3,600
July 31-----	2,790
Aug. 31-----	1,350
Sept. 30-----	720

Note.--Contents at 0800 hours on first day of following month.

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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.

GAGE.--Digital water-stage recorder. Altitude of gage is 247 ft (from topographic map). Prior to July 15, 1958, staff gage at same site and datum. July 15, 1958, to Nov. 2, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 2,700 cfs Jan. 24 (gage height, 6.25 ft); no flow Oct. 1 to Dec. 1. 1958-67: Maximum discharge, 4,300 cfs Apr. 2, 1958 (gage height, 9.67 ft), from rating curve extended above 710 cfs on basis of slope-area measurement at gage height 7.98 ft; no flow for parts of each year.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

[illegible]

GUADALUPE RIVER BASIN

11-1676.6. ROSS CREEK AT SAN JOSE, CALIF.

LOCATION.--Lat 37°14'56", long 121°54'45", in SE $\frac{1}{4}$ sec.12, T.8 S., R.1 W., on right bank 200 ft upstream from Harwood Avenue, 600 ft downstream from Lone Hill Creek, and at south city limits of San Jose.

DRAINAGE AREA.--5.70 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 204.4 ft (revised) above mean sea level (levels by Santa Clara County Flood Control and Water Conservation District). Prior to Apr. 13, 1965, graphic water-stage recorder and Apr. 13, 1965, to Mar. 10, 1966, digital water-stage recorder, at site 500 ft upstream at different datum.

AVERAGE DISCHARGE.--6 years, 2.46 cfs (1,780 acre-ft per year).

EXTREMES.--Maximum discharge during year, 642 cfs Jan. 24 (gage height, 6.22 ft); no flow for many days.
1961-67: Maximum discharge, 642 cfs Jan. 24, 1967 (gage height, 6.22 ft); no flow for many days in each year.

REMARKS.--Records good. Water imported from South Bay Aqueduct and released into creek 1.5 miles above station totaled 1,340 acre-ft for the 1967 water year. During periods of high flows, no water imported.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	1.9	7.2	4.4	2.6	1.3	.03	2.4	.03	8.0
2	0	3.2	35	1.9	4.8	4.4	2.4	1.2	.29	2.4	.03	8.1
3	0	7.7	2.9	1.9	3.4	4.4	1.6	1.3	.05	2.4	.03	8.0
4	0	7.2	15	1.9	2.6	4.2	3.0	1.0	.05	3.6	.04	8.0
5	0	7.1	34	1.9	2.1	4.2	2.0	.83	.01	6.4	.02	7.9
6	0	21	31	1.6	1.6	1.9	38	.72	.03	7.4	.05	8.0
7	0	1.0	6.1	.80	1.3	0	7.8	.67	.10	7.4	.02	8.0
8	0	.10	2.5	.80	.90	0	4.5	.60	.50	7.5	.03	8.0
9	0	1.0	2.5	.80	.80	0	3.2	.58	.01	7.5	.02	8.1
10	0	2.6	1.4	.70	.70	3.0	29	.52	.02	7.6	.03	8.1
11	.10	8.5	.60	.80	.50	44	10	.47	.04	7.9	.03	8.3
12	1.6	8.3	.40	.80	.40	86	5.7	.36	1.0	8.0	.04	8.4
13	1.3	8.0	.30	.70	.40	38	4.0	.28	1.8	7.8	.04	8.0
14	0	2.0	.10	.70	.30	13	3.0	.24	2.1	7.8	.02	8.0
15	0	13	1.1	.70	.70	20	7.6	.26	2.1	4.0	.03	8.0
16	.60	7.5	2.3	.70	.20	147	2.6	.21	2.7	.04	.01	7.8
17	.60	0	2.2	.70	.10	19	12	.21	2.7	.01	.04	7.9
18	1.9	.40	2.1	.70	.10	10	11	.07	2.7	.03	.03	3.2
19	3.9	15	2.1	.70	.10	6.8	8.1	.06	2.6	.03	.03	.03
20	3.9	18	2.1	7.2	0	5.4	4.5	.10	2.6	.02	.04	.01
21	4.6	26	2.0	208	.20	3.6	26	.10	2.5	.03	2.3	3.1
22	5.3	2.3	3.1	36	.60	2.9	8.7	.10	2.5	.03	7.2	8.2
23	5.2	.20	4.4	12	0	2.4	6.8	.08	2.5	.06	7.4	7.8
24	5.3	0	4.4	104	1.5	2.0	5.2	.05	2.5	.02	7.4	7.7
25	4.6	0	4.4	13	2.4	1.7	3.6	.08	2.4	.03	7.4	7.7
26	2.4	0	4.4	7.3	0	1.4	3.0	.08	2.4	.02	7.7	5.3
27	0	0	4.3	4.7	.10	1.2	2.6	.10	2.4	.02	7.7	0
28	0	5.5	4.3	6.0	2.0	1.1	2.9	.06	2.3	.05	4.9	2.2
29	0	.30	3.0	30	-----	.90	1.9	.03	2.3	.04	.05	7.7
30	0	0	2.1	53	-----	24	1.5	.06	2.4	.05	.02	7.7
31	0	-----	1.9	12	-----	8.9	-----	.02	-----	.02	3.7	-----
TOTAL	41.30	165.90	182.00	513.90	35.00	465.80	224.8	11.74	45.63	90.60	56.38	197.24
MEAN	1.33	5.53	5.87	16.6	1.25	15.0	7.49	.38	1.52	2.92	1.82	6.57
MAX	5.2	26	35	208	7.2	147	38	1.3	2.7	8.0	7.7	8.4
MIN	0	0	0	.70	0	0	1.5	.02	.01	.01	.01	0
AC-FT	82	329	361	1,020	69	924	446	23	91	180	112	391

CAL YR 1966: TOTAL 688.70 MEAN 1.89 MAX 35 MIN 0 AC-FT 1,370
WAT YR 1967: TOTAL 2,030.29 MEAN 5.56 MAX 208 MIN 0 AC-FT 4,030

Peak discharge (base, 150 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1400	4.30	183	3-12	1030	4.92	298
1-21	2045	5.86	533	3-16	0230	5.91	547
1-24	0415	6.22	642	3-30	1615	4.60	236
1-30	0800	5.08	334	4- 6	1000	4.64	243

11-1680. LOS GATOS CREEK AT LOS GATOS, CALIF.

LOCATION.--Lat 37°12'30", long 121°59'15", in NE¼ 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 1967. Yearly estimate for water year 1930 (incomplete) and monthly discharge only for June to September 1944, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Altitude of gage is 420 ft (from topographic map). Prior to Oct. 1, 1943, graphic 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. May 1944 to July 10, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--29 years, 47.5 cfs (34,390 acre-ft per year), adjusted for diversion.

EXTREMES.--Maximum discharge during year, 3,530 cfs Mar. 16 (gage height, 9.85 ft); minimum daily, 0.60 cfs Nov. 26, 27, 30, Dec. 1.

1929-44, 1953-67: 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 some years.

REMARKS.--Records good. Flow regulated by Lexington Reservoir (see sta. no. 1679.8) and Lake Elsmar (see sta. no. 1679.5). Several diversions for irrigation above station and diversion by San Jose Water Works.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.5	1.3	.60	12	11	59	190	99	30	42	76	90
2	1.5	1.4	16	12	7.1	44	157	102	24	44	76	94
3	1.5	1.5	4.2	15	5.3	39	94	96	20	44	82	96
4	1.5	1.4	5.1	27	4.4	34	86	88	20	41	88	96
5	1.5	1.1	11	31	4.4	33	124	80	24	27	78	96
6	1.5	1.8	10	31	4.1	33	350	73	41	23	45	103
7	4.4	1.0	3.6	30	3.3	33	359	68	46	26	45	109
8	2.8	.90	6.2	30	1.7	27	263	65	36	32	49	109
9	1.3	.90	8.6	26	12	20	213	66	38	40	30	108
10	1.3	.90	5.5	17	25	18	290	66	31	40	16	108
11	1.5	.90	4.8	12	25	18	389	66	6.5	40	70	108
12	1.5	.80	4.9	11	26	24	285	56	6.5	41	97	108
13	1.4	.80	8.8	11	14	20	234	57	6.5	41	92	106
14	1.5	.90	12	10	5.4	44	202	60	6.5	41	88	106
15	1.5	2.1	11	14	4.8	167	203	60	6.5	41	85	106
16	1.5	2.6	13	15	4.6	2,430	173	60	19	22	84	106
17	1.5	1.1	15	15	9.9	1,020	214	42	49	6.7	81	104
18	1.5	1.1	24	8.0	16	553	315	6.2	29	6.5	79	104
19	1.5	3.0	35	3.0	16	380	278	8.0	6.5	36	78	104
20	1.5	4.6	40	3.2	20	283	232	20	6.5	49	78	103
21	1.5	6.0	40	54	37	245	339	30	17	53	78	103
22	1.5	2.9	40	28	53	211	332	18	31	59	78	122
23	1.5	1.2	32	10	44	121	301	6.2	31	59	78	129
24	1.5	.90	26	41	30	96	273	6.2	31	63	77	127
25	1.5	.80	26	16	13	101	234	33	20	69	84	97
26	1.5	.60	26	4.9	11	104	205	52	9.4	69	91	92
27	1.5	.60	26	4.5	24	96	185	39	15	70	91	92
28	1.6	1.6	19	5.2	56	88	154	30	30	70	90	71
29	1.5	1.3	13	19	-----	82	109	30	36	73	90	52
30	1.5	.60	13	29	-----	146	91	30	36	76	90	64
31	1.5	-----	13	20	-----	252	-----	30	-----	76	90	-----
TOTAL	50.3	46.60	513.30	566.8	488.0	6,821	6,874	1,542.6	708.9	1,420.2	2,354	3,013
MEAN	1.62	1.55	16.6	18.3	17.4	220	229	49.8	23.6	45.8	75.9	100
MAX	4.4	6.0	40	54	56	2,430	389	102	49	76	97	129
MIN	1.3	.60	.60	3.0	1.7	18	86	6.2	6.5	6.5	16	52
AC-FT	100	92	1,020	1,120	968	13,530	13,630	3,060	1,410	2,820	4,670	5,980
(+)	188	95	625	324	1,230	938	1,240	2,120	1,820	1,990	1,600	1,230

CAL YR 1966: TOTAL 2,833.60 MEAN 7.76 MAX 92 MIN .30 AC-FT 5,620 + 7,600
WAT YR 1967: TOTAL 24,398.70 MEAN 66.8 MAX 2,430 MIN .60 AC-FT 48,390 + 13,400

+ Diversion, in acre-feet, furnished by San Jose Water Works.

GUADALUPE RIVER BASIN

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 1967. Monthly discharge only for some periods, published in WSP 1315-B. Prior to 1945, published as Guadalupe Creek at San Jose.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 72.00 ft above mean sea level (levels by Corps of Engineers). Prior to Nov. 1, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 6,760 cfs Mar. 16 (gage height, 11.55 ft); no flow for many days. 1929-67: Maximum discharge, 9,150 cfs Apr. 2, 1958 (gage height, 16.55 ft); no flow for many days in each year.

REMARKS.--Records good. Flow regulated by Calero, Almaden, Guadalupe and Lexington Reservoirs, and Lake Elsmar, given elsewhere in this report, with water released during summer for percolation in spreading basins on tributaries. Diversions by San Jose Water Works for urban use (see sta. no. 1680). Diversion of 1,160 acre-ft into Alamitos Percolation Ponds from Coyote Creek basin during year.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.10	0	0	183	.3	256	86	5.8	.08	.86	.92
2	0	.10	138	0	107	.3	205	80	6.5	.07	1.3	2.3
3	0	.10	57	0	77	.2	146	73	3.7	.07	1.6	.54
4	0	.10	43	0	63	.2	99	66	3.6	.07	1.6	.34
5	0	.10	239	0	54	.4	106	56	4.2	.08	1.7	.62
6	0	85	230	.40	43	1.0	683	13	3.3	.07	1.8	.81
7	.10	13	61	.40	17	.7	662	15	3.1	.05	1.3	.72
8	0	.10	6.4	.10	5.5	.3	429	35	.87	.05	.08	.77
9	0	.10	4.5	0	1.4	.3	293	36	.09	3.6	2.9	1.0
10	.10	1.0	7.0	0	.40	.7	511	57	.07	.28	3.4	1.2
11	.10	.90	.20	0	.20	340	670	25	.07	.63	1.6	1.1
12	.10	0	.10	0	.20	630	442	12	.06	.98	1.2	1.1
13	.20	0	.10	0	.20	409	316	9.7	.07	.61	.85	1.0
14	.10	.10	.10	0	.30	285	232	20	.07	.11	.61	.67
15	.10	22	.20	0	.90	355	282	9.4	.08	.07	.78	.52
16	.10	41	.10	0	4.3	4,660	209	12	.08	.06	1.4	.53
17	.10	.20	.10	0	.80	2,030	277	12	.07	.09	1.3	.31
18	.10	.10	0	0	.70	1,040	511	9.8	.30	.10	.68	.50
19	.10	13	0	0	2.8	648	455	6.5	3.2	.12	.64	.57
20	.10	76	.10	1.6	2.0	384	321	9.0	2.2	.21	.33	.55
21	0	79	0	1,820	1.3	340	692	11	.51	.43	.54	.48
22	0	32	1.2	1,370	.60	288	581	11	3.2	1.0	1.0	.49
23	0	.30	.10	201	2.3	149	469	7.1	5.3	1.3	.99	.54
24	.10	0	0	1,690	1.8	112	416	5.9	6.9	2.1	.84	.43
25	.30	0	0	371	9.2	115	327	6.6	5.2	1.7	.84	.49
26	0	0	0	122	1.1	110	251	6.1	3.1	1.7	.78	.55
27	0	0	0	73	.70	99	201	4.8	1.1	1.7	.41	.54
28	0	20	0	82	.40	86	163	4.6	.21	.79	.50	.59
29	0	1.3	.90	316	-----	67	122	4.6	.10	.57	.69	.74
30	0	.10	.80	708	-----	256	95	4.2	.08	.22	.80	1.2
31	0	-----	0	390	-----	455	-----	4.4	-----	.37	.92	-----
TOTAL	1.70	385.70	789.90	7,145.50	581.10	12,862.4	10,422	712.7	63.13	19.28	34.24	22.12
MEAN	.055	12.9	25.5	231	20.8	415	347	23.0	2.10	.62	1.10	.74
MAX	.30	85	239	1,820	183	4,660	692	86	6.9	3.6	3.4	2.3
MIN	0	0	0	0	.20	.20	95	4.2	.06	.05	.08	.31
AC-FT	3.4	765	1,570	14,170	1,150	25,510	20,670	1,410	125	38	68	44

CAL YR 1966: TOTAL 1,643.80 MEAN 4.50 MAX 239 MIN 0 AC-FT 3,260
WAT YR 1967: TOTAL 33,039.77 MEAN 90.5 MAX 4,660 MIN 0 AC-FT 65,530

GUADALUPE RIVER BASIN

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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 miles 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 1967. Prior to October 1951, published as Campbell Creek at Saratoga.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 500 ft (from topographic map). Prior to Apr. 13, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--34 years, 9.68 cfs (7,010 acre-ft per year), adjusted for diversion.

EXTREMES.--Maximum discharge during year, 583 cfs Mar. 16 (gage height, 4.52 ft); no flow Sept. 8-14. 1933-67: 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 maximum flow; no flow for part of each 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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.30	1.5	.20	93	2.5	44	26	8.1	.19	.15	.29
2	.40	.30	65	.20	68	2.0	35	24	11	.21	.19	.16
3	.40	.30	20	.20	51	1.5	28	22	5.9	.19	.14	.04
4	.40	.40	23	.20	38	1.5	30	21	4.9	.23	.64	.07
5	.40	.50	67	.20	29	1.2	32	19	5.1	.21	1.0	.21
6	.40	2.4	63	.10	23	.90	87	17	4.9	.17	.18	.10
7	.40	1.5	24	.20	19	.80	68	16	4.2	.24	.19	.02
8	.40	.70	16	.20	16	.70	54	15	4.0	.23	.18	0
9	.40	.70	8.3	.20	15	.40	46	15	3.3	.23	.23	0
10	.30	.70	6.6	.10	13	4.4	74	15	3.1	.16	.11	0
11	.40	.70	3.1	.10	11	33	70	14	2.9	.12	.49	0
12	.40	.60	1.8	.10	10	56	58	13	2.7	1.6	.18	0
13	.30	.70	1.2	.10	9.3	59	50	12	2.5	1.9	.21	0
14	.30	.70	1.7	.10	8.2	41	46	11	2.0	.19	.19	0
15	.40	3.3	1.5	.10	7.9	47	48	10	1.7	.17	.10	.13
16	.40	9.3	.60	.10	7.2	333	41	9.5	1.6	.81	.21	.15
17	.40	2.0	.60	.10	6.5	129	79	9.1	1.6	.18	.12	.07
18	.30	1.3	.70	.10	6.5	83	84	8.5	2.1	1.1	.15	.05
19	.30	9.2	.80	.10	5.7	60	69	8.2	1.1	.28	.10	.02
20	.40	18	.60	2.8	5.4	47	60	7.8	1.0	.96	.35	.04
21	.40	12	.50	272	4.9	37	74	7.3	.96	.36	.50	.05
22	.40	9.0	.50	152	4.6	35	63	6.8	.80	.32	.38	.26
23	.40	4.6	.50	60	4.4	33	69	6.5	.70	.15	.13	.13
24	.40	2.2	.40	189	5.4	25	63	6.3	.49	.25	.10	.20
25	.30	1.0	1.1	85	8.2	20	56	6.1	.71	.17	.18	.30
26	.30	.90	.50	53	4.1	18	49	5.9	.24	.23	.18	.20
27	.40	2.2	.30	37	3.5	17	41	5.6	.35	.21	.18	.49
28	.50	6.3	.20	33	3.0	16	37	5.7	.34	.25	1.0	.19
29	.40	5.6	.20	127	-----	14	32	5.4	.21	.16	.17	.28
30	.40	1.4	.30	188	-----	45	29	5.8	.31	.28	.13	.27
31	.40	-----	.20	140	-----	55	-----	5.8	-----	.28	.11	-----
TOTAL	11.80	58.90	311.70	1,341.50	480.8	1,218.90	1,616	360.3	78.81	12.07	8.17	3.72
MEAN	.38	3.30	10.1	43.3	17.2	39.3	53.9	11.6	2.63	.39	.26	.12
MAX	.50	18	67	272	93	333	87	26	11	1.9	1.0	.49
MIN	.30	.30	.20	.10	3.0	.40	28	5.4	.21	.12	.10	0
AC-FT	23	196	618	2,660	954	2,420	3,210	715	156	24	16	7.4
(†)	0	25	189	89	307	218	83	400	357	227	148	96

CAL YR 1966: TOTAL 867.00 MEAN 2.38 MAX 67 MIN 0 AC-FT 1,720 + 1,500
 WAT YR 1967: TOTAL 5,542.67 MEAN 15.2 MAX 333 MIN 0 AC-FT 10,990 + 2,140

Peak discharge (base, 110 cfs)

† Diversion, in acre-feet, furnished by San Jose Water Works.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1545	3.46	248	3-30	1600	2.91	151
1-21	2100	4.27	484	4- 6	1000	3.07	180
1-24	0400	4.03	425	4-10	1530	2.92	151
1-30	0900	3.54	285	4-17	1845	3.04	172
3-16	0645	4.52	583				

GUADALUPE RIVER BASIN

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 1967. 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, 2,060 acre-ft Mar. 16 (elevation, 608.50 ft); minimum observed, 135 acre-ft Oct. 21 (elevation, 552.59 ft). Maximum contents observed during period 1936-67, 2,150 acre-ft Jan. 31, 1963 (elevation, 610.24 ft, from floodmarks); no contents for part of each year except 1942, 1943, 1962-63, 1966-67. 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 1967. 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, 10,520 acre-ft Apr. 7 (elevation, 485.21 ft); minimum observed, 324 acre-ft Oct. 1 (elevation, 423.12 ft). Maximum contents observed during period 1936-67, 10,520 acre-ft Apr. 7, 1967 (elevation, 485.21 ft); no contents for part of each year except 1942-45, 1963-67. 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 1967. 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, 3,580 acre-ft Mar. 16 (elevation 618.83 ft); minimum observed, 368 acre-ft Nov. 15 (elevation, 547.86 ft). Maximum contents observed during period 1936-67, 3,610 acre-ft Feb. 1, 1963 (elevation, 619.26 ft, from floodmarks); no contents for part of each year except 1941-43, 1962-63, 1966-67. Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,460 acre-ft between elevations 508.8 (invert of outlet tunnel) and 617.0 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 SE¼ 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 1967. 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 Mar. 11 (elevation 1,112.7 ft); minimum observed 138 acre-ft Oct. 31 (elevation, 999.5 ft). Maximum contents observed during period 1951-67, 6,640 acre-ft Jan. 31, 1963 (elevation, 1,115.1 ft); minimum observed, 107 acre-ft (corrected) Dec. 29, 1956 (elevation, 996.8 ft). Reservoir is formed by earth-fill dam completed in 1951; topped by a 2-foot inflatable surcharge dam since 1956. Usable capacity, 6,280 acre-ft between elevations 944 (elevation of outlet gates) and 1,112 ft (top of 2-foot inflatable surcharge dam). 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°12'08", long 121°59'17", in SE¼ 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 1967. 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, 23,190 acre-ft Mar. 16 (elevation 654.00 ft); minimum observed, 654 acre-ft Oct. 5 (elevation, 547.00 ft). Maximum contents observed during period 1952-67, 23,190 acre-ft Mar. 16, 1967 (elevation, 654.00 ft); no contents for part of each year except 1963, 1966-67. Reservoir is formed by earth-fill dam completed in 1952. Capacity, 21,430 acre-ft 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 (including momentary storage above spillway crest), water year October 1966 to September 1967

Date	Almaden Reservoir†	Calero Reservoir†	Guadalupe Reservoir†	Lake Elsmann††	Lexington Reservoir†
Sept. 30-----	141	324	455	555	690
Oct. 31-----	136	470	443	138	1,220
Nov. 30-----	412	483	542	454	2,230
Dec. 31-----	418	2,330	1,190	2,250	4,850
Jan. 31-----	1,970	7,060	3,490	6,240	15,840
Feb. 28-----	846	9,940	3,440	6,130	19,860
Mar. 31-----	1,970	10,450	3,490	6,140	21,640
Apr. 30-----	1,970	10,440	3,500	6,340	21,440
May 31-----	1,880	10,300	3,250	6,180	20,900
June 30-----	1,640	10,050	2,810	5,520	20,100
July 31-----	945	9,630	2,260	4,190	17,270
Aug. 31-----	885	8,390	1,350	2,880	12,680
Sept. 30-----	730	7,420	884	2,030	6,900

† Contents at 0800 hours on first day of following month.

†† Contents at 0800 hours on last day of month.

COYOTE CREEK BASIN

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11-1698. COYOTE CREEK NEAR GILROY, CALIF.

LOCATION.--Lat 37°04'40", long 121°29'36", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.11, T.10 S., R.4 E., on left bank 0.7 mile downstream from Bear Creek, 5.0 miles upstream from Coyote Creek Dam, and 6.4 miles northeast of Gilroy.

DRAINAGE AREA.--109 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 790 ft (from topographic map). Prior to Nov. 14, 1963, at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--7 years, 43.1 cfs (31,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,900 cfs Jan. 21 (gage height, 12.98 ft), from rating curve extended above 3,400 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 1 to Nov. 20, Sept. 4-30.
1960-67: Maximum discharge, 10,100 cfs Jan. 31, 1963 (gage height, 12.60 ft, site and datum then in use), from rating curve extended above 3,200 cfs on basis of slope-area measurement of maximum flow; no flow at times in each year.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	8.7	4.8	479	17	268	120	30	5.2	.70	.10
2		0	189	4.5	286	17	180	107	36	4.8	.60	.10
3		0	174	4.2	209	16	146	94	22	4.8	.50	.10
4		0	90	4.2	158	17	132	85	17	4.5	.50	0
5		0	692	4.2	124	15	118	79	18	4.5	.50	0
6		0	1,210	4.2	100	14	371	73	18	4.2	.40	0
7		0	280	3.8	83	14	542	68	15	3.8	.40	0
8		0	110	3.8	70	13	358	62	13	3.5	.40	0
9		0	54	3.5	60	13	256	60	11	3.5	.40	0
10		0	40	3.5	54	14	309	79	11	3.2	.30	0
11		0	32	3.5	46	52	439	58	10	3.2	.30	0
12		0	25	3.5	41	205	320	54	10	2.9	.20	0
13		0	21	3.5	39	614	242	49	9.6	3.2	.20	0
14		0	17	3.5	35	501	199	46	8.4	3.2	.20	0
15		0	16	3.2	32	249	329	43	8.0	2.6	.20	0
16		0	14	3.2	30	2,240	236	40	7.4	2.9	.20	0
17		0	12	2.9	27	829	296	37	7.4	2.9	.20	0
18		0	12	2.9	26	408	616	35	7.0	2.9	.20	0
19		0	10	2.9	25	256	505	32	7.0	2.9	.20	0
20		0	9.6	3.4	23	180	416	30	7.0	2.9	.10	0
21		.50	9.0	861	22	134	658	28	6.5	2.1	.10	0
22		52	7.4	1,830	21	104	735	27	6.5	2.1	.10	0
23		13	7.0	280	20	87	623	25	6.5	1.9	.10	0
24		5.5	6.5	2,180	20	70	544	23	7.0	1.7	.10	0
25		2.7	6.0	948	25	58	392	23	7.0	1.3	.10	0
26		1.6	6.0	359	22	52	301	21	7.0	1.3	.10	0
27		1.0	5.6	198	19	46	242	21	7.0	1.2	.10	0
28		1.4	5.2	136	18	41	204	21	6.5	1.0	.10	0
29		14	5.2	950	---	41	170	20	6.0	1.0	.10	0
30		14	5.2	1,800	---	108	141	19	5.6	.90	.10	0
31		---	4.8	1,030	---	332	---	18	---	.80	.10	---
Total	0	106.70	3,084.2	10,645.2	2,114	6,757	10,288	1,497	338.4	86.90	7.80	.30
Mean	0	3.56	99.5	343	75.5	218	343	48.3	11.3	2.80	.25	.01
Max	0	53	1,210	2,180	479	2,240	735	120	36	5.2	.70	.10
Min	0	0	4.8	2.9	18	13	118	18	5.6	.80	.10	0
Ac-ft	0	212	6,120	21,110	4,190	13,400	20,410	2,970	671	172	15	0.6

Cal yr 1966: Total 5,627.9 Mean 15.4 Max 1,210 Min 0 Ac-ft 11,160
Wtr yr 1967: Total 34,925.5 Mean 95.7 Max 2,240 Min 0 Ac-ft 69,270

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 6	0930	9.51	2,630	1-30	1300	9.81	3,420
1-21	2400	12.98	6,900	3-16	0930	10.87	4,450
1-24	0800	9.71	3,690				

COYOTE CREEK BASIN

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.--196 sq mi.

RECORDS AVAILABLE.--October 1902 to September 1912, December 1916 to September 1967. 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.--Graphic 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.--61 years, 66.0 cfs (47,780 acre-ft per year).

EXTREMES.--Maximum discharge during year, 96 cfs July 31 (gage height, 2.67 ft); no flow at times. 1902-12, 1916-67: Maximum discharge, 25,000 cfs probably Mar. 7, 1911 (record furnished by Duryea, Haehl and Gilman); no flow at times.

REMARKS.--Records good. Flow regulated by Coyote (see sta. no. 1698.8) and Anderson (see sta. no. 1699.2) Lakes; water released during summer. Water is diverted to Main Avenue percolation ponds by Santa Clara Valley Water Conservation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.20	1.9	2.1	2.4	2.1	2.7	53	80	90	59
2			1.2	1.8	2.1	2.5	2.0	2.8	53	75	83	59
3			.70	1.3	2.0	2.6	2.6	2.9	49	80	53	59
4			.80	.30	1.9	2.6	4.9	2.9	47	80	75	59
5			1.3	.20	1.8	2.8	4.9	2.9	49	80	75	59
6			1.2	.20	1.8	3.9	4.2	2.8	47	80	75	61
7			.90	.20	2.0	4.7	2.5	2.9	51	83	75	61
8			2.9	.10	4.2	4.7	2.3	2.9	53	85	71	61
9			6.0	.10	5.6	4.7	2.3	2.9	53	85	68	61
10			6.0	.10	7.0	4.3	2.5	2.9	59	85	66	61
11			6.0	.60	7.0	2.8	2.4	5.2	61	85	61	61
12			7.0	1.7	10	2.5	2.3	15	63	90	55	61
13			9.4	4.2	11	2.2	2.3	20	63	90	57	61
14			12	1.4	11	1.5	2.3	20	66	90	57	61
15			16	1.4	13	1.5	2.5	20	61	90	57	61
16			15	2.0	2.0	2.5	2.3	26	61	90	59	61
17			6.5	4.1	2.0	1.2	2.4	35	61	90	59	59
18			6.5	4.1	2.2	2.7	2.6	36	61	90	59	59
19			6.5	4.1	2.2	2.6	2.6	36	61	90	59	57
20			6.5	4.1	2.2	2.9	2.5	53	61	90	59	59
21			6.5	4.2	2.2	2.3	2.8	59	61	90	61	59
22			6.5	2.2	2.2	3.7	2.7	59	68	90	61	59
23			6.5	6.1	2.4	7.4	2.8	63	83	90	61	57
24			6.5	1.5	2.4	1.3	2.7	68	85	90	61	57
25			6.5	2.3	2.4	1.8	2.6	68	85	90	59	57
26			6.5	2.0	2.4	2.2	2.6	68	85	93	59	57
27			4.8	1.9	2.4	2.2	2.7	68	88	93	59	61
28			2.2	1.9	2.4	2.2	2.7	68	88	93	59	68
29			2.0	2.3	-----	2.2	2.7	71	88	93	59	71
30			2.0	2.6	-----	1.8	2.7	68	85	93	59	73
31		-----	2.0	2.4	-----	2.7	-----	61	-----	96	59	-----
Total	0	0	164.60	305.40	376.5	655.3	81.5	1,015.8	1,949	2,719	1,970	1,819
Mean	0	0	5.31	9.85	13.4	21.1	2.72	32.8	65.0	87.7	63.5	60.6
Max	0	0	16	42	24	4.7	4.9	71	88	96	90	73
Min	0	0	.20	.10	1.8	2.3	2.0	2.7	4.7	75	53	57
Ac-ft	0	0	326	606	747	1,300	162	2,010	3,870	5,390	3,910	3,610
(+)	0	0	0	0	0	0	153	344	386	384	194	60

Cal yr 1966: Total 7,321.2 Mean 20.1 Max 110 Min 0 Ac-ft 14,520 +1,250
Wtr yr 1967: Total 11,056.1 Mean 30.3 Max 96 Min 0 Ac-ft 21,930 +1,520

+Diversion, in acre-feet, to Main Avenue percolation ponds, 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.

DRAINAGE AREA.--21.5 sq mi.

RECORDS AVAILABLE.--October 1961 to September 1967.

GAGE.--Graphic water-stage recorder and, since Sept. 12, 1963, concrete control. Datum of gage is 265.30 ft above mean sea level, datum of 1929. Prior to Aug. 3, 1962, at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--6 years, 4.59 cfs (3,320 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,500 cfs Jan. 21 (gage height, 6.24 ft in gage well; 7.8 ft from outside gage), from rating curve extended above 270 cfs as explained below; minimum daily, 0.10 cfs for several days.

1961-67: Maximum discharge, 1,500 cfs Jan. 21, 1967 (gage height, 6.24 ft in gage well; 7.8 ft from outside gage), from rating curve extended above 270 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

Maximum discharge known since at least 1935, 2,100 cfs Apr. 2, 1958, from information furnished by Santa Clara Valley Water Conservation District.

REMARKS.--Records fair. Flow partly regulated by Cherry Flat Reservoir (capacity, 500 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.20	0.60	0.60	74	2.2	51	16	34	1.5	0.50	0.50
2	.40	.20	1.2	.60	34	2.2	31	14	4.3	1.4	.50	.60
3	.40	.20	.70	.60	22	2.2	23	13	4.1	1.2	.50	.60
4	.30	.20	1.7	.60	18	2.4	23	12	3.4	1.1	.50	.50
5	.20	.20	5.3	.60	14	2.2	23	11	3.6	1.1	.40	.40
6	.20	1.4	21	.50	12	2.2	78	9.3	3.6	1.0	.50	.50
7	.20	.40	12	.50	10	2.2	68	8.3	3.6	1.1	.50	.40
8	.20	.20	6.7	.40	8.3	2.1	52	7.6	3.4	1.2	.50	.50
9	.20	.10	4.3	.40	6.7	2.1	39	7.0	3.1	1.1	.50	.50
10	.20	.20	3.9	.40	6.0	2.1	66	8.6	2.9	1.0	.50	.50
11	.20	.30	2.9	.40	5.0	18	69	7.3	2.9	1.0	.50	.50
12	.20	.30	2.4	.40	7.3	59	57	6.3	2.7	1.0	.40	.40
13	.20	.30	1.9	.40	5.8	105	41	5.8	2.7	.90	.40	.40
14	.10	.30	1.8	.40	5.0	76	33	5.5	2.7	.80	.40	.40
15	.10	.70	1.3	.40	4.3	44	39	5.3	2.7	.80	.30	.40
16	.20	.80	1.2	.40	4.1	190	31	5.0	2.7	.90	.50	.40
17	.20	.20	1.2	.40	3.6	102	31	4.8	2.5	.80	.60	.50
18	.10	.40	1.1	.40	3.4	60	55	4.6	2.7	.80	.50	.50
19	.20	.80	1.0	.40	3.2	38	60	4.6	2.9	.70	.50	.50
20	.20	1.5	1.0	.60	3.1	27	47	4.6	3.1	.70	.60	.50
21	.20	1.6	1.0	254	2.9	22	76	4.3	2.9	.70	.50	.50
22	.20	1.2	.90	260	2.7	17	57	3.9	2.4	.60	.60	.40
23	.20	.80	.80	33	2.7	16	49	3.6	2.5	.60	.60	.50
24	.20	.70	.60	127	2.9	12	38	3.4	2.4	.60	.50	.50
25	.10	.70	.60	52	4.1	10	36	3.4	2.4	.60	.50	.50
26	.20	.70	.60	26	3.4	8.6	33	3.4	2.2	.60	.50	.50
27	.20	.60	.70	19	2.9	7.3	31	3.4	2.2	.60	.60	.50
28	.20	.80	.60	18	2.4	7.3	25	3.6	1.8	.60	.50	.50
29	.20	.40	.80	115	---	8.3	23	3.6	1.8	.60	.50	.40
30	.20	.30	.70	191	---	19	19	3.4	1.5	.60	.50	.40
31	.20	---	.60	140	---	59	---	3.4	---	.50	.50	---
Total	6.40	16.70	81.10	1,244.40	273.8	927.4	1,304	200.0	851	26.70	154.0	14.20
Mean	.21	.56	2.62	40.1	9.78	29.9	43.5	6.45	2.84	.86	.50	.47
Max	.40	1.6	21	260	74	190	78	16	4.3	1.5	.60	.60
Min	.10	.10	.60	.40	2.4	21	19	3.4	1.5	.50	.30	.40
Ac-ft	13	33	161	2,470	543	1,840	2,590	397	169	53	31	28
Cal yr 1966: Total	458.0		Mean	1.25	Max	21	Min	1.0	Ac-ft	908		
Wtr yr 1967: Total	4,195.2		Mean	11.5	Max	260	Min	1.0	Ac-ft	8,320		

Peak discharge (base, 90 cfs, revised).

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2300	6.24	1,500	3-16	1000	4.33	257
1-24	0700	4.64	350	4-6	1400	4.32	213
1-30	1100	4.82	447	4-10	2000	4.31	209
3-13	2000	4.30	245	4-21	1000	4.09	131

COYOTE CREEK BASIN

RESERVOIRS IN COYOTE CREEK BASIN, CALIF.

11-1698.5. COYOTE LAKE.--Lat 37°07'06", long 121°32'55", in SE¼ 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 1967. 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, 25,290 acre-ft Apr. 24 (elevation, 778.23 ft); minimum observed, 820 acre-ft Nov. 2 (elevation, 713.98 ft). Maximum contents observed during period 1936-67, 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 between elevations 693.3 (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, 195 sq mi. Records available, December 1950 to September 1967. 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, 64,190 acre-ft May 16 (elevation, 600.38 ft); minimum observed, 634 acre-ft Nov. 2 (elevation, 454.96 ft). Maximum contents during period 1950-67, 95,990 acre-ft Apr. 3, 1958 (elevation, 628.67 ft, from floodmarks); 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 (including momentary storage above spillway crest),
water year October 1966 to September 1967

Date	Coyote Lake	Anderson Lake
Sept. 30-----	868	697
Oct. 31-----	854	635
Nov. 30-----	863	741
Dec. 31-----	7,440	942
Jan. 31-----	12,830	11,260
Feb. 28-----	18,140	20,490
Mar. 31-----	20,880	35,840
Apr. 30-----	23,090	61,780
May 31-----	23,000	63,070
June 30-----	22,200	60,750
July 31-----	20,520	56,160
Aug. 31-----	18,390	53,010
Sept. 30-----	16,850	50,400

Note.--Contents at 0800 hours on first day of following month.

11-1664.8. Stevens Creek Res.

11-1760. ARROYO MOCHO NEAR LIVERMORE, CALIF.

LOCATION.--Lat 37°37'35", long 121°42'13", NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.36, T.3 S., R.2 E., on right bank 100 ft downstream from Mines Road bridge, 2.4 miles upstream from unnamed tributary, and 5.2 miles southeast of Livermore.

DRAINAGE AREA.--38.2 sq mi.

RECORDS AVAILABLE.--January 1912 to September 1930, October 1963 to September 1967. Records for water year 1914 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder, and since Aug. 5, 1964, concrete control. Datum of gage is 746.49 ft above mean sea level, datum of 1929. 1912 to October 1914, at present site at different datum. November 1914 to Sept. 30, 1930, at site 1 mile upstream at different datum.

AVERAGE DISCHARGE.--22 years, 4.12 cfs (2,980 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,250 cfs Jan. 22 (gage height, 5.90 ft), from rating curve extended above 460 cfs; no flow Oct. 1 to Dec. 5.

1912-30, 1963-67: Maximum discharge recorded, 1,250 cfs Jan. 22, 1967 (gage height, 5.90 ft), from rating curve extended above 460 cfs; maximum daily discharge, 1,000 cfs Jan. 25, 1914 (estimated); no flow for parts of most years.

Flood of Dec. 23, 1955, discharge 1,880 cfs (by slope-area measurement of maximum flow).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	.60	38	1.4	28	9.6	1.3	1.1	.30	.10
2			0	.50	25	1.4	18	9.1	1.6	.90	.30	.10
3			0	.50	16	1.6	15	8.1	2.0	.80	.30	.10
4			0	.50	12	1.8	14	7.7	2.0	.80	.30	.10
5			0	.40	8.1	1.6	13	7.3	2.2	.90	.30	.10
6			50	.40	6.1	1.4	30	6.9	3.2	.70	.30	.10
7			20	.40	4.7	1.4	51	6.5	3.0	.60	.30	.10
8			7.7	.40	4.1	1.3	45	6.1	2.8	.60	.30	.10
9			4.1	.40	3.5	1.3	28	6.1	2.6	.80	.30	.10
10			3.0	.40	3.2	1.3	25	6.5	2.4	.70	.30	.10
11			2.4	.40	3.0	8.1	30	5.0	2.2	.70	.30	.10
12			1.8	.40	2.6	42	23	4.1	2.1	.60	.30	.10
13			1.3	.40	2.4	76	17	3.8	2.0	.60	.30	.10
14			1.2	.30	2.4	54	15	3.2	1.8	.50	.30	.10
15			.90	.30	2.2	30	19	3.0	1.7	.40	.20	.10
16			.90	.40	2.2	241	20	2.8	1.6	.50	.20	.10
17			.80	.40	2.0	55	16	2.6	1.6	.50	.10	.10
18			.80	.40	2.0	26	26	2.4	1.4	.50	.10	.10
19			.70	.40	2.0	20	30	2.0	1.6	.40	.10	.10
20			.70	.40	1.6	14	30	1.8	1.4	.40	.10	.10
21			.60	114	1.4	11	48	1.4	1.4	.50	.10	.10
22			.60	299	1.6	8.6	49	1.4	1.6	.40	.10	.10
23			.60	30	1.6	7.7	27	1.4	1.4	.30	.10	.10
24			.60	177	1.6	6.5	27	1.2	1.4	.30	.10	.10
25			.60	70	1.8	5.4	22	1.2	1.4	.30	.10	.10
26			.60	32	2.2	5.0	19	1.1	1.4	.30	.10	.10
27			.60	21	1.8	4.4	16	1.1	1.4	.30	.10	.10
28			.60	16	1.6	4.1	14	1.1	1.3	.30	.10	.10
29			.60	37	- - - -	4.4	13	1.1	1.3	.30	.10	.10
30			.60	210	- - - -	8.2	11	1.2	1.1	.30	.10	.10
31		- - - - -	.60	85	- - - -	3.4	- - - -	1.2	- - - -	.30	.10	- - - -
Total	0	0	102.90	1,099.30	156.7	679.9	739	118.0	54.2	16.60	6.10	3.00
Mean	0	0	3.32	35.5	5.60	21.9	24.6	3.81	1.81	.54	.20	.10
Max	0	0	50	299	38	241	51	9.6	3.2	1.1	.30	.10
Min	0	0	0	.30	1.4	1.3	1.1	1.1	1.1	.30	.10	.10
Ac-ft	0	0	204	2,180	311	1,350	1,470	234	108	33	12	6.0

Cal yr 1966: Total 271.0 Mean .74 Max 50 Min 0 Ac-ft 538
Wtr yr 1967: Total 2,975.7 Mean 8.15 Max 299 Min 0 Ac-ft 5,900

Peak discharge (base, 90 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-22	0030	5.90	1,250	3-12	1930	4.37	128
1-24	1430	4.72	331	3-16	1030	5.34	618
1-30	1230	4.95	476	4- 7	2200	4.36	107

ALAMEDA CREEK BASIN

11-1762. ARROYO MOCHO NEAR PLEASANTON, CALIF.

LOCATION.--Lat 37°41'19", long 121°52'41", in Santa Rita Grant, on left bank 320 ft downstream from Santa Rita Road, 0.7 mile upstream from Tassajara Creek, and 1.8 miles north of Pleasanton, Alameda County.

DRAINAGE AREA.--143 sq mi.

RECORDS AVAILABLE.--September 1962 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 328.55 ft above mean sea level (levels by Alameda County Flood Control and Water Conservation District). Prior to May 11, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--5 years, 17.9 cfs (12,960 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,070 cfs Jan. 22 (gage height, 6.65 ft); maximum gage height, 8.76 ft Jan. 30 (backwater from road crossing); no flow for many days.

1962-67: Maximum discharge, 1,760 cfs Feb. 1, 1963 (gage height, 8.60 ft), from rating curve extended above 58 cfs on basis of slope-area measurement of maximum flow; no flow for many days in each year.

REMARKS.--Records good except those above 100 cfs, which are poor. Natural flow of stream affected by imported water from Delta-Mendota Canal by way of Arroyo Las Positas and South Bay Aqueduct. During periods of high flows, no water imported. Low flow represents waste water from Livermore sewage disposal plant.

REVISIONS (water years).--1964 report: 1962-63.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	0	0	39	0	43	4.0	0	.23		
2		0	7.7	0	13	0	16	3.8	4.4	.20		
3		0	3.7	0	6.4	0	9.8	3.5	4.4	.29		
4		0	1.0	0	1.2	0	5.4	3.1	2.0	.03		
5		0	27	0	.20	0	3.9	3.2	6.4	0		
6		6.7	49	0	0	0	53	3.4	6.5	.16		
7		8.8	22	0	0	0	78	3.1	4.9	.44		
8			.90	0	0	0	84	3.2	3.9	.10		
9		0	0	0	0	0	28	2.6	1.4	.05		
10		0	16	0	0	0	26	3.5	1.3	.46		
11		0	.40	0	0	16	31	4.2	1.4	.22		
12		0	0	0	0	82	23	2.5	4.6	.09		
13		0	0	0	0	169	17	2.8	3.7	.17		
14		0	0	0	0	142	16	2.1	4.9	.13		
15		2.3	0	0	0	30	20	.82	3.1	0		
16		19	0	0	0	258	21	.04	2.7	0		
17		.10	0	0	0	118	17	1.9	4.5	0		
18		0	0	0	0	37	25	2.1	5.3	0		
19		0	0	0	0	15	32	2.0	5.4	0		
20		15	0	0	0	7.1	35	2.1	4.6	0		
21		4.6	0	321	0	2.9	52	.73	4.3	0		
22		2.5	0	545	0	.90	80	.35	4.7	0		
23		0	0	27	0	0	31	.96	1.5	0		
24		0	0	170	0	0	26	.44	1.1	0		
25		0	0	160	0	0	22	.21	.98	0		
26		0	0	20	0	0	17	.34	.82	0		
27		0	0	7.3	0	1.1	14	.12	.59	0		
28		8.2	0	8.7	0	2.9	10	0	.21	0		
29		.30	0	100	-----	2.7	8.2	.05	.53	0		
30		0	0	260	-----	25	4.6	.11	.17	0		
31		-----	0	190	-----	58	-----	0	-----	0		-----
TOTAL	0	67.50	127.70	1,809.0	59.80	967.60	848.9	57.27	90.30	2.57	0	0
MEAN	0	2.25	4.12	58.4	2.14	31.2	28.3	1.85	3.01	.083	0	0
MAX	0	19	49	545	39	258	84	4.2	6.5	.46	0	0
MIN	0	0	0	0	0	0	3.9	0	0	0	0	0
AC-FT	0	134	253	3,590	119	1,920	1,680	114	179	5.1	0	0

CAL YR 1966: TOTAL 794.80 MEAN 2.18 MAX 49 MIN 0 AC-FT 1,580
 WAT YR 1967: TOTAL 4,030.64 MEAN 11.0 MAX 545 MIN 0 AC-FT 7,990

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-22	0445	6.65	1,070	3-14	0230	3.59	272
1-25	0100	5.34	290	3-16	1445	4.86	556
1-30	1815	6.76	500	4-7	1845	3.14	190

Note.--Backwater from road crossing Jan. 24, 25, 29-31.

11-1764. ARROYO VALLE ABOVE LANG CANYON, NEAR LIVERMORE, CALIF.

LOCATION.--Lat 37°33'00", long 121°39'57", in SE¼ sec.29, T.4 N., R.3 E., on left bank 700 ft upstream from unnamed tributary, 1,200 ft upstream from Lang Canyon, and 10.5 miles southeast of Livermore.

DRAINAGE AREA.--126 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 800 ft (from topographic map). Prior to Dec. 27, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 5,080 cfs Jan. 21 (gage height, 8.14 ft), from rating curve extended above 2,000 cfs; no flow Oct. 1 to Nov. 19, Sept. 1-25.
1963-67: Maximum discharge, 5,080 cfs Jan. 21, 1967 (gage height, 8.14 ft), from rating curve extended above 2,000 cfs; no flow at times in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	2.4	3.6	304	13	200	56	11	2.8	.10	0
2	0	0	16	3.6	177	12	140	51	13	2.6	.10	0
3	0	0	44	3.4	123	12	120	45	14	2.4	.09	0
4	0	0	41	3.4	93	13	110	44	13	2.2	.08	0
5	0	0	195	3.4	73	11	105	43	15	1.9	.07	0
6	0	0	540	3.4	58	10	150	40	15	1.8	.06	0
7	0	0	218	3.4	50	9.6	287	36	13	1.6	.06	0
8	0	0	82	3.4	44	9.6	220	34	10	1.4	.06	0
9	0	0	47	3.4	38	9.2	148	33	10	1.4	.06	0
10	0	0	39	3.4	34	9.4	118	37	9.6	1.4	.06	0
11	0	0	31	3.4	30	26	182	33	8.6	1.3	.06	0
12	0	0	21	3.4	27	193	142	30	8.2	1.2	.06	0
13	0	0	14	3.4	25	396	101	27	8.2	1.1	.05	0
14	0	0	10	3.2	23	400	88	24	7.6	.87	.05	0
15	0	0	7.2	3.2	21	209	88	23	7.6	.77	.04	0
16	0	0	5.4	3.2	21	1,830	82	22	6.7	.66	.03	0
17	0	0	4.8	3.2	19	582	78	21	6.3	.57	.03	0
18	0	0	4.5	3.2	18	308	153	19	6.3	.54	.03	0
19	0	0	4.5	3.2	17	195	185	18	5.8	.47	.02	0
20	0	2.3	4.5	3.2	16	128	185	18	5.4	.43	.02	0
21	0	8.7	4.5	1,270	15	104	346	18	4.8	.35	.02	0
22	0	9.8	4.2	1,740	15	80	356	18	4.8	.31	.02	0
23	0	2.1	4.2	195	15	68	259	18	4.5	.32	.02	0
24	0	1.0	4.2	1,150	15	52	250	17	4.2	.34	.01	0
25	0	.60	3.9	614	17	42	175	15	4.2	.28	.01	0
26	0	.50	3.9	265	16	36	133	14	3.6	.21	.01	.01
27	0	.40	3.9	177	15	34	108	13	3.6	.19	.01	.01
28	0	1.1	3.6	118	14	32	92	13	3.4	.17	.01	.01
29	0	5.8	3.6	404	-----	31	80	13	3.4	.16	.01	.01
30	0	3.5	3.6	1,190	-----	36	64	13	3.2	.11	.01	.01
31	0	-----	3.6	682	-----	150	-----	12	-----	.10	.01	-----
TOTAL	0	35.80	1,374.5	7,872.0	1,333	5,040.8	4,745	818	234.0	29.95	1.27	0.05
MEAN	0	1.19	44.3	254	47.6	163	158	26.4	7.80	.97	.041	.002
MAX	0	9.8	540	1,740	304	1,830	356	56	15	2.8	.10	.01
MIN	0	0	2.4	3.2	14	9.2	64	12	3.2	.10	.01	0
AC-FT	0	71	2,730	15,610	2,640	10,000	9,410	1,620	464	59	2.5	.10

CAL YR 1966: TOTAL 2,863.90 MEAN 7.85 MAX 540 MIN 0 AC-FT 5,680
WAT YR 1967: TOTAL 21,484.37 MEAN 58.9 MAX 1,830 MIN 0 AC-FT 42,610

Peak discharge (base, 350 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1730	4.83	784	3-14	0245	4.49	585
1-21	2330	8.14	5,080	3-16	1115	7.67	4,210
1-24	1615	6.39	2,260	4-21	1845	4.42	490
1-30	1615	6.55	2,460				

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 1967. Monthly discharge only for some periods, published in WSP 1315-B. Published as Arroyo del Valle near Livermore, 1912-29.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 510.44 ft above mean sea level, datum of 1929. 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.--28 years, 30.6 cfs (21,150 acre-ft per year); median of yearly mean discharges, 21 cfs (15,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,720 cfs Jan. 22 (gage height, 7.76 ft); no flow Oct. 1-26, Sept. 25-30.

1912-30, 1957-67: Maximum discharge, 12,200 cfs Apr. 2, 1958 (gage height, 10.91 ft); no flow at times in 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 maximum flow).

REMARKS.--Records good. Regulation due to construction of Del Valle Dam about 0.5 mile upstream. No diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	.70	1.6	4.2	366	14	194	75	12	3.6	1.4	.20
2	0	.90	1.8	3.9	197	14	134	66	14	3.6	1.3	.10
3	0	.70	2.3	3.6	142	13	116	61	15	3.3	.90	.10
4	0	.50	2.0	3.6	111	14	107	57	14	3.9	.80	.10
5	0	.50	140	3.9	94	13	100	46	13	3.6	1.3	.10
6	0	.70	553	3.6	80	12	157	48	18	3.3	1.1	.20
7	0	1.1	315	3.6	68	12	266	44	15	3.3	1.1	.20
8	0	.50	122	3.3	60	11	212	38	13	2.7	.90	.20
9	0	.70	61	3.3	51	9.9	155	32	12	2.7	.80	.10
10	0	.80	32	3.3	46	10	134	43	13	2.7	.80	.10
11	0	.80	32	3.6	39	26	188	39	10	2.3	.80	.10
12	0	.80	27	3.6	37	147	160	37	9.9	2.3	.70	.10
13	0	.70	21	3.6	35	396	125	35	9.9	2.3	.80	.10
14	0	.50	19	3.6	32	415	107	31	9.4	1.4	.80	.10
15	0	.80	17	3.6	28	218	107	28	15	1.8	.50	.10
16	0	.80	15	3.3	26	1,660	105	27	10	1.8	.50	.10
17	0	.50	12	3.0	24	730	95	23	9.4	2.0	.70	.10
18	0	.50	9.9	3.0	23	298	154	23	8.2	1.8	.30	.10
19	0	.90	8.8	3.0	22	182	185	22	6.9	1.4	.40	.10
20	0	1.6	8.8	3.6	21	132	182	21	6.9	1.4	.40	.10
21	0	1.8	8.2	859	19	107	286	20	6.9	1.6	.50	.10
22	0	1.8	7.7	2,210	18	86	352	20	6.5	2.0	.90	.10
23	0	1.6	6.9	328	18	77	245	20	5.7	2.3	.50	.10
24	0	1.3	6.5	1,070	18	63	235	18	5.7	1.8	.30	.10
25	0	1.3	6.1	776	19	55	177	17	5.0	1.8	.20	0
26	0	1.3	5.7	308	19	50	142	15	4.2	2.3	.10	0
27	.30	1.3	5.0	197	17	46	122	15	4.2	1.8	.10	0
28	1.4	1.8	5.0	142	15	43	109	15	4.2	1.4	.10	0
29	1.2	1.6	5.0	394	-----	43	98	15	3.9	1.6	.10	0
30	.50	1.4	5.0	1,090	-----	48	84	14	3.3	1.6	.10	0
31	1.2	-----	4.6	879	-----	152	-----	12	-----	1.4	.10	-----
Total	4.60	30.20	1,466.90	8,323.2	1,645	5,096.9	4,833	977	284.2	70.8	19.30	2.80
Mean	.15	1.01	47.3	268	58.8	164	161	31.5	94.7	2.28	.62	.09
Max	1.4	1.8	553	2,210	366	1,660	352	75	18	3.9	1.4	.20
Min	0	.50	1.6	3.0	15	9.9	84	12	3.3	1.4	.10	0
Ac-ft	9.1	60	2,910	16,510	3,260	10,110	9,590	1,940	564	140	38	5.6

Cal yr 1966: Total 3,086.5 Mean 8.46 Max 553 Min 0 Ac-ft 6,120
Wtr yr 1967: Total 22,753.9 Mean 62.3 Max 2,210 Min 0 Ac-ft 45,130

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-6	1900	4.82	840	3-16	1330	7.14	3,600
1-22	0100	7.76	4,720	4-1	0030	3.65	235
1-24	1800	6.20	2,200	4-7	0330	3.81	292
1-30	1830	6.15	2,140	4-21	2130	4.18	455
3-14	0530	4.35	542				

ALAMEDA CREEK BASIN

361

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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 311.80 ft above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--10 years, 30.2 cfs (21,860 acre-ft per year); median of yearly mean discharges, 20 cfs (14,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,790 cfs Jan. 22 (gage height, 21.62 ft); no flow for several months. 1957-67: Maximum discharge, 11,300 cfs Apr. 3, 1958 (gage height, 25.36 ft); no flow for several months in each year.

REMARKS.--Records fair. No regulation; pumping for irrigation above station during periods of low flow. Flow from upstream gravel operations reaches station at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	498	5.7	227	90	3.4	0	0	0
2			0	0	276	4.6	161	77	4.6	.50	0	0
3			0	0	196	4.4	124	70	12	.90	0	1.3
4			0	0	146	4.4	115	62	18	.90	0	3.9
5			0	0	115	4.2	112	51	11	.60	0	1.7
6			262	0	93	3.9	132	50	11	0	0	0
7			544	0	75	3.2	304	53	11	0	0	0
8			113	0	62	2.9	265	45	12	0	0	0
9			56	0	52	3.6	183	38	8.7	.50	0	0
10			24	0	42	4.6	148	36	7.6	.50	0	0
11			13	0	35	7.9	222	40	7.6	0	0	0
12			12	0	29	6.2	195	38	4.4	0	0	0
13			8.7	0	26	4.6	146	38	2.4	0	0	0
14			12	0	25	5.6	121	35	2.2	0	0	0
15			6.0	0	22	2.8	120	29	2.0	0	0	0
16			3.2	0	18	1.6	120	24	3.6	0	0	0
17			1.6	0	14	1.1	103	19	2.9	0	0	0
18			0	0	13	1.1	171	16	2.9	0	0	0
19			0	0	13	2.3	221	15	3.9	0	0	0
20			0	0	11	1.5	206	18	1.8	0	0	0
21			0	293	9.7	121	302	19	1.8	0	0	0
22			0	2,790	8.3	93	494	13	1.8	0	0	0
23			0	492	7.9	75	312	12	1.8	0	0	0
24			0	1,090	8.7	57	280	12	1.6	0	0	0
25			0	1,140	11	45	217	10	1.4	0	0	0
26			0	409	11	37	174	8.3	1.4	0	0	0
27			0	250	11	31	147	7.6	1.0	0	0	0
28			0	182	9.2	29	133	10	.70	0	.20	0
29			0	398	- - - -	29	126	6.8	.10	0	0	0
30			0	1,230	- - - -	34	108	7.6	0	0	0	0
31		- - - -	0	1,240	- - - -	122	- - - -	5.3	- - - -	0	0	- - - -
Total	0	0	1,055.5	9,514	1,837.8	5,639.4	5,689	9,556	144.6	3.90	.20	6.9
Mean	0	0	34.0	307	65.6	182	190	30.8	4.82	.13	.006	.23
Max	0	0	544	2,790	498	1,630	494	90	18	.90	.20	3.9
Min	0	0	0	0	7.9	2.9	103	5.3	0	0	0	0
Ac-ft	0	0	2,090	18,870	3,650	11,180	11,290	1,900	287	7.7	.40	14

Cal yr 1966: Total 2,091.80 Mean 5.73 Max 544 Min 0 Ac-ft 4,150
Wtr yr 1967: Total 24,846.90 Mean 68.0 Max 2,790 Min 0 Ac-ft 49,280

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-7	0100	10.80	1,030	4-1	0600	7.86	257
1-22	0400	21.62	4,790	4-7	2230	8.18	329
1-24	2030	15.54	2,550	4-11	1300	7.77	240
1-30	2030	15.63	2,580	4-22	0200	9.23	612
3-16	1600	18.39	3,540				

ALAMEDA CREEK BASIN

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 1967. 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.--Digital water-stage recorder and concrete control. Datum of gage is 85.66 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 graphic water-stage recorder thereafter at site 4.5 miles upstream at different datum. Oct. 1, 1916, to Dec. 17, 1923, graphic water-stage recorder at site 800 ft upstream at different datum. Dec. 18, 1923, to Apr. 7, 1962, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--76 years, 121 cfs (87,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 13,600 cfs Jan. 22 (gage height, 11.15 ft); minimum daily, 5.2 cfs Aug. 14.

1891-1967: Maximum discharge, 29,000 cfs Dec. 23, 1955 (gage height, 14.9 ft); no flow at times except in 1963-67.

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 and by San Antonio Reservoir beginning in February 1965 (capacity, 51,000 acre-ft). Natural flow of stream affected by imported water from Delta-Mendota Canal beginning in 1962. Other diversions from ground water basin for irrigation of 9,000 acres above station. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	29	43	41	918	21	388	262	23	17	17	17
2	31	30	40	41	483	18	252	210	27	9.9	17	10
3	31	31	61	41	311	25	202	173	36	9.4	19	23
4	30	31	19	41	230	62	189	151	35	8.4	18	23
5	30	32	48	41	179	68	178	128	32	8.4	16	24
6	30	35	123	41	141	68	471	111	30	7.8	16	24
7	31	51	620	42	122	58	1,270	107	31	6.9	17	23
8	31	44	207	42	111	48	1,120	91	29	7.2	16	23
9	31	33	110	42	117	51	812	87	27	8.1	16	23
10	31	32	128	42	101	42	689	96	23	7.5	16	24
11	31	32	99	37	71	114	1,170	92	23	7.5	15	25
12	30	32	68	41	61	399	892	89	22	10	15	28
13	31	32	55	41	57	916	796	80	22	17	11	28
14	31	32	47	40	52	924	628	71	20	17	5.2	28
15	30	24	27	41	53	417	670	64	18	18	9.1	28
16	30	40	14	42	54	1,960	588	58	17	21	15	28
17	30	33	9.9	41	38	1,610	543	53	18	19	15	29
18	30	9.9	8.5	40	34	579	1,140	50	21	17	14	23
19	30	6.5	7.6	40	32	335	1,340	44	20	20	13	14
20	30	10	8.1	42	30	240	976	42	19	19	14	13
21	30	65	22	3,820	28	180	1,490	43	18	18	13	15
22	30	35	22	6,700	26	142	1,800	40	15	19	13	30
23	31	17	36	1,020	24	142	1,340	35	16	20	12	30
24	30	7.9	42	2,080	25	102	1,410	34	15	18	12	30
25	26	12	41	2,440	32	82	929	32	14	18	12	29
26	30	42	41	686	28	74	697	32	13	18	14	29
27	31	42	41	377	26	66	572	31	9.0	18	15	28
28	31	40	41	309	25	77	467	32	13	18	15	27
29	31	27	42	1,480	-----	100	401	32	8.4	18	13	20
30	31	18	41	3,030	-----	163	326	27	9.0	18	13	20
31	31	-----	41	2,510	-----	429	-----	28	-----	17	17	-----
TOTAL	941	905.3	2,153.1	25,271	3,409	9,512	23,746	2,425	623.4	456.1	443.3	716
MEAN	30.4	30.2	69.5	815	122	307	792	78.2	20.8	14.7	14.3	23.9
MAX	31	65	620	6,700	918	1,960	1,800	262	36	21	19	30
MIN	26	6.5	7.6	37	24	18	178	27	8.4	6.9	5.2	10
AC-FT	1,870	1,800	4,270	50,120	6,760	18,870	47,100	4,810	1,240	905	879	1,420

CAL YR 1966: TOTAL 13,131.0 MEAN 36.0 MAX 620 MIN 1.8 AC-FT 26,040
WAT YR 1967: TOTAL 70,601.2 MEAN 193 MAX 6,700 MIN 5.2 AC-FT 140,000

ALAMEDA CREEK BASIN

363

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 1967.

GAGE.--Graphic water-stage recorder and concrete control. Datum of gage is 85.12 ft above mean sea level, datum of 1929. Prior to Apr. 1, 1959, at site 1.4 miles downstream at different datum.

AVERAGE DISCHARGE.--11 years, 1.40 cfs (1,010 acre-ft per year); median of yearly mean discharge, 1.0 cfs (720 acre-ft per year).

EXTREMES.--Maximum discharge during year, 443 cfs Jan. 30 (gage height, 3.75 ft, from outside gage), from rating curve extended above 140 cfs as explained below; no flow for several months.
1916-19, 1959-67: Maximum discharge, 930 cfs Oct. 13, 1962 (gage height, 5.27 ft, from outside gage), from rating curve extended above 140 cfs on basis of slope-area measurement of maximum flow; no flow most of each year.

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

REVISIONS (water years).--1963 report: 1962(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	22	0.80	11	5.7	1.2	0.20		
2		0	.10	0	15	.70	7.4	5.4	2.2	.20		
3		0	0	0	11	.60	5.7	4.7	1.5	.10		
4		0	0	0	8.1	.60	5.4	4.5	1.1	.10		
5		0	0	0	6.6	.60	4.7	4.2	.90	.10		
6		.10	0	0	4.7	.60	3.6	4.0	1.0	.10		
7		0	0	0	4.0	.50	2.2	3.5	1.0	.10		
8		0	0	0	3.2	.50	1.4	3.2	.80	.10		
9		0	0	0	3.0	.50	1.0	3.0	.70	.10		
10		0	0	0	2.6	.60	1.5	3.4	.70	.10		
11		0	0	0	2.0	1.5	2.1	3.0	.60	0		
12		0	0	0	1.8	1.7	1.2	2.8	.60	0		
13		0	0	0	1.7	1.2	9.2	2.6	.60	0		
14		0	0	0	1.8	7.0	9.6	2.3	.50	0		
15		0	0	0	1.5	4.2	2.0	2.0	.50	0		
16		.10	0	0	1.4	3.2	1.3	1.9	.50	0		
17		0	0	0	1.2	1.4	1.7	1.8	.50	0		
18		0	0	0	1.1	9.6	2.0	1.8	.40	0		
19		0	0	0	1.1	7.0	1.8	1.7	.40	0		
20		.10	0	0	.80	5.4	1.2	1.6	.40	0		
21		0	0	136	.80	4.7	3.8	1.5	.30	0		
22		0	0	76	.80	4.0	2.5	1.4	.30	0		
23		0	0	14	.90	4.2	2.9	1.2	.30	0		
24		0	0	61	1.0	3.0	2.8	1.1	.30	0		
25		0	0	37	1.1	2.6	2.0	1.1	.20	0		
26		0	0	16	1.1	2.3	1.4	1.1	.20	0		
27		0	0	12	1.2	2.0	1.3	1.1	.20	0		
28		0	0	17	.80	1.9	9.6	1.1	.20	0		
29		0	0	89	-----	1.9	7.6	1.1	.20	0		
30		0	0	128	-----	9.6	6.6	1.1	.20	0		
31		-----	0	45	-----	2.1	-----	1.1	-----	0		-----
Total	0	0.30	0.10	631	102.30	172.90	473.8	76.0	18.50	1.20	0	0
Mean	0	.01	.003	20.4	3.65	5.58	15.8	2.45	.62	.04	0	0
Max	0	.10	.10	136	22	32	38	5.7	2.2	.20	0	0
Min	0	0	0	0	.80	.50	4.7	1.1	.20	0	0	0
Ac-ft	0	.60	.20	1,250	203	343	940	151	37	2.4	0	0
Cal yr 1966: Total	128.5		Mean .35	Max 13	Min 0		Ac-ft 255					
Wtr yr 1967: Total	1,476.1		Mean 4.04	Max 136	Min 0		Ac-ft 2,930					

Peak discharge (base, 40 cfs)

Note.--No gage-height record June 19 to July 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1500	3.6	392	4- 6	1130	2.68	117
1-24	2230	2.85	158	4-21	1100	2.60	99
1-30	1000	3.75	443	4-23	1730	2.37	57
3-16	0830	2.38	58				

ALAMEDA CREEK BASIN

11-1807. PATTERSON CREEK AT UNION CITY, CALIF.

LOCATION.--Lat 37°55'09", long 122°02'50", in Portero de Los Cerritos Grant, on right bank 0.2 mile upstream from bridge on State Highway 17 (Nimitz Freeway), 0.1 mile below effluence, and 2.0 miles southwest of Decoto District in Union City, Alameda County. Prior to Oct. 26, 1966, at site 0.2 mile downstream.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 4.13 ft above mean sea level, datum of 1929. Prior to Oct. 26, 1966, at site 0.2 mile downstream at same datum.

AVERAGE DISCHARGE.--9 years, 42.0 cfs (30,410 acre-ft per year).

EXTREMES.--Maximum discharge during year, 9,150 cfs Jan. 22 (gage height, 15.2 ft, from floodmarks); no flow for part of year.

1958-67: Maximum discharge, 10,500 cfs Feb. 1, 1963 (gage height, 20.4 ft, from floodmarks); no flow for most of each year.

REMARKS.--Records good except those for period of no gage-height record, which are fair. This stream is a tributary of Alameda Creek. See REMARKS for Alameda Creek at Union City.

COOPERATION.--One discharge measurement furnished by Alameda County Water District.

REVISIONS (water years).--1964 report: 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	980	0	440	266	1.0			
2		0	4.5	0	437	0	204	221	1.5			
3		0	4.0	0	356	0	179	182	3.0			
4		0	1.6	0	299	0	167	162	19			
5		0	5.1	0	210	0	162	134	37			
6		0	64	0	139	0	420	116	17			
7		0	552	0	97	0	1,110	112	13			
8		0	213	0	74	0	1,290	98	15			
9		0	81	0	76	0	874	92	12			
10		0	56	0	76	0	680	96	12			
11		0	71	0	41	26	1,150	94	11			
12		0	61	0	28	307	900	92	1.0			
13		0	43	0	22	935	776	82	0			
14		0	23	0	22	1,060	611	71	0			
15		0	12	0	14	581	579	66	0			
16		0	3.6	0	22	1,670	590	54	0			
17		0	3.2	0	13	1,760	422	47	0			
18		1.0	3.2	0	5.5	710	1,080	44	0			
19		1.0	2.6	0	4.1	418	1,290	37	0			
20		5.0	2.6	0	2.0	238	949	29	0			
21		3.0	2.3	1,200	0	176	1,380	29	0			
22		3.0	1.0	6,200	0	137	1,840	25	0			
23		1.0	6.0	1,060	0	124	1,410	20	0			
24		0	4.0	1,700	0	94	1,490	18	0			
25		0	3.0	2,450	0	64	984	17	0			
26		0	2.0	570	0	47	710	7.4	0			
27		0	2.0	254	0	37	573	7.8	0			
28		1.4	1.0	246	0	37	470	11	0			
29		2.0	1.0	1,340	-----	84	390	13	0			
30		2.0	0	2,890	-----	88	326	13	0			
31		-----	0	2,708	-----	395	-----	6.2	-----			-----
Total	0	31.0	1,208.00	20,610	2,915.80	8,988	23,446	2,262.4	142.5	0	0	0
Mean	0	1.0	39.0	665	104	290	782	73.0	4.75	0	0	0
Max	0	1.4	552	6,200	980	1,760	1,840	266	37	0	0	0
Min	0	0	0	0	0	0	162	6.2	0	0	0	0
Ac-ft	0	6.1	2,400	40,880	5,780	17,830	46,500	4,490	283	0	0	0

Cal yr 1966: Total 3,187.8 Mean 8.73 Max 552 Min 0 Ac-ft 6,320
 Wtr yr 1967: Total 59,575.8 Mean 163 Max 6,200 Min 0 Ac-ft 118,200

Note.--No gage-height record Dec. 23 to Jan. 22.

ALAMEDA CREEK BASIN

365

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.--653 sq mi.

RECORDS AVAILABLE.--October 1958 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 0.40 ft (revised) above mean sea level, datum of 1929.

AVERAGE DISCHARGE.--9 years, 1.91 cfs (1,380 acre-ft per year).

EXTREMES.--Maximum discharge during year, 98 cfs Jan. 21 (gage height, 10.37 ft); no flow for most of year. 1958-67: Maximum discharge, 1,770 cfs Feb. 1, 1963 (gage height, 19.25 ft, from floodmarks); 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 12,290 acre-ft to percolation ponds during the year between stations near Niles and at Union City. Since October 1966 completely regulated by gates at Patterson Creek.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0.70	0	0					
2				0	0	0	0					
3				0	0	0	0					
4				0	0	0	0					
5				0	0	0	0					
6				0	0	0	0					
7				0	0	0	.80					
8				0	0	0	2.0					
9				0	0	0	0					
10				0	0	0	0					
11				0	0	0	1.0					
12				0	0	0	.10					
13				0	0	0	0					
14				0	0	0	0					
15				0	0	0	0					
16				0	0	3.9	0					
17				0	0	4.4	0					
18				0	0	.10	0					
19				0	0	0	1.7					
20				0	0	0	.10					
21				21	0	0	2.6					
22				52	0	0	4.0					
23				2.1	0	0	1.4					
24				6.1	0	0	2.5					
25				9.2	0	0	.10					
26				0	0	0	0					
27				0	0	0	0					
28				0	0	0	0					
29				2.1	---	0	0					
30				7.8	---	0	0					
31		---		8.6	---	0	---		---			---
Total	0	0	0	108.9	.70	8.40	16.30	0	0	0	0	0
Mean	0	0	0	3.51	.02	.27	.54	0	0	0	0	0
Max	0	0	0	52	.70	4.4	4.0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	216	1.4	17	32	0	0	0	0	0

Cal yr 1966: Total 16 Mean .04 Max 16 Min 0 Ac-ft 32
Wtr yr 1967: Total 134.30 Mean .37 Max 52 Min 0 Ac-ft 266

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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital 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. Oct. 9, 1946, to Oct. 22, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--22 years, 14.3 cfs (10,350 acre-ft per year); median of yearly mean discharges, 7.2 cfs (5,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,880 cfs Jan. 21 (gage height, 13.14 ft); no flow Nov. 1-5. 1939-40, 1946-67: Maximum discharge, 7,460 cfs Oct. 13, 1962 (gage height, 19.73 ft, from floodmarks), from rating curve extended above 2,700 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 20.82 ft, from floodmarks, Dec. 22, 1955; no flow at times in each year.

REMARKS.--Records good. Flow partly regulated by Cull Creek Reservoir beginning in October 1962 (capacity, 310 acre-ft) and San Lorenzo Creek Reservoir beginning in January 1965 (capacity, 380 acre-ft). A few very small diversions above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	0	.80	1.5	135	13	48	44	11	2.0	.94	2.0
2	.70	0	13	1.5	100	12	38	41	21	2.1	.97	1.9
3	.70	0	4.0	1.3	78	12	33	39	15	2.1	1.8	1.9
4	.70	0	5.0	1.4	62	11	34	37	11	1.8	1.6	1.7
5	.70	0	21	1.4	54	11	31	34	12	1.9	1.4	1.7
6	.70	5.0	29	1.3	44	10	176	31	11	1.8	1.1	1.7
7	.70	.30	25	1.2	41	8.6	114	29	10	1.6	.91	1.7
8	.60	.20	8.1	1.2	37	9.0	90	27	9.3	1.6	.81	1.7
9	.60	.20	8.7	1.3	32	10	69	26	16	1.3	.90	1.7
10	1.3	.20	11	1.3	30	11	120	29	16	1.1	.98	1.7
11	2.0	.20	4.1	1.5	27	46	133	24	5.8	.92	.95	1.7
12	1.9	.20	3.7	1.5	26	106	81	22	4.9	.69	.88	1.5
13	1.5	.30	3.7	1.5	25	102	69	20	4.3	.75	.77	1.5
14	1.4	.30	3.5	1.8	24	58	66	20	4.1	.74	.67	1.5
15	1.5	6.0	3.2	1.8	21	36	122	20	4.3	.72	.63	1.4
16	1.4	5.0	2.8	1.8	19	204	72	20	6.8	.80	.62	1.4
17	1.4	.30	2.7	1.5	19	86	140	18	7.1	.87	.65	1.5
18	1.1	.20	2.6	1.5	18	56	150	17	8.0	.82	.61	1.6
19	1.1	6.0	2.5	1.8	17	48	136	17	7.5	.74	.55	1.6
20	1.1	13	2.5	43	16	41	99	15	7.2	1.1	.56	1.4
21	1.1	12	2.2	1,340	15	37	180	14	7.0	1.5	.70	1.4
22	.90	4.1	2.1	342	15	33	122	13	6.5	1.6	.59	1.6
23	1.2	.60	2.1	81	15	38	117	12	6.6	1.6	.55	1.5
24	1.4	.50	2.1	307	16	27	116	12	7.4	1.7	.57	1.4
25	1.3	.30	2.1	142	22	24	90	12	25	1.6	.55	1.5
26	1.2	.20	1.9	75	15	23	76	12	16	1.3	.50	1.5
27	.90	.30	1.8	65	14	21	75	11	3.0	1.2	.48	1.5
28	.90	3.5	1.8	114	12	22	62	12	2.5	1.1	.53	1.4
29	.90	1.2	1.8	374	-----	19	55	12	2.3	.92	.48	1.4
30	.80	.70	1.8	434	-----	82	48	11	2.2	.94	1.0	1.2
31	.60	-----	1.6	276	-----	87	-----	10	-----	1.2	1.9	-----
TOTAL	33.00	60.80	178.20	3,621.1	949	1,303.6	2,762	661	270.8	40.11	26.15	47.2
MEAN	1.06	2.03	5.75	117	33.9	42.1	92.1	21.3	9.03	1.29	.84	1.57
MAX	2.0	13	29	1,340	135	204	180	44	25	2.1	1.9	2.0
MIN	.60	0	.80	1.2	12	8.6	31	10	2.2	.69	.48	1.2
AC-FT	65	121	353	7,180	1,880	2,590	5,480	1,310	537	80	52	94

CAL YR 1966: TOTAL 1,666.00 MEAN 4.56 MAX 94 MIN 0 AC-FT 3,300
 WAT YR 1967: TOTAL 9,952.96 MEAN 27.3 MAX 1,340 MIN 0 AC-FT 19,740

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2130	13.14	2,880	3-16	0830	7.75	448
1-24	1230	7.99	500	4-6	1130	7.83	470
1-30	1015	9.74	1,150	4-17	1900	7.62	412

CASTRO CREEK BASIN

367

11-1814. WILDCAT CREEK AT RICHMOND, CALIF.

LOCATION.--Lat 37°57'41", long 122°21'33", in San Pablo Grant, on left bank 200 ft downstream from Southern Pacific Railway bridge at east city limits of Richmond, Contra Costa County, and 2 miles upstream from mouth.

DRAINAGE AREA.--8.67 sq mi.

RECORDS AVAILABLE.--July 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 20.62 ft above mean sea level, datum of 1929.

EXTREMES.--Maximum discharge during year, 622 cfs Jan. 21 (gage height, 9.65 ft); no flow for many days.
1964-67: Maximum discharge, 622 cfs Jan. 21, 1967 (gage height, 9.65 ft); no flow for many days in each year.

REMARKS.--Records good. Minor storage in Lake Anza and Jewel Lake. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.8	0.30	28	1.8	12	7.1	2.2	0.80		
2		0	60	20	18	1.6	8.5	6.0	9.6	.80		
3		0	15	30	14	1.6	7.3	5.3	2.8	.80		
4		0	12	30	12	1.4	6.8	5.1	2.0	.80		
5		0	48	20	12	1.3	11	4.8	1.4	.70		
6		8.8	24	20	10	1.3	161	4.6	1.2	.90		
7		0	19	30	9.6	1.3	36	4.3	1.2	.90		
8		0	8.5	20	9.6	1.3	17	4.1	1.1	.90		
9		0	11	20	10	1.2	12	4.1	1.1	.90		
10		0	8.1	10	4.6	2.3	27	4.1	1.0	.90		
11		0	3.2	20	4.6	1.4	30	4.1	1.0	.40		
12		0	2.5	40	4.1	1.5	14	3.6	.90	.30		
13		0	1.8	4.1	3.4	2.3	11	3.4	.80	.20		
14		3.8	1.6	3.8	3.2	1.5	9.9	3.2	.80	0		
15		1.7	1.6	3.8	3.0	1.2	13	3.0	1.0	0		
16		3.4	1.1	3.4	3.0	106	8.2	3.0	.90	0		
17		0	1.0	2.9	2.8	21	15	2.8	.90	0		
18		3.8	.90	.40	2.8	12	19	2.8	.90	0		
19		1.3	.70	.20	2.6	8.5	18	2.8	.90	0		
20		1.3	.70	63	2.6	8.5	10	2.6	.90	0		
21		3.5	.60	426	2.5	8.5	14	2.6	1.2	0		
22		1.0	.60	90	2.4	6.5	15	2.6	.80	0		
23		0	.60	27	2.5	16	34	2.5	.90	0		
24		0	.50	122	3.2	7.9	22	2.2	.80	0		
25		0	.50	38	5.6	6.8	12	2.0	.80	0		
26		0	.50	31	2.8	6.3	12	2.0	.90	0		
27		0	.40	26	2.5	5.8	9.9	1.9	.90	0		
28		9.2	.40	43	2.2	6.6	7.6	1.9	.90	0		
29		3.6	.40	144	-----	5.5	7.3	1.8	.80	0		
30		1.3	.40	115	-----	3.3	7.1	1.6	.80	0		
31		-----	.30	49	-----	2.3	-----	1.5	-----	0		-----
Total	0	80.50	233.70	1,195.50	183.6	376.0	587.6	103.4	41.40	9.30	0	0
Mean	0	2.68	7.54	38.6	6.56	12.1	19.6	3.34	1.38	.30	0	0
Max	0	1.7	.60	426	28	106	161	7.1	9.6	.90	0	0
Min	0	0	.30	.10	2.2	1.2	6.8	1.5	.80	0	0	0
Ac-ft	0	160	464	2,370	364	746	1,170	205	82	18	0	0

Cal yr 1966: Total **1,156.2** Mean **3.17** Max **234** Min **0** Ac-ft **2,290**
Wtr yr 1967: Total **2,811.0** Mean **7.70** Max **426** Min **0** Ac-ft **5,580**

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2000	4.69	115	1-24	0300	6.88	286
12- 2	1400	5.74	177	1-29	0400	7.70	372
12- 5	1530	4.83	105	3-16	0730	6.77	275
1-21	2030	9.65	622	4- 6	1030	8.59	472

RHEEM CREEK BASIN

11-1820.3. RHEEM CREEK AT SAN PABLO, CALIF.

LOCATION.--Lat 37°58'38", long 122°21'10", in San Pablo Grant, on left bank 50 ft downstream from Santa Fe Railway bridge at San Pablo, Contra Costa County, and 0.7 mile upstream from mouth.

DRAINAGE AREA.--1.09 sq mi.

RECORDS AVAILABLE.--December 1960 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 13.63 ft above mean sea level (Corps of Engineers benchmark). Prior to Aug. 13, 1965, graphic water-stage recorder at site 0.2 mile upstream at datum 7.74 ft higher. Aug. 13 to Dec. 15, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years (1961-67), 1.36 cfs (985 acre-ft per year).

EXTREMES.--Maximum discharge during year, 330 cfs Jan. 21 (gage height, 6.00 ft), from rating curve extended above 150 cfs; no flow Oct. 7, 13.
1960-67: Maximum discharge, 346 cfs Jan. 20, 1964 (gage height, 3.54 ft, site and datum then in use), from rating curve extended above 140 cfs on basis of slope-area measurements at gage heights 3.30 and 3.54 ft; no flow at times in each year.

REMARKS.--Records good. Low flow affected by return flow from industrial waste, leakage and infrequent releases from off stream North Reservoir.

REVISIONS (water year).--1962 report: 1961(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.20	4.8	.10	.90	.20	.70	.33	1.1	.40	.10	.20
2	.10	.20	39	.10	.70	.20	.40	.33	9.4	.26	.10	.12
3	.10	.10	6.1	.10	.70	.20	.30	.29	.79	.52	.09	.10
4	.10	.10	16	.10	.60	.20	.33	.28	.22	.16	.13	.10
5	.10	.10	33	.10	.50	.20	4.6	.26	.19	.20	.09	.11
6	.10	12	4.8	.40	.50	.20	40	.27	.18	.19	.08	.20
7	0	.10	3.6	.10	.40	.20	2.5	.28	.22	.23	.11	.11
8	.10	.10	1.1	.10	.40	.20	.95	.25	.15	.16	.13	.10
9	.10	.10	6.2	.50	.40	.20	.55	.52	.25	.16	.18	.10
10	.10	.10	2.7	.10	.40	1.7	8.1	.23	.17	.19	.21	.12
11	.20	.10	.50	.20	.30	6.2	3.0	.23	.18	.25	.15	.14
12	.10	.10	.30	.20	.30	9.8	.74	.23	.15	.25	.14	.24
13	0	.10	.30	.10	.30	13	.57	.25	.15	.21	.11	.20
14	.10	6.0	.20	.10	.30	2.7	.55	.27	.15	.20	.12	.16
15	.10	26	.20	.20	.20	7.5	3.6	.33	.16	.15	.10	.17
16	.10	3.1	.20	.10	.20	24	.48	.38	.17	.15	.11	.12
17	.10	.20	.20	.10	.20	1.8	6.8	.30	.17	.14	.19	.10
18	.10	.10	.20	.10	.20	.80	6.2	.26	.14	.13	.13	.23
19	.20	20	.20	.10	.20	.40	7.5	.27	.16	.17	.11	.12
20	.10	13	.20	53	.20	2.2	1.7	.28	.15	.17	.08	.14
21	.10	6.1	.20	103	.20	.70	4.2	.36	.22	.21	.12	.25
22	.10	.70	.20	3.6	.20	.30	1.4	.26	.23	.11	.19	.18
23	.10	.30	.20	7.5	.20	3.6	16	.28	.18	.09	.15	.11
24	.10	.20	.20	36	.70	.50	3.6	.30	.18	.17	.13	.10
25	.20	.20	.20	3.4	1.2	.40	1.3	.24	.13	.15	.13	.12
26	.10	.20	.20	6.5	.80	.40	.75	.21	.17	.23	.19	.09
27	.10	.20	.20	2.8	.40	.40	1.4	.31	.21	.22	.12	.08
28	.10	18	.20	12	.20	1.7	.48	.21	.24	.21	.20	.13
29	.10	2.6	.20	33	-----	.40	.42	.22	.17	.15	.22	.12
30	.20	.40	.20	28	-----	19	.37	.18	.25	.10	.16	.20
31	.10	-----	.10	1.8	-----	4.4	-----	.19	-----	.11	.13	-----
TOTAL	3.30	110.70	121.90	293.50	11.80	103.70	119.49	8.60	16.23	6.04	4.20	4.26
MEAN	.11	3.69	3.93	9.47	.42	3.35	3.98	.28	.54	.19	.14	.14
MAX	.20	26	39	103	1.2	24	40	.52	9.4	.52	.22	.25
MIN	0	.10	.10	.10	.20	.20	.30	.18	.13	.09	.08	.08
AC-FT	6.6	220	242	582	23	206	237	17	32	12	8.3	8.5

CAL YR 1966: TOTAL 481.10

MEAN 1.32

MAX 40

MIN 0

AC-FT 954

WAT YR 1967: TOTAL 803.72

MEAN 2.20

MAX 103

MIN 0

AC-FT 1,590

Peak discharge (base, 150 cfs)

Note.--No gage-height record Jan. 31 to Feb. 28.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 6	1230	4.31	157	1-29	0130	4.84	187
11-15	1945	4.58	184	3-16	0030	4.49	151
12- 2	1400	5.39	251	4- 6	0700	4.58	160
1-21	1845	6.00	330				

PINOLE CREEK BASIN

369

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 1967. Monthly discharge only for water years 1939-59, published in WSP 1735.

GAGE.--Graphic water-stage recorder and concrete control. Altitude of gage is 170 ft (from topographic map).

AVERAGE DISCHARGE.--28 years (1939-67), 3.60 cfs (2,610 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 810 cfs Jan. 21 (gage height, 7.25 ft); no flow for part of Oct. 1. 1938-67: Maximum discharge, 1,660 cfs Apr. 2, 1958 (gage height, 11.63 ft); no flow at times.

REMARKS.--No storage or diversion above station except for minor stock ponds.

COOPERATION.--Records furnished by East Bay Municipal Utility District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.02	.05	.38	.53	34	3.2	7.2	6.5	2.6	1.4	.24	.31
2	.06	.04	.70	.53	18	3.2	5.9	6.3	3.8	1.4	.29	.25
3	.08	.04	1.4	.53	12	3.1	5.4	6.1	3.4	1.4	.23	.16
4	.07	.08	1.0	.53	9.3	3.1	5.4	5.7	2.7	1.3	.21	.15
5	.07	1.0	17	.52	7.6	3.0	6.2	5.6	2.6	1.2	.19	.08
6	.07	.44	7.3	.48	5.9	2.9	174	5.4	2.7	1.3	.23	.10
7	.06	.31	7.4	.48	5.6	3.0	26	5.2	2.6	1.2	.25	.09
8	.06	.16	2.6	.48	5.2	2.9	15	5.0	2.4	1.2	.19	.12
9	.04	.14	2.5	.46	4.8	2.7	10	5.2	2.3	1.2	.25	.12
10	.03	.13	7.1	.46	4.5	3.2	56	5.4	2.3	.98	.37	.10
11	.03	.14	1.9	.46	4.1	27	35	4.6	2.2	.90	.37	.13
12	.06	.14	1.2	.48	4.0	27	12	4.6	2.2	.81	.29	.14
13	.04	.14	.98	.48	4.0	62	90	4.2	2.2	.72	.31	.19
14	.03	.16	.84	.48	3.9	17	8.2	4.1	2.1	.72	.21	.23
15	.02	.48	.78	.46	3.8	12	12	4.1	2.1	.75	.23	.29
16	.04	1.6	.75	.46	3.8	189	7.6	4.0	2.1	.78	.19	.33
17	.03	.27	.69	.46	3.6	23	39	3.8	2.1	.84	.27	.35
18	.02	.21	.66	.46	3.6	14	28	3.5	2.1	.78	.31	.35
19	.02	.47	.63	.48	3.4	9.6	19	3.5	2.3	.66	.29	.27
20	.03	2.5	.63	41	3.3	7.9	6.3	3.3	2.3	.66	.33	.29
21	.04	1.0	.63	422	3.3	7.2	37	3.2	2.3	.63	.37	.27
22	.04	.44	.60	80	3.3	6.3	22	3.1	2.1	.66	.25	.31
23	.04	.31	.58	29	3.3	8.2	48	2.8	2.1	.72	.21	.33
24	.04	.27	.58	158	3.5	5.9	32	2.7	2.0	.63	.19	.31
25	.04	.23	.58	31	4.4	5.6	14	2.6	2.1	.42	.16	.35
26	.04	.25	.55	19	3.4	5.0	11	2.6	2.1	.35	.15	.31
27	.08	.25	.53	15	3.3	5.2	12	2.6	2.0	.26	.21	.29
28	.12	.80	.51	46	3.3	5.7	93	2.6	1.8	.55	.31	.35
29	.09	.72	.53	176	-----	5.2	8.2	2.6	1.6	.31	.19	.37
30	.06	.39	.55	135	-----	40	6.8	2.4	1.5	.26	.14	.37
31	.04	-----	.53	55	-----	18	-----	2.3	-----	.27	.17	-----
Total	1.51	12.26	68.91	1,216.22	172.2	531.1	687.5	125.6	68.7	25.26	7.60	7.31
Mean	.049	0.41	2.22	39.2	6.15	17.1	22.9	4.05	2.29	.81	.25	.24
Max	.12	2.5	17	422	34	189	174	6.5	3.8	1.4	.37	.37
Min	.02	.04	.38	.46	3.3	2.7	5.4	2.3	1.5	.26	.14	.08
Ac-ft	3.0	24	137	2,410	342	1,050	1,360	249	136	50	15	14

Cal yr 1966: Total 652.18 Mean 1.79 Max 110 Min 0 Ac-ft 1,290
Wtr yr 1967: Total 2,924.17 Mean 8.01 Max 422 Min .02 Ac-ft 5,800

Peak discharge (base, 150 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1930	7.25	810	3-16	0500	5.71	568
1-24	0300	4.64	356	3-30	1630	3.62	204
1-29	0400	5.59	515	4-6	1130	4.91	424
3-13	2000	3.41	170	4-10	1630	3.53	189

ARROYO DEL HAMBRE BASIN

11-1824. ARROYO DEL HAMBRE AT MARTINEZ, CALIF.

LOCATION.--Lat 38°00'12", long 122°07'44", in Las Juntas Grant, on right bank 40 ft upstream from D Street Bridge in Martinez, Contra Costa County.

DRAINAGE AREA.--15.0 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 48.33 ft above mean sea level (levels by Contra Costa County Flood Control District). Prior to May 5, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 1,020 cfs Jan. 21 (gage height, 9.00 ft), from rating curve extended above 150 cfs as explained below; no flow at times.
1964-67: Maximum discharge, 1,020 cfs Jan. 21, 1967 (gage height, 9.00 ft), from rating curve extended above 150 cfs on basis of computation of flow over dam at gage height 6.63 ft; no flow at times in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	1.1	.60	29	4.4	9.6	11	3.8	1.4	.39	.14
2	.10	0	16	.60	22	4.3	7.9	10	6.3	1.3	.40	.18
3	.10	.10	2.1	.60	18	5.2	7.4	9.9	4.4	1.3	.47	.18
4	.10	0	3.4	.60	16	4.1	7.1	9.5	4.0	1.3	.46	.17
5	0	0	22	.60	14	3.8	7.7	9.1	3.8	1.3	.43	.14
6	.10	1.4	10	.70	12	3.8	131	8.5	3.8	1.2	.45	.15
7	.10	0	5.2	.70	12	3.8	22	8.2	3.7	1.2	.46	.15
8	.10	0	2.3	.60	11	3.8	15	7.8	3.6	1.4	.47	.14
9	.10	0	5.3	.60	10	3.7	13	8.5	3.6	1.4	.50	.15
10	.10	0	5.6	.70	9.7	5.3	42	7.8	3.5	1.3	.51	.14
11	.10	0	1.9	.70	8.9	23	30	7.2	3.4	1.2	.47	.13
12	.10	0	1.4	.80	8.4	32	15	7.0	3.3	1.0	.41	.13
13	0	0	1.3	.80	7.4	59	13	6.6	3.2	1.0	.39	.10
14	0	.10	1.2	.70	6.9	19	13	6.1	3.2	1.0	.42	.11
15	.10	3.2	1.1	.70	6.7	12	17	6.0	3.1	1.0	.35	.12
16	.10	3.3	1.1	.70	6.3	155	12	5.7	3.0	1.0	.29	.13
17	.10	.20	1.1	.70	6.2	23	48	5.3	2.9	1.0	.28	.10
18	.10	.20	1.1	.70	6.0	17	36	5.1	2.8	.86	.21	.16
19	0	3.6	.90	.70	5.8	13	24	5.0	3.1	.81	.24	.07
20	0	5.8	.90	25	5.3	11	16	4.9	2.9	.74	.25	.07
21	.10	2.6	.90	459	5.0	11	27	4.8	2.7	.88	.28	.06
22	0	.60	.90	61	5.0	9.6	23	4.6	2.5	.89	.23	.08
23	0	.30	.90	19	5.0	11	24	4.4	2.4	.72	.25	.09
24	0	.20	.80	150	5.8	8.5	22	4.2	2.2	.70	.21	.08
25	.10	.20	.80	32	7.0	7.8	15	4.2	2.1	.67	.21	.09
26	.10	.20	.80	21	4.9	7.4	14	4.1	2.2	.59	.25	.12
27	0	.20	.60	17	4.8	7.0	15	4.0	2.1	.58	.25	.11
28	0	6.5	.70	57	4.7	8.0	13	3.9	2.1	.51	.24	.17
29	0	1.1	.70	159	-----	6.7	12	4.0	2.0	.50	.26	.10
30	0	.40	.70	132	-----	34	11	3.8	1.4	.41	.24	.07
31	0	-----	.60	48	-----	19	-----	3.8	-----	.35	.22	-----
TOTAL	1.70	30.20	93.40	1,192.80	263.8	536.2	662.7	195.0	93.1	29.51	10.49	3.63
MEAN	.055	1.01	3.01	38.5	9.42	17.3	22.1	6.29	3.10	.95	.34	.12
MAX	.10	6.5	22	459	29	155	131	11	6.3	1.4	.51	.18
MIN	0	0	.60	.60	4.7	3.7	7.1	3.8	1.4	.35	.21	.06
AC-FT	3.4	60	185	2,370	523	1,060	1,310	387	185	59	21	7.2

CAL YR 1966: TOTAL 581.70 MEAN 1.59 MAX 29 MIN 0 AC-FT 1,150
WAT YR 1967: TOTAL 3,112.53 MEAN 8.53 MAX 459 MIN 0 AC-FT 6,170

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	2030	9.00	1,020	3-30	1700	3.28	149
1-24	0330	4.21	378	4-6	0845	4.55	459
1-29	0415	5.67	652	4-10	1745	3.12	117
3-13	1615	3.42	180	4-17	1815	3.26	145
3-16	0600	5.03	551				

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 1967.

GAGE.--Graphic water-stage recorder with rain gage attachment and concrete control. Altitude of gage is 530 ft (from topographic map).

AVERAGE DISCHARGE.--15 years, 2.86 cfs (2,070 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,010 acre-ft per year).

EXTREMES.--Maximum discharge during year, 484 cfs Jan. 21 (gage height, 5.60 ft), from rating curve extended above 90 cfs as explained below; no flow for many days.
1952-67: Maximum discharge, 1,600 cfs Oct. 13, 1962 (gage height, 16.98 ft), from rating curve extended above 90 cfs on basis of indirect measurements of maximum flow through culvert at gage heights 12.09 and 16.98 ft; no flow for parts of each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	.20	.50	29	2.9	8.6	9.4	3.1	.80	.40	.10
2		0	3.7	.50	20	2.7	7.0	9.0	4.9	.80	.40	.10
3		0	1.3	.40	15	2.7	6.6	8.6	3.1	.80	.40	.10
4		0	.8	.40	13	2.7	6.3	8.2	2.5	.70	.30	.10
5		0	7.5	.40	10	2.3	6.6	7.8	2.7	.70	.40	.10
6		0	8.7	.40	9.0	2.3	34	7.0	2.5	.70	.40	.10
7		0	7.1	.40	8.2	2.3	16	6.6	2.5	.60	.40	.10
8		0	2.1	.40	7.4	2.1	11	6.3	2.3	.70	.40	.10
9		0	1.5	.40	6.6	2.1	9.4	6.6	2.3	.70	.40	.10
10		0	2.7	.40	6.3	2.5	25	6.6	2.3	.70	.40	.10
11		0	1.0	.40	5.7	14	21	5.7	2.3	.70	.40	.10
12		0	.90	.40	5.4	28	13	5.4	2.3	.60	.30	.10
13		0	.80	.40	5.2	28	11	4.9	2.1	.60	.30	.10
14		0	.70	.40	4.9	11	11	4.6	2.1	.50	.30	.10
15		.10	.60	.40	4.6	7.4	22	4.3	1.9	.50	.30	.10
16		1.6	.60	.40	4.3	73	12	4.3	1.7	.60	.20	.10
17		0	.60	.40	4.0	16	38	4.0	1.7	.60	.20	.10
18		0	.60	.40	3.7	11	33	4.0	1.7	.60	.10	.10
19		.20	.60	.40	3.5	9.8	23	3.7	1.7	.60	.10	.10
20		4.1	.60	6.4	3.3	8.6	16	3.5	1.7	.60	.10	.10
21		3.4	.50	282	3.3	7.8	41	3.3	1.6	.60	.20	.10
22		1.0	.50	57	3.3	7.4	24	3.1	1.4	.60	.20	.10
23		.10	.60	14	3.5	8.2	22	3.1	1.4	.70	.20	.10
24		.10	.60	59	3.7	7.0	18	2.9	1.3	.60	.20	.10
25		0	.50	16	5.2	6.3	15	2.9	1.3	.60	.10	.10
26		0	.50	13	3.5	5.7	14	2.9	1.3	.40	.10	.10
27		0	.40	11	3.3	5.4	14	2.9	1.1	.40	.20	.10
28		.40	.40	26	3.1	5.7	12	2.9	1.0	.40	.20	.10
29		.30	.40	76	4.9	4.9	11	2.9	1.0	.40	.20	.10
30		.10	.50	77	16	10	10	2.7	.80	.40	.10	.10
31		---	.50	48	---	14	---	2.5	---	.40	.10	---
Total	0	11.40	48.00	693.20	198.0	319.8	511.5	152.6	59.60	18.60	8.00	3.00
Mean	0	.38	1.55	22.4	7.07	10.3	17.0	4.92	1.99	.60	.26	.10
Max	0	4.1	8.7	282	29	73	41	9.4	4.9	.80	.40	.10
Min	0	0	.20	.40	3.1	2.1	6.3	2.5	.80	.40	.10	.10
Ac-ft	0	23	95	1,370	393	634	1,010	303	118	37	16	6.0
(t)	0	6.4	-	12.7	.6	6.5	-	-	-	-	-	-

Cal yr 1966: Total 363.00 Mean .99 Max 20 Min 0 Ac-ft 720
Wtr yr 1967: Total 2,023.70 Mean 5.54 Max 282 Min 0 Ac-ft 4,010

Peak discharge (base, 100 cfs)

+ Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1100	5.60	484	3-16	0630	3.94	235
1-24	0600	3.83	218	4-6	1000	3.12	113
1-29	0400	4.07	256	4-17	1830	3.38	149

PACHECO CREEK BASIN

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 at town of Walnut Creek, Contra Costa County, 0.3 mile downstream from small tributary, and 1.2 miles upstream from confluence with Las Trampas Creek.

DRAINAGE AREA.--50.8 sq mi.

RECORDS AVAILABLE.--October 1952 to September 1967.

GAGE.--Graphic water-stage recorder and, since Dec. 4, 1962, concrete control. Altitude of gage is 170 ft (from topographic map).

AVERAGE DISCHARGE.--15 years, 14.8 cfs (10,710 acre-ft per year); median of yearly mean discharges, 6.4 cfs (4,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,290 cfs Jan. 21 (gage height, 10.70 ft); minimum daily, 0.70 cfs Oct. 15, 17-19, Nov. 2-5.

1952-67: Maximum discharge, 7,980 cfs Jan. 31, 1963 (gage height, 14.40 ft), from rating curve extended above 2,200 cfs on basis of computed discharge at gage height 13.16 ft; maximum gage height, 14.55 ft Dec. 23, 1955; no flow at times in most years.

REMARKS.--Records good. No regulation; pumping for irrigation above station during periods of low flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	0.90	3.0	2.8	80	9.9	36	32	12	5.1	2.5	1.9
2	.80	.70	41	2.6	55	9.9	25	31	26	4.9	2.6	1.9
3	.80	.70	18	2.6	44	9.5	23	30	16	6.1	2.6	1.9
4	.90	.70	13	2.6	36	8.7	21	28	13	5.3	2.8	1.9
5	1.0	.70	76	2.6	31	7.6	23	27	12	5.1	2.6	1.9
6	1.1	2.5	100	2.6	26	7.6	251	25	12	4.5	2.5	2.0
7	1.1	2.8	40	2.6	24	6.8	210	24	11	4.7	2.4	1.8
8	1.1	2.6	13	2.8	21	6.5	72	23	11	4.9	2.4	1.8
9	1.1	1.3	9.6	2.5	20	6.5	40	24	9.5	4.7	2.5	1.8
10	1.0	1.3	21	2.6	19	7.8	143	30	9.5	4.0	2.4	1.8
11	1.1	1.1	7.3	2.6	17	5.3	155	21	9.2	4.0	2.4	1.8
12	.90	1.0	6.1	2.6	16	241	51	20	9.5	4.1	2.5	1.8
13	.80	.90	5.3	2.6	16	267	40	19	9.5	4.5	2.4	1.9
14	.80	1.0	4.7	2.6	14	74	40	17	7.3	4.0	2.4	2.0
15	.70	3.0	4.5	2.6	13	34	113	16	6.5	3.8	2.4	2.4
16	.80	20	3.6	2.6	14	542	49	16	7.6	3.8	2.4	2.1
17	.70	5.9	3.4	2.5	14	71	263	16	7.0	3.5	2.5	2.0
18	.70	2.6	3.2	2.4	13	45	229	15	6.1	3.5	2.4	2.1
19	.70	3.7	3.2	2.4	12	35	144	14	6.5	3.5	2.4	2.0
20	.80	28	3.0	3.7	11	30	62	13	7.0	3.6	2.4	1.9
21	.80	31	2.9	2.640	11	27	337	13	7.3	3.4	2.2	2.0
22	.80	24	2.8	364	11	25	147	13	7.6	3.2	2.0	1.9
23	1.1	6.5	2.9	52	11	30	99	11	6.8	3.0	2.0	1.9
24	1.1	3.8	3.0	629	12	23	81	10	6.5	3.2	2.2	1.9
25	1.0	2.0	2.8	127	21	20	56	9.9	6.1	3.2	2.1	2.0
26	.90	1.6	2.5	101	12	20	50	9.9	5.9	3.2	2.0	2.1
27	.90	1.5	2.6	44	11	18	52	10	5.9	2.9	1.9	1.9
28	.90	5.9	2.6	166	10	21	43	11	5.9	2.6	1.9	2.0
29	.90	5.3	2.6	610	-----	18	39	12	5.7	2.5	1.9	1.9
30	.90	4.3	2.8	705	-----	103	36	10	5.3	2.6	1.9	2.0
31	.90	-----	2.8	270	-----	98	-----	10	-----	2.4	1.9	-----
Total	27.90	167.30	409.2	5,794.2	595	1,875.8	2,930	560.8	271.2	1,198	71.5	58.3
Mean	.90	5.58	13.2	187	21.2	60.5	97.7	18.1	9.04	3.86	2.31	1.94
Max	1.1	31	100	2,640	80	542	337	32	26	6.1	2.8	2.4
Min	.70	.70	2.5	2.4	10	6.5	21	9.9	5.3	2.4	1.9	1.8
Ac-ft	55	332	812	11,490	1,180	3,720	5,810	1,110	538	238	142	116

Cal yr 1966: Total 2,038.0 Mean 5.58 Max 156 Min .60 Ac-ft 4,040
 Wtr yr 1967: Total 12,881.0 Mean 35.3 Max 2,640 Min .70 Ac-ft 25,550

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1400	10.70	4,290	3-16	0800	7.01	1,660
1-24	0830	7.08	1,690	4-6	1200	5.08	782
1-30	1000	7.70	2,060	4-17	2000	5.78	1,080
3-12	1230	5.00	750	4-21	1200	5.28	862

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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 102.71 ft above mean sea level, datum of 1929. Prior to June 20, 1957, graphic water-stage recorder at site 0.6 mile upstream at different datum. June 20, 1957, to Oct. 5, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--15 years, 29.0 cfs (21,000 acre-ft per year); median of yearly mean discharges, 15 cfs (10,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,200 cfs Jan. 21 (gage height, 9.02 ft), from rating curve extended above 2,700 cfs on basis of theoretical rating of flow over dam; minimum daily, 0.90 cfs Oct. 1.
1952-67: 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, Oct. 1, 1962.

REMARKS.--Records good except those above 3,000 cfs, which are poor. Flow slightly regulated by storage in Lafayette Reservoir (capacity, 4,240 acre-ft). Some small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.90	2.5	13	5.5	157	22	67	61	24	11	7.3	6.4
2	1.9	2.5	183	5.5	109	22	49	57	56	9.9	7.3	6.0
3	2.3	2.7	40	5.5	87	22	44	52	26	12	7.4	5.4
4	3.5	3.3	54	5.5	74	21	43	50	21	11	6.8	5.3
5	1.9	3.3	239	5.9	66	19	55	48	20	10	6.4	5.5
6	2.0	54	180	5.5	58	18	506	46	20	9.5	6.5	5.7
7	2.0	9.7	110	5.5	53	16	263	44	20	9.3	6.8	5.2
8	3.1	6.8	35	5.2	48	15	112	42	18	9.5	7.1	5.1
9	2.1	3.5	32	5.1	44	15	67	42	18	9.4	6.7	5.1
10	2.6	3.1	57	5.3	41	23	242	52	19	9.0	7.9	3.8
11	3.0	3.2	20	5.9	37	157	273	38	18	10	6.8	5.4
12	4.0	2.6	12	5.7	36	413	89	36	18	11	7.6	4.8
13	2.7	2.5	10	5.4	34	452	70	34	19	11	7.4	5.2
14	2.4	13	8.0	5.1	31	142	67	32	18	9.8	8.3	5.0
15	2.9	30	7.0	5.8	29	74	187	32	16	9.5	7.7	5.4
16	3.1	65	6.6	5.7	30	1,150	78	34	17	8.5	7.3	4.8
17	1.7	10	6.2	5.2	29	151	358	30	17	8.7	8.0	4.6
18	1.8	5.6	6.0	4.8	28	90	348	28	15	8.0	7.7	6.0
19	2.5	43	5.8	5.5	27	69	320	28	17	8.3	6.9	6.0
20	3.1	105	5.8	175	25	59	119	27	18	9.2	5.7	6.2
21	2.8	86	5.6	4,370	24	54	395	25	19	9.2	6.5	6.0
22	2.7	50	5.6	615	24	49	233	25	17	7.9	6.4	5.6
23	2.7	13	5.5	111	24	60	177	23	17	7.5	6.4	5.6
24	3.2	7.2	5.5	864	31	43	155	22	16	7.9	6.7	5.0
25	2.3	4.6	5.5	189	48	41	98	22	15	8.5	7.1	6.0
26	2.2	4.6	5.5	101	25	39	87	22	15	8.1	5.4	6.2
27	3.7	4.0	5.5	88	23	36	89	21	15	7.5	5.7	5.0
28	3.4	44	5.5	284	22	45	76	22	14	8.3	6.2	5.0
29	2.7	19	5.5	980	-----	35	69	22	12	8.1	6.3	5.0
30	3.2	9.6	5.5	961	-----	206	64	21	12	7.1	6.4	5.4
31	3.0	-----	5.5	403	-----	173	-----	21	-----	7.0	6.2	-----
TOTAL	81.40	613.3	1,091.1	9,244.2	1,264	3,731	4,800	1,059	567	281.7	212.9	161.7
MEAN	2.63	20.4	35.2	298	45.1	120	160	34.2	18.9	9.09	6.87	5.39
MAX	4.0	105	239	4,370	157	1,150	506	61	56	12	8.3	6.4
MIN	.90	2.5	5.5	4.8	22	15	43	21	12	7.0	5.4	3.8
AC-FT	161	1,220	2,160	18,340	2,510	7,400	9,520	2,100	1,120	559	422	321

CAL YR 1966: TOTAL 5,509.90 MEAN 15.1 MAX 296 MIN .90 AC-FT 10,930
WAT YR 1967: TOTAL 23,107.30 MEAN 63.3 MAX 4,370 MIN .90 AC-FT 45,830

Peak discharge (base, 900 cfs, revised)

Note.--No gage-height record Dec. 10 to Jan. 9.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-21	1415	9.02	7,200	3-16	0545	6.82	3,880
1-24	0445	5.74	2,320	4-6	1100	4.76	1,250
1-29	0545	6.34	3,160	4-17	2030	4.70	1,200
3-12	1645	4.42	966				

NAPA RIVER BASIN

11-4559.5. SULPHUR CREEK NEAR ST. HELENA, CALIF.

LOCATION.--Lat 38°29'20", long 122°28'50", in NE¼ sec.2, T.7 N., R.6 W., on right bank just downstream from private road bridge, 1,000 ft upstream from Heath Canyon and 1.3 miles southwest of St. Helena.

DRAINAGE AREA.--4.50 sq mi.

RECORDS AVAILABLE.--Water years 1958-66 (annual maximum). February 1966 to September 1967, discontinued as a continuous-record station; converted to a crest-stage partial-record station.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Datum of gage is 303.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Oct. 25, 1957, to Jan. 31, 1966, crest-stage gage on upstream side of bridge at different datum.

EXTREMES.--Maximum discharge during year, 518 cfs Jan. 21 (gage height, 5.18 ft, from high-water mark in well), from rating curve extended above 220 cfs on basis of critical-depth measurement at gage height 10.80 ft; no flow for many days.

1958-67: Maximum discharge, 980 cfs Dec. 23, 1964 (gage height, 10.80 ft) by critical-depth measurement of maximum flow.

1966-67: No flow for many days in each year.

Flood of Dec. 21, 1955, reached a stage of 15.80 ft, from floodmarks.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	9.6	2.2	65	1.0	20	10	4.4	.30	.20	
2		0	74	2.0	23	1.0	13	9.5	17	.30	.20	
3		0	55	2.0	18	1.0	11	9.0	6.2	.30	.20	
4		0	84	2.0	15	1.0	8.7	8.7	3.9	.30	.20	
5		0	93	2.0	12	1.0	8.7	8.5	3.4	.20	.10	
6		.30	41	1.8	10	1.0	25	8.0	3.2	.20	.20	
7		.10	25	1.8	9.0	1.0	16	8.0	2.8	.20	.20	
8		0	19	1.8	8.5	1.0	13	8.0	2.8	.30	.10	
9		0	17	1.8	8.0	1.0	10	8.5	2.6	.30	.10	
10		0	24	1.7	7.0	1.0	11	8.5	2.4	.50	.10	
11		0	18	1.7	6.5	1.0	10	7.9	2.4	.60	.10	
12		0	15	1.7	6.0	1.0	8.5	7.1	2.4	.60	.10	
13		0	11	1.6	5.5	1.0	8.0	7.1	2.2	.50	.10	
14		1.0	7.9	1.5	5.2	1.0	7.5	6.2	2.4	.50	.10	
15		6.3	5.8	1.4	5.0	2.7	7.0	6.2	2.2	.50	.10	
16		8.3	4.1	1.4	4.8	83	6.0	5.8	1.8	.30	.10	
17		3.4	3.4	1.3	4.5	27	25	5.3	1.6	.30	.10	
18		2.8	3.0	1.2	4.3	16	32	5.3	1.6	.30	.10	
19		39	2.8	1.2	4.0	11	25	5.1	1.6	.20	.10	
20		28	2.8	120	3.8	13	20	4.8	1.4	.20	.10	
21		15	2.6	300	3.6	9.6	28	4.8	1.3	.20	.10	
22		9.2	2.6	100	3.4	5.6	24	4.6	1.2	.20	0	
23		4.8	2.4	35	3.0	5.5	30	4.6	1.0	.20	0	
24		3.4	2.4	80	2.8	3.0	25	4.1	.90	.20	0	
25		2.8	2.4	45	2.2	2.8	20	4.1	.90	.20	0	
26		2.6	2.4	35	1.0	2.8	18	4.4	.80	.20	0	
27		2.6	2.4	30	1.0	2.8	16	3.9	.50	.20	0	
28		3.4	2.4	40	1.0	2.8	14	3.4	.20	.20	0	
29		4.4	2.2	120	2.8	12	12	3.2	.50	.20	0	
30		3.2	2.2	100	47	11	32	3.2	.50	.20	0	
31			2.2	88	35	35		3.4		.20	0	
TOTAL	0	140.60	541.6	1,125.1	243.1	286.4	483.4	191.2	761.0	91.0	270	0
MEAN	0	4.69	17.5	36.3	8.68	9.24	16.1	6.17	25.4	.29	.09	0
MAX	0	39	93	300	65	83	32	10	17	.60	.20	0
MIN	0	0	2.2	1.2	1.0	1.0	6.0	3.2	.20	.20	0	0
AC-FT	0	279	1,070	2,230	482	568	959	379	151	18	5.4	0
(1)	0	12.0	7.4	17.5	.3	9.4	6.8	.3	2.5	0	0	.1

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 3,099.30 Mean 8.49 Max 300 Min 0 Ac-ft 6,150

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2100	2.85	168	1-29	-	-	290
12- 2	1700	3.72	304	3-16	0100	2.76	154
12- 4	2400	3.20	220	3-30	1300	3.00	190
1-21	-	4.79	518				

† Precipitation, in inches.

Note.--No gage-height record Jan. 10-30, Apr. 8 to May 10.

NAPA RIVER BASIN

375

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.--81.4 sq mi.

RECORDS AVAILABLE.--October 1929 to September 1932, October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 173.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Nov. 22, 1958, graphic water-stage recorder at datum 1.00 ft higher. Nov. 22, 1958, to Sept. 25, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--31 years, 90.1 cfs (65,230 acre-ft per year); median of yearly mean discharges, 70 cfs (50,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,100 cfs Jan. 21 (gage height, 15.01 ft); minimum daily, 0.60 cfs Oct. 1, 2, 4.

1929-32, 1939-67: Maximum discharge, 12,600 cfs Dec. 22, 1955 (gage height, 16.17 ft, present datum); no flow at times in 1947-49, 1952-57, 1959-64.

REMARKS.--Records good. No regulation; small diversions above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.60	1.1	134	29	800	46	341	132	28	11	3.5	1.5
2	.60	1.3	1,470	28	522	45	255	114	70	10	3.5	1.9
3	.80	1.5	815	27	381	42	216	104	54	9.7	3.0	2.2
4	.60	1.6	1,450	26	298	39	188	94	46	9.4	2.9	2.1
5	.70	1.7	2,330	25	244	37	191	88	41	5.1	3.0	1.6
6	.90	14	1,030	23	206	35	711	85	38	5.1	3.2	1.3
7	1.4	25	583	22	179	35	546	77	37	9.7	3.4	1.4
8	1.3	16	383	22	156	34	384	71	34	8.4	2.8	1.4
9	1.2	12	294	21	140	33	293	70	31	8.1	2.8	1.6
10	1.4	11	472	20	133	44	312	72	30	9.4	2.8	1.8
11	1.2	11	312	20	129	151	296	63	28	8.4	2.9	1.7
12	2.3	13	236	20	125	235	235	58	40	7.1	3.7	1.4
13	1.6	15	197	19	120	282	203	54	35	6.8	3.9	1.5
14	1.4	17	165	18	105	245	182	50	32	6.1	3.5	1.5
15	1.2	33	130	18	95	220	170	47	29	6.1	3.0	1.7
16	1.1	58	111	17	82	1,550	156	45	27	5.9	2.4	1.3
17	1.0	14	97	17	77	589	391	41	25	5.6	2.4	1.1
18	1.0	6.5	85	16	72	363	567	38	22	5.6	2.3	1.2
19	1.0	282	78	16	68	267	517	38	20	5.2	2.3	1.3
20	1.3	685	71	1,360	61	297	370	35	19	5.0	2.2	1.2
21	1.2	306	64	8,380	58	313	433	33	18	4.8	2.4	.90
22	1.1	189	58	1,920	55	238	395	32	17	5.2	2.4	1.2
23	1.1	78	53	805	54	278	447	30	16	5.0	2.0	1.5
24	1.1	41	49	1,680	56	210	390	26	15	3.7	2.2	1.8
25	1.1	26	46	1,030	65	174	309	27	14	3.5	2.9	1.8
26	1.0	20	43	762	53	152	256	27	13	4.3	1.9	1.8
27	1.0	17	38	796	49	132	236	26	11	3.9	1.7	1.7
28	1.2	32	36	893	48	124	200	24	10	4.1	1.6	1.7
29	1.2	78	36	2,290	-----	112	175	25	9.0	3.9	1.5	1.6
30	1.2	45	34	1,650	-----	446	151	22	11	3.6	1.3	1.6
31	1.2	-----	31	1,380	-----	506	-----	22	-----	3.0	1.2	-----
TOTAL	35.00	2,051.7	10,931	23,350	4,431	7,274	9,516	1,670	820.0	200.7	80.6	46.30
MEAN	1.13	68.4	353	753	158	235	317	53.9	27.3	6.47	2.60	1.54
MAX	2.3	685	2,330	8,380	800	1,550	711	132	70	11	3.9	2.2
MIN	.60	1.1	31	16	48	33	151	22	9.0	3.0	1.2	.90
AC-FT	69	4,070	21,680	46,310	8,790	14,430	18,870	3,310	1,630	398	160	92

CAL YR 1966: TOTAL 36,090.00

MEAN 98.9

MAX 5,390

MIN .10

AC-FT 71,580

WAT YR 1967: TOTAL 60,406.30

MEAN 165

MAX 8,380

MIN .60

AC-FT 119,800

Peak discharge (base, 2,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1800	9.28	4,450	1-29	0530	9.20	4,380
12- 5	0100	10.84	5,940	3-16	0445	6.68	2,330
1-21	1745	15.01	11,100				

Note.--No gage-height record June 1-30.

NAPA RIVER BASIN

11-4580. NAPA RIVER NEAR NAPA, CALIF.

LOCATION.--Lat 38°22'08", 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 24.74 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 2, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 150 cfs (108,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,800 cfs Jan. 21 (gage height, 26.47 ft); no flow Oct. 10, 11, 25-27.

1929-32, 1959-67: Maximum discharge, 16,900 cfs Jan. 31, 1963 (gage height, 27.59 ft); no flow at times in each year.

REMARKS.--Records good. Flow slightly regulated by Lake Hennessey beginning in December 1945 (capacity, 31,000 acre-ft). Numerous diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.40	215	71	2,080	119	765	303	40	29	6.3	3.0
2	.40	.10	1,900	68	1,370	113	597	298	185	28	6.3	3.3
3	.30	.10	1,760	65	994	107	509	288	168	27	5.8	3.0
4	.20	.30	1,530	65	775	103	446	265	95	25	5.3	3.5
5	.30	.40	4,350	63	679	91	534	245	72	23	4.8	3.3
6	.50	2.5	2,020	59	581	86	1,610	225	65	22	5.3	3.3
7	.60	2.8	1,110	56	505	83	1,360	205	62	22	5.8	3.0
8	.30	8.1	742	54	448	80	962	190	56	22	5.8	3.5
9	.10	5.8	550	51	402	74	751	176	51	21	5.8	3.3
10	0	4.2	434	50	369	77	747	162	43	18	5.3	3.5
11	0	3.4	564	49	326	334	789	128	42	19	5.3	3.5
12	.20	3.1	431	50	300	444	600	118	58	16	4.8	3.8
13	.10	2.8	375	48	281	687	503	106	55	16	5.2	4.3
14	.20	3.1	318	45	251	606	452	96	51	17	5.3	3.3
15	.80	12	264	44	228	421	410	89	51	17	4.0	3.0
16	.60	68	230	42	216	3,100	373	80	48	19	3.8	3.3
17	.60	56	208	40	204	1,630	674	74	47	17	3.5	3.0
18	.80	16	185	40	196	998	1,030	68	43	19	3.5	3.3
19	1.3	173	170	39	187	744	1,050	65	42	21	3.5	2.7
20	1.5	1,250	159	937	165	656	782	62	40	21	3.8	2.2
21	1.1	739	147	12,100	151	674	835	60	39	24	5.3	2.2
22	.80	525	133	7,510	146	548	849	59	38	23	4.3	2.2
23	.40	218	125	2,710	143	579	908	48	37	22	2.0	2.5
24	.40	133	119	4,110	140	473	859	44	36	21	3.3	2.7
25	0	96	111	2,510	158	401	684	43	35	12	3.5	2.7
26	0	78	103	1,780	141	363	579	42	34	8.9	3.8	3.0
27	0	66	94	1,740	129	330	512	39	32	8.4	3.8	3.0
28	.10	84	86	1,780	125	308	422	37	30	6.9	3.5	3.5
29	.10	205	84	5,760	-----	290	373	36	30	6.3	3.0	3.8
30	.30	143	81	5,150	-----	849	333	34	42	6.9	3.0	3.5
31	.50	-----	74	3,850	-----	1,130	-----	34	-----	6.3	3.3	-----
TOTAL	12.90	3,899.10	18,672	50,936	11,690	16,498	21,298	3,719	1,667	564.7	138.1	94.2
MEAN	.42	130	602	1,643	418	532	710	120	55.6	18.2	4.45	3.14
MAX	1.5	1,250	4,350	12,100	2,080	3,100	1,610	303	185	29	6.3	4.3
MIN	0	.10	74	39	125	74	333	34	30	6.3	2.0	2.2
AC-FT	26	7,730	37,040	101,000	23,190	32,720	42,240	7,380	3,310	1,120	274	187

CAL YR 1966: TOTAL 68,694.30 MEAN 188 MAX 8,730 MIN 0 AC-FT 136,300
 WAT YR 1967: TOTAL 129,189.00 MEAN 354 MAX 12,100 MIN 0 AC-FT 256,200

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	2145	15.03	5,820	1-24	0830	14.53	5,470
12- 5	0445	16.47	6,880	1-29	1030	18.32	8,360
1-21	2015	26.47	15,800	3-16	0915	13.37	4,660

NAPA RIVER BASIN

377

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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 166.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to July 24, 1967, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 9.19 cfs (6,650 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,280 cfs Jan. 21 (gage height, 9.63 ft), from rating curve extended above 330 cfs as explained below; no flow for many days.

1958-67: Maximum discharge, 1,450 cfs Jan. 5, 1965 (gage height, 10.44 ft), from rating curve extended above 330 cfs on basis of slope-area measurement at gage height 8.60 ft; no flow for many days in each year.

REMARKS.--Records good. Small storage and release affects summer flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	51	1.6	107	5.8	34	24	3.8	1.8	.54	.11
2		0	130	1.5	79	5.3	28	21	56	1.6	.54	.10
3		0	62	1.4	56	5.0	24	19	26	1.5	.40	.10
4		0	169	1.4	39	4.1	21	17	16	1.4	.34	.09
5		0	174	1.3	29	3.8	48	16	12	1.3	.35	.09
6		0	76	1.3	22	4.1	187	14	9.2	1.4	.37	.08
7		0	41	1.2	17	3.8	89	13	7.8	1.3	.33	.07
8		0	26	1.1	13	3.8	57	12	7.1	1.2	.29	.07
9		0	22	1.4	12	4.1	43	11	6.0	1.2	.27	.07
10		0	46	1.8	11	3.8	56	11	5.5	1.3	.26	.06
11		0	25	1.6	11	8.9	46	10	5.3	1.3	.25	.05
12		0	18	1.6	10	12	35	9.2	4.6	1.2	.24	.04
13		0	14	1.6	8.9	19	30	8.9	4.1	1.1	.28	.04
14		0	11	1.6	8.5	15	27	8.2	3.8	.97	.23	.03
15		2.5	9.2	1.5	8.5	15	25	7.8	3.6	1.1	.20	.02
16		5.4	7.4	1.5	8.5	14.4	22	7.4	3.6	.97	.18	.02
17		3.4	6.4	1.4	8.2	56	76	6.4	5.3	.90	.17	.02
18		1.9	5.5	1.4	7.8	46	75	6.7	3.1	.83	.16	.02
19		76	5.0	1.4	7.1	41	64	5.5	2.9	3.1	.16	.02
20		122	4.6	309	6.7	46	46	5.0	2.9	1.1	.16	0
21		66	4.1	918	6.7	50	55	4.8	2.9	.77	.16	0
22		27	3.6	220	6.7	39	52	4.8	2.8	.60	.16	0
23		13	3.4	96	6.7	52	72	4.6	2.8	.61	.16	0
24		10	3.1	220	6.7	46	58	4.3	2.6	.61	.13	0
25		8.0	2.9	93	7.4	42	46	5.8	4.6	.71	.13	0
26		6.4	2.6	85	6.7	40	40	4.3	3.1	.61	.13	0
27		5.0	2.4	80	6.4	37	37	3.8	2.4	.61	.13	0
28		8.1	2.1	113	8.2	36	32	3.6	2.2	.57	.13	0
29		14	2.1	406	-----	35	28	3.6	1.9	.53	.12	0
30		10	1.9	312	-----	82	26	3.4	1.9	.49	.12	0
31		-----	1.8	184	-----	50	-----	3.3	-----	.49	.12	-----
Total	0	378.7	933.1	3,063.6	525.7	955.5	1,479	279.4	215.8	332.3	72.1	1.10
Mean	0	12.6	30.1	98.8	18.8	30.8	49.3	9.01	7.19	1.07	.23	.04
Max	0	122	174	918	107	144	187	24	56	3.1	.54	.11
Min	0	0	1.8	1.1	6.4	3.8	21	3.3	1.9	.49	.12	0
Ac-ft	0	751	1,850	6,080	1,040	1,900	2,930	554	428	66	14	2.2

Cal yr 1966: Total 3,897.4 Mean 10.7 Max 693 Min 0 Ac-ft 7,730
Wtr yr 1967: Total 7,872.34 Mean 21.6 Max 918 Min 0 Ac-ft 15,620

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	-	-	873	3-16	0300	4.83	270
12-4	2300	6.13	541	3-30	1300	5.20	346
1-21	1400	9.63	1,280	4-6	0600	5.55	420
1-24	0600	6.26	569	4-17	1200	4.53	210
1-29	0200	7.90	913				

SONOMA CREEK BASIN

11-4585. SONOMA CREEK AT AGUA CALIENTE, CALIF.
(Formerly published as Sonoma Creek at Boyes Hot Springs)

LOCATION.--Lat 38°19'24", long 122°29'36", in Agua Caliente Grant on left bank 150 ft upstream from bridge and 0.4 mile west of Agua Caliente, Sonoma County. Prior to July 25, 1967, at site 0.8 mile downstream.

DRAINAGE AREA.--58.3 sq mi; at former site 62.2 sq mi.

RECORDS AVAILABLE.--February 1955 to September 1967. Prior to October 1966, published as "at Boyes Hot Springs."

GAGE.--Digital water-stage recorder. Altitude of gage is 120 ft (from topographic map). Prior to Mar. 30, 1965, graphic water-stage recorder, and Mar. 30, 1965 to July 24, 1967, digital water-stage recorder at site 0.8 mile downstream at different datum.

AVERAGE DISCHARGE.--12 years, 71.1 cfs (51,470 acre-ft per year); median of yearly mean discharges, 63 cfs (45,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,780 cfs (gage height, 13.10 ft); minimum daily, 0.20 cfs Oct. 5. 1955-67: Maximum discharge, 8,880 cfs Dec. 22, 1955 (gage height, 17.10 ft, site and datum then in use), from rating curve extended above 4,100 cfs on basis of slope-area measurement of maximum flow; no flow at times in each year except 1965-67.

REMARKS.--Records fair. No regulation; some diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.40	.80	77	26	470	37	247	91	24	8.2	5.0	2.0
2	.40	.90	1,510	24	347	34	193	80	95	7.9	4.7	2.0
3	.40	.90	433	23	298	32	155	72	48	7.8	4.8	1.5
4	.30	.60	830	21	260	30	148	64	24	7.7	5.0	1.4
5	.20	1.4	1,180	20	225	28	187	59	22	7.5	5.3	1.5
6	.30	14	570	18	200	26	665	52	20	7.2	5.2	1.5
7	.40	6.4	329	17	180	24	433	46	20	6.9	5.0	1.5
8	.60	1.7	223	16	160	23	336	42	19	6.6	4.7	1.5
9	.60	1.4	190	15	145	22	256	45	19	6.4	4.2	1.5
10	.50	.80	329	13	132	24	287	50	18	6.3	4.1	1.6
11	.40	1.9	187	12	120	143	259	46	18	6.2	3.8	1.7
12	.40	2.5	138	11	110	196	187	43	17	6.0	2.5	1.6
13	.60	2.2	115	10	103	193	152	40	17	5.9	2.7	1.6
14	.60	3.8	101	9.6	93	113	135	37	17	5.8	2.7	1.7
15	.60	24	89	9.2	86	187	129	35	16	5.7	2.4	2.0
16	.50	45	80	8.6	78	1,100	111	34	16	6.8	2.5	1.9
17	.50	10	74	8.2	72	393	250	32	16	7.6	2.7	1.8
18	.40	3.5	67	7.8	68	265	315	31	15	7.3	2.6	1.9
19	.60	308	62	7.6	64	193	247	30	15	6.7	2.6	1.8
20	.60	385	58	1,980	60	238	181	29	14	6.2	2.4	1.8
21	.60	226	54	6,190	56	250	319	28	14	6.0	2.3	1.6
22	.60	131	51	1,190	52	172	271	26	13	5.9	2.0	1.7
23	.60	62	48	492	49	244	375	25	12	5.7	2.0	1.7
24	.50	50	45	1,300	43	158	312	24	11	5.5	2.0	1.8
25	.40	36	41	479	54	138	220	23	11	5.3	2.1	1.9
26	.50	26	39	457	47	127	178	23	10	5.2	2.1	1.8
27	.40	21	36	429	43	115	158	22	9.5	5.0	2.0	1.8
28	.60	32	34	501	40	111	131	22	9.3	4.9	2.1	1.8
29	.60	59	32	2,290	-----	109	121	21	8.9	4.9	2.1	2.0
30	1.1	46	30	2,400	-----	595	103	21	8.5	4.9	2.2	1.9
31	.90	-----	28	883	-----	457	-----	20	-----	5.1	2.0	-----
TOTAL	16.10	1,503.80	7,080	18,868.0	3,655	5,777	7,061	1,213	577.2	195.1	97.8	51.8
MEAN	.52	50.1	228	609	131	186	235	39.1	19.2	6.29	3.15	1.73
MAX	1.1	385	1,510	6,190	470	1,100	665	91	95	8.2	5.3	2.0
MIN	.20	.60	28	7.6	40	22	103	20	8.5	4.9	2.0	1.4
AC+T	32	2,980	14,040	37,420	7,250	11,460	14,010	2,410	1,140	387	194	103

CAL YR 1966: TOTAL 27,967.60 MEAN 76.6 MAX 4,960 MIN .20 AC-FT 55,470
WAT YR 1967: TOTAL 46,095.60 MEAN 126 MAX 6,190 MIN .20 AC-FT 91,430

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2130	5.78	1,920	1-24	0500	7.24	3,090
12- 2	1700	11.59	6,570	1-29	0415	9.81	5,150
12- 5	0030	6.93	2,840	3-16	0315	6.10	2,180
1-21	1700	13.10	7,780	3-30	1530	6.21	2,270

Note.--No gage-height record Feb. 4 to Mar. 8, June 3 to Aug. 12.

NOVATO CREEK BASIN

379

11-4595. NOVATO CREEK AT NOVATO, CALIF.
(Formerly published as Novato Creek near Novato)

LOCATION.--Lat 38°06'28", long 122°34'44", in Novato Grant, on left bank in Novato, Marin County, 100 ft upstream from 7th Street Bridge. Prior to Aug. 23, 1967, at site 0.6 mile upstream.

DRAINAGE AREA.--17.6 sq mi; at former site 17.5 sq mi.

RECORDS AVAILABLE.--October 1946 to September 1967. Records of diversions for water years 1952-53, estimated. Prior to October 1966, published as "near Novato."

GAGE.--Digital water-stage recorder. Altitude of gage is 30 ft (from topographic map). Prior to Aug. 23, 1967, graphic water-stage recorder at site 0.6 mile upstream at different datum.

AVERAGE DISCHARGE.--21 years, 11.3 cfs (8,180 acre-ft per year), adjusted for diversion.

EXTREMES.--Maximum discharge during year, 1,210 cfs Jan. 30 (gage height, 8.15 ft); no flow for many days.
1946-67: Maximum discharge, 1,330 cfs Jan. 20, 1964 (gage height, 8.74 ft, site and datum then in use); no flow for many days in each year.

REMARKS.--Records good. Flow regulated by Stafford Lake beginning Dec. 1, 1951 (capacity, 4,500 acre-ft since Oct. 18, 1954); contents, 2,460 acre-ft Sept. 30, 1966, and 3,000 acre-ft Sept. 30, 1967. Diversion from Stafford Lake for municipal water supply began Apr. 25, 1952, and amounted to 1,870 acre-ft for water year 1967.

COOPERATION.--Record of diversions furnished by North Marin County Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1.2	2.0	160	3.0	22	18	2.0	3.6	.89	.34
2	0	0	48	2.0	98	2.9	20	16	6.3	3.6	.89	.26
3	0	0	18	2.0	71	2.8	17	14	2.7	3.6	.89	.30
4	0	0	49	2.0	56	2.6	17	13	2.0	3.4	.89	.22
5	0	0	78	1.8	48	2.5	39	11	1.8	3.6	.84	.03
6	0	29	57	1.8	41	2.4	149	11	1.8	3.8	.80	0
7	0	17	36	1.7	37	2.2	104	10	1.7	3.6	.84	.07
8	0	2.2	21	1.7	34	2.1	72	10	1.7	3.8	.78	.05
9	0	.30	31	1.7	33	2.0	57	8.1	1.6	4.0	.78	0
10	0	0	45	1.6	30	2.6	61	7.2	1.7	3.8	.84	0
11	14	0	25	1.6	28	4.0	64	5.9	1.7	3.8	.78	0
12	21	0	19	1.6	26	9.0	50	4.5	1.7	3.4	.78	.10
13	1.5	0	15	1.6	25	8.0	41	4.0	1.6	3.1	.78	.95
14	.06	.43	11	1.5	22	4.7	39	4.0	1.7	3.1	.78	1.3
15	0	4.5	8.1	1.5	19	11	38	3.8	1.7	3.1	.73	1.3
16	0	1.8	5.9	1.5	18	8.1	34	3.8	1.7	2.9	.73	1.1
17	0	.36	4.5	1.5	16	38	74	3.4	2.0	2.4	.73	1.3
18	0	.30	4.0	1.5	11	29	71	3.4	2.2	1.8	.67	1.4
19	0	11	3.6	1.5	7.7	22	66	3.1	4.3	1.7	.73	2.3
20	0	6.3	3.4	1.24	5.4	18	56	2.9	4.0	1.6	.73	.95
21	0	5.0	3.1	625	5.0	17	122	2.7	4.0	1.6	.84	.80
22	0	.89	2.9	426	4.5	15	78	2.4	4.5	1.5	.60	.65
23	0	.39	2.9	191	3.7	16	104	2.2	4.3	2.2	.34	.30
24	0	.30	2.4	511	3.3	14	69	2.2	3.6	1.4	.34	.22
25	0	.24	2.2	188	4.0	13	49	2.2	3.6	1.1	.30	.30
26	0	.21	2.2	159	3.8	11	39	2.1	3.8	1.0	.26	1.7
27	0	.24	2.2	149	3.5	8.1	35	2.0	3.4	.95	.30	16
28	0	7.2	2.2	128	3.3	10	29	2.0	3.6	.95	.38	107
29	0	2.1	2.2	401	-----	7.7	27	1.8	3.6	.95	.38	22
30	0	.51	2.2	750	-----	47	21	2.0	3.6	.95	.38	.95
31	0	-----	2.1	344	-----	35	-----	2.0	-----	.89	.34	-----
Total	36.56	90.27	510.3	4,028.1	817.2	443.6	1,664	180.7	83.9	77.19	20.38	161.89
Mean	1.18	3.01	16.5	130	29.2	14.3	55.5	5.83	2.80	2.49	.66	5.40
Max	21	29	78	750	160	81	149	18	6.3	4.0	.89	107
Min	0	0	1.2	1.5	3.3	2.0	17	1.8	1.6	.89	.26	0
Ac-ft	73	179	1,010	7,990	1,620	880	3,300	358	166	153	40	321

Cal yr 1966: Total 3,131.13 Mean 8.58 Max 274 Min 0 Ac-ft 6,210
Wtr yr 1967: Total 8,114.09 Mean 22.2 Max 750 Min 0 Ac-ft 16,090

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.

RECORDS AVAILABLE.--February 1951 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 10.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 11, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 26.5 cfs (19,190 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,120 cfs Jan. 21 (gage height, 17.44 ft, from highwater mark); minimum daily, 0.10 cfs for several days.

1951-67: 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 good. Flow regulated by Phoenix Lake (capacity, 612 acre-ft). Diversion on tributary above station by Marin Municipal Water District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	.10	103	4.7	180	8.5	94	24	7.9	4.6	1.7	1.5
2	.30	.10	736	4.4	103	8.4	69	24	89	3.6	1.7	1.4
3	.30	.20	239	4.4	68	7.8	54	23	35	3.7	1.5	1.5
4	.20	.20	425	4.7	50	7.0	44	18	18	3.7	1.6	1.5
5	.20	.20	480	4.3	38	6.6	76	18	14	3.7	1.6	1.4
6	.20	15	262	4.1	34	5.9	277	18	11	3.8	1.6	1.3
7	.20	.20	140	3.9	30	6.2	153	18	10	3.7	1.6	2.0
8	.20	.10	97	3.8	27	5.8	101	18	9.0	3.7	1.6	2.2
9	.20	.10	94	3.6	24	5.6	72	18	8.3	3.7	1.5	1.9
10	.20	.10	118	3.5	22	4.6	67	16	7.8	3.4	1.6	1.3
11	.20	.20	72	3.4	21	7.1	101	15	7.1	3.4	1.4	1.3
12	.20	1.2	49	3.3	20	107	80	15	7.1	3.3	1.4	1.0
13	.20	.70	35	3.2	19	121	62	11	6.9	3.1	1.2	.87
14	.20	5.4	28	3.1	19	85	51	11	6.5	3.1	1.3	1.2
15	.20	56	27	3.0	18	93	44	9.8	6.2	3.1	1.3	.97
16	.20	22	22	3.0	18	257	35	9.0	6.2	3.1	1.3	.92
17	.20	1.5	15	2.9	15	118	97	9.0	6.2	2.9	1.2	.92
18	.20	1.0	13	2.8	14	76	97	8.7	6.2	2.9	1.2	.92
19	.20	180	11	2.8	13	55	84	7.9	5.4	2.9	1.2	.80
20	.20	157	10	540	11	57	67	7.5	5.4	2.9	1.3	.81
21	.20	99	8.5	1,900	11	62	105	7.5	5.4	2.8	1.4	.80
22	.20	60	8.0	450	9.9	49	73	7.1	5.1	2.4	1.5	.87
23	.20	34	8.0	155	9.6	70	152	7.1	5.0	2.2	1.5	.92
24	.20	22	7.5	425	13	49	114	6.8	4.7	2.3	1.6	.92
25	.20	16	7.1	180	16	40	81	5.4	4.7	2.2	1.4	.93
26	.10	14	6.2	137	9.9	34	63	5.4	4.7	2.2	1.3	1.2
27	.10	13	6.2	110	9.2	29	55	5.4	4.7	2.3	1.4	1.2
28	.10	159	5.4	220	8.5	30	43	5.4	4.7	2.1	1.5	1.0
29	.10	126	6.2	750	-----	24	35	5.4	4.7	2.1	1.5	1.0
30	.10	59	5.4	530	-----	228	28	5.5	4.7	1.8	1.5	1.0
31	.10	-----	5.1	305	-----	165	-----	5.4	-----	1.8	1.6	-----
TOTAL	6.30	1,043.30	3,049.6	5,770.9	831.1	1,927.8	2,474	365.3	321.6	92.5	45.1	35.55
MEAN	.20	34.8	98.4	186	29.7	62.2	82.5	11.8	10.7	2.98	1.45	1.19
MAX	.70	180	736	1,900	180	257	277	24	89	4.6	1.7	2.2
MIN	.10	.10	5.1	2.8	8.5	5.6	28	5.4	4.7	1.8	1.2	.80
AC-FT	13	2,070	6,050	11,450	1,650	3,820	4,910	725	638	183	89	71
CAL YR 1966: TOTAL 10,963.90 MEAN 30.0 MAX 1,510 MIN .10 AC-FT 21,750												
WAT YR 1967: TOTAL 15,963.05 MEAN 43.7 MAX 1,900 MIN .10 AC-FT 31,660												

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1545	15.37	2,500	1-21	-	17.44	3,120
12- 4	2130	11.62	1,410	1-29	-	13.35	1,900

Note.--No gage-height record Oct. 7 to Nov. 2, Jan. 5 to Feb. 10.

11-4601. ARROYO CORTE MADERA DEL PRESIDIO AT MILL VALLEY, CALIF.

LOCATION.--Lat 37°53'50", long 122°32'06", in Sausalito Grant, on right bank near south boundary of town of Mill Valley 1 mile upstream from mouth.

DRAINAGE AREA.--4.69 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 682 cfs Jan. 20 (gage height, 6.96 ft); minimum daily, 0.09 cfs Oct. 6, 23-28.

1965-67: Maximum discharge, 682 cfs Jan. 20, 1967 (gage height, 6.96 ft); minimum daily, 0.09 cfs Oct. 6, 23-28, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.25	.14	28	2.0	42	3.2	22	9.6	4.4	2.4	.91	.66
2	.31	.14	95	2.0	28	3.2	18	9.3	36	2.3	.91	.58
3	.31	.14	45	2.0	18	3.0	16	8.6	15	2.3	.91	.51
4	.14	.14	40	2.0	14	3.2	14	8.6	11	2.1	.82	.44
5	.14	.19	76	1.7	11	3.0	14	8.2	8.2	2.0	.82	.51
6	.09	13	52	1.7	9.6	2.8	47	7.0	7.0	2.0	.91	.37
7	.25	.82	30	1.6	7.9	2.8	37	5.6	6.4	1.9	.91	.31
8	.19	.44	19	1.6	7.2	2.7	25	5.3	5.9	1.7	.82	.31
9	.14	.31	19	1.6	6.4	2.7	21	5.3	5.6	1.7	.82	.25
10	.19	.25	23	1.5	5.9	8.8	27	5.3	4.8	1.6	.82	.25
11	.19	1.0	19	1.4	5.9	13	27	5.1	4.0	1.4	.82	.25
12	.31	1.2	14	1.5	5.6	18	23	4.8	3.2	1.3	.74	.25
13	.14	1.1	14	1.4	5.6	24	20	4.4	3.2	1.3	.74	.37
14	.19	.37	93	1.5	5.3	20	17	4.0	2.8	1.4	.74	.44
15	.19	13	72	1.6	4.8	16	15	4.0	3.0	1.3	.82	.51
16	.14	5.9	62	1.4	4.6	23	12	3.8	3.0	1.4	.82	.51
17	.19	1.9	51	1.3	4.4	22	20	3.6	2.7	1.4	.82	.51
18	.14	1.4	42	1.4	4.2	18	18	3.2	2.7	1.4	.91	.58
19	.25	26	40	1.4	4.0	14	18	3.2	2.7	1.4	.82	.51
20	.19	22	36	222	4.0	31	18	3.0	2.5	1.3	.82	.44
21	.19	27	32	455	4.0	40	22	2.8	2.4	1.2	.82	.37
22	.14	7.5	34	148	3.8	27	18	2.8	2.3	1.1	.74	.44
23	.09	4.4	34	77	3.6	32	35	2.7	2.1	1.1	.74	.51
24	.09	2.8	30	152	5.1	26	32	2.7	2.1	1.1	.74	.58
25	.09	2.1	28	79	6.3	19	23	2.5	2.0	1.2	.74	.74
26	.09	1.7	25	164	3.8	15	20	2.5	2.0	1.1	.74	.82
27	.09	1.5	25	121	3.4	11	17	2.5	2.0	1.2	.66	.82
28	.09	35	27	113	3.2	11	15	2.4	2.1	1.1	.66	.82
29	.14	19	25	140	-----	8.2	12	2.5	2.1	1.0	.66	.91
30	.14	93	25	133	-----	30	11	2.5	2.3	1.0	.66	.74
31	.25	-----	21	78	-----	26	-----	2.5	-----	.91	.74	-----
Total	53.4	203.07	544.2	1,912.6	231.6	479.6	634	140.3	155.5	45.61	24.60	15.31
Mean	.17	6.77	17.6	61.7	8.27	15.5	21.1	4.53	5.18	1.47	.79	.51
Max	.31	35	95	455	42	40	47	9.6	36	2.4	.91	.91
Min	.09	.14	2.1	1.3	3.2	2.7	11	2.4	2.0	.91	.66	.25
Ac-ft	11	403	1,080	3,790	459	951	1,260	278	308	90	49	30

Cal yr 1966: Total 2,440.41 Mean 6.69 Max 367.0 Min .09 Ac-ft 4,840
 Wtr yr 1967: Total 4,391.73 Mean 12.0 Max 455 Min .09 Ac-ft 8,710

Peak discharge (base, 220 cfs revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1300	4.72	225	1-26	1800	4.75	248
1-20	2400	6.96	682	1-29	0300	4.96	265
1-24	0300	4.63	236				

MORSES CREEK BASIN

11-4601.6. MORSES CREEK AT BOLINAS, CALIF.

LOCATION.--Lat 37°55'09", long 122°40'09", in Las Baulines Grant on right bank at mouth, 7 ft upstream from culvert on State Highway 1, 1.0 mile northeast of Bolinas, Marin County.

DRAINAGE AREA.--0.70 sq mi.

RECORDS AVAILABLE.--May to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 3.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge for the period, 1.7 cfs June 2 (gage height, 2.26 ft); minimum, no flow Aug. 14 to Sept. 30.

REMARKS.--Records good. No regulation; small diversion above station for domestic use. Records of suspended-sediment loads for the period in 1967 published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								-	.07	.02	.01	0
2								-	1.2	.02	.02	0
3								-	1.2	.02	.02	0
4								-	.81	.02	.02	0
5								-	.60	.02	.01	0
6								-	.47	.02	.01	0
7								-	.39	.02	.01	0
8								-	.31	.02	.01	0
9								-	.25	.02	.01	0
10								-	.19	.02	.01	0
11								-	.13	.02	.01	0
12								-	.11	.02	.01	0
13								-	.09	.02	.01	0
14								-	.05	.02	0	0
15								-	.03	.02	0	0
16								-	.03	.02	0	0
17								-	.03	.02	0	0
18								.09	.02	.02	0	0
19								.09	.03	.02	0	0
20								.07	.03	.02	0	0
21								.07	.04	.02	0	0
22								.05	.03	.02	0	0
23								.04	.03	.02	0	0
24								.04	.03	.02	0	0
25								.04	.03	.02	0	0
26								.04	.02	.02	0	0
27								.03	.02	.02	0	0
28								.03	.02	.02	0	0
29								.05	.02	.02	0	0
30								.07	.02	.01	0	0
31		-----			-----		-----	.05	-----	.01	0	-----
TOTAL								-	6.30	0.60	0.16	0
MEAN								-	.21	.019	.005	0
MAX								-	1.2	.02	.02	0
MIN								-	.02	.01	0	0
AC-FIT								-	13	1.2	.3	0

11-4601.7. PINE CREEK AT BOLINAS, CALIF.

LOCATION.--Lat 37°55'07", long 122°41'31", in Las Baulines Grant, on right bank 100 ft upstream from highway bridge, 0.4 mile upstream from mouth, and 0.9 mile north of Bolinas, Marin County.

DRAINAGE AREA.--7.83 sq mi.

RECORDS AVAILABLE.--May to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 6.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Float-operated rain gage 2.1 miles north of gage.

EXTREMES.--Maximum discharge for the period, 97 cfs June 2 (gage height, 2.61 ft); minimum daily, 0.84 cfs Sept. 12.

REMARKS.--Records good. No regulation; some small diversions above station for domestic use. Records of suspended-sediment loads for the period in 1967 published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								-	4.2	2.8	1.4	1.0
2								-	50	2.6	1.6	1.0
3								-	40	2.5	1.8	1.1
4								-	21	2.4	1.7	1.2
5								-	15	2.8	1.4	1.1
6								-	12	2.9	1.7	1.1
7								-	10	2.9	1.7	1.0
8								-	9.6	2.6	1.8	1.0
9								-	8.7	2.9	2.1	1.0
10								-	8.2	2.6	2.0	1.0
11								-	7.3	1.5	1.9	.92
12								-	6.9	1.4	1.8	.84
13								-	6.4	1.4	1.4	.92
14								-	6.0	1.6	1.5	1.0
15								-	6.0	1.6	1.7	1.0
16								-	6.0	1.7	1.6	.92
17								-	5.2	1.8	1.5	1.1
18								6.4	5.2	1.8	1.3	1.1
19								6.4	5.2	1.6	1.4	1.0
20								6.0	5.0	1.3	1.5	.92
21								5.5	4.7	1.3	1.3	1.0
22								5.5	4.6	1.3	1.3	1.0
23								5.2	4.4	1.4	1.4	1.0
24								5.0	4.2	1.4	1.4	1.1
25								5.0	4.0	1.4	1.2	1.0
26								4.7	3.8	1.4	1.3	1.0
27								4.5	3.6	1.6	1.3	1.0
28								4.7	3.4	1.5	1.3	1.0
29								4.5	3.2	1.5	1.2	1.1
30								4.2	3.0	1.5	1.2	1.0
31		-----			-----		-----	4.2	-----	1.5	1.0	-----
TOTAL								-	276.8	58.5	46.7	30.42
MEAN								-	9.23	1.89	1.51	1.01
MAX								-	50	2.9	2.1	1.2
MIN								-	3.0	1.3	1.0	.84
AC-FT								-	549	116	93	60
(†)								-	3.6	0	0	.1

† Precipitation, in inches.

WALKER CREEK BASIN

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 southeast of Tomales, Marin County.

DRAINAGE AREA.--37.1 sq mi.

RECORDS AVAILABLE.--June 1959 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 56.74 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 14, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 37.0 cfs (26,790 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,390 cfs Jan. 21 (gage height, 21.18 ft), from rating curve extended above 630 cfs; no flow for several months.

1959-67: Maximum discharge, 5,420 cfs Jan. 5, 1966 (gage height, 22.23 ft); no flow for several months in each year.

REMARKS.--Records good. No regulation; small diversions above station for irrigation and stock watering.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	110	11	305	10	147	38	4.8	1.2	.12	.09
2	0	0	900	11	204	9.6	124	33	27	1.2	.12	.06
3	0	0	278	9.6	149	9.2	110	29	23	1.0	.12	.06
4	0	0	880	9.2	105	9.2	95	25	11	1.2	.12	.06
5	0	0	960	8.8	84	8.4	93	22	8.4	1.0	.12	.06
6	0	0	388	8.8	69	7.6	155	19	8.0	1.0	.09	.06
7	0	0	205	8.0	59	7.2	123	17	7.6	1.0	.09	.03
8	0	4.5	136	7.6	49	7.2	102	15	6.8	1.0	.09	.03
9	0	1.5	123	6.8	41	6.8	88	14	6.0	1.0	.06	.03
10	0	1.0	297	6.4	37	11	103	15	5.1	.93	.06	0
11	0	1.2	159	6.0	31	97	118	13	4.8	.79	.06	0
12	0	4.6	116	6.4	28	97	90	11	4.8	.72	.06	0
13	0	5.1	93	5.7	27	138	79	9.6	4.8	.58	.06	0
14	0	2.7	75	5.4	23	105	75	9.2	4.2	.51	.06	0
15	0	21	58	4.8	21	99	73	8.4	3.6	.44	.06	0
16	0	45	47	4.5	21	311	62	8.0	3.6	.44	.06	0
17	0	7.6	39	4.2	19	180	97	7.2	3.3	.37	.06	0
18	0	3.7	33	3.9	18	141	135	7.2	3.3	.27	.06	0
19	0	240	30	3.6	16	109	121	7.2	3.3	.24	.09	0
20	0	430	27	1,140	14	109	104	6.8	3.3	.24	.09	0
21	0	150	24	3,560	13	101	170	6.4	3.3	.21	.09	0
22	0	60	22	902	12	78	162	5.7	2.8	.18	.09	0
23	0	20	21	282	12	110	189	5.4	2.6	.24	.09	0
24	0	13	21	1,070	12	74	153	5.1	2.4	.27	.06	0
25	0	9.6	18	370	16	63	122	5.1	2.4	.24	.09	0
26	0	8.2	17	440	12	53	101	5.1	2.2	.18	.09	0
27	0	6.6	15	422	11	46	92	4.8	2.0	.12	.09	0
28	0	13	14	369	11	44	76	5.1	1.8	.12	.09	0
29	0	36	13	1,230	-----	37	62	5.1	1.6	.12	.06	0
30	0	15	13	1,440	-----	223	50	4.8	1.4	.09	.09	0
31	0	-----	11	594	-----	210	-----	4.5	-----	.09	.09	-----
TOTAL	0	1,099.3	5,143	11,950.7	1,419	2,511.2	3,271	371.7	169.2	16.99	2.58	0.48
MEAN	0	36.6	166	386	50.7	81.0	109	12.0	5.64	.55	.083	.016
MAX	0	430	960	3,560	305	311	189	38	27	1.2	.12	.09
MIN	0	0	11	3.6	11	6.8	50	4.5	1.4	.09	.06	0
AC-FT	0	2,180	10,200	23,700	2,810	4,980	6,490	737	336	34	5.1	1.0

CAL YR 1966: TOTAL 18,175.40 MEAN 49.8 MAX 3,400 MIN 0 AC-FT 36,050
 WAT YR 1967: TOTAL 25,955.15 MEAN 71.1 MAX 3,560 MIN 0 AC-FT 51,480

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	-	18.65	3,240	1-24	0400	17.06	2,590
12- 4	-	12.73	1,210	1-30	0815	16.82	2,510
1-21	0100	21.18	4,390				

SALMON CREEK BASIN

385

11-4609.2. SALMON CREEK AT BODEGA, CALIF.

LOCATION.--Lat 38°20'54", long 122°58'45", in Estero Americano Grant, on left bank 100 ft upstream from private road bridge, 0.3 mile upstream from unnamed tributary, and 0.4 mile northwest of Bodega, Sonoma County.

DRAINAGE AREA.--15.7 sq mi.

RECORDS AVAILABLE.--July 1962 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 81.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

AVERAGE DISCHARGE.--5 years, 19.7 cfs (14,260 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,760 cfs Jan. 20 (gage height, 17.63 ft), from rating curve extended above 800 cfs; no flow Oct. 1 to Nov. 5.
1962-67: Maximum discharge, 1,960 cfs Jan. 5, 1966 (gage height, 18.89 ft), from rating curve extended above 800 cfs; no flow for many days in each year.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	54	3.8	88	6.9	56	15	2.1	1.7	.75	.17
2	0	0	242	3.8	61	6.7	37	13	42	1.6	.83	.25
3	0	0	79	3.7	47	6.5	29	12	23	1.5	.75	.23
4	0	0	218	3.7	38	5.8	24	11	9.2	1.4	.71	.23
5	0	0	328	3.7	32	5.4	33	9.7	7.6	1.4	.62	.22
6	0	1.3	148	3.3	27	5.2	142	8.9	7.6	1.4	.48	.17
7	0	.70	68	3.3	25	5.1	69	8.1	7.6	1.2	.35	.15
8	0	.20	37	3.2	23	5.1	48	7.4	7.4	1.2	.39	.14
9	0	.10	51	3.2	21	4.9	32	7.8	7.1	1.1	.71	.12
10	0	.10	132	3.2	20	8.9	52	8.3	6.0	1.1	.83	.07
11	0	.20	50	3.0	18	29	51	6.9	4.2	1.0	.75	.11
12	0	1.0	30	3.2	16	46	32	6.5	3.8	.83	.62	.10
13	0	1.2	27	3.0	16	50	26	6.0	3.8	.71	.57	.08
14	0	.70	22	2.9	13	31	26	5.6	3.8	.71	.44	.10
15	0	3.3	16	2.8	16	42	27	5.6	3.5	.71	.44	.17
16	0	13	13	2.8	15	114	20	5.6	3.4	.66	.57	.26
17	0	2.4	11	2.6	12	43	57	6.0	3.0	.83	.51	.27
18	0	1.0	10	2.5	12	31	72	5.2	2.9	.90	.53	.32
19	0	85	8.9	2.6	11	22	44	3.7	2.9	.75	.38	.27
20	0	140	8.1	791	9.2	155	29	3.4	2.8	.62	.35	.24
21	0	39	7.6	955	8.6	112	81	3.3	2.8	.57	.35	.20
22	0	22	6.7	209	8.3	53	57	3.2	2.3	.53	.35	.18
23	0	8.3	6.7	84	7.8	104	127	3.0	2.1	.48	.28	.27
24	0	5.1	6.5	383	7.8	42	97	2.8	2.1	.62	.26	.44
25	0	3.5	5.8	95	14	29	50	2.6	2.1	.63	.26	.51
26	0	2.8	5.6	389	8.9	24	35	2.6	2.3	.57	.27	.64
27	0	2.3	5.1	221	7.8	19	39	2.4	2.1	.48	.28	.58
28	0	5.8	4.7	390	7.6	20	27	2.3	2.1	.48	.26	.65
29	0	11	4.7	423	-----	16	21	2.3	2.0	.39	.24	.72
30	0	5.8	4.7	330	-----	182	18	2.2	1.9	.35	.17	.72
31	0	-----	4.2	202	-----	135	-----	2.1	-----	.62	.11	-----
TOTAL	0	355.80	1,615.3	4,532.3	591.0	1,359.5	1,458	184.5	175.5	27.28	14.41	8.58
MEAN	0	11.9	52.1	146	21.1	43.9	48.6	5.95	5.85	.68	.46	.29
MAX	0	140	328	955	88	182	142	15	42	1.7	.83	.72
MIN	0	0	4.2	2.5	7.6	4.9	18	2.1	1.9	.35	.11	.07
AC-FT	0	706	3,200	8,990	1,170	2,700	2,890	366	348	54	29	17

CAL YR 1966: TOTAL 7,765.90 MEAN 21.3 MAX 1,140 MIN 0 AC-FT 15,400
WAT YR 1967: TOTAL 10,322.17 MEAN 28.3 MAX 955 MIN 0 AC-FT 20,470

Peak discharge (base, 750 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1745	11.19	777	1-26	1300	11.77	858
1-20	1845	17.63	1,760	1-29	0415	12.06	898
1-24	0330	12.41	947				

RUSSIAN RIVER BASIN

11-4609.4. RUSSIAN RIVER NEAR REDWOOD VALLEY, CALIF.

LOCATION.--Lat 39°19'10", long 123°13'20", in NW¼ sec.20, T.17 N., R.12 W., on left bank 600 ft upstream from Rocky Creek and 3.8 miles north of town of Redwood Valley.

DRAINAGE AREA.--14.1 sq mi.

RECORDS AVAILABLE.--August 1963 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 799.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Mar. 23, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 1,520 cfs Jan. 20 (gage height, 7.08 ft); no flow for many days.
1963-67: Maximum discharge, 4,400 cfs Dec. 22, 1964 (gage height, 11.71 ft); no flow for several months in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	7C	5.2	134	7.0	86	20	3.5	.56	0	0
2	0	0	400	5.0	90	6.6	84	18	15	.83	0	0
3	0	0	200	4.8	66	6.2	111	17	9.0	.7C	0	0
4	0	0	280	4.6	50	5.9	60	15	6.0	.7C	0	0
5	0	0	250	4.6	40	5.6	98	14	5.0	.7C	0	0
6	0	0	7C	4.3	33	5.2	137	14	4.5	.6C	0	0
7	0	0	52	4.2	28	5.2	101	13	4.0	.45	0	0
8	0	0	45	4.0	24	4.9	68	12	3.8	.20	0	0
9	0	0	37	3.9	22	4.5	58	12	3.5	0	0	0
10	0	0	52	3.8	20	114	88	15	3.5	.11	0	0
11	0	0	26	3.8	18	113	66	11	3.3	.06	0	0
12	0	0	23	3.6	16	125	52	9.2	3.0	.06	0	0
13	0	.80	28	3.6	16	134	47	8.4	3.0	0	0	0
14	0	6.0	22	3.5	15	110	42	7.6	2.8	0	0	0
15	0	39	19	3.3	15	149	35	7.0	2.5	0	0	0
16	0	23	17	3.3	14	288	39	6.4	2.3	0	0	0
17	0	5.2	15	3.2	12	131	90	6.0	2.0	0	0	0
18	0	4.5	14	3.2	12	90	73	5.6	1.9	0	0	0
19	0	13	13	3.6	11	66	62	5.4	2.0	0	0	0
20	0	168	11	593	9.4	173	50	5.2	1.9	0	0	0
21	0	157	10	628	8.5	104	46	5.0	1.9	0	0	0
22	0	36	9.2	83	8.5	85	50	4.6	1.7	0	0	0
23	0	24	8.6	33	8.5	88	66	4.3	1.6	0	0	0
24	0	12	8.2	98	8.5	66	49	4.0	1.6	0	0	0
25	0	9.0	7.6	66	10	49	40	3.8	1.5	0	0	0
26	0	7.8	7.3	505	8.0	38	37	3.6	1.4	0	0	0
27	0	6.0	6.8	299	7.3	27	34	3.4	1.2	0	0	0
28	0	8.2	6.4	446	7.0	29	29	3.2	1.2	0	0	0
29	0	10	6.2	446	-----	24	25	3.1	1.2	0	0	0
30	0	8.0	6.0	243	-----	73	22	3.0	1.1	0	0	0
31	0	-----	5.6	316	-----	138	-----	2.9	-----	0	0	-----
TOTAL	0	537.50	1,725.9	3,831.5	711.7	2,265.1	1,845	262.7	96.9	5.37	0	0
MEAN	0	17.9	55.7	124	25.4	73.1	61.5	8.47	3.23	.17	0	0
MAX	0	168	400	628	134	288	137	20	15	.56	0	0
MIN	0	0	5.6	3.2	7.0	4.5	22	2.9	1.1	0	0	0
AC-FT	0	1,070	3,420	7,600	1,410	4,490	3,660	521	192	11	0	0

CAL YR 1966: TOTAL 8,400.70 MEAN 23.0 MAX 1,560 MIN 0 AC-FT 16,660
WAT YR 1967: TOTAL 11,281.67 MEAN 30.9 MAX 628 MIN 0 AC-FT 22,380

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1245	-	1,150	1-26	0845	6.03	1,020
1-20	1715	7.08	1,520	1-29	0300	5.78	906

RUSSIAN RIVER BASIN

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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.--99.7 sq mi.

RECORDS AVAILABLE.--August 1911 to September 1913, October 1952 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 611.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. 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.--17 years, 173 cfs (125,200 acre-ft per year); median of yearly mean discharges, 152 cfs (110,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,300 cfs Jan. 20 (gage height, 9.83 ft); minimum daily, 0.10 cfs Oct. 4 to Nov. 1, Sept. 9-15.
1911-13, 1952-67: Maximum discharge, 18,900 cfs Dec. 21, 1955 (gage height, 21.0 ft, present datum); no flow at times in 1911, 1952-53, 1960-61, 1964-65.

REMARKS.--Records good. No regulation; small diversions above station for irrigation. Records of sediment and turbidity data for the water years 1965-67 and water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.20	.10	270	39	755	46	635	146	28	6.7	1.4	.40
2	.20	.20	1,810	39	530	44	480	133	91	6.2	1.4	.30
3	.20	.20	1,070	38	408	43	432	123	60	5.8	1.4	.30
4	.10	.50	1,510	37	320	41	372	113	42	5.2	1.4	.20
5	.10	1.0	1,870	37	260	40	340	107	36	4.1	1.4	.20
6	.10	3.0	678	36	208	39	745	99	33	4.1	1.4	.20
7	.10	5.7	470	36	176	38	645	88	29	3.8	1.2	.20
8	.10	6.2	345	34	149	37	452	86	26	3.8	1.2	.20
9	.10	6.2	306	34	135	36	352	81	24	3.0	1.2	.10
10	.10	6.2	534	33	123	324	434	91	22	2.7	1.2	.10
11	.10	7.1	312	33	109	634	456	82	22	2.4	1.1	.10
12	.10	11	253	32	101	643	340	76	20	2.2	1.1	.10
13	.10	16	308	31	95	752	288	70	19	2.2	1.1	.10
14	.10	50	264	30	90	570	300	64	17	2.1	1.0	.10
15	.10	126	204	29	91	568	260	57	16	2.0	1.0	.10
16	.10	268	174	29	88	1,470	216	55	16	2.0	.90	.20
17	.10	57	150	29	79	700	549	51	17	2.1	.90	.20
18	.10	29	128	27	73	515	590	47	15	2.0	.80	.20
19	.10	244	113	28	68	380	456	45	15	2.0	.80	.20
20	.10	985	103	2,580	62	820	368	43	14	1.8	.70	.20
21	.10	1,030	90	3,890	58	555	344	40	13	1.8	.70	.30
22	.10	562	79	1,030	56	415	336	39	14	2.0	.70	.30
23	.10	176	75	520	55	492	485	36	12	1.8	.60	.30
24	.10	99	69	1,150	55	356	380	34	12	1.8	.60	.40
25	.10	72	62	831	65	284	304	30	11	1.8	.60	.40
26	.10	56	57	2,680	54	232	256	29	11	1.6	.60	.50
27	.10	47	51	1,840	50	191	248	28	10	1.5	.60	.50
28	.10	72	47	1,810	48	191	212	27	9.1	1.5	.50	.50
29	.10	82	43	2,370	---	176	191	27	8.1	1.6	.50	.60
30	.10	60	42	1,430	---	423	164	27	8.1	1.5	.40	.60
31	.10	---	40	1,360	---	822	---	26	---	1.6	.40	---
Total	3,40	4,078.40	11,527	22,122	4,361	11,877	11,630	2,000	670.3	84.7	28.80	8.10
Mean	.11	.136	.372	.714	.156	.383	.388	.645	.223	.273	.93	.27
Max	.20	1,030	1,870	3,890	755	1,470	745	146	91	6.7	1.4	.60
Min	.10	.10	.40	.27	.48	.36	.164	.26	.81	1.5	.40	.10
Ac-ft	6.7	2,090	22,860	43,880	8,650	23,560	23,070	3,970	1,330	168	57	16

Cal yr 1966: Total 54,354.50 Mean 149 Max 6,840 Min .10 Ac-ft 107,800
Wtr yr 1967: Total 62,390.70 Mean 187 Max 3,890 Min .10 Ac-ft 135,700

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1400	8.73	5,320	1-26	1000	8.40	5,040
1-20	1800	9.83	6,300				

RUSSIAN RIVER BASIN

11-4615. EAST FORK RUSSIAN RIVER NEAR CALPELLA, CALIF.

LOCATION.--Lat 39°14'48", long 123°07'45", in NW¼ sec.18, T.16 N., R.11 W., on left bank 0.1 mile downstream from Cold Creek and 3.9 miles east of Calpella.

DRAINAGE AREA.--92.2 sq mi.

RECORDS AVAILABLE.--October 1941 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 787.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to May 28, 1957, at site 1.3 miles downstream at different datum. May 28, 1957, to May 19, 1964, graphic water-stage recorder and May 20, 1964, to Apr. 5, 1966, digital water-stage recorder at site 0.4 mile downstream at same datum.

AVERAGE DISCHARGE.--26 years, 334 cfs (241,800 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,400 cfs Jan. 20 (gage height, 16.30 ft); minimum daily, 82 cfs Nov. 18.

1941-67: Maximum discharge, 18,700 cfs Dec. 22, 1964 (gage height, 20.21 ft); 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 sta. no. 4710). Small diversion for irrigation above station. Records of sediment and turbidity data and water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	249	346	535	338	825	341	670	455	315	279	309	260
2	263	297	1,890	336	625	309	590	442	370	281	311	249
3	286	269	979	323	543	341	540	429	183	274	309	249
4	279	276	1,500	333	499	338	505	421	349	272	295	260
5	299	338	1,580	323	476	298	485	414	346	244	313	272
6	309	341	744	333	453	325	918	406	343	244	323	272
7	333	338	534	333	434	330	740	395	336	260	299	260
8	362	313	447	336	419	336	576	388	333	256	272	242
9	343	333	421	336	403	336	515	380	330	256	249	246
10	328	297	556	336	395	446	601	388	346	260	249	237
11	325	338	427	333	385	635	591	382	333	263	256	258
12	354	346	395	336	380	845	511	377	330	242	253	313
13	369	341	473	336	377	812	482	367	313	258	244	313
14	382	377	411	336	372	629	485	364	311	258	256	323
15	370	412	380	336	369	599	476	362	290	276	276	325
16	365	514	367	336	369	1,430	471	349	302	292	279	333
17	370	117	356	336	364	695	895	354	281	274	265	336
18	359	82	349	333	367	605	812	354	295	283	267	343
19	375	725	349	333	367	499	923	351	290	283	246	338
20	364	1,470	338	3,120	362	900	681	351	281	288	246	338
21	338	1,580	333	3,680	362	576	617	328	279	295	251	328
22	315	742	330	916	356	508	576	330	267	295	256	311
23	315	453	333	591	341	649	748	341	281	297	260	309
24	320	382	336	1,670	346	482	637	341	283	297	258	330
25	318	367	333	931	359	450	563	309	283	276	253	333
26	323	356	333	2,840	349	434	531	302	286	267	237	318
27	325	351	328	1,800	341	419	576	281	276	263	237	309
28	325	429	330	1,700	341	416	502	306	281	281	265	302
29	328	390	336	2,300	- - - - -	403	534	306	267	292	269	309
30	325	359	343	1,500	- - - - -	520	493	297	269	304	272	313
31	328	- - - - -	341	1,310	- - - - -	700	- - - - -	302	- - - - -	309	281	- - - - -
Total	10,244	13,279	16,707	28,700	11,579	16,606	18,244	11,172	9,049	9,519	9,356	9,929
Mean	330	443	539	926	414	536	608	360	302	275	270	298
Max	382	1,580	1,890	3,680	825	1,430	923	455	370	309	323	343
Min	249	82	328	323	341	298	471	281	183	242	237	237
Ac-ft	20,320	26,340	33,140	56,930	22,970	32,940	36,190	22,160	17,950	16,900	16,570	17,710

Cal yr 1966: Total 132,368 Mean 363 Max 6,290 Min 81 Ac-ft 262,500
Wtr yr 1967: Total 161,384 Mean 442 Max 3,680 Min 82 Ac-ft 320,100

Peak discharge (base, 3,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1400	15.15	5,340	1-20	2000	16.30	6,400
12- 4	2400	12.65	3,320	1-26	0900	15.35	5,520

RUSSIAN RIVER BASIN

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11-4618. LAKE MENDOCINO NEAR UKIAH, CALIF.

LOCATION.--Lat 39°11'53", long 123°10'50", in Yokayo Rancho Grant, in intake tower 30 ft upstream from Coyote Dam on East Fork Russian River and 3.6 miles northeast of Ukiah.

DRAINAGE AREA.--105 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967. Records prior to October 1965 in files of Corps of Engineers.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Maximum contents during year, 88,400 acre-ft Jan. 30 (elevation, 746.66 ft); minimum, 52,800 acre-ft Feb. 6 (elevation, 725.38 ft).

1965-67: Maximum contents, 90,400 acre-ft Jan. 6, 1966 (elevation, 747.76 ft); minimum, 52,800 acre-ft Nov. 22, 1965 (elevation, 725.20 ft).

REMARKS.--Reservoir is formed by earth-fill dam; storage began in November 1958. Capacity, 122,900 acre-ft between elevations 637.0 (invert of outlet tunnel) and 764.8 ft (spillway crest) above mean sea level. Storage affected by diversions from Eel River through Potter Valley powerhouse (see sta. no. 4710). Water is released down East Fork Russian River for irrigation and recreation use. Records given herein represent total contents. Records of water temperatures for the water year 1967 and sediment and turbidity data for the water years 1964-67 are published in Part 2 of this report.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

637	135	685	10,900
640	250	690	13,700
645	535	695	17,100
650	900	700	21,100
655	1,380	710	31,620
660	2,110	720	45,000
665	3,190	730	60,100
670	4,590	740	76,900
675	6,280	750	94,600
680	8,430	765	122,900

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63.8	63.3	57.6	64.0	77.3	69.6	74.8	76.0	82.8	83.3	83.2	79.4
2	63.8	62.9	61.8	64.6	70.3	70.1	74.7	76.0	83.1	83.4	83.1	79.3
3	63.9	62.5	63.8	65.2	64.9	70.6	74.4	76.0	83.2	83.4	83.0	79.1
4	63.9	62.2	67.1	65.8	59.6	71.1	73.9	76.0	83.7	83.4	82.9	79.0
5	64.0	61.8	70.3	66.4	54.7	71.6	73.6	76.1	83.8	83.5	82.9	78.8
6	64.0	61.6	70.0	67.0	53.2	72.1	73.6	76.2	83.7	83.4	82.8	78.6
7	64.1	61.3	65.7	67.6	54.0	72.3	73.0	76.2	83.3	83.4	82.8	78.4
8	64.2	60.9	60.9	68.1	54.9	72.3	72.7	76.2	83.0	83.4	82.7	78.3
9	64.4	60.6	59.3	68.8	55.6	72.3	72.4	76.2	82.6	83.4	82.6	78.1
10	64.4	60.2	60.8	70.0	56.4	72.3	72.5	75.9	82.3	83.5	82.5	78.0
11	64.4	59.9	61.7	70.6	57.1	72.8	72.7	75.8	81.9	83.5	82.4	77.9
12	64.4	59.6	62.5	71.2	57.9	75.9	72.7	75.6	81.8	83.5	82.3	77.8
13	64.5	59.3	63.5	71.8	58.7	75.9	72.7	75.3	81.8	83.5	82.3	77.6
14	64.6	59.1	64.4	72.5	59.4	75.2	73.0	75.1	82.0	83.5	82.1	77.5
15	64.7	59.1	65.2	71.8	60.3	75.2	73.5	75.5	82.1	83.6	82.1	77.3
16	64.7	58.7	66.0	66.9	60.9	76.5	73.9	76.2	82.2	83.6	81.9	77.0
17	64.8	57.7	66.7	60.4	61.6	74.7	75.6	76.9	82.3	83.5	81.8	76.8
18	64.8	56.6	67.4	55.8	62.3	74.8	75.9	77.5	82.3	83.5	81.7	76.9
19	64.9	56.8	68.1	53.7	63.0	73.9	76.0	78.3	82.4	83.5	81.6	76.8
20	65.0	58.6	68.7	60.7	63.7	73.9	76.7	78.9	82.5	83.5	81.5	76.7
21	65.0	60.5	69.4	69.0	64.4	72.8	75.7	79.5	82.6	83.5	81.3	76.5
22	65.1	59.1	70.0	70.9	65.1	72.5	75.7	80.0	82.6	83.5	81.2	76.3
23	65.2	56.7	70.7	71.9	65.7	72.6	76.1	80.4	82.6	83.4	81.1	76.2
24	65.2	54.3	71.3	73.8	66.4	72.6	76.3	80.9	82.8	83.4	80.9	76.0
25	65.1	53.2	72.0	72.6	67.1	72.5	76.2	81.1	82.9	83.3	80.7	75.9
26	64.8	53.9	72.6	77.7	67.8	72.4	76.1	81.4	82.9	83.3	80.6	75.8
27	64.6	54.4	70.2	78.6	68.4	72.4	76.1	81.6	83.0	83.3	80.4	75.7
28	64.3	55.3	64.8	82.1	69.0	72.4	76.1	81.9	83.1	83.2	80.2	75.5
29	64.0	56.0	62.7	86.7	-----	72.4	76.1	82.2	83.1	83.2	80.0	75.2
30	63.8	56.6	63.3	87.9	-----	73.8	76.0	82.5	83.3	83.3	79.9	75.1
31	63.5	-----	64.0	83.3	-----	74.6	-----	82.6	-----	83.2	79.6	-----
(†)	732.16	727.89	732.43	743.80	735.54	738.78	739.50	743.41	743.83	743.77	741.65	739.02
(‡)	- 300	- 6.900	+7.400	+19.300	-14.300	+5.600	+1.400	+6.600	+ 700	- 100	- 3.600	- 4.500
Max	65.200	63.300	72.600	87.900	77.300	75.500	76.700	82.600	83.800	83.600	83.200	79.400
Min	63.500	53.200	57.600	64.000	53.200	69.600	72.400	75.100	81.800	83.200	79.600	75.100

Cal yr 1966..... †-2.500

Wat yr 1967..... ‡+11.300

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

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 1967.

GAGE.--Digital water-stage recorder and concrete control. Datum of gage is 614.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to October 1951, staff gage at site half a mile upstream at different datum. October 1951 to June 1956, graphic water-stage recorder at site 1.0 mile upstream at different datum. Nov. 15, 1957, to Aug. 2, 1962, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 4,140 cfs Jan. 31 (gage height, 7.84 ft); minimum daily, 4.7 cfs Jan. 29.

1911-13, 1951-56, 1957-66 (prior to regulation by Lake Mendocino): 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 maximum flow at station upstream which was defined to 8,600 cfs; no flow Aug. 13-15, 1913.

1957-67: Maximum discharge, 6,780 cfs Dec. 30, 1964 (gage height, 10.82 ft); minimum daily, 2.9 cfs Jan. 5, 1966.

REMARKS.--Records good. Flow affected by diversion from Eel River through Potter Valley powerhouse (see sta. no. 4710) and since November 1958 by storage in Lake Mendocino (see sta. no. 4618). Small diversions above station for irrigation. Records of sediment and turbidity data for the water years 1964-67, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	244	371	19	19	3,980	42	702	438	236	208	264	320
2	244	468	20	19	3,870	60	702	408	179	208	264	320
3	244	450	19	19	3,200	60	702	408	98	208	264	320
4	243	450	20	19	2,800	60	702	366	98	208	264	320
5	242	462	20	19	2,750	60	696	342	212	208	268	320
6	241	456	1,020	19	1,290	60	882	348	396	208	268	320
7	241	474	2,830	19	19	183	1,000	348	480	208	268	320
8	241	466	2,920	19	19	305	720	348	480	208	268	320
9	237	486	1,360	19	19	305	720	414	480	208	268	320
10	238	486	19	19	19	232	582	450	480	208	268	315
11	241	486	19	19	19	135	480	450	480	208	268	315
12	241	480	18	19	19	138	480	456	384	208	268	315
13	241	480	19	19	19	630	480	456	224	208	264	315
14	237	480	19	19	19	948	325	456	224	208	264	315
15	237	480	19	601	19	696	248	190	224	212	264	315
16	237	552	19	3,030	19	864	252	28	208	208	264	315
17	237	612	19	2,960	19	1,500	252	23	197	228	264	315
18	237	612	19	2,890	19	744	618	23	197	240	280	315
19	234	612	19	1,420	19	744	852	24	197	236	295	315
20	234	334	19	29	19	894	822	25	200	236	295	315
21	234	397	19	29	19	1,000	672	25	200	236	295	315
22	236	1,330	19	28	19	690	582	90	200	240	290	315
23	237	1,570	19	246	19	528	582	66	200	236	290	315
24	283	1,550	19	749	17	504	582	64	200	236	315	315
25	355	924	19	1,540	18	468	606	118	204	236	325	315
26	378	19	20	663	18	468	576	118	204	236	325	315
27	378	19	1,600	1,110	18	426	552	118	204	232	325	315
28	373	19	2,930	328	18	202	516	120	204	232	325	315
29	373	19	1,500	4.7	-----	202	492	120	204	236	325	315
30	373	19	19	1,060	-----	280	492	118	197	236	325	315
31	372	-----	19	3,650	-----	432	-----	186	-----	252	325	-----
TOTAL	8,383	15,583	14,619	20,603.7	18,302	13,860	17,869	7,144	7,691	6,880	8,855	9,495
MEAN	270	515	472	665	654	447	596	230	256	222	286	317
MAX	378	1,570	2,930	3,650	3,980	1,500	1,000	456	480	252	325	320
MIN	234	19	18	4.7	17	42	248	23	98	208	264	315
AC-FT	16,630	30,910	29,000	40,870	36,300	27,490	35,440	14,170	15,250	13,650	17,560	18,830

CAL YR 1966: TOTAL 127,196.7 MEAN 348 MAX 3,200 MIN 2.9 AC-FT 252,300
 WAT YR 1967: TOTAL 149,284.7 MEAN 409 MAX 3,980 MIN 4.7 AC-FT 296,100

RUSSIAN RIVER BASIN

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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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 497.61 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Sept. 9, 1943, wire-weight gage and Sept. 9, 1943, to Feb. 15, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 712 cfs (515,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 15,500 cfs Jan. 21 (gage height, 16.71 ft); minimum daily, 97 cfs Jan. 14.

1939-67: 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. 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 (see sta. no. 4618). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	240	438	438	179	6,070	169	2,130	984	303	256	272	355
2	246	454	3,200	156	5,260	203	1,790	892	479	257	272	356
3	250	471	2,190	146	4,380	204	1,650	849	306	258	272	357
4	253	450	3,160	134	3,560	202	1,570	795	246	255	272	357
5	253	471	5,050	127	3,330	195	1,460	740	286	255	276	359
6	253	479	2,430	120	2,310	190	2,250	710	465	250	279	360
7	250	483	3,800	115	695	240	2,480	675	551	242	278	359
8	243	500	3,680	111	577	420	1,780	650	555	237	276	359
9	246	500	2,370	108	505	431	1,580	665	554	246	276	358
10	246	500	1,250	106	454	545	1,610	720	554	234	275	359
11	250	500	850	104	407	1,390	1,600	694	552	231	274	357
12	250	514	715	101	369	1,310	1,360	666	531	229	275	353
13	253	514	725	99	342	1,800	1,250	635	359	225	281	351
14	256	541	690	97	320	2,020	1,190	610	340	225	280	349
15	256	586	572	104	310	1,890	1,030	483	332	224	277	349
16	259	850	500	2,580	306	4,420	928	246	318	227	276	350
17	259	690	426	2,730	275	3,430	1,540	199	295	237	278	354
18	259	660	372	2,730	256	2,060	2,040	177	294	250	287	354
19	259	1,130	331	1,940	243	1,710	2,070	161	293	250	306	349
20	262	2,600	296	3,940	228	2,230	1,860	151	287	247	312	347
21	262	1,920	272	12,200	211	2,130	1,740	142	284	248	312	346
22	262	2,430	246	3,290	203	1,690	1,520	142	280	249	311	346
23	262	1,850	237	1,980	198	1,630	1,840	213	277	254	312	345
24	282	1,680	222	3,790	190	1,380	1,670	132	275	254	325	349
25	361	1,320	202	3,990	210	1,200	1,490	204	277	250	346	349
26	418	317	190	6,190	186	1,120	1,380	207	276	250	348	346
27	426	219	904	5,390	172	1,020	1,330	204	270	250	352	347
28	430	234	2,840	4,870	163	964	1,220	204	264	248	353	349
29	434	303	1,870	6,020	-----	934	1,130	202	261	248	351	350
30	434	222	303	4,200	-----	1,260	1,060	199	252	250	352	350
31	438	-----	210	7,240	-----	2,180	-----	225	-----	261	355	-----
TOTAL	9,052	23,826	40,541	74,887	31,730	40,567	47,548	13,776	10,616	7,598	9,311	10,569
MEAN	292	794	1,308	2,416	1,133	1,309	1,585	444	354	245	300	352
MAX	438	2,600	5,050	12,200	6,070	4,420	2,480	984	555	261	355	360
MIN	240	219	190	97	163	169	928	132	246	224	272	345
AC-FT	17,950	47,260	80,410	148,500	62,940	80,460	94,310	27,320	21,060	15,070	18,470	20,960

CAL YR 1966: TOTAL 259,170 MEAN 710 MAX 14,300 MIN 118 AC-FT 514,100
WAT YR 1967: TOTAL 320,021 MEAN 877 MAX 12,200 MIN 97 AC-FT 634,800

Peak discharge (base, 9,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1830	14.16	10,300	1-26	1400	14.06	10,100
1-21	0945	16.71	15,500				

RUSSIAN RIVER BASIN

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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 373.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Sept. 23, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 984 cfs (712,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 20,400 cfs Jan. 21 (gage height, 19.92 ft); minimum daily, 116 cfs Jan. 15.

1951-67: Maximum discharge, 55,200 cfs Dec. 22, 1964 (gage height, 31.60 ft), from rating curve extended above 21,000 cfs on basis of determination of maximum 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 (see sta no. 4618). Records of sediment and turbidity data for the water years 1964-67 and water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	225	460	748	273	7,390	203	2,840	1,230	386	243	281	351
2	225	460	5,570	236	6,240	249	2,380	1,110	650	244	286	351
3	235	465	4,500	215	5,260	249	2,160	1,060	479	245	290	352
4	230	420	6,860	200	4,240	243	2,020	1,010	376	236	289	351
5	235	435	9,120	188	3,930	226	1,920	940	351	237	289	350
6	240	452	4,080	175	3,060	212	2,890	880	509	231	298	350
7	241	446	4,900	167	990	210	3,190	840	595	224	298	350
8	234	464	4,500	160	768	394	2,350	808	604	222	298	348
9	236	464	3,510	152	640	424	2,070	808	604	219	298	343
10	244	464	2,050	145	554	518	2,160	897	594	220	296	343
11	245	464	1,380	139	494	1,700	2,240	864	592	214	293	345
12	250	470	1,050	134	458	2,700	1,860	830	590	214	291	339
13	250	482	974	129	420	2,150	1,660	807	434	209	298	338
14	250	554	981	123	390	2,500	1,600	783	396	213	294	337
15	250	792	746	116	365	2,480	1,500	717	383	212	289	335
16	260	1,280	622	2,200	355	7,770	1,290	425	367	213	288	336
17	260	704	534	2,950	335	5,050	2,310	365	341	224	290	339
18	265	619	465	3,010	315	3,020	3,020	330	327	236	293	341
19	265	2,550	411	2,550	300	2,520	3,010	307	325	241	313	337
20	265	4,550	373	3,860	275	2,850	2,600	291	316	242	322	335
21	270	2,960	339	16,800	265	2,780	2,440	273	305	241	323	328
22	270	3,340	309	5,940	255	2,290	2,100	257	298	246	321	328
23	270	2,540	293	3,020	245	2,230	2,630	330	288	254	319	328
24	280	2,290	271	5,590	236	1,860	2,380	257	283	262	321	329
25	290	2,080	247	5,570	265	1,590	2,070	302	283	256	342	333
26	320	652	229	7,070	240	1,450	1,900	318	278	254	347	327
27	390	394	506	7,070	230	1,280	1,810	315	270	255	351	327
28	410	429	2,910	7,890	218	1,190	1,620	314	265	252	352	326
29	420	622	2,610	9,980	-----	1,130	1,450	312	257	255	351	326
30	440	409	529	6,500	-----	1,940	1,330	306	248	258	351	325
31	450	-----	337	9,120	-----	2,910	-----	308	-----	261	349	-----
TOTAL	8,715	32,711	61,954	101,672	38,733	56,318	64,800	18,594	11,994	7,333	9,621	10,148
MEAN	281	1,090	1,999	3,280	1,383	1,817	2,160	600	400	237	310	338
MAX	450	4,550	9,120	16,800	7,390	7,770	3,190	1,230	650	262	352	352
MIN	225	394	229	116	218	203	1,290	257	248	209	281	325
AC-FT	17,290	64,880	122,900	201,700	76,830	111,700	128,500	36,880	23,790	14,540	19,080	20,130

CAL YR 1966: TOTAL 354,485

MEAN 971

MAX 21,700

MIN 123

AC-FT 703,100

WAT YR 1967: TOTAL 422,593

MEAN 1,158

MAX 16,800

MIN 116

AC-FT 838,200

Peak discharge (base, 13,000 cfs).--Dec. 4 (2400) 14,400 cfs (17.15 ft); Jan. 21 (1000) 20,400 cfs (19.92 ft).

RUSSIAN RIVER BASIN

393

11-4632. BIG SULPHUR CREEK NEAR CLOVERDALE, CALIF.

LOCATION.--Lat 38°49'21", long 122°59'07", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.11 N., R.10 W., on right bank 0.5 mile downstream from unnamed tributary, 1.9 miles upstream from mouth, and 2.0 miles northeast of Cloverdale.

DRAINAGE AREA.--82.3 sq mi.

RECORDS AVAILABLE.--July 1957 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 392.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Sept. 23, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 190 cfs (137,600 acre-ft per year); median of yearly mean discharges, 168 cfs (122,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,100 cfs Jan. 21 (gage height, 12.61 ft), from rating curve extended above 4,100 cfs as explained below; minimum daily, 3.3 cfs Oct. 1.

1957-67: Maximum discharge, 15,700 cfs Dec. 22, 1964 (gage height, 15.08 ft), from rating curve extended above 4,100 cfs on basis of slope-area measurement at gage height 16.8 ft; minimum daily, 1.8 cfs Sept. 24, Oct. 20, 1964.

Flood of Dec. 22, 1955, reached a stage of 16.8 ft, from floodmarks, present datum (discharge, 20,000 cfs on basis of slope-area measurement of maximum flow).

REMARKS.--Records good. No regulation or diversion above station. Records of sediment and turbidity data for the water years 1964-67, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1965 report: 1958-63, 1964(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.3	4.1	320	40	1,190	84	389	260	70	32	12	11
2	3.6	3.8	3,030	37	786	81	358	243	248	31	13	12
3	4.4	4.1	1,250	32	580	79	330	210	161	28	14	11
4	4.7	4.1	3,830	32	472	76	316	195	103	27	13	10
5	4.4	4.1	3,400	30	397	71	344	177	90	27	12	9.5
6	4.1	10	2,030	29	351	68	765	167	85	26	12	9.5
7	4.4	12	1,270	28	316	67	512	152	79	24	12	9.5
8	4.4	7.3	876	27	288	64	412	142	75	25	12	8.8
9	4.1	5.9	660	26	264	62	365	150	71	24	12	8.8
10	3.8	5.2	550	25	245	242	485	178	69	24	12	8.8
11	3.6	5.6	485	24	227	520	448	136	66	22	13	8.8
12	4.4	18	428	24	215	650	383	129	63	23	12	8.8
13	4.4	43	393	23	200	500	344	118	61	18	12	8.1
14	4.1	191	351	22	190	420	327	111	59	16	13	7.4
15	3.8	792	313	21	178	1,000	320	107	56	15	14	6.7
16	4.1	690	281	20	168	1,900	285	103	55	15	13	6.7
17	4.7	112	251	19	155	1,100	675	99	52	15	12	6.7
18	4.4	48	224	19	146	750	705	94	51	14	11	6.7
19	3.6	1,920	198	18	137	540	530	91	51	14	11	6.7
20	3.6	2,060	180	1,040	126	660	440	88	49	12	10	5.4
21	3.6	906	160	5,590	120	543	464	85	47	10	10	5.4
22	4.1	500	141	1,740	114	432	412	82	44	9.5	10	5.4
23	4.1	255	130	912	108	580	750	79	43	9.5	10	5.4
24	4.1	150	114	1,490	106	420	660	76	41	8.8	10	5.4
25	4.4	100	94	828	132	369	570	74	40	6.7	11	9.5
26	3.8	50	84	828	101	330	490	72	39	6.7	12	9.5
27	3.8	65	73	900	93	302	420	70	38	6.0	12	8.8
28	4.1	130	66	1,880	88	292	355	69	36	4.8	12	8.8
29	4.1	218	58	3,460	-----	271	315	69	34	4.2	13	8.1
30	4.1	175	51	2,410	-----	464	295	66	33	4.2	12	8.8
31	4.4	-----	45	2,260	-----	498	-----	65	-----	5.4	13	-----
TOTAL	126.5	8,489.2	21,376	23,834	7,493	13,435	13,464	3,757	2,009	507.8	370	246.0
MEAN	4.08	283	690	769	268	433	449	121	67.0	16.4	11.9	8.20
MAX	4.7	2,060	3,830	5,590	1,190	1,900	765	260	248	32	14	12
MIN	3.3	3.8	45	18	88	62	285	65	33	4.2	10	5.4
AC-FT	251	16,840	42,400	47,270	14,860	26,650	26,710	7,450	3,980	1,010	734	488

CAL YR 1966: TOTAL 76,056.6 MEAN 208 MAX 6,500 MIN 3.3 AC-FT 150,900
WAT YR 1967: TOTAL 95,107.5 MEAN 261 MAX 5,590 MIN 3.3 AC-FT 188,600

Peak discharge (base, 3,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2030	11.52	8,120	1-21	1030	12.61	10,100
12- 2	1530	11.66	8,370	1-29	0445	10.13	5,770
12- 4	1545	11.00	7,180	3-16	-	-	6,300

RUSSIAN RIVER BASIN

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, and 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 188.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Dec. 20, 1960, crest-stage gage only at site 700 ft upstream at different datum. Dec. 20, 1960, to Oct. 13, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years (1961-67), 85.9 cfs (62,190 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,620 cfs Nov. 19 (gage height, 14.57 ft); minimum daily, 0.20 cfs Oct. 1, 2.

1958-67: Maximum discharge, 8,920 cfs Dec. 22, 1964 (gage height, 17.56 ft).

1960-67: No flow for many days in August and September 1964.

REMARKS.--Records good. No regulation or diversion above station. Records of sediment and turbidity data for the water years 1964-67 and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.70	216	28	517	36	226	101	24	11	3.1	.58
2	.20	.70	1,240	27	373	35	177	92	113	10	3.0	.54
3	.50	.60	802	26	286	34	151	84	68	5.8	2.8	.50
4	.90	.80	2,010	25	228	33	132	75	39	9.3	3.0	.45
5	.50	.90	1,460	25	187	31	167	70	33	9.6	3.3	.40
6	.60	4.5	676	23	157	31	543	66	31	9.3	3.0	.34
7	1.0	3.1	453	22	138	30	315	59	29	8.8	2.7	.31
8	1.0	1.7	299	22	120	29	230	54	27	10	2.2	.40
9	.60	1.4	260	21	108	28	184	60	25	8.0	3.0	.64
10	.60	1.3	299	20	98	66	260	52	23	7.6	2.4	.64
11	.80	2.2	206	20	89	168	222	49	22	7.1	2.2	.94
12	.90	7.1	163	20	83	177	172	45	22	6.4	2.0	.71
13	.90	9.6	144	20	79	216	144	43	19	6.2	1.7	.78
14	.60	53	117	19	73	174	131	41	20	6.2	1.6	.78
15	.60	323	99	19	68	484	139	40	19	6.0	1.4	.94
16	.60	191	88	19	63	1,360	112	38	19	5.6	1.4	.94
17	.90	35	77	18	59	448	307	35	18	5.8	1.2	1.1
18	.90	19	69	18	57	290	336	34	18	6.0	1.2	1.2
19	.90	1,210	64	18	52	206	286	33	18	5.8	1.4	1.2
20	.90	887	59	1,340	48	351	222	31	17	4.9	1.4	1.3
21	.90	434	52	3,750	46	286	258	30	16	4.3	1.2	1.5
22	1.0	260	48	914	45	214	212	29	15	4.1	1.2	1.9
23	1.0	123	45	438	43	299	292	27	15	4.1	1.2	2.0
24	1.0	77	43	854	43	187	276	26	15	3.9	1.2	1.5
25	.80	57	40	466	52	154	216	26	14	3.6	1.2	1.7
26	.90	44	37	502	41	132	182	25	14	3.6	1.1	1.6
27	1.0	37	35	497	38	112	182	24	14	3.4	1.0	1.7
28	1.1	60	33	998	37	105	149	23	13	3.6	.90	1.7
29	1.1	68	32	1,750	-----	91	129	23	12	3.4	.83	1.9
30	.90	52	31	1,280	-----	352	113	22	12	3.0	.72	2.0
31	.80	-----	29	885	-----	382	-----	21	-----	3.0	.63	-----
TOTAL	24.60	3,964.60	9,226	14,084	3,228	6,541	6,465	1,378	744	193.4	55.18	32.19
MEAN	.79	132	298	454	115	211	216	44.5	24.8	6.24	1.78	1.07
MAX	1.1	1,210	2,010	3,750	517	1,360	543	101	113	11	3.3	2.0
MIN	.20	.60	29	18	37	28	112	21	12	3.0	.63	.31
AC-FT	49	7,860	18,300	27,940	6,400	12,970	12,820	2,730	1,480	384	109	64

CAL YR 1966: TOTAL 33,273.20 MEAN 91.2 MAX 2,970 MIN .20 AC-FT 66,000

WAT YR 1967: TOTAL 45,935.97 MEAN 126 MAX 3,750 MIN .20 AC-FT 91,110

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2045	14.57	5,620	1-21	1245	14.35	5,420
12- 2	1445	12.03	3,520	1-29	0300	12.88	4,150
12- 4	2230	14.11	5,200	3-15	2315	11.39	3,070

11-4639.4. FRANZ CREEK NEAR KELLOGG, CALIF.

LOCATION.--Lat 38°36'30", long 122°41'35", in Mallacomes Grant, on left bank at downstream side of highway bridge, 100 ft downstream from Bidwell Creek, and 2 miles south of Kellogg, Sonoma County.

DRAINAGE AREA.--15.7 sq mi.

RECORDS AVAILABLE.--Occasional low-flow measurements, water years 1957-62, and annual maximum, water years 1956, 1958-62, October 1963 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 343.50 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Oct. 25, 1957, to Sept. 30, 1962, crest-stage gage only, at site 75 ft downstream at same datum.

EXTREMES.--Maximum discharge during year, 2,280 cfs Jan. 21 (gage height, 6.39 ft), from rating curve extended above 860 cfs as explained below; no flow Oct. 1, 2.

1955-67: Maximum discharge, 5,780 cfs Jan. 5, 1965 (gage height, 8.31 ft), from rating curve extended above 860 cfs on basis of slope-area measurements at gage heights 6.93 and 7.8 ft.

1963-67: No flow at times in each year.

REMARKS.--Records good. Small diversions above station for irrigation and stock ponds.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	.11	52	4.9	150	7.4	89	27	4.1	1.8	1.2	.42
2	0	.12	373	4.9	100	7.2	63	24	26	1.9	1.2	.39
3	.09	.12	190	4.9	78	7.0	50	22	19	2.1	1.1	.39
4	.11	.12	643	4.9	59	6.7	43	19	9.7	1.9	1.2	.39
5	.10	.15	513	4.9	47	6.5	47	18	7.9	1.7	1.3	.36
6	.10	.57	223	5.5	40	6.3	179	16	7.3	1.7	1.2	.36
7	.11	.57	133	4.9	34	6.2	109	15	6.7	1.7	1.1	.33
8	.10	.62	79	4.6	29	6.0	73	14	6.4	1.5	.93	.36
9	.09	.67	59	4.6	26	5.8	57	14	5.8	1.3	1.1	.33
10	.07	.72	86	4.6	23	15	84	15	5.5	1.3	1.0	.42
11	.09	.89	50	4.9	20	71	73	13	4.9	1.1	.90	.42
12	.12	1.4	37	5.2	19	89	54	11	4.3	1.0	.80	.42
13	.10	1.4	32	4.9	18	84	46	9.7	4.1	1.0	.71	.42
14	.07	2.0	24	4.6	16	60	41	10	3.8	.95	.64	.42
15	.06	1.9	23	4.6	15	129	46	8.9	3.6	.95	.59	.42
16	.05	.38	17	4.3	14	447	35	7.6	3.2	1.1	.55	.42
17	.05	.70	15	4.1	13	155	96	7.3	3.0	1.2	.48	.42
18	.07	.43	13	3.4	12	94	119	6.7	3.0	1.0	.48	.42
19	.18	223	11	3.4	11	67	100	6.4	3.0	.95	.57	.42
20	.22	251	10	437	10	95	68	6.1	3.0	1.1	.57	.39
21	.18	121	9.3	1,360	9.4	95	83	5.8	2.9	1.2	.52	.37
22	.16	70	8.9	348	9.0	67	65	5.5	2.6	1.3	.52	.36
23	.16	35	8.2	138	8.6	90	90	5.5	2.5	1.3	.47	.36
24	.15	25	7.3	339	8.2	57	76	4.9	2.5	1.3	.47	.36
25	.15	19	7.0	164	10	48	57	4.9	2.5	1.1	.47	.36
26	.20	16	6.4	147	9.0	41	46	4.9	2.4	.95	.47	.36
27	.15	14	5.8	133	8.7	36	51	4.9	2.4	.89	.47	.36
28	.15	27	5.5	212	7.6	35	39	4.3	2.4	.89	.47	.39
29	.14	34	5.5	438	-----	32	35	4.1	2.0	.89	.47	.42
30	.13	29	5.5	456	-----	142	30	3.6	1.8	.89	.42	.42
31	.12	-----	4.9	312	-----	140	-----	3.6	-----	.89	.42	-----
Total	3.47	941.76	2,657.3	4,572.1	804.5	2,148.1	2,044	322.7	158.3	38.85	22.79	11.68
Mean	.11	32.4	85.7	147	28.7	69.3	68.1	10.4	5.28	1.25	.74	.39
Max	.22	251	643	1,360	150	447	179	27	26	2.1	1.3	.42
Min	0	.11	4.9	3.4	7.6	5.8	30	3.6	1.8	.89	.42	.33
Ac-ft	6.9	1,870	5,270	9,070	1,600	4,260	4,050	640	314	77	45	23

Cal yr 1966: Total 9,675.93 Mean 26.5 Max 1,000 Min 0 Ac-ft 19,190
Wtr yr 1967: Total 13,725.55 Mean 37.6 Max 1,360 Min 0 Ac-ft 27,220

Peak discharge (base, 700 cfs)

Note.--No gage-height record Feb. 2 to Mar. 8.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2100	5.53	1,250	1-29	0300	5.12	904
12- 4	1400	5.56	1,270	3-16	0100	4.94	800
1-21	1600	6.39	2,280				

RUSSIAN RIVER BASIN

11-4640. RUSSIAN RIVER NEAR HEALDSBURG, CALIF.

LOCATION.--Lat 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.

RECORDS AVAILABLE.--October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 77.01 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

AVERAGE DISCHARGE.--28 years, 1,405 cfs (1,017,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 36,400 cfs Jan. 21 (gage height, 18.60 ft); minimum daily, 192 cfs Oct. 1.
1939-67: Maximum discharge, 71,300 cfs Dec. 23, 1964 (gage height, 27.00 ft); maximum gage height, 30.0 ft Feb. 28, 1940; minimum daily discharge, 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 (see sta. no. 4618). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	192	385	1,210	620	10,400	620	4,490	2,060	403	286	236	312
2	195	385	7,090	522	8,340	606	3,770	1,880	799	282	254	317
3	203	395	10,700	462	7,140	613	3,310	1,770	1,170	286	258	317
4	198	405	10,800	426	5,800	606	3,070	1,680	691	286	262	326
5	203	405	20,000	400	5,300	592	3,000	1,580	511	278	254	317
6	208	432	9,340	375	4,820	564	4,680	1,500	505	274	254	317
7	210	438	6,780	350	2,800	557	4,860	1,410	656	270	258	317
8	208	432	6,090	325	2,040	585	3,970	1,330	740	262	254	317
9	208	438	5,350	316	1,770	720	3,280	1,300	754	258	243	312
10	208	444	4,100	304	1,590	790	3,330	1,390	747	254	243	312
11	210	450	2,970	296	1,420	3,470	3,860	1,350	747	246	236	310
12	215	462	2,420	288	1,310	4,800	3,100	1,300	740	244	236	307
13	215	474	2,110	280	1,220	3,630	2,720	1,240	677	243	232	303
14	215	536	2,060	273	1,140	4,340	2,560	1,200	505	240	232	300
15	218	1,160	1,770	266	1,050	3,900	2,470	1,160	470	236	226	300
16	221	2,910	1,570	852	1,010	15,100	2,230	960	440	229	226	296
17	224	1,270	1,400	2,660	960	8,980	3,080	750	425	226	222	390
18	227	870	1,260	2,900	910	5,890	5,310	644	410	232	222	296
19	230	2,720	1,130	2,960	850	4,270	5,240	585	400	243	226	296
20	230	10,300	1,040	5,240	790	4,910	4,450	543	390	246	246	292
21	230	5,610	940	23,400	740	4,880	4,400	494	380	240	262	296
22	230	4,690	870	14,900	710	3,940	3,930	480	370	240	258	304
23	233	3,120	760	6,230	684	4,190	4,580	450	360	250	262	304
24	236	2,550	700	9,060	676	3,400	4,820	474	350	254	266	308
25	239	2,230	636	3,800	720	2,890	3,840	385	340	266	274	312
26	280	1,510	599	3,280	684	2,590	3,270	444	330	258	304	312
27	335	800	550	10,300	652	2,340	3,060	430	320	246	317	312
28	355	700	1,950	11,900	620	2,140	2,740	420	310	236	322	312
29	365	1,020	3,080	17,500	---	2,080	2,470	415	300	236	317	312
30	375	830	1,700	12,900	---	3,180	2,200	410	293	236	317	316
31	380	---	830	13,800	---	4,810	---	405	---	232	304	---
Total	7,496	48,371	111,805	162,185	66,146	101,983	103,090	30,439	15,533	7,815	8,023	9,342
Mean	242	1,612	3,607	5,232	2,362	3,290	3,600	982	518	252	259	311
Max	380	10,300	20,000	23,400	10,400	15,100	5,310	2,060	1,170	286	322	390
Min	192	385	550	266	620	557	2,200	405	293	226	222	292
Ac-ft	14,870	95,940	221,800	321,700	131,200	202,300	214,400	60,370	30,810	15,500	15,900	19,500

Cal yr 1966: Total 532,636 Mean 1,459 Max 42,800 Min 96 Ac-ft 1,056,000
Wtr yr 1967: Total 677,228 Mean 1,855 Max 23,400 Min 192 Ac-ft 1,343,000

Peak discharge (base, 19,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0200	15.60	26,800	1-29	1300	13.22	20,200
1-21	2000	18.60	36,400				

RUSSIAN RIVER BASIN

397

11-4645. DRY CREEK NEAR CLOVERDALE, CALIF.

LOCATION.--Lat 38°44'59", long 123°05'28", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 304.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Apr. 9, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--26 years, 156 cfs (112,900 acre-ft per year); median of yearly mean discharges, 145 cfs (105,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,570 cfs Jan. 21 (gage height, 12.18 ft); minimum daily, 0.50 cfs Oct. 1.

1941-67: Maximum discharge, 18,100 cfs Dec. 22, 1964 (gage height, 18.09 ft); minimum, 0.10 cfs several days in 1944, 1949, 1951-53, 1962, 1964.

Flood in December 1937 reached a stage of about 18 ft, from floodmarks.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.90	223	32	775	54	382	198	38	12	2.9	1.7
2	.70	.90	1,610	29	584	52	317	183	126	11	2.8	1.7
3	.60	.90	892	28	478	50	281	168	67	11	2.6	1.6
4	.80	.80	2,470	26	378	49	254	156	49	10	2.2	1.5
5	.80	.90	2,610	25	317	45	257	146	42	5.6	2.1	1.5
6	.90	2.2	1,160	21	272	43	360	134	41	8.5	2.0	1.5
7	.90	2.4	690	19	240	42	308	123	39	8.5	2.1	1.6
8	1.0	2.1	470	19	215	41	269	114	36	8.3	2.2	1.7
9	.90	2.1	367	19	198	39	245	110	34	7.7	2.1	1.7
10	.90	1.9	438	19	183	130	305	114	33	7.3	2.1	1.6
11	.90	2.5	329	18	166	302	293	104	31	7.0	2.0	1.6
12	.90	8.2	290	18	156	458	251	96	30	6.3	2.1	1.5
13	.90	15	275	18	148	378	230	90	29	4.7	2.0	1.4
14	.90	112	243	17	136	291	225	84	27	2.7	2.0	1.6
15	.90	215	215	16	130	426	260	78	26	8.1	1.9	1.5
16	.90	290	190	15	119	1,590	223	74	25	5.4	1.9	1.5
17	.90	70	166	12	116	765	390	68	23	4.8	1.9	1.5
18	.90	37	148	12	107	510	510	62	22	4.2	1.8	1.5
19	.90	715	136	12	99	378	506	59	21	4.1	1.8	1.5
20	.90	954	121	1,490	92	544	410	54	21	3.5	1.7	1.6
21	.90	494	107	5,350	84	450	470	52	19	1.9	1.7	1.6
22	.90	293	95	1,610	75	374	390	49	18	2.5	1.8	1.6
23	.90	152	95	815	70	434	530	45	16	3.6	1.8	1.7
24	.90	93	81	1,240	70	323	490	44	16	4.1	1.7	1.6
25	.90	55	70	838	80	284	402	43	15	3.8	1.8	1.6
26	.90	35	62	1,060	63	254	346	41	15	3.5	1.7	1.7
27	.90	23	53	1,080	59	228	311	39	14	3.5	1.7	1.7
28	.90	98	47	2,190	57	220	272	39	14	3.3	1.6	1.7
29	.90	140	43	3,310	-----	200	240	38	13	3.2	1.8	1.6
30	.90	78	40	1,670	-----	484	218	37	13	2.8	1.7	1.6
31	.90	-----	35	1,250	-----	518	-----	35	-----	3.0	1.7	-----
TOTAL	26.90	3,934.80	13,771	22,278	5,467	9,956	9,945	2,677	913	179.9	61.2	47.7
MEAN	.87	131	444	719	195	321	332	86.4	30.4	5.80	1.97	1.59
MAX	1.0	994	2,610	5,350	775	1,590	530	198	126	12	2.9	1.7
MIN	.50	.80	35	12	57	39	218	35	13	1.9	1.6	1.4
AC-FT	53	7,800	27,310	44,190	10,840	19,750	19,730	5,310	1,810	357	121	95

CAL YR 1966: TOTAL 60,157.30 MEAN 165 MAX 6,020 MIN .40 AC-FT 119,400
 WAT YR 1967: TOTAL 69,257.50 MEAN 190 MAX 5,350 MIN .50 AC-FT 137,400

Peak discharge (base, 3,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1445	9.57	5,080	1-21	0900	12.18	8,570
12-4	2230	11.28	7,290	1-29	0430	10.00	5,600

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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 159.40 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 1, 1964, at datum 1.00 ft higher.

AVERAGE DISCHARGE.--8 years, 293 cfs (212,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 19,800 cfs Jan. 21 (gage height, 14.95 ft); no flow Oct. 27 to Nov. 12.

1959-67: Maximum discharge, 32,400 cfs Jan. 31, 1963 (gage height, 17.50 ft, present datum); no flow at times in each year except 1965.

REMARKS.--Records good except those for period of no gage-height record, which are fair. No regulation; small diversion above station for orchard irrigation in summer. Records of sediment and turbidity data for the water years 1964-67, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1965 report: 1962(M), 1963(M).

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.08	0	408	108	2,000	136	868	446	79	23	6.4	2.0
2	.08	0	2,790	102	1,250	130	730	390	208	23	6.0	2.0
3	.08	0	2,300	96	970	126	639	356	160	23	5.8	1.9
4	.08	0	5,000	91	810	122	567	321	112	23	5.4	1.9
5	.08	0	4,000	91	660	120	553	294	87	23	5.0	1.9
6	.08	0	2,600	87	558	116	750	270	79	23	4.7	2.0
7	.08	0	1,600	84	486	114	680	252	71	23	4.5	2.1
8	.06	0	950	82	422	114	598	237	59	24	4.1	2.1
9	.06	0	790	82	370	114	526	228	53	23	3.9	2.0
10	.06	0	940	82	328	164	598	222	51	21	3.5	2.0
11	.08	0	765	80	307	613	685	210	50	20	3.4	2.1
12	.08	0	639	79	282	875	558	195	48	19	3.2	2.1
13	.08	.25	589	68	264	880	482	178	48	17	3.0	2.2
14	.08	.60	513	66	237	735	458	168	47	14	3.0	2.3
15	.08	.600	418	65	216	763	508	160	44	19	3.0	2.3
16	.06	.300	356	62	213	3,610	446	150	41	17	2.9	2.3
17	.06	.124	318	60	198	1,730	679	142	40	16	2.8	2.4
18	.06	.66	291	59	190	1,130	1,040	136	40	15	2.7	2.4
19	.06	.750	264	59	180	838	1,160	136	40	14	2.7	2.4
20	.04	2,000	231	2,340	173	964	952	132	38	14	2.6	2.4
21	.04	1,000	216	11,900	173	946	988	124	35	12	2.5	2.5
22	.04	.589	198	3,780	158	780	928	120	32	11	2.5	2.5
23	.04	.318	195	2,070	156	886	1,050	114	28	10	2.4	2.5
24	.04	.193	183	3,040	156	700	1,210	104	29	11	2.4	2.5
25	.04	.146	170	2,470	158	612	1,020	102	26	10	2.3	2.5
26	.04	.120	158	2,530	150	535	874	96	25	9.6	2.3	2.5
27	0	.96	146	2,720	144	466	770	104	25	9.2	2.2	2.5
28	0	.177	134	3,900	140	422	680	86	25	9.0	2.2	2.5
29	0	.200	128	6,120	---	382	594	86	24	8.4	2.2	2.5
30	0	.145	122	5,400	---	866	513	80	24	8.0	2.1	2.5
31	0	---	118	3,500	---	1,130	---	79	---	7.1	2.1	---
Total	1.66	6,884.25	27,530	51,273	11,349	21,119	22,104	5,718	1,668	499.3	103.7	67.8
Mean	.05	.229	.888	1,650	405	681	737	184	55.6	16.1	3.34	2.24
Max	.08	2,000	5,000	11,900	2,000	3,610	1,210	446	208	24	6.4	2.5
Min	0	0	118	59	140	114	446	79	24	7.1	2.1	1.9
Ac-ft	3.3	13,650	54,600	101,700	22,510	41,890	43,840	11,340	3,310	990	206	134

Cal yr 1966: Total 117,742.91 Mean 323 Max 10,400 Min 0 Ac-ft 233,500
 Wtr yr 1967: Total 148,317.71 Mean 406 Max 11,900 Min 0 Ac-ft 294,200

Peak discharge (base, 4,500 cfs)

Note.--No gage-height record July 4 to Sept. 30.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1600	10.00	7,600	1-29	0800	10.95	9,120
12- 4	-	-	9,000	3-16	0500	8.10	4,690
1-21	1200	14.95	19,800				

RUSSIAN RIVER BASIN

399

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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 318.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Mar. 30, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 16.9 cfs (12,240 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,830 cfs Jan. 21 (gage height, 10.97 ft), from rating curve extended above 520 cfs as explained below; no flow Oct. 14-27, Oct. 30 to Nov. 19.

1959-67: Maximum discharge, 3,200 cfs Feb. 8, 1960 (gage height, 13.35 ft, from floodmarks), from rating curve extended above 520 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 fair. No regulation; pumping for irrigation above station during periods of low flow.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	0	62	5.4	116	9.2	56	30	6.7	3.7	.62	.07
2	.20	0	292	5.0	84	8.5	49	29	42	3.7	.56	.10
3	.20	0	176	4.7	65	8.1	45	27	24	3.5	.45	.19
4	.20	0	450	4.6	54	7.8	39	25	14	3.2	.32	.19
5	.20	0	350	4.4	45	7.2	39	23	12	3.4	.24	.20
6	.20	1.1	210	4.3	37	7.0	126	21	11	3.2	.24	.22
7	.20	.90	140	4.1	32	6.9	85	19	9.8	3.1	.20	.20
8	.20	.30	70	4.0	29	6.7	66	18	8.9	2.9	.17	.23
9	.10	.10	50	3.9	27	6.4	54	18	8.5	2.6	.14	.24
10	.10	.10	107	3.8	25	8.0	60	18	7.8	2.2	.16	.25
11	.10	.20	69	3.7	23	25	55	16	7.5	1.9	.19	.25
12	.10	.60	44	3.7	21	36	46	16	7.2	1.8	.36	.25
13	.10	1.1	55	3.4	19	40	41	14	7.0	1.6	.33	.21
14	0	1.2	27	3.2	18	46	38	13	6.4	1.5	.33	.23
15	0	7.2	20	3.1	17	40	36	12	6.1	1.4	.31	.24
16	0	28	17	2.9	16	231	32	12	6.1	1.6	.52	.25
17	0	7.0	15	2.8	16	107	73	11	5.8	1.5	.31	.27
18	0	3.6	14	2.7	15	82	94	10	5.8	1.6	.65	.38
19	0	178	13	2.6	13	66	82	9.9	5.8	1.3	.73	.30
20	0	200	12	297	13	76	65	9.5	5.6	1.3	.72	.32
21	0	110	11	1,000	12	78	84	9.0	5.6	1.2	.81	.36
22	0	53	11	286	12	63	71	8.5	5.0	1.2	.87	.38
23	0	33	9.8	114	11	78	87	8.1	4.6	1.1	.97	.38
24	0	22	9.5	225	11	62	73	7.6	4.6	1.1	.68	.41
25	0	14	8.8	122	13	56	62	7.4	4.4	1.1	.98	.42
26	0	12	8.3	106	11	53	54	7.2	4.4	1.0	.08	.42
27	0	10	7.8	93	9.8	49	49	6.8	4.4	1.0	.08	.40
28	.10	21	7.3	131	9.5	48	43	6.7	4.0	.86	.08	.40
29	.10	25	6.7	358	-----	44	38	6.6	3.8	.86	.07	.41
30	0	20	6.3	276	-----	104	34	6.2	3.7	.80	.08	.41
31	0	-----	5.8	190	-----	86	-----	6.1	-----	.74	.07	-----
TOTAL	2.20	749.40	2,285.3	3,270.3	774.3	1,545.8	1,776	431.6	252.5	57.96	11.42	8.58
MEAN	.071	25.0	73.7	105	27.7	49.9	59.2	13.9	8.42	1.87	.37	.29
MAX	.20	200	450	1,000	116	231	126	30	42	3.7	.97	.42
MIN	0	0	5.8	2.6	9.5	6.4	32	6.1	3.7	.74	.07	.07
AC-FT	4.4	1,490	4,530	6,490	1,540	3,070	3,520	856	501	115	23	17

CAL YR 1966: TOTAL 6,802.30 MEAN 18.6 MAX 813 MIN 0 AC-FT 13,490
WAT YR 1967: TOTAL 11,165.36 MEAN 30.6 MAX 1,000 MIN 0 AC-FT 22,150

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	-	-	770	1-21	1600	10.97	1,830
12- 2	-	-	800	1-29	0345	7.82	696
12- 4	-	8.39	867				

RUSSIAN RIVER BASIN

11-4665. LAGUNA DE SANTA ROSA NEAR GRATON, CALIF.

LOCATION.--Lat 38°27'10", long 122°50'05", in Molinos Grant on downstream side of left bank pier of highway bridge, 0.2 mile downstream from Santa Rosa Creek, and 2 miles northeast of Graton, Sonoma County.

RECORDS AVAILABLE.--February 1940 to September 1949 (contents only), October 1964 to September 1967 in reports of Geological Survey. October 1949 to September 1964 available in files of district office.

GAGE.--Graphic water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Dec. 31, 1958, at site 75 ft downstream at same datum.

EXTREMES.--Maximum elevation during year, 66.9 ft Jan. 22.

1949-67: Maximum elevation, 73.3 ft Dec. 23, 1964.

REMARKS.--The laguna is a natural water channel and overflow basin connecting Santa Rosa Creek, Mark West Creek, and other smaller creeks with Russian River. During floods directions of flow may be either to or from Russian River and the laguna acts as a natural regulator of floods on lower Russian River.

Elevations, in feet, at 2400 hours, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	51.5	50.5	55.2	51.0	53.4	51.5	50.6	50.2		
2		-	56.5	50.4	54.1	51.0	53.1	51.5	51.0	50.2		
3		-	55.7	50.4	53.3	51.0	52.5	51.5	51.0	50.1		
4		-	58.1	50.4	52.6	51.0	52.1	51.5	51.0	50.1		
5		-	59.2	50.4	52.2	51.0	52.4	51.4	51.0	50.0		
6		-	57.1	50.4	51.9	51.0	54.7	51.4	51.0	50.0		
7		-	53.3	50.4	51.8	51.0	54.5	51.4	51.0	-		
8		-	53.9	50.4	51.8	51.0	53.7	51.4	51.0	-		
9		-	53.8	50.4	51.8	51.0	52.9	51.4	50.9	-		
10		-	54.3	50.4	51.7	51.0	53.1	51.4	50.9	-		
11		-	53.5	50.4	51.6	51.1	52.9	51.4	50.9	-		
12		-	52.7	50.4	51.5	52.1	52.5	51.3	50.8	-		
13		-	52.2	50.4	51.4	52.9	52.1	51.3	50.8	-		
14		-	51.9	50.3	51.3	52.6	51.8	51.3	50.7	-		
15		-	51.3	50.3	51.3	53.5	51.7	51.2	50.7	-		
16		-	50.9	50.3	51.2	55.6	51.6	51.2	50.7	-		
17		-	50.8	50.3	51.1	54.4	53.1	51.1	50.6	-		
18		-	50.6	50.3	51.1	53.3	54.8	51.1	50.6	-		
19		53.9	50.6	50.3	51.0	52.4	54.5	51.1	50.6	-		
20		53.7	50.6	59.4	51.0	53.2	53.5	51.1	50.5	-		
21		53.4	50.6	66.8	51.0	53.2	54.6	51.0	50.5	-		
22		52.7	50.6	61.8	51.0	52.9	54.8	51.0	50.5	-		
23		51.5	50.5	57.4	51.0	53.1	54.9	50.9	50.4	-		
24		50.7	50.5	58.8	51.0	52.6	54.7	50.9	50.4	-		
25		50.2	50.5	56.2	51.0	52.0	53.7	50.8	50.4	-		
26		-	50.5	55.9	51.0	51.7	52.9	50.8	50.3	-		
27		-	50.5	55.5	51.0	51.7	52.4	50.8	50.3	-		
28		50.6	50.5	56.2	51.0	51.7	52.1	50.7	50.3	-		
29		50.4	50.5	58.9	- - - -	51.6	51.9	50.7	50.2	-		
30		50.1	50.5	59.3	- - - -	54.2	51.7	50.6	50.2	-		
31		- - - -	50.5	57.2	- - - -	55.0	- - - -	50.6	- - - -	-		- - - -

RUSSIAN RIVER BASIN

401

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.--1,340 sq mi.

RECORDS AVAILABLE.--October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "at Guerneville."

GAGE.--Digital water-stage recorder. Datum of gage is 17.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 1, 1954, wire-weight gage at bridge 5.3 miles downstream at datum 8.58 ft lower. Oct. 1, 1954, to Sept. 19, 1966, graphic water-stage recorder at same site and datum. Supplementary graphic water-stage recorder 2.1 miles downstream used during periods of low flow 1948-54.

AVERAGE DISCHARGE.--28 years, 2,243 cfs (1,624,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 68,400 cfs Jan. 21 (gage height, 42.45 ft); minimum daily, 180 cfs Oct. 1.

1939-67: Maximum discharge, 93,400 cfs Dec. 23, 1964 (gage height, 49.6 ft, from floodmarks); maximum gage height, 49.7 ft Dec. 23, 1955, from floodmarks; minimum daily discharge, 52 cfs May 30, 1964.

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 (see sta. no. 4618), and by diversion at Wohler pumping plant beginning in May 1959. Records of sediment and turbidity data for the water years 1966-67, chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	180	362	1,950	928	18,000	1,010	7,700	3,170	672	334	214	278
2	186	368	9,400	846	14,100	984	6,330	2,870	1,010	338	202	285
3	192	368	21,500	784	11,400	972	5,510	2,630	1,680	234	214	285
4	190	389	17,100	744	9,230	964	4,940	2,450	1,180	331	205	299
5	191	386	43,000	708	8,070	936	4,730	2,300	956	312	190	289
6	196	431	23,900	680	7,160	912	6,810	2,160	820	306	202	275
7	201	470	13,700	652	5,290	888	7,860	2,030	872	292	211	275
8	202	445	10,700	620	3,910	880	6,780	1,920	912	285	205	278
9	198	449	8,430	600	3,310	964	5,640	1,870	896	285	202	285
10	193	452	7,900	580	2,900	1,040	5,310	1,890	880	285	202	285
11	192	463	6,060	560	2,550	3,370	6,350	1,870	848	278	199	296
12	185	487	4,600	552	2,320	4,340	5,270	1,780	832	254	199	310
13	196	491	3,760	536	2,130	6,370	4,580	1,700	804	220	199	317
14	198	526	3,390	520	1,950	6,350	4,190	1,630	684	223	203	331
15	208	868	2,840	504	1,780	5,620	4,070	1,570	604	220	193	327
16	211	3,350	2,380	557	1,680	23,000	3,820	1,420	564	223	185	317
17	203	1,750	2,060	2,260	1,580	16,100	4,230	1,250	548	223	188	299
18	204	1,090	1,780	2,720	1,490	9,970	7,880	1,130	520	223	188	341
19	206	2,230	1,580	2,860	1,410	7,300	8,790	1,060	488	223	188	296
20	209	17,500	1,430	7,880	1,330	7,200	7,420	1,010	484	220	205	275
21	213	9,960	1,310	52,400	1,250	8,370	7,060	556	476	220	223	268
22	214	7,300	1,200	54,600	1,200	6,710	7,160	904	457	208	223	278
23	217	4,900	1,130	22,800	1,160	6,860	7,460	852	439	217	217	285
24	218	3,560	1,080	13,600	1,130	5,970	8,980	856	429	226	229	289
25	216	2,860	1,010	14,000	1,210	5,060	7,240	788	422	226	238	289
26	230	2,230	956	15,000	1,180	4,450	6,000	764	411	220	250	285
27	277	1,310	900	17,000	1,100	3,930	5,340	692	411	208	275	236
28	316	1,160	1,570	20,000	1,050	3,560	4,600	668	401	153	275	268
29	337	1,770	3,050	29,000	-----	3,380	4,000	708	376	188	278	271
30	350	1,500	2,190	22,000	-----	4,990	3,520	696	355	150	278	278
31	356	-----	1,110	23,000	-----	8,750	-----	680	-----	153	275	-----
TOTAL	6,885	69,425	202,966	309,451	110,870	161,200	179,570	46,274	20,431	7,711	6,755	8,690
MEAN	222	2,314	6,547	9,984	3,960	5,200	5,986	1,493	681	249	218	290
MAX	356	17,500	43,000	54,600	18,000	23,000	8,980	3,170	1,680	338	278	341
MIN	180	362	900	504	1,050	880	3,520	668	355	188	185	236
AC-FT	13,660	137,700	402,600	613,900	219,900	319,700	356,200	91,780	40,520	15,290	13,400	17,240

CAL YR 1966: TOTAL 889,983 MEAN 2,438 MAX 73,700 MIN 107 AC-FT 1,765,000
WAT YR 1967: TOTAL 1,130,268 MEAN 3,097 MAX 54,600 MIN 180 AC-FT 2,242,000

Peak discharge (base, 23,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-5	0730	34.95	47,400	1-29	1800	32.44	41,100
1-21	2345	42.45	68,400	3-16	1530	27.31	28,600

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.

DRAINAGE AREA.--161 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 43.63 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Aug. 30, 1962, graphic water-stage recorder at site 1,700 ft upstream at different datum. Aug. 30, 1962, to June 15, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 424 cfs (307,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 28,900 cfs Jan. 21 (gage height, 18.45 ft); minimum daily, 0.90 cfs Oct. 28 to Nov. 5.
1950-67: 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 maximum flow; minimum, 0.4 cfs Sept. 13, 1951.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	.9	636	110	1,770	120	1,330	376	79	37	9.6	6.4
2	1.2	.9	4,570	105	1,040	118	978	330	335	36	9.6	5.9
3	1.1	.9	2,290	99	880	115	756	292	207	35	12	6.4
4	1.1	.9	4,680	97	750	113	628	270	130	34	12	6.4
5	1.1	.9	7,200	97	670	105	652	245	105	32	11	7.0
6	1.1	1.1	2,840	93	580	101	1,210	217	99	31	9.6	7.0
7	1.1	1.7	1,330	87	520	99	897	201	93	30	9.6	6.4
8	1.0	1.6	1,910	85	460	97	740	189	87	29	8.5	4.8
9	1.0	1.5	700	85	410	95	613	189	83	28	8.5	5.9
10	1.0	1.4	800	85	360	155	804	201	79	28	9.1	5.9
11	1.0	1.4	690	83	320	716	969	175	75	25	9.6	5.9
12	1.0	2.5	600	85	296	1,160	732	163	69	24	10	6.4
13	1.0	150	550	83	260	1,090	613	155	63	19	9.6	7.0
14	1.0	1,420	478	79	245	861	571	148	59	19	9.6	6.4
15	1.0	1,550	394	75	235	798	684	143	57	18	8.5	4.3
16	1.0	2,290	335	75	225	4,610	571	135	56	16	8.0	3.7
17	1.0	436	300	73	210	1,970	969	130	54	16	7.5	4.0
18	1.0	207	270	69	190	1,240	1,430	123	52	17	8.0	6.4
19	1.0	3,470	245	69	180	843	1,270	118	50	16	7.0	7.0
20	1.0	3,580	224	5,040	168	2,070	988	113	50	15	7.0	5.9
21	1.0	1,190	204	17,100	155	1,810	1,150	108	50	14	6.4	4.0
22	1.0	834	186	3,630	150	1,100	951	103	46	14	7.0	2.0
23	1.0	412	195	1,630	148	1,460	1,150	99	44	15	5.4	2.1
24	1.0	249	178	2,970	148	951	1,230	93	43	15	5.4	3.7
25	1.0	173	163	1,920	163	748	987	91	41	16	6.4	4.8
26	1.0	140	150	2,940	140	620	807	91	40	15	5.9	4.6
27	1.0	115	143	3,240	130	526	756	85	41	13	5.9	5.4
28	.90	138	133	6,400	125	414	599	85	40	13	5.4	4.8
29	.90	165	125	6,390	-----	448	514	87	39	12	5.4	4.3
30	.90	135	125	3,000	-----	1,770	442	81	38	10	5.9	4.8
31	.90	-----	115	3,290	-----	1,940	-----	79	-----	9.6	6.4	-----
TOTAL	31.50	16,669.7	31,859	59,184	10,928	28,063	25,991	4,915	2,304	651.6	249.8	160.6
MEAN	1.02	556	1,028	1,909	390	905	866	159	76.8	21.0	3.06	5.35
MAX	1.2	3,580	7,200	17,100	1,770	4,610	1,430	376	335	37	12	7.0
MIN	.90	.90	115	69	125	95	442	79	38	9.6	5.4	2.1
AC-FT	62	33,060	63,190	117,400	21,680	55,660	51,550	9,750	4,570	1,290	495	319

CAL YR 1966: TOTAL 135,900.70 MEAN 372 MAX 11,200 MIN .90 AC-FT 269,600
WAT YR 1967: TOTAL 181,007.20 MEAN 496 MAX 17,100 MIN .90 AC-FT 359,000

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	2200	11.54	10,900	1-21	1315	18.45	28,900
12- 2	1700	12.22	12,300	1-29	0700	11.16	10,200
12- 5	0100	13.63	15,600				

GARCIA RIVER BASIN

403

11-4676. GARCIA RIVER NEAR POINT ARENA, CALIF.

LOCATION.--Lat 38°55'35", long 123°37'45", in SW¼SW¼ sec.3, T.12 N., R.16 W., on left bank 0.9 mile downstream from North Fork Garcia River and 3.5 miles northeast of town of Point Arena.

DRAINAGE AREA.--98.5 sq mi.

RECORDS AVAILABLE.--Occasional low-flow measurements, water years 1951-56, and annual maximum, water years 1952-56. August 1962 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 55.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. July 17, 1951, to Jan. 31, 1956, crest-stage only, at site 15 ft upstream at different datum.

AVERAGE DISCHARGE.--5 years, 338 cfs (244,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 14,500 cfs Jan. 21; minimum daily, 12 cfs Nov. 3-5.

1951-56, 1962-67: Maximum discharge, 28,700 cfs Jan. 4, 1966 (gage height, 16.41 ft), from rating curve extended above 9,600 cfs on basis of slope-area measurement at gage height 15.11 ft. A discharge of 10.1 cfs was measured on Sept. 25, 1951.

REMARKS.--Records fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	13	650	131	2,100	126	991	361	96	47	24	18
2	13	13	3,700	125	1,700	123	748	331	207	45	24	18
3	13	12	2,200	121	990	123	632	308	128	44	23	17
4	13	12	4,500	117	700	120	559	288	106	43	23	16
5	15	12	6,000	113	600	117	548	265	101	41	22	16
6	13	17	2,500	106	541	114	1,000	245	95	39	22	15
7	13	27	1,800	102	464	114	820	225	92	38	22	16
8	13	22	1,400	96	402	111	668	209	89	38	22	16
9	13	17	1,100	91	360	108	590	204	88	37	22	15
10	13	16	820	88	320	708	646	210	84	36	21	15
11	13	18	650	85	295	1,320	687	182	83	36	21	15
12	13	126	555	85	267	865	585	169	81	33	21	15
13	13	325	524	85	248	857	530	157	78	32	20	15
14	13	1,230	474	83	231	724	497	149	73	31	21	14
15	13	850	417	80	235	653	481	138	70	32	20	14
16	13	1,100	379	78	222	4,240	438	135	68	31	20	14
17	13	490	339	75	194	2,150	691	130	65	30	19	15
18	13	370	308	75	178	1,240	976	127	63	28	19	15
19	13	3,050	282	73	174	820	1,000	122	61	28	19	15
20	13	3,150	265	3,100	162	1,820	821	116	59	28	19	14
21	13	1,400	245	10,000	158	1,640	753	115	59	27	19	14
22	13	960	226	2,600	150	1,160	796	100	58	27	19	13
23	13	700	220	1,600	147	1,260	849	101	56	28	19	13
24	13	500	203	2,500	144	803	960	97	55	27	18	13
25	13	444	194	1,700	147	724	806	97	54	26	18	13
26	13	359	181	2,500	138	625	680	94	52	26	19	13
27	13	303	168	2,800	132	555	607	93	51	24	19	13
28	13	305	158	6,500	129	527	518	93	50	25	18	13
29	13	324	153	5,200	-----	478	456	93	49	24	18	13
30	13	270	146	2,900	-----	847	402	89	48	24	18	13
31	13	-----	139	3,100	-----	1,190	-----	89	-----	23	18	-----
TOTAL	405	16,435	30,896	46,309	11,528	26,262	20,735	5,132	2,319	998	627	439
MEAN	13.1	548	997	1,494	412	847	691	166	77.3	32.2	20.2	14.6
MAX	15	3,150	6,000	10,000	2,100	4,240	1,000	361	207	47	24	18
MIN	13	12	139	73	129	108	402	89	48	23	18	13
AC-FT	803	32,600	61,280	91,850	22,870	52,090	41,130	10,180	4,600	1,980	1,240	871

CAL YR 1966: TOTAL 133,342 MEAN 365 MAX 15,300 MIN 12 AC-FT 264,500
WAT YR 1967: TOTAL 162,085 MEAN 444 MAX 10,000 MIN 12 AC-FT 321,500

Peak discharge (base, 5,000 cfs)

Note.--No gage-height record Jan. 20 to Feb. 5.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	-	10.48	9,450	1-29	-	-	9,000
1-21	-	-	14,500	3-16	0930	8.80	5,700

NAVARRO RIVER BASIN

11-4678. RANCHERIA CREEK NEAR BOONVILLE, CALIF.

LOCATION.--Lat 38°59'35", long 123°26'00", in SE¼ 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.--65.6 sq mi.

RECORDS AVAILABLE.--August 1959 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 450.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--8 years, 144 cfs (104,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,830 cfs Dec. 4 (gage height, 12.69 ft); minimum daily, 1.9 cfs Oct.

1. 1959-67: Maximum discharge, 20,000 cfs Dec. 22, 1964 (gage height, 20.52 ft), from rating curve extended above 4,200 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.80 cfs Sept. 16-19, 1964.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.9	2.0	469	47	812	45	504	148	40	10	4.0	3.3
2	2.0	2.0	1,800	45	560	44	396	130	95	9.8	4.7	3.3
3	2.1	2.0	1,200	44	408	42	333	120	55	10	4.5	3.3
4	2.1	2.0	2,890	40	315	40	288	110	43	9.8	4.2	3.2
5	2.1	2.0	3,200	38	255	39	283	100	37	9.8	4.4	3.2
6	2.1	3.3	900	38	215	38	539	88	34	9.5	4.4	3.2
7	2.1	2.5	630	37	180	37	402	78	33	9.2	4.5	3.2
8	2.1	2.2	490	36	156	36	312	70	31	9.5	4.4	3.0
9	2.1	2.5	420	35	134	35	283	80	30	9.8	4.2	3.0
10	2.1	2.8	470	34	125	200	360	76	28	10	4.4	3.0
11	2.1	3.0	380	32	118	306	333	71	27	9.5	4.5	3.0
12	2.1	3.5	350	30	109	336	290	66	26	9.5	4.4	3.0
13	2.1	5.0	315	28	103	303	295	63	25	9.2	4.2	3.2
14	2.1	10	248	27	96	324	272	60	24	8.9	4.0	3.0
15	2.1	479	200	26	94	486	250	57	23	8.9	4.4	3.0
16	2.1	780	170	25	88	1,800	230	55	21	8.9	4.0	3.2
17	2.1	280	148	25	81	860	462	50	20	8.6	4.0	3.2
18	2.1	203	132	24	77	623	518	48	19	8.3	4.0	3.2
19	2.1	1,350	124	24	73	465	483	47	19	8.0	3.7	3.2
20	2.1	1,980	118	1,470	67	605	378	46	16	7.4	3.7	3.0
21	2.1	1,290	112	3,860	65	556	378	44	16	7.4	3.5	3.0
22	2.1	832	106	1,420	62	462	315	40	15	7.4	3.7	3.0
23	2.1	521	100	836	59	521	450	37	14	7.1	3.5	2.9
24	2.1	384	96	1,240	57	402	426	36	13	6.8	3.3	3.0
25	2.1	300	88	915	54	339	324	34	13	6.8	3.7	3.0
26	2.1	255	84	1,200	51	306	268	33	13	6.2	3.5	3.0
27	2.1	223	74	1,270	48	285	245	32	13	5.9	3.5	2.9
28	2.1	263	65	1,950	47	273	205	30	12	5.6	3.3	2.9
29	2.1	312	59	2,810	-----	270	180	29	9.8	5.6	3.5	2.9
30	2.1	248	53	1,560	-----	553	165	28	10	5.3	3.5	2.9
31	2.1	-----	49	1,310	-----	684	-----	27	-----	5.3	3.3	-----
TOTAL	64.8	9,744.8	15,540	20,476	4,509	11,315	10,167	1,933	774.8	254.0	122.9	92.2
MEAN	2.09	325	501	661	161	365	339	62.4	25.8	8.19	3.96	3.07
MAX	2.1	1,980	3,200	3,860	812	1,800	539	148	95	10	4.7	3.3
MIN	1.9	2.0	49	24	47	35	165	27	9.8	5.3	3.3	2.9
AC-FT	129	19,330	30,820	40,610	8,940	22,440	20,170	3,830	1,540	504	244	183

CAL YR 1966: TOTAL 63,691.2

MEAN 174

MAX 5,750

MIN 1.8

AC-FT 126,300

WAT YR 1967: TOTAL 74,993.5

MEAN 205

MAX 3,860

MIN 1.9

AC-FT 148,700

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	1130	10.39	3,190	1-21	0600	12.38	5,460
12- 2	1530	10.44	3,240	1-29	0645	11.58	4,500
12- 4	2315	12.69	5,830	3-16	0200	9.60	2,480

Note.--No gage-height record Oct. 6 to Nov. 14, Dec. 5 to Jan. 10, Feb. 10 to Mar. 14, Apr. 28 to June 12.

11-4678.5. SODA CREEK TRIBUTARY NEAR BOONVILLE, CALIF.

LOCATION.--Lat 39°01'32", long 123°17'25", in SE $\frac{1}{4}$ sec.33, T.14 N., R.13 W., on right bank at culvert, 70 ft upstream from Soda Creek, and 4.2 miles northeast of Boonville.

DRAINAGE AREA.--1.53 sq mi.

RECORDS AVAILABLE.--Water years 1962-64 (annual maximum), October 1964 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Datum of gage is 1,551.28 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Aug. 23, 1961, to Sept. 2, 1964, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during year, 83 cfs Jan. 21 (gage height, 7.31 ft); no flow for several months.

1961-67: Maximum discharge, 394 cfs Dec. 22, 1964 (gage height, 21.03 ft, from floodmarks), by computation of maximum flow through culvert and over road embankment.

1964-67: No flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.7	.10	15	0	11	3.9	.40	.20	.30	0
2		0	23	.10	13	0	9.2	3.4	1.2	.20	.20	0
3		0	18	.10	8.5	0	7.4	3.0	.60	.10	.10	.10
4		0	38	.10	6.5	0	6.3	2.9	.50	.20	.10	.10
5		0	40	.10	5.4	0	5.9	2.6	.50	.20	.10	.10
6		0	18	.10	4.6	0	8.1	2.2	.50	.20	0	.10
7		0	9.2	.10	3.7	0	9.0	2.0	.50	.10	0	.10
8		0	3.0	.10	3.0	0	7.8	1.9	.40	.20	0	.10
9		0	3.0	.10	2.6	0	6.9	1.7	.40	.10	.10	.10
10		0	3.5	.10	2.2	.10	6.5	1.5	.40	.10	.10	0
11		0	2.9	.10	1.7	.10	7.1	1.5	.40	.10	.10	0
12		0	2.0	.10	1.5	1.7	5.9	1.3	.40	0	.10	0
13		0	2.0	.10	1.2	1.2	5.4	1.3	.40	0	.10	0
14		0	1.6	.20	.80	2.3	5.2	1.3	.30	0	.10	0
15		.20	1.1	.20	.80	4.5	4.8	1.2	.20	0	.10	0
16		.20	.70	.20	.60	2.7	4.8	1.2	.20	0	.10	0
17		0	.40	.20	.40	1.4	4.4	1.1	.20	.10	0	0
18		0	.40	.20	.30	8.5	7.1	1.1	.20	.10	0	0
19		2.1	.30	.20	.20	6.1	10	.90	.20	.10	0	0
20		13	.40	16	.20	5.2	9.7	.80	.20	.20	0	0
21		6.9	.30	51	.20	4.6	8.3	.70	.20	.20	.10	0
22		5.6	.20	14	.20	3.7	8.5	.70	.20	.30	0	0
23		3.2	.30	5.9	.10	3.7	7.1	.70	.20	.40	0	0
24		2.6	.20	15	.10	3.2	8.1	.60	.20	.40	.10	0
25		2.0	.20	9.4	.10	2.9	7.8	.60	.20	.40	.10	0
26		1.7	.20	15	.10	2.6	7.4	.50	.20	.40	0	0
27		1.6	.20	15	0	2.6	6.5	.50	.20	.60	0.10	0
28		1.9	.20	23	0	2.3	5.9	.40	.20	.50	0	0
29		1.7	.10	43	-----	2.3	4.8	.40	.20	.40	.10	0
30		1.9	.20	25	-----	3.4	4.4	.40	.20	.20	.10	0
31		-----	.20	22	-----	8.7	-----	.40	-----	.20	.10	-----
Total	0	44.60	172.50	256.80	73.00	110.70	211.3	42.70	10.10	6.20	2.30	.70
Mean	0	1.49	5.56	8.28	2.61	3.57	7.04	1.38	.34	.20	.07	.02
Max	0	13	40	51	15	27	11	3.9	1.2	.60	.30	.10
Min	0	0	.10	.10	0	0	4.4	.40	.20	0	0	0
Ac-ft	0	88	342	509	145	220	419	85	20	12	4.6	1.4
(+)	0	11.0	6.4	11.5	.7	9.0	6.1	.6	1.3	0	0	0

Cal yr 1966: Total 787.90 Mean 2.16 Max 79 Min 0 Ac-ft 1,560

Wtr yr 1967: Total 930.90 Mean 2.55 Max 51 Min 0 Ac-ft 1,850

Peak discharge (base, 80 cfs).--Dec. 4 (2000) 80 cfs (7.21 ft); Jan. 21 (0400) 83 cfs (7.31 ft).

+ Precipitation, in inches.

NAVARRO RIVER BASIN

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.--303 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 6.65 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 16, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--17 years, 519 cfs (375,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 16,100 cfs Jan. 21 (gage height, 24.27 ft, from high-water marks); minimum daily, 7.3 cfs Sept. 30.

1950-67: 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 maximum flow; minimum, 4.7 cfs Aug. 26, 27, 1959. Flood in December 1937, reached a stage of 38.2 ft, from floodmarks.

REMARKS.--Records fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.5	10	357	155	2,400	160	2,680	592	106	47	21	12
2	7.9	9.3	4,500	145	1,700	150	1,870	536	171	45	23	12
3	8.1	10	2,500	138	1,300	143	1,430	483	202	42	20	12
4	8.5	9.3	4,260	130	1,100	138	1,190	438	144	42	19	14
5	9.1	9.3	7,680	124	900	132	1,070	399	124	41	19	14
6	10	15	3,110	118	800	125	1,760	363	117	38	19	14
7	10	20	1,980	115	660	120	2,050	333	112	39	20	13
8	9.3	23	1,450	110	590	116	1,570	303	106	36	19	13
9	9.3	17	1,160	107	510	110	1,270	276	103	36	18	13
10	9.3	15	1,230	103	470	1,200	1,220	306	99	38	20	13
11	8.5	17	1,060	98	425	1,600	1,460	285	97	36	20	13
12	8.5	27	908	95	390	1,800	1,170	255	95	36	19	12
13	9.3	27	786	93	370	2,200	1,030	231	97	34	17	13
14	8.5	97	766	90	350	1,650	1,000	210	94	32	16	12
15	8.5	288	640	87	330	1,400	960	197	90	31	16	12
16	8.5	1,120	560	85	315	5,880	846	184	86	32	16	10
17	9.3	306	510	83	295	3,320	1,360	176	81	30	15	12
18	9.3	166	450	82	275	2,200	2,210	166	78	29	14	13
19	9.3	674	410	81	260	1,560	2,110	158	76	30	13	13
20	9.3	3,750	370	4,000	250	1,710	1,660	151	74	29	12	12
21	9.3	2,480	340	12,000	232	1,810	1,520	146	71	28	12	11
22	9.3	1,750	320	4,300	225	1,430	1,520	139	68	30	13	9.7
23	9.3	773	295	3,100	210	1,510	1,620	134	68	28	13	9.6
24	9.3	482	270	2,900	200	1,230	1,770	124	63	27	13	9.1
25	10	352	255	2,750	190	1,050	1,450	124	60	28	13	8.7
26	10	277	245	3,450	180	920	1,200	122	59	26	14	9.6
27	10	227	230	4,300	172	810	1,090	117	59	26	13	7.8
28	10	222	205	5,800	165	750	920	115	56	26	13	7.7
29	10	299	190	7,000	-----	746	802	117	56	24	12	7.4
30	12	246	175	4,200	-----	1,160	678	112	52	24	12	7.3
31	10	-----	165	3,500	-----	1,220	-----	108	-----	22	12	-----
TOTAL	288.2	13,717.9	37,377	59,339	15,264	38,350	42,486	7,400	2,764	1,012	496	339.9
MEAN	9.30	457	1,206	1,914	545	1,237	1,416	239	92.1	32.6	16.0	11.3
MAX	12	3,750	7,680	12,000	2,400	5,880	2,680	592	202	47	23	14
MIN	7.9	9.3	165	81	165	110	678	108	52	22	12	7.3
AC-FT	572	27,210	74,140	117,700	30,280	76,070	84,270	14,680	5,480	2,010	984	674

CAL YR 1966: TOTAL 163,715.1 MEAN 449 MAX 13,500 MIN 5.0 AC-FT 324,700
WAT YR 1967: TOTAL 218,834.0 MEAN 600 MAX 12,000 MIN 7.3 AC-FT 434,100

Peak discharge (base, 7,000 cfs)

Note.--No gage-height record Dec. 15 to Mar. 14.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1945	17.37	8,570	1-29	-	-	10,300
12- 5	0345	20.39	11,800	3-16	1300	16.17	7,750
1-21	-	24.27	16,100				

ALBION RIVER BASIN

407

11-4680.1. ALBION RIVER NEAR COMPTCHE, CALIF.

LOCATION.--Lat 39°15'40", long 123°37'00", in SW $\frac{1}{4}$ 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.--14.4 sq mi.

RECORDS AVAILABLE.--July 1961 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 106.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 1, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 19.0 cfs (13,760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 840 cfs Jan. 21 (gage height, 7.30 ft, from highwater mark); no flow Oct. 1-24.
1961-67: Maximum discharge, 2,390 cfs Jan. 4, 1966 (gage height, 9.98 ft), from rating curve extended above 480 cfs on basis of slope-area measurement at gage height 9.50 ft; no flow for many days in each year.

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

REVISIONS (water years).--1965 report: 1962-64.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.10	22	5.3	100	2.7	144	17	2.1	.44	.11	.01
2	0	.10	200	5.3	56	2.6	80	15	4.7	.39	.10	.01
3	0	.10	90	5.1	37	2.5	53	14	3.1	.38	.09	.01
4	0	.10	140	4.9	27	2.4	38	12	2.4	.37	.09	.01
5	0	.10	170	4.5	21	2.2	39	11	2.3	.37	.09	.01
6	0	.10	88	4.1	17	2.1	86	9.2	2.3	.36	.09	.01
7	0	.10	62	4.0	15	2.0	108	8.3	2.0	.35	.09	.01
8	0	.10	49	3.5	13	2.0	77	7.5	1.8	.34	.07	.01
9	0	.10	38	3.1	11	1.9	52	7.8	1.8	.33	.07	.02
10	0	.10	44	2.7	9.8	88	57	10	1.7	.33	.06	.02
11	0	.10	38	2.5	8.3	157	58	8.4	1.6	.30	.05	.02
12	0	.30	36	2.5	7.6	112	47	7.0	1.6	.26	.05	.02
13	0	.40	33	2.4	7.1	97	42	6.1	1.5	.25	.05	.02
14	0	4.9	31	2.3	6.5	83	38	5.4	1.4	.23	.05	.02
15	0	3.5	27	2.2	6.0	69	35	5.0	1.3	.23	.04	.02
16	0	6.5	23	2.1	5.7	113	27	4.5	1.3	.22	.04	.03
17	0	2.2	14	2.0	5.4	96	98	4.1	1.1	.20	.04	.04
18	0	1.1	12	2.0	5.0	71	118	3.7	1.0	.20	.04	.04
19	0	7.0	11	2.0	4.7	50	85	3.4	1.1	.18	.04	.05
20	0	34	11	170	4.5	98	57	3.2	1.1	.17	.04	.05
21	0	93	9.2	620	4.2	91	53	2.8	1.0	.16	.04	.05
22	0	45	8.0	240	3.8	75	51	2.6	.87	.16	.03	.05
23	0	19	7.5	60	3.7	68	60	2.6	.80	.16	.03	.05
24	0	10	9.8	110	3.8	49	66	2.5	.78	.16	.03	.05
25	.10	6.8	12	100	4.1	42	57	2.5	.72	.16	.03	.06
26	.10	5.0	8.9	120	3.4	34	46	2.4	.67	.14	.03	.06
27	.10	3.8	7.8	150	3.1	28	43	2.2	.63	.12	.03	.06
28	.10	6.0	6.8	210	2.8	30	32	2.3	.57	.12	.02	.06
29	.10	4.3	5.9	350	-----	24	25	2.4	.53	.12	.02	.06
30	.10	3.7	5.5	210	-----	69	20	2.1	.48	.12	.02	.06
31	.10	-----	5.3	145	-----	161	-----	2.0	-----	.10	.01	-----
TOTAL	0.70	257.60	1,225.7	2,547.5	396.5	1,725.4	1,792	189.0	44.25	7.42	1.59	0.99
MEAN	.023	8.59	39.5	82.2	14.2	55.7	59.7	6.10	1.48	.24	.051	.033
MAX	.10	93	200	620	100	161	144	17	4.7	.44	.11	.06
MIN	0	.10	5.3	2.0	2.8	1.9	20	2.0	.48	.10	.01	.01
AC-FT	1.4	511	2,430	5,050	786	3,420	3,550	375	88	15	3.2	2.0

CAL YR 1966: TOTAL 7,537.20

MEAN 20.6

MAX 1,360

MIN 0

AC-FT 14,950

WAT YR 1967: TOTAL 8,188.65

MEAN 22.4

MAX 620

MIN 0

AC-FT 16,240

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	-	6.06	435	1-21	-	7.30	840
12- 5	-	-	360	1-29	-	-	510

Note.--No gage-height record Jan. 13 to Feb. 20, Aug. 9 to Sept. 10.

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.--36.2 sq mi.

RECORDS AVAILABLE.--August 1960 to September 1967.

GAGE.--Digital water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to Oct. 7, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--7 years, 49.4 cfs (35,760 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,280 cfs Jan. 21 (gage height, 9.77 ft); minimum daily, 0.80 cfs Oct. 1-8.

1960-67: Maximum discharge, 8,200 cfs Dec. 22, 1964 (gage height, 16.30 ft), from rating curve extended above 1,700 cfs on basis of slope-area measurement of maximum flow; minimum, 0.60 cfs for many days in September 1960.

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

REVISIONS (water year).--1962 report: 1961(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	2.0	44	13	281	14	288	50	13	5.1	2.0	1.2
2	.80	2.1	427	11	185	13	208	45	29	4.8	2.0	1.1
3	.80	2.1	271	12	128	13	164	43	19	4.7	1.9	1.2
4	.80	2.3	379	12	93	13	135	40	13	4.7	1.8	1.2
5	.80	2.4	477	11	72	12	115	38	12	4.3	1.8	1.1
6	.80	5.6	214	10	59	12	186	35	11	4.3	1.9	1.1
7	.80	3.9	145	10	50	12	190	33	11	4.2	1.9	1.1
8	.80	3.3	106	9.5	43	11	160	30	10	4.1	1.8	1.2
9	.90	3.1	92	8.9	39	11	135	32	9.9	4.0	1.7	1.2
10	.90	3.3	100	8.4	35	135	148	35	9.7	4.0	1.8	1.2
11	.90	3.6	82	7.3	32	184	157	31	9.4	3.9	1.8	1.2
12	.90	4.8	72	6.9	30	206	129	28	9.1	3.7	1.7	1.2
13	1.0	4.9	75	6.9	28	246	112	26	8.9	3.6	1.7	1.1
14	1.0	13	67	6.7	26	234	119	24	8.8	3.5	1.7	1.1
15	1.1	14	57	6.4	26	197	103	23	8.5	3.4	1.5	1.2
16	1.2	25	50	6.4	24	433	91	22	8.0	3.4	1.4	1.2
17	1.2	11	44	6.4	22	300	192	21	7.7	3.4	1.4	1.3
18	1.2	7.7	38	6.2	21	225	225	20	7.4	3.1	1.4	1.4
19	1.2	20	35	6.4	20	170	202	19	7.4	2.7	1.4	1.4
20	1.2	152	32	658	18	200	160	18	7.3	2.6	1.4	1.3
21	1.3	194	28	1,550	17	166	177	17	6.9	2.5	1.4	1.2
22	1.3	101	25	455	17	146	165	16	6.8	2.5	1.4	1.2
23	1.4	49	26	204	16	151	168	15	6.7	2.4	1.4	1.2
24	1.5	34	22	310	16	117	145	14	6.4	2.5	1.4	1.2
25	1.6	26	21	298	16	99	119	13	6.2	2.4	1.3	1.2
26	1.6	22	19	701	15	87	97	13	6.0	2.4	1.4	1.2
27	1.7	20	18	616	14	75	90	12	5.9	2.2	1.4	1.2
28	1.8	24	17	411	14	77	75	11	5.8	2.2	1.3	1.2
29	1.9	23	16	666	-----	67	64	11	5.7	2.3	1.4	1.3
30	1.9	20	15	450	-----	162	56	10	5.2	2.2	1.4	1.4
31	2.0	-----	14	408	-----	308	-----	10	-----	2.0	1.2	-----
TOTAL	37.10	799.1	3,028	6,892.4	1,357	4,096	4,375	755	281.7	103.1	49.0	36.3
MEAN	1.20	26.6	97.7	222	48.5	132	146	24.4	9.39	3.33	1.58	1.21
MAX	2.0	194	477	1,550	281	433	288	50	29	5.1	2.0	1.4
MIN	.80	2.0	14	6.2	14	11	56	10	5.2	2.0	1.2	1.1
AC-FT	74	1,580	6,010	13,670	2,690	8,120	8,680	1,500	559	205	97	72

CAL YR 1966: TOTAL 16,775.90

MEAN 46.0

MAX 2,900

MIN .70

AC-FT 33,270

WAT YR 1967: TOTAL 21,809.70

MEAN 59.8

MAX 1,550

MIN .80

AC-FT 43,260

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1315	8.06	1,360	1-26	2245	7.31	1,030
12- 5	0045	6.51	729	1-29	0345	6.94	886
1-21	0500	9.77	2,280				

NOYO RIVER BASIN

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11-4685. NOYO RIVER NEAR FORT BRAGG, CALIF.

LOCATION.--Lat 39°25'31", long 123°44'10", in SW¼ 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.--106 sq mi.

RECORDS AVAILABLE.--August 1951 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 11.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 17, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 218 cfs (157,800 acre-ft per year); median of yearly mean discharges, 195 cfs (141,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,980 cfs Jan. 21 (gage height, 13.63 ft); minimum daily, 4.0 cfs Sept. 30.

1951-67: Maximum discharge, 24,000 cfs Dec. 22, 1964 (gage height, 26.30 ft), from rating curve extended above 7,400 cfs on basis of slope-conveyance study; minimum daily, 2.4 cfs Aug. 25-28, Sept. 12, 1959.

REMARKS.--Records good except those for periods of no gage-height record or backwater from beaver dam, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1964.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.4	6.4	150	52	1,160	70	1,160	206	54	25	11	5.3
2	6.4	6.4	1,280	49	774	69	825	194	74	25	11	5.5
3	6.4	6.4	1,040	46	563	67	639	181	68	25	11	5.8
4	6.4	6.4	879	45	438	66	543	168	56	25	11	6.0
5	6.4	7.0	1,850	47	358	63	476	158	53	24	12	5.9
6	7.0	21	870	44	295	59	603	149	52	23	13	5.8
7	7.0	31	520	43	250	57	648	135	50	19	12	5.5
8	7.0	22	405	41	220	56	618	126	47	20	11	5.4
9	7.0	15	340	41	197	55	543	126	46	24	10	5.3
10	7.0	14	323	38	185	323	517	150	44	24	9.0	5.3
11	7.0	17	288	37	170	936	565	138	43	23	8.4	5.2
12	6.6	58	268	37	149	687	527	130	42	22	8.1	5.2
13	6.2	64	270	37	156	696	480	120	41	20	7.6	5.2
14	6.0	141	295	37	144	651	460	111	38	20	7.2	5.1
15	5.9	156	273	36	142	575	423	104	37	20	6.9	5.0
16	5.8	230	235	36	135	984	368	98	36	19	6.7	4.8
17	5.7	87	194	35	123	948	609	93	34	18	6.3	5.0
18	5.7	50	165	35	117	762	933	88	33	17	6.1	5.3
19	5.6	61	141	35	106	606	774	85	32	16	6.0	5.4
20	5.7	435	124	696	99	669	579	76	32	16	5.8	5.2
21	5.7	545	109	3,240	93	696	470	78	32	15	5.8	5.0
22	5.7	582	96	1,670	89	624	430	75	30	15	5.9	4.7
23	5.7	250	93	837	86	544	398	72	28	14	6.0	4.5
24	5.7	141	85	639	86	510	380	70	28	13	6.1	4.4
25	5.7	98	78	684	87	446	343	67	27	13	6.2	4.4
26	5.8	76	73	1,270	80	388	303	66	25	12	6.2	4.4
27	5.8	62	67	1,750	76	333	303	62	24	12	6.2	4.4
28	5.8	64	63	1,780	73	307	273	61	22	12	6.1	4.3
29	5.8	63	58	2,630	-----	279	253	62	21	12	5.8	4.2
30	6.4	53	57	1,820	-----	419	228	58	25	11	5.5	4.0
31	6.4	-----	54	1,600	-----	930	-----	56	-----	11	5.4	-----
TOTAL	191.7	3,368.6	10,743	19,387	6,451	13,875	15,671	3,363	1,174	565	245.3	151.5
MEAN	6.18	112	347	625	230	448	522	108	39.1	18.2	7.91	5.05
MAX	7.0	582	1,850	3,240	1,160	984	1,160	206	74	25	13	6.0
MIN	5.6	6.4	54	35	73	55	228	56	21	11	5.4	4.0
AC-FT	380	6,680	21,310	38,450	12,800	27,520	31,080	6,670	2,330	1,120	487	301

CAL YR 1966: TOTAL 73,444.9 MEAN 201 MAX 12,200 MIN 3.1 AC-FT 145,700
WAT YR 1967: TOTAL 75,186.1 MEAN 206 MAX 3,240 MIN 4.0 AC-FT 149,100

Peak discharge (base, 2,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1815	10.91	2,560	1-29	1045	12.10	3,150
1-21	1245	13.63	3,980				

Note.--No gage-height record July 21 to Aug. 24. Backwater from beaver dam Aug. 25 to Sept. 30.

PUDDING CREEK BASIN

11-4685.4. PUDDING CREEK NEAR FORT BRAGG, CALIF.

LOCATION.--Lat 39°27'25", long 123°43'20", in NE¼NW¼ sec.2, T.18 N., R.17 W., on right bank at old town site of Glenblair, 0.7 mile downstream from Little Valley Creek, and 4.5 miles east of Fort Bragg.

DRAINAGE AREA.--12.5 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 88.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 1, 1964, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 720 cfs Dec. 2 (gage height, 5.70 ft); no flow for several days.
1963-67: Maximum discharge, 2,000 cfs Dec. 21, 1964 (gage height, 8.55 ft); no flow at times in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	32	3.8	100	2.9	154	17	4.6	.90	.33	.16
2	0	0	333	3.7	64	2.7	75	16	5.0	.87	.31	.15
3	.01	0	171	3.5	42	2.6	49	15	3.6	.83	.30	.12
4	.01	0	158	3.7	30	2.5	31	13	3.1	.82	.30	.12
5	.01	0	235	4.9	24	2.3	28	12	3.1	.80	.29	.12
6	.01	0	100	3.9	19	2.2	121	11	2.9	.79	.28	.12
7	.01	.03	75	3.7	16	2.1	113	9.6	2.5	.78	.29	.10
8	.02	0	51	3.5	14	2.0	71	9.0	2.2	.76	.30	.08
9	.02	0	33	3.3	12	1.9	42	12	2.2	.75	.28	.09
10	.02	0	30	3.1	11	72	51	17	2.1	.74	.28	.09
11	.02	.01	23	2.9	9.6	160	65	13	2.1	.72	.29	.09
12	.02	3.9	22	2.9	8.6	118	42	10	2.0	.70	.30	.09
13	.02	3.3	26	2.9	8.0	82	33	8.7	1.8	.69	.28	.09
14	.02	16	25	2.7	8.6	67	35	7.3	1.7	.66	.27	.09
15	.02	20	22	2.7	12	60	29	6.5	1.7	.65	.23	.09
16	.01	36	18	2.7	11	110	23	5.8	1.7	.63	.20	.10
17	.01	11	15	2.5	8.9	87	120	5.3	1.6	.59	.20	.12
18	.02	3.9	13	2.5	7.6	65	149	5.1	1.5	.58	.20	.14
19	.01	8.2	11	2.9	6.7	41	88	5.0	1.5	.51	.20	.23
20	.02	46	9.8	167	5.6	97	68	4.8	1.6	.47	.20	.21
21	.02	109	8.5	429	5.1	69	51	4.5	1.6	.47	.20	.16
22	.02	103	7.6	170	4.6	55	51	4.0	1.5	.51	.20	.12
23	.03	30	8.2	82	3.8	54	46	3.9	1.4	.51	.20	.12
24	.03	15	7.3	68	4.0	33	41	3.7	1.4	.50	.19	.09
25	.04	9.6	6.4	83	4.7	27	32	3.5	1.3	.47	.16	.06
26	.04	6.7	5.7	142	3.8	22	28	3.4	1.2	.46	.19	.09
27	.04	5.3	5.0	188	3.5	18	39	3.4	1.1	.45	.18	.12
28	.06	7.3	4.6	224	3.1	20	28	3.9	1.0	.42	.20	.09
29	.06	13	4.4	279	-----	17	24	3.5	.95	.41	.20	.09
30	.02	8.6	4.4	171	-----	79	20	3.1	.93	.39	.20	.09
31	0	-----	4.0	141	-----	204	-----	2.9	-----	.37	.17	-----
TOTAL	0.64	455.84	1,468.9	2,205.8	451.2	1,578.2	1,747	242.9	60.88	19.20	7.42	3.43
MEAN	.021	15.2	47.4	71.2	16.1	50.9	58.2	7.84	2.03	.62	.24	.11
MAX	.06	109	333	429	100	204	154	17	5.0	.90	.33	.23
MIN	0	0	4.0	2.5	3.1	1.9	20	2.9	.93	.37	.16	.06
AC-FT	1.3	904	2,910	4,380	895	3,130	3,470	482	121	38	15	6.8

CAL YR 1966: TOTAL 7,306.88 MEAN 20.0 MAX 1,330 MIN 0 AC-FT 14,490
WAT YR 1967: TOTAL 8,241.41 MEAN 22.6 MAX 429 MIN 0 AC-FT 16,350

Peak discharge (base, 500 cfs).--Dec. 2 (1430) 720 cfs (5.70 ft); Jan. 21 (1015) 556 cfs (5.23 ft).

Note.--No gage-height record Feb. 21 to Mar. 20.

11-4686. MIDDLE FORK TENMILE RIVER NEAR FORT BRAGG, CALIF.

LOCATION.--Lat 39°34'20", long 123°41'45", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.25, T.20 N., R.17 W., on right bank 0.9 mile upstream from confluence with North Fork Tenmile River and 10.4 miles northeast of Fort Bragg.

DRAINAGE AREA.--32.9 sq mi.

RECORDS AVAILABLE.--Occasional low-flow measurements, water years 1951-56, 1961. August 1964 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 53.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to July 20, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 1,520 cfs Jan. 21 (gage height, 8.90 ft); minimum daily, 2.7 cfs Oct. 1, 12-20.

1964-67: Maximum discharge, 5,670 cfs Dec. 21, 1964 (gage height, 15.34 ft); minimum daily, 2.3 cfs Sept. 12-19, 1964.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	2.8	83	28	410	33	338	88	25	12	6.7	4.5
2	2.8	2.8	618	27	286	31	260	81	60	11	6.7	4.5
3	2.8	2.8	500	26	216	29	208	75	40	11	6.6	4.4
4	2.8	2.8	542	25	167	29	167	70	26	11	6.4	4.3
5	2.8	2.8	872	26	137	29	147	67	22	11	6.4	4.3
6	2.8	9.5	449	24	113	27	218	61	21	11	6.3	4.2
7	2.8	6.7	266	23	97	26	232	57	20	11	6.2	4.1
8	2.8	5.1	188	22	84	25	210	54	20	10	6.1	4.1
9	2.8	4.4	146	21	76	24	176	56	19	9.5	6.1	4.1
10	2.8	3.9	140	21	70	75	174	65	19	9.5	6.0	4.1
11	2.8	5.6	125	20	65	330	185	60	18	9.5	6.1	4.1
12	2.7	33	118	20	61	280	167	55	18	9.1	6.0	4.1
13	2.7	26	134	19	58	230	154	52	18	8.8	5.8	3.9
14	2.7	72	140	19	56	215	159	49	18	8.8	5.7	3.9
15	2.7	82	128	19	59	190	147	47	18	8.8	5.3	3.9
16	2.7	142	110	18	60	513	134	45	18	8.8	5.3	3.9
17	2.7	48	90	18	56	425	278	43	17	8.4	5.2	4.4
18	2.7	30	76	18	52	310	380	41	16	8.4	5.2	4.5
19	2.7	63	68	19	48	238	303	39	16	8.4	5.1	4.3
20	2.7	233	61	392	46	248	234	37	16	7.9	5.1	4.2
21	2.8	331	54	1,270	43	229	188	36	16	7.9	5.0	3.9
22	2.8	275	49	583	39	208	167	35	15	7.9	5.0	3.9
23	2.8	119	49	317	36	204	151	33	15	7.9	5.0	3.9
24	2.8	68	44	256	37	167	139	32	14	7.9	4.8	4.0
25	2.8	47	41	258	37	142	124	31	14	7.7	4.9	3.9
26	2.8	38	38	448	35	125	116	30	14	7.6	5.0	3.9
27	2.8	31	36	540	34	106	128	29	14	7.5	4.8	3.9
28	2.8	31	34	576	33	102	113	28	13	7.4	4.9	3.9
29	2.8	32	32	989	---	90	104	27	12	7.4	4.9	3.9
30	2.8	28	31	664	---	155	95	27	12	6.9	4.8	3.8
31	2.8	---	29	546	---	291	---	25	---	6.8	4.6	---
Total	85.8	1,778.2	5,296	7,252	2,511	5,126	5,596	1,475	584	276.8	172.0	122.8
Mean	2.78	59.3	171	234	89.7	165	187	47.6	19.5	8.93	5.55	4.09
Max	2.8	331	877	1,270	410	513	380	88	60	12	6.7	4.5
Min	2.7	2.8	29	18	33	24	95	25	12	6.8	4.6	3.8
Ac-ft	170	3,530	10,500	14,380	4,980	10,170	11,100	2,930	1,160	549	341	244

Cal yr 1966: Total 27,397.7 Mean 75.1 Max 2,940 Min 2.7 Ac-ft 54,340
Wtr yr 1967: Total 30,275.6 Mean 82.9 Max 1,270 Min 2.7 Ac-ft 60,050

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1400	8.03	1,160	1-29	0730	8.02	1,160
12- 5	0100	7.70	1,030	3-16	1000	6.57	621
1-21	1100	8.90	1,520				

Note.--No gage-height record Feb. 16 to Mar. 15, May 10 to June 14.

MATTOLE RIVER BASIN

11-4690. MATTOLE RIVER NEAR PETROLIA, CALIF.

LOCATION.--Lat 40°18'40", long 124°16'10", in NW $\frac{1}{4}$ 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.--240 sq mi.

RECORDS AVAILABLE.--October 1911 to December 1913, October 1950 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital 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, graphic water-stage recorder at site 0.7 mile upstream at datum 7.48 ft higher. July 15, 1955, to Dec. 9, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--19 years, 1,354 cfs (980,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 42,400 cfs Dec. 4 (gage height, 21.68 ft); minimum daily, 27 cfs Oct. 19.

1911-13, 1950-67: 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 maximum flow; minimum observed, 20 cfs Sept. 1, 2, 15-30, Oct. 27-31, 1913.

REMARKS.--Records good. Small diversions for irrigation above station. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	34	6,440	698	7,020	446	3,390	1,360	340	121	59	43
2	30	34	8,300	645	5,060	427	2,790	1,260	341	117	58	44
3	30	34	8,520	585	3,740	396	2,310	1,160	338	112	54	42
4	30	34	20,200	570	3,020	372	1,980	1,070	304	106	52	41
5	30	34	20,400	585	2,500	355	1,950	986	279	105	51	41
6	29	41	7,900	534	2,160	333	2,470	913	267	101	51	41
7	29	47	5,360	492	1,900	316	2,310	851	258	102	49	40
8	29	46	4,160	453	1,710	300	2,000	806	252	100	49	39
9	28	44	3,250	433	1,530	300	1,760	801	246	100	49	39
10	28	42	3,550	427	1,390	1,180	1,890	995	242	99	49	39
11	28	78	3,180	408	1,270	2,470	2,270	1,030	232	98	47	38
12	28	1,030	3,960	402	1,170	2,100	1,930	965	224	95	46	37
13	28	3,230	4,520	396	1,100	2,670	1,840	861	212	92	46	37
14	28	6,200	4,370	384	1,130	3,740	1,940	794	206	90	48	37
15	29	7,860	3,520	366	1,090	6,080	1,960	752	198	86	47	37
16	29	6,580	2,910	349	1,050	13,700	1,850	729	197	85	47	37
17	29	1,760	2,450	338	925	6,860	3,250	707	194	85	47	39
18	28	1,640	2,120	327	857	4,070	3,480	664	194	83	47	43
19	27	7,500	1,810	305	801	2,850	2,980	621	183	80	44	43
20	28	10,900	1,640	3,260	737	4,730	2,670	580	180	78	46	39
21	30	8,480	1,460	6,640	690	3,740	2,580	542	168	77	47	37
22	32	6,640	1,340	4,800	645	2,910	2,240	521	165	77	44	37
23	35	4,160	1,390	3,740	615	2,970	2,110	520	157	76	44	37
24	34	2,770	1,260	3,960	585	2,270	1,920	518	152	76	45	40
25	34	2,080	1,130	4,300	578	1,750	1,720	501	146	75	45	41
26	35	1,810	1,060	8,200	527	1,500	1,580	450	145	73	44	41
27	33	1,650	977	20,400	492	1,230	1,770	420	138	71	44	41
28	31	1,730	916	22,400	466	1,330	1,740	410	133	69	44	41
29	32	2,430	857	19,700	-----	1,240	1,600	405	127	67	43	41
30	32	1,920	825	11,500	-----	2,040	1,480	375	125	63	43	40
31	32	-----	753	10,600	-----	3,330	-----	353	-----	60	43	-----
TOTAL	935	80,838	130,528	128,197	44,758	78,005	65,760	22,920	6,343	2,719	1,472	1,192
MEAN	30.2	2,695	4,211	4,135	1,599	2,516	2,192	739	211	87.7	47.5	39.7
MAX	35	10,900	20,400	22,400	7,020	13,700	3,480	1,360	341	121	59	44
MIN	27	34	753	305	466	300	1,480	353	125	60	43	37
AC-FT	1,850	160,300	258,900	254,300	88,780	154,700	130,400	45,460	12,580	5,390	2,920	2,360

CAL YR 1966: TOTAL 551,023 MEAN 1,510 MAX 46,800 MIN 27 AC-FT 1,093,000
WAT YR 1967: TOTAL 563,667 MEAN 1,544 MAX 22,400 MIN 27 AC-FT 1,118,000

Peak discharge (base, 15,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2230	21.68	42,400	3-16	0745	16.37	21,500
1-27	2230	18.35	28,100				

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 1967. Month-end contents only for some periods, published in WSP 1315-B. Prior to October 1953, published as "at Hullville."

GAGE.--Graphic water-stage recorder and wire-weight gage. 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 June 2-14, maximum gage height, 1,910.02 ft June 14; minimum contents, 13,100 acre-ft Nov. 14 (gage height, 1,857.00 ft).

1922-67: Maximum contents, 95,600 acre-ft May 13, 16, 1925 (gage height, 1,910.8 ft); maximum gage height, 1,911.84 ft Dec. 22, 1964, from floodmarks; minimum contents, 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. Records of water temperatures for the water year 1967 and sediment and turbidity data for water years 1966-67 are published in Part 2 of this report.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

1,822.4	397	1,840	3,990	1,865	19,100	1,890	48,400
1,824	534	1,845	6,080	1,870	23,500	1,895	56,700
1,827	864	1,850	8,690	1,875	28,700	1,900	65,800
1,830	1,310	1,855	11,800	1,880	34,500	1,905	75,800
1,835	2,410	1,860	15,200	1,885	41,100	1,910	86,800

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38.6	19.8	55.1	66.4	69.9	66.7	67.3	77.7	86.7	83.0	67.9	50.1
2	37.9	19.1	67.6	66.3	69.1	66.7	67.3	77.7	86.8	82.6	67.3	49.5
3	37.4	18.5	69.6	66.1	68.6	66.6	67.3	78.0	86.8	82.2	66.7	48.9
4	36.9	17.9	75.6	66.0	68.3	66.6	67.3	78.6	86.8	81.8	66.1	48.3
5	36.3	17.4	71.5	65.9	68.0	66.5	67.6	79.0	86.8	81.4	65.6	47.7
6	35.7	16.8	69.7	65.7	67.8	66.4	69.2	79.0	86.8	80.9	65.0	47.2
7	35.1	16.3	68.7	65.5	67.7	66.3	71.2	79.4	86.8	80.4	64.4	46.6
8	34.5	15.7	68.1	65.2	67.5	66.2	72.8	80.3	86.8	79.6	63.8	46.0
9	33.9	15.0	67.9	65.0	67.4	66.1	74.2	80.9	86.8	79.6	63.2	45.4
10	33.3	14.5	68.1	64.8	67.3	66.9	75.9	80.8	86.8	79.1	62.7	44.8
11	32.7	14.0	67.9	64.5	67.2	67.1	77.4	80.4	86.8	78.7	62.2	44.2
12	32.2	13.6	67.7	64.3	67.2	67.2	78.0	80.4	86.8	78.2	61.5	43.7
13	31.8	13.3	68.0	64.0	67.2	67.1	77.9	80.6	86.8	77.7	61.0	43.1
14	31.0	13.5	67.8	63.8	67.1	67.0	77.9	81.0	86.7	77.3	60.4	42.5
15	30.4	16.6	67.6	63.5	67.1	67.7	77.8	81.6	86.6	76.8	59.9	41.9
16	29.7	19.8	67.4	63.2	67.0	70.9	77.6	82.5	86.6	76.3	59.4	41.3
17	28.9	20.5	67.3	62.9	67.0	69.2	78.6	82.9	86.6	75.7	58.8	40.7
18	28.3	20.7	67.2	62.8	67.0	68.6	78.7	83.1	86.4	75.2	58.2	40.1
19	27.7	23.8	67.1	62.8	66.9	68.2	78.5	83.3	86.2	74.7	57.6	39.6
20	27.1	35.3	67.0	71.3	66.9	68.9	78.0	83.6	86.1	74.3	57.1	39.1
21	26.6	41.9	66.9	73.4	66.9	68.4	77.8	83.7	85.9	73.7	56.6	38.5
22	26.0	45.2	66.8	70.0	66.8	68.2	77.6	83.7	85.6	73.2	56.0	37.9
23	25.4	46.4	66.8	68.9	66.8	68.3	77.6	84.0	85.4	72.6	55.4	37.3
24	24.8	47.0	66.8	68.9	66.8	67.9	77.8	84.5	85.2	72.1	54.8	36.7
25	24.3	47.2	66.7	68.4	66.8	67.7	78.0	85.0	84.9	71.6	54.2	36.2
26	23.6	47.3	66.6	71.6	66.7	67.5	78.0	85.4	84.6	71.1	53.6	35.7
27	23.0	47.4	66.6	71.7	66.7	67.3	78.0	85.8	84.3	70.6	53.0	35.1
28	22.3	49.4	66.6	72.9	66.6	67.3	78.0	86.1	84.1	70.6	52.4	34.5
29	21.7	51.7	66.6	73.3	-----	67.2	77.8	86.3	83.7	69.5	51.9	33.9
30	21.1	52.5	66.5	72.4	-----	67.4	77.7	86.4	83.3	69.0	51.3	33.3
31	20.4	-----	66.4	71.3	-----	67.4	-----	86.4	-----	68.4	50.7	-----
(+)	1866.62	1892.57	1900.35	1902.80	1900.46	1900.85	1905.87	1909.83	1908.43	1901.38	1891.45	1879.01
(+)	-18700	+32100	+13900	+4900	-4700	+800	+10300	+3700	-3100	-14900	-17700	-17400
Max	38.6	52.5	75.6	73.3	69.9	70.9	78.7	86.4	86.8	83.0	67.9	50.1
Min	20.4	13.3	55.1	62.8	66.6	66.1	67.3	77.7	83.3	68.4	50.7	33.3

Cal yr 1966 +18,200
Wat yr 1967 +5,800

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

EEL RIVER BASIN

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 1967. 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.--Digital water-stage recorder. Altitude of gage is 1,740 ft (from topographic map). Prior to Dec. 15, 1930, graphic water-stage recorder at datum 3.00 ft higher. Dec. 15, 1930, to Nov. 21, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--45 years, 530 cfs (383,700 acre-ft per year).

EXTREMES.--1962-63: Maximum discharge during year, 27,900 cfs Jan. 31 (gage height, 19.45 ft), from rating curve extended above 9,400 cfs as explained below; minimum daily, 160 cfs Mar. 21.

1966-67: Maximum discharge during year, 14,900 cfs Dec. 5 (gage height, 15.62 ft); minimum daily, 103 cfs Nov. 22.

1922-67: Maximum discharge, 56,300 cfs Dec. 22, 1964 (gage height, 24.24 ft, from floodmarks), from rating curve extended above 9,400 cfs on basis of computed flow over Scott Dam at gage heights 18.50 and 21.85 ft; minimum daily, 0.1 cfs Sept. 8, 1924.

REMARKS.--Records good. Flow regulated by Lake Pillsbury (see sta. no. 4700). No diversion above station. Records of sediment and turbidity data for the water years 1966-67 and water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--Revised figures of discharge for the water years 1963-64, superseding those published in Basic Data Reports, are given herein.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	199	327	299	332	19,200	398	2,680	875	248	215	223	231
2	199	327	256	315	7,170	383	2,050	916	252	219	221	231
3	199	327	530	295	4,470	368	1,920	916	227	219	221	231
4	199	327	1,370	295	3,160	320	1,640	916	211	219	217	229
5	220	327	1,120	299	2,360	282	2,420	940	209	221	215	229
6	244	327	825	303	1,820	293	7,950	1,050	207	223	215	229
7	244	329	634	303	1,480	286	6,770	1,050	207	223	213	231
8	244	332	509	303	1,360	284	4,110	1,010	207	223	213	231
9	244	332	434	265	1,410	284	3,500	855	207	223	213	231
10	244	329	380	224	2,920	293	3,440	805	207	223	213	229
11	256	329	356	303	2,290	308	3,170	744	207	221	213	229
12	278	329	344	310	1,970	248	3,020	699	239	221	215	233
13	278	329	440	315	2,380	190	3,080	617	250	221	215	235
14	1,120	327	645	315	1,890	177	7,180	554	229	219	213	235
15	1,190	327	1,720	315	1,530	174	4,890	550	229	219	213	235
16	762	327	2,250	313	1,300	175	3,650	550	221	217	217	235
17	543	327	2,090	317	1,170	175	2,740	550	213	217	223	235
18	405	327	1,900	320	976	174	2,550	550	233	217	229	233
19	334	327	1,330	320	840	172	1,690	550	252	195	233	187
20	303	327	976	320	790	167	1,650	418	241	151	237	162
21	305	327	776	322	711	160	1,550	288	225	139	237	167
22	301	327	659	322	645	162	1,350	352	221	138	235	174
23	301	327	578	327	596	167	1,100	379	217	167	235	174
24	313	325	488	327	550	167	982	352	213	221	235	183
25	322	325	423	327	509	167	1,240	352	209	221	235	211
26	317	274	393	327	476	167	970	352	209	219	235	227
27	320	183	363	329	443	590	898	352	209	223	235	225
28	325	208	346	329	418	6,040	886	302	209	227	233	231
29	322	268	337	332	-----	4,460	723	245	209	225	233	239
30	322	299	334	346	-----	4,780	731	209	209	225	233	241
31	325	-----	332	12,600	-----	4,210	-----	223	-----	223	231	-----
Total	11,178	9,423	23,437	21,970	63,834	26,221	80,530	18,501	6,626	6,534	6,949	6,593
Mean	361	314	756	709	2,280	846	2,684	597	221	211	224	220
Max	1,190	332	2,250	12,600	18,200	6,040	7,950	1,050	252	227	237	241
Min	199	183	256	224	418	160	723	209	207	138	213	162
Ac-ft	22,170	19,690	46,490	43,580	126,600	52,010	159,700	36,700	13,140	12,960	13,780	13,080
Cal yr 1962: Total	183,554	Mean	503	Max	7,170	Min	23	Ac-ft	364,100			
Wtr yr 1963: Total	281,796	Mean	772	Max	18,200	Min	160	Ac-ft	558,900			

11-4705. EEL RIVER BELOW SCOTT DAM, NEAR POTTER VALLEY, CALIF.--Continued

Date	Discharge	Date	Discharge	Date	Discharge	
1963		1963-Con.		1963-Con.		
Oct. 1	241	Oct. 12	231	Oct. 23	225	
2	148	13	231	24	225	
3	229	14	229	25	223	
4	237	15	231	26	224	
5	241	16	231	27	233	
6	237	17	229	28	244	
7	235	18	229	29	244	
8	233	19	229	30	242	
9	231	20	229	31	242	
10	233	21	227			
11	233	22	227			
Month		Cfs-days	Maximum	Minimum	Mean	Acre-feet
October 1963.....		7,123	244	148	230	14,130
Cal yr 1963.....		260,983	18,200	122	715	517,700
Wtr yr 1964.....		86,626	2,020	21	237	171,800

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	323	310	273	281	4,860	291	1,030	891	263	304	325	292
2	321	305	223	266	3,250	281	979	832	648	304	323	291
3	321	302	3,020	263	2,340	307	964	764	712	318	326	290
4	302	308	6,190	263	1,820	262	944	746	437	322	332	289
5	312	315	11,100	268	1,510	277	831	942	608	322	330	289
6	325	314	5,020	286	1,300	266	668	1,120	606	320	327	288
7	323	312	2,870	288	1,140	287	305	1,170	477	316	325	291
8	323	315	1,860	287	1,020	277	310	1,200	396	316	323	295
9	321	320	1,400	287	916	284	314	1,410	395	315	320	294
10	318	308	1,590	287	838	344	316	1,530	390	315	317	297
11	323	291	1,430	287	764	904	316	1,300	389	316	314	299
12	323	290	1,310	287	713	849	663	965	337	315	311	298
13	323	305	1,330	290	679	832	1,000	757	279	321	309	298
14	323	323	1,370	292	642	736	943	713	285	324	306	297
15	323	290	1,140	292	601	744	941	721	311	324	304	296
16	323	262	962	292	570	5,270	936	783	290	327	302	295
17	323	265	825	291	533	4,030	896	1,000	255	331	301	294
18	323	226	719	291	501	2,670	1,220	1,060	288	331	298	293
19	323	146	639	291	470	1,960	1,440	909	301	331	295	288
20	323	113	576	679	424	2,190	1,420	855	306	330	296	284
21	323	119	520	11,600	404	2,290	1,280	873	294	330	297	278
22	323	103	469	6,600	385	1,880	1,170	878	290	329	296	270
23	323	140	444	3,150	370	1,940	1,130	617	292	328	294	269
24	323	220	411	2,450	358	1,690	1,120	375	292	326	292	281
25	323	247	374	2,030	370	1,430	1,130	326	292	325	290	288
26	323	247	342	4,370	345	1,240	1,130	238	285	324	288	287
27	323	255	314	6,310	322	1,100	1,130	246	301	324	287	286
28	323	265	293	8,500	304	1,020	1,090	279	292	326	285	287
29	323	267	280	11,800	-----	942	1,070	311	290	324	290	293
30	323	268	274	8,080	-----	974	982	336	308	326	294	296
31	324	-----	276	7,740	-----	1,070	-----	306	-----	327	293	-----
TOTAL	9,973	7,751	47,844	78,698	27,749	38,637	27,668	24,453	10,909	9,991	9,490	8,693
MEAN	322	258	1,543	2,539	991	1,246	922	789	364	322	306	290
MAX	325	323	11,100	11,800	4,860	5,270	1,440	1,530	712	331	332	299
MIN	302	103	223	263	304	262	305	238	255	304	285	269
AC-FT	19,780	15,370	94,900	156,100	55,040	76,640	54,880	48,500	21,640	19,820	18,820	17,240

CAL YR 1966: TOTAL 226,808 MEAN 621 MAX 15,000 MIN 103 AC-FT 449,900
WAT YR 1967: TOTAL 301,856 MEAN 827 MAX 11,800 MIN 103 AC-FT 598,700

Note.--No gage-height record Oct. 12 to Nov. 22,

EEL RIVER BASIN

11-4710. POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CALIF.

LOCATION.--Lat 39°21'42", long 123°07'38", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.17 N., R.11 W., on right bank 100 ft downstream from powerhouse of Pacific Gas and Electric Co., 1.8 miles southwest of Van Arsdale Dam, and 2.9 miles northwest of town of Potter Valley.

RECORDS AVAILABLE.--December 1909 to September 1967. 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.--Digital water-stage recorder and concrete Parshall flume. Altitude of gage is 1,020 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, graphic water-stage recorder, at site 50 ft upstream at different datum. Apr. 13, 1950, to Nov. 22, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--57 years (1910-67), 199 cfs (144,100 acre-ft per year).

EXTREMES.--1922-67: 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. Records of water temperatures, and suspended-sediment loads for the water year 1967 and sediment and turbidity data for the water years 1964-67 are published in Part 2 of this report.

COOPERATION.--Gage-height record and four discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	318	314	309	311	307	310	310	307	306	307	308	311
2	316	313	308	312	300	255	309	307	205	304	309	312
3	314	314	307	294	299	311	307	307	157	304	297	310
4	315	314	280	305	300	307	307	307	316	306	308	310
5	303	308	309	297	304	259	307	307	314	273	309	317
6	320	317	308	309	303	307	305	307	314	303	309	324
7	319	329	307	310	303	304	304	305	315	309	306	323
8	317	300	309	310	304	309	304	302	316	305	307	319
9	316	318	311	310	305	309	304	302	322	310	309	313
10	315	304	311	310	304	308	304	302	331	315	309	312
11	314	315	310	313	304	306	304	304	317	312	308	312
12	315	314	309	313	303	305	304	304	318	294	308	310
13	317	310	308	312	303	305	305	305	317	309	306	310
14	318	314	307	315	303	305	304	305	314	309	310	314
15	316	314	305	314	303	272	304	305	311	309	312	314
16	315	239	304	312	303	72	304	298	306	305	313	313
17	315	78	304	312	307	274	304	310	297	306	312	316
18	315	104	305	310	315	306	303	315	312	305	299	317
19	315	301	308	307	314	306	302	315	311	306	311	318
20	315	302	308	300	314	305	302	313	305	304	310	317
21	315	309	310	281	314	305	302	298	306	301	309	311
22	316	308	310	303	310	306	302	304	304	310	309	311
23	318	309	309	302	303	305	302	312	306	308	308	310
24	318	309	309	302	304	304	302	312	305	312	307	315
25	318	309	309	305	306	304	302	312	305	310	311	316
26	319	310	308	309	306	304	302	312	303	310	313	313
27	318	309	308	310	306	304	302	281	307	285	313	314
28	316	309	309	312	306	303	304	311	305	302	310	314
29	315	309	311	312	- - - - -	304	307	304	294	303	313	315
30	314	310	311	311	- - - - -	249	307	301	303	310	310	319
31	314	- - - - -	312	311	- - - - -	304	- - - - -	303	- - - - -	308	- - - - -	- - - - -
Total	9,789	8,813	9,533	9,534	8,553	9,027	9,129	9,477	9,042	9,454	9,571	9,430
Mean	316	294	308	308	305	291	304	306	301	305	309	314
Max	320	329	312	315	315	311	310	315	331	315	313	324
Min	303	78	280	281	299	72	302	281	157	273	297	310
Ac-ft	19,420	17,480	18,910	18,910	16,950	17,900	18,110	18,800	17,930	18,750	18,980	18,700

Cal yr 1966: Total 97,215 Mean 266 Max 329 Min 78 Ac-ft 192,800
Wtr yr 1967: Total 111,352 Mean 305 Max 331 Min 72 Ac-ft 220,900

11-4715. EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CALIF.

LOCATION.--Lat 39°23'20", long 123°06'55", in NE¼ sec.30, T.18 N., R.11 W., on left bank 1,000 ft downstream from Van Arsdale Dam and 4.6 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 and Power Co.'s tailrace near Potter Valley), October 1922 to September 1967. 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.--Digital 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. Mar. 1, 1937, to July 28, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--58 years (1909-67), 623 cfs (451,000 acre-ft per year), combined flow of Eel River at Van Arsdale Dam and Potter Valley powerhouse tailrace.

EXTREMES.--Maximum discharge during year, 16,500 cfs Jan. 21 (gage height, 18.79 ft); minimum daily, 0.90 cfs Oct. 8, 12-16, 23, Nov. 18.

1909-67: Maximum discharge, 64,100 cfs Dec. 22, 1964 (gage height, 33.9 ft, from floodmarks); no flow Nov. 1, 1945, Sept. 13, 14, 1953, Oct. 13, 14, Nov. 22, 26, Dec. 8, 9, 18, 19, 1965.

REMARKS.--Records good. Flow regulated by Lake Pillsbury (see sta. no. 4700). Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley powerhouse (see sta. no. 4710), 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.--Gage-height record and 12 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS (water year).--1966 report: 1965.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.4	1.3	265	12	5,060	37	970	821	40	2.1	2.5	2.3
2	1.4	1.2	1,150	8.0	3,340	48	907	758	442	2.1	2.3	2.4
3	1.4	1.2	2,990	1.6	2,500	42	900	688	635	2.1	2.0	2.9
4	1.3	1.2	6,160	2.1	1,960	4.4	893	655	185	2.5	2.0	3.1
5	1.0	1.0	12,000	1.6	1,580	49	829	807	300	3.2	2.1	3.1
6	4.9	1.2	5,200	2.1	1,290	12	969	1,000	336	3.9	2.3	2.8
7	1.0	1.1	3,030	6.6	1,070	9.6	478	1,080	224	3.9	2.4	2.6
8	.90	1.8	2,060	6.4	908	17	397	1,110	127	3.9	2.3	2.4
9	1.0	1.3	1,470	5.6	774	4.4	348	1,290	119	3.8	2.4	2.4
10	1.0	1.7	1,690	4.6	676	204	347	1,480	101	3.6	2.5	2.6
11	1.0	2.6	1,480	3.5	586	837	323	1,250	110	3.3	2.5	2.7
12	.90	14	1,300	2.3	520	745	509	882	78	3.5	2.6	2.9
13	.90	1.0	1,310	2.3	470	747	967	626	26	3.5	2.6	3.1
14	.90	29	1,380	2.3	430	629	901	548	5.4	3.7	2.6	3.1
15	.90	140	1,080	2.3	375	694	859	546	37	3.8	2.6	3.1
16	.90	200	842	2.3	341	5,340	834	598	28	3.8	2.4	3.1
17	1.0	1.0	680	2.3	299	4,200	1,000	776	5.5	4.1	2.3	3.2
18	1.0	.90	540	2.3	256	2,830	1,230	882	1.4	4.0	2.4	3.2
19	1.0	287	439	2.6	223	2,150	1,580	718	5.1	3.5	2.5	3.2
20	1.0	840	362	1,150	172	2,360	1,510	630	21	3.5	2.3	2.9
21	1.0	888	301	13,300	147	2,460	1,360	633	15	3.5	2.3	2.7
22	1.0	374	241	7,140	131	2,040	1,180	632	2.1	3.6	2.2	2.4
23	.90	30	211	3,270	121	2,080	1,160	448	4.6	3.3	2.2	1.8
24	1.2	31	174	2,680	109	1,810	1,150	164	3.9	3.2	2.2	1.0
25	1.3	31	130	2,290	120	1,480	1,170	115	2.8	3.1	2.1	1.2
26	1.6	8.7	97	4,730	97	1,230	1,140	56	2.2	2.8	2.1	2.4
27	1.8	3.1	65	6,820	73	1,030	1,150	19	1.6	2.6	2.1	2.1
28	2.0	94	40	9,180	54	909	1,080	50	2.8	2.8	1.9	1.5
29	2.0	128	22	13,200	-----	815	1,040	63	1.2	2.9	1.8	1.0
30	2.1	78	13	8,620	-----	919	941	93	1.5	2.8	1.9	1.5
31	2.0	-----	6.1	8,360	-----	1,020	-----	74	-----	2.5	2.1	-----
TOTAL	41.70	3,194.30	46,728.1	80,812.8	23,682	36,752.4	28,122	19,492	2,864.1	100.9	70.5	74.7
MEAN	1.35	106	1,507	2,607	846	1,186	937	629	95.5	3.25	2.27	2.49
MAX	4.9	888	12,000	13,300	5,060	5,340	1,580	1,480	635	4.1	2.6	3.2
MIN	.90	.90	6.1	1.6	54	4.4	323	19	1.2	2.1	1.8	1.0
AC-FT	83	6,340	92,680	160,300	46,970	72,900	55,780	38,660	5,680	200	140	148

CAL YR 1966: TOTAL 163,590.60 MEAN 448 MAX 16,300 MIN .90 AC-FT 324,500
WAT YR 1967: TOTAL 241,935.50 MEAN 663 MAX 13,300 MIN .90 AC-FT 479,900

EEL RIVER BASIN

11-4718. TOMKI CREEK NEAR WILLITS, CALIF.

LOCATION.--Lat 39°25'10", long 123°13'40", in NE¼ sec.18, T.18 N., R.12 W., on left bank 500 ft upstream from Halfmile Creek, 5.8 miles upstream from mouth, and 6.8 miles east of Willits.

DRAINAGE AREA.--43.4 sq mi.

RECORDS AVAILABLE.--July 1963 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,591.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Mar. 23, 1965, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 3,320 cfs Jan. 20 (gage height, 8.43 ft); no flow for many days.
1963-67: Maximum discharge, 16,500 cfs Dec. 22, 1964 (gage height, 15.92 ft), from rating curve extended above 4,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in each year.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	182	16	447	17	290	65	12	1.4	0	0
2	0	0	1,200	15	266	16	336	59	33	1.2	0	0
3	0	0	450	14	188	16	366	53	20	1.1	0	0
4	0	0	900	13	141	16	325	47	15	.84	0	0
5	0	0	1,400	14	112	15	322	49	13	.79	0	0
6	0	.30	400	13	91	14	580	44	12	.74	0	0
7	0	0	230	12	77	14	455	38	11	.62	0	0
8	0	0	170	12	66	13	325	36	9.9	.61	0	0
9	0	0	130	11	58	13	224	37	9.8	.61	0	0
10	0	0	266	11	51	411	239	46	8.7	.60	0	0
11	0	.20	172	11	46	427	245	42	8.1	.51	0	0
12	0	1.2	148	11	41	329	200	38	7.8	.40	0	0
13	0	4.5	180	11	39	325	170	35	7.3	.41	0	0
14	0	.66	162	9.8	36	308	175	32	6.3	.37	0	0
15	0	170	118	9.8	36	423	139	31	5.8	.33	0	0
16	0	212	89	9.2	33	1,030	116	29	5.4	.29	0	0
17	0	33	74	9.2	30	471	381	27	4.7	.21	0	0
18	0	19	58	9.2	28	353	378	26	4.3	.20	0	0
19	0	343	50	9.2	27	239	339	24	4.2	.14	0	0
20	0	830	42	1,390	23	499	251	23	3.8	.11	0	0
21	0	785	36	2,000	22	364	206	22	3.6	.07	0	0
22	0	415	32	650	21	257	182	19	3.4	.04	0	0
23	0	86	32	346	21	287	221	18	3.2	0	0	0
24	0	38	28	538	21	200	185	17	2.9	0	0	0
25	0	21	25	451	24	160	150	16	2.7	0	0	0
26	0	13	23	1,740	28	126	128	15	2.6	0	0	0
27	0	8.0	20	1,020	19	102	128	14	2.2	0	0	0
28	0	17	19	1,020	18	100	104	14	2.1	0	0	0
29	0	17	18	1,330	-----	86	86	13	1.9	0	0	0
30	0	12	17	800	-----	118	74	12	1.7	0	0	0
31	0	-----	16	840	-----	212	-----	12	-----	0	0	-----
TOTAL	0	3,091.20	6,687	12,345.4	2,010	6,961	7,320	953	228.4	11.59	0	0
MEAN	0	103	216	398	71.8	225	244	30.7	7.61	.37	0	0
MAX	0	830	1,400	2,000	447	1,030	580	65	33	1.4	0	0
MIN	0	0	16	9.2	18	13	74	12	1.7	0	0	0
AC-FT	0	6,130	13,260	24,490	3,990	13,810	14,520	1,890	453	23	0	0
CAL YR 1966: TOTAL 33,431.00 MEAN 91.6 MAX 4,590 MIN 0 AC-FT 66,310												
WAT YR 1967: TOTAL 39,607.59 MEAN 109 MAX 2,000 MIN 0 AC-FT 78,560												

Peak discharge (base, 4,000 cfs).--No peak above base.

11-4721.5. EEL RIVER NEAR DOS RIOS, CALIF.

LOCATION.--Lat 39°37'30", long 123°20'25", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.21 N., R.13 W., on left bank 1,100 ft upstream from Outlet Creek and 6.3 miles south of Dos Rios.

DRAINAGE AREA.--528 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,001.28 ft above mean sea level, datum of 1929. Prior to Apr. 7, 1967, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 25,200 cfs Jan. 21 (gage height, 18.70 ft), from rating curve extended above 5,500 cfs; minimum daily, 2.8 cfs Sept. 13, 29, 30.

Flood of Dec. 22, 1964, reached a stage of 45.52 ft, from information by local resident (discharge, 120,000 cfs).

REMARKS.--Records good. Flow partly regulated by Lake Pillsbury (see sta. no. 4700) and by diversion through Potter Valley powerhouse (see sta. no. 4710). Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	3.4	8.00	120	8,640	173	2,560	1,480	202	31	17	3.0
2	3.8	3.4	7,000	114	5,580	153	2,480	1,430	282	27	13	3.0
3	3.8	3.4	5,500	107	3,980	155	2,380	1,340	1,060	24	10	3.0
4	3.8	3.4	9,140	105	3,010	150	2,030	1,260	504	24	9.3	3.0
5	3.8	3.4	19,200	103	2,450	121	1,950	1,320	370	24	8.6	3.0
6	3.8	4.0	8,080	99	2,050	145	3,130	1,500	498	24	7.9	3.0
7	3.8	5.6	4,350	92	1,720	116	2,480	1,570	400	24	7.2	3.0
8	3.8	10	2,720	90	1,460	110	1,830	1,610	274	24	7.9	3.7
9	3.8	6.8	1,920	90	1,250	116	1,540	1,680	220	24	7.9	3.7
10	3.8	6.8	2,440	88	1,090	1,100	1,500	1,970	195	24	7.9	3.0
11	3.8	7.1	2,020	88	940	900	1,680	1,840	185	25	7.2	3.0
12	3.8	12	1,760	83	840	720	1,420	1,510	188	25	7.2	3.0
13	3.8	21	1,810	81	722	1,150	1,780	1,200	143	24	7.2	2.8
14	3.8	128	1,900	81	695	1,860	1,800	1,020	99	22	7.2	3.7
15	3.8	292	1,470	77	628	2,170	1,680	1,010	73	22	7.2	4.4
16	3.8	700	1,200	77	605	8,960	1,570	1,030	88	22	7.2	3.7
17	4.0	350	995	73	538	6,990	2,440	1,130	86	22	7.2	4.4
18	4.0	230	855	72	483	4,360	2,700	1,360	68	22	7.2	6.5
19	4.0	550	745	72	435	3,190	2,860	1,220	59	20	5.8	7.2
20	4.0	4,000	623	4,980	375	4,010	2,590	1,050	54	22	5.8	7.9
21	3.8	5,000	533	21,200	306	4,080	2,380	1,020	59	22	5.1	6.5
22	3.6	2,000	459	11,800	292	3,260	2,090	994	63	22	5.1	6.5
23	3.8	900	415	5,420	279	3,410	2,170	955	52	22	5.1	6.5
24	3.2	450	367	4,830	255	2,970	2,170	465	47	22	5.1	5.8
25	3.4	350	299	4,520	240	2,520	2,070	345	43	22	5.8	5.8
26	3.2	280	255	10,400	215	2,210	1,960	282	37	22	6.5	6.5
27	3.4	230	210	11,800	200	1,930	1,990	209	33	20	5.8	4.4
28	3.6	290	183	13,400	188	1,780	1,870	178	33	20	4.4	3.7
29	3.6	370	160	20,900	- - - - -	1,690	1,780	195	33	19	4.4	2.8
30	3.4	320	138	14,000	- - - - -	1,860	1,690	216	33	17	4.4	2.8
31	3.4	- - - - -	128	14,300	- - - - -	2,490	- - - - -	230	- - - - -	15	3.7	- - - - -
Total	115.4	16,530.3	77,675	139,262	39,466	64,849	62,570	32,619	5,481	699	221.3	129.3
Mean	3.72	551	2,506	4,492	1,410	2,092	2,086	1,052	183	22.5	7.14	4.31
Max	4.0	5,000	19,200	21,200	8,640	8,960	3,130	1,970	1,060	31	17	7.9
Min	3.2	3.4	128	72	188	110	1,420	178	33	15	3.7	2.8
Ac-ft	229	32,790	154,100	276,200	78,280	129,600	124,100	64,700	10,870	1,390	439	256

Cal yr : Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total 439,617.3 Mean 1,204 Max 21,200 Min 2.8 Ac-ft 872,000

Peak discharge (base, 20,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0600	18.50	24,700	1-29	1000	18.12	23,700
1-21	1400	18.70	25,200				

EEL RIVER BASIN

11-4722. OUTLET CREEK NEAR LONGVALE, CALIF.

LOCATION.--Lat 39°37'05", long 123°21'20", in NE $\frac{1}{4}$ 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.--161 sq mi.

RECORDS AVAILABLE.--October 1956 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,018.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to May 25, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 433 cfs (313,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 13,100 cfs Jan. 20 (gage height, 13.24 ft); no flow Sept. 14, 15. 1956-67: Maximum discharge, 77,900 cfs Dec. 22, 1964 (gage height, 30.6 ft, from floodmarks), from rating curve extended above 9,900 cfs on basis of slope-area measurement of maximum flow; no flow Aug. 15-17, 1959, Sept. 14, 15, 1967.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures, suspended-sediment loads, sediment and turbidity data for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1965 report: 1958(M), 1960, 1963, 1964(M).

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.5	843	79	2,030	74	1,700	270	39	9.4	2.7	.24
2	1.2	1.5	4,980	76	1,120	69	1,440	243	61	8.4	2.4	.24
3	1.2	1.5	3,550	74	668	66	1,520	222	77	7.4	2.0	.24
4	1.4	1.5	5,520	71	495	62	1,120	198	76	7.0	2.0	.24
5	1.4	1.6	5,640	72	395	58	1,070	179	56	6.5	1.8	.18
6	1.4	4.3	2,100	71	318	54	2,190	174	52	6.2	1.6	.12
7	1.4	6.1	1,230	68	270	52	1,810	154	48	6.0	1.6	.18
8	1.4	5.7	801	65	233	50	1,110	137	42	5.3	1.6	.18
9	1.4	4.0	586	65	204	49	759	129	34	5.5	1.6	.18
10	1.4	3.4	1,150	62	187	1,380	780	222	34	5.3	1.5	.18
11	1.4	3.7	675	61	165	2,470	1,170	212	32	5.2	1.4	.12
12	1.4	2.3	616	61	153	1,820	787	177	31	4.6	1.5	.30
13	1.2	4.5	724	60	147	1,760	628	142	29	4.8	1.4	.18
14	1.2	4.50	661	60	156	1,560	822	124	28	4.4	1.0	0
15	1.2	5.10	465	58	150	1,580	622	108	26	4.0	.90	0
16	1.2	7.59	370	57	198	4,250	494	99	25	3.5	.90	.06
17	1.4	2.05	322	56	162	2,300	1,920	90	23	4.3	.75	.24
18	1.4	.95	274	54	142	1,620	1,850	82	21	3.5	.75	.30
19	1.4	9.54	226	56	129	970	1,280	74	20	3.4	.54	.30
20	1.4	2,700	201	5,010	117	2,110	884	69	19	3.1	.54	.24
21	1.4	3,160	184	9,760	106	1,570	703	65	18	3.1	.48	.24
22	1.4	1,840	171	3,780	99	954	722	60	16	3.4	.48	.24
23	1.5	7.52	171	1,860	95	1,290	824	54	16	3.2	.54	.18
24	1.5	3.42	168	1,920	92	815	735	51	15	2.8	.42	.24
25	1.5	2.28	145	1,970	99	592	555	48	14	2.4	.42	.24
26	1.5	1.68	134	5,980	95	485	455	46	13	2.9	.48	.24
27	1.5	1.32	119	4,570	84	400	500	43	12	3.0	.42	.24
28	1.4	1.74	112	4,290	77	390	420	41	12	3.0	.24	.30
29	1.5	2.66	90	6,710	- - - - -	405	347	41	11	3.2	.30	.30
30	1.5	1.74	88	3,920	- - - - -	580	304	40	10	3.0	.30	.24
31	1.5	- - - - -	82	3,600	- - - - -	1,500	- - - - -	38	- - - - -	2.9	.30	- - - - -
Total	42.8	13,011.8	32,398	54,596	8,186	31,335	29,521	3,632	910	140.7	32.86	6.18
Mean	1.38	4.34	1,045	1,761	292	1,011	984	117	30.3	4.54	1.06	.21
Max	1.5	3,160	5,640	9,760	2,030	4,250	2,190	270	77	9.4	2.7	.30
Min	1.2	1.5	82	54	77	49	304	38	10	2.4	.24	0
Ac-ft	85	25,810	64,260	103,300	16,240	62,150	58,550	7,200	1,800	279	65	12

Cal yr 1966: Total 156,527.80 Mean 429 Max 21,100 Min .20 Ac-ft 310,500
Wtr yr 1967: Total 173,812.34 Mean 476 Max 9,760 Min 0 Ac-ft 344,800

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1300	11.44	9,840	1-26	1000	12.20	11,200
12- 4	2300	11.97	10,600	1-29	0515	12.06	10,600
1-20	2100	13.24	13,100				

11-4729. BLACK BUTTE RIVER NEAR COVELO, CALIF.

LOCATION.--Lat 39°49'15", long 123°04'50", in SE¼ sec.28, T.23 N., R.11 W., on right bank 10 ft upstream from highway bridge, 0.5 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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,456.71 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Sept. 10, 1953, to Sept. 30, 1957, crest-stage gage only at same site at different datum. Oct. 1, 1958, to Dec. 22, 1964, graphic water-stage recorder at site 0.1 mile upstream at same datum.

AVERAGE DISCHARGE.--9 years, 284 cfs (205,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 11,500 cfs Jan. 29; minimum daily, 3.4 cfs Oct. 11-17.

1953-57, 1958-67: Maximum discharge, 29,000 cfs Dec. 22, 1964 (gage height, 26.4 ft, from floodmarks, site then in use), from rating curve extended above 4,200 cfs on basis of slope-area measurement of maximum flow.

1958-67: 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 site (discharge, 26,000 cfs).

REMARKS.--Records poor. No regulation or diversion above station. Records of sediment and turbidity data for the water years 1966-67 and chemical analyses, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	4.2	2,600	112	1,770	145	510	260	302	84	14	5.0
2	5.6	4.2	3,550	103	1,450	140	460	350	289	79	13	5.0
3	5.4	4.2	2,400	96	1,190	133	530	440	301	72	13	5.2
4	5.2	3.8	5,600	89	1,010	128	465	505	249	68	12	5.2
5	5.0	3.6	4,700	83	910	123	380	690	290	64	11	5.2
6	4.8	6.5	1,440	79	795	118	701	770	350	59	10	5.2
7	4.6	9.6	820	76	695	113	610	920	328	56	19.6	5.2
8	4.4	8.4	510	74	610	110	522	1,410	304	52	19.6	5.2
9	4.2	6.5	705	73	540	104	450	1,180	287	49	9.6	5.2
10	4.0	5.9	810	72	502	225	390	1,010	265	45	9.6	4.8
11	3.4	5.9	585	72	455	198	450	775	250	42	10	4.8
12	3.4	20	860	72	430	170	375	590	232	39	9.0	5.0
13	3.4	50	920	74	375	142	333	504	215	37	8.0	5.0
14	3.4	120	1,030	77	345	164	363	540	202	34	7.6	5.0
15	3.4	350	690	81	320	390	324	750	190	31	6.8	4.8
16	3.4	1,100	590	85	301	3,750	295	1,390	190	29	6.5	4.6
17	3.4	500	505	85	279	810	350	1,250	190	27	5.9	4.6
18	3.6	250	460	83	258	620	610	1,060	190	25	5.6	5.6
19	3.6	450	410	82	242	505	515	950	190	24	5.1	6.2
20	3.8	2,500	355	1,600	225	795	483	850	175	23	5.0	5.9
21	3.8	1,500	330	7,100	213	640	447	795	163	22	5.0	5.4
22	3.8	1,000	290	3,040	202	500	406	730	152	22	5.0	5.0
23	4.0	500	263	1,100	191	802	372	660	143	21	4.8	4.8
24	4.2	320	240	580	180	580	340	585	134	20	4.8	4.8
25	4.2	250	212	288	172	445	312	520	124	19	4.8	4.8
26	4.2	210	198	2,400	165	430	287	475	116	17	4.8	4.6
27	4.2	240	180	3,950	158	408	273	436	108	16	4.8	4.4
28	4.2	730	161	6,600	151	390	261	401	101	16	4.8	4.2
29	4.2	1,120	148	4,500	---	370	250	371	95	15	4.8	4.0
30	4.2	520	133	3,200	---	355	239	346	89	15	5.0	4.0
31	4.2	---	122	3,450	---	595	---	320	---	15	5.0	---
Total	129.1	11,792.8	31,817	39,376	14,134	14,398	12,303	21,833	6,214	1,137	234.5	148.7
Mean	4.16	393	1,026	1,270	505	464	410	704	207	36.7	7.56	4.96
Max	5.9	2,500	5,600	7,100	1,770	3,750	701	1,410	350	84	14	6.2
Min	3.4	3.6	122	72	151	104	239	260	89	15	4.8	4.0
Ac-ft	256	23,390	63,110	79,100	29,030	29,560	24,400	43,310	12,330	2,260	465	295

Cal yr 1966: Total 126,321.0 Mean 346 Max 5,600 Min 3.4 Ac-ft 250,600
Wtr yr 1967: Total 153,517.1 Mean 421 Max 7,100 Min 3.4 Ac-ft 304,500

Peak discharge (base, 5,500 cfs)

Note.--Stage-discharge relation indefinite Nov. 12 to Dec. 14.
No gage-height record Dec. 15 to July 19.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	-	-	7,200	1-29	-	-	11,500
1-21	-	-	10,100				

EEL RIVER BASIN

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 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Datum of gage is 1,435.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

AVERAGE DISCHARGE.--16 years, 1,048 cfs (758,700 acre-ft per year); median of yearly mean discharges, 950 cfs (688,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 23,000 cfs; minimum daily, 9.0 cfs Oct. 16-26.

1951-67: Maximum discharge, 133,000 cfs Dec. 22, 1964 (gage height, 31.7 ft, from floodmarks), from rating curve extended above 19,000 cfs on basis of slope-area measurement at gage height 25.0 ft; minimum, 4.4 cfs Sept. 22-26, 1951.

REMARKS.--Records poor. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	10	3,500	350	4,680	420	1,800	960	880	195	45	16
2	13	10	3,500	330	3,000	400	1,400	1,040	850	180	43	15
3	12	10	5,500	310	2,600	390	1,100	1,200	830	170	41	15
4	12	10	7,400	295	2,100	380	1,160	1,400	920	160	40	15
5	12	15	11,200	280	1,900	365	1,020	1,800	1,050	152	39	14
6	11	18	3,300	270	1,700	355	2,000	2,150	1,120	145	38	14
7	9.7	25	1,900	260	1,600	350	1,800	2,800	1,080	138	36	14
8	9.7	20	1,400	260	1,500	345	1,700	3,500	920	130	35	14
9	9.7	18	1,000	250	1,400	340	1,680	4,100	830	118	34	13
10	9.7	16	1,900	245	1,350	600	1,660	3,200	730	112	32	13
11	9.7	30	1,300	240	1,320	480	1,720	2,300	670	108	31	13
12	9.7	70	2,300	240	1,250	390	1,500	1,850	610	103	30	13
13	9.7	150	2,500	245	1,200	430	1,400	1,650	580	97	29	13
14	9.7	700	2,600	250	1,160	470	1,550	1,850	540	92	28	13
15	9.7	1,700	1,400	260	1,060	2,200	1,400	2,500	520	90	27	13
16	9.0	2,500	1,200	265	1,000	7,000	1,100	3,500	510	86	26	14
17	9.0	1,000	1,000	260	850	3,500	1,600	4,000	500	84	25	16
18	9.0	600	900	255	760	2,500	1,800	3,600	490	81	24	18
19	9.0	1,600	800	250	680	2,200	2,100	3,300	470	78	24	17
20	9.0	5,500	720	3,400	640	2,700	1,750	3,100	460	74	23	16
21	9.0	3,500	670	14,300	600	2,300	1,650	3,000	430	71	22	15
22	9.0	2,100	630	7,000	560	2,000	1,500	2,800	410	67	21	14
23	9.0	1,200	600	2,950	530	2,500	1,450	2,300	380	64	21	15
24	9.0	800	560	2,500	500	2,100	1,500	1,800	340	62	20	14
25	9.0	650	530	2,100	470	1,700	1,420	1,500	320	59	20	14
26	9.0	550	490	6,700	450	1,500	1,150	1,350	280	57	19	14
27	10	540	460	3,000	440	1,300	1,200	1,200	260	55	18	14
28	10	1,200	440	10,000	430	1,200	1,160	1,100	240	53	18	14
29	10	2,500	410	14,000	- - - - -	1,200	1,100	1,050	220	51	17	14
30	10	2,300	390	3,000	- - - - -	1,400	1,050	1,020	205	49	17	14
31	10	- - - - -	370	3,200	- - - - -	1,900	- - - - -	950	- - - - -	47	16	- - - - -
Total	309.3	29,342	65,870	92,265	35,730	44,915	44,420	67,870	17,645	3,028	859	431
Mean	9.98	978	2,125	2,976	1,276	1,449	1,481	2,189	588	97.7	27.7	14.4
Max	13	5,500	11,200	14,300	4,680	7,000	2,100	4,100	1,120	195	45	18
Min	9.0	10	370	240	430	340	1,020	950	205	47	16	13
Ac-ft	613	58,200	130,700	183,000	70,870	89,090	89,110	134,600	35,000	6,010	1,720	855
Cal yr 1966: Total	346,675.3		Mean 950	Max 11,200	Min 9.0	Ac-ft 687,600						
Wtr yr 1967: Total	402,684.3		Mean 1,103	Max 14,300	Min 9.0	Ac-ft 799,700						

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	-	-	15,000	1-29	-	-	23,000
1-21	-	-	20,000				

Note.--No gage-height record Dec. 16 to Sept. 30.

11-4731. WILLIAMS CREEK NEAR COVELO, CALIF.

LOCATION.--Lat 39°49'30", long 123°08'25", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,435.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 25, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--6 years, 86.5 cfs (62,620 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,320 cfs Dec. 4 (gage height, 7.63 ft); minimum daily, 0.06 cfs Sept. 14-16.

1961-67: Maximum discharge, 11,300 cfs Dec. 22, 1964 (gage height, 14.25 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.06 cfs Sept. 14-16, 1967.

REMARKS.--Records fair. No regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1963 report: 1962(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.30	.70	290	15	396	21	118	80	39	7.5	1.8	.30
2	.40	.70	1,050	15	282	20	114	85	37	7.0	1.6	.30
3	.40	.70	496	14	215	19	114	102	32	6.5	1.5	.18
4	.40	.70	1,220	17	174	17	104	120	31	6.2	1.5	.18
5	.30	.70	875	20	152	16	106	128	33	5.8	1.4	.18
6	.30	1.5	429	18	130	15	174	140	31	5.6	1.4	.18
7	.30	.80	267	18	116	14	160	170	29	5.3	1.3	.18
8	.40	.80	190	17	100	14	138	210	29	5.1	1.2	.18
9	.40	.80	154	17	80	14	124	193	28	4.9	1.1	.18
10	.40	1.0	208	17	72	156	126	166	27	4.8	1.0	.12
11	.40	1.5	178	16	66	160	122	132	27	4.4	1.0	.12
12	.40	8.0	228	16	62	150	112	114	26	4.1	.90	.12
13	.40	21	240	16	61	132	110	110	25	4.0	.70	.12
14	.40	45	178	16	58	118	112	124	23	3.8	.60	.06
15	.40	90	130	16	55	134	100	158	22	3.6	.60	.06
16	.40	160	104	16	52	606	91	180	21	3.5	.54	.06
17	.40	64	75	15	49	375	160	180	21	3.3	.48	.12
18	.40	40	60	15	45	372	146	160	22	3.2	.48	.24
19	.50	147	51	15	41	238	140	144	20	3.0	.48	.36
20	.50	435	44	690	37	330	122	140	18	3.2	.36	.80
21	.50	378	37	1,120	34	261	116	136	17	3.0	.36	.60
22	.50	163	32	468	31	228	112	122	16	2.8	.36	.70
23	.50	105	31	288	30	285	108	106	14	2.7	.36	.60
24	.50	78	27	276	29	193	110	89	13	2.7	.36	.60
25	.50	62	25	228	33	160	106	74	12	2.5	.36	.60
26	.50	59	22	826	27	138	100	65	11	2.4	.36	.60
27	.50	61	20	794	25	122	108	60	10	2.2	.30	.54
28	.50	172	18	1,010	22	114	98	56	9.4	2.2	.30	.54
29	.50	198	17	1,140	-----	100	89	52	8.8	2.2	.30	.60
30	.50	150	17	730	-----	118	81	46	8.1	2.1	.30	.54
31	.70	-----	16	598	-----	138	-----	41	-----	1.9	.24	-----
TOTAL	13.50	2,445.90	6,729	8,477	2,474	4,778	3,521	3,683	660.3	121.5	23.54	9.96
MEAN	.44	81.5	217	273	88.4	154	117	119	22.0	3.92	.76	.33
MAX	.70	435	1,220	1,140	396	606	174	210	39	7.5	1.8	.80
MIN	.30	.70	16	14	22	14	81	41	8.1	1.9	.24	.06
AC-FT	27	4,850	13,350	16,810	4,910	9,480	6,980	7,310	1,310	241	47	20

CAL YR 1966: TOTAL 30,889.90 MEAN 84.6 MAX 2,490 MIN .30 AC-FT 61,270
WAT YR 1967: TOTAL 32,936.70 MEAN 90.2 MAX 1,220 MIN .06 AC-FT 65,330

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1145	6.94	1,840	1-26	0815	6.24	1,420
12- 4	2140	7.63	2,320	1-29	0340	7.16	1,990
1-21	0815	6.53	1,600				

EEL RIVER BASIN

11-4736. SHORT CREEK NEAR COVELO, CALIF.

LOCATION.--Lat 39°49'50", long 123°10'56", in NE $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,440.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 25, 1966, graphic water-stage recorder at site 100 ft upstream at datum 2.98 ft lower.

AVERAGE DISCHARGE.--9 years, 22.3 cfs (16,140 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,100 cfs Dec. 4 (gage height, 6.43 ft); minimum daily, 0.09 cfs Sept. 20, 22.

1958-67: Maximum discharge, 3,600 cfs Dec. 22, 1964 (gage heights, 9.20 ft, in gage well, 10.4 ft, from outside floodmarks, site and datum then in use), from rating curve extended above 690 cfs on basis of slope-area measurement of Dec. 21, 1955; no flow for several months in most years.

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 maximum flow).

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.20	26	3.9	157	7.0	72	29	4.4	1.3	.47	.27
2	.20	.20	343	3.7	110	6.9	66	26	4.8	1.3	.45	.27
3	.20	.20	144	3.7	82	6.8	60	24	4.7	1.3	.45	.25
4	.20	.20	480	3.6	64	6.3	54	21	4.4	1.2	.47	.25
5	.10	.20	255	3.6	50	6.1	46	19	4.0	1.2	.45	.25
6	.10	.20	94	3.4	40	6.1	96	17	3.9	1.2	.45	.25
7	.10	.20	66	3.3	33	5.8	84	15	3.7	1.2	.45	.27
8	.10	.20	43	3.2	28	5.6	73	14	3.6	1.1	.43	.29
9	.10	.20	31	3.2	25	5.6	66	14	3.4	1.1	.43	.27
10	.10	.20	48	3.2	23	88	62	16	3.3	1.1	.43	.27
11	.10	.20	33	3.1	20	100	59	14	3.2	.97	.41	.27
12	.10	.20	36	3.1	19	104	55	12	3.0	.99	.41	.25
13	.10	.20	51	3.1	18	95	52	11	2.9	.87	.41	.24
14	.10	.20	40	3.0	15	80	50	11	2.8	.87	.36	.24
15	.10	1.1	26	3.0	12	122	47	9.7	2.7	.84	.36	.22
16	.10	6.3	20	3.0	12	332	60	9.4	2.6	.83	.36	.22
17	.10	.50	15	2.9	11	210	84	8.5	2.5	.80	.36	.24
18	.10	.20	13	2.7	11	160	72	8.1	2.4	.79	.45	.13
19	.10	26	11	2.8	10	132	66	7.7	2.3	.76	.45	.11
20	.10	88	10	150	9.0	150	61	7.2	2.3	.80	.45	.09
21	.10	163	8.9	440	8.4	140	58	7.0	2.1	.67	.45	.11
22	.10	44	8.0	95	8.3	110	55	6.6	1.9	.67	.45	.09
23	.10	10	7.8	56	8.0	150	51	6.0	1.9	.63	.43	.11
24	.10	4.1	7.0	51	8.0	120	48	5.4	1.8	.63	.43	.12
25	.10	2.3	7.0	46	8.9	96	46	5.2	1.8	.59	.43	.13
26	.10	1.6	6.3	350	7.9	78	43	5.2	1.7	.59	.40	.13
27	.10	1.1	5.4	280	7.2	69	40	5.2	1.7	.55	.38	.15
28	.20	5.2	5.2	320	7.0	56	37	4.9	1.6	.55	.34	.15
29	.20	7.5	4.8	370	-----	54	35	4.8	1.5	.51	.34	.15
30	.20	3.1	4.7	400	-----	70	31	4.8	1.4	.51	.34	.15
31	.20	-----	4.3	300	-----	82	-----	4.3	-----	.47	.32	-----
TOTAL	3.90	366.80	1,854.4	2,919.5	812.7	2,654.2	1,729	353.0	84.3	26.89	12.81	5.94
MEAN	.13	12.2	59.8	94.2	29.0	85.6	57.6	11.4	2.81	.87	.41	.20
MAX	.20	163	480	440	157	332	96	29	4.8	1.3	.47	.29
MIN	.10	.20	4.3	2.7	7.0	5.6	31	4.3	1.4	.47	.32	.09
AC-FT	7.7	728	3,680	5,790	1,610	5,260	3,430	700	167	53	25	12

CAL YR 1966: TOTAL 9,577.50 MEAN 26.2 MAX 1,400 MIN .10 AC-FT 19,000
 WAT YR 1967: TOTAL 10,823.44 MEAN 29.7 MAX 480 MIN .09 AC-FT 21,470

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1400	6.11	877	1-26	-	-	560
12- 4	2200	6.43	1,100	1-30	2400	5.97	782
1-21	-	-	610				

EEL RIVER BASIN

425

11-4737. MILL CREEK NEAR COVELO, CALIF.

LOCATION.--Lat 39°44'45", long 123°10'15", in SW $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,280.55 ft (revised) above mean sea level, datum of 1929 (preliminary). Prior to Apr. 29, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--11 years, 154 cfs (111,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,420 cfs Jan. 26 (gage height, 11.78 ft), from rating curve extended above 2,300 cfs as explained below; no flow for several months.
1956-67: Maximum discharge, 24,100 cfs Dec. 22, 1964 (gage height, 20.97 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement at gage heights 14.50 and 20.97 ft; no flow for several months in each year.

REMARKS.--Records fair. No regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1963 report: 1960-62.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	GCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	C	0	312	22	733	59	502	147	24	.90	0	0
2	C	0	2,130	21	512	55	413	134	37	.80	0	0
3	C	0	1,070	20	398	52	433	124	29	.70	0	0
4	C	0	2,360	20	323	49	358	118	22	.60	0	0
5	C	0	1,840	20	274	47	350	111	21	.50	0	0
6	C	0	539	19	237	45	803	102	18	.40	0	0
7	C	0	353	19	213	44	584	92	16	.30	0	0
8	C	0	257	19	152	43	403	88	11	.25	0	0
9	C	0	194	19	162	43	328	85	11	.20	0	0
10	C	0	306	19	150	507	354	100	9.5	.15	0	0
11	C	0	250	19	140	587	363	86	9.0	.10	0	0
12	C	0	210	19	128	695	286	78	8.1	.03	0	0
13	C	0	155	19	120	676	252	71	7.2	0	0	0
14	C	2.7	230	19	113	676	314	64	6.2	0	0	0
15	C	4.4	200	19	105	790	254	61	5.9	0	0	0
16	C	42	153	18	99	2,620	217	55	5.3	0	0	0
17	C	7.0	120	18	93	986	661	52	4.4	0	0	0
18	C	1.2	95	18	90	828	564	49	4.0	0	0	0
19	C	30	79	18	65	537	667	46	3.6	0	0	0
20	C	200	67	2,110	81	1,090	449	44	3.4	0	0	0
21	C	700	60	2,820	78	629	365	41	3.1	0	0	0
22	C	325	58	684	75	471	333	38	2.7	0	0	0
23	C	145	56	371	72	587	339	36	2.4	0	0	0
24	C	65	53	647	70	395	341	35	2.2	0	0	0
25	C	30	50	492	85	323	273	34	2.0	0	0	0
26	C	17	45	2,740	74	277	239	30	1.7	0	0	0
27	C	7.0	40	2,050	68	240	249	29	1.5	0	0	0
28	C	15	35	2,070	63	240	214	27	1.4	0	0	0
29	C	37	31	2,820	-----	219	203	27	1.2	0	0	0
30	C	15	27	1,420	-----	376	165	25	1.1	0	0	0
31	C	-----	24	1,780	-----	654	-----	23	-----	0	0	-----
TOTAL	C	1,643.3	11,439	20,369	4,833	14,840	11,276	2,052	274.9	4.93	0	0
MEAN	C	54.8	369	657	173	479	376	66.2	9.16	.16	0	0
MAX	C	700	2,360	2,820	733	2,620	803	147	37	.90	0	0
MIN	C	0	24	18	63	43	165	23	1.1	0	0	0
AC-FT	C	3,260	22,690	40,400	9,590	29,430	22,370	4,070	545	9.8	0	0

CAL YR 1966: TOTAL 58,852.60 MEAN 161 MAX 8,610 MIN 0 AC-FT 116,700
WAT YR 1967: TOTAL 66,732.13 MEAN 183 MAX 2,820 MIN 0 AC-FT 132,400

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1530	11.07	4,650	1-26	1000	11.78	5,420
12- 4	2330	11.20	4,780	1-29	0515	11.55	5,170
1-20	2130	11.54	5,150	3-16	0900	10.51	4,090

EEL RIVER BASIN

11-4738. ELK CREEK NEAR HEARST, CALIF.

LOCATION.--Lat 39°38'57", long 123°07'12", in NE $\frac{1}{4}$ sec.30, T.21 N., R.11 W., on right bank 300 ft upstream from unnamed tributary and 13.5 miles northeast of Hearst.

DRAINAGE AREA.--84.1 sq mi.

RECORDS AVAILABLE.--July 1964 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,197.2 ft above mean sea level (levels by Topographic Division).

EXTREMES.--Maximum discharge during year, 5,640 cfs Dec. 4 (gage height, 12.65 ft); minimum daily, 1.7 cfs Oct. 9-20, 25, 26.

1964-67: Maximum discharge, 25,000 cfs Dec. 22, 1964 (gage height, 19.8 ft, from floodmarks), from rating curve extended above 9,900 cfs on basis of slope-area measurement at gage height 19.8 ft; minimum daily, 0.10 cfs Sept. 24 to Oct. 11, 1964.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 and sediment and turbidity data for the water years 1966-67 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.8	700	59	1,100	65	341	156	200	26	6.7	3.3
2	2.0	1.9	1,970	55	750	63	230	167	242	25	6.7	3.3
3	1.9	1.9	900	52	620	61	218	200	189	24	6.1	3.3
4	1.9	1.8	2,600	50	540	59	173	319	156	23	5.8	3.3
5	1.8	1.8	2,260	50	470	57	145	390	156	22	5.5	3.5
6	1.8	3.3	1,010	44	420	52	506	376	150	21	5.5	3.3
7	1.8	2.6	650	43	370	48	479	506	125	20	5.3	3.3
8	1.8	2.4	488	41	330	46	341	720	93	19	5.1	3.3
9	1.7	2.3	376	40	300	50	290	744	86	18	4.9	3.3
10	1.7	2.3	446	39	270	300	308	580	76	17	4.7	3.3
11	1.7	2.6	314	38	250	180	278	290	69	17	4.6	3.3
12	1.7	1.7	362	36	230	130	212	167	63	16	4.4	3.2
13	1.7	2.7	430	35	210	110	200	127	55	14	4.2	3.2
14	1.7	1.15	414	34	190	220	206	156	52	13	4.2	3.0
15	1.7	3.64	341	32	180	1,000	173	272	49	13	4.0	3.0
16	1.7	5.68	314	31	160	2,500	141	438	48	13	3.8	3.0
17	1.7	1.30	272	31	150	1,200	355	630	50	12	3.6	3.3
18	1.7	84	230	30	140	600	355	900	52	11	3.6	3.8
19	1.7	620	218	31	130	350	398	852	49	11	3.5	3.3
20	1.7	2,070	195	1,770	120	700	334	768	46	11	3.5	3.0
21	1.8	1,370	156	3,700	110	450	290	780	43	10	3.5	2.7
22	1.8	341	151	1,570	100	380	248	744	40	9.9	3.5	2.7
23	1.8	130	141	816	93	650	248	620	38	9.0	3.5	2.7
24	1.8	103	109	996	86	420	272	533	36	9.0	3.5	2.7
25	1.7	101	109	744	90	340	248	458	34	8.2	3.5	2.6
26	1.7	100	97	2,050	83	310	218	406	33	7.9	3.5	2.6
27	1.8	105	86	1,930	76	280	230	362	31	7.6	3.5	2.4
28	1.8	540	79	2,250	69	250	212	334	29	7.6	3.5	2.3
29	1.8	660	76	3,360	-----	240	206	290	28	7.3	3.5	2.3
30	1.8	350	76	2,500	-----	400	178	254	27	7.0	3.5	2.3
31	1.8	-----	65	2,340	-----	500	-----	224	-----	6.7	3.5	-----
Total	55.0	7,819.7	15,635	24,797	7,637	12,011	8,033	13,763	2,345	436.2	134.2	90.6
Mean	1.77	203	491	800	273	387	268	444	78.2	14.1	4.33	3.02
Max	2.0	2,070	2,600	3,700	1,100	2,500	506	900	242	26	6.7	3.8
Min	1.7	1.8	65	30	69	46	141	127	27	6.7	3.5	2.3
Ac-ft	109	15,510	31,010	49,180	15,150	23,820	15,930	27,300	4,650	865	266	180

Cal yr 1966: Total 73,086.3 Mean 200 Max 5,570 Min 1.4 Ac-ft 145,000
Wtr yr 1967: Total 92,756.7 Mean 254 Max 3,700 Min 1.7 Ac-ft 184,000

Peak discharge (base, 4,000 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	1400	12.00	4,600	1-21	0500	12.40	5,240
12- 4	1800	12.65	5,640	1-29	0400	12.45	5,320

11-4739. MIDDLE FORK EEL RIVER NEAR DOS RIOS, CALIF.

LOCATION.--Lat 39°42'23", long 123°19'27", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.21 N., R.13 W., on right bank 0.6 mile upstream from Eastman Creek, 1.7 miles southeast of Dos Rios, and 1.9 miles upstream from mouth.

DRAINAGE AREA.--745 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 901.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 42,600 cfs Jan. 29 (gage height, 22.06 ft); minimum daily, 16 cfs Oct. 2-15.

1965-67: Maximum discharge, 70,200 cfs Jan. 4, 1966 (gage height, 32.86 ft, from high water marks); minimum daily, 16 cfs Oct. 2-15, 1967.

REMARKS.--Records good. No regulation or diversion above station. Records of sediment and turbidity data for the water years 1966-67 and chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1966, superseding those published in 1966 Report, are given herewith:

Apr. 10, 1966..... 4,560

Month	Cfs-days	Maximum	Minimum	Mean	Acre-feet
April 1966-----	95,580	4,930	1,540	3,186	189,600
Wat yr 1966-----	535,622	45,000	17	1,467	1,062,000

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	18	5,440	574	8,700	628	3,380	1,640	1,250	256	57	25
2	16	18	15,800	538	5,750	610	2,800	1,750	1,320	231	55	23
3	16	18	9,920	496	4,900	598	3,040	2,050	1,230	210	53	23
4	16	18	15,100	472	4,400	568	2,860	2,600	1,190	195	51	23
5	16	18	23,500	472	3,800	550	2,540	3,000	1,340	183	52	22
6	16	22	6,350	435	3,400	532	4,130	3,500	1,510	173	51	22
7	16	29	3,450	410	3,100	520	3,830	4,000	1,340	163	49	22
8	16	34	2,500	410	2,800	514	2,980	4,800	1,260	158	46	22
9	16	29	1,870	400	2,500	508	2,820	4,900	1,260	145	45	21
10	16	25	3,300	385	2,250	1,630	2,800	4,700	1,090	140	44	20
11	16	25	2,640	385	2,000	1,500	2,900	3,500	1,090	135	43	20
12	16	53	3,700	385	1,900	1,400	2,500	2,800	1,030	127	42	20
13	16	258	3,950	385	1,750	1,600	2,360	2,600	940	122	40	19
14	16	888	4,100	395	1,600	1,950	2,600	2,300	850	120	39	19
15	16	2,160	2,500	425	1,500	3,690	2,240	3,400	786	112	38	19
16	17	5,350	2,050	450	1,410	16,000	1,950	4,300	770	107	36	20
17	17	1,660	1,710	440	1,310	7,520	3,000	4,600	770	101	36	22
18	17	1,010	1,550	420	1,260	5,080	3,450	4,500	762	96	34	22
19	17	1,780	1,410	395	1,170	4,350	3,550	3,900	707	91	32	25
20	17	12,300	1,270	7,580	1,080	5,690	3,020	3,600	676	86	31	23
21	17	9,240	1,130	31,400	990	5,150	2,680	3,300	622	80	31	21
22	17	4,660	990	10,900	910	4,380	2,500	3,200	556	76	31	20
23	17	2,020	960	4,650	834	5,660	2,420	3,100	490	72	30	20
24	17	1,440	900	4,350	770	4,250	2,540	2,900	450	67	29	22
25	17	1,200	818	3,600	756	3,500	2,380	2,800	415	66	28	21
26	18	1,070	778	13,900	728	2,960	2,080	2,300	390	66	28	20
27	18	1,050	700	15,200	688	2,660	2,240	2,000	365	63	28	21
28	18	2,110	682	19,100	652	2,460	1,960	1,800	336	62	29	21
29	18	5,060	664	30,400	---	2,320	1,950	1,700	308	61	29	21
30	18	2,630	652	15,200	---	2,480	1,730	1,500	284	60	27	22
31	18	---	604	15,500	---	3,600	---	1,400	---	59	15	---
Total	519	56,193	120,988	180,032	62,908	95,858	81,230	94,440	25,387	3,683	1,189	641
Mean	16.7	1,873	3,903	5,807	2,247	3,092	2,708	3,046	846	119	38.4	21.4
Max	18	12,300	23,500	31,400	8,700	16,000	4,130	4,900	1,510	256	57	25
Min	16	18	604	385	652	508	1,730	1,400	284	59	25	19
Ac-ft	1,030	111,500	240,000	357,100	124,800	190,100	161,100	187,300	50,350	7,310	2,360	1,270
Cal yr 1966: Total	652,833	Mean	1,789	Max	45,000	Min	16	Ac-ft	1,295,000			
Wtr yr 1967: Total	723,068	Mean	1,981	Max	31,400	Min	16	Ac-ft	1,434,000			

Peak discharge (base, 35,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0100	21.06	37,600	1-29	0900	22.06	42,600
1-21	1200	21.50	39,800				

EEL RIVER BASIN

11-4739.8. GOFORTH CREEK AT DOS RIOS, CALIF.

LOCATION.--Lat 39°42'45", long 123°20'29", in NE $\frac{1}{4}$ sec.6, T.21 N., R.13 W., on left bank at culvert 150 ft upstream from Middle Fork Eel River and 0.7 mile southeast of Dos Rios.

DRAINAGE AREA.--3.83 sq mi.

RECORDS AVAILABLE.--Water years 1963-65 (annual maximum), October 1965 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Datum of gage is 907.45 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Sept. 25, 1962, to Nov. 18, 1965, crest-stage gage only at same site and datum.

EXTREMES.--Maximum discharge during year, 400 cfs Mar. 16 (gage height, 14.75 ft), from rating curve extended above 95 cfs on basis of culvert computations at gage heights 14.15, 15.66, and 36.00 ft; minimum daily, 0.10 cfs for many days.

1962-67: Maximum discharge, 2,340 cfs Dec. 22, 1964 (gage height, 36.00 ft), by computation of maximum flow through culvert.

1965-67: Minimum daily discharge, 0.10 cfs for many days in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.10	.10	13	2.2	30	2.6	23	9.5	1.8	.70	.30	.20
2	.10	.10	64	2.0	20	2.6	19	9.0	2.2	.70	.20	.20
3	.10	.10	42	1.9	17	2.5	20	8.0	1.8	.60	.20	.20
4	.10	.10	100	1.9	13	2.3	17	7.5	1.8	.60	.30	.20
5	.10	.10	79	1.9	12	2.3	17	7.0	1.8	.60	.30	.20
6	.10	.40	32	1.8	9.8	2.2	38	6.5	1.8	.60	.30	.30
7	.10	.20	21	2.2	8.5	2.2	27	6.0	1.7	.60	.40	.30
8	.10	.20	16	2.2	7.8	2.2	20	5.2	1.7	.60	.40	.30
9	.10	.20	14	2.2	6.8	2.2	17	4.5	1.8	.60	.30	.20
10	.10	.20	19	2.2	6.2	9.8	19	4.9	1.7	.60	.30	.30
11	.10	.30	13	2.2	6.2	11	21	4.6	1.7	.60	.30	.30
12	.10	1.0	13	2.0	5.5	12	16	4.4	1.7	.50	.30	.30
13	.10	1.0	26	1.9	5.3	12	14	4.2	1.7	.60	.30	.30
14	.10	.53	15	1.9	5.1	14	16	3.9	1.6	.60	.30	.20
15	.10	13	11	1.9	4.9	39	13	3.9	1.4	.60	.30	.20
16	.10	6.4	9.0	1.9	4.7	147	13	3.6	1.4	.50	.30	.20
17	.10	1.1	7.2	1.8	4.3	40	34	3.2	1.2	.50	.30	.30
18	.10	.70	6.4	1.7	4.1	29	27	3.2	1.2	.50	.30	.30
19	.10	28	6.0	2.3	3.8	20	57	3.0	1.2	.50	.30	.30
20	.10	48	5.1	121	3.6	38	26	2.8	1.0	.50	.30	.20
21	.10	22	4.5	110	3.4	23	26	2.8	1.0	.50	.30	.20
22	.10	8.0	4.1	28	3.2	17	25	2.8	1.0	.50	.30	.20
23	.10	5.4	3.9	19	3.2	21	25	2.6	1.0	.50	.30	.20
24	.10	2.5	3.6	31	3.0	14	22	2.4	1.0	.40	.30	.20
25	.10	1.7	3.4	20	3.4	11	17	2.4	1.0	.40	.30	.20
26	.10	1.5	3.0	110	2.8	9.0	16	2.3	1.0	.40	.30	.10
27	.10	1.2	2.6	73	2.6	8.8	16	2.3	1.0	.40	.30	.10
28	.10	1.8	2.6	70	2.6	8.6	14	2.2	.80	.40	.30	.10
29	.10	2.2	2.6	101	-----	8.2	13	2.2	.80	.40	.30	.20
30	.10	1.7	2.5	80	-----	20	11	2.2	.80	.30	.30	.20
31	.10	-----	2.3	60	-----	30	-----	2.0	-----	.30	.20	-----
Total	3.10	154.50	546.8	861.1	202.8	563.5	639	131.1	41.60	16.10	9.20	6.70
Mean	.10	5.15	17.6	27.8	7.24	18.2	21.3	4.23	1.39	.52	.30	.22
Max	.10	48	100	121	30	147	38	9.5	2.2	.70	.40	.30
Min	.10	.10	2.3	1.7	2.6	2.2	11	2.0	.80	.30	.20	.10
Ac-ft	6.1	306	1,080	1,710	402	1,120	1,270	260	83	32	18	13
(†)	0	14.6	12.4	14.5	.4	11.1	6.4	.5	.6	.1	0	.1

Cal yr 1966: Total 3,013.20 Mean 8.26 Max 482 Min .10 Ac-ft 5,980
 Wtr yr 1967: Total 3,175.50 Mean 8.70 Max 147 Min .10 Ac-ft 6,300

Peak discharge (base, 100 cfs)

† Precipitation, in inches.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	-	14.07	321	1-26	0730	13.95	308
12-4	1745	14.43	362	1-29	0400	13.15	224
1-20	1830	14.25	340	3-16	0400	14.75	400

EEL RIVER BASIN

429

11-4745. NORTH FORK EEL RIVER NEAR MINA, CALIF.

LOCATION.--Lat 39°56'18", long 123°20'36", in SW $\frac{1}{4}$ sec.8, T.24'N., R.13 W., on right bank 0.2 mile upstream from county road bridge, 1.4 miles upstream from Asbill Creek and 2 miles south of Mina. Prior to Aug. 21, 1967, at site 0.6 mile downstream.

DRAINAGE AREA.--248 sq mi, 250 sq mi at former site.

RECORDS AVAILABLE.--August 1953 to September 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 1,016.8 ft above mean sea level (levels by Topographic Division). Aug. 27, 1953, to Jan. 15, 1954, graphic water-stage recorder and Jan. 16 to June 22, 1954, wire-weight gage, at site 0.4 mile downstream at different datums. June 23, 1954, to Dec. 21, 1964, graphic water-stage recorder and Feb. 7 to July 8, 1965, staff gage at site 0.2 mile downstream at different datums. July 9, 1965, to Aug. 20, 1967, graphic water-stage recorder at site 0.6 mile downstream at datum 15.1 ft lower.

AVERAGE DISCHARGE.--14 years, 635 cfs (459,700 acre-ft per year); median of yearly mean discharges, 540 cfs (391,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 32,000 cfs Jan. 29; minimum daily, 2.5 cfs Oct. 11-15. 1953-67: Maximum discharge, 133,000 cfs Dec. 22, 1964 (gage height, 33.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 12,000 cfs on basis of slope-area measurement of maximum flow; minimum, 0.1 cfs Aug. 30, 31, 1959.

REMARKS.--Records poor. No regulation or diversion above station. Records of suspended-sediment loads for the water year 1967 and sediment and turbidity data for water years 1966-67 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	3.4	2,030	130	3,250	136	1,400	780	175	26	7.0	3.4
2	3.1	3.4	9,300	125	2,250	130	1,280	820	155	25	6.7	3.3
3	3.1	3.1	4,830	120	1,700	124	1,320	905	140	24	6.4	3.2
4	3.0	3.1	10,100	117	1,400	120	1,250	1,050	129	22	6.1	3.1
5	3.0	3.1	11,900	115	1,150	116	1,180	1,100	117	21	5.8	3.1
6	2.8	5.1	4,000	111	930	112	1,920	1,200	107	20	5.6	3.0
7	2.8	12	2,100	106	790	108	1,700	1,320	99	19	5.5	3.0
8	2.8	13	900	100	670	105	1,400	1,450	92	18	5.3	2.9
9	2.8	8.0	710	96	580	103	1,200	1,600	85	17	5.1	2.8
10	2.6	5.9	850	93	510	760	1,050	1,400	79	17	5.0	2.8
11	2.5	6.1	760	91	450	610	1,200	1,200	73	16	4.8	2.7
12	2.5	95	1,200	90	400	505	1,000	1,050	69	15	4.7	2.7
13	2.5	244	1,300	89	355	750	900	930	65	15	4.6	2.6
14	2.5	797	1,350	88	325	930	1,020	1,030	62	14	4.4	2.6
15	2.5	1,050	850	87	305	1,300	880	1,120	60	14	4.3	2.7
16	2.6	1,780	660	87	285	7,600	820	1,290	59	13	4.2	2.8
17	2.6	485	600	86	270	6,200	1,100	1,490	57	12	4.1	3.0
18	2.6	261	530	85	255	1,900	1,400	1,390	56	12	4.0	3.1
19	2.8	798	480	84	235	1,500	1,300	1,280	54	11	3.9	3.2
20	2.8	3,970	380	900	220	1,950	1,200	1,040	50	11	3.8	3.3
21	3.0	3,390	320	13,500	210	1,600	1,100	810	46	10	3.8	3.2
22	3.1	1,680	280	4,800	200	1,450	1,010	690	43	9.8	3.7	3.1
23	3.1	850	245	1,600	186	1,850	920	580	40	9.6	3.7	3.0
24	3.3	480	220	1,320	175	1,420	1,020	490	38	9.2	3.7	3.0
25	3.3	318	205	1,120	168	1,300	920	430	36	8.8	3.7	3.1
26	3.3	258	185	2,300	158	1,200	890	360	34	8.6	3.6	3.2
27	3.3	265	173	5,000	150	1,150	870	315	32	8.4	3.6	3.2
28	3.3	801	160	9,000	140	1,100	850	275	31	8.1	3.6	3.2
29	3.3	1,870	150	14,000	-----	1,050	810	240	29	7.8	3.6	3.1
30	3.3	1,020	142	6,600	-----	1,200	780	210	27	7.5	3.6	3.0
31	3.4	-----	135	4,430	-----	1,600	-----	195	-----	7.3	3.5	-----
Total	90.7	20,478.2	57,045	66,470	17,717	39,979	33,690	28,040	2,139	437.1	141.4	90.4
Mean	2.93	683	1,840	2,144	633	1,290	1,123	905	71.3	14.1	4.56	3.01
Max	3.4	3,970	11,900	14,000	3,250	7,600	1,920	1,600	175	26	7.0	3.4
Min	2.5	3.1	135	84	140	103	780	195	27	7.3	3.5	2.6
Ac-ft	180	40,620	113,100	131,800	35,140	79,300	66,820	55,620	4,240	867	280	179

Cal yr 1966: Total 251,550.2 Mean 689 Max 35,200 Min 2.1 Ac-ft 498,900
Wtr yr 1967: Total 266,317.8 Mean 730 Max 14,000 Min 2.5 Ac-ft 529,200

Peak discharge (base, 8,000 cfs)

Note.--No gage-height record Dec. 6 to Sept. 25.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-4	-	-	26,700	1-29	-	-	32,000
1-21	-	-	28,500	3-16	-	-	9,800

EEL RIVER BASIN

11-4750. EEL RIVER AT FORT SEWARD, CALIF.

LOCATION.--Lat 40°13'05", long 123°37'54", in SE¼NE¼ sec.8, T.3 S., R.5 E., on right bank at downstream side of bridge, 1.0 mile southeast of Fort Seward, 1.9 miles upstream from Dobbyn Creek, and 11.8 miles northeast of Garberville.

DRAINAGE AREA.--2,107 sq mi.

RECORDS AVAILABLE.--September 1955 to September 1967. Prior to October 1965, published as "at Alderpoint."

GAGE.--Digital water-stage recorder. Datum of gage is 217.26 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 22, 1964, graphic water-stage recorder at site 7.5 miles upstream at datum 46.55 ft higher. Feb. 2 to Sept. 30, 1965, graphic water-stage recorder at site 7.7 miles upstream at datum 49.42 ft higher.

AVERAGE DISCHARGE.--12 years, 4,749 cfs (3,438,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 86,600 cfs Dec. 5 (gage height, 31.75 ft); minimum daily, 33 cfs Oct. 6, 7, 13.

1955-67: Maximum discharge, 561,000 cfs Dec. 22, 1964 (gage height, 87.2 ft, from floodmarks, site and datum then in use), from rating curve extended above 110,000 cfs on basis of slope-area measurement at gage height 72.5 ft; minimum daily, 10 cfs Aug. 30 to Sept. 5, 1964.

REMARKS.--Records good. Flow slightly regulated by Lake Pillsbury (see sta. no. 4700) and by diversion through Potter Valley powerhouse (see sta. no. 4710). Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1966 report: 1965.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	37	39	7,680	1,170	32,500	1,420	9,500	5,240	2,010	385	112	82
2	37	40	29,400	1,090	23,200	1,340	9,170	4,980	1,930	350	110	82
3	36	40	34,200	1,060	17,100	1,270	9,050	5,000	2,190	325	107	82
4	35	40	30,200	1,030	12,800	1,220	8,840	5,180	2,490	295	103	82
5	35	40	72,000	1,010	10,100	1,150	7,830	5,620	1,970	268	99	82
6	33	48	33,900	985	8,200	1,040	12,400	5,880	2,160	254	95	82
7	33	51	20,500	920	7,080	1,050	12,700	6,450	2,200	242	92	81
8	34	51	15,100	878	6,180	978	9,650	7,750	1,910	238	91	81
9	34	58	10,500	866	5,480	932	7,980	8,930	1,740	231	95	81
10	34	49	11,700	848	5,000	3,210	7,180	8,780	1,670	228	99	76
11	34	34	10,900	830	4,610	11,300	8,030	7,630	1,570	222	98	74
12	34	70	10,300	818	4,200	9,410	7,280	6,480	1,540	217	98	74
13	33	180	10,900	812	4,000	10,100	6,540	5,560	1,490	207	97	74
14	34	992	12,500	806	3,940	8,690	7,500	5,160	1,330	198	97	74
15	34	3,820	9,050	806	3,560	9,770	6,930	5,620	1,200	180	95	74
16	34	8,070	7,280	806	3,340	35,700	6,150	6,850	1,130	175	92	74
17	35	3,590	5,900	800	3,050	31,300	8,390	7,600	1,120	170	91	74
18	35	1,370	4,940	788	2,800	22,500	11,600	7,750	1,110	160	91	74
19	35	1,370	4,120	770	2,560	16,600	10,600	6,940	1,050	153	88	74
20	35	19,100	3,440	11,200	2,340	16,600	9,800	6,390	1,020	150	86	74
21	35	23,700	3,050	66,700	2,140	17,000	8,480	6,200	950	145	86	74
22	35	18,500	2,670	45,500	1,990	13,200	7,980	5,950	895	143	84	74
23	35	7,500	2,440	23,000	1,880	13,800	7,700	5,410	796	141	82	74
24	37	3,900	2,320	18,900	1,790	12,100	8,300	4,830	710	141	82	74
25	38	2,360	2,080	19,500	1,750	9,410	7,580	3,990	653	141	82	74
26	38	1,720	1,910	34,300	1,740	7,950	6,900	3,380	619	140	82	74
27	38	1,640	1,730	45,800	1,640	6,980	7,150	3,030	586	140	82	74
28	38	1,840	1,520	50,000	1,520	6,250	6,080	2,720	557	140	82	74
29	38	6,510	1,410	72,600	-----	6,080	6,250	2,570	520	138	82	74
30	39	5,520	1,330	49,300	-----	6,430	5,720	2,370	424	125	82	74
31	39	-----	1,280	47,500	-----	9,350	-----	2,180	-----	118	82	-----
TOTAL	1,101	112,242	366,250	501,393	176,490	294,130	250,060	172,420	39,540	6,160	2,844	2,291
MEAN	35.5	3,741	11,810	16,170	6,303	9,488	8,335	5,562	1,318	199	91.7	76.4
MAX	39	23,700	72,000	72,600	32,500	35,700	12,700	8,930	2,490	385	112	82
MIN	33	34	1,280	770	1,520	932	5,720	2,180	424	118	82	74
AC-FT	2,180	222,600	726,400	994,500	350,100	583,400	496,000	342,000	78,430	12,220	5,640	4,540

CAL YR 1966: TOTAL 1,623,596

MEAN 4,448

MAX 120,000

MIN 31

AC-FT 3,220,000

WAT YR 1967: TOTAL 1,924,921

MEAN 5,274

MAX 72,600

MIN 33

AC-FT 3,818,000

Peak discharge (base, 41,000 cfs)

Note.--No gage-height record July 1 to Aug. 2.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0615	31.75	86,600	1-29	1300	31.70	86,300
1-21	1600	31.00	82,800	3-16	1800	23.93	48,000

11-4755. SOUTH FORK EEL RIVER NEAR BRANSCOMB, CALIF.

LOCATION.--Lat 39°43'09", long 123°39'06", in NW $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,383.63 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Oct. 1, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--21 years, 172 cfs (124,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,470 cfs Jan. 29 (gage height, 7.47 ft); minimum, 1.3 cfs Sept. 29, 30.

1946-67: 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 maximum flow; minimum, 0.90 cfs Sept. 7, 1966.

REMARKS.--Records excellent. No regulation or diversion above station. Records of sediment and turbidity data for the water years 1965-67, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	2.6	309	49	810	46	390	160	41	16	6.5	2.2
2	2.2	2.6	1,480	45	554	45	358	148	50	16	6.2	2.2
3	2.3	2.5	965	43	419	44	339	136	42	15	5.9	2.1
4	15	2.5	1,320	41	329	42	301	124	39	14	5.6	2.2
5	6.6	2.5	2,010	42	265	40	309	116	37	14	5.2	2.2
6	3.4	12	900	38	219	38	512	107	36	14	5.4	2.1
7	2.9	13	576	36	188	37	498	97	35	14	5.4	1.9
8	2.7	6.7	427	34	160	37	432	92	34	14	5.0	1.9
9	2.5	5.1	338	33	140	37	355	103	32	14	4.8	1.9
10	2.5	4.4	369	32	124	474	345	138	31	13	4.6	2.1
11	2.4	8.3	308	30	114	523	345	120	30	12	4.5	2.1
12	2.4	147	317	29	101	403	313	105	29	12	4.5	2.0
13	2.4	98	372	28	97	403	301	97	29	11	4.1	2.0
14	2.5	312	358	27	93	393	355	92	28	11	4.1	1.9
15	2.6	284	305	26	95	412	320	86	26	11	3.9	1.9
16	2.7	433	254	25	90	1,210	289	80	26	10	3.6	1.6
17	2.6	154	211	24	80	865	558	77	25	10	3.6	1.9
18	2.5	89	178	23	77	654	554	72	24	9.5	3.4	2.3
19	2.5	227	152	25	72	495	484	67	24	5.3	3.2	2.5
20	2.5	669	132	1,030	67	589	419	62	23	5.1	3.1	2.5
21	2.6	838	116	2,360	62	526	361	59	23	5.0	3.1	2.2
22	2.6	661	103	975	59	457	320	56	21	9.1	2.9	2.0
23	2.9	351	109	578	58	451	301	53	20	5.1	2.9	1.9
24	2.9	221	91	543	55	358	262	52	20	8.6	2.7	1.9
25	2.8	158	83	470	56	304	230	50	20	8.2	2.7	1.9
26	2.6	121	75	1,290	52	259	214	47	19	7.9	2.7	1.6
27	2.7	98	69	1,390	50	219	233	46	18	7.6	2.7	1.6
28	2.7	100	63	1,680	47	211	206	46	18	7.3	2.7	1.6
29	2.8	101	59	2,470	-----	185	190	44	17	7.3	2.7	1.3
30	2.8	83	56	1,400	-----	265	178	42	17	7.3	2.7	1.3
31	2.6	-----	52	1,230	-----	374	-----	41	-----	6.9	2.4	-----
TOTAL	97.2	5,207.2	12,157	16,046	4,533	10,396	10,272	2,615	834	337.2	122.8	58.8
MEAN.	3.14	174	392	518	162	335	342	84.4	27.8	10.9	3.96	1.96
MAX	15	838	2,010	2,470	810	1,210	558	160	50	16	6.5	2.5
MIN	2.0	2.5	52	23	47	37	178	41	17	6.9	2.4	1.3
AC-FT	193	10,330	24,110	31,830	8,990	20,620	20,370	5,190	1,650	665	244	117

CAL YR 1966: TOTAL 64,699.1 MEAN 177 MAX 11,100 MIN 1.3 AC-FT 128,300
WAT YR 1967: TOTAL 62,676.2 MEAN 172 MAX 2,470 MIN 1.3 AC-FT 124,300

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	1330	6.50	2,570	1-21	0715	7.29	3,290
12-5	0115	7.14	3,140	1-29	0545	7.47	3,470

EEL RIVER BASIN

11-4757. TENMILE CREEK NEAR LAYTONVILLE, CALIF.

LOCATION.--Lat 39°45'45", long 123°32'30", in NW $\frac{1}{4}$ 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,427.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Mar. 24, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 154 cfs (111,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,240 cfs Jan. 26 (gage height, 12.34 ft); no flow Oct. 1-3, 5. 1957-67: Maximum discharge, 14,500 cfs Dec. 22, 1964 (gage height, 21.3 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, 1963-65. Flood of Dec. 22, 1955, reached a stage of 22.9 ft, from floodmarks (discharge, 16,300 cfs by slope-area measurement of maximum flow).

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.30	537	43	583	39	457	110	23	7.8	1.8	.70
2	0	.20	1,670	41	409	38	370	99	32	7.0	1.8	.64
3	0	.20	720	40	298	36	325	93	28	6.8	1.8	.64
4	.10	.30	2,010	38	224	34	263	88	24	6.6	1.8	.64
5	0	.30	1,440	39	177	33	335	87	23	6.5	1.7	.64
6	.10	4.2	565	35	148	31	697	83	22	6.3	1.6	.64
7	.10	5.3	415	34	128	30	434	79	21	6.0	1.4	.52
8	.10	3.3	310	33	112	29	309	76	21	6.5	1.3	.52
9	.10	2.9	248	31	100	29	236	78	19	6.7	1.2	.52
10	.10	2.9	513	30	91	558	307	99	20	6.8	1.1	.52
11	.10	4.2	328	29	82	448	342	84	19	6.7	.94	.58
12	.10	4.8	331	29	76	436	228	72	18	6.0	.88	.58
13	.10	5.3	448	28	74	433	218	65	17	6.1	.88	.70
14	.10	2.98	325	27	73	409	353	59	17	5.4	1.0	.70
15	.10	4.03	244	26	78	572	244	55	17	5.1	.88	.64
16	.10	3.40	183	25	74	1,410	195	51	16	4.6	.82	.52
17	.10	.69	148	25	65	676	759	47	15	3.7	.76	.46
18	.10	.38	124	24	61	548	512	44	13	3.2	.76	.82
19	.10	4.18	108	27	57	370	383	42	13	2.9	.76	1.2
20	.10	7.60	95	1,870	53	841	306	39	13	3.2	.70	1.2
21	.10	1,070	84	1,970	50	481	258	35	12	3.1	.64	1.0
22	.10	474	76	672	48	388	241	33	12	2.9	.58	.76
23	.10	177	89	439	47	492	287	31	12	2.7	.58	.70
24	.10	105	74	841	46	305	225	28	12	2.6	.52	.70
25	.10	77	68	586	50	233	178	26	11	2.5	.52	.64
26	.10	.63	62	2,320	44	186	158	25	10	2.1	.58	.52
27	.20	53	56	1,610	41	152	207	24	9.8	1.9	.58	.40
28	.30	130	53	1,670	40	168	158	24	9.6	1.9	.64	.37
29	.30	131	51	2,220	-----	148	135	25	9.1	1.9	.70	.34
30	.30	94	49	1,250	-----	310	121	24	8.2	1.9	.70	.34
31	.30	-----	46	1,040	-----	509	-----	23	-----	1.9	.70	-----
TOTAL	3.60	4,825.10	11,470	17,092	3,329	10,372	9,241	1,748	496.7	139.3	30.62	19.15
MEAN	.12	161	370	551	119	335	308	56.4	16.6	4.49	.99	.64
MAX	.30	1,070	2,010	2,320	583	1,410	759	110	32	7.8	1.8	1.2
MIN	0	.20	46	24	40	29	121	23	8.2	1.9	.52	.34
AC-FT	7.1	9,570	22,750	33,900	6,600	20,570	18,330	3,470	985	276	61	38

CAL YR 1966: TOTAL 53,941.20

MEAN 148

MAX 5,500

MIN 0

AC-FT 107,000

WAT YR 1967: TOTAL 58,766.47

MEAN 161

MAX 2,320

MIN 0

AC-FT 116,600

Peak discharge (base, 5,000 cfs).--Jan. 26 (0915) 5,240 cfs (12.34 ft).

EEL RIVER BASIN

433

11-4758. SOUTH FORK EEL RIVER AT LEGGETT, CALIF.

LOCATION.--Lat 39°52'30", long 123°43'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.3, T.23 N., R.17 W., on right bank near Standish-Hickey State Park, 0.2 mile upstream from Rock Creek, and 0.5 mile northwest of Leggett.

DRAINAGE AREA.--248 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 693.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

EXTREMES.--Maximum discharge during year, 23,700 cfs Dec. 4 (gage height, 17.29 ft); minimum daily, 15 cfs Oct. 15.

1965-67: Maximum discharge, 72,700 cfs Jan. 4, 1966 (gage height, 25.4 ft, from floodmarks), from rating curve extended above 21,000 cfs on basis of slope-area measurement at gage height 26.13 ft; minimum daily, 15 cfs Oct. 15, 1966.

Flood of Dec. 22, 1964, reached a stage of 26.13 ft, from floodmarks (discharge, 78,700 cfs by slope-area measurement of maximum flow).

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	19	1,900	370	4,940	288	2,470	872	215	93	51	29
2	20	19	3,230	338	3,420	278	2,230	795	244	90	48	27
3	20	19	2,580	320	2,510	253	1,990	745	237	88	47	26
4	18	19	9,110	302	2,060	244	1,750	696	215	86	46	26
5	19	19	11,500	275	1,720	234	1,740	655	207	86	45	26
6	46	31	4,900	270	1,470	224	3,180	625	207	85	43	26
7	31	41	3,410	260	1,240	215	2,780	585	195	82	43	26
8	25	40	2,670	245	1,060	213	2,290	555	190	80	43	26
9	22	40	2,210	232	934	210	1,850	545	185	80	42	26
10	21	40	2,600	225	848	2,140	1,780	680	180	80	40	26
11	22	40	2,070	215	751	2,580	2,000	625	175	78	39	26
12	18	580	2,140	206	696	1,980	1,730	560	170	75	38	26
13	16	595	2,380	204	620	2,080	1,580	513	162	72	37	26
14	16	2,490	2,300	204	610	1,980	1,950	446	160	72	37	25
15	15	2,240	1,970	203	575	2,450	1,740	450	153	71	36	25
16	16	3,510	1,710	202	600	7,780	1,520	426	150	69	35	25
17	16	675	1,470	200	536	4,680	2,880	402	144	68	33	26
18	16	343	1,260	200	477	3,550	3,030	382	137	65	33	29
19	17	1,290	1,110	210	450	2,650	2,520	362	135	65	32	29
20	17	4,830	983	2,300	422	3,000	2,070	342	133	65	32	28
21	17	1,650	872	9,700	378	2,700	1,810	327	130	64	32	26
22	16	510	784	5,000	354	2,250	1,620	306	126	61	32	26
23	16	545	789	3,020	350	2,500	1,530	288	124	59	31	26
24	18	374	701	2,990	338	2,000	1,420	260	122	59	30	26
25	18	280	635	2,800	338	1,580	1,240	260	118	59	29	25
26	17	250	575	8,550	323	1,400	1,090	257	114	56	30	24
27	18	177	527	8,090	306	1,200	1,170	247	112	54	29	24
28	17	203	486	9,760	295	1,050	1,120	240	110	54	30	24
29	18	442	450	14,000	-----	1,150	1,030	237	106	54	30	23
30	18	238	430	8,260	-----	1,580	941	227	101	54	30	22
31	19	-----	398	7,540	-----	2,360	-----	221	-----	53	29	-----
TOTAL	604	21,549	68,150	86,691	28,621	56,799	56,051	14,131	4,757	2,177	1,132	775
MEAN	19.5	718	2,198	2,796	1,022	1,832	1,868	456	159	70.2	36.5	25.8
MAX.	46	4,830	11,500	14,000	4,940	7,780	3,180	872	244	93	51	29
MIN	15	19	398	200	295	210	941	221	101	53	29	22
AC-FT	1,200	42,740	135,200	171,900	56,770	112,700	111,200	28,030	9,440	4,320	2,250	1,540

CAL YR 1966: TOTAL 335,413 MEAN 919 MAX 49,800 MIN 15 AC-FT 665,300
WAT YR 1967: TOTAL 341,437 MEAN 935 MAX 14,000 MIN 15 AC-FT 677,200

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2145	17.29	23,700	1-29	0800	16.28	19,900
1-21	-	-	13,000	3-16	0900	12.98	10,300

EEL RIVER BASIN

11-4759.4. EAST BRANCH SOUTH FORK EEL RIVER NEAR GARBERVILLE, CALIF.

LOCATION.--Lat 40°04'27", long 123°46'08", in SE¼NE¼ sec.31, T.4 S., R.4 E., on left bank just upstream from Panther Canyon, 1.9 miles upstream from mouth, and 2.3 miles southeast of Garberville.

DRAINAGE AREA.--74.3 sq mi.

RECORDS AVAILABLE.--June 1966 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 385.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

EXTREMES.--Maximum discharge during year, 14,200 cfs Dec. 4 (gage height, 10.09 ft), from rating curve extended above 3,000 cfs; minimum daily, 2.9 cfs Nov. 4, 5.
1966-67: Maximum discharge, 14,200 cfs Dec. 4, 1966 (gage height, 10.09 ft), from rating curve extended above 3,000 cfs; minimum daily, 2.9 cfs Nov. 4, 5, 1966.

REMARKS.--Records excellent. No regulation; small diversion above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.0	3.2	785	63	1,240	57	610	250	47	19	8.8	5.5
2	4.6	3.2	2,450	60	596	54	567	226	52	18	8.8	5.0
3	4.6	3.2	1,880	57	279	53	492	210	48	16	7.5	5.0
4	4.6	2.9	6,030	56	187	52	424	193	44	15	7.5	5.0
5	4.6	2.9	3,220	63	172	50	517	181	44	15	7.5	5.0
6	4.0	10	1,060	55	145	49	818	165	44	15	7.5	5.0
7	4.0	8.9	963	52	136	47	374	148	41	15	7.5	4.5
8	4.0	5.8	763	47	128	46	372	141	39	15	7.0	4.5
9	4.0	5.2	600	46	121	47	353	138	39	15	7.0	4.5
10	4.0	4.6	803	44	118	1,180	376	176	39	14	7.0	4.5
11	4.6	7.7	549	42	114	701	366	142	38	14	7.0	4.5
12	4.0	94	602	42	108	488	369	124	37	14	7.0	4.5
13	3.4	122	924	40	106	380	358	112	34	13	7.0	5.0
14	3.4	356	628	38	102	391	427	99	33	13	6.5	5.0
15	3.2	366	420	36	101	678	385	88	32	13	6.5	5.0
16	3.2	646	272	36	97	4,290	347	84	30	14	6.5	5.0
17	3.2	113	221	34	91	1,390	524	79	30	13	6.5	6.0
18	3.2	66	187	33	87	1,110	348	71	30	12	6.0	7.0
19	3.2	1,060	160	44	83	879	366	69	30	12	6.0	7.0
20	3.4	1,800	139	2,050	78	1,190	374	68	27	11	6.0	6.8
21	4.0	1,630	125	3,410	75	838	358	63	26	12	6.0	6.1
22	3.4	815	114	946	72	733	347	62	25	12	6.0	5.3
23	3.4	201	123	630	70	848	355	58	25	12	6.0	5.0
24	3.4	144	107	1,170	68	594	365	58	24	10	6.0	5.5
25	3.4	119	99	820	69	519	335	54	23	9.6	6.0	5.5
26	3.4	99	93	4,070	63	446	325	54	21	9.6	6.0	5.5
27	3.4	87	85	2,600	60	419	403	54	21	9.6	6.0	5.5
28	3.2	170	78	2,690	58	362	350	52	21	9.6	6.0	5.5
29	3.2	207	75	2,590	-----	369	315	52	21	9.6	6.0	5.0
30	3.2	149	71	2,000	-----	565	275	48	20	9.6	6.0	3.0
31	3.2	-----	67	1,800	-----	547	-----	46	-----	9.6	6.0	-----
TOTAL	114.4	8,301.6	23,693	25,664	4,624	19,372	12,195	3,365	985	399.2	207.1	156.2
MEAN	3.69	277	764	828	165	625	407	109	32.8	12.9	6.68	5.21
MAX	4.6	1,800	6,030	4,070	1,240	4,290	818	250	52	19	8.8	7.0
MIN	3.2	2.9	67	33	58	46	275	46	20	9.6	6.0	3.0
AC-FT	227	16,470	46,990	50,900	9,170	38,420	24,190	6,670	1,950	792	411	310

CAL YR 1966: TOTAL - MEAN - MAX - MIN - AC-FT -
WAT YR 1967: TOTAL 99,076.5 MEAN 271 MAX 6,030 MIN 2.9 AC-FT 196,500

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2230	10.09	14,200	1-26	0830	9.81	12,700
1-21	0730	8.58	6,830	3-16	0615	9.53	11,300

11-4765. SOUTH FORK EEL RIVER NEAR MIRANDA, CALIF.

LOCATION.--Lat 40°10'55", long 123°46'30", in NW¼ 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 217.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. 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. Oct. 31, 1944, to Dec. 22, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--28 years, 1,841 cfs (1,333,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 37,600 cfs Dec. 5 (gage height, 19.01 ft); minimum daily, 22 cfs Nov. 5.

1940-67: Maximum discharge, 199,000 cfs Dec. 22, 1964 (gage height, 46.0 ft, from floodmarks), from rating curve extended above 52,000 cfs on basis of slope-area measurement at gage height 42.7 ft; minimum observed, 9 cfs Oct. 17, 1944.

REMARKS.--Records excellent. Occasional storage and release for recreation use during summer months at Benbow Dam. No diversion above station. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	25	3,800	694	10,600	509	5,340	1,830	421	180	91	53
2	43	26	7,400	638	7,170	496	4,680	1,670	312	174	90	53
3	40	31	12,700	620	5,250	481	4,030	1,530	441	168	87	53
4	40	25	14,500	602	4,070	470	3,450	1,410	420	162	82	53
5	39	22	25,500	614	3,230	458	3,240	1,320	397	156	80	52
6	38	45	10,500	578	2,650	445	5,600	1,240	382	150	80	51
7	36	60	6,720	548	2,230	433	5,410	1,160	375	148	78	53
8	44	68	5,350	530	1,880	423	4,430	1,090	360	139	74	53
9	46	66	4,100	518	1,630	414	3,660	1,070	352	140	76	53
10	43	67	4,800	506	1,410	3,080	3,340	1,320	344	140	74	53
11	41	65	4,050	490	1,250	5,890	3,750	1,270	336	128	74	65
12	38	348	4,220	485	1,130	4,380	3,220	1,140	326	133	74	79
13	37	1,200	4,560	480	1,040	4,640	2,850	1,040	316	133	72	85
14	35	5,200	4,970	470	1,040	4,560	3,410	970	307	130	69	84
15	38	5,000	3,840	465	961	5,170	3,120	919	296	124	67	84
16	35	7,600	3,420	450	974	15,600	2,760	871	283	125	66	95
17	34	4,000	3,020	440	872	10,500	5,400	812	278	122	63	82
18	31	800	2,610	435	806	7,740	6,460	775	271	117	63	66
19	30	3,500	2,290	455	759	5,620	5,420	742	257	114	60	66
20	31	10,000	1,870	6,200	712	6,440	4,640	709	238	111	55	62
21	33	3,500	1,520	21,700	671	5,880	4,010	672	240	110	55	60
22	35	1,600	1,350	11,700	641	4,860	3,460	638	236	110	55	58
23	32	1,500	1,350	6,880	622	5,370	3,130	612	229	110	53	55
24	32	1,180	1,230	6,440	602	4,270	3,040	593	223	109	53	55
25	30	930	1,050	6,860	599	3,510	2,640	569	221	105	53	53
26	26	780	972	16,300	578	2,980	2,350	538	212	102	56	51
27	28	687	868	19,100	546	2,520	2,780	515	206	102	57	46
28	27	736	813	23,600	527	2,260	2,580	500	198	102	57	48
29	28	1,350	778	30,900	-----	2,190	2,300	490	193	101	56	48
30	28	1,160	750	18,700	-----	3,490	2,040	475	189	98	53	41
31	26	-----	729	17,400	-----	5,490	-----	446	-----	95	53	-----
TOTAL	1,087	51,571	141,630	195,798	54,450	120,569	112,540	28,936	8,859	3,938	2,076	1,810
MEAN	35.1	1,719	4,569	6,316	1,945	3,889	3,751	933	295	127	67.0	60.3
MAX	46	10,000	25,500	30,900	10,600	15,600	6,460	1,830	441	180	91	95
MIN	26	22	729	435	527	414	2,040	446	189	95	53	41
AC-FT	2,160	102,300	280,900	388,400	108,000	239,100	223,200	57,390	17,570	7,810	4,120	3,590

CAL YR 1966: TOTAL 720,275 MEAN 1,973 MAX 84,400 MIN 22 AC-FT 1,429,000
WAT YR 1967: TOTAL 723,264 MEAN 1,982 MAX 30,900 MIN 22 AC-FT 1,435,000

Peak discharge (base, 15,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0430	19.01	37,600	1-29	1145	18.97	37,500
1-21	1400	15.94	26,600	3-16	1115	14.06	20,800

EEL RIVER BASIN

11-4766. BULL CREEK NEAR WEOTT, CALIF.

LOCATION.--Lat 40°21'05", long 124°00'10", in SW¼NW¼ sec.30, T.1 S., R.2 E., on left 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 269.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 22, 1964, graphic water-stage recorder, and Jan. 14 to Aug. 10, 1965, wire-weight gage at site 150 ft downstream at datum 8.90 ft lower.

AVERAGE DISCHARGE.--7 years, 117 cfs (84,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,800 cfs Dec. 5; minimum daily, 1.3 cfs Oct. 7.
1960-67: Maximum discharge, 6,520 cfs Dec. 22, 1964 (gage height, 20.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 2,100 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.90 cfs Oct. 20, 1964.

REMARKS.--Records good. Minor diversions above station for domestic use.

COOPERATION.--Three discharge measurements furnished by California Division of Beaches and Parks.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.7	1.3	276	50	1,070	36	300	111	33	12	7.9	2.5
2	1.6	1.6	461	48	800	35	280	103	37	11	7.6	2.3
3	1.6	2.1	480	46	640	34	250	101	32	9.5	7.0	2.3
4	1.6	1.7	1,050	45	500	33	240	94	30	10	6.9	2.1
5	1.5	1.3	1,300	50	380	32	290	90	27	8.2	6.9	2.0
6	1.5	1.8	990	46	300	31	299	84	25	8.8	7.0	2.3
7	1.3	2.3	600	44	240	30	291	78	26	10	6.6	2.0
8	2.0	3.0	370	45	190	37	269	74	25	8.4	6.5	2.1
9	3.5	2.5	290	44	170	49	250	80	23	7.7	5.4	2.1
10	2.8	2.8	320	44	150	189	252	92	22	7.5	4.3	2.1
11	2.3	2.4	260	42	140	168	236	85	22	7.0	3.6	2.0
12	1.9	10	280	41	120	184	212	78	20	7.1	4.3	1.6
13	1.4	70	300	38	105	240	220	72	24	7.5	2.9	1.8
14	2.0	270	326	37	95	418	206	68	22	7.8	3.9	1.8
15	3.2	240	278	36	86	679	197	64	22	6.9	4.2	1.8
16	3.0	370	250	33	80	1,610	207	60	20	6.6	2.7	1.6
17	2.5	120	216	52	74	898	286	56	19	6.0	2.7	2.0
18	2.2	31	192	55	68	680	270	54	18	5.5	2.7	5.8
19	1.8	130	168	64	64	500	251	52	17	6.0	2.6	3.2
20	2.0	550	160	276	60	530	246	49	16	12	2.6	3.0
21	2.5	170	152	1,000	56	490	221	47	15	11	2.6	2.8
22	3.0	55	133	450	52	400	202	45	14	9.8	2.6	2.6
23	2.6	60	132	335	50	440	195	44	14	9.9	2.5	2.5
24	2.3	40	116	583	47	350	181	43	15	8.6	2.5	2.4
25	2.0	30	98	604	44	300	169	40	13	8.5	2.6	2.3
26	1.8	25	87	800	42	240	164	35	12	8.5	2.6	2.2
27	1.6	21	79	1,000	40	200	168	34	11	8.5	2.5	1.9
28	1.4	190	64	1,400	38	170	161	35	11	8.1	2.5	2.0
29	1.6	147	60	2,000	-----	230	131	34	11	8.3	2.6	2.2
30	1.7	126	55	1,600	-----	320	118	34	10	8.9	2.5	1.9
31	1.4	-----	52	1,450	-----	310	-----	29	-----	7.4	2.5	-----
TOTAL	63.3	2,677.8	9,595	12,358	5,701	9,863	6,762	1,965	606	263.0	126.3	69.2
MEAN	2.04	89.3	310	399	204	318	225	63.4	20.2	8.48	4.07	2.31
MAX	3.5	550	1,300	2,000	1,070	1,610	300	111	37	12	7.9	5.8
MIN	1.3	1.3	52	33	38	30	118	29	10	5.5	2.5	1.6
AC-FT	126	5,310	19,030	24,510	11,310	19,560	13,410	3,900	1,200	522	251	137

CAL YR 1966: TOTAL 42,358.8 MEAN 116 MAX 3,500 MIN 1.3 AC-FT 84,020
WAT YR 1967: TOTAL 50,049.6 MEAN 137 MAX 2,000 MIN 1.3 AC-FT 99,270

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	-	-	4,800	3-16	0400	10.87	2,870
1-28	-	-	3,500				

Note.--No gage-height record Oct. 1 to Nov. 27,
Dec. 5, 6, Feb. 2 to Mar. 7.

EEL RIVER BASIN

437

11-4770. EEL RIVER AT SCOTIA, CALIF.
(International hydrologic decade station)

LOCATION.--Lat 40°29'30", long 124°05'55", in SW¼ 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 1967. Monthly discharge only for some periods and yearly estimates for 1915-16, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 35.50 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to September 1934, staff gage, September 1934 to Dec. 12, 1940, wire-weight gage, and Dec. 12, 1940, to Oct. 14, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--57 years, 7,098 cfs (5,139,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 154,000 cfs Dec. 5 (gage height, 32.95 ft); minimum daily, 99 cfs Oct. 14.

1910-67: Maximum discharge, 752,000 cfs Dec. 23, 1964 (gage height, 72.0 ft, from floodmarks), from rating curve extended above 220,000 cfs on basis of maximum flow at upstream stations; minimum observed, 10 cfs Aug. 12-14, 1924.

REMARKS.--Records good. Flow slightly regulated by Lake Pillsbury (see sta. no. 4700) and by diversion through Potter Valley powerhouse (see sta. no. 4710). Records of sediment and turbidity data for the water years 1965-67, and chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	121	115	12,500	2,800	56,800	2,500	18,900	8,700	2,810	900	275	153
2	120	115	33,500	2,600	36,500	2,420	17,100	7,970	2,730	870	267	156
3	117	115	41,000	2,460	25,500	2,390	15,200	7,700	2,750	840	258	150
4	116	115	36,000	2,350	18,800	2,350	14,400	7,610	3,210	800	248	148
5	115	117	133,000	2,250	14,800	2,250	13,100	7,760	2,900	760	238	145
6	113	123	67,200	2,160	12,400	2,140	18,900	8,000	2,770	730	228	143
7	113	140	36,800	2,080	11,100	2,060	23,500	8,180	2,900	700	220	143
8	111	145	25,700	2,000	9,780	1,990	18,500	9,360	2,730	670	213	136
9	111	153	18,200	1,950	8,700	1,950	14,500	11,000	2,570	640	206	136
10	111	153	18,500	1,880	7,940	3,790	13,000	11,700	2,450	600	201	135
11	111	156	18,700	1,820	7,160	17,400	13,900	11,300	2,330	570	196	135
12	111	184	17,300	1,780	6,410	15,200	12,800	9,150	2,220	540	190	136
13	109	1,170	17,600	1,730	5,990	16,100	11,000	7,730	2,150	510	185	151
14	99	3,150	20,400	1,710	5,830	15,600	12,600	6,950	2,070	480	182	160
15	104	7,550	15,800	1,690	5,690	17,500	12,400	6,890	1,960	460	180	165
16	107	13,100	12,600	1,680	5,460	57,300	10,600	8,030	1,790	440	179	166
17	107	11,700	10,400	1,650	5,210	56,800	14,000	9,150	1,690	420	178	204
18	109	4,170	8,900	1,630	4,980	36,900	21,500	9,470	1,620	400	177	216
19	109	4,850	7,770	1,680	4,600	27,600	19,300	8,700	1,590	386	180	181
20	109	20,300	6,900	11,700	4,250	26,100	18,600	7,730	1,550	375	174	168
21	111	34,000	6,120	90,800	3,950	28,600	16,000	7,400	1,510	365	171	160
22	115	44,500	5,480	80,700	3,680	22,100	14,100	6,950	1,430	355	165	155
23	127	26,200	5,110	37,000	3,400	21,700	13,000	6,560	1,380	340	165	152
24	126	16,000	4,900	27,700	3,150	20,700	13,700	6,020	1,320	330	162	150
25	122	9,300	4,510	31,500	3,000	16,300	12,600	5,050	1,260	325	165	145
26	120	5,210	4,220	45,300	2,850	13,500	11,300	4,260	1,200	320	165	143
27	118	4,190	3,900	88,300	2,700	11,600	12,100	3,810	1,130	315	162	137
28	116	3,650	3,650	93,400	2,580	10,600	12,200	3,570	1,060	310	159	133
29	115	12,200	3,320	130,000	-----	10,300	10,400	3,330	1,000	303	156	130
30	115	9,900	3,110	98,400	-----	11,300	9,750	3,270	950	295	156	130
31	115	-----	2,990	86,200	-----	18,300	-----	2,990	-----	282	153	-----
TOTAL	3,523	232,771	606,080	858,900	283,210	495,340	438,950	226,290	59,030	15,631	5,954	4,562
MEAN	114	7,759	19,550	27,710	10,110	15,980	14,630	7,300	1,968	504	192	152
MAX	127	44,500	133,000	130,000	56,800	57,300	23,500	11,700	3,210	900	275	216
MIN	99	115	2,990	1,630	2,580	1,950	9,750	2,990	950	282	153	130
AC-FT	6,990	461,700	1,202M	1,704M	561,700	982,500	870,600	448,800	117,100	31,000	11,810	9,050

CAL YR 1966: TOTAL 2,992,911 MEAN 8,200 MAX 261,000 MIN 98 AC-FT 5,936,000
WAT YR 1967: TOTAL 3,230,241 MEAN 8,850 MAX 133,000 MIN 99 AC-FT 6,407,000

Peak discharge (base, 72,000 cfs)

Note.--No gage-height record June 15 to Aug. 17.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-5	0930	32.95	154,000	1-29	1900	32.86	153,000
1-21	2030	30.24	126,000	3-16	2230	25.11	80,900

EEL RIVER BASIN

11-4775. VAN DUZEN RIVER NEAR DINSMORES, CALIF.

LOCATION.--Lat 40°29'05", long 123°39'25", in NW¼ sec.7, T.1 N., R.5 E., on right bank 10 ft upstream from private road bridge, 0.3 mile upstream from South Fork, and 2.8 miles west of Dinsmores.

DRAINAGE AREA.--85.1 sq mi.

RECORDS AVAILABLE.--August 1953 to September 1958, October 1963 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,996.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Aug. 19, 1953, to Sept. 30, 1958, graphic water-stage recorder at site 1.7 miles upstream at different datum. Oct. 1, 1963, to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 378 cfs (273,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 12,400 cfs Dec. 4 (gage height, 12.67 ft); minimum daily, 3.1 cfs for many days.

1953-58, 1963-67: Maximum discharge, 27,000 cfs Dec. 22, 1964 (gage height, 22.5 ft, from floodmarks), from rating curve extended above 10,000 cfs on basis of slope-area measurement of maximum flow; minimum, 1.8 cfs Aug. 29, 1958.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1965 report: 1964(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.8	3.8	2,000	105	1,440	85	304	270	148	32	10	3.1
2	3.8	3.8	3,220	99	846	84	330	280	156	31	8.8	3.1
3	4.4	3.8	2,290	97	566	80	346	325	137	30	8.4	3.1
4	4.4	3.8	5,790	94	415	75	312	365	128	28	8.4	3.1
5	4.4	3.8	4,770	90	341	72	337	390	121	28	8.4	3.1
6	4.4	5.6	1,970	88	289	70	479	415	118	26	8.1	3.1
7	4.4	4.3	1,380	84	256	67	522	470	112	24	7.1	3.1
8	4.4	5.6	970	82	228	64	477	530	105	24	7.0	3.1
9	4.1	6.6	638	80	203	63	426	600	99	24	7.0	3.1
10	3.8	7.0	1,420	78	184	161	408	580	94	23	7.0	3.1
11	3.8	7.1	1,200	76	170	151	354	540	90	22	5.8	3.1
12	3.1	45	1,330	74	158	140	325	464	87	21	5.9	3.1
13	3.1	142	1,250	71	151	138	360	418	84	20	5.9	3.1
14	3.1	400	919	70	152	140	395	419	80	20	5.1	3.1
15	3.1	624	596	68	141	238	345	508	76	15	4.5	3.1
16	3.1	1,160	451	65	142	2,880	300	601	72	18	3.8	3.1
17	3.1	252	364	62	154	1,640	430	598	68	17	3.8	3.1
18	3.1	144	307	60	150	1,560	395	500	63	17	3.8	3.2
19	3.1	1,060	266	60	132	1,100	368	431	60	16	3.8	3.1
20	3.3	2,160	237	1,320	117	1,410	360	404	57	17	3.8	3.1
21	4.4	1,620	209	3,610	112	1,330	340	387	53	16	3.8	3.1
22	4.1	675	190	1,630	107	1,130	320	360	51	16	3.8	3.1
23	4.4	376	185	885	103	1,710	310	321	49	15	3.8	3.1
24	4.4	284	172	733	99	1,110	335	284	47	15	3.8	3.1
25	4.4	237	161	527	96	720	318	251	44	14	3.3	3.1
26	4.4	232	155	1,700	92	510	300	225	42	13	3.1	3.1
27	4.4	234	134	3,410	89	407	362	204	40	13	3.1	3.1
28	4.4	777	127	4,950	86	367	335	194	39	13	3.1	3.1
29	4.4	1,410	120	5,310	-----	320	307	183	37	12	3.1	3.1
30	4.4	634	118	2,410	-----	311	280	165	35	12	3.1	3.1
31	3.8	-----	111	2,070	-----	308	-----	151	-----	11	3.1	-----
TOTAL	121.3	12,521.2	33,050	30,067	7,019	18,441	10,790	11,833	2,392	607	163.5	93.1
MEAN	3.91	417	1,066	970	251	595	360	382	79.7	19.6	5.27	3.10
MAX	4.4	2,160	5,790	5,310	1,440	2,880	522	601	156	32	10	3.2
MIN	3.1	3.8	111	60	86	63	280	151	35	11	3.1	3.1
AC-FT	241	24,840	65,550	59,640	13,920	36,580	21,400	23,470	4,740	1,200	324	185

CAL YR 1966: TOTAL 149,565.1 MEAN 410 MAX 11,000 MIN 2.5 AC-FT 296,700
WAT YR 1967: TOTAL 127,098.1 MEAN 348 MAX 5,790 MIN 3.1 AC-FT 252,100

Peak discharge (base, 3,400 cfs)

Note.--No gage-height record Apr. 12 to May 11.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-4	1945	12.67	12,400	1-29	0445	11.65	10,300
1-21	0930	9.32	5,140	3-16	0945	9.33	5,170

EEL RIVER BASIN

439

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 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Datum of gage is 2,283.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Sept. 25, 1953, to Aug. 31, 1957, crest-stage gage only, at site 0.1 mile upstream at different datum.

AVERAGE DISCHARGE.--9 years, 166 cfs (120,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,580 cfs Dec. 4 (gage height, 13.62 ft); minimum, 3.3 cfs Sept. 28-30.

1953-57, 1958-67: Maximum discharge, 13,600 cfs Dec. 22, 1964 (gage height, 18.70 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement at gage height 11.91 ft, crest-stage gage.

1958-67: Minimum discharge, 2.0 cfs Sept. 24, 25, 1962.

REMARKS.--Records good. No regulation or large diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	3.8	1,040	54	695	47	173	175	92	19	8.4	3.8
2	4.1	3.8	2,080	51	420	46	195	203	91	18	7.8	3.8
3	4.1	3.8	1,180	50	320	44	190	248	83	18	7.5	3.8
4	3.8	3.8	3,390	49	266	44	173	278	77	17	7.5	3.8
5	3.8	3.8	2,170	50	227	42	206	284	72	16	7.5	3.8
6	3.8	9.7	958	46	193	40	272	299	69	16	7.2	3.8
7	3.8	8.1	680	45	163	40	239	376	65	16	7.2	4.1
8	3.8	6.6	504	44	140	39	230	440	61	15	6.9	4.4
9	3.6	6.0	448	44	128	40	206	460	58	15	6.3	4.4
10	3.6	5.7	544	43	114	154	215	456	54	15	6.3	4.4
11	3.6	6.3	516	42	100	97	188	392	51	14	6.0	4.4
12	3.6	25	532	41	92	89	175	352	49	14	5.7	4.1
13	3.8	99	520	40	92	81	245	332	45	14	5.7	3.8
14	3.8	228	420	39	88	86	221	332	43	13	5.5	3.6
15	3.8	487	332	37	88	250	188	376	40	13	5.5	3.6
16	3.8	773	281	37	84	2,100	175	404	39	12	5.2	3.6
17	3.8	296	233	36	94	840	209	388	37	12	4.9	4.7
18	3.8	175	188	35	88	735	188	328	35	11	4.9	6.0
19	3.8	976	155	48	74	492	185	293	33	11	4.7	5.2
20	3.8	1,580	132	748	65	620	185	278	32	11	4.7	4.7
21	4.9	1,060	112	1,830	63	500	180	263	30	11	4.7	4.4
22	4.9	615	99	568	60	480	188	251	29	11	4.4	4.4
23	4.9	396	105	290	57	700	193	218	27	10	4.4	4.1
24	4.7	281	91	287	55	424	206	198	26	10	4.4	4.1
25	4.4	203	88	221	54	305	198	163	25	10	4.4	3.8
26	4.4	198	78	766	52	245	193	140	24	9.7	4.4	3.6
27	4.4	185	72	1,880	50	209	203	126	23	9.0	4.4	3.6
28	4.4	457	66	2,990	48	193	195	122	22	8.7	4.4	3.3
29	4.1	596	65	3,090	---	170	180	116	21	8.7	4.4	3.3
30	4.1	408	61	1,610	---	178	170	102	20	8.4	3.8	3.3
31	3.8	---	57	1,220	---	173	---	91	---	8.4	3.8	---
Total	124.8	9,099.4	17,197	16,331	3,970	9,503	5,964	8,484	1,373	394.9	172.9	121.7
Mean	4.03	303	555	527	142	307	199	274	45.8	12.7	5.58	4.06
Max	4.9	1,580	3,390	3,090	695	2,100	272	460	92	19	8.4	6.0
Min	3.6	3.8	57	35	48	39	170	91	20	8.4	3.8	3.3
Ac-ft	248	18,050	34,110	32,390	7,870	18,850	11,830	16,830	2,720	783	343	241

Cal yr 1966: Total	79,755.8	Mean	219	Max	6,010	Min	3.6	Ac-ft	15,820
Wtr yr 1967: Total	72,735.7	Mean	199	Max	3,390	Min	3.3	Ac-ft	144,300

Peak discharge (base, 2,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1700	13.62	6,580	3-16	0700	11.49	3,970
1-29	0300	13.15	5,970				

EEL RIVER BASIN

11-4785. VAN DUZEN RIVER NEAR BRIDGEVILLE, CALIF.

LOCATION.--Lat 40°28'50", long 123°53'23", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.12, T.1 N., R.2 E., on left bank at downstream side of bridge on State Highway 36, 0.9 mile upstream from Grizzly Creek, and 5 miles west of Bridgeville.

DRAINAGE AREA.--222 sq mi.

RECORDS AVAILABLE.--October 1950 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 358.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Oct. 1, 1965, graphic water-stage recorder at site 2.4 miles upstream at different datum.

AVERAGE DISCHARGE.--17 years, 886 cfs (641,400 acre-ft per year).

EXTREMES.--Maximum discharge during year, 26,600 cfs Dec. 4 (gage height, 17.91 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement at former site; minimum daily, 9.4 cfs Sept. 30.

1950-67: Maximum discharge, 48,700 cfs Dec. 22, 1964 (gage height, 24.0 ft, present site and datum, from floodmarks), from rating curve extended above 20,000 cfs on basis of slope-area measurement at gage height 21.3 ft, former datum; minimum, 5.0 cfs Sept. 13, 1959.

REMARKS.--Records excellent. No storage or large diversion above station. Records of sediment and turbidity data for the water years 1964-67 and chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	12	3,500	247	3,050	207	1,220	838	280	66	26	11
2	11	12	7,930	235	2,080	202	1,210	841	302	61	25	11
3	11	12	5,770	219	1,650	192	1,200	920	269	58	24	11
4	11	12	12,600	214	1,400	180	1,020	986	247	55	23	11
5	11	12	11,200	239	1,190	172	1,060	1,050	240	52	23	11
6	10	16	4,050	218	997	163	1,760	1,010	235	51	23	11
7	10	20	2,340	205	864	155	1,800	1,220	226	50	22	10
8	10	20	1,820	198	741	150	1,450	1,450	218	49	22	10
9	10	18	1,490	192	637	145	1,320	1,470	203	48	21	10
10	10	18	2,020	187	564	622	1,260	1,630	191	48	21	11
11	10	18	1,630	177	505	613	1,130	1,520	186	46	20	11
12	10	45	2,090	172	465	660	966	1,420	175	45	19	10
13	10	315	2,080	165	435	755	1,000	1,210	168	44	18	10
14	10	874	1,800	159	450	948	1,210	1,090	160	42	18	10
15	10	1,710	1,320	150	452	1,600	1,010	1,160	148	41	17	10
16	10	2,430	1,110	144	474	10,200	879	1,240	143	38	17	10
17	10	568	955	139	473	4,440	1,420	1,220	132	37	16	10
18	10	273	847	134	459	3,580	1,250	1,070	126	37	16	11
19	10	2,530	730	131	395	2,390	1,170	901	117	37	15	11
20	10	6,340	649	2,260	346	2,610	1,150	825	113	36	14	11
21	11	5,260	568	8,300	315	2,450	1,050	786	109	36	13	11
22	12	2,160	488	3,520	295	1,890	1,010	726	104	36	13	10
23	14	1,170	488	1,950	282	3,060	974	633	99	35	13	10
24	13	811	459	2,270	266	2,170	1,050	549	91	33	13	10
25	13	576	410	1,920	255	1,570	1,010	472	86	32	13	10
26	13	480	386	4,550	242	1,250	965	422	82	31	13	10
27	13	466	335	8,280	226	1,040	1,230	369	79	31	12	9.7
28	12	946	305	11,300	214	964	1,130	350	76	31	12	9.7
29	12	2,130	287	13,100	-----	946	1,010	340	73	29	12	9.7
30	12	1,220	282	6,370	-----	1,180	915	311	68	28	12	9.4
31	12	-----	264	5,170	-----	1,370	-----	287	-----	28	12	-----
TOTAL	342	30,474	70,203	72,515	19,722	47,874	34,829	28,316	4,746	1,291	538	310.5
MEAN	11.0	1,016	2,265	2,339	704	1,544	1,161	913	158	41.6	17.4	10.4
MAX	14	6,340	12,600	13,100	3,050	10,200	1,800	1,630	302	66	26	11
MIN	10	12	264	131	214	145	879	287	68	28	12	9.4
AC-FT	678	60,440	139,200	143,800	39,120	94,960	69,080	56,160	9,410	2,560	1,070	616

CAL YR 1966: TOTAL 326,675 MEAN 895 MAX 22,000 MIN 10 AC-FT 648,000
WAT YR 1967: TOTAL 311,160.5 MEAN 852 MAX 13,100 MIN 9.4 AC-FT 617,200

Peak discharge (base, 15,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2230	17.91	26,600	3-16	0700	13.85	15,600
1-29	0645	14.81	17,900				

EEL RIVER BASIN

441

11-4790. YAGER CREEK NEAR CARLOTTA, CALIF.

LOCATION.--Lat 40°34'15", long 124°02'55", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.2 N., R.1 E., on right bank 0.8 mile upstream from Cooper Mill Creek, and 2.4 miles north of Carlotta.

DRAINAGE AREA.--127 sq mi.

RECORDS AVAILABLE.--August 1953 to October 1955, August 1956 to September 1960, August 1965 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 200 ft (from topographic map). Aug. 18, 1953, to Dec. 22, 1955, at same site at different datum. Aug. 14, 1956, to Sept. 30, 1960, at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--8 years, 357 cfs (258,500 acre-ft per year).

EXTREMES.--Maximum discharge during year, 8,840 cfs Mar. 16 (gage height, 11.75 ft); minimum daily, 4.5 cfs Oct. 14, 15, 18, 19.
1953-60, 1964-67: Maximum discharge, 30,000 cfs Dec. 22, 1964 (gage height, 19.9 ft, from floodmarks), from rating curve extended above 250 cfs on basis of field estimate of maximum flow; minimum, 3.8 cfs Sept. 14, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	6.3	754	90	1,110	90	1,030	476	76	19	10	6.2
2	5.7	6.1	1,720	87	920	90	860	426	77	18	10	6.0
3	5.7	5.9	1,470	86	560	88	820	388	70	18	9.8	6.0
4	5.5	5.7	3,600	110	440	84	738	357	64	17	9.5	5.8
5	5.5	5.5	3,550	148	350	77	729	323	60	16	9.2	5.6
6	5.5	11	1,650	140	285	74	1,050	286	60	15	9.2	5.6
7	5.5	19	1,200	137	225	71	1,080	253	59	14	9.2	8.0
8	5.5	12	1,500	126	190	68	835	233	58	14	9.2	5.2
9	5.4	9.3	680	115	170	68	707	230	56	14	9.2	5.2
10	5.4	8.3	470	108	140	346	684	327	55	14	8.8	5.2
11	5.2	7.8	350	102	120	415	662	484	52	14	8.5	5.2
12	4.9	14	270	95	104	472	621	488	50	14	8.5	5.2
13	4.6	72	315	90	92	567	641	371	48	14	8.5	5.2
14	4.5	283	370	86	120	761	734	306	44	13	8.5	5.2
15	4.5	977	260	82	162	1,470	612	268	43	13	8.0	5.2
16	4.6	995	230	80	230	4,160	520	233	41	12	8.0	11
17	4.6	248	202	78	205	1,390	810	204	39	12	8.0	27
18	4.5	118	181	80	178	1,090	765	195	38	12	8.0	16
19	4.5	880	159	230	156	810	698	162	36	11	8.0	9.0
20	4.6	1,820	144	1,090	144	825	626	144	32	12	8.0	9.0
21	5.2	1,550	130	3,800	131	689	572	135	27	12	7.6	8.6
22	8.7	952	120	1,800	126	590	504	124	26	12	7.6	8.4
23	23	532	130	1,080	118	743	504	116	26	12	7.6	8.0
24	13	330	126	1,890	111	644	524	108	26	12	7.2	8.0
25	10	224	120	2,080	111	536	508	104	26	12	7.2	8.0
26	8.3	177	120	1,400	102	460	512	97	26	12	7.2	8.0
27	7.5	142	116	2,000	95	398	716	91	25	12	7.2	7.4
28	6.9	195	108	1,800	93	419	680	88	23	12	7.2	7.0
29	6.5	670	102	2,500	---	576	630	88	22	12	6.6	7.0
30	6.3	255	96	1,600	---	805	554	81	21	11	6.6	6.4
31	6.1	---	91	2,000	---	1,080	---	79	---	11	6.4	---
Total	2034	10,530.9	20,334	25,110	6,788	19,956	20,926	7,265	1,306	416	254.5	233.6
Mean	6.56	351	656	810	242	644	698	234	43.5	13.4	8.21	7.79
Max	23	1,820	3,600	3,800	1,110	4,160	1,080	488	77	19	10	27
Min	4.5	5.5	91	78	92	68	504	79	21	11	6.4	5.2
Ac-ft	403	20,890	40,330	49,800	13,460	39,580	41,510	14,410	2,590	825	505	463

Cal yr 1966: Total 116,066.9 Mean 318 Max 7,700 Min 3.8 Ac-ft 230,200
Wtr yr 1967: Total 113,323.4 Mean 310 Max 4,160 Min 4.5 Ac-ft 224,800

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-4	2030	10.95	7,400	3-16	0630	11.75	8,840
1-21	-	-	8,200				

Note.--No gage-height record Dec. 7 to Jan. 6, Aug. 15 to Sept. 30.

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 1967 (discontinued).

GAGE.--Digital water-stage recorder. Datum of gage is 29.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Apr. 24, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--10 years, 83.8 cfs (60,670 acre-ft per year).

EXTREMES.--Maximum discharge during year, 3,110 cfs Dec. 5 (gage height, 26.71 ft); minimum daily, 0.50 cfs Sept. 30.

1957-67: Maximum discharge, 3,430 cfs Dec. 22, 1964 (gage height, 28.09 ft); minimum daily, 0.40 cfs Oct. 6-9, 1961, July 24-31, Sept. 14-23, 26, 27, 1962, Aug. 12, 1966.

REMARKS.--Records excellent. No storage or large diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	1.5	200	28	362	22	596	93	15	5.5	2.0	1.1
2	1.1	1.4	536	27	216	24	271	77	13	4.8	1.8	1.0
3	1.1	1.5	331	26	154	22	170	63	11	4.6	1.6	.98
4	1.1	1.5	847	27	117	21	122	50	11	4.5	1.5	.84
5	1.2	1.4	1,460	48	95	19	100	42	11	4.5	1.4	.80
6	1.2	8.8	340	48	76	18	149	36	11	4.2	1.3	.70
7	1.2	8.0	305	41	64	17	344	30	10	3.3	1.3	2.0
8	1.2	6.3	430	37	52	17	181	25	10	3.3	1.3	.80
9	1.2	4.7	241	34	43	16	128	25	11	3.4	1.4	.60
10	1.1	3.9	174	31	37	278	106	61	12	3.9	1.4	.80
11	1.1	3.7	123	28	33	405	91	132	13	4.7	1.4	.80
12	1.0	5.5	93	26	29	242	74	124	11	4.5	1.3	.80
13	.90	12	113	25	27	247	72	89	9.6	3.7	1.2	.80
14	.90	39	125	24	37	287	154	67	9.1	3.7	1.1	.80
15	.90	123	88	23	47	502	154	53	9.5	3.6	1.0	.80
16	1.1	213	72	21	74	941	110	41	8.3	3.6	1.1	2.7
17	1.1	46	64	20	61	403	258	35	8.5	3.5	1.1	7.2
18	1.1	24	56	20	54	215	285	31	7.7	3.5	1.1	4.3
19	1.1	180	48	23	49	150	199	27	7.9	3.3	1.1	2.3
20	1.2	572	44	361	43	119	151	25	7.0	3.1	.89	2.3
21	1.4	473	40	1,350	36	97	159	22	7.4	3.3	.83	2.1
22	2.9	306	37	644	32	82	126	21	7.2	3.5	.91	2.1
23	5.5	111	43	380	29	95	128	18	7.3	3.8	.90	1.9
24	6.3	73	42	691	27	91	177	17	7.8	4.0	.60	1.7
25	5.0	54	40	725	27	74	163	17	7.5	3.4	.71	1.7
26	3.8	50	41	503	25	63	154	16	7.0	2.7	.81	1.7
27	2.7	45	38	705	23	54	147	16	6.9	2.5	.80	1.2
28	2.3	80	34	652	21	74	154	16	6.5	2.4	.74	.90
29	1.9	130	33	898	-----	235	131	15	6.3	2.1	.84	.90
30	1.7	60	32	569	-----	498	110	14	6.3	1.9	.97	.50
31	1.7	-----	30	715	-----	736	-----	14	-----	1.9	1.1	-----
TOTAL	57.20	2,639.2	6,100	8,750	1,890	6,064	5,164	1,312	276.8	110.7	35.50	47.12
MEAN	1.85	88.0	197	282	67.5	196	172	42.3	9.23	3.57	1.15	1.57
MAX	6.3	572	1,460	1,350	362	941	596	132	15	5.5	2.0	7.2
MIN	.90	1.4	30	20	21	16	72	14	6.3	1.9	.60	.50
AC-FT	113	5,230	12,100	17,360	3,750	12,030	10,240	2,600	549	220	70	93

CAL YR 1966: TOTAL 30,953.40 MEAN 84.8 MAX 2,560 MIN .40 AC-FT 61,400
WAT YR 1967: TOTAL 32,446.52 MEAN 88.9 MAX 1,460 MIN .50 AC-FT 64,360

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-5	0030	26.71	3,110	1-24	1830	18.34	1,500
1-21	1145	19.60	1,710	3-16	0945	19.14	1,630

MAD RIVER BASIN

443

11-4804. RUTH RESERVOIR NEAR FOREST GLEN, CALIF.

LOCATION.--Lat 40°21'29", long 123°25'20", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.19, T.1 S., R.7 E., near center of Ruth Dam on Mad River 5.2 miles west of Forest Glen.

DRAINAGE AREA.--119 sq mi.

RECORDS AVAILABLE.--October 1966 to September 1967. Records prior to October 1966 in files of Humboldt Bay Municipal Water District.

GAGE.--Digital water-stage recorder. Datum of gage is at mean sea level (levels by Humboldt Bay Municipal Water District).

EXTREMES.--Maximum contents during year, 58,900 acre-ft Jan. 29 (elevation, 2,660.18 ft); minimum, 23,450 acre-ft Nov. 6 (elevation, 2,624.38 ft).

REMARKS.--Reservoir is formed by earthfill dam; storage began July 1961. Total capacity, 51,800 acre-ft at elevation 2,654.0 ft, crest of spillway. Water is released down Mad River for municipal use. Records given herein represent total contents.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

2,595	6,670	2,635	32,500
2,600	8,520	2,640	37,300
2,605	10,700	2,645	42,300
2,610	13,300	2,650	47,400
2,615	16,500	2,655	52,900
2,620	20,100	2,660	56,700
2,625	23,900	2,665	65,000
2,630	27,800	2,670	72,300

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29,700	24,900	36,900	46,600	54,800	50,600	52,600	52,400	51,500	50,200	45,600	38,700
2	29,500	24,800	42,600	46,300	54,000	50,600	52,600	52,300	51,600	50,200	45,400	38,500
3	29,300	24,700	46,100	46,000	53,500	50,800	52,700	51,800	51,600	49,900	45,300	38,100
4	29,100	24,600	54,000	45,900	53,100	50,800	52,700	52,600	51,700	49,800	45,200	37,700
5	29,000	24,500	56,100	45,800	52,800	50,800	52,700	52,600	51,700	49,700	44,900	37,100
6	28,800	24,400	54,500	45,800	52,500	50,900	53,000	52,600	51,700	49,500	44,700	36,500
7	28,600	24,300	53,800	45,600	52,300	50,900	53,100	52,500	51,300	49,500	44,500	36,400
8	28,400	24,200	53,200	45,600	52,100	50,900	53,200	52,600	51,300	49,300	44,300	36,000
9	28,300	24,100	53,000	45,500	52,100	50,900	53,300	52,600	51,300	49,300	44,100	35,500
10	28,100	23,900	53,200	45,400	51,700	51,100	53,100	52,700	51,300	49,200	43,800	35,200
11	27,900	23,800	53,200	45,400	51,600	51,100	53,100	52,600	51,200	49,200	43,600	34,900
12	27,800	23,700	53,200	45,400	51,500	50,900	53,000	52,500	51,200	48,800	43,400	34,700
13	27,600	23,700	53,200	45,300	51,400	50,700	52,800	52,400	51,200	48,700	43,200	34,100
14	27,400	23,600	53,100	45,300	51,200	50,300	52,900	52,300	51,200	48,900	43,000	33,700
15	27,300	23,500	52,900	45,200	51,000	50,100	52,900	52,300	51,200	48,600	42,900	33,500
16	27,100	23,600	52,600	45,200	51,000	54,100	52,800	52,300	51,100	48,300	42,700	33,000
17	27,000	23,500	52,300	45,200	50,900	54,400	52,800	52,300	51,100	48,200	42,600	32,600
18	26,900	23,500	52,200	45,200	50,900	54,300	52,800	52,200	51,100	48,000	42,400	32,300
19	26,700	23,500	51,900	45,200	50,900	54,000	52,800	52,200	51,000	47,800	42,100	32,100
20	26,500	23,500	51,700	47,900	50,700	54,100	52,800	52,200	51,000	47,400	41,800	31,700
21	26,300	29,000	51,500	54,800	50,600	54,200	52,700	51,900	50,900	47,300	41,500	31,600
22	26,200	30,900	51,200	54,700	50,500	53,900	52,800	51,700	50,800	47,300	41,200	31,500
23	26,100	31,800	50,900	53,800	50,600	54,100	52,900	51,600	50,800	47,400	41,000	31,300
24	25,900	32,100	50,200	53,400	50,500	54,000	52,900	51,500	50,800	47,000	40,700	31,200
25	25,800	32,500	49,900	52,900	50,400	53,500	52,900	51,500	50,500	46,500	40,400	31,100
26	25,600	32,800	49,400	55,300	50,500	53,300	52,900	51,600	50,400	46,300	40,200	31,000
27	25,500	32,900	49,100	56,600	50,400	53,100	52,900	51,600	50,400	46,400	40,000	30,900
28	25,300	33,100	48,600	57,400	50,500	53,000	52,600	51,600	50,400	46,500	39,700	30,700
29	24,800	34,500	48,200	58,000	-----	52,800	52,500	51,500	50,400	46,000	39,500	30,500
30	25,100	35,400	47,700	56,400	-----	52,800	52,500	51,500	50,300	45,800	39,300	30,400
31	25,000	-----	47,300	55,700	-----	52,700	-----	51,400	-----	45,700	39,100	-----
(+)	2,626.37	2,638.04	2,649.88	2,657.42	2,652.82	2,654.77	2,654.60	2,653.64	2,652.67	2,648.33	2,641.80	2,632.80
(*)	- 5.000	+10.400	+11.900	+ 8.400	- 5.200	+ 2.200	- 200	- 1.100	- 1.100	- 4.600	- 6.600	- 8.700
MAX	29.700	35.400	56.100	58.000	54.800	54.400	53.300	52.700	51.700	50.200	45.600	38.700
MIN	24.800	23.500	36.900	45.200	50.400	50.100	52.500	51.400	50.300	45.700	39.100	30.400

Cal yr 1966..... †5.500

Wat yr 1967..... † 400

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

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.

RECORDS AVAILABLE.--June 1953 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 2,408.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 22, 1955, graphic 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. June 18, 1956, to Sept. 6, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--14 years, 367 cfs (265,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,630 cfs Jan. 29 (gage height, 9.35 ft); minimum daily, 52 cfs Nov. 5, '8-10.

1953-67: 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 maximum flow; minimum daily, 0.60 cfs Sept. 15, 1961.

REMARKS.--Records excellent. Flow regulated by Ruth Reservoir beginning in July 1961 (see sta. no. 4804). No diversion above station. Records of sediment and turbidity data for the water years 1964-67, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water year).--1964 report: 1963.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74	56	607	332	2,280	76	484	547	108	70	85	101
2	75	56	862	302	1,590	75	487	524	107	68	85	99
3	74	56	690	227	1,150	74	511	526	115	69	85	99
4	73	54	1,180	173	905	73	508	552	142	68	88	99
5	73	52	3,660	148	765	73	526	585	135	68	107	99
6	74	57	2,610	111	650	72	684	593	116	68	107	99
7	73	53	1,460	111	550	68	784	605	115	68	107	99
8	73	52	1,030	110	470	58	772	653	109	68	107	99
9	73	52	838	109	400	58	739	700	100	64	107	99
10	73	52	902	109	360	182	717	720	99	64	107	99
11	73	54	879	109	344	300	679	683	99	64	103	107
12	73	57	859	100	316	303	614	628	93	64	81	119
13	73	90	842	81	268	301	572	573	79	79	81	119
14	73	190	846	81	262	305	597	524	78	85	81	119
15	73	249	761	81	259	395	585	492	77	85	85	119
16	73	274	658	81	262	1,340	550	481	76	90	92	119
17	73	173	557	81	238	1,780	598	468	75	90	92	119
18	73	67	477	80	178	1,720	586	448	75	90	103	119
19	73	154	410	82	175	1,460	561	416	74	84	121	119
20	74	253	366	369	172	1,490	534	390	73	84	119	119
21	73	237	352	1,020	169	1,520	504	365	73	84	119	119
22	74	150	348	2,030	169	1,380	506	359	73	84	119	119
23	73	140	350	1,440	148	1,490	529	318	72	84	119	119
24	73	140	345	1,060	121	1,380	582	239	72	82	119	117
25	73	140	344	860	121	1,120	593	200	72	82	117	115
26	73	140	341	1,650	121	885	594	192	72	82	103	115
27	73	140	340	3,840	119	692	684	171	71	82	103	115
28	73	140	337	5,200	109	601	693	171	70	82	101	115
29	67	140	337	6,130	-----	540	631	172	70	82	101	115
30	56	369	336	4,440	-----	521	589	170	70	80	99	115
31	56	-----	335	3,390	-----	508	-----	161	-----	81	101	-----
TOTAL	2,230	3,837	24,259	33,937	12,671	20,840	17,993	13,626	2,660	2,395	3,144	3,334
MEAN	71.9	128	783	1,095	453	672	600	440	88.7	77.3	101	111
MAX	75	369	3,660	6,130	2,280	1,780	784	720	142	90	121	119
MIN	56	52	335	80	109	58	484	161	70	64	81	99
AC-FT	4,420	7,610	48,120	67,310	25,130	41,340	35,690	27,030	5,280	4,750	6,240	6,610

CAL YR 1966: TOTAL 146,041

MEAN 400

MAX 8,000

MIN 52

AC-FT 289,700

WAT YR 1967: TOTAL 140,926

MEAN 386

MAX 6,130

MIN 52

AC-FT 279,500

MAD RIVER BASIN

445

11-4807.5. MAD RIVER NEAR KNEELAND, CALIF.

LOCATION.--Lat 40°45'50", long 123°53'20", in NW¼NW¼ sec.6, T.4 N., R.3 E., on left bank at mouth of Maple Creek, 30 ft upstream from bridge, and 5.4 miles east of Kneeland.

DRAINAGE AREA.--352 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 329.66 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

EXTREMES.--Maximum discharge during year, 20,100 cfs Dec. 4 (gage height, 17.55 ft); minimum daily, 55 cfs Oct. 3-8, Nov. 5.

1965-67: Maximum discharge, 24,600 cfs Jan. 4, 1966 (gage height, 17.59 ft); minimum daily, 55 cfs Oct. 3-8, Nov. 5, 1966.

Flood of Dec. 22, 1964, reached a stage of 37.99 ft, from floodmarks (discharge, 55,000 cfs).

REMARKS.--Records good. Flow regulated by Ruth Reservoir (see sta. no. 4804). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	80	80	2,540	763	2,970	184	1,400	1,200	420	134	120	105
2	60	72	5,220	763	2,930	166	1,440	1,150	375	130	120	102
3	55	65	3,880	691	2,410	150	1,410	1,150	350	130	120	102
4	55	60	6,530	562	1,900	158	1,430	1,300	345	130	116	102
5	55	55	10,000	594	1,660	130	1,440	1,400	400	130	120	102
6	55	95	5,500	443	1,490	116	1,760	1,450	338	127	130	102
7	55	86	4,500	387	1,410	106	2,160	1,600	304	123	130	102
8	55	82	3,590	368	1,250	102	1,990	1,700	299	123	134	102
9	62	73	2,810	368	1,100	89	1,900	1,900	309	123	134	100
10	86	71	3,410	356	1,010	646	1,900	2,100	298	123	134	102
11	86	72	2,810	344	940	830	1,760	1,950	287	120	134	104
12	89	127	2,960	326	870	790	1,510	1,750	276	120	130	120
13	89	276	3,250	293	790	820	1,560	1,600	260	120	113	142
14	89	554	2,850	255	810	830	1,770	1,450	235	116	109	146
15	92	1,320	2,120	245	870	1,210	1,750	1,300	225	120	109	146
16	92	2,060	1,670	235	850	10,200	1,700	1,200	225	130	116	146
17	95	880	1,340	220	840	4,600	1,820	1,150	211	130	123	162
18	95	498	1,080	211	800	3,640	1,780	1,100	206	130	123	180
19	95	1,320	930	245	736	2,790	1,730	1,000	202	130	130	160
20	100	3,890	840	2,390	578	2,950	1,690	920	202	127	142	145
21	111	3,090	790	7,220	506	3,030	1,510	900	197	127	146	137
22	149	1,710	772	5,000	429	2,830	1,370	820	184	127	150	130
23	162	940	830	3,050	362	3,410	1,390	760	175	127	154	127
24	125	709	830	3,100	332	2,990	1,380	700	166	127	150	125
25	121	586	870	3,500	315	2,320	1,460	620	154	123	146	123
26	120	594	870	6,400	282	1,700	1,530	570	150	123	139	122
27	118	673	820	7,960	260	1,480	1,580	520	150	123	106	121
28	120	1,030	790	10,300	211	1,400	1,650	490	150	123	102	120
29	120	2,090	781	13,900	-----	1,400	1,620	480	142	123	102	120
30	112	1,580	781	7,220	-----	1,410	1,410	470	134	123	102	120
31	91	-----	772	4,790	-----	1,440	-----	435	-----	120	101	-----
TOTAL	2,889	24,738	76,736	82,499	28,911	53,917	48,800	35,135	7,369	3,882	3,885	3,717
MEAN	93.2	825	2,475	2,661	1,033	1,739	1,627	1,133	246	125	125	124
MAX	162	3,890	10,000	13,900	2,970	10,200	2,160	2,100	420	134	154	180
MIN	55	55	772	211	211	89	1,370	435	134	116	101	100
AC-FT	5,730	49,070	152,200	163,600	57,340	106,900	96,790	69,690	14,620	7,700	7,710	7,370

CAL YR 1966: TOTAL 420,445 MEAN 1,152 MAX 18,500 MIN 55 AC-FT 833,900
WAT YR 1967: TOTAL 372,478 MEAN 1,020 MAX 13,900 MIN 55 AC-FT 738,800

Peak discharge (base, 12,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2015	17.55	20,100	3-16	0800	16.88	17,600
1-29	0745	17.06	19,000				

MAD RIVER BASIN

11-4810. MAD RIVER NEAR ARCATA, CALIF.

LOCATION.--Lat 40°54'35", long 124°03'35", in NW $\frac{1}{4}$ 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.

DRAINAGE AREA.--485 sq mi.

RECORDS AVAILABLE.--October 1910 to September 1913, August 1950 to September 1967. Monthly discharge only for some periods published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 12.79 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, graphic water-stage recorder at site 0.6 mile upstream at datum 11.00 ft higher. July 24, 1956, to Apr. 9, 1965, graphic water-stage recorder at datum 5.00 ft higher. Apr. 10 to Sept. 9, 1965, graphic water-stage recorder at same site and datum. Aug. 29 to Oct. 26, 1961, auxiliary graphic water-stage recorder at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE.--20 years, 1,510 cfs (1,093,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 30,900 cfs Dec. 5 (gage height, 18.15 ft); minimum daily, 11 cfs Nov. 5.

1910-13, 1950-67: Maximum discharge, 77,800 cfs Dec. 22, 1955 (gage height, 29.75 ft, present site and datum); minimum, 11 cfs Nov. 5, 1966.

REMARKS.--Records good. Flow regulated by Ruth Reservoir beginning in July 1961 (see sta. no. 4804).

Since 1938, approximately 5.4 cfs diverted daily above station for municipal supply of city of Eureka.

Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

REVISIONS (water years).--1964 report: 1963. 1965 report: 1964(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70	21	2,530	620	5,590	306	2,820	1,700	454	82	46	44
2	50	17	5,510	592	4,230	300	2,160	1,550	405	83	45	49
3	46	14	5,010	564	3,230	291	2,000	1,540	339	126	43	67
4	46	12	8,620	496	2,730	270	1,710	1,620	321	132	42	101
5	46	11	18,700	628	2,130	276	1,700	1,670	345	130	41	108
6	46	29	7,330	560	1,700	255	2,630	1,690	339	130	50	97
7	46	44	5,750	471	1,390	237	3,180	1,870	294	110	58	88
8	46	26	5,370	433	1,200	252	2,730	2,260	288	91	56	68
9	47	19	4,290	387	1,080	243	2,330	2,460	261	76	58	76
10	55	18	4,230	373	945	1,710	2,190	3,030	240	74	56	77
11	54	16	3,660	349	850	1,990	2,050	3,290	222	74	57	77
12	53	18	3,620	339	775	1,470	1,680	3,040	216	74	52	71
13	51	75	3,710	333	708	1,490	1,660	2,430	201	79	47	82
14	49	576	3,950	291	740	1,290	2,780	1,970	165	78	37	87
15	50	1,400	2,990	267	870	1,490	2,700	1,760	153	75	33	94
16	55	2,700	2,290	252	945	8,410	2,110	1,700	143	87	33	93
17	54	960	1,770	231	825	5,410	2,920	1,560	132	89	36	102
18	60	588	1,450	228	790	4,740	2,940	1,420	122	87	46	132
19	66	1,140	1,200	231	696	3,880	2,490	1,230	118	90	53	108
20	62	4,490	1,070	2,590	620	3,600	2,130	1,170	112	87	72	74
21	61	4,840	955	8,510	572	3,570	1,820	1,110	109	78	77	62
22	69	3,250	880	5,850	517	3,250	1,640	1,010	106	74	71	63
23	81	1,680	930	4,210	457	3,710	1,560	955	98	77	69	64
24	67	1,140	930	4,220	433	3,470	1,660	845	100	74	69	61
25	51	845	860	4,420	405	2,940	1,920	725	100	56	72	72
26	45	688	870	5,850	415	2,420	2,000	664	96	52	70	74
27	44	708	780	9,800	349	1,790	2,530	608	96	49	61	65
28	37	810	704	12,800	333	1,700	2,510	580	90	47	55	61
29	33	2,290	688	15,900	-----	1,920	2,220	580	85	47	48	65
30	30	1,510	696	10,300	-----	2,540	1,990	540	83	48	43	69
31	26	-----	636	8,470	-----	3,020	-----	520	-----	46	43	-----
TOTAL	1,596	29,935	101,979	100,565	35,525	68,240	66,760	47,097	5,833	2,502	1,639	2,371
MEAN	51.5	998	3,290	3,244	1,269	2,201	2,225	1,519	194	80.7	52.9	79.0
MAX	81	4,840	18,700	15,900	5,590	8,410	3,180	3,290	454	132	77	132
MIN	26	11	636	228	333	237	1,560	520	83	46	33	44
AC-FT	3,170	59,380	202,300	199,500	70,460	135,400	132,400	93,420	11,570	4,960	3,250	4,700

CAL YR 1966: TOTAL 518,452 MEAN 1,420 MAX 29,700 MIN 11 AC-FT 1,028,000
WAT YR 1967: TOTAL 464,042 MEAN 1,271 MAX 18,700 MIN 11 AC-FT 920,400

Peak discharge (base, 15,000 cfs).--Dec. 5 (0100) 30,900 cfs (18.15 ft); Jan. 29 (1045) 19,900 cfs (15.28 ft).

LITTLE RIVER BASIN

447

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.--44.4 sq mi.

RECORDS AVAILABLE.--October 1955 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 17.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 24, 1963, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--12 years, 139 cfs (100,600 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,320 cfs Dec. 4 (gage height, 9.58 ft); minimum daily, 4.2 cfs Oct. 13-19.

1955-67: Maximum discharge, 8,330 cfs Jan. 4, 1966 (gage height, 11.12 ft), from rating curve extended above 3,100 cfs on basis of slope-area measurement at gage height 11.06 ft; minimum daily, 2.8 cfs Oct. 20-22, 1964.

Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

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

REVISIONS (water years).--1964 report: 1956-63.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.6	5.1	243	51	430	49	334	137	41	16	10	6.4
2	4.6	5.0	316	48	320	51	227	122	42	15	9.9	5.7
3	4.6	5.0	280	48	251	46	179	110	38	15	9.4	5.7
4	4.6	4.6	1,810	49	205	45	150	100	36	15	8.8	5.6
5	4.6	4.6	1,770	85	176	42	176	92	35	14	8.8	5.4
6	4.6	36	616	82	147	40	394	81	35	14	8.8	5.4
7	4.6	21	609	65	129	39	370	75	34	15	8.8	5.4
8	4.6	11	651	60	112	38	245	74	34	14	8.3	5.6
9	4.6	8.6	450	55	100	36	194	132	33	14	7.6	5.8
10	4.6	7.7	366	49	92	242	171	254	31	14	7.7	5.8
11	4.6	7.6	288	48	83	323	163	264	30	14	7.6	6.0
12	4.5	22	267	45	77	199	124	251	29	14	7.6	6.0
13	4.2	69	354	44	77	199	140	189	29	13	7.6	5.4
14	4.2	105	313	41	83	184	239	150	28	13	7.6	5.4
15	4.2	105	224	40	114	147	239	137	26	13	7.6	5.4
16	4.2	129	181	38	114	740	205	105	26	12	7.6	5.0
17	4.2	98	150	38	100	422	254	92	25	12	7.6	6.5
18	4.2	52	127	35	94	366	254	83	24	12	7.5	8.2
19	4.2	303	110	40	83	281	242	75	24	12	6.6	7.4
20	4.4	593	98	418	74	230	219	68	24	12	6.6	6.0
21	5.0	525	90	1,150	66	197	197	63	24	12	6.6	5.4
22	18	332	79	486	63	173	173	61	22	12	6.6	5.4
23	20	173	81	271	60	173	160	57	21	12	6.6	5.5
24	10	111	74	505	58	150	145	54	21	12	6.6	5.4
25	7.7	79	72	590	57	129	166	51	21	12	6.1	5.4
26	6.7	64	68	670	52	114	168	48	21	12	6.1	5.4
27	6.2	55	63	1,290	49	100	189	46	20	11	6.0	5.4
28	6.1	65	60	1,670	46	127	179	46	19	11	6.2	5.4
29	5.8	113	57	1,130	-----	179	158	48	18	10	6.4	5.4
30	5.5	80	55	810	-----	334	155	44	17	11	6.6	5.4
31	5.4	-----	52	640	-----	394	-----	42	-----	10	6.6	-----
TOTAL	185.3	3,189.2	9,574	10,591	3,312	5,789	6,209	3,151	828	358	232.4	172.2
MEAN	5.98	106	322	342	118	187	207	102	27.6	12.8	7.50	5.74
MAX	20	593	1,810	1,670	430	740	394	264	42	16	10	8.2
MIN	4.2	4.6	52	35	46	36	124	42	17	10	6.0	5.0
AC-FT	368	6,330	19,780	21,010	6,570	11,480	12,320	6,250	1,640	789	461	342

CAL YR 1966: TOTAL 50,896.2 MEAN 139 MAX 4,540 MIN 4.2 AC-FT 101,000
WAT YR 1967: TOTAL 44,031.1 MEAN 121 MAX 1,810 MIN 4.2 AC-FT 87,330

Peak discharge (base, 3,000 cfs).--Dec. 4 (2130) 6,320 cfs (9.58 ft).

REDWOOD CREEK BASIN

11-4825. REDWOOD CREEK AT ORICK, CALIF.

LOCATION.--Lat 41°17'20", long 124°03'30", in NE¼ 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 5.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. 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. Oct. 1, 1953, to Feb. 1, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--16 years, 1,072 cfs (776,100 acre-ft per year).

EXTREMES.--Maximum discharge during year, 24,500 cfs Dec. 5 (gage height, 15.81 ft); minimum daily, 19 cfs Sept. 6, 28, 29.

1911-13, 1953-67: Maximum discharge, 50,500 cfs Dec. 22, 1964 (gage height, 24.0 ft, from outside high-water marks); 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 good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	29	1,340	518	4,670	997	2,220	1,280	566	134	65	24
2	25	28	2,310	497	3,530	1,040	1,730	1,210	571	131	63	23
3	25	32	2,390	469	2,790	588	1,500	1,160	523	124	61	22
4	25	40	6,180	483	2,300	448	1,400	1,130	502	125	65	22
5	25	51	12,000	702	1,960	414	1,580	1,070	374	121	57	21
6	25	250	5,500	588	1,700	390	2,560	1,030	328	113	53	19
7	25	462	4,760	535	1,410	366	2,370	1,020	355	111	51	20
8	25	300	4,550	505	1,280	348	1,930	1,070	350	113	47	20
9	25	225	3,670	475	1,170	342	1,500	1,310	325	113	44	20
10	25	200	3,670	450	1,080	2,600	1,440	1,760	305	111	38	21
11	25	205	2,910	425	997	2,370	1,360	2,030	290	106	35	24
12	24	372	2,740	441	943	1,920	1,190	1,820	280	105	35	23
13	23	742	2,940	414	952	1,940	1,320	1,530	270	102	35	22
14	23	1,330	2,780	402	1,020	1,760	1,900	1,370	260	97	33	20
15	23	2,190	2,090	390	1,070	1,650	1,790	1,290	250	93	30	20
16	23	3,510	1,650	366	1,090	6,440	1,670	1,240	225	94	30	20
17	23	1,280	1,380	348	1,040	4,710	2,480	1,170	215	90	30	32
18	23	646	1,200	336	1,010	3,800	2,270	1,060	205	92	30	54
19	23	1,240	1,020	354	934	2,890	1,940	959	208	87	30	42
20	25	3,140	943	2,650	853	2,750	1,750	898	210	86	29	33
21	59	3,560	871	6,850	790	2,330	1,580	854	178	81	28	30
22	136	2,460	799	4,150	742	1,960	1,490	807	165	71	68	27
23	220	1,610	844	2,580	710	2,370	1,450	764	158	100	28	24
24	136	1,090	758	2,860	686	2,040	1,350	721	164	83	28	22
25	90	774	726	3,930	678	1,590	1,490	690	160	99	26	20
26	58	662	710	6,890	609	1,340	1,520	643	156	72	26	20
27	49	595	654	8,410	588	1,200	1,790	623	188	66	25	20
28	42	654	602	12,300	654	1,280	1,690	621	167	63	24	19
29	38	970	560	11,100	-----	1,360	1,540	626	157	70	24	19
30	32	758	560	7,860	-----	2,040	1,420	591	144	66	24	20
31	30	-----	525	6,630	-----	2,560	-----	575	-----	64	24	-----
TOTAL	1,376	29,405	73,632	84,908	37,256	57,833	51,220	32,922	8,249	2,983	1,186	723
MEAN	44.4	980	2,375	2,739	1,331	1,866	1,707	1,062	275	96.2	38.3	24.1
MAX	220	3,560	12,000	12,300	4,670	6,440	2,560	2,030	571	134	68	54
MIN	23	28	525	336	588	342	1,190	575	144	63	24	19
AC-FT	2,730	58,320	146,000	168,400	73,900	114,700	101,600	65,300	16,360	5,920	2,350	1,430

CAL YR 1966: TOTAL 386,509 MEAN 1,059 MAX 34,000 MIN 18 AC-FT 766,600
WAT YR 1967: TOTAL 381,693 MEAN 1,046 MAX 12,300 MIN 19 AC-FT 757,100

Peak discharge (base, 9,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0130	15.81	24,500	3-16	1330	11.42	10,100
1-28	0630	13.02	14,700				

BUTTE VALLEY BASIN

449

11-4895. 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.--18.6 sq mi.

RECORDS AVAILABLE.--May 1952 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 5,080 ft (from topographic map). Prior to May 26, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--15 years, 37.3 cfs (27,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 629 cfs Nov. 20 (gage height, 3.96 ft), from rating curve extended above 240 cfs as explained below; minimum daily, 11 cfs for many days in October and November.
1952-67: Maximum discharge, 638 cfs Dec. 22, 1964 (gage height, 4.00 ft), from rating curve extended above 240 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 4.31 ft Oct. 12, 1962; minimum daily discharge, 3.6 cfs Jan. 5, 1960.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	11	78	26	41	25	30	21	144	149	27	19
2	11	11	52	25	38	24	30	21	130	142	27	19
3	11	11	58	25	36	24	30	22	132	132	26	19
4	11	11	46	25	35	23	29	24	137	117	26	19
5	11	11	49	24	34	23	29	25	142	104	26	19
6	11	12	48	25	34	23	28	28	146	93	26	19
7	11	12	43	25	34	23	28	35	159	82	25	19
8	11	12	40	23	33	24	28	45	166	74	25	19
9	11	12	39	23	32	24	28	54	169	68	24	19
10	11	12	37	22	31	18	28	47	170	64	24	19
11	11	14	37	22	31	19	26	41	172	61	24	19
12	11	17	44	22	31	22	26	40	167	57	23	19
13	11	50	47	23	31	24	27	43	161	53	23	18
14	11	71	43	22	29	27	25	50	167	50	23	18
15	11	195	39	22	29	33	25	60	181	48	22	18
16	11	124	37	22	28	102	24	78	197	46	22	18
17	11	46	36	23	28	72	23	105	218	44	22	19
18	11	39	35	21	28	46	30	145	239	42	21	20
19	11	193	34	21	27	39	26	165	303	39	21	19
20	11	338	33	19	27	38	23	187	278	38	21	18
21	11	129	33	21	26	36	23	220	252	36	21	18
22	11	91	32	21	26	38	22	258	214	35	21	18
23	11	72	31	23	25	49	22	273	191	34	21	18
24	11	61	31	22	25	39	22	254	177	33	20	18
25	11	54	30	22	25	37	22	221	176	32	21	17
26	11	50	29	23	24	35	22	210	180	31	22	17
27	11	46	28	32	24	34	22	208	174	30	22	17
28	11	52	28	51	24	35	21	213	163	30	21	17
29	11	73	27	79	-----	33	21	202	156	29	20	17
30	11	57	27	47	-----	33	20	181	154	29	20	17
31	11	-----	27	44	-----	32	-----	155	-----	28	20	-----
TOTAL	341	1,887	1,198	845	836	1,054	760	3,631	5,415	1,850	707	550
MEAN	11.0	62.9	38.6	27.3	29.9	34.0	25.3	117	181	59.7	22.8	18.3
MAX	11	338	78	79	41	102	30	273	303	149	27	20
MIN	11	11	27	19	24	18	20	21	130	28	20	17
AC-FT	676	3,740	2,380	1,680	1,660	2,090	1,510	7,200	10,740	3,670	1,400	1,090

CAL YR 1966: TOTAL 13,565 MEAN 37.2 MAX 338 MIN 11 AC-FT 26,910
WAT YR 1967: TOTAL 19,074 MEAN 52.3 MAX 338 MIN 11 AC-FT 37,830

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2315	3.45	414	3-16	1815	2.64	185
11-20	0230	3.96	629	5-22	1915	3.20	322
12-01	1045	2.30	108	6-19	0600	3.23	331
1-29	0730	2.30	108				

KLAMATH RIVER BASIN

11-5107. KLAMATH RIVER BELOW JOHN C. BOYLE POWERPLANT, NEAR KENO, OREG.

LOCATION.--Lat 42°05'05", long 122°04'20", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1967. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

GAGE.--Digital 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 and Light Co.). Prior to June 10, 1964, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--8 years, 1,780 cfs (1,289,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,270 cfs May 13 (gage height, 7.51 ft); minimum, 329 cfs Nov. 27; minimum daily, 356 cfs Aug. 12, 20.
1959-67: Maximum discharge, 8,830 cfs Feb. 1, 1965 (gage height, 8.55 ft); minimum, 311 cfs Sept. 7, 1964; minimum daily, 326 cfs Aug. 15, 30, 1964.

REMARKS.--Records excellent. Flow regulated by Upper Klamath Lake. Large diurnal fluctuation caused by John C. Boyle powerplant and two powerplants below Upper Klamath Lake. Large diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	721	1,800	2,250	2,780	2,470	2,270	507	3,100	3,210	384	596	1,330
2	718	1,820	2,210	2,780	2,470	2,260	541	3,120	3,130	403	561	1,520
3	1,480	1,770	2,250	2,780	2,830	2,330	1,380	3,060	3,030	738	570	1,520
4	1,310	1,510	2,220	2,810	2,820	1,570	1,810	3,100	3,040	435	522	1,530
5	1,440	1,740	2,360	2,830	2,820	1,300	1,810	2,840	3,000	727	373	1,520
6	1,440	1,640	2,740	2,810	2,560	1,260	1,890	2,840	2,830	738	376	1,530
7	1,970	1,890	2,640	2,810	2,840	1,280	2,040	2,840	1,910	504	600	1,540
8	1,510	1,830	2,690	2,830	2,830	1,360	1,050	2,790	1,540	374	773	1,530
9	1,520	1,830	2,710	2,720	2,830	1,540	534	2,520	1,660	377	1,050	1,530
10	2,000	1,830	2,730	2,830	2,830	1,720	1,600	2,770	1,020	493	1,200	1,530
11	1,540	1,830	2,730	2,830	2,830	1,680	2,050	2,850	450	633	1,180	1,530
12	1,520	1,830	2,730	2,720	2,830	1,610	2,080	3,640	935	383	356	1,530
13	1,520	1,820	2,720	2,650	2,830	1,460	2,070	5,480	797	726	478	1,530
14	2,160	1,820	2,750	2,800	2,830	1,450	1,890	5,980	710	688	1,370	1,530
15	1,420	1,670	2,740	2,730	2,840	1,580	757	5,390	678	374	1,230	1,530
16	1,500	1,840	2,770	2,730	2,840	1,510	784	4,500	802	367	1,230	1,530
17	2,430	1,790	2,770	2,750	2,840	2,400	1,510	4,260	374	688	1,290	1,530
18	1,520	1,830	2,750	2,300	2,830	4,080	2,140	3,730	370	598	1,500	1,530
19	1,840	1,690	2,770	2,830	2,830	1,190	2,780	3,310	665	567	670	1,530
20	1,680	1,920	2,770	2,830	2,830	890	2,820	3,260	632	540	356	1,520
21	1,530	1,480	2,750	2,460	2,840	1,260	2,820	3,310	616	688	875	1,530
22	1,830	1,720	2,790	2,530	2,840	1,240	2,820	3,290	665	377	1,030	1,470
23	1,520	1,470	2,790	2,820	2,780	1,190	2,820	3,090	595	370	1,030	1,140
24	2,270	735	2,730	2,820	2,710	1,240	2,790	2,820	373	616	1,030	1,060
25	1,690	1,100	2,750	2,840	2,710	1,240	2,880	3,110	378	666	1,080	1,230
26	1,820	1,040	2,750	2,750	2,700	977	2,990	3,450	606	630	369	1,440
27	1,810	903	2,720	2,420	2,700	1,370	3,030	3,500	715	551	485	1,140
28	1,810	1,980	2,680	2,180	2,630	1,460	3,120	3,490	642	560	952	1,140
29	1,810	2,200	2,730	2,670	2,470	1,500	3,070	3,530	607	369	742	1,140
30	1,710	2,250	2,770	2,510	- - - - -	1,460	3,110	3,510	629	371	555	815
31	1,790	- - - - -	2,750	2,460	- - - - -	1,370	- - - - -	3,340	- - - - -	724	725	- - - - -
Total	50,829	50,578	82,510	83,610	77,540	49,047	61,493	107,820	36,609	16,659	25,154	42,475
Mean	1,640	1,686	2,662	2,697	2,769	1,582	2,050	3,478	1,220	537	811	1,416
Max	2,430	2,250	2,790	2,840	2,840	4,080	3,120	5,980	3,210	738	1,500	1,540
Min	718	735	2,210	2,180	2,470	890	507	2,520	370	367	356	815
Ac-ft	100,800	100,300	163,700	165,800	153,800	97,280	122,000	213,900	72,610	33,040	49,890	84,250

Cal yr 1966: Total 493,462 Mean 1,352 Max 2,790 Min 373 Ac-ft 978,800
Wtr yr 1967: Total 684,324 Mean 1,875 Max 5,980 Min 356 Ac-ft 1,357,000

KLAMATH RIVER BASIN

451

11-5165.3. 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., on left bank 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 1967.

GAGE.--Graphic water-stage recorder. Datum of gage is 2,162.44 ft above mean sea level (levels by Pacific Power and Light Co.).

AVERAGE DISCHARGE.--7 years, 2,151 cfs (1,557,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,890 cfs May 14 (gage height, 6.94 ft); minimum daily, 687 cfs June 23.

1960-67: Maximum discharge, 29,400 cfs Dec. 22, 1964 (gage height, 13.63 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of maximum flow; 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 other smaller reservoirs; diversions above station. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,310	1,690	1,880	2,300	3,400	2,720	1,780	3,530	3,770	701	1,050	1,310
2	1,320	1,690	1,960	2,270	3,280	2,550	1,770	3,540	3,830	701	1,050	1,310
3	1,310	1,720	2,750	2,660	3,250	2,500	1,760	3,580	3,590	701	1,030	1,320
4	1,310	1,760	3,820	3,050	3,290	1,960	1,760	3,580	3,480	887	1,030	1,320
5	1,320	1,760	4,180	3,050	2,860	1,790	1,770	3,580	3,320	694	1,010	1,310
6	1,320	1,760	3,530	3,050	2,980	1,790	1,780	3,600	3,400	694	1,010	1,310
7	1,320	1,760	3,180	2,890	3,190	1,780	1,780	3,650	2,640	701	1,020	1,310
8	1,310	1,760	3,000	2,860	3,170	1,790	1,790	3,540	1,980	715	1,020	1,310
9	1,310	1,770	2,960	3,040	3,180	1,790	1,780	3,210	2,050	715	1,020	1,310
10	1,320	1,760	3,030	2,930	3,180	1,800	1,780	3,500	1,980	715	1,010	1,310
11	1,480	1,770	3,010	2,840	3,120	2,100	1,780	3,800	1,210	715	1,010	1,320
12	1,680	1,770	3,050	2,890	2,660	1,800	1,790	4,140	1,050	715	1,020	1,310
13	1,730	1,780	3,420	3,070	2,370	1,800	1,800	6,160	792	715	1,010	1,310
14	1,720	1,810	3,040	3,120	3,290	1,810	1,800	6,730	1,010	722	1,010	1,310
15	1,710	1,810	2,750	3,100	3,360	1,820	1,800	6,470	1,050	722	1,010	1,310
16	1,710	1,820	2,680	3,070	3,530	1,990	1,790	5,300	1,050	715	1,020	1,310
17	1,700	1,810	3,100	3,070	3,830	2,350	1,780	5,340	701	715	1,020	1,310
18	1,700	1,820	2,550	3,100	3,680	5,040	1,820	5,080	694	715	1,020	1,310
19	1,700	1,830	3,120	3,140	2,420	2,650	2,820	4,100	701	921	1,010	1,310
20	1,700	1,860	3,210	3,280	3,500	1,810	3,500	4,130	701	782	1,000	1,310
21	1,710	1,840	2,770	3,290	3,620	1,800	3,560	4,190	953	715	1,010	1,310
22	1,710	1,840	3,120	2,510	3,540	1,800	3,540	4,220	946	708	1,010	1,310
23	1,720	1,830	3,190	2,400	3,560	1,810	3,560	4,190	687	708	1,010	1,310
24	1,730	1,840	3,250	3,010	2,580	1,800	3,530	3,780	701	708	1,020	1,310
25	1,720	1,830	3,310	3,170	3,240	1,800	3,530	3,620	701	708	1,020	1,310
26	1,720	1,830	3,310	3,320	3,340	1,800	3,420	4,100	694	715	1,020	1,310
27	1,710	1,830	3,350	3,540	3,400	1,790	3,470	4,180	694	715	1,010	1,310
28	1,710	1,840	3,360	4,140	3,110	1,790	3,580	4,130	701	729	1,000	1,310
29	1,700	1,850	3,360	4,450	- - - -	1,790	3,560	4,130	701	715	1,000	1,310
30	1,700	1,850	3,360	4,000	- - - -	1,800	3,560	4,110	701	715	1,000	1,300
31	1,690	- - - -	2,540	3,470	- - - -	1,790	- - - -	3,920	- - - -	729	1,030	- - - -
Total	48,800	53,890	95,140	96,080	89,930	63,410	73,740	131,130	46,378	22,526	31,510	39,320
Mean	1,574	1,796	3,069	3,099	3,212	2,045	2,458	4,230	1,546	727	1,016	1,311
Max	1,730	1,860	4,180	4,450	3,830	5,040	3,580	6,730	3,830	921	1,050	1,320
Min	1,310	1,690	1,880	2,270	2,370	1,780	1,760	3,210	687	694	1,000	1,300
Ac-ft	96,790	106,900	188,700	190,600	178,400	125,800	146,300	260,100	91,990	44,680	62,500	77,990
Cal yr 1966: Total	597,891			Mean 1,638	Max 4,180	Min 656	Ac-ft 1,186,000					
Wtr yr 1967: Total	791,354			Mean 2,169	Max 6,730	Min 687	Ac-ft 1,571,000					

KLAMATH RIVER BASIN

11-5166, COTTONWOOD CREEK AT HORN BROOK, CALIF.

LOCATION.--Lat 41°55'00", long 122°33'45", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.47 N., R.6 W., on right bank 0.5 mile upstream from Rancheria Gulch and 0.6 mile northwest of Hornbrook.

DRAINAGE AREA.--89.8 sq mi.

RECORDS AVAILABLE.--October 1964 to September 1967.

GAGE.--Digital water-stage recorder and concrete control. Altitude of gage is 2,180 ft (from topographic map). Prior to Oct. 3, 1966, graphic water-stage recorder at same site and datum.

EXTREMES.--Maximum discharge during year, 1,600 cfs Jan. 28 (gage height, 6.05 ft); minimum daily, 0.05 cfs Sept. 14-16.

1964487: Maximum discharge, 5,480 cfs Dec. 22, 1964 (gage heights, 10.94 ft, in gage well, 11.3 ft outside, from floodmarks), from rating curve extended above 1,500 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.05 cfs Sept. 14-16, 1967.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Some diversion above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.35	4.8	53	20	188	72	56	49	46	5.8	1.3	.39
2	.42	4.4	64	19	144	74	54	47	40	5.1	1.2	.32
3	.43	4.4	46	19	127	66	52	47	35	4.6	1.0	.30
4	.42	4.4	173	19	128	60	50	49	37	4.6	1.0	.09
5	.35	4.4	162	20	138	56	55	50	38	4.6	1.0	.11
6	.49	5.8	70	18	128	54	59	51	35	4.1	.92	.09
7	.42	7.4	52	16	117	53	61	57	33	3.4	1.2	.10
8	.56	7.4	45	16	106	51	63	66	32	3.6	1.0	.11
9	.64	7.0	48	16	103	50	68	68	31	3.4	1.0	.09
10	.56	7.4	88	16	116	64	72	68	30	3.0	.92	.09
11	.64	13	68	16	105	64	73	66	27	3.0	.79	.09
12	.82	16	81	16	102	59	72	62	24	2.4	.75	.09
13	.82	16	181	19	102	55	71	55	23	2.1	.83	.08
14	.92	17	117	19	92	53	71	53	22	2.1	.77	.05
15	.92	21	73	18	84	92	70	52	22	2.8	.67	.05
16	.92	38	57	18	79	620	70	57	21	2.8	.65	.05
17	.92	17	46	17	121	350	70	61	20	3.0	.62	.13
18	.92	14	42	17	121	168	71	61	19	2.8	.62	.18
19	.92	17	38	24	95	140	72	59	16	2.2	.63	.14
20	.92	68	35	93	82	116	74	59	19	2.2	.65	.16
21	1.3	37	32	86	75	128	74	58	18	2.1	.65	.18
22	1.7	30	30	48	72	140	74	55	16	1.9	.65	.19
23	3.8	21	28	38	71	152	73	51	16	1.9	.59	.23
24	3.8	17	27	37	68	142	72	48	14	1.7	.54	.24
25	3.8	16	27	34	68	128	71	46	13	1.5	.51	.25
26	4.1	16	24	86	64	112	70	41	13	1.5	.52	.27
27	4.1	16	22	245	62	98	68	37	12	1.5	.50	.32
28	4.4	21	21	1,110	63	80	64	37	11	1.3	.44	.35
29	4.1	22	22	1,030	-----	70	59	35	7.7	1.5	.42	.37
30	4.1	19	21	442	-----	63	54	33	6.2	1.5	.42	.25
31	4.4	-----	20	254	-----	60	-----	34	-----	1.3	.39	-----
TOTAL	52.96	509.4	1,813	3,846	2,821	3,490	1,983	1,612	696.9	85.3	23.15	5.36
MEAN	1.71	17.0	58.5	124	101	113	66.1	52.0	23.2	2.75	.75	.18
MAX	4.4	68	181	1,110	188	620	74	68	46	5.8	1.3	.39
MIN	.35	4.4	20	16	62	50	50	33	6.2	1.3	.39	.05
AC-FT	105	1,010	3,600	7,630	5,600	6,920	3,930	3,200	1,380	169	46	11

CAL YR 1966: TOTAL 14,586.06 MEAN 40.0 MAX 742 MIN .10 AC-FT 28,930
 WAT YR 1967: TOTAL 16,938.07 MEAN 46.4 MAX 1,110 MIN .05 AC-FT 33,600

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-04	1930	5.39	731	1-28	0945	6.05	1,600
12-13	1430	4.99	403	3-16	-----	5.38	722

Note.--No gage-height record Mar. 14 to May 5.

KLAMATH RIVER BASIN

453

11-5169. LITTLE SHASTA RIVER NEAR MONTAGUE, CALIF.

LOCATION.--Lat 41°45'11", long 122°17'42" (revised), in NW¼NW¼ sec.15, T.45 N., R.4 W., on right bank 0.5 mile downstream from Dry Creek and 12 miles east of Montague.

DRAINAGE AREA.--48.2 sq mi.

RECORDS AVAILABLE.--October 1957 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 3,360 ft (from topographic map). Prior to May 27, 1965, water-stage recorder at site 0.25 mile downstream at different datum.

AVERAGE DISCHARGE.--10 years, 17.3 cfs (12,520 acre-ft per year).

EXTREMES.--Maximum discharge during year, 212 cfs May 8 (gage height, 3.35 ft); minimum daily, 2.4 cfs Oct. 6, 7, 19, 20, Nov. 4, 5.
1957-67: Maximum discharge, 5,910 cfs Dec. 22, 1964 (gage height, 12.2 ft, present site and datum), from slope-area measurement of maximum flow; minimum daily, 0.60 cfs Jan. 4, 1966.

REMARKS.--No known diversion or regulation above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	2.6	15	5.2	31	16	18	38	118	20	8.6	5.9
2	2.6	2.6	20	4.8	25	16	21	50	100	19	9.6	5.9
3	2.6	2.6	15	4.8	24	13	23	56	99	18	9.2	5.9
4	2.6	2.4	22	4.5	24	10	20	67	83	18	8.6	5.9
5	2.6	2.4	28	4.5	23	12	20	69	79	18	8.6	5.9
6	2.4	3.7	14	4.2	20	12	21	74	76	17	8.6	5.9
7	2.4	3.2	11	3.9	20	14	21	97	72	16	8.6	5.9
8	2.6	2.8	8.8	3.7	19	16	23	126	67	16	8.2	5.5
9	2.6	2.8	8.3	3.4	18	19	25	169	65	16	8.2	5.5
10	2.6	3.7	11	3.0	20	12	26	151	61	15	7.8	5.5
11	2.6	6.5	14	3.9	19	9.7	22	117	56	15	7.8	5.5
12	2.8	4.5	25	5.2	18	15	21	102	54	14	7.8	5.5
13	2.6	4.2	46	11	18	14	25	97	51	14	7.4	5.5
14	2.6	3.4	30	14	15	14	24	105	47	13	7.4	5.2
15	2.6	3.4	20	13	13	15	28	125	45	13	7.4	5.2
16	2.6	6.5	16	12	13	73	23	133	43	12	7.0	5.2
17	2.6	3.4	14	10	23	86	22	134	40	13	7.0	5.2
18	2.6	3.0	14	8.3	32	62	22	131	38	12	7.4	5.5
19	2.4	3.7	15	6.9	24	40	25	133	39	12	7.4	5.9
20	2.4	21	15	5.6	16	47	25	129	36	12	7.4	5.5
21	2.8	8.3	11	6.5	15	52	28	129	36	12	7.0	5.5
22	3.2	4.5	10	6.0	14	51	32	131	34	11	7.0	5.2
23	3.4	3.0	8.8	5.6	14	54	29	133	30	11	7.0	4.5
24	3.0	2.8	5.6	5.6	14	37	31	128	29	11	7.0	4.5
25	2.8	2.6	6.9	5.2	13	29	36	123	27	11	7.0	4.5
26	2.8	2.6	6.0	5.2	11	25	28	118	26	10	7.0	4.5
27	2.8	2.8	6.0	13	12	24	32	117	24	9.8	7.0	4.5
28	2.6	6.9	6.0	56	13	23	31	114	24	9.8	7.0	4.5
29	2.6	13	6.0	97	-----	21	27	106	22	9.4	6.6	4.5
30	2.6	9.2	5.6	50	-----	18	27	97	21	9.0	6.2	4.5
31	2.6	-----	5.2	38	-----	18	-----	90	-----	9.0	6.2	-----
Total	82.6	141.1	439.2	420.0	519	866.7	756	3,389	1,542	416.0	233.0	158.7
Mean	2.66	4.80	14.2	13.5	18.5	28.0	25.2	109	51.4	13.4	7.52	5.29
Max	3.4	21	46	97	32	86	36	169	118	20	8.6	5.9
Min	2.4	2.4	5.2	3.0	11	9.7	18	38	21	9.0	6.2	4.5
Ac-ft	164	286	87.1	833	1,030	1,720	1,500	6,720	3,060	825	462	315
Cal yr 1966: Total	4,154.20		Mean	11.4	Max	73	Min	0.60	Ac-ft	8,240		
Wtr yr 1967: Total	8,966.3		Mean	24.6	Max	169	Min	2.4	Ac-ft	17,780		

KLAMATH RIVER BASIN

11-5175. SHASTA RIVER NEAR YREKA, CALIF.

LOCATION.--Lat 41°49'30", long 122°35'40", in E½ 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.--793 sq mi.

RECORDS AVAILABLE.--October 1933 to December 1941, December 1944 to September 1967.

GAGE.--Digital 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. Nov. 2, 1933, to Oct. 6, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--30 years (1933-41, 1945-67), 180 cfs (130,300 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,390 cfs Dec. 5 (gage height, 5.64 ft); minimum daily, 14 cfs Aug. 7. 1933-41, 1944-67: Maximum discharge, 21,500 cfs Dec. 22, 1964 (gage heights, 12.92 ft, in gage well, 13.85 ft, from floodmarks), from rating curve extended above 4,100 cfs on basis of slope-area measurement of maximum flow; minimum, 3.4 cfs Aug. 13, 1939, when about 2 cfs was being diverted around gage.

REMARKS.--Records good. Flow partly regulated by Lake Dwinnell beginning in 1928; storage limited to 50,000 acre-ft. Many diversions above station for irrigation. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	60	168	159	194	435	177	231	196	230	66	33	52
2	60	165	321	193	368	177	219	187	385	61	32	37
3	65	165	435	192	323	168	219	196	351	48	25	37
4	70	160	368	190	295	159	201	164	279	47	22	44
5	65	157	969	188	279	159	201	151	228	47	16	42
6	80	178	480	186	263	159	208	146	208	46	16	42
7	76	214	326	184	251	159	215	153	202	44	14	46
8	89	204	271	180	239	147	212	181	200	39	16	41
9	96	190	255	180	235	144	194	336	196	36	24	35
10	98	182	255	184	247	173	165	455	189	43	26	49
11	56	150	267	187	235	232	124	440	168	41	22	61
12	92	197	259	187	235	287	118	471	123	39	45	65
13	105	193	283	187	239	292	105	391	105	36	28	70
14	120	183	323	194	235	293	98	290	100	33	26	75
15	129	178	271	190	227	279	114	240	98	41	33	73
16	140	203	251	187	223	380	153	247	92	37	30	78
17	141	209	243	184	219	651	194	223	92	35	28	77
18	152	194	235	184	235	580	323	240	80	42	26	94
19	152	193	231	187	215	400	394	238	83	36	29	82
20	154	265	227	338	201	358	384	245	122	53	30	55
21	159	322	223	691	198	335	353	240	371	37	22	57
22	169	300	212	471	194	314	311	242	195	37	26	108
23	171	236	212	324	187	303	295	218	151	30	19	122
24	168	208	201	275	180	290	271	198	134	21	17	119
25	162	192	201	251	174	275	221	176	96	33	49	121
26	155	191	201	403	174	264	219	154	85	26	39	78
27	159	186	198	463	184	259	215	132	79	24	37	95
28	168	188	194	550	184	251	234	149	87	28	34	115
29	168	204	194	761	-----	255	239	152	74	29	35	112
30	170	197	194	629	-----	251	219	152	62	25	44	87
31	171	-----	194	507	-----	239	-----	150	-----	29	43	-----
TOTAL	3,860	6,012	8,745	9,221	6,674	8,410	6,649	7,153	4,865	1,189	886	2,169
MEAN	125	200	282	297	238	271	222	231	162	36.4	28.6	72.3
MAX	171	322	569	761	435	651	394	471	385	66	49	122
MIN	60	157	194	180	174	144	98	132	62	21	14	35
AC-FT	7,660	11,920	17,350	18,290	13,240	16,680	13,190	14,190	9,650	2,360	1,760	4,300

CAL YR 1966: TOTAL 53,238.5

MEAN 146

MAX 1,050

MIN 6.4

AC-FT 105,600

WAT YR 1967: TOTAL 65,833

MEAN 180

MAX 969

MIN 14

AC-FT 130,600

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-05	0515	5.64	1,390	4-19	0815	4.06	407
1-21	1600	4.90	820	5-12	0230	4.28	524
1-29	1515	4.92	832	6-21	0130	4.42	570
3-17	0445	4.66	690				

KLAMATH RIVER BASIN

455

11-5180.5. EAST FORK SCOTT RIVER AT CALLAHAN, CALIF.

LOCATION.--Lat 41°18'15", long 122°46'35", in SE¼NW¼ 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 Callahan.

DRAINAGE AREA.--110 sq mi.

RECORDS AVAILABLE.--October 1959 to September 1967.

GAGE.--Graphic 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.

AVERAGE DISCHARGE.--8 years, 99.2 cfs (71,820 acre-ft per year).

EXTREMES.--Maximum discharge during year, 2,110 cfs Nov. 19 (gage height, 7.21 ft); minimum daily, 1.6 cfs Oct. 8-10.

1959-67: Maximum discharge, 7,480 cfs Dec. 22, 1964 (gage heights, 9.93 ft, in gage well, 9.73 ft, from floodmarks), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 9.05 and 9.93 ft; minimum daily, 0.90 cfs Sept. 20, 21, 1962, Sept. 10-17, 1964.

REMARKS.--Records fair prior to July 5, poor thereafter. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	2.9	414	60	260	68	96	102	216	114	11	5.1
2	2.4	3.0	356	58	202	70	91	107	178	106	11	5.0
3	2.2	3.0	241	58	174	66	89	115	170	94	10	4.8
4	2.0	3.1	729	58	152	63	86	138	195	82	9.9	4.6
5	1.9	3.2	501	56	138	62	84	166	230	72	9.9	4.5
6	1.8	4.6	229	53	129	60	105	202	266	61	9.4	4.3
7	1.8	5.0	166	53	118	60	100	320	305	52	9.4	4.1
8	1.6	5.3	132	52	113	59	102	551	305	48	9.4	3.9
9	1.6	5.3	118	51	107	62	113	678	300	43	8.4	3.6
10	1.6	5.5	110	51	105	68	132	474	285	40	7.9	3.4
11	1.8	6.0	110	52	102	68	132	330	275	37	7.4	3.1
12	1.9	6.2	152	51	102	65	121	260	266	33	7.2	3.0
13	2.2	23	294	51	102	63	124	229	242	29	7.1	2.9
14	2.4	95	245	51	100	63	121	265	242	26	6.9	2.8
15	2.5	271	188	51	93	89	124	389	262	23	6.7	2.8
16	2.6	259	160	51	89	1160	115	600	280	22	6.6	2.8
17	2.6	67	138	50	86	572	127	750	295	22	6.4	2.7
18	3.0	45	127	48	86	350	124	766	305	21	6.3	2.7
19	3.2	802	121	50	82	265	124	750	320	20	6.2	2.6
20	3.7	1180	118	51	79	233	121	782	290	18	6.0	2.6
21	3.1	502	110	58	75	202	121	854	262	17	5.9	2.6
22	3.0	250	100	51	73	213	129	934	216	16	5.8	2.6
23	3.0	170	93	50	71	250	129	793	188	15	5.6	2.5
24	3.0	132	84	52	70	195	129	658	174	14	6.0	2.5
25	2.9	105	80	50	70	170	132	486	174	14	6.9	2.5
26	2.9	93	77	52	68	152	129	424	170	13	7.4	2.5
27	2.9	82	73	99	66	142	129	400	154	13	7.4	2.5
28	2.9	113	68	391	65	129	124	370	139	12	7.4	2.4
29	3.0	160	66	773	---	115	118	335	127	12	6.4	2.4
30	3.0	146	65	548	---	110	107	280	122	12	6.0	2.4
31	2.9	---	62	378	---	105	---	238	---	11	5.6	---
Total	77.9	4,548.1	5,527	3,558	2,977	5,349	3,478	13,746	6,953	1,112	233.5	96.2
Mean	2.51	152	178	115	106	173	116	443	232	35.9	7.53	3.21
Max	3.7	1,180	729	773	260	1,160	132	934	320	114	11	5.1
Min	1.6	2.9	62	48	65	59	84	102	122	11	5.6	2.4
Ac-ft	155	9,020	10,960	7,060	5,900	10,610	6,900	27,260	13,790	2,210	463	191

Cal yr 1966: Total 37,971.6 Mean 104 Max 1,180 Min 1.0 Ac-ft 75,320
Wtr yr 1967: Total 47,655.7 Mean 131 Max 1,180 Min 1.6 Ac-ft 94,520

Peak discharge (base, 550 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2300	6.52	838	1-29	0400	6.20	1,150
11-19	2230	7.21	2,110	3-16	1100	6.72	1,620
12-01	0700	5.67	726	5-08	2200	5.76	798
12-04	2300	6.27	1,210	5-22	2000	6.10	1,070

KLAMATH RIVER BASIN

11-5183.1. CEDAR GULCH NEAR CALLAHAN, CALIF.

LOCATION.--Lat 41°20'40", long 122°49'45", near center of sec.1, T.40 N., R.9 W., on left bank at culvert on county road, 2.9 miles northwest of Callahan.

DRAINAGE AREA.--0.99 sq mi.

RECORDS AVAILABLE.--Water years 1961-66 (annual maximum), February 1966 to September 1967.

GAGE.--Graphic water-stage recorder, crest-stage gages, and float-operated rain gage. Altitude of gage is 3,040 ft (from topographic map). Prior to Feb. 11, 1966, crest-stage gages only at same site and datum.

EXTREMES.--Maximum discharge during year, 18 cfs Jan. 28 (gage height, 6.58 ft); no flow for several months. 1960-67: Maximum discharge, 144 cfs Dec. 22, 1964 (gage height, 10.18 ft from floodmarks), from rating curve extended above 7 cfs on basis of computations of flow through culvert at gage heights 6.15 ft, 8.25 ft, and 10.18 ft; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0.10	1.7	0	0.30	0	0.20			
2	0		.20	0	.90	0	.30	0	.10			
3	0		.20	0	.60	0	.20	0	0			
4	0		1.8	0	.50	0	.20	0	0			
5	0		2.5	.10	.40	0	.20	0	0			
6	0		.70	0	.30	0	.40	0	0			
7	0		.50	0	.30	0	.30	0	0			
8	0		.40	0	.30	0	.20	0	0			
9	0		.40	0	.30	0	.20	0	0			
10	0		.50	0	.20	0	.20	0	0			
11	0		.50	0	.20	0	.30	0	0			
12	0		.50	0	.20	0	.20	0	0			
13	0		.80	0	.20	0	.20	0	0			
14	0		.90	0	.20	0	.10	0	0			
15	0		.60	0	.10	0	.10	0	0			
16	0		.60	0	.10	1.7	.10	.40	0			
17	0.10		.50	0	.10	1.1	.20	.40	0			
18	.30		.40	0	.10	.90	.20	.10	0			
19	.40		.40	0	.10	.70	.20	.20	.20			
20	.60		.40	.70	.10	.70	.20	.20	.10			
21	1.0		.30	1.5	.10	.70	.10	.40	0			
22	1.1		.30	1.1	.10	.60	.20	.30	0			
23	1.7		.30	.70	.10	.60	.20	.10	0			
24	1.6		.20	.60	0	.50	.10	0	0			
25	.70		.20	.50	0	.50	.10	0	0			
26	0		.20	8.3	0	.40	.10	0	0			
27	0		.20	5.6	0	.40	.10	0	0			
28	0		.20	5.8	0	.40	.10	0	0			
29	0		.20	5.8	- - - - -	.40	.10	0	0			
30	0		.20	3.4	- - - - -	.40	0	0	0			
31	0	- - - - -	.10	2.6	- - - - -	.30	- - - - -	0	- - - - -			- - - - -
Total	7.50	0	15.20	36.80	7.20	10.30	5.40	2.10	0.60	0	0	0
Mean	0.24	0	0.49	1.19	0.26	0.33	0.18	0.07	0.02	0	0	0
Max	1.7	0	2.5	8.3	1.7	1.7	.40	.60	.20	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	15	0	30	73	14	20	11	4.2	1.2	0	0	0

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
 Wtr yr 1967: Total 85.10 Mean 0.23 Max 8.3 Min 0 Ac-ft 169

KLAMATH RIVER BASIN

457

11-5186. MOFFETT CREEK NEAR FORT JONES, CALIF.

LOCATION.--Lat 41°38'02", long 122°44'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.27, T.44 N., R.8 W., on right bank 180 ft upstream from bridge, 590 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 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,940 ft (from topographic map). Prior to May 30, 1963, 90 ft downstream at datum 1.15 ft lower.

AVERAGE DISCHARGE.--9 years, 14.3 cfs (10,350 acre-ft per year).

EXTREMES.--Maximum discharge during year, 640 cfs June 20 (gage height, 5.50 ft); minimum daily, 0.20 cfs Oct. 1, 19, 20.

1958-67: Maximum discharge, 680 cfs Dec. 23, 1964 (gage height, 5.59 ft), from rating curve extended above 120 cfs on basis of slope-area measurement of maximum flow; no flow for several days in 1964.

Flood of Jan. 29, 1958, reached a stage of 5.54 ft present datum (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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	1.0	2.5	12	117	24	42	42	24	10	2.2	0.80
2	.40	1.0	4.8	11	94	27	44	40	24	9.8	2.0	.70
3	.60	1.0	4.3	11	81	27	42	41	20	9.8	1.8	.50
4	.60	1.0	18	10	72	26	39	42	20	9.5	1.7	.50
5	.60	1.0	45	10	67	24	41	43	20	8.7	1.7	.50
6	.30	1.4	29	9.7	62	24	41	46	18	8.7	1.7	.50
7	.30	1.2	23	9.7	57	23	39	55	19	9.8	1.7	.50
8	.30	1.2	19	9.7	53	22	36	70	19	8.7	.90	.50
9	.30	1.2	18	9.7	51	22	36	79	19	7.6	.70	.50
10	.30	1.2	21	9.7	49	24	35	82	17	8.7	.70	.50
11	.30	1.3	21	9.7	46	24	35	75	16	6.4	.70	.50
12	.30	1.4	22	9.7	43	23	34	66	16	5.8	.70	.50
13	.40	1.5	32	9.4	42	22	34	54	16	5.3	.70	.50
14	.40	1.4	41	9.4	40	22	34	48	16	4.8	.70	.60
15	.40	1.4	37	9.4	37	22	35	47	15	4.6	.70	.60
16	.30	1.7	33	9.0	36	54	34	50	14	4.5	.70	.60
17	.30	1.9	28	9.0	35	87	37	48	13	4.1	.70	.60
18	.30	1.7	26	8.7	35	84	37	46	14	3.7	.90	.60
19	.20	1.9	22	9.0	34	75	37	45	14	3.5	.70	.60
20	.20	2.2	21	14	32	70	37	45	32	3.5	.80	.60
21	.30	2.4	20	19	30	65	39	37	24	3.3	.80	.80
22	.40	2.5	18	21	29	63	41	34	20	3.3	.80	.90
23	.40	2.4	17	19	28	65	42	33	17	3.1	.80	.60
24	.40	2.1	16	18	28	62	44	30	15	2.8	.80	.60
25	.40	2.0	15	18	27	59	45	26	12	2.6	.80	.60
26	.40	2.0	15	21	26	55	46	25	12	2.5	.80	.60
27	.50	2.0	14	41	24	51	47	24	12	2.3	1.1	.60
28	1.0	2.1	13	117	24	50	46	22	11	2.2	1.4	.60
29	1.0	2.0	12	274	- - - -	47	46	21	11	2.2	.90	.60
30	1.0	2.0	12	209	- - - -	45	44	20	11	2.1	.90	.60
31	1.0	- - - -	12	149	- - - -	44	- - - -	20	- - - -	2.2	.90	- - - -
Total	13.80	49.1	631.6	1105.8	1299	1332	1189	1356	509	166.1	32.40	17.70
Mean	0.44	1.64	20.4	35.7	46.4	43.0	39.6	43.7	17.0	5.36	1.05	0.59
Max	1.0	2.5	45	274	117	87	47	82	32	10	2.2	0.90
Min	0.20	1.0	2.5	8.7	24	22	34	20	11	2.1	0.7	0.50
Ac-ft	27	97	1250	2190	2580	2640	2360	2690	1010	329	64	35
Cal yr 1966: Total	3,986.20											
Wtr yr 1967: Total	7,701.50											
	Mean	10.6	Mean	21.1	Max	126	Min	0.10	Ac-ft	7,710		
					Max	274	Min	0.20	Ac-ft	15,280		

KLAMATH RIVER BASIN

11-5195. SCOTT RIVER NEAR FORT JONES, CALIF.

LOCATION.--Lat 41°38'28", long 123°00'54", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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.--653 sq mi.

RECORDS AVAILABLE.--December 1941 to September 1967. Monthly discharge only October to December 1941, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 2,623.80 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1967, graphic water-stage recorder 400 ft downstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--26 years, 646 cfs (467,700 acre-ft per year); median of yearly mean discharges, 560 cfs (405,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 6,880 cfs Jan. 29 (gage height, 12.38 ft); minimum daily, 24 cfs Aug. 26, Sept. 10-12.

1941-67: Maximum discharge, 54,600 cfs Dec. 22, 1964 (gage height, 25.34 ft, from floodmarks, site and datum then in use), from rating curve extended above 15,000 cfs on basis of slope-area measurement at 21.40 ft; minimum, 20 cfs Sept. 14, 15, 1955.

REMARKS.--Records good. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	60	57	702	382	2,120	568	697	505	1,230	716	89	64
2	39	57	955	369	1,690	578	673	451	1,210	684	83	61
3	40	58	860	360	1,450	563	658	465	1,090	636	36	58
4	52	59	940	354	1,290	544	645	452	1,090	592	41	55
5	88	58	2,290	357	1,210	527	626	488	1,200	568	51	52
6	75	62	1,220	340	1,140	510	656	532	1,330	532	66	50
7	70	62	860	318	1,080	496	654	688	1,350	452	100	47
8	68	61	702	315	1,030	490	617	1,240	1,380	412	106	47
9	64	61	630	308	990	494	605	2,080	1,380	388	96	41
10	65	61	720	304	965	556	618	1,830	1,360	364	89	24
11	64	61	715	304	937	609	635	1,410	1,280	328	86	24
12	63	64	895	304	923	576	617	1,140	1,260	276	83	24
13	61	80	1,240	304	937	550	605	930	1,180	225	80	38
14	70	89	1,560	304	925	521	608	895	1,170	211	80	41
15	64	285	1,140	304	879	504	597	1,060	1,250	197	80	41
16	61	756	951	308	830	1,380	584	1,670	1,330	190	80	58
17	61	459	845	308	798	2,070	595	2,500	1,410	197	75	58
18	60	289	765	301	809	1,480	618	2,820	1,470	180	72	66
19	60	483	720	308	762	1,230	598	2,610	1,560	162	69	61
20	60	2,350	697	568	718	1,170	579	2,790	1,630	158	69	58
21	60	1,540	656	733	689	1,070	555	3,270	1,560	162	66	55
22	58	835	620	634	674	1,030	565	3,670	1,280	158	64	55
23	59	584	584	528	655	1,150	578	3,620	1,100	158	61	61
24	59	476	544	496	643	1,090	557	3,210	1,000	148	50	64
25	58	402	500	484	625	997	550	2,460	975	144	26	64
26	57	364	488	598	599	925	560	2,100	965	130	24	64
27	57	336	460	1,270	579	864	557	2,020	910	124	26	64
28	58	326	430	3,170	567	828	557	1,850	836	110	36	64
29	59	401	420	5,760	-----	792	550	1,820	792	103	50	64
30	58	456	406	3,840	-----	766	537	1,560	744	93	78	64
31	58	-----	392	2,900	-----	742	-----	1,320	-----	89	78	-----
TOTAL	1,886	11,232	24,907	27,133	26,514	25,670	18,051	53,456	36,322	8,887	2,090	1,587
MEAN	60.8	374	803	875	947	828	602	1,724	1,211	267	67.4	52.9
MAX	88	2,350	2,290	5,760	2,120	2,070	697	3,670	1,630	716	106	66
MIN	39	57	392	301	567	490	537	451	744	89	24	24
AC-FT	3,740	22,280	49,400	53,820	52,590	50,920	35,800	106,000	72,040	17,630	4,150	3,150

CAL YR 1966: TOTAL 196,176

MEAN 537

MAX 3,390

MIN 34

AC-FT 389,100

WAT YR 1967: TOTAL 237,735

MEAN 651

MAX 5,760

MIN 24

AC-FT 471,500

Peak discharge (base, 2,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-20	0945	9.56	2,800	3-16	2330	9.43	2,680
12-05	0815	9.66	2,900	5-09	1030	9.04	2,330
1-29	1700	12.38	6,880	5-23	0345	10.47	3,880

KLAMATH RIVER BASIN

459

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 left 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,320 ft (from river-profile map). November 1912 to June 1925, staff gage at site 3.5 miles upstream at different datum.

AVERAGE DISCHARGE.--29 years, 4,092 cfs (2,962,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 19,600 cfs Jan. 29 (gage height, 12.24 ft); minimum daily, 1,120 cfs July 31.

1912-25, 1951-67: Maximum discharge, 165,000 cfs Dec. 23, 1964 (gage height, 33.75 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. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation. Records of water temperatures for the 1967 water year are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1480	2010	3550	3540	8660	4440	3800	4300	6390	2060	1210	1370
2	1490	2010	4100	3450	7500	4200	3710	4820	6480	2000	1360	1540
3	1470	2010	4420	3420	6750	4070	3630	4300	6170	1900	1360	1530
4	1480	2080	5780	4010	6430	3960	3540	4330	6170	1920	1300	1540
5	1500	2080	10400	4030	6120	3280	3480	5040	6100	1750	1310	1540
6	1520	2170	6940	4050	5540	3260	3380	5200	6320	1660	1300	1550
7	1520	2170	5620	3970	5830	3260	3350	5620	5980	1580	1300	1550
8	1520	2170	5120	3800	5680	3230	3310	6460	4880	1520	1330	1560
9	1530	2150	4740	3820	5600	3210	3300	7460	4720	1490	1330	1560
10	1530	2160	5030	4000	5600	3420	3310	6940	5170	1460	1330	1550
11	1530	2200	5060	3870	5540	3720	3330	6700	4550	1430	1310	1560
12	1790	2270	5440	3940	5300	3520	3300	6340	3930	1390	1310	1570
13	1920	2370	6340	3940	4880	3490	3280	7580	3520	1350	1310	1560
14	1950	2540	7080	4040	5510	3420	3340	8480	3280	1330	1300	1560
15	1980	2900	5750	4100	5460	3440	3300	8740	3620	1310	1300	1560
16	1980	3620	5200	4040	5520	4740	3250	9160	3750	1290	1300	1560
17	1980	3060	5240	4120	5570	6650	3270	10100	3770	1260	1290	1580
18	1980	2700	4960	4170	5780	7480	3320	10600	3540	1250	1280	1620
19	1970	2830	4660	4110	4950	7160	3380	9480	3660	1240	1290	1630
20	1990	5160	4980	4840	4840	5000	4750	9480	3820	1430	1270	1600
21	2010	4820	4790	5840	5330	4770	5320	10400	3860	1250	1260	1580
22	2030	3770	4360	5000	5270	4690	5460	11100	3610	1210	1260	1580
23	2060	3190	4760	4400	5240	4980	5180	10900	3190	1210	1260	1630
24	2050	2960	4710	4290	4920	4870	5000	9980	2300	1190	1250	1640
25	2040	2840	4580	4610	4400	4690	4380	8680	2670	1170	1270	1630
26	2020	2770	4660	5160	5040	4450	4950	7960	2590	1170	1280	1620
27	2010	2680	4500	7460	4840	4340	4840	8150	2460	1160	1280	1590
28	2020	2720	4560	14800	4740	4140	4900	7780	2340	1140	1280	1620
29	2020	2880	4550	18600	- - - -	4040	4980	7760	2240	1150	1270	1630
30	2020	2910	4520	14800	- - - -	3930	4870	7280	2150	1140	1270	1610
31	2010	- - - -	4180	10800	- - - -	3940	- - - -	6880	- - - -	1120	1290	- - - -
Total	56400	82200	160680	175020	156840	133800	120310	239700	123730	43530	40060	47220
Mean	1819	2740	5183	5646	5601	4316	4010	7732	4124	1404	1292	1574
Max	2060	5160	10400	18600	8660	7480	5820	11100	6480	2060	1360	1640
Min	1470	2010	3550	3420	4400	3210	3250	4900	2150	1120	1210	1370
Ac-ft	111900	163000	318700	347100	311100	265400	238600	475400	245400	86340	79460	93660

Cal yr 1966: Total 1,129,324 Mean 3,094 Max 13,200 Min 929 Ac-ft 2,240,000
Wtr yr 1967: Total 1,379,490 Mean 3,779 Max 18,600 Min 1,120 Ac-ft 2,736,000

KLAMATH 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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital 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. December 1956 to Oct. 7, 1964, and Dec. 31, 1964, to Feb. 24, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--13 years (1911-14, 1957-67), 434 cfs (314,200 acre-ft per year).

EXTREMES.--Maximum discharge during year, 7,250 cfs Jan. 28 (gage height, 16.94 ft); minimum daily, 45 cfs Nov. 4, 5.

1911-21, 1956-67: Maximum discharge, 39,000 cfs Dec. 22, 1964 (gage height, 36.59 ft, from floodmarks, in gage well), from rating curve extended above 4,800 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 fair. Small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50	46	1,470	284	1,210	430	492	300	604	201	84	56
2	49	47	1,020	274	896	430	478	321	604	189	83	56
3	48	46	749	262	721	410	478	365	582	177	82	56
4	48	45	2,150	262	679	390	470	425	614	168	80	55
5	48	45	2,250	262	673	375	470	480	649	159	78	55
6	47	64	1,000	248	625	368	488	532	621	150	78	55
7	47	54	752	241	610	368	490	766	586	142	77	55
8	47	51	636	235	619	370	495	1,040	558	138	75	55
9	46	49	588	232	601	385	488	1,050	540	140	74	54
10	46	51	1,010	228	601	432	482	784	520	138	71	56
11	46	69	1,010	228	583	395	465	643	495	126	71	57
12	46	124	1,340	228	571	380	452	571	470	120	70	55
13	48	276	2,800	235	592	365	465	548	442	117	69	54
14	47	689	1,990	244	550	360	455	580	442	120	67	53
15	48	1,500	1,240	248	530	372	430	759	445	122	67	52
16	47	1,040	930	256	500	1,540	422	1,120	442	118	64	51
17	47	419	746	248	490	1,080	420	1,210	427	116	64	56
18	46	290	636	241	492	848	402	1,080	406	114	63	60
19	46	871	564	254	480	730	388	1,120	385	110	61	56
20	56	1,980	528	428	462	724	372	1,260	352	106	61	54
21	76	1,080	487	412	448	721	362	1,390	330	104	60	53
22	94	595	457	358	438	756	355	1,340	307	105	60	52
23	97	427	430	326	432	996	350	1,180	291	102	60	51
24	61	342	405	340	430	792	348	1,000	285	100	59	51
25	54	291	392	350	425	703	360	864	279	98	59	52
26	51	288	368	592	412	637	352	820	265	94	60	51
27	50	267	342	3,250	402	592	348	768	251	92	60	50
28	48	333	324	5,740	400	562	330	760	235	92	58	50
29	48	475	314	5,390	-----	532	320	719	225	89	57	49
30	48	472	304	2,760	-----	525	305	656	213	87	57	50
31	46	-----	292	1,680	-----	510	-----	596	-----	86	56	-----
TOTAL	1,626	12,326	27,524	26,336	15,872	18,078	12,532	25,047	12,865	3,820	2,085	1,610
MEAN	52.5	411	888	850	567	583	418	808	429	123	67.3	53.7
MAX	97	1,980	2,800	5,740	1,210	1,540	495	1,390	649	201	84	60
MIN	46	45	292	228	400	360	305	300	213	86	56	49
AC-FT	3,230	24,450	54,590	52,240	31,480	35,860	24,860	49,680	25,520	7,580	4,140	3,190

CAL YR 1966: TOTAL 188,966

MEAN 518

MAX 4,000

MIN 45

AC-FT 374,800

WAT YR 1967: TOTAL 159,721

MEAN 438

MAX 5,740

MIN 45

AC-FT 316,800

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2300	10.42	2,470	12-13	1430	12.77	4,040
11-20	1230	11.30	3,040	1-28	0545	16.94	7,250
12-01	0700	10.18	2,320	3-16	0845	10.27	2,380
12-04	2115	13.12	4,280				

KLAMATH RIVER BASIN

461

11-5225. SALMON RIVER AT SOMESBAR, CALIF.

LOCATION.--Lat 41°22'40", long 123°28'35", in NE¼ sec.3, T.11 N., R.6 E., on left bank at Somesbar, 1.0 mile upstream from mouth.

DRAINAGE AREA.--751 sq mi.

RECORDS AVAILABLE.--September 1911 to September 1915, October 1927 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Graphic water-stage recorder. Datum of gage is 482.97 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to October 1927, staff gage, at different datum, and October 1927 to Dec. 22, 1964, graphic water-stage recorder at site 0.5 mile upstream at datum 6.54 ft higher.

AVERAGE DISCHARGE.--44 years, 1,743 cfs (1,262,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 21,000 cfs Jan. 29 (gage height, 13.00 ft); minimum daily, 148 cfs Oct. 12-19.

1911-15, 1927-67: Maximum discharge, 133,000 cfs Dec. 22, 1964 (gage height, 46.6 ft, present site and datum, from floodmarks), from rating curve extended above 33,000 cfs; minimum, 70 cfs Aug. 25, Sept. 4, 5, 1931.

REMARKS.--Records good. No storage or large diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	170	2,420	934	5,340	1,410	1,830	1,410	2,750	1,760	423	227
2	155	167	2,770	898	4,220	1,410	1,750	1,440	2,650	1,650	411	227
3	155	164	2,160	868	3,570	1,350	1,740	1,560	2,470	1,540	403	224
4	155	161	3,510	868	3,260	1,300	1,710	1,730	2,720	1,390	391	224
5	152	161	7,560	898	3,080	1,260	1,710	2,010	3,000	1,300	387	221
6	150	230	2,100	820	2,940	1,240	1,830	2,210	3,180	1,170	375	221
7	150	239	2,300	796	2,850	1,230	1,850	3,050	3,070	1,070	371	221
8	150	203	1,700	778	2,790	1,230	1,850	5,080	3,080	1,030	363	218
9	150	191	2,150	772	2,710	1,270	1,850	5,700	3,140	952	355	215
10	150	188	2,700	766	2,630	1,580	1,860	4,320	3,120	898	347	215
11	150	236	3,700	766	2,510	1,420	1,850	3,400	3,080	886	335	224
12	148	387	4,300	766	2,470	1,360	1,760	2,850	3,000	862	308	224
13	148	725	5,200	772	2,490	1,320	1,770	2,660	2,710	826	298	218
14	148	1,450	3,700	790	2,360	1,280	1,780	3,470	2,810	790	294	212
15	148	1,990	3,500	802	2,210	1,260	1,700	3,950	3,080	754	287	206
16	148	2,630	2,600	814	2,050	3,600	1,670	5,740	3,460	718	280	200
17	148	1,040	2,000	808	1,980	3,750	1,760	6,940	3,520	838	280	212
18	148	700	2,600	790	1,960	3,240	1,690	6,540	3,470	712	273	245
19	148	1,470	1,400	844	1,860	2,830	1,650	5,980	3,500	645	263	239
20	157	3,310	2,000	1,900	1,760	2,870	1,610	6,840	3,200	620	259	236
21	221	2,090	3,000	3,100	1,690	2,860	1,570	7,850	2,810	575	256	227
22	218	1,410	1,100	2,430	1,630	2,830	1,560	7,750	2,380	566	252	209
23	252	1,000	1,250	1,900	1,600	3,270	1,530	7,030	2,210	557	249	203
24	224	814	1,180	1,780	1,570	2,980	1,490	6,080	2,180	530	242	200
25	203	700	1,130	1,680	1,550	2,690	1,530	4,900	2,200	507	242	194
26	188	660	1,110	3,370	1,470	2,470	1,530	4,700	2,200	494	242	194
27	182	640	1,100	6,620	1,410	2,300	1,570	4,390	2,070	480	249	191
28	179	730	1,070	13,700	1,390	2,210	1,500	4,090	1,890	467	259	188
29	176	1,230	1,040	17,700	- - - -	2,050	1,490	4,130	1,850	458	249	188
30	173	1,230	1,000	10,700	- - - -	2,020	1,430	3,520	1,860	449	239	185
31	170	- - - -	964	7,500	- - - -	1,940	- - - -	3,000	- - - -	435	233	- - - -
Total	5,202	26,316	74,314	87,930	67,350	63,830	50,420	134,320	82,660	25,929	9,415	6,408
Mean	168	877	2,397	2,836	2,405	2,059	1,680	4,333	2,755	836	304	214
Max	252	3,310	7,560	17,700	5,340	3,750	1,860	7,850	3,520	1,760	423	245
Min	148	161	964	766	1,390	1,230	1,430	1,410	1,850	435	233	185
Ac-ft	10,320	52,200	147,400	174,000	133,600	126,600	100,000	266,400	164,000	51,430	19,670	12,710

Cal yr 1966: Total 625,182 Mean 1,713 Max 18,500 Min 148 Ac-ft 1,240,000

Wtr yr 1967: Total 634,094 Mean 1,737 Max 17,700 Min 148 Ac-ft 1,253,000

Peak discharge (base, 10,000 cfs).--Dec. 5 (0200) 13,600 cfs (10.69 ft); Jan. 29 (0900) 21,000 cfs (13.00 ft).

KLAMATH RIVER BASIN

11-5230. KLAMATH RIVER AT ORLEANS, CALIF.

LOCATION.--Lat 41°18'13", long 123°32'00", in SW¼NE¼ sec.31, T.11 N., R.6 E., on right bank at Orleans, 25 ft upstream from highway bridge, and 0.2 mile downstream from Cheenitch Creek.

DRAINAGE AREA.--8,500 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

RECORDS AVAILABLE.--October 1927 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1965, published as "at Somesbar."

GAGE.--Digital water-stage recorder. Datum of gage is 355.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Oct. 1, 1965, graphic water-stage recorder at site 6.7 miles upstream at datum 90.68 ft higher.

AVERAGE DISCHARGE.--40 years, 7,812 cfs (5,656,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 98,600 cfs Jan. 29 (gage height, 24.07 ft); minimum daily, 1,920 cfs Aug. 24, 25, Aug. 30 to Sept. 1.

1927-67: Maximum discharge, 307,000 cfs Dec. 22, 1964 (gage height, 76.5 ft, site and datum then in use, from floodmarks), from rating curve extended above 80,000 cfs by slope-conveyance study; minimum daily, 320 cfs Aug. 25, Sept. 1, 1951.

REMARKS.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS; WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,950	2,410	13,700	6,320	27,800	8,950	9,900	8,750	13,300	4,650	1,990	1,920
2	1,950	2,420	14,800	5,860	22,000	8,680	9,430	8,750	12,800	4,400	2,040	2,050
3	1,940	2,410	12,800	5,690	18,600	8,230	9,250	9,030	12,000	4,250	2,120	2,130
4	1,930	2,390	18,900	5,910	16,900	7,850	9,150	9,580	11,800	3,950	2,110	2,140
5	1,930	2,410	43,000	6,470	16,500	7,180	9,030	10,400	13,900	3,750	2,050	2,130
6	1,950	2,580	23,400	6,170	15,500	6,840	9,430	10,900	14,200	3,550	2,060	2,120
7	1,970	2,600	17,700	6,030	15,100	6,740	9,450	13,500	13,800	3,400	2,070	2,130
8	1,960	2,530	15,600	5,790	14,700	6,700	9,450	18,900	12,700	3,200	2,060	2,120
9	1,970	2,500	13,500	5,690	14,400	6,740	9,300	22,300	11,600	3,100	2,050	2,130
10	1,970	2,510	17,500	5,790	14,000	7,930	9,230	19,800	11,300	3,000	2,050	2,120
11	1,970	2,630	17,900	5,690	13,600	7,580	9,100	16,700	11,000	2,900	2,040	2,140
12	2,020	3,080	21,600	5,610	13,400	7,560	8,750	15,000	10,000	2,800	2,020	2,140
13	2,210	4,030	27,400	5,650	12,900	7,260	8,730	14,700	9,080	2,770	2,020	2,130
14	2,300	7,880	30,000	5,890	12,400	7,080	8,830	16,800	8,630	2,690	2,030	2,120
15	2,320	12,700	21,000	5,970	12,700	7,060	8,450	19,900	9,030	2,600	2,020	2,120
16	2,320	15,800	16,400	5,990	12,000	15,600	8,280	23,000	9,500	2,530	1,990	2,100
17	2,320	7,070	13,900	5,890	11,800	19,200	8,580	25,000	9,830	2,550	1,990	2,110
18	2,310	5,000	12,700	5,780	12,300	17,900	8,400	26,500	9,580	2,400	1,990	2,210
19	2,300	7,120	11,100	5,860	11,700	18,400	8,430	23,000	9,330	2,320	1,980	2,190
20	2,330	19,300	10,900	11,100	10,100	15,900	9,180	20,500	9,130	2,260	1,990	2,150
21	2,540	17,000	10,400	16,000	10,800	15,300	9,630	26,000	9,000	2,410	1,950	2,120
22	2,550	10,700	9,400	13,700	10,500	15,000	9,600	28,500	9,000	2,240	1,950	2,110
23	2,730	7,380	9,370	10,400	10,300	17,200	9,500	25,500	7,400	2,180	1,940	2,150
24	2,570	5,900	8,920	9,580	10,200	16,100	9,480	22,500	6,800	2,150	1,920	2,170
25	2,500	5,220	8,720	10,300	9,080	14,600	9,450	20,500	6,350	2,110	1,920	2,190
26	2,470	4,960	8,420	17,400	9,350	13,300	9,380	18,800	6,000	2,080	1,950	2,180
27	2,440	4,800	8,010	40,100	9,150	12,400	9,330	17,600	5,600	2,040	1,950	2,140
28	2,430	4,910	7,750	81,700	9,100	11,700	9,150	16,800	5,250	2,030	1,950	2,120
29	2,430	6,520	7,550	86,100	-----	11,000	9,130	16,100	5,050	2,020	1,940	2,150
30	2,420	6,630	7,410	57,200	-----	10,700	8,950	15,200	4,900	2,020	1,920	2,160
31	2,410	-----	7,190	38,100	-----	10,400	-----	14,800	-----	2,000	1,920	-----
TOTAL	69,410	183,390	466,940	503,730	376,880	347,080	273,950	555,310	287,860	86,350	61,980	63,890
MEAN	2,239	6,113	15,060	16,250	13,460	11,200	9,132	17,910	9,595	2,785	1,999	2,130
MAX	2,730	19,300	43,000	86,100	27,800	19,200	9,900	28,500	14,200	4,650	2,120	2,210
MIN	1,930	2,390	7,190	5,610	9,080	6,700	8,280	8,750	4,900	2,000	1,920	1,920
AC-FT	137,700	363,700	926,200	999,100	747,500	688,400	543,400	1,101M	571,000	171,300	122,900	126,700

CAL YR 1966: TOTAL 3,064,580 MEAN 8,396 MAX 78,600 MIN 1,770 AC-FT 6,079,000

WAT YR 1967: TOTAL 3,276,770 MEAN 8,977 MAX 86,100 MIN 1,920 AC-FT 6,499,000

Peak discharge (base, 40,000 cfs).--Dec. 5 (0315) 56,800 cfs (18.72 ft); Jan. 29 (1130) 98,600 cfs (24.07 ft).

Note.--No gage-height record May 5 to June 4.

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 Trinity Center.

DRAINAGE AREA.--149 sq mi.

RECORDS AVAILABLE.--September 1957 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 2,533.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. September 1957 to May 6, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--10 years, 414 cfs (299,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,720 cfs Nov. 19 (gage height, 7.98 ft); minimum daily, 27 cfs Nov. 3.

1957-67: Maximum discharge, 20,800 cfs Dec. 22, 1964 (gage height, 12.30 ft, in gage well, 13.4 ft, from floodmarks), from rating curve extended above 5,000 cfs on basis of slope-area measurement at gage height 9.91 ft; minimum daily, 27 cfs Nov. 3, 1966.

Flood of Dec. 22, 1955, reached a stage of 10.5 ft, from floodmarks (discharge, 11,400 cfs).

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	28	1,130	222	881	341	409	308	972	378	79	46
2	28	28	1,030	212	698	341	393	355	836	339	77	45
3	28	27	788	206	614	329	393	454	836	299	74	46
4	28	27	1,300	206	607	305	373	595	979	268	72	46
5	28	28	937	203	647	289	397	758	1,200	244	71	45
6	28	41	630	191	661	289	442	951	1,270	225	71	45
7	28	40	513	185	662	313	431	1,570	1,320	207	69	43
8	28	35	433	180	645	333	461	2,370	1,330	192	63	43
9	28	35	405	177	619	369	513	2,470	1,330	180	63	42
10	28	37	385	174	654	421	574	1,720	1,280	170	63	43
11	28	46	385	177	647	393	555	1,180	1,250	163	61	45
12	28	65	486	180	699	357	525	937	1,200	153	61	43
13	28	313	854	191	718	333	550	930	1,120	147	58	40
14	28	812	867	206	630	317	523	1,190	1,140	141	58	40
15	30	1,210	665	222	555	345	481	1,850	1,190	135	57	39
16	30	1,020	590	233	493	2,080	441	2,570	1,230	133	55	39
17	30	341	540	226	458	1,590	459	2,960	1,240	137	54	40
18	28	285	508	215	456	1,090	414	2,890	1,230	127	52	46
19	28	2,970	508	212	432	874	386	2,810	1,210	121	52	43
20	28	3,220	504	236	401	795	364	3,040	1,060	117	51	42
21	30	1,320	468	240	381	715	347	3,400	916	113	51	40
22	33	728	429	206	377	737	360	3,550	776	109	51	39
23	34	517	397	197	377	936	355	3,390	680	105	49	39
24	33	409	361	209	381	791	355	2,780	630	101	49	37
25	31	349	333	194	373	686	360	2,190	605	97	49	37
26	28	309	305	206	341	603	360	2,040	576	93	52	37
27	30	275	278	240	329	558	355	1,940	526	91	60	36
28	28	385	264	824	333	535	335	1,860	481	88	54	34
29	28	610	250	2,370	-----	489	319	1,640	445	90	49	34
30	28	571	240	1,510	-----	469	303	1,370	414	86	48	36
31	28	-----	229	1,190	-----	439	-----	1,150	-----	82	48	-----
TOTAL	897	16,081	17,012	11,440	15,069	18,462	12,533	57,218	29,272	4,931	1,821	1,230
MEAN	28.9	536	549	369	538	596	418	1,846	976	159	58.7	41.0
MAX	34	3,220	1,300	2,370	881	2,080	574	3,550	1,330	378	79	46
MIN	28	27	229	174	329	289	303	308	414	82	48	34
AC-FT	1,780	31,900	33,740	22,690	29,890	36,620	24,860	113,500	58,060	9,780	3,610	2,440

CAL YR 1966: TOTAL 158,030 MEAN 433 MAX 3,220 MIN 27 AC-FT 313,400
WAT YR 1967: TOTAL 185,966 MEAN 509 MAX 3,550 MIN 27 AC-FT 368,900

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2345	5.71	2,460	3-16	1230	6.13	2,960
11-19	2200	7.98	5,720	5-08	2115	6.29	3,150
1-29	0700	6.23	3,080	5-22	1845	7.03	4,140

KLAMATH RIVER BASIN

11-5254. CLAIR ENGLE LAKE NEAR LEWISTON, CALIF.

LOCATION.--Lat 40°48'05", long 122°45'44", in sec.15, T.34 N., R.8 W., on side of intake structure of Trinity Dam on Trinity River, 9 miles north of Lewiston.

DRAINAGE AREA.--692 sq mi.

RECORDS AVAILABLE.--November 1960 to September 1967. Prior to October 1963 published as Trinity Lake near Lewiston.

GAGE.--Graphic 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.--Maximum contents during year, 2,495,900 acre-ft May 29 (elevation, 2,372.90 ft); minimum, 1,668,800 acre-ft Nov. 13 (elevation, 2,316.72 ft).
1961-67: Maximum contents, 2,548,600 acre-ft Apr. 15, 1963 (elevation, 2,376.02 ft); minimum since lake first filled, 1,436,000 acre-ft Nov. 23, 1964 (elevation, 2,297.77 ft).

REMARKS.--The lake is formed by an earth-fill dam completed in November 1960. Storage began Nov. 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. Records including extremes represent total contents at 2400 hrs.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FT)

1,960	670
1,970	1,890
1,980	4,130
2,000	12,400
2,020	26,400
2,040	47,000
2,070	92,900
2,100	162,200
2,140	292,900
2,190	529,600
2,250	955,100
2,310	1,583,600
2,380	2,617,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.874.1	1.726.3	1.717.1	1.821.0	1.903.3	2.003.4	2.137.8	2.221.5	2.491.9	2.460.9	2.328.6	2.155.9
2	1.863.3	1.721.9	1.726.3	1.821.1	1.914.5	2.010.8	2.139.9	2.223.3	2.449.6	2.458.3	2.323.2	2.149.7
3	1.862.2	1.716.3	1.732.2	1.821.3	1.919.4	2.012.2	2.142.0	2.225.6	2.485.2	2.455.4	2.313.0	2.143.4
4	1.855.0	1.711.7	1.746.8	1.821.5	1.924.1	2.013.7	2.144.0	2.223.8	2.484.2	2.452.3	2.312.8	2.137.2
5	1.850.0	1.705.4	1.756.5	1.821.5	1.928.6	2.015.4	2.147.9	2.233.2	2.484.9	2.449.1	2.307.3	2.131.2
6	1.843.8	1.701.3	1.761.3	1.821.5	1.933.4	2.016.9	2.152.8	2.233.2	2.484.6	2.445.5	2.301.8	2.124.9
7	1.837.9	1.697.8	1.764.5	1.821.8	1.938.3	2.018.3	2.156.5	2.247.0	2.484.4	2.441.9	2.296.6	2.118.6
8	1.831.9	1.693.1	1.766.6	1.821.9	1.942.8	2.020.1	2.160.0	2.261.3	2.484.7	2.433.1	2.291.3	2.112.0
9	1.825.7	1.686.8	1.770.4	1.821.9	1.947.1	2.021.8	2.163.8	2.276.3	2.484.7	2.434.3	2.285.8	2.105.4
10	1.819.6	1.680.8	1.773.3	1.821.5	1.951.8	2.026.4	2.170.3	2.287.1	2.484.7	2.430.3	2.280.4	2.093.9
11	1.813.4	1.675.6	1.776.0	1.821.8	1.956.5	2.028.9	2.174.3	2.294.4	2.485.9	2.426.2	2.275.1	2.092.6
12	1.807.1	1.670.8	1.779.8	1.821.4	1.961.8	2.031.0	2.178.7	2.300.2	2.485.9	2.422.2	2.269.8	2.086.4
13	1.801.0	1.663.8	1.787.0	1.821.0	1.967.4	2.033.1	2.182.5	2.305.7	2.484.9	2.413.1	2.264.4	2.080.0
14	1.794.7	1.669.9	1.793.1	1.821.0	1.971.8	2.035.2	2.186.6	2.312.5	2.484.4	2.413.8	2.259.0	2.073.1
15	1.783.5	1.673.8	1.797.4	1.821.0	1.976.2	2.038.2	2.190.1	2.323.2	2.484.2	2.409.4	2.253.5	2.066.8
16	1.782.2	1.677.7	1.800.6	1.820.8	1.979.6	2.054.0	2.193.3	2.339.0	2.484.6	2.406.1	2.243.1	2.060.1
17	1.776.1	1.676.8	1.803.5	1.821.0	1.982.6	2.065.5	2.197.3	2.356.3	2.485.1	2.402.4	2.242.6	2.053.5
18	1.770.0	1.675.1	1.805.9	1.821.1	1.985.4	2.073.3	2.200.3	2.373.7	2.486.9	2.397.8	2.237.2	2.047.0
19	1.763.6	1.689.6	1.803.4	1.822.3	1.988.4	2.080.4	2.203.1	2.390.2	2.488.4	2.393.0	2.231.6	2.040.7
20	1.757.3	1.707.0	1.810.5	1.825.5	1.990.3	2.083.0	2.205.7	2.403.4	2.483.9	2.388.3	2.225.8	2.034.1
21	1.753.7	1.713.0	1.812.4	1.827.0	1.992.3	2.094.1	2.207.8	2.429.5	2.487.6	2.383.6	2.220.2	2.027.5
22	1.751.2	1.714.4	1.814.3	1.827.4	1.994.5	2.099.9	2.210.6	2.449.5	2.484.6	2.379.1	2.214.7	2.020.9
23	1.743.1	1.714.2	1.815.5	1.828.1	1.996.5	2.106.2	2.212.9	2.465.9	2.481.4	2.374.2	2.209.2	2.014.5
24	1.743.0	1.713.4	1.816.8	1.829.0	1.993.7	2.111.3	2.215.0	2.476.9	2.473.4	2.369.1	2.203.5	2.007.9
25	1.747.4	1.711.8	1.817.4	1.829.8	2.000.9	2.115.6	2.216.6	2.482.9	2.475.9	2.363.9	2.197.9	2.001.2
26	1.744.7	1.710.8	1.813.3	1.832.0	2.002.9	2.119.3	2.213.9	2.487.2	2.473.4	2.359.0	2.193.0	1.994.7
27	1.741.6	1.709.6	1.813.8	1.835.4	2.004.7	2.122.6	2.213.4	2.490.8	2.470.9	2.354.2	2.186.9	1.987.8
28	1.733.6	1.710.0	1.819.3	1.843.9	2.006.6	2.125.9	2.216.9	2.494.1	2.463.4	2.343.9	2.181.0	1.981.4
29	1.735.7	1.711.7	1.819.9	1.873.4	-----	2.123.6	2.213.2	2.495.9	2.465.7	2.344.0	2.174.7	1.974.4
30	1.732.6	1.710.4	1.820.6	1.883.2	-----	2.132.4	2.219.8	2.495.8	2.465.2	2.333.9	2.163.5	1.963.7
31	1.729.7	-----	1.821.0	1.900.3	-----	2.135.1	-----	2.494.1	-----	2.333.8	2.162.3	-----
(+)	2.321.29	2.319.92	2.323.20	2.333.95	2.341.39	2.350.08	2.355.65	2.372.79	2.370.94	2.362.97	2.351.88	2.338.77
(+)	-150.5	-19.3	+110.6	+79.3	+106.3	+123.5	+84.7	+274.3	-30.9	-129.4	-171.5	-193.6
(++)	2.790	670	210	-	-	560	960	6080	7350	10120	9110	5570
Max	1.874.1	1.726.3	1.821.0	1.900.3	2.006.6	2.135.1	2.219.8	2.495.9	2.491.9	2.460.9	2.328.6	2.155.9
Min	1.729.7	1.663.8	1.717.1	1.820.8	1.908.3	2.003.4	2.137.8	2.221.5	2.463.2	2.333.8	2.162.3	1.963.7

Calendar year 1966..... + -149.1 Max 2,475.4 Min 1,668.8
Water year 1966-67..... + +88.5 Max 2,495.9 Min 1,668.8

† Elevation, in feet, at end of month.

+ Change in contents, in thousands of acre-feet.

++ Evaporation, in acre-feet.

KLAMATH RIVER BASIN

465

11-5254.3. JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CALIF.

LOCATION.--Lat 40°38'49", 1 ng 122°37'34", at powerplant 1.6 miles downstream from Mill Creek and 3.8 miles south of French Gulch.

RECORDS AVAILABLE.--April 1963 to September 1967.

GAGE.--Recorded powerplant output.

EXTREMES.--1963-67: Maximum daily discharge, 3,280 cfs for several days in May, August, September 1964; no flow May 6-9, 1963 and Oct. 25, 1966.

REMARKS.--Water is diverted from Trinity River at NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (see sta. no. 3717). See schematic diagram for Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,098	1,741	1,012	564	652	549	571	547	3,236	3,257	2,909	2,964
2	3,100	1,791	576	564	655	536	571	543	3,244	3,257	2,910	2,958
3	3,100	2,576	555	563	617	545	565	531	3,244	3,257	2,071	3,193
4	3,097	2,481	545	564	615	543	569	463	2,432	3,257	3,257	3,091
5	3,080	3,066	558	563	603	472	567	489	2,770	2,791	3,257	3,094
6	3,081	3,012	500	636	606	548	566	507	3,257	2,990	2,994	3,069
7	3,142	2,039	477	637	606	561	575	517	3,257	2,992	2,940	3,049
8	3,095	2,006	477	659	598	563	574	512	3,257	2,936	2,790	3,063
9	3,095	2,949	476	644	595	599	574	463	3,257	2,866	2,964	3,052
10	3,097	3,257	476	642	613	552	586	493	3,257	2,944	2,836	3,130
11	3,142	3,252	461	649	614	564	582	491	2,896	2,923	3,065	3,207
12	3,141	3,247	475	636	613	547	590	497	3,055	2,945	2,945	3,207
13	3,140	3,244	476	638	615	553	587	494	3,257	2,943	2,865	3,045
14	3,142	3,251	456	632	617	554	593	493	3,257	2,893	3,203	3,128
15	3,066	1,943	473	635	613	560	593	473	3,257	2,900	2,924	3,155
16	3,143	1,676	470	630	610	564	590	486	3,257	2,897	2,236	3,239
17	3,142	1,663	469	634	613	566	591	1,097	3,257	2,897	3,257	3,219
18	3,141	1,701	454	630	622	572	594	1,100	3,064	2,899	3,257	3,247
19	3,143	1,665	469	724	610	560	594	1,369	3,170	2,945	2,942	3,240
20	3,143	1,667	453	733	602	563	589	1,167	3,257	2,946	2,944	3,217
21	1,823	1,654	471	740	608	563	592	1,050	3,257	2,915	2,910	3,205
22	1,416	1,661	473	755	608	565	593	1,822	3,257	2,915	2,838	3,160
23	1,416	1,658	476	671	614	563	589	2,604	3,257	2,895	3,081	3,199
24	200	1,647	505	679	609	564	590	3,178	3,257	2,899	2,969	3,195
25	0	1,650	510	681	605	571	985	3,201	3,257	2,896	3,091	3,167
26	1,132	1,317	512	670	610	564	527	3,214	3,257	2,899	3,165	3,166
27	1,416	1,436	461	674	607	565	1,872	3,218	3,197	2,946	3,127	3,214
28	1,416	1,461	454	673	605	561	2,375	3,031	3,257	2,941	2,983	3,322
29	1,416	1,453	441	680	---	554	625	2,643	3,257	2,793	2,960	3,310
30	1,416	2,558	440	1,017	---	554	603	2,726	3,257	2,869	2,901	2,799
31	1,416	---	451	791	---	547	---	2,949	---	2,867	3,004	---
Total	75,395	64,722	15,500	20,608	17,155	17,247	20,971	42,284	95,449	91,470	91,495	94,304
Mean	2,432	2,157	500	665	613	556	699	1,364	3,182	2,951	2,951	3,143
Max	3,143	3,257	1,012	1,017	655	599	2,375	3,218	3,257	3,257	3,257	3,322
Min	0	1,317	440	563	595	472	527	463	2,432	2,791	2,071	2,799
Ac-ft	149,660	128,370	30,740	40,880	34,030	34,210	41,550	83,870	189,320	181,430	181,480	187,050

Cal yr 1966: Total 713,284 Mean 1,954 Max 3,266 Min 0 Ac-ft 1,414,540

Wtr yr 1967: Total 646,599 Mean 1,772 Max 3,322 Min 0 Ac-ft 1,282,590

KLAMATH RIVER BASIN

11-5255. TRINITY RIVER AT LEWISTON, CALIF.

LOCATION.--Lat 40°43'10", long 122°48'09", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.17, T.33 N., R.8 W., on right bank 400 ft upstream from Deadwood Creek and 0.8 mile northeast of Lewiston.

DRAINAGE AREA.--728 sq mi.

RECORDS AVAILABLE.--August 1911 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,810 ft (from topographic map). Prior to Oct. 16, 1930, staff gage and Oct. 16, 1930 to Sept. 30, 1958, graphic water-stage recorder, at site 1.1 miles downstream at different datum. Oct. 1, 1958, to July 6, 1964, graphic water-stage recorder at site 0.8 mile downstream at different datum.

AVERAGE DISCHARGE.--56 years, 1,666 cfs (1,206,000 acre-ft per year) adjusted for storage, evaporation and diversion.

EXTREMES.--Maximum discharge during year, 2,640 cfs May 30, 31 (gage height, 6.00 ft); minimum daily, 134 cfs May 8.

1911-60 (prior to regulation by Trinity Lake); 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.

1961-67: Maximum discharge, 12,700 cfs Apr. 20, 1963 (gage height, 12.38 ft); minimum daily, 131 cfs May 4, 1963.

REMARKS.--Records good. Flow regulated by Clair Engle Lake (see sta. no. 5254) beginning in November 1960. Diversion to Judge Francis Carr Powerplant (see sta. no. 5254.3), began in April 1963. Small diversions above head of Trinity Lake for irrigation, power and placer mining. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	210	259	227	221	161	166	164	166	2380	216	146	155		
2	210	266	215	221	161	164	164	161	2150	150	148	155		
3	208	266	212	183	161	164	164	164	1880	150	150	157		
4	208	266	215	170	161	164	164	164	1660	148	153	157		
5	208	266	218	170	164	164	166	166	1320	150	150	157		
6	208	266	215	170	164	164	168	166	1500	150	148	157		
7	208	262	215	163	164	164	168	166	1620	150	148	157		
8	208	259	212	166	164	164	168	134	1620	150	150	157		
9	208	262	212	164	164	164	168	136	1620	150	150	159		
10	208	262	215	161	164	166	170	155	1620	150	153	159		
11	208	262	215	164	164	166	166	155	1620	150	153	157		
12	208	262	212	161	164	168	168	153	1620	150	150	157		
13	208	262	212	164	166	166	168	150	1620	148	150	159		
14	208	259	215	164	166	164	168	150	1620	148	150	164		
15	208	266	215	161	164	166	168	148	1620	148	150	166		
16	208	262	215	166	161	166	166	159	1620	150	155	164		
17	205	262	215	166	161	166	168	175	1620	155	153	166		
18	205	262	218	166	159	164	166	170	1620	153	150	164		
19	208	262	215	168	159	164	168	170	1620	155	150	164		
20	208	262	215	179	159	164	168	170	1760	153	150	164		
21	202	262	215	183	161	161	164	170	1910	153	153	161		
22	202	259	218	166	161	161	168	230	1910	153	155	164		
23	210	259	218	164	161	161	168	331	1730	153	153	164		
24	262	259	218	166	164	161	168	844	1390	153	155	161		
25	262	259	218	164	161	161	168	1360	1140	153	153	161		
26	259	262	218	166	161	161	166	1680	932	155	150	164		
27	262	262	218	168	164	161	166	2030	820	153	148	166		
28	259	259	218	170	164	161	166	2180	644	155	148	166		
29	256	259	218	170	-----	161	168	2350	480	301	148	164		
30	256	259	218	166	-----	164	168	2620	404	198	150	164		
31	259	-----	221	164	-----	164	-----	2430	-----	146	153	-----		
Total	6847	7354	6701	5305	4548	5075	5008	19403	45070	4947	4673	4830		
Mean	221	262	216	171	162	164	167	626	1502	160	151	161		
Max	262	266	227	221	164	168	170	2620	2380	301	155	166		
Min	202	259	212	161	159	161	164	134	404	146	146	155		
Ac-ft	13,580	15,580	13,290	10,520	9,020	10,070	9,330	38,490	99,400	9,810	9,270	9,580		
Mean †	253	2106	2,518	2,126	2,589	2,819	2,305	6,550	4,288	1,170	461	145		
Ac-ft†	15,530	125,300	154,800	130,700	149,400	173,300	137,100	402,700	255,200	71,960	28,360	8,600		
Calendar year 1966	Total	77,230	Mean	212	Max	1,020	Min	144	Ac-ft	153,200	Mean †	2,029	Ac-ft †	1,469,000
Water year 1966-67	Total	120,261	Mean	329	Max	2,620	Min	134	Ac-ft	238,500	Mean †	2,283	Ac-ft †	1,653,000

† Adjusted for change in contents, diversion, and evaporation from Clair Engle Lake. Data furnished by U.S. Bureau of Reclamation.

KLAMATH RIVER BASIN

467

11-5258. WEAVER CREEK NEAR DOUGLAS CITY, CALIF.

LOCATION.--Lat 40°40'15", long 122°56'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 55.6 cfs (40,250 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,480 cfs Jan. 29 (gage height, 10.97 ft); minimum daily, 0.60 cfs Oct. 4-9.

1958-67: Maximum discharge, 3,980 cfs Dec. 22, 1964 (gage height, 12.72 ft), from rating curve extended above 260 cfs on basis of slope-area measurement of maximum flow; no flow Aug. 26, 1964.

REMARKS.--No diversion or regulation above station. Records of suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

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

REVISIONS (water years).--1965 report: 1959(M), 1960(M), 1961-64.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	2.1	96	22	410	61	111	61	74	22	5.3	3.0
2	.70	2.2	205	21	291	58	106	53	71	20	5.3	3.0
3	.70	2.2	133	20	222	53	105	58	65	18	4.8	2.6
4	.60	2.2	429	20	189	47	105	61	63	18	4.8	3.6
5	.60	2.3	241	20	188	45	106	70	71	18	4.6	2.7
6	.60	3.8	121	19	189	43	152	73	74	16	4.6	1.9
7	.60	3.0	92	18	183	43	143	98	73	15	4.8	1.8
8	.60	2.7	65	16	178	43	126	122	70	15	4.8	1.7
9	.60	2.6	86	16	173	43	116	123	68	14	4.6	2.5
10	.90	2.6	131	16	172	74	132	110	66	14	4.4	3.0
11	.80	3.2	111	16	165	84	143	96	65	13	4.4	2.7
12	.90	8.0	106	17	167	71	129	82	59	12	4.4	2.1
13	1.0	15	130	17	164	66	122	76	56	11	4.4	2.7
14	1.1	33	118	17	146	66	116	78	54	11	4.4	2.1
15	1.2	24	100	18	136	76	108	99	54	10	4.2	2.2
16	1.3	27	82	18	125	263	99	121	56	11	3.6	2.5
17	1.3	11	68	17	121	177	108	130	57	11	3.4	2.9
18	1.3	8.0	60	17	119	147	96	128	57	10	3.4	3.8
19	1.3	44	54	18	114	132	90	127	56	9.6	3.4	3.2
20	1.4	103	49	58	99	179	88	133	50	9.2	3.0	3.4
21	1.5	96	45	163	90	157	86	133	44	3.0	2.9	2.7
22	1.7	56	40	105	80	142	116	138	39	8.0	3.0	2.3
23	1.7	22	38	66	78	132	117	134	38	8.0	2.9	2.6
24	1.7	15	34	86	74	121	111	125	36	7.7	2.6	2.1
25	1.7	11	31	68	74	114	104	116	32	7.3	2.3	1.9
26	1.8	10	29	110	68	105	99	111	30	7.3	3.2	1.8
27	1.9	8.8	26	171	63	96	92	105	27	6.3	4.2	2.1
28	2.1	16	24	545	63	90	84	98	27	6.3	3.8	1.8
29	2.2	25	24	682	- - - -	80	76	92	24	6.7	3.6	1.5
30	2.2	19	24	433	- - - -	84	66	84	23	6.0	3.0	2.2
31	2.1	- - - -	22	549	- - - -	98	- - - -	74	- - - -	5.7	2.9	- - - -
Total	38.80	580.7	2,814	3,379	4,141	2,995	3,252	3,119	1,578	355.1	121.0	74.4
Mean	1.25	19.4	90.8	109	148	96.6	108	101	52.6	11.5	3.90	2.48
Max	2.2	103	429	682	410	268	152	138	74	22	5.3	3.8
Min	0.60	2.1	22	16	63	43	66	58	23	5.7	2.3	1.5
Ac-ft	77	1,150	5,580	6,700	8,210	5,940	6,450	6,190	3,130	704	240	148

Cal yr 1966: Total 19,713.30 Mean 54.0 Max 682 Min 0.30 Ac-ft 39,100
Wtr yr 1967: Total 22,443.00 Mean 51.5 Max 682 Min 0.60 Ac-ft 44,520

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 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 1,640 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 87.2 cfs (63,130 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,910 cfs Dec. 4 (gage height, 14.05 ft); minimum daily, 5.3 cfs Oct. 2-4, 9-12.

1957-67: Maximum discharge, 3,950 cfs Feb. 18, 1958 (gage height, 16.60 ft), from rating curve extended above 1,400 cfs; minimum, 0.3 cfs 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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	7.9	141	52	710	105	131	138	81	32	13	7.9
2	5.3	7.9	360	50	564	104	126	139	115	32	13	8.1
3	5.3	8.1	306	48	481	100	126	151	104	30	12	8.4
4	5.3	8.1	761	47	430	94	125	184	97	30	13	9.6
5	5.5	8.1	1070	46	408	89	131	212	97	29	12	8.1
6	5.5	12	427	42	395	84	227	221	91	28	12	7.9
7	5.8	13	258	42	392	82	282	268	86	26	12	7.9
8	5.5	11	177	40	369	81	258	342	81	26	12	7.6
9	5.3	10	148	40	348	80	246	317	78	26	12	7.6
10	5.3	9.7	151	39	339	105	272	251	74	24	12	7.9
11	5.3	11	148	39	322	108	277	207	71	24	12	8.1
12	5.3	18	162	38	322	101	263	175	67	23	11	8.4
13	5.8	23	201	38	317	94	270	156	64	22	10	7.9
14	6.2	46	203	38	277	94	253	149	60	22	10	7.9
15	6.9	55	169	37	230	104	232	151	58	21	10	8.1
16	7.2	86	141	37	192	398	207	156	56	22	9.7	8.1
17	7.6	39	129	36	175	408	214	151	52	21	9.4	8.4
18	7.6	26	116	35	166	320	191	139	50	20	9.4	10
19	7.6	49	109	36	153	270	186	129	50	19	8.9	9.7
20	7.2	241	102	50	142	296	169	122	49	19	8.9	8.9
21	7.6	166	96	153	136	322	156	116	46	19	8.9	8.6
22	8.1	113	88	133	128	301	164	109	44	17	9.2	8.4
23	8.4	79	82	106	124	293	164	102	43	16	8.9	8.4
24	8.4	61	77	120	121	246	179	98	42	16	8.6	8.6
25	8.4	51	72	100	120	212	191	92	40	16	8.6	8.6
26	8.1	46	67	105	115	182	192	88	39	15	9.4	8.9
27	8.1	43	63	138	109	160	191	83	37	14	10	8.9
28	8.1	57	60	427	106	151	177	80	37	16	9.2	8.9
29	8.1	84	58	1150	-----	144	160	78	35	15	8.1	8.9
30	8.1	80	56	936	-----	139	146	76	33	14	7.6	9.2
31	8.1	-----	54	883	-----	141	-----	74	-----	13	7.4	-----
Total	210.8	1,469.8	6,052	5,081	7,691	5,408	5,906	4,753	1,877	667	318.2	252.9
Mean	6.80	49.0	195	164	275	174	197	153	62.6	21.5	10.3	8.43
Max	8.4	241	1,070	1,150	710	408	282	342	115	32	13	10
Min	5.3	7.9	54	35	106	80	125	74	33	13	7.4	7.6
Ac-ft	418	2,920	12,000	10,080	15,250	10,730	11,710	9,430	3,720	1,320	631	502

Cal yr 1966: Total 30,634.9 Mean 83.9 Max 1,070 Min 2.8 Ac-ft 60,760
 Wtr yr 1967: Total 39,686.7 Mean 109 Max 1,150 Min 5.3 Ac-ft 78,720

KLAMATH RIVER BASIN

469

11-5265. NORTH FORK TRINITY RIVER AT HELENA, CALIF.

LOCATION.--Lat 40°46'55", long 123°07'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.34 N., R.11 W., on right bank 500 ft downstream from East Fork of North Fork Trinity River, 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 1967.

GAGE.--Graphic 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.--12 years, 418 cfs (302,600 acre-ft. per year).

EXTREMES.--Maximum discharge during year, 5,220 cfs Jan. 29 (gage height, 15.10 ft); minimum daily, 23 cfs Oct. 15-17.

1911-13, 1957-67: Maximum discharge, 35,800 cfs Dec. 22, 1964 (gage height, 27.93 ft, from floodmarks), from rating curve extended above 2,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 7.5 cfs Sept. 26, 1964.

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 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	29	1,040	207	1,500	372	455	292	432	375	67	32
2	24	29	1,020	198	1,140	377	467	305	405	353	65	31
3	24	29	746	192	936	364	458	345	377	323	63	30
4	24	29	1,650	189	855	342	444	416	400	301	62	30
5	24	29	2,020	188	865	328	438	501	464	275	60	30
6	24	41	770	177	880	320	482	550	485	244	59	29
7	24	37	669	170	890	318	516	794	482	216	57	28
8	24	33	536	166	870	320	520	1,180	488	206	56	28
9	24	31	500	161	830	328	520	1,180	494	191	53	29
10	24	30	654	156	850	383	516	900	479	186	51	28
11	24	33	676	154	830	369	494	706	494	191	48	29
12	24	82	778	152	860	358	493	599	470	188	47	28
13	24	207	1,210	161	850	361	452	557	430	184	47	29
14	24	417	1,020	172	758	350	441	599	430	169	46	28
15	23	500	806	178	671	353	421	838	453	156	46	28
16	23	672	669	186	599	1,420	394	1,200	488	148	44	28
17	23	276	573	182	560	1,580	397	1,380	530	139	43	28
18	25	186	514	174	557	1,110	380	1,260	544	129	42	32
19	24	444	477	174	530	875	364	1,160	560	111	41	30
20	26	945	455	210	493	838	350	1,280	527	101	40	30
21	29	634	417	480	464	833	340	1,450	455	99	40	29
22	27	461	390	530	449	830	340	1,410	377	98	40	28
23	29	367	362	350	435	855	340	1,260	345	100	39	28
24	27	299	332	357	424	758	337	1,060	350	95	37	28
25	25	256	310	485	416	675	342	842	389	87	37	27
26	26	246	288	589	394	606	342	770	410	81	40	26
27	27	242	343	794	380	554	342	734	380	76	40	27
28	28	314	248	1,450	375	520	328	690	353	73	40	26
29	29	598	238	3,720	- - - -	485	316	645	364	74	38	26
30	29	523	227	2,210	- - - -	467	301	560	380	74	35	26
31	29	- - - -	215	1,910	- - - -	449	- - - -	476	- - - -	71	34	- - - -
Total	785	8,019	20,153	16,422	19,665	18,103	12,335	25,939	13,240	5,114	1,457	856
Mean	25.3	267	650	530	702	584	411	837	441	165	47.0	29.5
Max	29	945	2,020	3,720	1,500	1,580	520	1,450	560	375	67	32
Min	23	29	215	152	375	318	301	292	345	71	34	26
Ac-ft	1,560	15,900	39,970	32,570	39,010	35,910	24,470	51,450	26,260	10,140	2,890	1,700

Cal yr 1966: Total 144,722 Mean 396 Max 2,020 Min 18 Ac-ft 287,100
Wtr yr 1967: Total 142,089 Mean 389 Max 3,720 Min 23 Ac-ft 281,800

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.--1,439 sq mi.

RECORDS AVAILABLE.--October 1931 to September 1940, October 1956 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 944.05 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Oct. 1, 1931, to Jan. 19, 1940, graphic water-stage recorder, at site 2 miles upstream at different datum. Oct. 1, 1956, to Aug. 30, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--20 years, 2,355 cfs (1,705,000 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 14,000 cfs Jan. 29 (gage height, 13.21 ft); minimum daily, 230 cfs Sept. 30.

1931-40, 1956-67: 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 maximum flow).

REMARKS.--Records excellent. Flow regulated by Clair Engle Lake beginning in November 1960 (see sta. no. 5254). Small diversions above station for mining and irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	235	357	2,130	870	5,920	1,270	1,610	1,320	3,500	1,370	388	250
2	274	357	2,950	846	4,800	1,260	1,550	1,310	3,500	1,210	364	250
3	283	360	3,140	825	3,990	1,230	1,540	1,360	3,120	1,070	357	250
4	283	367	3,370	795	3,540	1,180	1,530	1,490	2,880	1,000	350	250
5	283	364	8,260	780	3,400	1,140	1,530	1,690	2,810	548	346	250
6	283	413	3,880	745	3,340	1,100	1,760	1,810	2,680	864	339	250
7	286	423	2,490	725	3,330	1,080	2,120	2,180	2,880	790	332	248
8	289	392	1,960	705	3,250	1,070	2,030	3,350	2,900	750	329	245
9	289	381	1,760	695	3,070	1,090	1,950	3,730	2,910	730	319	243
10	289	381	2,100	680	3,050	1,240	1,950	2,980	2,870	700	313	245
11	289	395	2,050	670	2,960	1,360	2,150	2,380	2,880	710	307	250
12	286	490	2,390	670	2,960	1,270	2,020	2,050	2,820	710	304	248
13	286	780	3,160	670	2,990	1,240	1,960	1,850	2,720	690	298	245
14	289	1,440	3,580	700	2,750	1,190	1,910	1,870	2,680	660	295	240
15	295	1,540	2,650	705	2,410	1,200	1,820	2,270	2,750	620	289	240
16	295	2,130	2,210	715	2,160	3,160	1,720	3,130	2,830	600	283	243
17	298	1,180	1,970	705	1,980	4,050	1,720	3,700	2,920	590	280	245
18	298	820	1,770	695	1,930	3,100	1,680	3,640	2,990	566	280	263
19	298	1,070	1,660	695	1,840	2,630	1,590	3,200	3,030	522	274	268
20	304	3,000	1,590	936	1,720	2,640	1,560	3,380	2,980	486	268	260
21	310	2,300	1,490	1,530	1,610	2,710	1,490	3,800	3,030	478	263	250
22	310	1,750	1,380	1,730	1,540	2,640	1,500	3,770	2,810	478	263	245
23	313	1,240	1,300	1,330	1,480	2,700	1,540	3,520	2,680	462	265	245
24	313	1,030	1,210	1,400	1,440	2,480	1,510	3,230	2,380	470	260	243
25	353	912	1,160	1,390	1,430	2,240	1,520	3,280	2,190	446	260	240
26	360	852	1,080	1,650	1,360	2,050	1,500	3,520	2,080	427	274	240
27	357	835	1,030	2,070	1,310	1,900	1,520	3,790	1,850	413	292	240
28	360	888	984	5,050	1,280	1,820	1,460	3,920	1,700	399	280	238
29	360	1,480	954	11,400	-----	1,720	1,410	3,920	1,520	406	265	235
30	360	1,450	930	8,240	-----	1,680	1,350	3,920	1,460	510	258	230
31	357	-----	894	7,160	-----	1,670	-----	3,830	-----	466	253	-----
TOTAL	9,485	29,377	67,482	57,777	72,840	57,110	50,500	89,190	80,350	20,561	9,248	7,389
MEAN	306	979	2,177	1,864	2,601	1,842	1,683	2,877	2,678	663	298	246
MAX	360	3,000	8,260	11,400	5,920	4,050	2,150	3,920	3,500	1,370	388	268
MIN	235	357	894	670	1,280	1,070	1,350	1,310	1,460	399	253	230
AC-FT	18,810	58,270	133,800	114,600	144,500	113,300	100,200	176,900	159,400	40,780	18,340	14,660

CAL YR 1966: TOTAL 481,280

MEAN 1,319

MAX 8,260

MIN 165

AC-FT 954,600

WAT YR 1967: TOTAL 551,309

MEAN 1,510

MAX 11,400

MIN 230

AC-FT 1,094,000

KLAMATH RIVER BASIN

471

11-5274. NEW RIVER AT DENNY, CALIF.

LOCATION.--Lat 40°56'45", long 123°22'55", in NE¼ sec.33, T.7 N., R.7 E., on left bank at upstream 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 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,349.34 ft above mean sea level, datum of 1928, supplementary adjustment of 1956. Oct. 1, 1927, to Dec. 23, 1928, at site 2.6 miles downstream at different datum. June 1, 1959, to July 23, 1965, graphic water-stage recorder on downstream side of bridge at same datum. July 24 to Nov. 4, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--9 years, 431 cfs (312,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 5,830 cfs Jan. 29 (gage height, 15.14 ft); minimum daily, 27 cfs Oct. 6-13.
1927-28, 1959-67: Maximum discharge, 60,000 cfs Dec. 22, 1964 (gage height, 38.7 ft, from floodmarks), by field estimate of maximum flow; minimum daily, 18 cfs Oct. 5-7, 1961.

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

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	30	606	259	1,540	381	518	405	493	180	59	39
2	28	30	734	242	1,240	377	496	419	461	170	58	38
3	28	30	618	225	1,070	367	493	454	433	156	55	38
4	28	30	865	225	970	349	489	518	433	151	55	38
5	28	30	1,360	225	960	335	489	590	437	138	52	38
6	27	58	1,100	209	915	325	510	635	461	131	50	38
7	27	46	830	204	905	319	534	855	451	127	50	37
8	27	37	756	201	890	316	542	1,210	444	122	50	37
9	27	35	707	198	825	319	546	1,210	440	118	50	37
10	27	35	880	193	820	405	550	965	430	114	47	35
11	27	41	945	193	774	363	566	815	426	112	47	37
12	27	88	1,120	193	747	353	518	738	416	105	47	37
13	27	116	1,490	193	743	349	522	707	388	101	46	34
14	28	178	1,440	193	684	339	522	716	381	97	44	34
15	28	294	1,080	193	639	335	507	850	391	95	44	32
16	28	416	845	193	586	1,210	489	1,080	391	91	42	33
17	28	178	770	193	562	1,070	503	1,150	395	90	42	33
18	28	124	671	193	550	920	486	1,080	381	88	42	49
19	28	316	630	198	522	815	475	995	370	84	41	47
20	29	538	606	558	496	815	458	1,040	346	82	39	38
21	36	433	570	960	479	830	447	1,090	316	82	38	35
22	40	291	522	725	454	830	444	1,060	288	80	38	34
23	48	217	489	574	447	915	430	960	267	76	39	34
24	38	178	454	538	433	845	426	845	259	73	37	32
25	35	160	412	489	423	761	426	761	251	69	37	32
26	34	168	363	725	405	707	430	716	242	69	44	32
27	32	165	342	1,450	391	648	444	671	223	69	44	31
28	32	223	316	2,840	381	622	433	653	212	64	67	30
29	32	342	300	4,600	-----	586	426	622	201	64	56	29
30	31	335	276	2,690	-----	558	412	578	190	62	49	30
31	31	-----	265	1,980	-----	550	-----	522	-----	61	43	-----
TOTAL	942	5,162	22,362	22,052	19,851	17,914	14,531	24,910	10,817	3,121	1,452	1,068
MEAN	30.4	172	721	711	709	578	484	804	361	101	46.8	35.6
MAX	48	538	1,490	4,600	1,540	1,210	566	1,210	493	180	67	49
MIN	27	30	265	193	381	316	412	405	190	61	37	29
AC-FT	1,870	10,240	44,350	43,740	39,370	35,530	28,820	49,410	21,460	6,190	2,880	2,120

CAL YR 1966: TOTAL 145,825 MEAN 400 MAX 4,500 MIN 27 AC-FT 289,200
WAT YR 1967: TOTAL 144,182 MEAN 395 MAX 4,600 MIN 27 AC-FT 286,000

Peak discharge (base, 2,500 cfs).--Jan. 29 (0745) 5,830 cfs (15.14 ft).
Note.--Aug. 3 to Sept. 30, computed from once-daily staff-gage readings.

KLAMATH RIVER BASIN

11-5284.4. BIG CREEK NEAR HAYFORK, CALIF.

LOCATION.--Lat 40°33'11", long 123°08'33", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.7, T.31 N., R.11 W., on right bank 30 ft upstream from bridge on Hayfork-Douglas City road and 2 miles east of Hayfork.

DRAINAGE AREA.--27.1 sq mi.

RECORDS AVAILABLE.--October 1960 to September 1961, October 1962 to September 1967 (discontinued).

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,385 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 498 cfs Dec. 4 (gage height, 7.95 ft); no flow for many days.
1960-61, 1962-67: Maximum discharge, 1,610 cfs Dec. 22, 1964 (gage height, 11.75 ft), from rating curve extended above 230 cfs on basis of slope-area measurement of maximum flow; no flow at times in each year except 1965-66.

REMARKS.--City of Hayfork and large irrigators can divert up to 15 cfs daily above station for municipal supply, domestic use, and irrigation.

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

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.40	2.8	83	18	190	42	70	44	24	15	.40	.40
2	.70	2.6	134	18	154	42	63	45	26	16	0	1.5
3	.40	3.5	86	18	128	41	61	47	24	17	.40	.80
4	.40	3.3	453	18	123	39	58	52	23	17	.90	1.2
5	.40	3.8	484	18	125	38	55	60	23	16	1.0	.70
6	.60	6.2	106	19	128	37	63	66	22	15	.20	.70
7	.30	5.8	54	18	136	36	63	85	21	15	.60	0
8	.30	5.5	30	18	130	34	64	102	20	14	1.0	0
9	.40	4.8	29	18	128	35	68	99	19	13	.80	0
10	.10	4.8	36	18	125	41	68	93	18	11	0	.10
11	.40	5.2	36	18	118	39	66	81	18	1.7	0	0
12	.30	9.2	54	18	118	38	63	73	17	1.6	0	0
13	.60	10	100	17	113	38	61	66	17	1.5	0	0
14	.70	11	109	18	104	37	60	63	16	1.4	0	0
15	.80	10	78	18	89	38	56	64	15	1.4	0	0
16	1.2	19	58	15	81	128	53	66	15	1.2	0	0
17	.80	7.8	48	12	75	110	55	66	14	1.2	0	.60
18	.70	6.6	42	12	72	95	52	64	13	1.1	.30	0
19	.90	16	36	12	70	86	50	60	13	1.1	.70	.20
20	.80	52	33	36	63	86	50	58	12	1.0	.60	0
21	1.0	43	29	141	56	91	48	50	10	.90	.40	.10
22	1.1	20	26	73	52	95	48	46	8.3	.80	0	0
23	1.2	14	23	56	50	108	48	43	7.3	.40	0	.20
24	.70	14	21	60	49	97	48	35	7.3	.30	.20	0
25	.70	9.7	18	52	49	89	50	33	7.3	.60	.70	0
26	.80	9.7	16	56	47	79	50	31	7.1	.80	1.1	0
27	1.0	10	16	123	44	77	50	30	7.1	.70	2.0	.10
28	1.4	22	17	245	43	83	49	29	6.8	.40	.40	.29
29	1.7	48	17	380	---	75	48	28	9.3	.60	.40	.39
30	2.6	29	18	233	---	75	46	24	14	.70	.30	.26
31	2.8	---	18	215	---	73	---	23	---	.60	0	---
Total	2620	4093	2,308	1,991	2,660	2,022	1,684	1,726	4545	16900	1240	1600
Mean	.85	13.6	74.5	64.2	95.0	65.2	56.1	55.7	15.2	54.5	.40	.53
Max	2.8	52	484	380	190	128	70	102	26	17	2.0	.39
Min	.10	2.6	16	12	43	34	46	23	6.8	.30	0	0
Ac-ft	52	812	4,580	3,950	5,280	4,010	3,340	3,420	901	335	25	32
Cal yr 1966: Total	13,754.40	Mean	37.7	Max	48.4	Min	.10	Ac-ft	27,280			
Wtr yr 1967: Total	13,478.40	Mean	36.9	Max	48.4	Min	0	Ac-ft	26,730			

KLAMATH RIVER BASIN

473

11-5285. HAYFORK CREEK NEAR HYAMPOM, CALIF.

LOCATION.--Lat 40°37'35", long 123°26'00", in NW¼ 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.--378 sq mi.

RECORDS AVAILABLE.--August 1953 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,270.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Sept. 7, 1966, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--14 years, 501 cfs (362,700 acre-ft per year).

EXTREMES.--Maximum discharge during year, 10,400 cfs Dec. 5 (gage height, 12.73 ft); minimum daily, 26 cfs for several days in October and September.
1953-67: Maximum discharge, 28,800 cfs Dec. 22, 1964 (gage height, 19.14 ft), from rating curve extended above 6,700 cfs on basis of slope-area measurement at gage height 18.00 ft; minimum daily, 16 cfs Aug. 26, Sept. 27, Oct. 4, 5, 1964.

REMARKS.--Records excellent. No regulation; diversions for irrigation of about 700 acres above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	34	570	236	2,960	365	756	511	240	105	47	27
2	27	34	2,900	227	2,260	361	692	508	269	101	46	27
3	28	34	1,720	219	1,830	353	679	536	305	95	45	27
4	27	33	3,250	214	1,590	339	680	591	285	92	44	26
5	26	32	5,570	221	1,480	325	672	679	265	90	42	27
6	27	43	1,840	212	1,400	312	813	747	250	88	44	27
7	27	47	1,120	206	1,340	301	925	822	240	85	44	27
8	27	48	823	202	1,270	291	892	1,060	222	85	43	28
9	27	44	727	199	1,180	286	885	1,110	209	83	41	26
10	27	42	957	196	1,120	374	888	927	200	81	41	27
11	26	43	892	193	1,060	427	870	749	191	76	39	29
12	26	59	999	192	1,010	398	799	640	182	71	37	31
13	29	79	1,190	189	993	396	759	564	177	68	37	29
14	30	89	1,230	188	917	371	756	547	169	65	38	28
15	31	101	972	187	826	397	714	590	164	63	37	27
16	30	192	796	186	748	2,100	667	660	153	63	35	26
17	30	151	668	185	686	1,940	690	667	139	62	34	27
18	30	94	568	182	650	1,590	662	621	139	63	32	32
19	31	109	504	181	610	1,390	622	542	145	62	31	34
20	34	440	463	419	559	1,340	602	502	150	61	31	32
21	33	560	426	2,820	516	1,430	570	471	140	61	31	33
22	34	340	387	1,830	486	1,410	571	433	134	59	30	30
23	36	215	362	1,020	462	1,620	598	392	129	57	31	29
24	35	185	341	863	442	1,450	593	349	126	56	31	29
25	35	160	322	738	435	1,230	655	326	121	54	30	28
26	35	150	305	921	407	1,060	659	297	117	51	35	29
27	32	140	287	1,440	385	935	659	283	113	52	33	30
28	32	180	272	3,220	369	867	620	272	111	52	34	29
29	32	450	262	7,530	-----	803	582	262	106	50	32	26
30	33	350	256	4,290	-----	780	540	248	106	49	30	27
31	35	-----	245	3,810	-----	771	-----	241	-----	49	27	-----
TOTAL	938	4,478	31,224	32,716	27,991	26,012	21,070	17,147	5,297	2,149	1,132	854
MEAN	30.3	149	1,007	1,055	1,000	839	702	553	177	69.3	36.5	28.5
MAX	36	560	5,570	7,530	2,960	2,100	925	1,110	305	105	47	34
MIN	26	32	245	181	369	286	540	241	106	49	27	26
AC-FT	1,860	8,880	61,930	64,890	55,520	51,590	41,790	34,010	10,510	4,260	2,250	1,690

CAL YR 1966: TOTAL 174,197

MEAN 477

MAX 5,970

MIN 24

AC-FT 345,500

WAT YR 1967: TOTAL 171,008

MEAN 469

MAX 7,530

MIN 26

AC-FT 339,200

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0230	12.73	10,400	1-29	0900	12.60	10,100
1-21	1430	9.38	4,430				

KLAMATH RIVER BASIN

11-5287, SOUTH FORK TRINITY RIVER BELOW HYAMPOM, CALIF.

LOCATION.--Lat 40°39'00", long 123°29'35", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.3 N., R.6 E., on left bank 0.3 mile downstream from Big Creek, 3.0 miles northeast of Hyampom, and 3.5 miles downstream from Hayfork Creek.

DRAINAGE AREA.--764 sq mi.

RECORDS AVAILABLE.--October 1965 to September 1967.

GAGE.--Digital water-stage recorder. Datum of gage is 1,211.37 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

EXTREMES.--Maximum discharge during year, 32,000 cfs Jan. 29 (gage height, 18.50 ft), from rating curve extended above 11,000 cfs as explained below; minimum daily, 60 cfs Sept. 30.

1965-67: Maximum discharge, 32,000 cfs Jan. 29, 1967 (gage height, 18.50 ft), from rating curve extended above 11,000 cfs on basis of flood-routing study at gage-height 30.45 ft; minimum daily, 60 cfs Sept. 30, 1967.

Flood of Dec. 22, 1964, reached a stage of 30.45 ft, from floodmarks (discharge, 88,000 cfs on basis of flood-routing study).

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69	77	2,630	770	7,220	992	2,030	1,470	1,070	396	149	77
2	69	77	5,940	740	6,960	974	1,920	1,530	1,120	382	147	77
3	69	75	4,860	710	4,310	950	1,910	1,550	1,080	365	143	74
4	69	74	8,860	695	3,800	920	1,930	1,750	1,010	354	136	74
5	67	74	17,800	705	3,540	890	1,930	1,910	1,020	344	132	74
6	67	97	5,530	661	3,360	854	2,220	2,060	1,000	334	130	74
7	65	109	3,300	715	3,200	824	2,470	2,330	932	322	132	77
8	65	108	2,340	625	2,930	800	2,430	3,040	890	310	130	74
9	65	99	1,930	607	2,750	788	2,430	3,190	848	304	126	72
10	65	95	2,840	603	2,600	1,070	2,420	2,780	812	295	121	71
11	63	95	2,660	580	2,420	1,140	2,340	2,290	782	286	120	71
12	65	146	3,090	575	2,280	1,060	2,090	1,980	760	263	115	74
13	63	246	3,620	567	2,180	1,040	1,990	1,810	735	255	113	75
14	62	286	3,860	553	2,060	992	2,030	1,770	695	246	111	72
15	63	403	2,940	549	1,930	1,050	1,910	1,900	680	235	110	69
16	63	750	2,400	540	1,830	5,320	1,810	2,110	657	232	106	67
17	63	478	2,060	530	1,740	5,100	1,870	2,210	630	224	102	67
18	65	310	1,820	517	1,650	4,270	1,840	2,130	621	221	98	77
19	65	389	1,660	530	1,560	3,640	1,750	1,970	625	216	94	86
20	69	1,910	1,530	1,710	1,460	3,530	1,700	1,930	616	211	93	83
21	72	2,360	1,420	11,800	1,360	3,860	1,640	1,930	594	208	93	80
22	72	1,320	1,330	6,760	1,300	3,740	1,620	1,870	567	203	89	73
23	75	735	1,270	3,740	1,230	4,660	1,660	1,770	544	196	88	70
24	75	553	1,180	3,220	1,190	4,040	1,680	1,630	508	188	88	67
25	77	462	1,110	2,690	1,150	3,370	1,750	1,510	495	181	85	67
26	77	414	1,050	4,780	1,110	2,940	1,750	1,410	474	174	87	63
27	76	410	980	7,500	1,050	2,590	1,780	1,310	462	167	90	64
28	76	571	926	14,200	1,020	2,420	1,700	1,250	446	167	90	63
29	76	2,030	884	24,500	-----	2,250	1,620	1,220	418	145	89	62
30	76	1,430	860	13,200	-----	2,170	1,540	1,150	403	142	86	60
31	76	-----	812	10,400	-----	2,110	-----	1,110	-----	134	80	-----
TOTAL	2,139	16,183	93,492	116,272	69,190	70,354	57,760	57,870	21,494	7,700	3,373	2,154
MEAN	69.0	539	3,016	3,751	2,471	2,269	1,925	1,867	716	248	109	71.8
MAX	77	2,360	17,800	24,500	7,220	5,320	2,470	3,190	1,120	396	149	86
MIN	62	74	812	517	1,020	788	1,540	1,110	403	134	80	60
AC-FT	4,240	32,100	185,400	230,600	137,200	139,500	114,600	114,800	42,630	15,270	6,690	4,270

CAL YR 1966: TOTAL 525,921

MEAN 1,441

MAX 21,500

MIN 62

AC-FT 1,043,000

WAT YR 1967: TOTAL 517,981

MEAN 1,419

MAX 24,500

MIN 60

AC-FT 1,027,000

Peak discharge (base, 8,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0300	18.20	30,800	1-29	0945	18.50	32,000
1-21	1530	14.13	16,400				

KLAMATH RIVER BASIN

475

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 left bank 4 miles south of Salyer and 8 miles upstream from mouth.

DRAINAGE AREA.--898 sq mi.

RECORDS AVAILABLE.--October 1911 to September 1913, October 1950 to September 1967 (discontinued). Monthly discharge only for some periods, published in WSP 1315-B. Published as "near China Flat" 1911-13.

GAGE.--Digital water-stage recorder. Datum of gage is 559.99 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Oct. 12, 1911, to Aug. 10, 1913, staff gage at site 7.7 miles downstream at different datum. Nov. 12, 1950, to July 26, 1965, graphic water-stage recorder at same site at datum 12.55 ft lower.

AVERAGE DISCHARGE.--19 years, 1,758 cfs (1,273,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 38,000 cfs Jan. 29 (gage height, 21.95 ft); minimum daily, 80 cfs Oct. 12, 13.

1911-13, 1950-67: Maximum discharge, 95,400 cfs Dec. 22, 1964 (gage height, 47.6 ft, from floodmarks), from rating curve extended above 21,000 cfs by slope-conveyance study; minimum, 54 cfs Sept. 10, 1955.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	84	102	2,700	880	11,200	1,170	3,070	1,850	1,250	475	208	100
2	84	101	5,670	860	7,890	1,160	2,840	1,850	1,360	462	203	98
3	84	101	5,810	860	6,360	1,130	2,520	1,880	1,310	444	201	98
4	83	101	8,270	850	5,610	1,100	2,370	1,960	1,270	424	195	98
5	83	101	19,800	860	5,220	950	2,320	2,080	1,220	407	188	98
6	82	125	8,090	800	4,860	910	2,610	2,250	1,210	405	179	98
7	83	156	5,400	750	4,470	810	2,970	2,320	1,150	387	182	98
8	82	153	4,470	742	4,260	770	3,000	2,930	1,060	376	180	98
9	82	140	3,910	725	4,070	708	2,840	3,120	1,010	374	175	98
10	82	133	4,780	682	3,870	1,010	2,770	3,310	920	359	167	98
11	82	133	4,500	682	3,720	1,240	2,610	2,340	919	360	162	98
12	80	199	4,620	674	3,560	1,180	2,280	2,120	901	332	158	98
13	80	353	4,840	665	3,630	1,050	2,030	1,980	869	310	156	98
14	82	485	5,070	657	3,720	940	2,090	1,950	827	298	151	98
15	83	726	4,240	657	3,640	940	1,980	2,080	786	291	146	98
16	86	1,050	3,590	640	3,240	6,770	1,880	2,270	743	288	142	98
17	87	596	3,090	631	3,080	6,600	1,960	2,280	704	281	137	98
18	89	311	2,510	614	2,930	6,100	2,240	2,160	692	274	133	101
19	90	512	2,200	606	3,070	5,580	2,160	2,030	681	271	127	108
20	93	2,370	2,000	1,790	3,070	5,500	2,140	1,960	685	270	123	108
21	99	3,150	1,680	12,700	2,730	5,760	2,090	1,950	655	266	121	102
22	104	2,010	1,470	8,500	2,190	5,610	2,040	1,920	622	266	119	98
23	109	1,130	1,400	6,200	1,740	6,740	2,040	1,840	598	251	118	98
24	109	791	1,250	4,650	1,720	6,230	2,030	1,740	572	245	118	98
25	109	581	1,200	4,000	1,530	5,430	2,060	1,680	553	240	117	98
26	106	474	1,170	6,110	1,440	4,830	2,030	1,580	546	231	115	98
27	104	425	1,080	9,940	1,360	4,390	2,080	1,530	537	224	117	98
28	104	579	1,040	17,900	1,280	3,910	2,010	1,500	524	224	118	98
29	104	2,140	996	31,200	-----	3,480	1,950	1,420	503	223	117	98
30	104	1,760	950	19,300	-----	3,360	1,900	1,340	490	213	111	98
31	104	-----	920	14,400	-----	3,290	-----	1,300	-----	213	106	-----
TOTAL	2,837	20,988	118,716	150,525	105,460	98,648	68,910	62,520	25,167	9,684	4,590	2,969
MEAN	91.5	700	3,830	4,856	3,766	3,182	2,297	2,017	839	312	148	99.0
MAX	109	3,150	19,800	31,200	11,200	6,770	3,070	3,310	1,360	475	208	108
MIN	80	101	920	606	1,280	708	1,880	1,300	490	213	106	98
AC-FT	5,630	41,630	235,500	298,600	209,200	195,700	136,700	124,000	49,920	19,210	9,100	5,890

CAL YR 1966: TOTAL 651,324 MEAN 1,784 MAX 27,000 MIN 80 AC-FT 1,292,000
WAT YR 1967: TOTAL 671,014 MEAN 1,838 MAX 31,200 MIN 80 AC-FT 1,331,000

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0430	21.53	28,200	1-29	1130	21.95	38,000
1-21	-	-	18,000				

KLAMATH RIVER BASIN

11-5298. WILLOW CREEK NEAR WILLOW CREEK, CALIF.

LOCATION.--Lat 40°56'50", long 123°39'35", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.7 N., R.5 E., on right bank 0.1 mile upstream from Boise Creek, 1.5 miles northwest of town of Willow Creek, and 1.8 miles upstream from mouth.

DRAINAGE AREA.--41.0 sq mi.

RECORDS AVAILABLE.--August 1959 to September 1967. Prior to October 1964, published as "at Willow Creek."

AVERAGE DISCHARGE.--8 years, 161 cfs (116,600 acre-ft per year).

GAGE.--Digital water-stage recorder. Datum of gage is 585.54 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Aug. 13, 1959, to Dec. 22, 1964, graphic water-stage recorder at site 1.4 miles downstream at datum 85.55 ft lower.

EXTREMES.--Maximum discharge during year, 2,280 cfs Dec. 4, Jan. 26; maximum gage height, 8.34 ft Dec. 4; minimum daily discharge, 9.3 cfs Oct. 19.

1959-67: Maximum discharge, 17,000 cfs Dec. 22, 1964 (gage height, 20.6 ft, present datum, from flood-marks); minimum daily, 6.8 cfs Sept. 28, 29, 1965.

REMARKS.--Records excellent. No regulation; small diversion for irrigation of about 40 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.8	11	208	76	775	74	207	176	78	30	15	16
2	9.8	11	415	75	604	74	202	174	71	30	15	16
3	9.8	10	376	73	463	71	199	182	65	29	15	16
4	9.8	10	822	74	368	65	202	176	67	29	16	14
5	9.8	10	1,040	75	300	62	207	182	67	28	16	13
6	9.8	29	561	71	267	57	228	185	67	28	16	12
7	9.8	22	621	69	234	54	231	231	62	25	17	12
8	9.8	15	681	69	204	52	219	273	60	25	18	12
9	9.8	13	503	68	190	57	216	264	59	25	19	11
10	9.6	13	500	67	185	165	219	246	56	25	20	12
11	9.6	14	370	67	165	129	202	231	53	24	21	12
12	9.6	32	320	67	157	116	196	228	52	24	22	11
13	9.6	38	368	65	165	108	207	225	47	23	21	11
14	9.5	42	301	64	165	105	240	216	46	22	20	10
15	9.6	71	210	64	154	121	216	219	45	21	18	10
16	9.6	182	182	64	154	724	207	237	42	21	19	10
17	9.6	243	158	61	165	493	204	190	41	21	19	11
18	9.5	36	140	61	165	455	204	179	39	21	20	13
19	9.3	60	125	71	148	388	196	165	39	21	20	12
20	9.9	219	129	303	140	333	199	151	39	20	19	12
21	12	208	122	750	121	243	188	146	39	20	17	11
22	19	122	114	276	108	255	185	137	40	20	17	11
23	20	75	111	157	100	338	185	129	42	19	16	11
24	13	68	113	318	91	273	182	121	41	19	15	11
25	12	51	102	234	87	225	185	105	39	18	15	11
26	11	52	104	1,500	80	204	188	96	36	18	15	11
27	11	57	93	1,370	78	202	190	89	35	18	15	11
28	11	89	95	1,590	74	193	196	89	35	17	15	10
29	11	127	92	1,710	-----	188	193	89	34	17	15	10
30	11	100	81	1,150	-----	190	179	89	31	16	15	10
31	11	-----	77	1,020	-----	204	-----	78	-----	16	15	-----
TOTAL	335.6	2,030	9,134	11,679	5,907	6,218	6,072	5,298	1,467	690	536	353
MEAN	10.8	67.7	295	377	211	201	202	171	48.9	22.3	17.3	11.8
MAX	20	243	1,040	1,710	775	724	240	273	78	30	22	16
MIN	9.3	10	77	61	74	52	179	78	31	16	15	10
AC-FT	666	4,030	18,120	23,160	11,720	12,330	12,040	10,510	2,910	1,370	1,060	700

CAL YR 1966: TOTAL 51,437.7

MEAN 141

MAX 2,500

MIN 8.6

AC-FT 102,000

WAT YR 1967: TOTAL 49,719.6

MEAN 136

MAX 1,710

MIN 9.3

AC-FT 98,620

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-4	2330	8.54	2,280	1-29	0900	7.33	1,950
1-26	0900	7.96	2,280				

KLAMATH RIVER BASIN

477

11-5300. TRINITY RIVER AT HOOPA, CALIF.

LOCATION.--Lat 41°03'00", long 123°40'15", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.8 N., R.4 E., in Hoopa Indian Reservation, on left bank at Hoopa 0.4 mile upstream from Supply Creek.

DRAINAGE AREA.--2,865 sq mi.

RECORDS AVAILABLE.--October 1911 to January 1914, October 1916 to September 1918, October 1931 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near Hoopa" 1931-64.

GAGE.--Digital water-stage recorder. Datum of gage is 274.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to October 1931, staff gage at site 0.4 mile upstream at different datum. October 1931 to Dec. 22, 1964, graphic water-stage recorder at site 2.5 miles upstream at datum 31.67 ft higher.

AVERAGE DISCHARGE.--40 years (1911-13, 1916-18, 1931-67), 5,410 cfs (3,917,000 acre-ft per year), unadjusted.

EXTREMES.--Maximum discharge during year, 56,400 cfs Jan. 29 (gage height, 33.38 ft); minimum, 314 cfs Sept. 30. 1911-14, 1916-18, 1931-67: Maximum discharge, 231,000 cfs Dec. 22, 1964 (gage height, 40.3 ft, from flood-marks); minimum, 162 cfs Oct. 4, 1931.

REMARKS.--Records good. Flow regulated by Clair Engle Lake beginning in November 1960 (see sta. no. 5254). Small diversions above station for mining and irrigation. Records of chemical analyses, water temperatures and suspended-sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	410	514	5,940	2,700	23,100	3,410	5,620	4,310	5,980	2,280	1,010	434
2	418	498	12,500	2,600	18,300	3,360	5,330	4,300	6,030	2,130	930	426
3	466	490	13,700	2,510	14,300	3,290	5,240	4,500	5,650	2,060	898	426
4	482	498	14,800	2,470	11,500	3,180	5,270	4,910	5,220	2,000	874	418
5	490	490	39,700	2,500	10,400	3,070	5,220	5,540	5,110	1,510	866	410
6	482	706	21,500	2,370	9,710	2,990	5,870	5,980	4,910	1,850	842	402
7	482	842	13,700	2,270	9,130	2,920	6,660	6,800	5,020	1,780	858	410
8	474	738	10,300	2,220	8,740	2,860	6,570	9,780	4,950	1,720	874	402
9	474	650	8,380	2,180	8,340	2,900	6,390	11,200	4,880	1,660	850	386
10	458	610	9,560	2,150	8,060	3,710	6,320	9,560	4,790	1,600	826	386
11	450	618	9,280	2,120	7,860	4,140	6,500	8,100	4,720	1,550	810	434
12	434	770	9,660	2,110	7,640	3,810	6,030	7,140	4,630	1,500	786	434
13	434	1,200	11,000	2,100	7,520	3,820	5,800	6,640	4,470	1,450	738	418
14	434	2,440	13,300	2,120	7,140	3,640	5,980	6,520	4,390	1,400	682	402
15	442	3,240	10,000	2,150	6,570	3,710	5,650	7,160	4,390	1,350	650	378
16	450	5,290	8,200	2,160	6,070	11,800	5,330	8,600	4,460	1,300	610	370
17	450	3,370	7,160	2,150	5,710	16,300	5,540	9,470	4,490	1,270	578	386
18	442	1,910	6,340	2,100	5,470	12,100	5,580	9,250	4,540	1,240	562	466
19	442	1,940	5,760	2,140	5,200	9,710	5,170	8,080	4,470	1,220	546	498
20	442	6,820	5,350	5,110	4,860	9,130	5,000	7,840	4,490	1,150	522	474
21	490	8,400	4,930	17,600	4,520	9,560	4,810	8,840	4,390	1,120	498	434
22	538	5,530	4,470	15,500	4,310	9,200	4,720	8,960	4,130	1,130	498	402
23	602	3,370	4,200	9,950	4,160	10,300	4,810	8,360	3,930	1,120	490	378
24	562	2,490	3,910	8,280	4,020	9,730	4,790	7,600	3,670	1,130	482	363
25	538	2,140	3,660	7,980	3,930	8,300	4,840	7,080	3,380	1,130	490	356
26	570	1,930	3,470	15,200	3,760	7,500	4,840	7,040	3,220	1,070	498	349
27	554	1,900	3,260	20,700	3,590	6,860	5,020	7,040	2,990	1,030	554	342
28	538	2,060	3,080	28,600	3,470	6,460	4,840	7,100	2,740	1,030	586	335
29	538	4,440	2,960	46,100	-----	6,300	4,630	7,020	2,540	1,020	530	328
30	530	4,580	2,890	36,100	-----	5,890	4,420	6,700	2,370	1,090	474	314
31	514	-----	2,780	28,800	-----	5,920	-----	6,520	-----	1,150	458	-----
TOTAL	15,030	70,474	275,740	283,040	217,380	195,870	162,790	227,940	130,950	44,440	20,870	11,961
MEAN	485	2,349	8,895	9,130	7,764	6,318	5,426	7,353	4,365	1,434	673	399
MAX	602	8,400	39,700	46,100	23,100	16,300	6,660	11,200	6,030	2,280	1,010	498
MIN	410	490	2,780	2,100	3,470	2,860	4,420	4,300	2,370	1,020	458	314
AC-FT	29,810	139,800	546,900	561,400	431,200	388,500	322,900	452,100	259,700	88,150	41,400	23,720

CAL YR 1966: TOTAL 1,653,124 MEAN 4,529 MAX 40,500 MIN 356 AC-FT 3,279,000
WAT YR 1967: TOTAL 1,656,485 MEAN 4,538 MAX 46,100 MIN 314 AC-FT 3,286,000

Peak discharge (base, 22,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0700	32.07	49,900	1-29	1500	33.38	56,400
1-21	2100	25.63	24,100				

KLAMATH RIVER BASIN

11-5301.5. MARKEP CREEK NEAR WEITCHPEC, CALIF.

LOCATION.--Lat 41°16'22", long 123°47'20", in Hoopa Valley Indian Reservation, on left bank 70 ft upstream from culvert on county highway, 7.3 miles northwest of Weitchpec, Humboldt County.

DRAINAGE AREA.--3.56 sq mi.

RECORDS AVAILABLE.--Water years 1962-66 (annual maximum), October 1966 to September 1967.

GAGE.--Graphic water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 500 ft (from topographic map). Aug. 31, 1961 to Aug. 31, 1966, crest-stage gage at site 60 ft downstream at same datum.

EXTREMES.--Maximum discharge during year, 130 cfs Jan. 29 (gage height, 2.70 ft), from rating curve extended above 30 cfs; minimum daily, 1.1 cfs Oct. 10, 17-19.
1962-67: Maximum discharge, 890 cfs Dec. 22, 1964 (gage height, 58.64 ft, crest-stage gage), by computation of maximum flow through culvert.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.5	16	8.0	55	8.9	18	14	7.7	4.2	2.7	2.2
2	1.6	1.5	20	7.8	48	8.1	18	14	7.3	3.9	2.7	2.0
3	1.5	1.5	18	7.6	36	7.7	19	14	7.3	3.9	2.5	2.0
4	1.3	1.6	43	8.0	31	7.3	18	13	7.3	3.9	2.5	2.0
5	1.3	1.6	46	8.5	28	7.3	19	12	7.3	3.9	2.5	2.0
6	1.3	2.9	31	8.0	24	7.0	22	12	7.0	3.9	2.5	2.0
7	1.3	2.2	31	7.8	21	7.0	20	12	7.0	3.9	2.5	2.0
8	1.3	2.0	33	7.6	18	6.7	19	11	6.7	3.9	2.5	2.0
9	1.3	1.9	31	7.4	17	8.1	18	14	6.7	3.9	2.3	2.0
10	1.1	1.9	31	7.3	15	13	17	18	6.4	3.7	2.3	1.9
11	1.2	2.5	28	7.2	14	11	17	18	6.4	3.5	2.3	1.8
12	1.3	4.4	26	7.1	13	10	15	17	6.4	3.7	2.3	1.8
13	1.3	8.5	28	7.0	13	10	17	16	6.1	3.7	2.3	1.8
14	1.2	12	25	6.9	12	9.7	17	15	6.1	3.7	2.3	1.8
15	1.2	19	23	6.8	13	10	16	14	5.8	3.5	2.3	1.8
16	1.2	13	21	6.6	12	29	17	13	5.8	3.5	2.3	1.8
17	1.1	8.1	19	6.4	12	24	19	12	5.5	3.3	2.3	1.9
18	1.1	6.4	18	6.2	12	24	17	12	5.2	3.5	2.3	2.1
19	1.1	20	17	7.6	11	21	17	12	5.2	3.5	2.3	2.2
20	1.6	30	15	35	10	23	17	11	5.5	3.3	2.3	2.1
21	1.7	24	14	42	10	20	16	11	5.2	3.3	2.3	2.0
22	5.5	17	14	37	9.3	21	15	10	5.2	3.3	2.3	2.0
23	2.5	12	13	33	9.3	22	14	10	5.2	3.3	2.3	2.0
24	1.9	9.3	12	29	9.3	20	14	10	4.9	3.3	2.3	2.0
25	1.7	7.3	12	34	8.9	19	15	9.7	4.9	3.3	2.3	2.0
26	1.6	7.0	11	44	8.5	18	16	8.9	4.6	3.3	2.2	1.9
27	1.6	6.1	10	64	8.1	17	17	8.9	4.6	3.1	2.0	1.9
28	1.6	6.7	9.7	97	8.1	18	17	8.5	4.4	3.1	2.0	1.9
29	1.5	6.4	9.2	102	---	17	16	8.5	4.4	2.9	2.2	1.9
30	1.5	6.1	8.9	83	---	20	15	8.5	4.2	2.9	2.2	1.9
31	1.5	---	8.3	70	---	19	---	8.1	---	2.9	2.2	---
Total	48.4	244.4	642.1	809.8	486.5	463.8	512	376.1	176.3	109.0	72.3	58.7
Mean	1.56	8.15	20.7	26.1	17.4	15.0	17.1	12.1	5.88	3.52	2.33	1.96
Max	5.5	30	46	102	55	29	22	18	7.7	4.2	2.7	2.2
Min	1.1	1.5	8.3	6.2	8.1	6.7	15	8.1	4.2	2.9	2.0	1.8
Ac-ft	96	485	1,270	1,610	965	920	1,020	746	350	216	143	116
(†)	1.1	10.0	10.5	12.4	1.6	7.4	6.6	3.1	.1	0	0	.5

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total 3,999.4 Mean 11.0 Max 102 Min 1.1 Ac-ft 7,930

Peak discharge (base, 80 cfs).--Dec. 4 (2200) 86 cfs (2.32 ft); Jan. 29 (0200) 130 cfs (2.70 ft).

† Precipitation, in inches.

KLAMATH RIVER BASIN

479

11-5303. BLUE CREEK NEAR KLAMATH, CALIF.

LOCATION.--Lat 41°27'00", long 123°53'40", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.12, T.12 N., R.2 E., on left bank 600 ft downstream from West Fork, 3.0 miles upstream from mouth, and 9.2 miles southeast of Klamath.

DRAINAGE AREA.--120 sq mi.

RECORDS AVAILABLE.--September 1965 to September 1967.

GAGE.--Digital water-stage recorder. Elevation of gage is 140.65 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

EXTREMES.--Maximum discharge during year, 12,000 cfs Jan. 27; minimum daily, 48 cfs Oct. 19.

1965-67: Maximum discharge, 25,100 cfs Jan. 6, 1966 (gage height, 15.97 ft, from high-water marks), from rating curve extended above 1,600 cfs on basis of step-backwater computation at 21.55 ft; minimum daily, 43 cfs Nov. 1, 1965.

Flood of Dec. 22, 1964, reached a stage of 21.55 ft, from floodmarks (discharge, 48,000 cfs, by step-backwater computation).

REMARKS.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56	59	1,340	460	2,150	466	801	682	508	195	103	70
2	56	58	1,310	429	1,750	540	745	696	455	188	101	70
3	57	57	1,210	408	1,550	500	738	731	466	179	98	69
4	56	54	4,100	413	1,400	465	724	787	472	188	100	70
5	55	55	5,100	424	1,270	435	773	843	478	182	97	68
6	54	126	3,270	347	1,180	410	936	920	466	172	96	67
7	54	105	2,970	334	1,140	390	913	1,230	434	168	97	69
8	54	81	2,700	325	1,070	370	857	1,510	403	165	94	69
9	54	72	2,290	316	992	392	801	1,710	385	166	93	69
10	52	68	3,180	312	928	759	773	1,650	361	160	90	72
11	53	84	3,210	303	843	654	724	1,500	352	156	89	77
12	53	484	3,220	294	808	604	689	1,310	343	152	86	74
13	54	745	3,880	290	773	604	786	1,210	343	149	85	69
14	53	1,730	3,800	286	752	574	829	1,210	330	143	83	66
15	51	3,010	2,790	281	696	601	766	1,350	316	142	84	64
16	51	2,150	2,220	268	696	1,930	801	1,540	299	137	81	62
17	51	724	1,850	250	696	1,990	906	1,540	286	132	79	77
18	50	413	1,570	228	696	1,830	871	1,380	286	133	81	91
19	48	1,060	1,360	316	696	1,670	801	1,300	264	130	79	77
20	76	2,590	1,210	3,030	689	1,700	759	1,300	264	129	74	69
21	143	2,190	1,090	3,760	661	1,730	731	1,300	250	127	76	65
22	343	1,230	944	2,330	622	1,630	752	1,210	228	125	76	62
23	242	808	936	1,610	598	1,580	745	1,060	237	124	75	62
24	124	622	787	1,400	574	1,590	724	920	228	119	76	59
25	94	508	787	2,300	550	1,410	787	815	217	118	74	58
26	75	466	724	5,400	508	1,220	815	745	210	118	74	56
27	72	429	634	7,400	484	1,070	857	682	213	114	76	56
28	69	490	598	9,600	472	992	801	689	206	112	73	54
29	64	668	568	7,900	-----	878	766	640	195	110	74	53
30	63	574	538	4,750	-----	892	717	568	188	107	74	55
31	61	-----	472	3,100	-----	857	-----	526	-----	104	72	-----
TOTAL	2,442	21,750	60,658	58,864	25,244	30,733	23,688	33,554	9,683	4,444	2,610	1,999
MEAN	78.8	725	1,957	1,899	902	991	790	1,082	323	143	84.2	66.6
MAX	343	3,010	5,100	9,600	2,150	1,990	936	1,710	508	195	103	91
MIN	48	54	472	228	472	370	689	526	188	104	72	53
AC-FT	4,840	43,140	120,300	116,800	50,070	60,960	46,980	66,550	19,210	8,810	5,180	3,960

CAL YR 1966: TOTAL 312,809 MEAN 857 MAX 18,000 MIN 48 AC-FT 620,400
WAT YR 1967: TOTAL 275,669 MEAN 755 MAX 9,600 MIN 48 AC-FT 546,800

Peak discharge (base, 5,000 cfs).--Dec. 4 (1915) 8,930 cfs (10.53 ft); Jan. 27 (time unknown) 12,000 cfs.

Note.--No gage-height record Jan. 24 to Feb. 6.

KLAMATH RIVER BASIN

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 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital 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. Nov. 4, 1950, to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--33 years, 17,060 cfs (12,350,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 170,000 cfs Jan. 29 (gage height, 26.25 ft); minimum daily, 2,500 cfs Aug. 25, 26.

1910-26, 1950-67: Maximum discharge, 557,000 cfs Dec. 23, 1964 (gage height, 55.3 ft, from floodmarks), from rating curve extended above 230,000 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. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,690	3,220	18,300	9,490	71,000	15,800	22,200	17,100	22,500	8,600	3,060	2,540
2	2,680	3,190	28,700	8,630	57,700	15,600	21,000	16,800	21,800	8,130	2,940	2,520
3	2,670	3,160	30,700	8,250	49,400	15,100	20,500	17,000	21,100	7,700	3,080	2,680
4	2,710	3,140	34,400	8,030	43,200	14,700	20,700	17,800	20,100	7,280	3,080	2,680
5	2,780	3,090	86,200	8,900	38,600	14,200	20,200	19,100	20,400	6,830	3,020	2,680
6	2,760	3,080	57,000	8,550	36,400	13,400	22,600	20,300	20,600	6,530	2,980	2,680
7	2,750	3,100	41,900	8,180	34,600	12,900	23,200	20,900	20,200	6,150	3,000	2,680
8	2,750	3,090	36,200	7,950	31,000	12,800	23,100	29,600	19,700	5,400	2,980	2,680
9	2,740	3,050	29,300	7,700	29,200	12,800	22,400	35,200	18,500	5,060	2,960	2,660
10	2,730	3,060	31,100	7,650	28,000	16,400	22,000	34,400	18,000	4,940	2,960	2,640
11	2,720	3,070	32,000	7,680	27,000	16,500	19,800	31,100	18,100	4,820	2,940	2,680
12	2,710	3,080	39,500	7,450	26,000	15,600	19,200	28,100	17,000	4,620	2,900	2,700
13	2,700	3,080	50,700	7,450	25,800	15,500	18,700	26,000	16,000	4,520	2,840	2,680
14	2,730	3,080	77,400	7,550	25,800	14,900	19,800	26,900	15,000	4,420	2,840	2,660
15	2,970	3,240	53,000	7,700	25,600	14,700	19,100	29,000	14,900	4,300	2,800	2,640
16	3,100	25,200	35,000	7,700	23,500	26,000	18,400	34,000	15,500	4,080	2,720	2,600
17	3,110	25,900	25,500	7,630	21,900	45,700	19,600	38,200	16,000	4,000	2,680	2,640
18	3,110	10,700	20,000	9,220	21,700	37,900	19,700	38,800	16,200	3,980	2,660	2,820
19	3,130	10,300	18,000	9,130	21,400	36,700	19,000	37,400	15,500	3,820	2,620	2,900
20	3,350	26,400	16,800	17,700	19,500	34,300	18,600	37,000	15,400	3,680	2,600	2,880
21	3,720	34,100	15,800	38,300	18,800	39,100	19,100	39,100	15,000	3,720	2,580	2,780
22	3,460	25,300	15,000	39,600	18,600	32,200	18,800	40,300	14,100	3,620	2,560	2,700
23	3,670	17,100	14,300	28,400	18,100	34,700	18,600	39,400	12,900	3,500	2,560	2,680
24	3,860	13,200	13,800	25,500	17,700	33,900	18,500	36,700	12,300	3,440	2,520	2,700
25	3,820	11,100	13,000	27,500	17,100	33,000	18,600	32,600	11,500	3,360	2,500	2,700
26	3,700	9,850	12,400	40,400	16,300	28,000	18,600	30,000	11,000	3,300	2,500	2,700
27	3,600	9,250	11,700	63,100	16,200	25,900	19,000	29,100	10,500	3,240	2,540	2,700
28	3,500	8,950	11,100	106,000	16,000	24,600	18,700	28,500	9,700	3,160	2,580	2,640
29	3,400	11,800	10,700	138,000	-----	23,500	18,200	28,100	9,220	3,120	2,600	2,600
30	3,300	14,200	10,400	153,000	-----	22,800	17,600	26,200	8,880	3,080	2,600	2,620
31	3,280	-----	10,100	88,800	-----	23,000	-----	24,400	-----	3,120	2,560	-----
TOTAL	96,200	300,080	900,000	921,140	796,100	722,200	595,500	911,100	477,600	145,520	85,760	80,460
MEAN	3,103	10,000	29,030	29,710	28,430	23,300	19,850	29,390	15,920	4,694	2,766	2,682
MAX	3,860	34,100	86,200	153,000	71,000	45,700	23,200	40,300	22,500	8,600	3,080	2,900
MIN	2,670	3,050	10,100	7,450	16,000	12,800	17,600	16,800	8,880	3,080	2,500	2,520
AC-FT	190,800	595,200	1,785M	1,827M	1,579M	1,432M	1,181M	1,807M	947,300	288,600	170,100	159,600

CAL YR 1966: TOTAL 5,696,880 MEAN 15,610 MAX 135,000 MIN 2,550 AC-FT 11,300,000
WAT YR 1967: TOTAL 6,031,660 MEAN 16,530 MAX 153,000 MIN 2,500 AC-FT 11,960,000

Peak discharge (base, 90,000 cfs).--Dec. 5 (1330) 103,000 cfs (20.53 ft); Jan. 29 (1915) 170,000 cfs (26.25 ft).

SMITH RIVER BASIN

481

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.--609 sq mi.

RECORDS AVAILABLE.--October 1931 to September 1967. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Digital water-stage recorder. Datum of gage is 89.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Feb. 10, 1965, graphic water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--36 years, 3,771 cfs (2,730,000 acre-ft per year).

EXTREMES.--Maximum discharge during year, 87,800 cfs Jan. 28 (gage height, 30.35 ft); minimum daily, 210 cfs Oct. 19.

1931-67: Maximum discharge, 228,000 cfs Dec. 22, 1964 (gage height, 48.5 ft, from floodmarks), from rating curve extended above 69,000 cfs on basis of slope-area measurement at gage height 39.51 ft; minimum daily, 160 cfs Oct. 24, 25, 1964.

REMARKS.--Records excellent. No regulation or diversion above station. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	240	249	9,240	2,140	14,500	2,170	4,810	3,550	1,740	652	395	287
2	240	247	10,500	2,000	10,900	2,230	4,440	3,500	1,730	631	390	286
3	250	242	8,690	1,900	9,380	2,060	4,330	3,650	1,630	614	385	286
4	220	240	25,900	1,970	7,700	1,910	3,960	3,850	1,600	601	381	283
5	223	239	36,600	2,210	6,700	1,790	4,340	4,070	1,630	585	378	282
6	223	370	19,400	2,060	5,600	1,700	5,270	4,300	1,580	574	377	281
7	225	381	17,400	2,050	4,700	1,620	5,530	5,090	1,510	567	374	282
8	226	309	16,000	2,000	4,000	1,550	5,000	6,120	1,460	556	369	285
9	224	282	12,100	1,980	3,510	1,680	4,460	6,740	1,400	551	364	284
10	223	272	18,300	2,060	3,220	5,470	4,090	6,600	1,370	544	360	288
11	221	337	16,900	2,130	2,950	4,040	3,750	6,680	1,300	531	356	304
12	221	1,500	19,000	2,120	2,730	3,620	3,410	6,050	1,280	520	352	299
13	230	2,980	20,900	2,080	2,890	3,420	4,010	5,350	1,230	511	347	283
14	227	23,300	19,600	2,020	2,850	3,320	5,020	5,010	1,190	497	341	275
15	220	39,500	12,700	1,930	3,280	4,380	4,910	5,350	1,170	485	337	268
16	220	23,900	9,350	1,850	3,530	18,800	5,190	6,180	1,150	473	331	266
17	220	7,780	7,300	1,770	4,150	14,400	6,720	5,970	1,110	464	329	308
18	215	4,420	5,930	1,690	4,790	12,700	6,180	4,930	1,070	465	325	360
19	210	7,420	5,060	1,820	4,130	9,460	5,520	4,380	1,050	461	322	315
20	350	16,800	4,440	21,100	3,520	11,900	4,950	4,390	995	460	317	289
21	520	18,100	3,860	26,100	3,110	11,000	4,400	4,380	956	459	314	277
22	1,000	10,300	3,450	13,600	2,810	8,890	4,450	4,080	906	456	312	270
23	600	6,520	3,600	9,100	2,620	11,700	4,500	3,630	869	451	309	267
24	440	4,670	3,340	8,450	2,470	10,100	4,300	3,160	838	441	305	265
25	355	3,600	3,290	13,400	2,370	7,720	4,550	2,730	808	427	301	260
26	320	3,400	3,140	36,700	2,180	6,160	4,750	2,480	780	422	303	257
27	290	3,200	2,870	54,100	2,060	5,170	5,800	2,260	757	427	304	256
28	275	3,200	2,620	66,800	1,950	4,710	5,100	2,190	731	418	298	252
29	265	4,140	2,460	53,200	-----	4,280	4,500	2,160	699	410	298	253
30	255	3,620	2,330	29,200	-----	4,720	3,950	1,950	675	402	297	265
31	250	-----	2,180	20,500	-----	5,300	-----	1,840	-----	404	292	-----
TOTAL	9,198	191,518	328,450	390,030	124,600	187,970	142,190	132,620	35,214	15,479	10,463	8,433
MEAN	297	6,384	10,600	12,580	4,450	6,064	4,740	4,278	1,174	499	338	281
MAX	1,000	39,500	36,600	66,800	14,500	18,800	6,720	6,740	1,740	652	395	360
MIN	210	239	2,180	1,690	1,950	1,550	3,410	1,840	675	402	292	252
AC-FT	18,240	379,900	651,500	773,600	247,100	372,800	282,000	263,000	69,850	30,700	20,750	16,730

CAL YR 1966: TOTAL 1,691,502 MEAN 4,634 MAX 110,000 MIN 210 AC-FT 3,355,000
WAT YR 1967: TOTAL 1,576,165 MEAN 4,318 MAX 66,800 MIN 210 AC-FT 3,126,000

Peak discharge (base, 36,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2215	23.81	49,000	1-20	1845	21.41	36,000
12- 4	2145	25.76	60,100	1-28	0600	30.35	87,800

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

As explained on page 9 the California District publishes annual maxima on small streams at about 310 sites in a separate publication Floods From Small Drainage Areas. In addition discharge measurements are generally made in times of drought or flood to give better coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

The following table contains annual maximum discharges for crest-stage stations not included in above-mentioned report. A crest-stage gage is a device which will register the peak stage occurring between inspection of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The data of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations in Part 11 during water year 1967

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Los Angeles River basin							
11-0960	Haines Creek near Tujunga	Lat 34°15'50", long 118°16'15", in NW¼ sec.17, T.2 N., R.13 W., on right bank 0.5 mile upstream from mouth of canyon and 1.5 miles northeast of Tujunga.	1.26	1917-34 1935-61†	4- 9-65 1966 1-24-67	1.70 - 2.94	4.3 (a) 42
Santa Ynez River basin							
11-1250.	Cachuma Creek near Santa Ynez	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.	23.8	1950-62†	4- 9-65 12-29-65 12- 6-66	5.31 6.00 7.85	508 1,180 3,700
Jacoby Creek basin							
11-4800.	Jacoby Creek near Freshwater	Lat 40°47'30", long 124°00'10", in NW¼ sec.30, T.5 N, R.2 E., 3.7 miles northeast of Freshwater.	6.07	1954-64 † 1966	12- 4-66	3.40	380
Klamath River basin							
11-5223.	South Fork Salmon River near Forks of Salmon	Lat 41°13'20", long 123°15'00", in SE¼ 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.	252	1958-66 †	1-29-66	10.60	7,360
11-5284.	Hayfork Creek near Hayfork	Lat 40°31'10", long 123°05'05", in SW¼ sec.23, T.31 N., R.11 W., 5.8 miles southwest of Hayfork.	86.7	1956-66 †	12- 4-66	10.40	3,320
Smith River basin							
11-5320	South Fork Smith River near Crescent City	Lat 41°47'30", long 124°01'30", in SE¼ sec.11, T.16 N., R.1 E., 9.5 miles east of Crescent City.	295	1911-13 † 1954-61 † 1962-66	1-28-66	18.72	20,100

a Not determined.

† Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements made at miscellaneous sites

Discharge measurements made at miscellaneous sites

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Audubon Creek basin						
Audubon Creek	Bolinas Lagoon	Lat 37°55'47", long 122°40'50", in Las Baulines Grant, at mouth 1.5 miles north of Bolinas, Marin County.	0.46	1967	5-18-67 6-15-67 7- 7-67 8-10-67 9- 6-67	0.43 .38 .25 .08 .05
Klamath River basin						
Fall Creek	Klamath River	NE¼ sec.36, T.48 N., R.5 W., 1,500 ft upstream from mouth and 0.8 mile south of Fall Creek powerplant and Copco Post Office.	14.6	1928-59† 1964-66	5- 1-67	50.3
Bogus Creek	Klamath River	NE¼ sec.17, T.47 N., R.3 W., 0.5 mile downstream from Iron Gate Dam, and 6.0 miles northeast of Hornbrook.	-	1965-66	7- 3-67	*24.9
Beaver Creek	Klamath River	NE¼SW¼ sec.30, T.47 N., R.8 W., 1.9 miles upstream from mouth and 14.8 miles northwest of Yreka.	106	1953-58 1959-65†	9-14-67	*21.6
South Fork Scott River	Scott River	SW¼SE¼ sec.20, T.40 N., R.8 W., opposite unnamed tributary 1.1 miles southwest of Callahan and 1.5 miles above East Fork Scott River.	41.5	1958-60† 1964 1966	9-12-67	*8.96
Etna Creek	Scott River	SE¼SW¼ sec.6, T.41 N., R.9 W., 0.1 mile below the mouth of Alder Creek and 2.7 miles southwest of Etna.	19.5	1966	9-13-67	*2.94
Elk Creek	Klamath River	NE¼ sec.36, T.16 N., R.7E., 4.0 miles upstream from mouth, and 4.0 miles south of Happy Camp.	90.4	1956-64†	9-14-67	38.1
Deadwood Creek	Trinity River	SW¼NW¼ sec.17, T.33 N., R.8 W., 400 ft above mouth and 0.8 mile northeast of Lewiston.	-	1965-66	12- 1-66 2- 2-67 4- 4-67 5- 3-67	7.75 32.5 9.13 13.0

* Base flow.

† Operated as a continuous-record gaging station.

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 at Horseshoe Bend, 3 miles upstream from Yorba Bridge, by Metropolitan Water District of Southern California from Oct. 1 to Dec. 3, Jan. 5-22, Feb. 6 to Apr. 19, May 1 to July 1, July 26 to Aug. 10, Aug. 18-24, 26-29, Aug. 30 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 1967
(Measured previously 1938-66)

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 7	257	Dec. 16	1,050	Feb. 10	187	May 5	47.6	July 21	17.2
14	256	28	155	17	212	12	44.1	28	18.7
21	103	30	114	24	219	19	23.8	Aug. 4	31.8
28	177	Jan. 6	119	Mar. 3	218	26	30.2	11	0
Nov. 4	241	13	215	10	56.3	June 2	29.1	18	13.1
8	291	20	188	17	104	9	179	25	0
10	87.6	23	560	24	224	16	194	Sept. 1	39.3
18	136	24	693	Apr. 7	270	23	67.1	8	28.0
25	138	25	759	11	267	29	59.4	15	45.6
Dec. 2	127	Feb. 1	128	21	122	July 7	3.72	22	55.9
9	1,010	3	112	28	75.6	14	11.5	29	16.8

Santa Ana River, lat 33°50'55", long 117°50'05", in SW $\frac{1}{4}$ sec.4, T.4 S., R.9 W., at Jefferson Street Bridge, 1 mile north of Olive, water year 1967
(Measured previously 1938-66)

Oct. 7	163	Nov. 10	18.8	Jan. 20	136	Mar. 10	18.8	Apr. 28	34.6
14	187	18	69.3	Feb. 3	7.06	17	0	May 5	12.3
21	71.2	25	68.7	10	130	Apr. 7	152	12	0
28	95.2	Dec. 2	73.4	24	107	14	172	Sept. 29	0
Nov. 8	134	Jan. 6	76.7	Mar. 3	192	21	48.2		

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 1967
(Measured previously 1938-66)

Oct. 28	16.8	Nov. 25	2.33	Jan. 13	0	Feb. 24	44.9	Apr. 14	92.4
Nov. 4	31.0	Dec. 2	0	20	24.0	Mar. 3	46.6	21	21.4
8	0	9	905	Feb. 10	12.5	10	0	28	0
18	2.40	Jan. 6	14.1	17	0	Apr. 7	91.7	Sept. 29	0

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 1967
(Measured previously 1938-47, 50, 52, 54, 56, 58, 62-66)

NOTE.--During the year for each date listed above a no flow observation was made at this site except for storm periods in December and January.

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Alameda Creek, at Union City-----	365	Cooperation, record of-----	2
near Niles-----	362	Corn Springs Wash near Desert Center-----	43
Alamitos Creek near New Almaden-----	347	Corralitos Creek, at Freedom-----	324
Alamo Creek near Nipomo-----	274	near Corralitos-----	323
Alamo River near Niland-----	46	Corte Madera Creek at Ross-----	380
Albion River near Comptche-----	407	Cottonwood Creek (tributary to Klamath River) at Hornbrook-----	452
Alisal Creek near Solvang-----	262	Cottonwood Creek (Koehn Lake basin) near Cantil-----	82
Aliso Canyon Creek near New Cuyama-----	272	Cottonwood Creek (Owens Lake basin) near Olancho-----	95
Aliso Creek at El Toro-----	143	Cottonwood Creek (tributary to Antelope Valley), near Rosamond-----	79
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Anderson Lake, contents of-----	356	Coyote Creek basin, reservoirs in-----	356
Andreas Creek near Palm Springs-----	61	Coyote Creek (tributary to Salton Sea) near Borrego Springs-----	49
Antelope Creek near Tennant-----	449	Coyote Creek (tributary to San Francisco Bay), near Gilroy-----	353
Aptos Creek at Aptos-----	327	near Madrone-----	354
Arch Creek near Earp-----	20	Coyote Creek (tributary to San Gabriel River) at Los Alamitos-----	208
Arroyo Corte Madera del Presidio at Mill Valley-----	381	Coyote Creek (tributary to Ventura River) near Oak View-----	245
Arroyo de la Cruz near San Simeon-----	287	Coyote Lake, contents of-----	356
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Bautista Creek near Hemet-----	179	Definition of terms and abbreviations-----	3
Beacon Creek at Helendale-----	71	Devil Canyon Creek near San Bernardino-----	168
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Big Creek near Hayfork-----	472	Dry Creek (tributary to Russian River), near Cloverdale-----	397
Big Dip Creek near Stovepipe Wells-----	38	near Geyserville-----	398
Big Pine Creek near Big Pine-----	89	East Twin Creek near Arrowhead Springs-----	158
Big River, South Fork, near Comptche-----	408	Eel River, at Fort Seward-----	430
Big Rock Creek near Valyermo-----	76	at Scotia-----	437
Big Sulphur Creek near Cloverdale-----	393	at Van Arsdale Dam, near Potter Valley-----	417
Big Sur River near Big Sur-----	288	below Scott Dam, near Potter Valley-----	414
Black Butte River near Covelo-----	421	East Branch, South Fork, near Garberville-----	434
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Boom Creek near Barstow-----	74	Middle Fork, near Dos Rios-----	427
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San Lorenzo River at Big Trees-----	Tepusquet Creek near Sisquoc-----
San Luis Rey River, at Lake Henshaw, near Mesa Grande-----	Terms and abbreviations, definition of-----
at Monserate Narrows, near Pala-----	Tia Juana River, near Dulzura-----
at Oceanside-----	near Nestor-----
near Bonsall-----	Tomki Creek near Willits-----
West Fork, near Warner Springs-----	Topanga Creek near Topanga Beach-----
San Luis Rey River tributary near Pala-----	Toro Creek near Pozo-----
San Mateo Creek, at San Onofre-----	Tres Pinos Creek near Tres Pinos-----
near San Clemente-----	Trinity River, above Coffee Creek, near Trinity Center-----
San Onofre Creek, at San Onofre-----	at Hoopa-----
near San Onofre-----	at Lewiston-----
San Ramon Creek, at San Ramon-----	near Burnt Ranch-----
at Walnut Creek-----	North Fork, at Helena-----
San Timoteo Creek, near Redlands-----	South Fork, below Hyampom-----
Santa Agueda Creek near Santa Ynez-----	near Salyer-----
Santa Ana Creek near Oak View-----	Tujunga Creek, below Hansen Dam-----
	below Mill Creek, near Colby Ranch-----

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