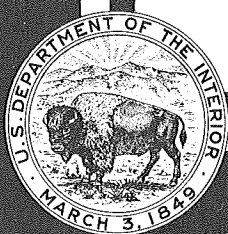


1969

Water Resources Data for California

Part 1. Surface Water Records

Volume 2: Northern Great Basin and Central Valley



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

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

CALENDAR FOR WATER YEAR 1969

OCTOBER 1968

S	M	T	W	T	F	S
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1969

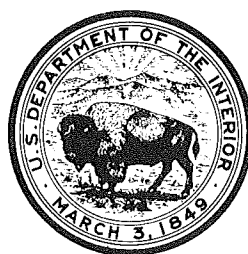
Water Resources Data

for

California

Part 1. Surface Water Records

Volume 2: Northern Great Basin and Central Valley



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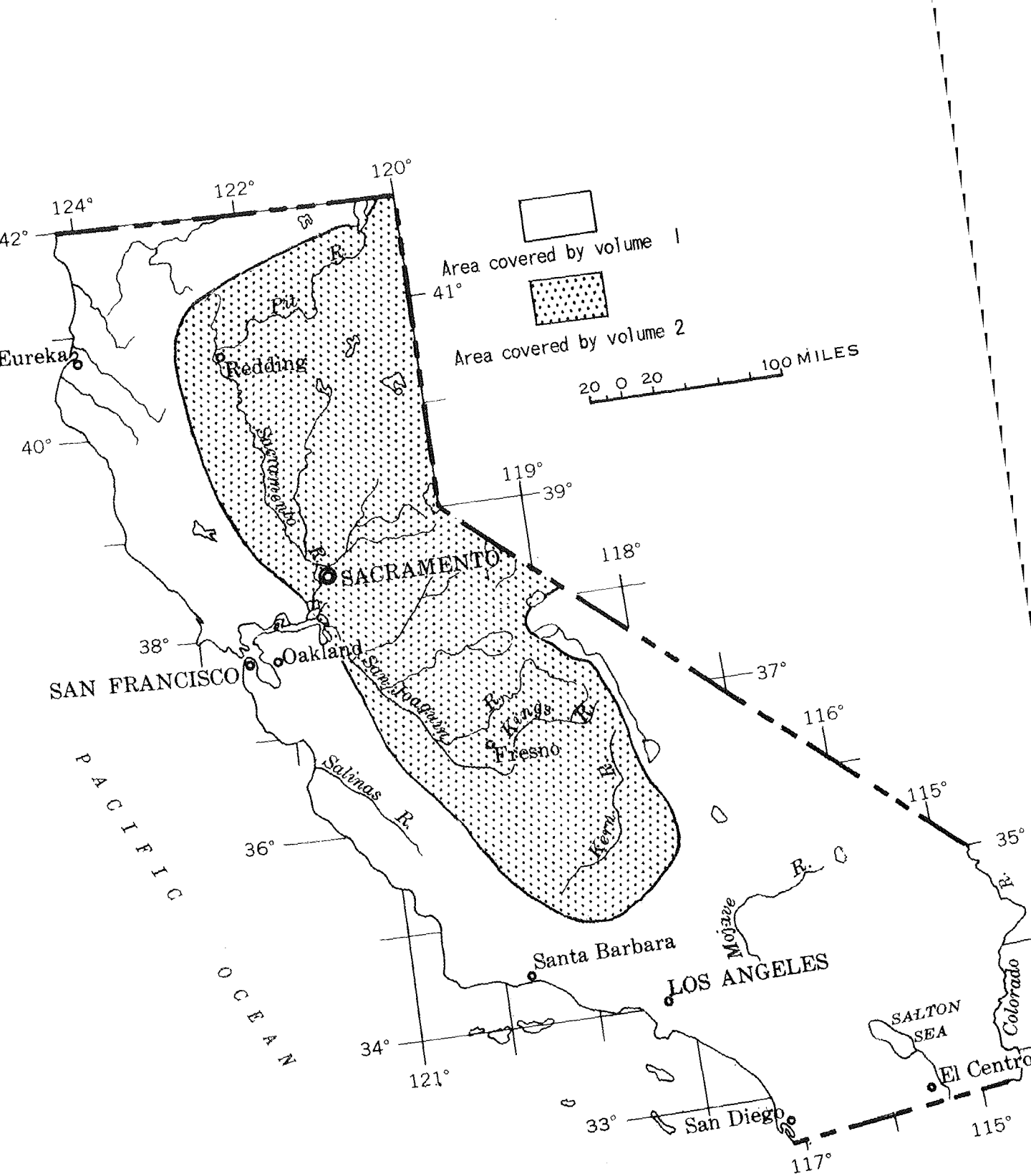
Water-resources records, 1969, for California are in the following reports of the U.S. Geological Survey:

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
4. Water Resources Data for California
Part 3: Ground Water 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
Antelope Valley-East Kern Water Agency
Bolin Harbor District
Coachella Valley County Water District
Contra Costa County Flood Control and Water Conservation District
East Bay Municipal Utility District
Georgetown Divide Public Utility District
Imperial Irrigation District
Kings River Conservation District
Lake County Flood Control and Water Conservation District
Montecito County Water District
Monterey County Flood Control and Water Conservation District
Orange County Flood Control District
Paradise Irrigation District
Riverside County Flood Control and Water Conservation District
Sacramento County Department of Public Works, Water Resources Division
San Benito County Water Conservation and Flood Control District
San Bernardino Valley Municipal Water District
San Bernardino Valley Water Conservation District
San Diego (city) Utilities Department
San Luis Obispo County Flood Control and Water Conservation District
San Mateo County
Santa Barbara City Water Department
Santa Barbara County Flood Control District
Santa Barbara County Water Agency
Santa Clara County Flood Control and Water District
Santa Cruz County Flood Control and Water Conservation District
Santa Maria Valley Water Conservation District
Santa Ynez Conservation District
Tehachapi-Cummings County Water District
Terra Bella Irrigation District
University of California (Berkeley)
Ventura River Municipal Water District
Woodbridge Irrigation District
Corps of Engineers, U.S. Army
U.S. Navy
Bureau of Reclamation, U.S. Department of the Interior
Forest Service, U.S. Department of Agriculture
Soil Conservation Service, U.S. Department of Agriculture



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WATER RESOURCES DATA FOR CALIFORNIA, 1969

PART 1. SURFACE-WATER RECORDS

INTRODUCTION

Surface-water records for the 1969 water year for California, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report. Records for a few pertinent gaging stations in bordering States also are included. 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. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in California.

Through September 30, 1960, the records of discharge and stage of streams and canals 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."

Beginning with the 1961 water year, surface-water records have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 also will be published in a Geological Survey water-supply-paper series entitled "Surface Water Supply of the United States 1961-65."

COOPERATION

The U.S. Geological Survey and organizations of the State of California have had cooperative agreements for the systematic collection of surface-water records since 1903. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

California Department of Water Resources, William R. Gianelli, director.
Alameda County Flood Control and Water Conservation District,
Paul E. Lanferman, engineer-manager.
Alameda County Water District, M. P. Whitfield, general manager and
chief engineer.
Antelope Valley-East Kern Water Agency, W. G. Spinarski, manager.
Bolinas Harbor District, Gene McDaniel, president.
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.
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.
Kings River Conservation District, Vivian D. Kester, secretary.
Lake County Flood Control and Water Conservation District,
Willard D. Hansen, manager.
Montecito County Water District, E. A. Elevatorski, general manager.
Monterey County Flood Control and Water Conservation District,
Loran Bunte, Jr., district engineer.
Orange County Flood Control District, H. G. Osborne, chief engineer.
Paradise Irrigation District, C. Phillip Kelly, manager.
Riverside County Flood Control and Water Conservation District,
John W. Bryant, chief engineer.
Sacramento County Department of Public Works, Water Resources Division,
B. H. Richter, chief.
San Benito County Water Conservation and Flood Control District,
Ralph E. Towle, secretary.
San Bernardino Valley Municipal Water District, Jack A. Beaver, manager.
San Bernardino Valley Water Conservation District, E. F. Dibble, engineer
and secretary.
San Diego (city), Utilities Department, Roy E. Dodson, acting director.
San Luis Obispo County Flood Control and Water Conservation District,
Robert H. Born, county hydraulic engineer.
San Mateo County, Don S. Wilson, county engineer and road commissioner.
Santa Barbara City Water Department, Neil Mendenall, superintendent.
Santa Barbara County Flood Control District, James Stubchaer, flood control
engineer.
Santa Barbara County Water Agency, Francis H. Beattie, chairman.
Santa Clara County Flood Control and Water District, Donald K. Currlin,
manager-counsel.
Santa Cruz County Flood Control and Water Conservation District,
D. A. Porath, district engineer.
Santa Maria Valley Water Conservation District, Maurice F. Twitchell,
secretary.
Santa Ynez River Conservation District, Andrew T. Petersen, president.
Tehachapi-Cummings County Water District, Robert J. Jasper, secretary-
general manager.
Terra Bella Irrigation District, John E. Bourdreau, manager.
University of California (Berkeley), A. Starker Leopold, professor of
zoology.
Ventura River Municipal Water District, Robert McKinney, general manager
and chief engineer.
Woodbridge Irrigation District, Kenneth S. Welsh, superintendent.

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 and Soil Conservation 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., Metropolitan Water District of California, Fontana Union Water Co., Irvine Ranch, 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, Merced, Modesto, Nevada, Serrano and Carpenter, Turlock, Oroville-Wyandotte, Oakdale-South San Joaquin, and Vista Irrigation Districts, and Yuba County Water Agency.

DEFINITION OF TERMS

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

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

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, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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.

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, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second, and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

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

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

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

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

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

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and of the general distribution of water in the principal river basins of the conterminous United States and Alaska.

DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indentation, each indentation representing one rank.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit station number for each station, such as 11-1208.00 includes the part number "11" and a 6-digit station 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 to include all records in the basin.

EXPLANATION OF SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consists of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks on the measurement of stream discharge. (See also SELECTED REFERENCES.) Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For a stream-gaging station 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, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage heights to the rating table gives the daily mean discharge from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-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; at these stations the rate of change in stage is used as a factor in determining discharge.

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

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

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 daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the 1969 water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. The maximum discharge (or contents) and the maximum gage height, the minimum discharge

if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in the PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, 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 or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge were revised, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton rating tables are published for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis.

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

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures; it is the total cubic feet per second per day for the month. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is expressed in acre-feet (line headed "AC-FT").

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month. If elevation or gage height is given in the daily table, the monthly summary gives the contents at the end of the month, rather than the elevation or gage height. For some reservoirs a tabulation of monthly evaporation from the water surface also is included.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges for the calendar and water years; likewise, the minimums in this summary are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year. For some reservoirs the yearly evaporation also is included.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. 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 canals, ditches, drains, or 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.

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. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

Accuracy of Data

The accuracy of discharge 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 is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumptive use, regulation, evaporation, or 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 if adjustments or unadjusted losses (consumptive use, evaporation, seepage, etc.) are large in comparison with the observed discharge.

Publications

Each volume of the 1960 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data were published for the area covered by the individual volumes. Each volume also contains a list of water-supply papers that give detailed information on major floods for the area. A new series of water-supply papers containing surface-water records for the 5-year period October 1, 1960, to September 30, 1965, also will include lists of annual and special reports published as water-supply papers.

Records through September 1950 for the area covered by this report have been compiled and published in Water-Supply Papers 1313(9), 1314(10), and 1315 A and B(11); records for October 1950 to September 1960 have been compiled and published in Water-Supply Papers 1733(9), 1734(10), and 1735(11). These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites. 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, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Many gaging-station records in California through 1958 have been analyzed to give several statistical summaries: (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

The runoff in 1969 over the State was one of the highest of record, and averaged about $3\frac{1}{2}$ times the 1930-60 median. Precipitation for the year was about $1\frac{1}{2}$ times normal. The high runoff in relation to the total precipitation occurred as a result of very intense tropical-type storms in January and February.

Runoff during October was normal or near normal in all but southern California where it was generally below normal but deficient in the extreme southern part. Localized intense electrical storms produced heavy runoff in some desert areas.

Storms in November produced excessive runoff from the Sierra Nevada and above-normal runoff in the north-coastal area, but the storms did not extend to the southern part of the State and the runoff there was generally below normal. Runoff in December was above or near normal in northern California and generally below normal in southern California.

Streamflow was excessive in January with extreme flooding in the central and south-coastal areas January 20-27. The first of a series of storms that began January 11 was centered in the Russian, Eel, and Sacramento river basins, and precipitation ranged from 7 to 14 inches in those areas January 11-14. A second series of storms that began January 17 brought very heavy rains throughout the State. Precipitation was heaviest in the Coast Ranges extending from Monterey County southward to Los Angeles. Storm totals January 17-27 ranged from 12 to 28 inches. The Sierra Nevada also received heavy precipitation with snow above the 7,000-foot elevation. Peak discharges in many streams from Monterey County southward to Los Angeles exceeded those previously recorded. In southern California 92 lives were lost as a result of drowning, mudslides, automobile accidents, and other causes directly attributable to the storms and floods. Mudslides destroyed many homes in the vicinity of Glendora, 20 miles east of Los Angeles, and floodwaters and mudslides destroyed or damaged many homes in other areas. Large areas of farmland were inundated,

many roads and bridges were destroyed or damaged, and damage to citrus and other crop lands was extensive. Severe floodflows occurred also in the southern San Joaquin Valley, principally in streams draining the foothill areas.

Despite the heavy damage from mudslides in foothill areas the total flood loss in the urbanized areas of Los Angeles was relatively low as a result of the operation of the extensive system of flood-control facilities available. Many reservoirs in basins northwest of Los Angeles were filled, but elsewhere in California storage and regulation afforded by the major reservoirs effectively reduced the flood hazard.

Continuing rains in February, in central and southern California culminated by intense storms February 23-24 caused extreme floods again in substantially the same areas that were affected by the recordbreaking floods in January. The resulting floodflows nearly equaled or exceeded those in January. Damages again were widespread particularly because emergency repairs from the January flood were insufficient to accommodate the high flows, and mud and land slides continued to cause damage. In southern California floodflows generally exceeded the January flows in streams in San Bernardino, Riverside, Orange, and San Diego Counties. In the Santiago Creek basin in Orange County, the floodflows were extreme, and a mudslide in Silverado Canyon caused the loss of at least 11 lives.

Flows in most streams north of Los Angeles, in Los Angeles, Ventura, and Santa Barbara Counties, generally were comparable or less than those in January; in some streams, however, the flows were substantially greater. Flows in some streams in the Santa Clara and Ventura, Santa Ynez, and Santa Maria river basins generally exceeded the previous peak flows. Lake Piru, in the Santa Clara River basin, spilled for the first time since storage began in 1955. Twitchell Reservoir, on the Cuyama River in Santa Barbara County, also filled and spilled for the first time since completion in 1959.

Floods in the Salinas River basin in central-coastal California were substantially above those in January; at Spreckels, near the mouth, the peak discharge of 83,100 cfs February 26 exceeded the prior maximum of 75,000 cfs in 1958 and 70,000 cfs in January 1969. Nacimiento Reservoir, which stored all the inflow in January, spilled about 7,300 cfs to the Salinas River. San Antonio Reservoir on San Antonio River stored all of the inflow in January and February. Flood damage to agricultural lands, bridges, roads, railroads, sewer-treatment plant facilities, and other property was again very severe.

Flooding occurred again in the San Joaquin Valley. Heavy runoff from Sierra Nevada foothill streams and the breaching of canals and levees caused extensive inundation again in the San Joaquin Valley. Floodflows in streams in the Coalinga area on the west side of the San Joaquin Valley in February exceeded the record flows in January. Damage from inundation was severe in Coalinga and in the surrounding agricultural area.

The floods of January and February are described in a preliminary open-file report, "Floods of January and February 1969 in Central and Southern California." A comprehensive report, for publication as a water-supply paper, is under preparation.

Precipitation was deficient in March and streamflow in the north-coastal area decreased considerably. Temperatures remained below normal during the first half of the month but were well above normal during the last half. The heavy snowpack began to thaw and runoff from the Sierra Nevada was near normal in the northern part and above normal in the southern part. Runoff was generally excessive during April because of continued melting of the snowpack and moderate rainfall.

Runoff during May continued to be excessive as a result of snowmelt from the heavy snowpack. Runoff was especially high from the Kings, Kaweah, and Tule river basins where the 1969 snowpack was much greater than normal. Maximum releases were made from reservoirs in the area to allow additional space for the storage of the heavy runoff. Heavy flows from the Kings, Kaweah, and Tule Rivers reached and were stored in Tulare Lake which is generally dry and the lake bottom cultivated; the lake is diked into sections with controlled openings to allow the floodwater to be stored in selected areas. The volume of flood runoff was the greatest for many years. Most reservoirs in the State were full, or nearly full, and releases of water were made to maintain storage space for the expected additional runoff.

Streamflow continued excessive in June although cooler temperatures reduced the runoff from that expected. Snowmelt peaks occurred during the month with normal recession but with above-normal flows. The continuing storage of floodwater into Tulare Lake increased the contents to a record of about 1 million acre-feet, with the associated flooding of about 89,000 acres, and caused Tulare Lake to become the largest lake in area entirely within California.

Streamflow was above normal in July in north-coastal California but remained excessive elsewhere. At the index station Kings River above North Fork the runoff was five times median, indicative of the magnitude of the runoff from the southern end of the Sierra Nevada, and previous maximum monthly and daily mean discharges for May, June, and July were exceeded.

The streamflow in August continued to be above normal in the north-coastal area and the northern part of the State, but was excessive increasing southward from the central to the southern part of the Sierra Nevada. Streamflow continued to be excessive from mountainous areas in southern California.

Runoff generally dwindled in September although at the year's end the runoff in northern California remained above normal while that in southern California remained excessive.

Contents of reservoirs at the end of the year remained high; the contents of major reservoirs in northern California were about 135 percent of those last year and 125 percent of average. Most reservoirs in southern California were full or nearly full.

Figure 1 shows the runoff for index stations in California for the 1969 water year expressed in percentage of the 1930-60 median. The average runoff ranged from about $1\frac{1}{2}$ times median in the north-coastal area to more than 11 times median in the south-coastal area. As an illustration of the variability of runoff over the State from one year to the next the average runoff for the current year was five times that in 1968.

SELECTED REFERENCES

- Carter, R. W., and Davidian, Jacob, 1968, General procedure for gaging streams: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. A6, 13 p.
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- Langbein, W. B., and Iseri, K. T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

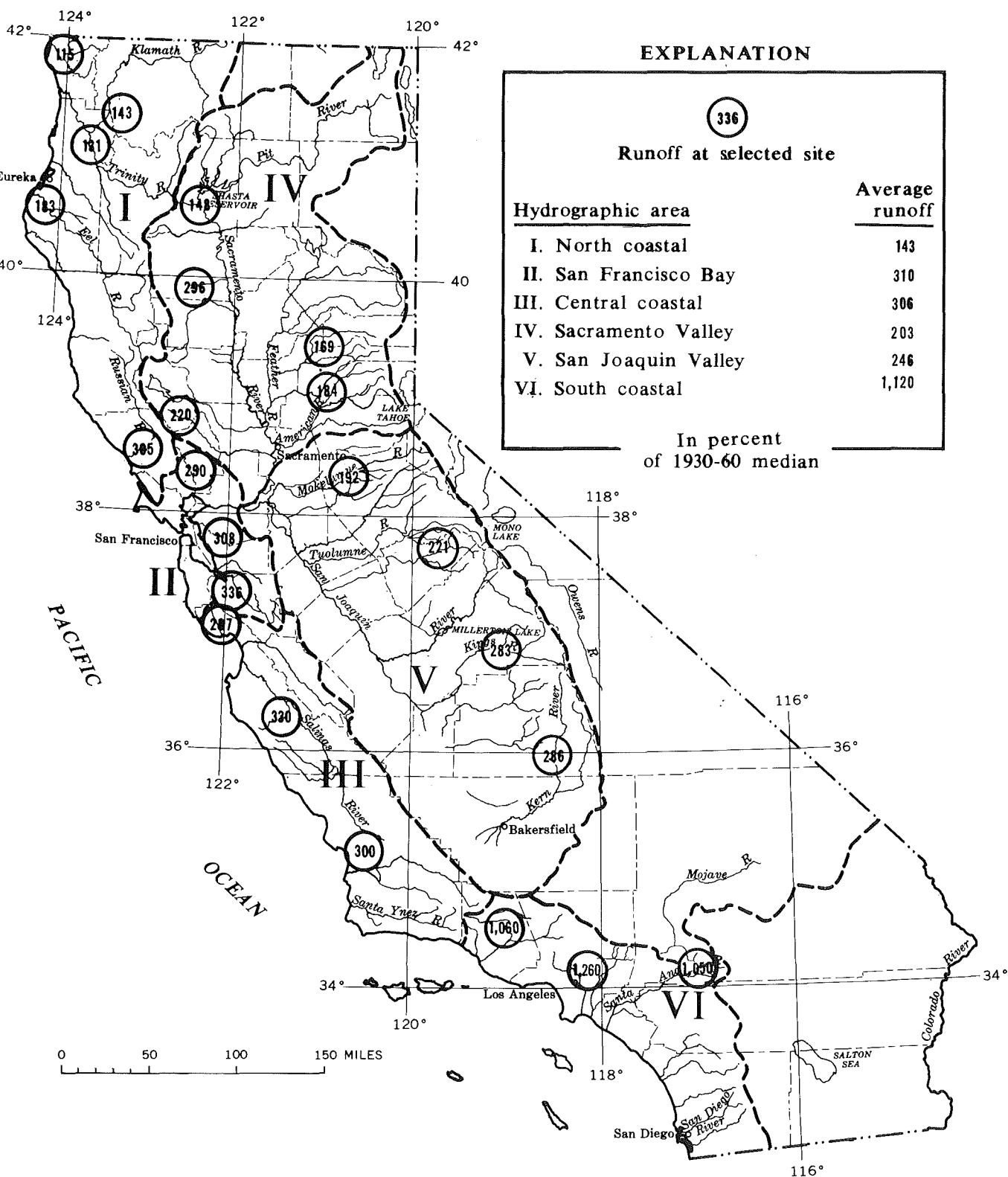


FIGURE 1.-- Runoff for the 1969 water year

WALKER LAKE BASIN

10-2890. VIRGINIA CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°11'30", long 119°12'30", near center of W $\frac{1}{2}$ sec.22, T.4 N., R.25 E., Mono County, on right bank 1.2 miles downstream from Clearwater Creek, 3 miles upstream from mouth, and 4.2 miles southeast of Bridgeport.

DRAINAGE AREA.--63.6 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

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

AVERAGE DISCHARGE.--16 years, 16.7 cfs (12,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 350 cfs May 8 (gage height, 5.20 ft); minimum, 3.0 cfs Nov. 14.
Period of record: Maximum discharge, 1,300 cfs Dec. 23, 1955 (gage height, 8.40 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Aug. 18, 1960, July 28, 1961.

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

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	7.2	8.4	9.0	7.0	9.0	48	158	162	54	39	19
2	6.3	7.4	7.2	10	6.5	8.0	48	144	164	57	37	18
3	6.1	10	7.0	9.6	6.0	10	46	125	159	60	38	18
4	6.0	8.4	7.0	9.2	6.5	12	52	103	160	61	37	18
5	6.0	8.0	7.0	8.6	9.0	9.0	56	137	162	61	36	19
6	6.1	7.4	8.0	8.0	11	11	44	189	156	62	34	19
7	4.7	8.1	9.3	8.4	8.0	11	37	215	148	63	31	20
8	6.6	7.8	9.2	9.0	9.0	8.0	36	237	142	64	30	22
9	6.8	8.0	9.0	8.0	12	10	37	218	142	67	29	19
10	6.8	7.9	8.6	8.5	12	11	48	208	114	62	30	19
11	6.7	7.7	8.0	9.6	12	10	59	205	94	63	30	18
12	7.1	8.4	6.6	10	12	11	73	208	86	64	29	18
13	7.8	8.2	8.0	11	10	11	78	207	84	96	29	18
14	7.8	6.7	10	11	11	9.0	63	179	88	92	28	17
15	7.4	9.3	10	10	12	8.0	51	159	91	75	26	17
16	7.3	9.2	8.0	9.8	10	9.0	53	153	114	68	23	17
17	7.4	9.3	7.0	9.1	8.0	11	65	156	107	64	31	17
18	7.3	11	6.5	9.9	10	11	66	152	91	63	29	17
19	7.3	9.5	7.0	12	10	10	71	139	87	63	27	17
20	7.2	8.7	6.0	11	9.5	11	101	130	84	62	24	17
21	7.0	8.5	5.4	11	9.0	13	126	130	82	59	24	17
22	7.0	8.8	7.0	9.7	9.5	12	164	137	82	59	24	17
23	7.0	8.6	8.5	8.0	10	12	143	140	87	58	24	16
24	7.2	8.3	11	9.0	10	11	91	148	94	58	24	16
25	7.1	6.8	10	10	10	10	75	148	84	58	24	16
26	7.3	6.6	8.0	11	9.0	13	77	146	75	55	24	16
27	7.0	7.0	7.0	8.6	8.0	15	90	140	67	54	24	16
28	7.0	6.6	11	8.0	10	20	119	133	60	54	21	15
29	7.1	6.4	9.0	7.0	-----	24	156	134	57	45	21	15
30	7.3	7.8	8.0	8.0	-----	31	155	145	54	43	20	15
31	7.2	-----	8.0	6.0	-----	42	-----	151	-----	42	19	-----
TOTAL	214.0	243.6	250.7	288.0	267.0	403.0	2,328	4,974	3,177	1,906	866	523
MEAN	6.90	8.12	8.09	9.29	9.54	13.0	77.6	160	106	61.5	27.9	17.4
MAX	7.8	11	11	12	12	42	164	237	164	96	39	22
MIN	4.7	6.4	5.4	6.0	6.0	8.0	36	103	54	42	19	15
AC-FT	424	483	497	571	530	799	4,620	9,870	6,300	3,780	1,720	1,040
CAL YR 1968	TOTAL	3,610.2	MEAN	9.86	MAX	31	MIN	3.2	AC-FT	7,160		
WTR YR 1969	TOTAL	15,440.3	MEAN	42.3	MAX	237	MIN	4.7	AC-FT	30,630		

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	1645	4.96	299	6-16	0215	4.23	155
5- 8	1900	5.20	350	7-13	2300	4.11	136

10-2895. GREEN CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°10'25", long 119°14'00", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.29, T.4 N., R.25 E., Mono County, on right bank 130 ft downstream from county road bridge, 0.1 mile upstream from diversion to Summers Creek, and 5.5 miles south of Bridgeport.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

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

AVERAGE DISCHARGE.--16 years, 29.0 cfs (21,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 323 cfs June 5 (gage height, 3.16 ft); minimum, 4.7 cfs Oct. 12, Feb. 24.

Period of record: Maximum discharge, 351 cfs July 4, 1967 (gage height, 3.26 ft); maximum gage height, 4.09 ft Feb. 25, 1962 (backwater from ice); minimum discharge, 1.4 cfs Apr. 4, 1964.

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

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	6.0	7.5	8.0	7.5	12	16	60	260	127	101	32
2	6.5	6.1	6.6	9.5	7.0	10	18	61	265	137	92	31
3	6.1	11	6.6	8.6	6.5	12	20	61	265	143	90	31
4	6.0	9.9	6.6	8.1	7.0	13	22	54	270	149	90	31
5	5.8	8.7	6.6	7.8	9.0	14	24	51	275	140	86	31
6	5.6	7.9	6.8	7.7	11	12	20	68	255	140	79	30
7	5.5	8.3	6.8	7.7	8.0	14	17	74	240	140	65	30
8	5.5	7.2	6.7	7.6	9.0	12	16	94	260	130	60	34
9	5.5	7.4	6.6	6.4	13	12	17	114	220	135	60	34
10	5.5	7.2	6.6	6.6	12	13	18	124	245	135	71	32
11	5.2	7.1	6.4	6.6	12	11	20	127	166	143	73	31
12	5.1	8.4	5.8	7.0	12	11	23	127	137	152	75	29
13	6.9	8.9	6.3	7.7	10	11	25	132	130	176	71	28
14	9.7	7.9	6.9	8.3	12	10	25	140	143	197	66	28
15	9.0	9.1	8.1	8.0	12	11	21	130	157	183	63	27
16	8.0	9.5	6.6	7.6	9.0	11	21	127	176	169	65	26
17	7.5	9.4	6.0	7.0	7.0	11	23	140	163	154	63	26
18	7.4	10	6.0	7.4	9.0	11	26	152	152	154	63	26
19	6.9	11	7.0	7.6	10	11	26	154	152	154	57	25
20	6.5	9.0	5.6	7.7	9.5	11	32	146	163	154	51	24
21	6.0	8.8	5.0	9.7	9.0	11	40	149	169	154	48	24
22	5.8	8.8	6.0	11	10	10	51	157	173	154	46	24
23	5.7	8.4	8.0	9.0	11	11	50	166	190	152	45	23
24	5.7	8.4	10	13	12	10	38	190	197	163	42	23
25	5.7	7.3	10	10	11	9.0	34	216	190	160	42	22
26	5.8	7.0	8.0	10	10	9.8	33	228	166	152	40	22
27	5.8	7.4	6.0	10	8.0	10	35	228	152	135	38	21
28	5.7	7.2	9.3	9.0	10	11	37	216	132	120	36	21
29	5.7	7.0	8.6	7.0	-----	12	46	208	120	112	35	20
30	5.9	8.6	7.0	8.0	-----	13	56	250	120	120	34	20
31	6.2	-----	7.0	6.0	-----	16	-----	265	-----	117	34	-----
TOTAL	195.5	248.9	217.0	255.6	273.5	355.8	850	4,409	5,703	4,551	1,881	806
MEAN	6.31	8.30	7.00	8.25	9.77	11.5	28.3	142	190	147	60.7	26.9
MAX	9.7	11	10	13	13	16	56	265	275	197	101	34
MIN	5.1	6.0	5.0	6.0	6.5	9.0	16	51	120	112	34	20
AC-FT	388	494	430	507	542	706	1,690	8,750	11,310	9,030	3,730	1,600
CAL YR 1968	TOTAL	6,835.1	MEAN	18.7	MAX	87	MIN	5.0	AC-FT	13,560		
WTR YR 1969	TOTAL	19,746.3	MEAN	54.1	MAX	275	MIN	5.0	AC-FT	39,170		

WALKER LAKE BASIN

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

LOCATION.--Lat 38°09'15", long 119°20'58", in NW¼NE¼ sec.5, T.3 N., R.24 E., Mono County, at outlet of upper lake dam on Robinson Creek and 10 miles southwest of Bridgeport.

DRAINAGE AREA.--29.5 sq mi.

PERIOD OF RECORD.--December 1961 to February 1964, September 1964 to current year.

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

EXTREMES.--Current year: Maximum contents, 2,870 acre-ft June 5, 7, 8 (elevation, 7,209.49 ft); minimum observed, 274 acre-ft Oct. 21.
 Period of record: Maximum contents observed, 2,900 acre-ft June 22, July 5, 6, 1967 (elevation, 7,209.58 ft); minimum observed, 62 acre-ft Oct. 31, Nov. 1, 1964 (elevation, 7,200.22 ft).
 No contents Oct. 17, 1961.

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

ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 21	7,200.98	274	-40
Nov. 23	7,201.26	353	+79
Dec. 31	-	g 1,600	+1,250
Calendar year 1968	-	-	-530
Jan. 2	7,205.63	1,640	+40
Mar. 10	7,207.11	2,110	+470
Apr. 30	7,206.83	2,020	-90
May 31	7,209.27	2,800	+780
June 30	7,208.60	2,580	-220
July 31	7,208.51	2,550	-30
Aug. 31	7,207.70	2,290	-260
Sept.30	7,207.43	2,210	-80
Water year 1968-69	-	-	+1,900

g Contents interpolated.

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

LOCATION.--Lat 38°10'05", long 119°19'33", in NE¼NE¼ sec.33, T.4 N., R.24 E., Mono County, at outlet of lower lake dam on Robinson Creek and 8 miles southwest of Bridgeport.

DRAINAGE AREA.--38.9 sq mi.

PERIOD OF RECORD.--December 1961 to current year.

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

EXTREMES.--Current year: Maximum contents, 5,490 acre-ft June 6 (elevation, 7,203.51 ft); minimum observed, 324 acre-ft Oct. 21.
 Period of record: Maximum contents, 5,490 acre-ft June 6, 1969 (elevation, 7,203.51 ft); no contents Nov. 17, 1966.

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

ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 21	7,190.81	324	-266
Nov. 23	7,192.60	1,040	+716
Dec. 31	-	g 1,300	+260
Calendar year 1968	-	-	-2,910
Jan. 2	7,193.35	1,340	+40
Apr. 30	7,197.22	2,890	+1,550
May 31	7,203.13	5,360	+2,470
June 30	7,201.92	4,830	-530
July 31	7,201.98	4,850	+20
Aug. 13	7,201.82	4,780	-70
Sept.30	7,198.59	3,440	-1,340
Water year 1968-69	-	-	+2,850

g Contents interpolated.

10-2905. ROBINSON CREEK AT TWIN LAKES OUTLET, NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°10'20", long 119°19'25", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.4 N., R.24 E., Mono County, on left bank 0.2 mile downstream from Twin Lakes, and 8 miles southwest of Bridgeport.

DRAINAGE AREA.--39.1 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

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

AVERAGE DISCHARGE (unadjusted).--16 years, 59.0 cfs (42,750 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 487 cfs June 6 (gage height, 4.62 ft); no flow on many days.
 Period of record: Maximum discharge, 492 cfs June 20, 1963; maximum gage height, 4.62 ft June 6, 1969;
 no flow for many days in some years.
 Maximum discharge known, 660 cfs June 21, 1911 (gage height, 5.2 ft), at site 2.5 miles downstream.

REMARKS.--Records good except those for winter months, which are poor. Flow regulated by Twin Lakes.

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	.12	0	0	20	79	.74	386	255	211	80
2	26	14	.13	0	0	20	101	.76	413	262	210	104
3	25	15	.13	0	0	21	97	.80	431	274	207	120
4	24	16	.12	0	.10	21	105	.77	437	282	201	102
5	23	16	.12	0	.10	22	112	.90	449	286	187	93
6	22	16	.12	0	0	22	109	1.1	460	287	186	87
7	21	14	.12	.10	0	22	107	31	459	288	179	86
8	20	10	.12	.09	0	22	105	53	444	285	167	88
9	19	9.9	.12	0	0	22	102	56	423	278	158	86
10	18	9.9	.10	0	.20	22	99	76	383	283	153	83
11	17	10	.10	.10	.20	21	95	112	333	296	152	81
12	15	11	0	.10	.20	21	93	142	291	308	152	77
13	14	15	0	.17	.10	20	90	173	275	334	155	74
14	13	30	.10	.12	.10	19	88	224	273	355	151	71
15	13	41	.10	.06	.10	19	86	242	287	365	147	69
16	12	26	0	.06	0	18	84	241	308	360	144	68
17	12	.63	0	.06	0	18	82	240	323	342	143	68
18	13	.58	0	.06	.10	18	80	246	314	329	140	67
19	13	.50	0	.14	.10	17	79	254	300	325	137	66
20	13	.40	0	.15	.10	17	77	258	306	325	130	66
21	12	.27	0	.08	0	17	76	259	317	325	125	65
22	9.9	.28	0	.07	0	19	76	261	329	331	119	65
23	11	.23	.10	0	8.0	18	76	270	346	339	114	64
24	11	.19	.17	.07	20	18	76	281	363	345	110	64
25	11	.15	.15	.39	20	18	77	301	363	343	107	63
26	12	.15	.10	.71	20	18	51	329	341	334	105	62
27	13	.12	0	.17	20	18	.82	342	315	316	103	62
28	13	.12	.10	0	20	18	.86	341	289	294	99	61
29	13	.12	0	0	-----	18	.90	341	269	279	93	60
30	13	.12	0	0	-----	19	.81	346	257	270	89	58
31	14	-----	0	0	-----	21	-----	363	-----	246	84	-----
TOTAL	491.9	271.66	2.12	2.70	109.40	604	2,305.39	5,787.07	10,484	9,541	4,458	2,260
MEAN	15.9	9.06	.068	.087	3.91	19.5	76.8	187	349	308	144	75.3
MAX	26	41	.17	.71	20	22	112	363	460	365	211	120
MIN	9.9	.12	0	0	0	17	.81	.74	257	246	84	58
AC-FT	976	539	4.2	5.4	217	1,200	4,570	11,480	20,790	18,920	8,840	4,480
CAL YR 1968	TOTAL	16,907.68	MEAN	46.2	MAX	177	MIN	0	AC-FT	33,540		
WTR YR 1969	TOTAL	36,317.24	MEAN	99.5	MAX	460	MIN	0	AC-FT	72,030		

WALKER LAKE BASIN

10-2915, BUCKEYE CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°14'20", long 119°19'30", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.4, T.4 N., R.24 E., Mono County, on right bank at Buckeye Hot Springs, 0.6 mile downstream from Eagle Creek, and 5.5 miles southwest of Bridgeport.

DRAINAGE AREA.--44.1 sq mi.

PERIOD OF RECORD.--November 1910 to September 1914 (fragmentary), October 1953 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,900 ft (from topographic map). November 1910 to September 1914, nonrecording gage at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE.--17 years (1911-12, 1953-69), 59.9 cfs (43,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 633 cfs June 8 (gage height, 3.86 ft); minimum, 5.4 cfs Jan. 15. 1953 to current year: Maximum discharge, 947 cfs Feb. 1, 1963 (gage height, 4.41 ft), from rating curve extended above 360 cfs on basis of slope-area measurement at gage height 4.00 ft and logarithmic plotting; minimum, 3.3 cfs Dec. 12, 1959, result of freezeup. Flood of June 21, 1911, reached an observed stage of 4.8 ft (discharge not determined), site and datum then in use.

REMARKS.--Records good except those for winter months, which are poor. No regulation or diversion above station.

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	21	16	15	14	52	128	545	315	171	61
2	15	18	18	17	14	12	46	131	551	335	162	59
3	15	34	18	17	13	14	41	128	525	331	168	59
4	15	22	18	17	15	15	40	114	545	311	160	59
5	14	21	18	15	16	13	44	118	520	308	147	57
6	14	19	18	14	17	15	38	146	551	311	133	57
7	14	20	19	15	13	14	33	189	556	304	125	69
8	14	20	19	17	15	11	32	232	551	283	116	63
9	14	22	19	14	17	13	32	251	475	308	114	58
10	14	25	18	15	18	14	34	269	373	319	118	55
11	14	24	17	17	18	12	39	301	335	327	116	53
12	15	25	16	20	17	13	48	335	343	335	118	51
13	20	22	19	21	16	13	51	364	369	387	108	51
14	22	20	24	20	17	12	50	347	405	360	105	49
15	17	23	20	19	17	12	45	290	427	339	105	48
16	17	22	18	18	16	13	45	293	445	304	101	47
17	17	23	16	16	13	14	51	360	382	290	99	46
18	18	26	23	17	16	14	56	391	351	293	96	45
19	17	27	20	19	17	12	58	369	409	297	88	45
20	16	24	15	17	16	12	75	339	414	293	85	45
21	16	24	11	18	14	13	100	347	418	323	84	44
22	16	24	15	20	15	14	124	391	423	301	81	44
23	16	25	20	17	16	14	118	409	450	293	79	42
24	16	23	21	20	16	13	91	460	396	290	78	42
25	16	23	22	21	16	12	79	485	382	265	78	41
26	16	23	17	23	15	13	76	455	335	241	74	40
27	16	22	14	23	13	15	79	441	319	232	70	40
28	16	21	18	15	15	21	90	436	297	217	66	40
29	15	22	17	13	-----	26	107	445	283	217	65	39
30	18	23	16	17	-----	35	120	490	293	211	63	39
31	17	-----	15	12	-----	46	-----	530	-----	190	62	-----
TOTAL	496	684	560	540	436	484	1,894	9,984	12,668	9,130	3,235	1,488
MEAN	16.0	22.8	18.1	17.4	15.6	15.6	63.1	322	422	295	104	49.6
MAX	22	34	24	23	18	46	124	530	556	387	171	69
MIN	14	17	11	12	13	11	32	114	283	190	62	39
AC-FT	984	1,360	1,110	1,070	865	960	3,760	19,800	25,130	18,110	6,420	2,950
CAL YR 1968	TOTAL 14,515			MEAN 39.7	MAX 174	MIN 11	AC-FT 28,790					
WTR YR 1969	TOTAL 41,599			MEAN 114	MAX 556	MIN 11	AC-FT 82,510					

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	1945	2.69	138	9- 7	1845	2.61	135
6- 8	0045	3.86	633				

10-2920. SWAGER CREEK NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°17'00", long 119°17'50", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.23, T.5 N., R.24 E., Mono County, on right bank 0.8 mile downstream from Yaney Canyon, and 4 miles northwest of Bridgeport.

DRAINAGE AREA.--52.8 sq mi.

PERIOD OF RECORD.--June 1911 to September 1915 (fragmentary), October 1953 to current year.

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

AVERAGE DISCHARGE.--17 years (1911-12, 1953-69), 12.6 cfs (9,130 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 393 cfs Apr. 22 (gage height, 5.47 ft); minimum, 0.50 cfs Feb. 28. Period of record: Maximum discharge, 585 cfs Dec. 23, 1955 (gage height, 6.24 ft), from rating curve extended above 175 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.50 cfs Apr. 20, 1912, Feb. 28, 1969.

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

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	6.6	6.0	6.5	4.7	8.0	39	176	104	48	20	14
2	6.0	6.8	4.8	7.0	4.5	6.5	44	173	114	45	19	13
3	5.9	8.8	4.7	7.4	4.3	8.0	46	164	112	42	19	13
4	5.8	6.8	4.7	7.0	6.0	8.5	53	140	114	39	19	13
5	5.8	7.0	4.7	6.5	8.5	7.0	57	155	117	36	18	13
6	5.8	6.2	5.6	6.0	7.8	7.8	43	210	124	34	18	13
7	5.9	7.1	6.6	7.0	6.0	8.0	36	250	120	35	16	14
8	5.9	6.9	6.6	6.5	7.0	6.0	36	290	114	39	12	15
9	6.2	7.0	6.4	5.6	7.7	7.4	38	280	122	38	12	14
10	6.1	6.8	6.4	5.8	7.8	8.4	48	280	106	36	14	14
11	6.1	6.7	5.1	6.3	8.3	7.0	67	270	95	33	14	13
12	6.5	7.3	4.0	7.3	8.3	7.8	92	230	91	32	14	13
13	6.6	6.6	4.5	8.1	7.4	8.4	106	221	93	43	13	12
14	6.8	4.4	5.3	7.8	7.9	7.0	85	200	105	41	13	13
15	6.6	7.5	5.7	6.3	8.2	7.0	69	182	99	33	13	13
16	6.6	7.4	5.0	6.5	7.2	8.0	82	179	116	33	15	13
17	6.6	7.6	4.5	6.1	6.0	9.0	107	189	99	34	17	13
18	6.5	8.2	4.0	6.5	7.0	10	104	184	85	33	16	12
19	6.5	7.6	5.0	8.3	8.2	10	117	172	77	33	14	12
20	6.5	7.2	4.0	7.6	7.1	10	160	150	73	30	14	13
21	6.5	7.1	3.5	6.7	6.5	9.9	194	139	73	29	14	13
22	6.4	7.2	4.5	4.3	6.8	10	231	149	68	28	15	13
23	6.5	7.1	6.9	4.7	7.4	10	166	137	67	28	14	12
24	6.4	6.6	8.4	5.1	8.0	9.6	123	142	65	26	13	12
25	6.3	5.1	7.0	6.4	7.6	9.0	117	132	61	25	14	12
26	6.4	4.8	6.9	5.9	6.6	10	116	127	57	25	13	12
27	6.5	4.7	5.0	5.4	6.0	12	126	119	54	26	13	12
28	6.3	4.5	6.5	4.7	7.5	16	151	120	52	28	13	12
29	6.3	4.4	6.0	4.0	-----	18	175	118	51	26	14	12
30	6.8	5.0	6.0	5.0	-----	21	181	118	49	22	14	12
31	6.5	-----	6.0	3.7	-----	29	-----	110	-----	21	14	-----
TOTAL	195.8	197.0	170.3	192.0	196.3	314.3	3,009	5,506	2,677	1,021	461	385
MEAN	6.32	6.57	5.49	6.19	7.01	10.1	100	178	89.2	32.9	14.9	12.8
MAX	6.8	8.8	8.4	8.3	8.5	29	231	290	124	48	20	15
MIN	5.8	4.4	3.5	3.7	4.3	6.0	36	110	49	21	12	12
AC-FT	388	391	338	381	389	623	5,970	10,920	5,310	2,030	914	764
CAL YR 1968	TOTAL	2,685.1	MEAN	7.34	MAX	23	MIN	1.7	AC-FT	5,330		
WTR YR 1969	TOTAL	14,324.7	MEAN	39.2	MAX	290	MIN	3.5	AC-FT	28,410		

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-4	1945	3.21	70	5-8	unknown	-	about 320
4-12	1830	3.70	135	6-14	2030	3.77	214
4-22	1730	5.47	393	7-13	0930	2.45	52
4-30	1745	4.62	236				

10-2923. BEIDGEPORT RESERVOIR TRIBUTARY NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°17'15", long 119°12'50", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.5 N., R.25 E., Mono County, on left bank on upstream side of State Highway 22, 0.5 mile upstream from Rock Springs Canyon, and 2.4 miles north of Bridgeport.

DRAINAGE AREA.--0.79 sq mi.

PERIOD OF RECORD.--Water year 1963 (annual maximum), October 1963 to current year.

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

AVERAGE DISCHARGE.--6 years, 0.10 cfs (72 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20 cfs Mar. 31 (gage height, 5.16 ft); no flow most of year. Period of record: Maximum discharge, 98 cfs Mar. 16, 1967 (gage height, 10.91 ft); no flow most of time.

REMARKS.--Records fair. No diversion above station. Mean daily flows of 0.05 cfs or less occur at times and are considered to be below reportable stage and are given as no flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	7.4	.90	0	0	0	0
2	0	0	0	0	0	0	4.1	.90	0	0	0	0
3	0	0	0	0	0	0	3.5	.80	0	0	0	0
4	0	0	0	0	0	0	3.0	.80	0	0	0	0
5	0	0	0	0	0	0	12	.80	0	0	0	0
6	0	0	0	0	0	0	8.0	.70	0	0	0	0
7	0	0	0	0	0	0	6.0	.70	0	0	0	0
8	0	0	0	0	0	0	5.0	.40	0	0	0	0
9	0	0	0	0	0	0	4.5	.40	0	0	0	0
10	0	0	0	0	0	0	4.0	.40	0	0	0	0
11	0	0	0	0	0	0	3.7	.30	0	0	0	0
12	0	0	0	0	0	0	3.6	0	0	0	0	0
13	0	0	0	0	0	0	3.7	0	0	0	0	0
14	0	0	0	0	0	0	3.9	0	0	0	0	0
15	0	0	0	0	0	0	3.3	0	0	0	0	0
16	0	0	0	0	0	0	4.0	0	0	0	0	0
17	0	0	0	0	0	0	6.6	0	0	0	0	0
18	0	0	0	0	0	0	3.7	0	0	0	0	0
19	0	0	0	2.6	0	0	4.7	0	0	0	0	0
20	0	0	0	.30	0	0	5.4	0	0	0	0	0
21	0	0	0	3.7	0	0	4.8	0	0	0	0	0
22	0	0	0	.30	0	0	3.9	0	0	0	0	0
23	0	0	0	0	0	0	1.9	0	0	0	0	0
24	0	0	0	0	0	0	1.2	0	0	0	0	0
25	0	0	0	7.2	0	0	1.1	0	0	0	0	0
26	0	0	0	12	0	0	1.0	0	0	0	0	0
27	0	0	0	.80	0	0	1.0	0	0	0	0	0
28	0	0	0	.80	0	0	1.0	0	0	0	0	0
29	0	0	0	0	-----	0	.90	0	0	0	0	0
30	0	0	0	0	-----	.60	.90	0	0	0	0	0
31	0	-----	0	0	-----	9.6	-----	0	-----	0	0	-----
TOTAL	0	0	0	27.70	0	10.20	117.80	7.10	0	0	0	0
MEAN	0	0	0	.89	0	.33	3.93	.23	0	0	0	0
MAX	0	0	0	12	0	9.6	12	.90	0	0	0	0
MIN	0	0	0	0	0	0	.90	0	0	0	0	0
AC-FT	0	0	0	55	0	20	234	14	0	0	0	0
CAL YR 1968	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0		
WTR YR 1969	TOTAL	162.80	MEAN	.45	MAX	12	MIN	0	AC-FT	323		

10-2925. Bridgeport Reservoir near Bridgeport, Calif.

LOCATION.--Lat 38°19'30", long 119°12'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.6N., R.25 E., Mono County, at Bridgeport Dam on East Walker River, 4.5 miles north of Bridgeport.

DRAINAGE AREA.--358 sq mi.

PERIOD OF RECORD.--March 1926 to current year. Month-end contents only for some periods, published in WSP 1314.

GAGE.--Float gage read once daily. Datum of gage in at mean sea level.

EXTREMES.--Current year: Maximum contents, 42,610 acre-ft July 24 (elevation, 6,460.03 ft); minimum, 2,830 acre-ft March 23 (elevation, 6,434.80 ft).

Period of record: Maximum contents, 44,580 acre-ft June 12, 1938, June 25, 26, 1958 (elevation, 6,460.7 ft); no contents during fall of 1929, 1930, 1960.

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

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

REVISIONS (WATER YEARS).--WSP 1180: 1949. WSP 1927: Drainage area.

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

6,434	2,450	6,442	8,080	6,452	22,580
6,436	3,450	6,445	11,380	6,456	31,570
6,439	5,440	6,448	15,470	6,461	45,490

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,550	8,640	12,900	16,660	23,410	17,920	4,180	5,440	20,250	37,870	41,290	30,970
2	7,550	8,740	13,040	16,740	23,200	17,230	4,930	5,440	21,310	38,290	41,150	30,360
3	7,500	8,900	13,110	16,740	22,890	16,340	5,640	5,480	22,480	38,840	41,000	29,880
4	7,500	9,100	13,170	16,820	22,580	15,710	6,240	5,370	23,310	39,400	40,850	29,280
5	7,500	9,270	13,240	16,900	22,380	15,170	6,460	5,370	24,350	39,830	40,560	28,820
6	7,500	9,380	13,380	17,060	22,580	14,880	6,500	4,890	25,430	40,270	40,270	28,360
7	7,500	9,540	13,510	17,140	22,790	14,360	6,540	5,080	26,530	40,710	40,120	27,900
8	7,500	9,650	13,650	17,400	22,890	13,720	6,540	5,370	27,550	40,850	39,980	27,440
9	7,500	9,820	13,720	17,490	23,200	12,970	6,540	5,560	28,700	40,850	39,830	27,090
10	7,550	9,920	13,850	17,660	23,520	12,130	6,500	5,880	29,640	41,000	39,830	26,750
11	7,550	10,090	14,060	17,830	23,830	11,380	6,770	6,280	30,610	41,000	39,690	26,420
12	7,550	10,200	14,140	18,010	24,140	10,730	6,860	6,720	31,210	41,000	39,540	26,200
13	7,550	10,440	14,210	18,180	24,450	9,480	7,220	7,170	31,450	41,150	39,400	25,870
14	7,650	10,550	14,360	18,520	24,350	9,270	8,080	7,790	31,700	41,580	39,120	25,650
15	7,650	10,730	14,510	18,780	24,140	8,640	8,590	8,390	31,950	42,020	38,710	25,320
16	7,700	10,970	14,660	19,060	24,040	8,080	8,840	8,790	32,590	42,310	38,430	25,100
17	7,700	11,080	14,730	19,240	23,830	7,790	8,840	9,210	33,480	42,460	38,150	24,990
18	7,740	11,260	14,880	19,330	23,520	7,360	8,900	9,820	34,380	42,310	37,870	24,880
19	7,840	11,440	14,950	19,610	23,100	6,990	8,950	10,380	34,900	42,310	37,590	-
20	7,890	11,630	15,030	20,250	22,580	6,770	9,000	10,670	35,440	42,460	37,320	-
21	7,940	11,760	15,100	20,920	22,190	6,240	9,320	10,850	35,960	42,460	37,040	-
22	7,980	11,880	15,170	21,400	21,800	5,520	9,650	11,380	36,360	42,460	36,630	-
23	8,030	12,000	15,320	21,700	21,400	2,830	10,040	12,070	36,630	42,460	36,360	-
24	8,080	12,130	15,400	21,990	-	2,940	10,090	12,900	37,040	42,610	35,830	-
25	8,130	12,260	15,710	22,190	20,340	3,060	9,480	13,920	37,590	42,460	35,300	-
26	8,230	12,380	15,870	23,100	19,800	3,060	9,380	15,250	37,870	42,460	34,770	-
27	8,280	12,440	16,110	23,410	19,150	3,100	8,390	16,500	38,010	42,170	34,110	-
28	8,340	12,570	16,260	23,720	18,520	3,160	7,460	17,400	38,010	42,020	33,480	-
29	8,390	12,630	16,420	23,720	-----	3,240	6,240	18,180	37,870	41,730	32,840	-
30	8,440	12,770	16,500	23,720	-----	3,400	5,440	18,690	37,730	41,440	32,200	23,830
31	8,540	-----	16,580	23,620	-----	3,660	-----	19,420	-----	41,440	31,570	-----
(+)	6,442.45	6,446.08	6,448.69	6,452.48	6,449.84	6,436.35	6,439.00	6,450.33	6,458.35	6,459.63	6,456.00	6,452.60
(+)	+1,040	+4,230	+3,810	+7,040	-5,100	-14,860	+1,780	+13,800	+18,310	+3,710	-9,870	-7,740

CALENDAR YEAR 1968..... + -21,710

WATER YEAR 1969..... + +16,330

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

WALKER LAKE BASIN

10-2930, EAST WALKER RIVER NEAR BRIDGEPORT, CALIF.

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

DRAINAGE AREA.--359 sq mi.

PERIOD OF RECORD.--July 1911 to September 1914 (gage heights only), October 1921 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,400 ft (from topographic map). Prior to Oct. 1, 1921, nonrecording gage at site 0.5 mile upstream at different datum. Oct. 1, 1921, to Feb. 21, 1924, water-stage recorder at site 1 mile downstream at different datum. Feb. 22, 1924, to Sept. 30, 1931, water-stage recorder and Oct. 1, 1931, to May 25, 1939, nonrecording gage at present site at datum 2.34 ft lower.

AVERAGE DISCHARGE (unadjusted).--46 years, (122-24, 1925-69), 137 cfs (99,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs June 4 (gage height, 3.94 ft); minimum daily, 2.7 cfs Feb. 6, 7.

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

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

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	21	16	8.0	178	370	133	638	893	439	488	468
2	57	21	16	8.0	178	370	162	643	923	406	480	451
3	57	21	16	8.0	175	367	218	641	1,040	407	439	430
4	57	21	16	8.0	175	364	355	641	979	426	442	413
5	57	22	16	8.0	139	265	481	641	913	436	435	412
6	57	21	15	8.0	2.7	283	504	610	921	438	380	407
7	57	13	15	8.0	2.7	364	504	508	929	486	342	382
8	57	13	15	8.4	5.2	422	502	600	939	651	342	361
9	47	13	15	8.4	10	464	499	660	946	652	344	340
10	51	13	15	8.5	10	457	497	670	815	652	344	339
11	51	14	15	8.5	10	454	530	682	739	651	347	329
12	51	14	15	8.0	10	446	615	686	775	652	346	304
13	51	14	15	8.0	53	437	667	698	853	653	358	293
14	51	14	15	8.0	161	430	724	706	855	656	391	283
15	51	14	15	8.0	207	422	797	717	859	660	390	273
16	51	15	15	8.0	207	414	824	722	803	667	389	238
17	44	15	12	7.5	205	404	820	729	754	672	388	224
18	35	15	9.7	7.5	254	397	828	764	757	651	387	205
19	35	15	8.3	7.5	283	390	832	910	759	659	387	202
20	35	15	8.1	7.5	325	382	840	912	762	697	386	202
21	37	15	8.0	7.5	346	373	850	800	765	726	391	202
22	35	15	8.0	7.5	343	362	909	688	766	730	413	195
23	35	15	8.0	7.0	343	220	951	675	766	732	417	177
24	35	15	8.0	7.0	337	86	953	577	767	766	433	177
25	36	15	8.0	7.5	352	112	936	586	768	817	442	174
26	36	16	8.0	54	382	121	923	594	769	808	476	153
27	36	16	8.0	91	376	121	908	707	770	806	475	153
28	36	16	8.0	110	373	122	898	750	770	776	473	153
29	25	16	8.0	127	-----	122	887	813	770	685	472	153
30	20	16	8.0	154	-----	123	766	883	633	588	470	153
31	21	-----	8.0	177	-----	127	-----	888	-----	488	470	-----
TOTAL	1,351	479	371.1	909.3	5,442.6	9,791	20,313	21,739	24,758	19,533	12,737	8,246
MEAN	43.6	16.0	12.0	29.3	194	316	677	701	825	630	411	275
MAX	57	22	16	177	382	464	953	912	1,040	817	488	468
MIN	20	13	8.0	7.0	2.7	86	133	508	633	406	342	153
AC-FT	2,680	950	736	1,800	10,800	19,420	40,290	43,120	49,110	38,740	25,260	16,360
CAL YR 1968	TOTAL	41,253.1	MEAN	113	MAX	248	MIN	8.0	AC-FT	81,820		
WTR YR 1969	TOTAL	125,670.0	MEAN	344	MAX	1,040	MIN	2.7	AC-FT	249,300		

10-2935. EAST WALKER RIVER ABOVE STROSNIDER DITCH, NEAR MASON, NEV.

LOCATION.--Lat 38°48'50", long 119°02'50", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.14, T.11 N., R.26 E., Lyon County, on right bank 0.8 mile upstream from head of Strosnider ditch, 12 miles southeast of Mason, and 13.5 miles southeast of Yerington.

DRAINAGE AREA.--1,100 sq mi, approximately.

PERIOD OF RECORD.--January 1947 to current year.

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

AVERAGE DISCHARGE.--22 years (1947-69), 146 cfs (105,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,400 cfs June 16 (gage height, 5.66 ft); minimum daily, 24 cfs Dec. 30, 31, Jan. 19.

Period of record: Maximum discharge, 2,380 cfs Feb. 1, 1963 (gage height, 7.60 ft); minimum, 3.1 cfs Mar. 21, 1948; minimum daily, 3.4 cfs Mar. 21-24, 1948, Apr. 5, 1961.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	41	31	25	214	380	345	882	1,080	574	538	428
2	58	41	32	25	211	374	291	790	1,110	556	523	431
3	58	41	29	25	209	376	300	796	1,120	550	503	413
4	59	40	30	26	208	380	315	810	1,200	562	486	389
5	59	39	32	26	210	372	490	791	1,200	559	481	376
6	58	37	29	25	190	270	609	811	1,150	547	470	374
7	61	37	29	25	70	322	601	814	1,160	697	418	374
8	62	37	32	25	42	366	594	772	1,150	700	376	356
9	63	34	30	28	36	424	610	823	1,240	691	361	334
10	65	32	29	26	33	453	617	862	1,250	679	363	320
11	61	32	29	26	34	448	630	880	1,060	707	363	320
12	59	32	27	25	32	457	656	919	973	721	353	312
13	61	32	28	27	32	457	773	940	972	704	346	296
14	68	32	29	26	36	450	787	956	1,020	694	344	284
15	71	31	28	26	129	447	825	939	1,040	691	358	279
16	72	31	28	25	185	445	847	927	1,210	682	353	266
17	73	31	27	26	190	441	877	914	1,140	670	358	246
18	72	32	28	26	204	460	886	934	1,120	650	358	231
19	62	32	27	24	250	459	900	966	1,050	660	369	218
20	58	32	26	52	279	440	926	1,060	1,010	700	356	216
21	56	31	25	53	327	432	957	1,080	990	740	344	210
22	56	31	26	68	339	421	967	1,010	976	730	341	212
23	55	31	27	45	340	416	1,020	946	984	732	358	210
24	53	30	28	38	348	244	1,040	923	966	777	368	194
25	53	30	27	46	352	157	1,000	865	935	788	376	188
26	52	30	26	129	363	169	973	865	903	812	392	182
27	51	29	25	174	375	192	951	861	886	809	415	168
28	51	30	26	147	378	210	939	932	872	823	420	164
29	51	29	25	165	-----	233	950	955	872	763	426	162
30	51	28	24	186	-----	254	960	993	721	704	431	160
31	45	-----	24	213	-----	303	-----	1,050	-----	595	428	-----
TOTAL	1,841	995	863	1,803	5,616	11,252	22,636	28,066	31,360	21,267	12,376	8,313
MEAN	59.4	33.2	27.8	58.2	201	363	755	905	1,045	686	399	277
MAX	73	41	32	213	378	460	1,040	1,080	1,250	823	538	431
MIN	45	28	24	24	32	157	291	772	721	547	341	160
AC-FT	3,650	1,970	1,710	3,580	11,140	22,320	44,900	55,670	62,200	42,180	24,550	16,490
CAL YR 1968	TOTAL 38,051		MEAN 104		MAX 265		MIN 24		AC-FT 75,470			
WTR YR 1969	TOTAL 146,388		MEAN 401		MAX 1,250		MIN 24		AC-FT 290,400			

WALKER LAKE BASIN

10-2955, LITTLE WALKER RIVER NEAR BRIDGEPORT, CALIF.

LOCATION.--Lat 38°21'30", long 119°26'30", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.22, T.6 N., R.23 E., Mono County, on right bank 0.8 mile north of Sonora Junction, 1.5 miles upstream from mouth, and 14 miles northwest of Bridgeport.

DRAINAGE AREA.--63.0 sq mi.

PERIOD OF RECORD.--April to August 1910, October 1944 to current year. Prior to October 1958, published as East Fork West Walker River near Bridgeport.

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

AVERAGE DISCHARGE.--25 years (1944-69), 51.2 cfs (37,090 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 584 cfs June 5 (gage height, 2.53 ft); minimum daily, 11 cfs Dec. 21.

Period of record: Maximum discharge, 1,510 cfs Jan. 31, 1963 (gage height, 3.22 ft), from rating curve extended above 350 cfs on basis of slope-area measurement at gage height 2.80 ft and logarithmic plotting; maximum gage height recorded, 3.63 ft Jan. 3, 1945, (backwater from ice); minimum discharge recorded, 4.9 cfs Nov. 17, 1948, but may have been less during periods of ice effect.

REMARKS.--Records excellent except those for winter months, which are poor. Small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	18	15	18	19	54	180	468	246	122	43
2	14	16	15	16	17	17	52	176	454	259	117	43
3	15	25	15	16	16	18	52	168	472	255	117	43
4	13	16	15	15	17	20	57	165	478	250	111	43
5	13	16	15	15	19	15	60	184	484	246	102	41
6	13	17	16	14	22	19	52	202	466	246	94	42
7	13	16	17	15	16	18	47	228	454	238	87	51
8	13	16	17	16	18	15	44	258	460	231	83	49
9	13	17	16	14	22	16	45	288	420	242	83	43
10	13	17	18	15	20	16	50	302	350	259	85	41
11	13	16	17	16	21	15	61	325	302	271	83	40
12	13	19	14	18	22	16	78	356	284	276	83	38
13	18	17	15	21	20	17	88	368	298	335	78	36
14	18	24	19	22	21	16	79	356	316	330	75	36
15	15	21	18	24	21	15	67	315	340	289	74	34
16	15	20	15	23	18	17	74	320	375	255	71	33
17	15	18	14	20	15	20	94	343	345	234	69	31
18	13	22	13	23	17	21	101	377	312	234	68	31
19	13	20	16	29	18	19	107	346	330	223	65	34
20	13	19	13	31	17	19	134	316	335	231	63	36
21	12	19	11	27	16	17	168	331	335	238	62	36
22	13	18	13	23	17	20	201	368	350	223	58	35
23	13	17	15	20	20	20	161	380	365	223	57	35
24	13	16	20	30	22	21	113	408	345	215	55	35
25	13	22	25	35	20	23	99	426	321	197	54	34
26	13	20	20	41	18	22	95	428	284	181	53	34
27	13	20	13	38	17	23	102	419	259	191	50	33
28	13	19	14	25	20	26	121	407	234	165	46	32
29	13	17	15	17	-----	32	157	413	231	162	46	32
30	14	21	14	19	-----	39	172	432	238	151	45	32
31	13	-----	14	15	-----	52	-----	442	-----	135	45	-----
TOTAL	424	554	490	668	525	643	2,785	10,627	10,705	7,231	2,301	1,126
MEAN	13.7	18.5	15.8	21.5	18.8	20.7	92.8	323	357	233	74.2	37.5
MAX	18	25	25	41	22	52	201	442	484	335	122	51
MIN	12	13	11	14	15	15	44	165	231	135	45	31
AC-FT	841	1,100	972	1,320	1,040	1,280	5,520	19,890	21,230	14,340	4,560	2,230
CAL YR 1968	TOTAL 11,958.5		MEAN 32.7	MAX 147	MIN 6.5	AC-FT 23,720						
WTR YR 1969	TOTAL 37,479		MEAN 103	MAX 484	MIN 11	AC-FT 74,340						

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	1845	1.91	266	6-16	0115	2.29	425
6- 5	2245	2.53	584	7-13	2230	2.24	400

10-2960. WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CALIF.

LOCATION.--Lat 38°22'45", long 119°27'00", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.9, T.6 N., R.23 E., Mono County, on left bank 100 ft downstream from Little Walker River, 200 ft upstream from bridge on U.S. Highway 395, and 13 miles southeast of Coleville.

DRAINAGE AREA.--180 sq mi.

PERIOD OF RECORD.--April 1938 to current year. Prior to October 1958, published as "below East Fork."

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

AVERAGE DISCHARGE.--31 years, 260 cfs (188,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,470 cfs June 4 (gage height, 5.74 ft); minimum, 30 cfs Oct. 8, but may have been less during periods of ice effect.

Period of record: Maximum discharge, 6,220 cfs Nov. 20, 1950 (gage height, 8.10 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; minimum, 4.0 cfs Nov. 18, 1948, result of freezeup.

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

REMARKS.--Records good except those for winter months, which are poor. Station is above diversions except for a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 7 miles upstream.

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	45	59	65	90	85	270	791	2,540	1,100	500	145
2	36	53	55	65	88	82	260	805	2,830	1,210	475	142
3	36	120	53	63	86	82	247	756	2,560	1,200	500	145
4	35	89	53	57	90	78	250	658	3,090	1,130	475	148
5	33	80	53	53	100	74	267	664	2,960	1,130	421	140
6	32	67	53	50	86	74	231	854	2,880	1,120	377	140
7	32	67	56	52	70	72	206	1,020	2,750	1,120	341	161
8	31	65	53	54	76	65	197	1,290	2,660	1,090	321	177
9	32	76	51	50	88	65	194	1,510	2,200	1,140	313	150
10	32	85	41	47	80	65	209	1,530	1,390	1,210	333	138
11	32	80	40	50	80	59	244	1,610	1,190	1,230	337	125
12	36	82	39	61	82	63	305	1,580	1,190	1,270	357	122
13	43	72	42	70	68	61	337	1,610	1,310	1,480	313	115
14	56	61	60	76	70	56	313	1,610	1,440	1,460	298	110
15	46	74	57	70	72	59	284	1,450	1,610	1,300	294	105
16	45	70	48	70	66	59	284	1,470	2,040	1,120	294	102
17	45	68	43	64	60	67	333	1,650	1,640	1,020	280	98
18	46	80	40	70	76	68	369	2,130	1,420	1,040	263	96
19	45	91	42	105	76	67	390	2,090	1,790	1,070	237	108
20	43	78	37	125	70	67	515	1,870	1,970	1,050	225	112
21	42	76	31	115	60	67	634	1,970	2,010	1,090	218	108
22	41	78	34	85	61	65	826	1,840	1,970	1,100	212	105
23	41	78	50	70	65	67	826	1,930	2,090	1,080	209	100
24	41	72	63	90	68	68	616	2,400	1,810	1,020	212	98
25	42	65	64	115	78	68	510	2,450	1,620	896	209	98
26	42	68	59	130	80	74	470	2,390	1,290	791	197	96
27	42	72	56	110	80	85	452	2,340	1,190	742	180	93
28	41	59	68	100	82	102	500	2,190	1,070	670	164	91
29	42	58	67	90	-----	130	616	2,130	994	707	153	91
30	46	59	67	100	-----	172	707	2,400	1,030	670	148	89
31	45	-----	65	80	-----	250	-----	2,330	-----	564	145	-----
TOTAL	1,238	2,188	1,599	2,402	2,148	2,516	11,862	51,318	56,934	32,820	9,001	3,548
MEAN	39.9	72.9	51.6	77.5	76.7	81.2	395	1,655	1,898	1,059	290	118
MAX	56	120	68	130	100	250	826	2,450	3,090	1,480	500	177
MIN	31	45	31	47	60	56	194	658	994	564	145	89
AC-FT	2,460	4,340	3,170	4,760	4,260	4,990	23,530	101,800	112,900	65,100	17,850	7,040

CAL YR 1968 TOTAL 61,401 MEAN 168 MAX 1,010 MIN 28 AC-FT 121,800
WTR YR 1969 TOTAL 177,574 MEAN 487 MAX 3,090 MIN 31 AC-FT 352,200

PEAK DISCHARGE (BASE, 1,120 CFS)
DATE TIME G.H. DISCHARGE DATE TIME G.H. DISCHARGE
6-4 0300 5.74 3,470 7-14 0100 4.49 1,710
6-23 0100 4.78 2,290

WALKER LAKE BASIN

10-2965. WEST WALKER RIVER NEAR COLEVILLE, CALIF.

LOCATION.--Lat 38°30'55", long 119°27'15", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.8 N., R.23 E., Mono County, on left bank 0.2 mile downstream from Rock Creek, and 5 miles southeast of Coleville.

DRAINAGE AREA.--271 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (from topographic map). Prior to July 31, 1908, nonrecording gage at site 0.5 mile upstream at different datum. Mar. 1, 1909, to Aug. 31, 1910, nonrecording gage, and June 18, 1915, to Aug. 15, 1919, water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, water-stage recorder at site 1,000 ft upstream at different datum. May 26, 1957, to Sept. 10, 1963, water-stage recorder at site 10 ft downstream at datum 0.38 ft lower.

AVERAGE DISCHARGE.--40 years (1902-7, 1909-10, 1915-37, 1957-69), 276 cfs (200,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,220 cfs June 4 (gage height, 4.60 ft); minimum, 26 cfs Dec. 12. 1915-38, 1957 to current year: Maximum discharge, 6,500 cfs Dec. 11, 1937, from slope-area measurement of peak flow; minimum, 5 cfs Dec. 3, 1924, Aug. 27, 1931.

REMARKS.--Records good except those for winter months, which are poor. Station is above diversions except for a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 17 miles upstream.

REVISIONS (WATER YEARS).--WSP 880: 1917 (runoff in acre-feet). WSP 1514: 1918, 1923. WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	55	64	70	107	83	340	909	2,660	1,270	534	166
2	47	57	59	69	101	84	328	921	2,760	1,380	498	163
3	45	111	56	68	99	86	312	865	2,790	1,370	516	168
4	44	99	58	69	98	83	308	760	2,910	1,260	492	171
5	43	97	60	69	95	79	343	746	2,700	1,240	462	166
6	43	78	65	70	88	81	298	966	2,680	1,240	417	161
7	43	80	68	73	92	79	265	1,190	2,500	1,250	380	171
8	43	74	65	74	94	76	248	1,370	2,470	1,220	355	184
9	42	81	62	69	92	81	248	1,540	2,130	1,250	345	170
10	43	91	63	68	93	79	257	1,580	1,620	1,310	365	152
11	42	93	53	71	94	75	302	1,640	1,420	1,350	365	140
12	44	97	52	80	93	77	369	1,730	1,390	1,360	385	134
13	50	89	62	90	86	76	417	1,820	1,570	1,550	341	128
14	63	75	69	98	89	72	413	1,830	1,680	1,560	327	122
15	59	88	69	84	89	75	373	1,670	1,810	1,400	323	116
16	56	85	55	78	85	79	371	1,660	1,870	1,190	323	110
17	56	83	50	73	83	85	409	1,790	1,730	1,060	309	108
18	57	88	46	83	89	90	458	1,990	1,510	1,080	292	108
19	56	104	49	154	87	85	464	1,950	1,710	1,100	268	120
20	55	95	44	157	83	85	576	1,850	1,810	1,080	257	122
21	52	90	40	164	83	87	756	1,880	1,820	1,120	246	120
22	51	93	50	106	81	85	957	2,020	1,800	1,090	236	118
23	51	89	60	102	76	86	971	2,190	1,950	1,130	232	110
24	51	89	75	115	78	89	705	2,310	1,790	1,040	232	108
25	51	72	69	156	64	90	567	2,480	1,740	924	232	108
26	52	77	58	206	64	93	507	2,470	1,500	802	216	106
27	51	76	58	108	60	97	496	2,470	1,350	767	201	102
28	51	70	73	100	86	106	556	2,420	1,200	666	187	100
29	51	63	77	94	-----	145	716	2,390	1,120	718	176	98
30	56	66	78	110	-----	193	843	2,480	1,170	697	171	97
31	54	-----	73	100	-----	286	-----	2,560	-----	600	166	-----
TOTAL	1,551	2,505	1,880	3,028	2,429	2,967	14,173	54,447	57,160	35,074	9,849	3,947
MEAN	50.0	83.5	60.6	97.7	86.8	95.7	472	1,756	1,905	1,131	318	132
MAX	63	111	78	206	107	286	971	2,560	2,910	1,560	534	184
MIN	42	55	40	68	60	72	248	746	1,120	600	166	97
AC-FT	3,080	4,970	3,730	6,010	4,820	5,880	28,110	108,000	113,400	69,570	19,540	7,830
CAL YR 1968	TOTAL	67,852	MEAN	185	MAX	1,110	MIN	34	AC-FT	134,600		
WTR YR 1969	TOTAL	189,010	MEAN	518	MAX	2,910	MIN	40	AC-FT	374,900		

PEAK DISCHARGE (BASE, 1,120 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	2115	2.90	1,160	6-23	0330	3.57	2,110
6-4	0500	4.60	3,220	7-14	0045	3.27	1,810

10-2970. Topaz Lake near Topaz, Calif.
(Formerly published as Topaz Reservoir near Topaz, Calif.)

LOCATION.--Lat 38°41'35", long 119°31'10", in NW¹/₄NE¹/₄ sec.33, T.10 N., R.22 E., Douglas County, at outlet works of Topaz Reservoir on West Walker River, 5.5 miles north of Topaz.

PERIOD OF RECORD.--December 1921 to September 1931 (monthly contents only published in WSP 1734), October 1931 to current year.

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

EXTREMES.--Current year: Maximum contents, 59,620 acre-ft July 23 (elevation 5,005.08 ft); minimum, 7,260 acre-ft Oct. 9-14 (elevation, 4,976.96 ft).
Period of record: Maximum contents, 60,240 acre-ft June 30, 1941 (elevation 5,005.35 ft); no contents Oct. 31, 1924, Sept. 22, 24-30, Oct. 1-15, 1960.

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

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

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

4,976	5,740	4,995	38,100
4,980	12,130	5,000	48,350
4,985	20,390	5,006	61,760
4,990	28,970		

CONTENTS, IN ACRE-FEET, AT ABOUT 0700 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	SEP
1	7,560	8,000	13,500	18,420	30,610	27,540	14,040	14,900	34,930	52,230	58,820
2	7,510	8,050	13,660	18,580	30,750	27,040	14,150	14,950	35,990	52,600	58,680
3	7,480	8,160	13,810	18,730	30,890	26,570	14,170	15,070	37,110	53,060	58,480
4	7,430	8,350	13,950	18,880	31,050	26,090	14,200	15,050	38,330	53,620	58,300
5	7,400	8,510	14,120	19,030	31,260	25,640	14,630	15,090	39,750	54,170	58,200
6	7,370	8,690	14,270	19,200	31,440	25,140	14,810	15,040	41,090	54,750	58,140
7	7,340	8,850	14,430	19,350	31,620	24,570	14,810	15,180	42,390	55,310	57,980
8	7,290	9,010	14,590	19,520	31,620	24,030	14,770	15,650	43,520	55,850	57,750
9	7,260	9,180	14,740	19,690	31,580	23,480	14,740	16,290	44,490	56,350	57,520
10	7,260	9,340	14,900	19,820	31,530	23,050	14,680	17,180	45,200	56,930	57,270
11	7,260	9,570	15,070	19,940	31,470	22,370	14,610	18,100	45,380	57,570	57,000
12	7,260	9,810	15,200	20,120	31,440	21,580	14,610	19,200	45,340	58,110	56,710
13	7,260	10,020	15,280	20,290	31,400	21,120	14,690	20,220	45,260	58,570	56,410
14	7,260	10,190	15,450	20,490	31,240	20,480	14,860	21,320	45,280	59,070	55,940
15	7,290	10,370	15,650	20,700	31,140	19,820	14,920	22,370	45,300	59,190	55,380
16	7,340	10,530	15,860	20,880	31,120	19,200	14,900	23,100	45,510	59,190	54,780
17	7,370	10,740	15,990	21,020	31,050	18,630	14,900	23,700	46,060	59,190	54,110
18	7,420	10,950	16,110	21,170	30,820	18,050	14,940	24,420	46,580	59,210	53,420
19	7,460	11,180	16,220	21,690	30,610	17,910	15,040	25,230	47,150	59,320	52,540
20	7,510	11,430	16,440	22,630	30,450	17,520	15,170	25,840	48,050	59,440	51,660
21	7,540	11,690	16,540	23,440	30,550	17,100	15,450	26,220	48,950	59,510	50,810
22	7,590	11,890	16,590	24,930	30,610	16,670	15,910	26,660	49,460	59,550	49,960
23	7,640	12,100	16,720	25,380	30,200	16,240	16,590	27,300	49,940	59,620	49,080
24	7,690	12,310	16,920	25,740	29,830	15,860	16,920	28,010	50,410	59,580	48,130
25	7,730	12,520	17,150	26,710	29,320	15,500	16,800	28,970	50,760	59,370	47,260
26	7,780	12,670	17,470	27,650	29,130	15,130	16,400	29,990	51,000	59,120	46,500
27	7,830	12,830	17,700	28,870	28,480	14,790	15,930	30,910	51,150	59,030	45,700
28	7,880	13,010	17,760	29,320	28,030	14,500	15,450	31,760	51,330	58,890	44,900
29	7,930	13,170	17,930	29,670	-----	14,250	15,090	32,480	51,630	58,940	44,010
30	7,940	13,330	18,100	30,090	-----	14,050	14,900	33,200	51,940	58,960	43,210
31	7,970	-----	18,270	30,250	-----	13,950	-----	34,050	-----	58,960	42,470
(†)	4,977.41	4,980.74	4,983.73	4,990.73	4,989.46	4,981.12	4,981.70	4,992.85	5,001.66	5,004.79	4,997.19
(‡)	+330	+5,360	+4,940	+11,980	-2,220	-14,080	+950	+19,150	+17,890	+7,020	-16,490

CALENDAR YEAR 1968.....+ -32,640

WATER YEAR 1969.....+ +23,200

† ELEVATION, IN FEET, AT END OF MONTH.

‡ CHANGE IN CONTENTS, IN ACRE-FEET.

WALKER LAKE BASIN

10-2975. WEST WALKER RIVER AT HOYE BRIDGE, NEAR WELLINGTON, NEV.

LOCATION.--Lat 38°43'40", long 119°25'40", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.10 N., R.23 E., Douglas County, on left bank 20 ft upstream from Hoyer Bridge, 2 miles upstream from head of Saroni Canal, and 4 miles southwest of Wellington.

DRAINAGE AREA.--533 sq mi.

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

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

AVERAGE DISCHARGE (unadjusted).--22 years (1920-23, 1925-32, 1957-69), 229 cfs (165,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,880 cfs June 2, 3 (gage height, 8.52 ft); minimum daily, 19 cfs Dec. 21.

Period of record: Maximum discharge, 2,180 cfs June 6, 1922; minimum observed, 4.8 cfs Jan. 5, 1961.

REMARKS.--Records good. Flow regulated by off-channel storage in Topaz Reservoir since Jan. 30, 1922. Diversions for irrigation of 10,500 acres above station. Records include releases from Topaz Reservoir and all return flow from Antelope Valley.

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	39	25	30	80	402	384	693	1,820	717	488	384
2	60	38	23	30	78	396	389	705	1,860	741	428	380
3	50	39	25	30	64	389	377	699	1,870	757	424	365
4	50	39	26	31	66	387	321	690	1,820	672	419	365
5	52	36	24	31	66	383	203	693	1,840	657	391	376
6	52	28	25	30	83	401	360	696	1,830	657	376	372
7	52	27	26	30	70	425	340	744	1,820	663	357	336
8	46	27	24	31	100	420	320	838	1,820	654	342	334
9	45	27	23	30	179	415	308	936	1,810	663	340	332
10	42	27	24	28	214	423	299	1,050	1,690	693	355	330
11	42	27	21	26	259	433	299	1,130	1,560	771	363	313
12	41	28	20	26	264	444	303	1,240	1,510	834	372	279
13	39	28	30	25	256	450	320	1,320	1,520	932	397	261
14	35	28	26	24	253	445	329	1,410	1,540	1,140	459	259
15	34	27	25	23	256	438	318	1,430	1,580	1,210	463	259
16	36	26	21	22	257	436	311	1,410	1,640	1,050	488	253
17	38	26	25	23	277	458	314	1,440	1,570	890	500	215
18	37	26	26	25	304	464	324	1,490	1,490	796	568	172
19	37	25	24	52	298	451	331	1,530	1,370	806	598	153
20	37	25	21	80	175	433	347	1,520	1,400	831	577	124
21	38	25	19	170	66	424	381	1,490	1,390	845	547	122
22	36	25	24	230	350	418	462	1,530	1,460	866	541	128
23	36	25	27	130	380	408	605	1,600	1,470	920	538	149
24	36	25	30	100	384	365	628	1,660	1,470	1,060	532	152
25	37	24	33	180	399	356	687	1,730	1,410	988	503	178
26	37	24	31	450	419	348	672	1,770	1,180	789	470	208
27	37	24	29	300	414	342	645	1,780	988	693	466	208
28	38	25	27	180	408	338	628	1,800	820	648	461	208
29	38	26	28	85	-----	335	633	1,790	717	570	452	202
30	38	27	28	90	-----	336	663	1,780	690	563	422	177
31	38	-----	29	76	-----	351	-----	1,810	-----	525	389	-----
TOTAL	1,295	843	789	2,618	6,419	12,514	12,501	40,404	44,955	24,601	14,026	7,594
MEAN	41.8	28.1	25.5	84.5	229	404	417	1,303	1,499	794	452	253
MAX	61	39	33	450	419	464	687	1,810	1,870	1,210	598	384
MIN	34	24	19	22	64	335	203	690	690	525	340	122
AC-FT	2,570	1,670	1,560	5,190	12,730	24,820	24,800	80,140	89,170	48,800	27,820	15,060
CAL YR 1968	TOTAL	73,731	MEAN	201	MAX	575	MIN	19	AC-FT	146,200		
WTR YR 1969	TOTAL	168,559	MEAN	462	MAX	1,870	MIN	19	AC-FT	334,300		

10-3082. EAST FORK CARSON RIVER BELOW MARKLEEVILLE CREEK, NEAR MARKLEEVILLE, CALIF.

LOCATION.--Lat 38°42'50", long 119°45'50", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.15, T.10 N., R.20 E., Alpine County, on right bank 0.5 mile downstream from Markleeville Creek, and 1.5 miles north-northeast of Markleeville.

DRAINAGE AREA.--276 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,400 ft (from topographic map). Prior to Oct. 1, 1967, at present site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--9 years, 370 cfs (268,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,830 cfs May 26, 27 (gage height, 6.54 ft); minimum, 56 cfs Oct. 9.

Period of record: Maximum discharge, 15,100 cfs Jan. 31, 1963 (gage height, 10.21 ft, present datum); minimum, 16 cfs Nov. 17, 1961.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	73	109	120	236	150	1,430	1,570	2,870	894	324	200
2	59	86	84	135	213	148	1,120	1,530	2,760	918	310	200
3	57	316	62	123	206	148	923	1,280	2,930	998	300	190
4	57	161	78	120	202	145	957	1,070	2,960	830	286	190
5	57	128	88	123	202	140	1,060	1,040	2,860	809	275	190
6	60	109	88	130	199	145	787	1,400	2,930	788	266	190
7	60	107	88	138	184	138	654	1,600	2,750	774	260	190
8	59	102	90	133	187	135	619	2,050	2,590	795	248	240
9	59	116	92	118	184	140	619	2,400	2,300	809	242	190
10	59	118	102	138	184	143	668	2,450	2,000	781	242	180
11	60	111	102	133	187	133	787	2,500	1,700	774	239	170
12	65	153	64	161	190	138	982	2,600	1,500	767	236	160
13	88	130	72	288	175	135	1,030	2,800	1,500	830	227	160
14	109	105	90	251	175	133	923	2,800	1,500	854	230	150
15	84	118	109	175	181	140	770	2,340	1,600	760	233	150
16	82	116	96	150	169	153	753	2,500	1,700	682	230	140
17	82	116	125	138	161	184	863	2,790	1,500	628	236	130
18	82	169	111	169	167	225	974	2,970	1,530	610	245	120
19	76	193	111	906	164	221	965	2,790	1,590	598	236	120
20	74	153	105	1,180	161	213	1,230	2,480	1,590	575	230	110
21	74	140	66	1,400	156	199	1,570	2,480	1,510	564	221	110
22	73	135	72	488	156	202	1,880	2,720	1,460	564	215	110
23	73	138	80	321	153	244	1,780	3,100	1,530	547	209	100
24	71	130	88	283	153	259	1,300	3,260	1,420	515	206	100
25	69	105	94	719	143	274	1,050	3,220	1,300	475	206	100
26	69	100	86	1,070	156	321	957	3,320	1,130	448	203	100
27	67	92	78	454	156	419	931	3,340	1,050	426	209	100
28	67	85	86	355	153	542	1,070	2,940	950	403	218	100
29	65	80	94	283	-----	710	1,350	2,710	878	390	212	100
30	76	102	100	267	-----	1,030	1,500	2,860	870	369	205	100
31	73	-----	110	240	-----	1,620	-----	2,920	-----	342	205	-----
TOTAL	2,166	3,787	2,820	10,709	4,953	8,927	31,502	75,850	54,758	20,517	7,404	4,390
MEAN	69.9	126	91.0	345	177	288	1,050	2,447	1,825	662	239	146
MAX	109	316	125	1,400	236	1,620	1,880	3,340	2,960	998	324	240
MIN	57	73	62	118	143	133	619	1,040	870	342	203	100
AC-FT	4,300	7,510	5,590	21,240	9,820	17,710	62,480	150,400	108,600	40,690	14,690	8,710
CAL YR 1968	TOTAL	91,776		MEAN	251	MAX	1,190	MIN	46	AC-FT	182,000	
WTR YR 1969	TOTAL	227,783		MEAN	624	MAX	3,340	MIN	57	AC-FT	451,800	

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0815	5.32	2,400	4-22	2130	5.12	2,170
1-26	0445	4.94	1,990	5-26	2315	6.54	3,830
3-31	1815	5.18	2,240				

NOTE.--No gage-height record Aug. 30 to Sept. 30.

CARSON RIVER BASIN

10-3090. EAST FORK CARSON RIVER NEAR GARDNERVILLE, NEV.

LOCATION.--Lat 38°50'40", long 119°42'10", in SW¼NE¼ sec.2, T.11 N., R.20 E., Douglas County, on left bank 0.1 mile downstream from Horseshoe Bend, 2 miles east of Mud Lake Reservoir, 4.5 miles downstream from Bryant Creek, and 7 miles southeast of Gardnerville.

DRAINAGE AREA.--341 sq mi.

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

GAGE.--Water-stage recorder and since July 1, 1955, thermograph attachment. Datum of gage is 4,985.11 ft above mean sea level (levels by Bureau of Reclamation). Prior to May 19, 1939, nonrecording gages at several sites within 2 miles of present site at various datums.

AVERAGE DISCHARGE.--43 years (1890-93, 1900-1903, 1908-10, 1925-28, 1935-37, 1939-69), 392 cfs (284,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,700 cfs May 27 (gage height, 5.34 ft); minimum, 48 cfs Dec. 21. Period of record: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 11.88 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 9.66 and 11.88 ft; minimum observed, 8 cfs Dec. 4-10, 19-23, 1904.

REMARKS.--Records excellent. Station is above all diversions in Carson Valley. Diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, 5,000 acre-ft). Records of water temperature for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1214: 1938(M), 1942-43(M), 1945(M). WSP 1514: 1909-10. WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	68	108	112	280	186	1,580	1,550	2,940	1,060	380	216
2	59	68	79	112	248	177	1,290	1,560	2,830	1,080	364	216
3	56	304	63	112	231	186	1,070	1,340	2,950	1,090	348	210
4	56	195	81	115	231	183	1,060	1,220	3,020	1,010	328	201
5	54	133	90	117	228	171	1,220	1,120	2,920	986	316	195
6	54	110	90	125	228	189	958	1,410	2,990	972	304	198
7	56	105	98	132	207	177	797	1,810	2,830	944	292	201
8	54	100	98	136	204	162	748	2,120	2,750	958	276	240
9	56	108	94	115	201	177	742	2,500	2,310	1,010	264	204
10	57	117	96	117	185	177	766	2,580	1,960	958	260	189
11	54	110	108	120	180	162	895	2,620	1,720	951	260	171
12	54	150	73	153	180	174	1,060	2,710	1,570	944	256	171
13	68	139	80	252	180	174	1,150	2,930	1,660	993	244	165
14	100	105	90	300	175	159	1,060	2,970	1,660	1,050	244	156
15	92	115	112	195	170	174	902	2,630	1,800	965	248	150
16	77	117	92	159	165	198	860	2,590	2,250	867	244	147
17	77	112	108	142	170	252	944	2,830	1,930	784	244	147
18	75	133	108	147	213	352	1,090	3,020	1,730	760	272	136
19	73	225	115	896	204	328	1,040	2,890	1,770	754	256	125
20	70	162	94	1,230	195	304	1,260	2,630	1,750	730	248	105
21	68	144	70	1,860	189	264	1,550	2,610	1,670	700	237	110
22	68	136	100	634	189	240	1,880	2,740	1,580	724	231	105
23	66	139	80	400	189	308	1,850	3,060	1,660	694	222	98
24	66	136	90	344	192	332	1,370	3,220	1,560	664	219	94
25	66	112	100	909	162	340	1,150	3,210	1,480	610	216	94
26	63	105	108	1,470	183	396	1,040	3,250	1,310	550	213	94
27	63	98	80	592	183	520	1,000	3,300	1,210	520	213	96
28	63	90	105	450	192	694	1,080	2,990	1,120	485	231	96
29	61	81	105	352	-----	902	1,330	2,750	1,040	475	222	100
30	66	103	115	328	-----	1,200	1,470	2,880	1,030	450	222	100
31	72	-----	112	284	-----	1,730	-----	2,970	-----	405	222	-----
TOTAL	2,027	3,820	2,942	12,410	5,554	10,988	34,212	78,010	59,000	25,143	8,096	4,530
MEAN	65.4	127	94.9	400	198	354	1,140	2,516	1,967	811	261	151
MAX	100	304	115	1,860	280	1,730	1,880	3,300	3,020	1,090	380	240
MIN	54	68	63	112	162	159	742	1,120	1,030	405	213	94
AC-FT	4,020	7,580	5,840	24,610	11,020	21,790	67,860	154,700	117,000	49,870	16,060	8,990
CAL YR 1968	TOTAL	92,905	MEAN	254	MAX	1,160	MIN	49	AC-FT	184,300		
WTR YR 1969	TOTAL	246,732	MEAN	676	MAX	3,300	MIN	54	AC-FT	489,400		

PEAK DISCHARGE (BASE, 1,300 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	1030	5.02	3,280	4-22	2400	4.11	2,170
1-26	0615	4.47	2,590	5-2	0215	3.59	1,640
3-31	2030	4.38	2,490	5-27	0045	5.34	3,700
4-12	2230	3.25	1,350	6-16	0600	4.44	2,530

10-3100. WEST FORK CARSON RIVER AT WOODFORDS, CALIF.

LOCATION.--Lat 38°46'10", long 119°49'55", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.34, T.11 N., R.19 E., Alpine County, on left bank 0.3 mile downstream from bridge on State Highway 88-89, 0.6 mile southwest of Woodfords, and 3.8 miles downstream from Willow Creek.

DRAINAGE AREA.--65.6 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,760 ft (from river-profile map). Prior to Oct. 1, 1938, nonrecording gage at same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower.

AVERAGE DISCHARGE.--38 years (1900-1907, 1938-69), 115 cfs (83,320 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,240 cfs May 13 (gage height, 4.16 ft); minimum, 16 cfs Oct. 1.

Period of record: Maximum discharge, 4,890 cfs Feb. 1, 1963 (gage height, 9.0 ft), on basis of slope-area measurement of peak flow; minimum, about 5 cfs Dec. 23, 1961.

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

REMARKS.--Records good except those for winter months, which are poor. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, about 1,500 acre-ft).

REVISIONS.--WSP 1927: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	25	34	28	48	37	190	533	795	264	86	36
2	18	29	42	30	43	37	192	517	800	262	78	34
3	18	102	38	29	45	37	170	454	780	262	71	33
4	18	48	33	28	46	37	166	402	775	248	65	34
5	18	40	33	29	45	34	162	381	755	245	62	37
6	18	34	33	28	44	36	170	549	730	229	55	37
7	18	33	34	30	42	36	150	740	680	219	51	38
8	18	33	34	29	43	36	152	805	639	224	46	91
9	19	36	34	26	43	34	150	882	553	226	44	99
10	19	38	33	28	44	34	150	894	481	224	45	88
11	19	36	25	30	42	34	162	996	448	214	72	83
12	21	54	30	29	42	34	170	984	437	206	102	74
13	24	44	36	30	41	34	188	1,040	444	211	117	66
14	33	36	30	29	41	34	202	924	437	204	117	38
15	26	37	31	28	40	30	202	870	448	192	130	31
16	25	37	28	28	39	34	199	840	505	172	130	33
17	24	37	30	28	39	37	209	888	440	154	70	34
18	25	55	33	31	38	37	237	900	426	148	48	34
19	24	69	33	46	37	36	253	860	451	148	44	34
20	23	48	33	64	37	36	330	820	420	146	50	34
21	22	44	23	64	36	35	395	810	409	143	50	34
22	23	43	26	48	37	33	473	820	395	136	50	33
23	23	45	30	48	37	33	477	845	395	139	48	29
24	23	40	34	49	35	35	345	845	370	141	46	28
25	22	35	32	53	35	36	303	894	351	129	80	28
26	23	37	28	45	37	36	276	900	327	117	120	28
27	23	35	30	43	37	48	276	912	306	115	117	27
28	22	35	32	45	37	56	342	835	285	110	115	27
29	22	35	29	43	-----	88	437	795	270	107	99	28
30	25	37	28	44	-----	118	545	800	264	102	63	28
31	25	-----	29	47	-----	158	-----	780	-----	93	37	-----
TOTAL	677	1,257	978	1,157	1,130	1,380	7,673	24,515	14,816	5,530	2,308	1,278
MEAN	21.8	41.9	31.5	37.3	40.4	44.5	256	791	494	178	74.5	42.6
MAX	33	102	42	64	48	158	545	1,040	800	264	130	99
MIN	16	25	23	26	35	30	150	381	264	93	37	27
AC-FT	1,340	2,490	1,940	2,290	2,240	2,740	15,220	48,620	29,390	10,970	4,580	2,530
CAL YR 1968	TOTAL 29,650		MEAN 81.0	MAX 321	MIN 12	AC-FT 58,810						
WTR YR 1969	TOTAL 62,699		MEAN 172	MAX 1,040	MIN 16	AC-FT 124,400						

PEAK DISCHARGE (BASE, 500 CFS).--May 13 (1800) 1,240 cfs (4.16 ft).

10-3366, UPPER TRUCKEE RIVER NEAR MEYERS, CALIF.

LOCATION.--Lat 38°50'35", long 120°01'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.12 N., R.18 E., El Dorado County, 0.4 mile upstream from mouth of Echo Lake outlet, 1.1 miles southwest of Meyers, and 2.5 miles upstream from Angora Creek.

DRAINAGE AREA.--33.1 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

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

AVERAGE DISCHARGE.--9 years, 66.5 cfs (48,180 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 762 cfs May 24, 26 (gage height, 8.99 ft); minimum, 4.2 cfs Oct. 3, 8.

Period of record: Maximum discharge, 2,550 cfs Feb. 1, 1963 (gage height, 12.41 ft); minimum, 2.0 cfs Jan. 13, 1961.

REMARKS.--Records good except those for winter months, which are fair. No regulation. Some small diversions above station for domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	6.2	11	11	40	22	102	239	582	210	40	14
2	4.5	20	10	12	35	21	87	216	598	210	38	14
3	4.3	55	9.0	12	16	21	72	171	594	200	36	14
4	4.3	21	10	13	15	21	73	156	584	188	33	14
5	4.5	15	11	13	16	20	90	171	580	180	32	13
6	4.5	12	10	14	17	20	72	263	578	170	30	13
7	4.3	11	11	15	15	20	62	330	546	166	28	14
8	4.3	11	11	15	14	20	60	377	484	177	27	17
9	4.5	14	11	15	14	19	60	431	391	170	26	15
10	4.6	16	12	15	14	19	63	464	354	166	26	14
11	4.5	13	13	14	14	18	76	482	329	160	26	13
12	5.0	26	10	16	14	18	97	476	323	153	26	13
13	6.4	19	10	24	14	18	104	506	342	148	24	13
14	8.8	16	12	25	14	18	96	500	357	145	24	12
15	6.9	15	11	20	14	18	85	474	381	135	23	12
16	6.4	13	11	17	14	18	86	488	454	120	23	12
17	6.2	13	13	17	15	19	102	552	377	105	22	12
18	6.4	32	12	17	15	19	121	576	368	99	22	12
19	6.2	34	11	72	15	19	122	544	379	95	20	12
20	6.0	21	10	116	16	19	153	512	354	89	20	11
21	5.8	18	9.0	108	17	19	200	508	333	85	20	12
22	5.8	18	9.0	58	18	18	242	546	326	81	19	11
23	5.7	24	10	50	17	19	227	603	321	79	18	11
24	5.7	19	11	37	17	20	162	630	309	75	18	11
25	5.7	17	11	57	18	20	140	600	284	68	17	10
26	5.8	17	11	79	20	22	132	608	251	61	16	10
27	5.7	17	10	67	23	27	135	633	237	58	16	10
28	5.5	13	9.0	60	22	35	159	560	216	54	15	9.5
29	5.7	11	9.0	50	-----	49	209	538	206	52	15	9.5
30	6.7	11	10	45	-----	75	236	572	207	49	15	9.3
31	6.4	-----	10	40	-----	107	-----	584	-----	43	15	-----
TOTAL	171.6	548.2	328.0	1,124	493	798	3,625	14,310	11,645	3,791	730	367.3
MEAN	5.54	18.3	10.6	36.3	17.6	25.7	121	462	388	122	23.5	12.2
MAX	8.8	55	13	116	40	107	242	633	598	210	40	17
MIN	4.3	6.2	9.0	11	14	18	60	156	206	43	15	9.3
AC-FT	340	1,090	651	2,230	978	1,580	7,190	28,380	23,100	7,520	1,450	729

CAL YR 1968	TOTAL	15,200.8	MEAN	41.5	MAX	224	MIN	4.3	AC-FT	30,150
WTR YR 1969	TOTAL	37,931.1	MEAN	104	MAX	633	MIN	4.3	AC-FT	75,240

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-23	0015	6.57	268	6-16	0245	8.25	570
5-24	2300	8.99	762				

10-3366.25. Fallen Leaf Lake near Tahoe Valley, Calif.

LOCATION.--Lat 38°54'00", long 120°04'10", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.11, T.12 N., R.17 E., El Dorado County, on west bank 1.5 miles from outlet and 3.8 miles west-southwest of Tahoe Valley.

DRAINAGE AREA.--16.7 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,372.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1959.

EXTREMES.--Maximum gage height during period, 4.79 ft June 17; minimum, 2.43 ft Mar. 20.

REMARKS.--Lake levels regulated by a concrete dam at the outlet constructed in 1934. Regulation is for maintenance of lake level and enhancement of fishery.

COOPERATION.--Some periods adjusted by correlation with records of Fallen Leaf Lake Protective Association.

GAGE HEIGHT, IN FEET, AT 2400 HRS WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.43	3.04	3.22	2.67	3.31	2.83	2.85	3.25	3.77	4.27	4.01	3.03
2	3.41	3.28	3.14	2.63	3.23	2.82	2.89	3.25	3.75	4.28	3.95	3.02
3	3.39	3.71	3.06	2.62	3.18	2.80	2.90	3.23	3.74	4.35	3.89	3.01
4	3.37	3.76	2.98	2.60	3.11	2.77	2.90	3.19	3.89	4.41	3.83	2.99
5	3.35	3.74	2.91	2.57	3.11	2.74	3.02	3.20	3.95	4.46	3.76	2.97
6	3.33	3.75	2.86	2.55	3.12	2.71	3.00	3.30	3.98	4.51	3.72	2.97
7	3.31	3.75	2.80	2.51	3.07	2.68	2.97	3.40	3.96	4.54	3.68	2.98
8	3.29	3.76	2.74	2.50	3.02	2.65	2.94	3.51	3.90	4.63	3.67	2.98
9	3.26	3.78	2.69	2.48	2.97	2.66	2.91	3.63	3.84	4.69	3.66	2.97
10	3.22	3.81	2.76	2.45	2.92	2.64	2.90	3.70	3.84	4.69	3.64	2.97
11	3.18	3.89	2.74	2.57	2.89	2.62	2.90	3.72	3.85	4.66	3.62	2.97
12	3.21	4.03	2.71	2.57	2.85	2.58	2.94	3.72	3.89	4.63	3.60	2.97
13	3.26	4.05	2.68	2.79	2.82	2.56	2.96	3.73	4.04	4.61	3.57	2.96
14	3.24	4.10	2.67	2.78	2.84	2.52	2.97	3.71	4.24	4.60	3.53	2.93
15	3.22	4.05	2.76	2.76	2.92	2.50	2.96	3.66	4.50	4.58	3.51	2.92
16	3.20	4.00	2.72	2.72	2.89	2.49	2.95	3.65	4.75	4.55	3.48	2.91
17	3.21	3.95	2.69	2.69	2.85	2.46	2.97	3.71	4.79	4.52	3.46	2.90
18	3.20	3.98	2.67	2.84	2.83	2.45	3.00	3.76	4.78	4.48	3.43	2.87
19	3.18	4.00	2.67	3.21	2.80	2.44	3.02	3.73	4.77	4.45	3.41	2.85
20	3.15	3.96	2.63	3.58	2.80	2.47	3.07	3.68	4.75	4.47	3.39	2.83
21	3.14	3.89	2.61	3.81	2.77	2.47	3.17	3.65	4.72	4.39	3.37	2.83
22	3.13	3.82	2.59	3.73	2.73	2.46	3.28	3.66	4.69	4.37	3.35	2.82
23	3.12	3.77	2.62	3.61	2.76	2.45	3.40	3.73	4.67	4.37	3.31	2.80
24	3.11	3.75	2.72	3.62	2.86	2.42	3.33	3.82	4.64	4.35	3.27	2.80
25	3.10	3.68	2.82	3.75	2.87	2.42	3.25	3.82	4.59	4.33	3.24	2.80
26	3.09	3.61	2.81	3.82	2.86	2.42	3.18	3.88	4.53	4.30	3.21	2.79
27	3.08	3.53	2.78	3.72	2.83	2.44	3.15	3.92	4.47	4.26	3.18	2.78
28	3.07	3.44	2.80	3.68	2.85	2.47	3.14	3.85	4.41	4.22	3.14	2.77
29	3.08	3.36	2.77	3.58	-----	2.52	3.17	3.78	4.35	4.18	3.10	2.76
30	3.07	3.28	2.73	3.49	-----	2.62	3.21	3.78	4.30	4.13	3.08	2.75
31	3.06	-----	2.70	3.40	-----	2.76	-----	3.80	-----	4.07	3.06	-----

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3366.26. TAYLOR CREEK NEAR TAHOE VALLEY, CALIF.

LOCATION.--Lat 38°55'20", long 120°03'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.12 N., R.17 E., El Dorado County, on left bank 0.1 mile downstream from Fallen Leaf Lake outlet, and 3.0 miles west of Tahoe Valley.

DRAINAGE AREA.--16.7 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,361.08 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 342 cfs May 28 (gage height, 4.74 ft); minimum daily, 0.31 cfs Sept. 10-30.

REMARKS.--Records excellent except those for period of no gage-height record, which are fair. Flow regulated by Fallen Leaf Lake Dam.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.6	69	30	79	40	42	117	294	123	59	14
2	12	9.0	68	29	68	38	50	123	294	90	62	2.0
3	12	9.4	68	27	60	38	54	120	276	57	80	2.0
4	12	29	66	25	51	36	56	111	255	57	80	2.0
5	12	37	51	25	48	34	66	103	280	59	60	2.0
6	12	10	45	23	51	34	72	114	290	60	32	2.0
7	12	9.8	42	23	47	33	67	144	294	64	24	2.0
8	12	9.4	39	22	45	31	60	180	287	73	19	2.0
9	12	9.0	34	20	43	30	56	222	176	99	19	2.0
10	12	9.8	33	19	41	30	53	255	124	117	19	.31
11	12	12	33	21	40	33	51	275	118	126	19	.31
12	12	15	30	26	38	29	54	275	106	114	19	.31
13	12	17	31	28	36	28	59	275	76	106	19	.31
14	12	34	31	34	35	25	63	280	66	103	19	.31
15	12	64	31	33	40	24	63	270	69	100	18	.31
16	12	60	33	30	41	23	60	255	108	96	18	.31
17	12	57	32	29	40	22	62	260	166	92	18	.31
18	13	56	30	28	38	22	63	278	186	89	18	.31
19	8.6	57	30	47	37	20	68	285	184	86	18	.31
20	9.0	71	29	86	36	20	73	273	186	85	18	.31
21	9.4	83	28	121	36	22	86	260	185	82	18	.31
22	9.4	82	28	129	34	21	115	253	174	75	17	.31
23	9.0	79	28	118	36	20	158	263	174	62	16	.31
24	7.8	76	30	114	39	20	168	283	164	62	16	.31
25	6.2	72	37	117	42	19	138	295	152	60	15	.31
26	6.2	71	38	132	42	18	115	300	136	60	15	.31
27	6.2	73	38	126	41	18	102	310	136	60	15	.31
28	6.6	76	38	120	41	19	94	330	138	60	15	.31
29	8.2	73	36	109	-----	20	99	294	134	59	15	.31
30	8.6	72	33	100	-----	25	108	280	129	59	15	.31
31	8.6	-----	32	89	-----	35	-----	283	-----	62	15	-----
TOTAL	320.8	1,341.0	1,191	1,880	1,225	827	2,375	7,366	5,357	2,497	810	36.51
MEAN	10.3	44.7	38.4	60.6	43.8	26.7	79.2	238	179	80.5	26.1	1.22
MAX	13	83	69	132	79	40	168	330	294	126	80	14
MIN	6.2	8.6	28	19	34	18	42	103	66	57	15	.31
AC-FT	636	2,660	2,360	3,730	2,430	1,640	4,710	14,610	10,630	4,950	1,610	72
CAL YR 1968	TOTAL -		MEAN -		MAX -		MIN -		AC-FT -			
WTR YR 1969	TOTAL 25,226.31		MEAN 69.1		MAX 330		MIN .31		AC-FT 50,040			

NOTE.--No gage-height record Aug. 30 to Sept. 30.

10-3366.6. BLACKWOOD CREEK NEAR TAHOE CITY, CALIF.

LOCATION.--Lat 39°06'27", long 120°09'37", in NE $\frac{1}{4}$ sec.36, T.15 N., R.16 E., Placer County, on left bank just downstream from bridge on State Highway 89, 700 ft upstream from Lake Tahoe, and 4.6 miles south of Tahoe City.

DRAINAGE AREA.--11.2 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

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

AVERAGE DISCHARGE.--9 years, 36.9 cfs (26,730 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 605 cfs May 24 (gage height, 6.35 ft); minimum, 0.80 cfs Oct. 2, 3. Period of record: Maximum discharge, 2,100 cfs Dec. 22 or 24, 1964, from indirect measurement of peak flow; maximum gage height, 9.90 ft Dec. 22, 1964; minimum discharge, 0.30 cfs Sept. 19, 1968.

REMARKS.--Records good except those for winter months, which are poor. No known diversion or regulation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	5.0	6.6	8.2	40	14	82	156	335	80	16	3.8
2	.90	20	6.2	8.6	37	12	66	144	339	75	16	3.7
3	.90	35	6.4	7.7	34	13	49	123	367	71	15	3.6
4	.90	13	7.0	6.0	31	15	51	117	371	67	14	3.6
5	1.0	8.0	7.6	6.0	30	14	52	153	359	64	14	3.4
6	1.1	7.0	7.2	6.0	37	13	43	214	347	61	13	3.4
7	1.3	6.0	7.6	6.6	35	12	35	271	327	59	13	3.6
8	1.3	4.9	7.4	6.0	33	12	34	312	291	55	12	3.9
9	1.3	8.3	7.4	5.5	31	11	34	355	263	55	12	3.9
10	1.5	8.0	8.0	5.7	28	11	37	367	228	55	12	3.9
11	1.5	7.4	8.6	4.9	27	14	51	402	221	52	11	4.1
12	2.7	34	6.6	5.7	26	15	66	363	228	49	11	4.1
13	3.4	14	7.4	9.0	25	14	73	363	235	47	11	3.9
14	4.1	9.4	10	11	25	11	64	339	255	46	11	3.6
15	3.4	8.3	12	12	26	13	52	303	263	44	10	3.1
16	3.4	8.0	9.5	11	25	14	55	311	279	41	9.8	3.1
17	3.4	7.7	8.0	9.8	22	16	67	387	239	38	9.4	3.1
18	3.6	24	9.0	11	20	17	82	421	243	33	9.0	2.7
19	3.6	23	8.0	30	22	15	85	371	228	33	8.6	2.7
20	3.6	16	7.5	100	19	16	108	331	214	31	8.3	2.5
21	3.6	13	7.0	70	16	16	156	343	196	30	8.6	2.7
22	3.6	13	10	60	14	16	190	383	190	29	8.0	2.7
23	3.6	15	20	50	16	19	172	454	172	29	7.0	2.7
24	3.6	12	22	38	13	18	111	457	156	26	6.4	2.7
25	3.1	11	15	51	14	19	80	335	135	24	6.0	2.7
26	2.9	9.4	11	60	13	23	73	311	114	23	6.2	2.7
27	2.9	8.3	8.5	80	12	24	73	315	105	21	5.4	2.7
28	2.9	7.7	7.0	70	11	30	90	283	98	19	5.0	2.7
29	3.4	7.4	7.2	55	-----	38	129	303	92	17	4.5	2.3
30	4.1	7.4	7.6	50	-----	58	147	339	80	17	4.2	2.3
31	3.9	-----	7.8	45	-----	90	-----	347	-----	16	4.0	-----
TOTAL	81.50	371.2	281.1	899.7	682	623	2,407	9,673	6,970	1,307	301.4	95.9
MEAN	2.63	12.4	9.07	29.0	24.4	20.1	80.2	312	232	42.2	9.72	3.20
MAX	4.1	35	22	100	40	90	190	457	371	80	16	4.1
MIN	.90	4.9	6.2	4.9	11	11	34	117	80	16	4.0	2.3
AC-FT	162	736	558	1,780	1,350	1,240	4,770	19,190	13,820	2,590	598	190

CAL YR 1968 TOTAL 10,071.92 MEAN 27.5 MAX 189 MIN .50 AC-FT 19,980
WTR YR 1969 TOTAL 23,692.80 MEAN 64.9 MAX 457 MIN .90 AC-FT 46,990

PEAK DISCHARGE (BASE, 200 CFS).--Apr. 21 (2100) 218 cfs (5.45 ft); May 24 (1900) 605 cfs (6.35 ft).

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3367.8. TROUT CREEK NEAR TAHOE VALLEY, CALIF.

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

DRAINAGE AREA.--36.7 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

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

AVERAGE DISCHARGE.--9 years, 36.4 cfs (26,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 280 cfs June 6 (gage height, 10.01 ft); minimum, 8.0 cfs Dec. 12. Period of record: Maximum discharge, 535 cfs Feb. 1, 1963 (gage height, 11.14 ft), from rating curve extended above 110 cfs on basis of computation of peak flow (weir formula) and logarithmic projection. No flow for part of Sept. 11, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	13	12	30	22	68	115	245	130	58	31
2	12	21	14	12	31	22	63	115	249	126	56	31
3	12	43	14	13	28	22	55	101	257	124	54	30
4	12	20	13	13	25	21	58	96	260	121	53	30
5	12	17	13	14	25	20	65	103	259	117	52	29
6	13	16	16	14	23	20	57	126	264	115	51	29
7	13	16	14	14	23	20	50	140	261	113	49	29
8	14	15	12	15	23	19	49	150	257	114	47	36
9	15	16	13	22	23	19	49	169	240	111	46	31
10	14	16	14	20	24	19	52	182	221	105	45	29
11	14	15	14	19	24	19	61	186	210	102	45	28
12	17	25	13	17	23	19	69	182	197	98	45	27
13	20	16	12	23	26	19	72	185	191	98	44	27
14	20	13	12	26	23	20	65	191	193	98	41	26
15	13	19	12	22	23	21	61	184	194	94	40	26
16	13	17	13	23	28	23	64	187	223	91	40	25
17	13	16	15	23	29	22	72	202	207	88	39	25
18	13	23	13	21	23	22	79	215	197	85	39	25
19	13	22	13	49	22	22	77	205	200	83	39	25
20	12	17	11	74	20	22	86	197	188	82	39	25
21	13	17	10	70	19	22	98	199	178	79	39	25
22	13	18	10	48	19	21	109	204	171	77	38	25
23	17	17	11	37	21	23	104	224	173	79	36	24
24	13	15	12	34	21	23	86	230	169	76	33	24
25	10	15	13	41	22	25	79	229	164	73	33	23
26	11	16	12	57	24	27	76	229	158	71	32	23
27	12	15	11	37	25	30	77	229	150	68	31	22
28	13	14	11	32	22	35	85	224	144	67	31	22
29	13	16	11	27	-----	41	98	224	138	62	31	28
30	15	14	11	26	-----	52	105	230	133	61	31	31
31	13	-----	11	26	-----	67	-----	239	-----	59	30	-----
TOTAL	420	533	387	881	669	779	2,189	5,692	6,091	2,867	1,287	811
MEAN	13.5	17.8	12.5	28.4	23.9	25.1	73.0	184	203	92.5	41.5	27.0
MAX	20	43	16	74	31	67	109	239	264	130	58	36
MIN	10	13	10	12	19	19	49	96	133	59	30	22
AC-FT	833	1,060	768	1,750	1,330	1,550	4,340	11,290	12,080	5,690	2,550	1,610
CAL YR 1968	TOTAL	9,040.1	MEAN	24.7	MAX	74	MIN	6.5"	AC-FT	17,930		
WTR YR 1969	TOTAL	22,606	MEAN	61.9	MAX	264	MIN	10	AC-FT	44,840		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	2200	7.82	119	6-6	0230	10.01	280
5-1	2230	7.93	127	6-16	0330	9.61	248

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

LOCATION.--Lat 39°10'50", long 120°06'55", in NE¹/₄SE¹/₄NE¹/₄ sec.5, T.15 N., R.17 E., Placer County, on U.S. Coast Guard pier at Lake Forest and 1.8 miles northeast of Lake Tahoe outlet dam on Truckee River at Tahoe City.

DRAINAGE AREA.--505 sq mi at lake outlet.

PERIOD OF RECORD.--April 1900 to current year. Month-end elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe".

GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft above mean sea level, datum of Bureau of Reclamation (6,218.86 ft, datum of 1929, supplementary adjustment of 1959). Prior to Oct. 1, 1957, staff gages at several sites near outlet of lake at same datum. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum. May 9, 1958, to Sept. 30, 1968, water-stage recorder on pier, 1,000 ft east of dam at lake outlet.

EXTREMES.--Current year: Maximum elevation, 6,229.05 ft June 18; minimum, 6,226.78 ft Dec. 9.
Period of record: Maximum elevation, 6,231.26 ft July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft Dec. 26, 1934.

REMARKS.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Figures given herein represent usable contents. Usable capacity, 744,600 acre-ft between elevations 6,223 (natural rim of lake) and 6,229.1 ft (maximum permissible elevation by Federal Court decree). Water is used for domestic and recreational purposes in Lake Tahoe area and for irrigation and power in downstream areas. Lake elevations are referred to Bureau of Reclamation datum because that datum is used as the official reference point by all local, State, and Federal agencies. One intermittent transmountain diversion from Echo Lake to South Fork American River for power and irrigation. Since October 1968, some sewage has been transported out of the basin into Carson River basin.

REVISIONS.--WRD 1967: Drainage area.

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

6,226	364,800
6,227	486,800
6,229	732,300
6,229.1	744,600

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.27	6.85	6.88	7.06	8.21	8.16	7.49	7.42	8.66	8.74	8.70	8.20
2	7.24	6.94	6.87	7.06	8.21	8.15	7.46	7.45	8.69	8.71	8.69	8.19
3	7.25	6.97	6.88	7.04	8.21	8.12	7.45	7.45	8.73	8.71	8.68	8.17
4	7.21	6.97	6.87	7.04	8.20	8.10	7.38	7.46	8.77	8.70	8.67	8.13
5	7.20	6.95	6.84	7.04	8.30	8.10	7.48	7.47	8.80	8.71	8.65	8.13
6	7.18	6.93	6.86	7.03	8.28	8.06	7.45	7.49	8.84	8.71	8.65	8.12
7	7.14	6.94	6.79	6.97	8.28	8.03	7.45	7.51	8.86	8.71	8.63	8.12
8	7.13	6.94	6.83	7.00	8.28	8.00	7.45	7.55	8.92	8.71	8.63	8.10
9	7.12	6.92	6.78	6.96	8.24	8.00	7.43	7.58	8.90	8.72	8.60	8.09
10	7.10	6.91	6.84	6.93	8.23	7.98	7.40	7.65	8.90	8.74	8.59	8.09
11	7.06	6.91	6.89	6.97	8.22	7.94	7.40	7.70	8.92	8.74	8.56	8.07
12	7.07	6.96	6.87	6.92	8.20	7.92	7.36	7.76	8.92	8.74	8.55	8.05
13	7.05	6.94	6.83	7.09	8.17	7.88	7.35	7.80	8.92	8.75	8.54	8.02
14	7.06	6.95	6.85	7.09	8.18	7.86	7.35	7.84	8.95	8.74	8.51	8.00
15	7.03	6.95	6.95	7.10	8.28	7.84	7.34	7.89	8.98	8.76	8.49	7.97
16	7.04	6.94	6.94	7.08	8.25	7.80	7.33	7.94	9.01	8.76	8.47	7.95
17	7.01	6.94	6.93	7.09	8.23	7.77	7.29	7.98	9.02	8.77	8.45	7.92
18	7.02	6.95	6.90	7.13	8.21	7.76	7.32	8.03	9.03	8.77	8.42	7.90
19	6.98	6.96	6.92	7.29	8.19	7.73	7.32	8.07	9.03	8.78	8.41	7.87
20	6.99	6.96	6.90	7.55	8.20	7.71	7.32	8.12	9.01	8.78	8.41	7.86
21	6.96	6.94	6.90	7.76	8.17	7.72	7.33	8.14	9.00	8.79	8.39	7.83
22	6.97	6.95	6.85	7.77	8.13	7.69	7.28	8.21	8.98	8.79	8.39	7.84
23	6.95	6.94	6.88	7.80	8.13	7.66	7.40	8.26	8.95	8.80	8.39	7.82
24	6.96	6.95	6.97	7.87	8.25	7.63	7.43	8.30	8.93	8.78	8.34	7.80
25	6.95	6.96	7.08	8.07	8.23	7.61	7.45	8.40	8.89	8.78	8.32	7.82
26	6.95	6.94	7.08	8.19	8.22	7.60	7.43	8.45	8.86	8.77	8.30	7.78
27	6.94	6.94	7.03	8.13	8.22	7.58	7.43	8.45	8.83	8.76	8.28	7.77
28	6.92	6.88	7.07	8.20	8.17	7.56	7.40	8.49	8.83	8.75	8.25	7.77
29	6.92	6.85	7.06	8.21	-----	7.53	7.40	8.53	8.80	8.73	8.23	7.75
30	6.87	6.88	7.07	8.22	-----	7.51	7.39	8.57	8.79	8.72	8.23	7.73
31	6.88	-----	7.03	8.22	-----	7.48	-----	8.62	-----	8.70	8.21	-----
(+)	472,200	472,200	490,500	636,400	630,200	545,600	534,600	685,600	706,500	695,400	635,100	576,300
(#)	-48,900	0	+18,300	+145,900	-6,200	-84,600	-11,000	+151,000	+20,900	-11,100	-60,300	-58,800

CALENDAR YEAR 1968.....# -61,200

WATER YEAR 1969.....# +55,200

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

Change in contents, in acre-feet.

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

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3375. TRUCKEE RIVER AT TAHOE CITY, CALIF.

LOCATION.--Lat 39°10'00", long 120°08'40", in NE $\frac{1}{4}$ sec. 7, T.15 N., R.17 E., Placer County, on left bank 510 ft downstream from dam at outlet of Lake Tahoe at Tahoe City.

DRAINAGE AREA.--506 sq mi.

PERIOD OF RECORD.--July 1895 to February 1896, March 1900 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe."

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

AVERAGE DISCHARGE (unadjusted).--69 years (1900-69), 243 cfs (176,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,630 cfs June 19 (gage height, 9.32 ft); minimum daily, 38 cfs Jan. 24.

Period of record: Maximum discharge, 2,630 cfs June 19, 1969 (gage height, 9.32 ft); no flow for parts of many years.

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

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	234	111	174	117	1,620	1,700	863	329	1,760	345	292
2	80	236	146	174	199	1,610	1,430	586	367	1,520	345	292
3	82	240	187	174	273	1,610	1,690	589	461	1,080	343	278
4	82	236	168	174	372	1,610	1,690	592	572	667	343	230
5	82	236	162	174	452	1,600	1,700	592	714	465	340	190
6	82	203	160	221	677	1,600	1,710	595	907	384	340	175
7	82	186	160	257	896	1,580	1,700	604	1,130	327	338	177
8	80	186	160	257	964	1,580	1,700	592	1,330	233	336	130
9	80	186	160	255	976	1,580	1,690	592	1,480	136	334	66
10	80	186	162	255	992	1,580	1,690	288	1,640	88	334	106
11	80	187	103	255	1,040	1,580	1,680	91	1,740	88	314	228
12	82	186	63	255	1,110	1,580	1,680	89	1,740	90	314	307
13	79	147	63	238	1,170	1,580	1,680	89	1,740	87	314	305
14	80	111	62	223	1,210	1,560	1,540	88	1,750	110	312	305
15	80	111	63	179	1,220	1,560	1,330	87	1,760	121	312	242
16	79	111	100	149	1,260	1,540	1,220	95	1,800	138	312	147
17	79	112	160	149	1,290	1,540	1,250	99	1,980	149	307	107
18	79	113	160	149	1,290	1,530	1,260	100	2,290	170	307	107
19	79	112	160	164	1,280	1,520	1,260	99	2,570	177	305	107
20	78	112	179	116	1,280	1,520	1,260	99	2,620	175	303	107
21	78	112	227	57	1,320	1,560	1,260	99	2,620	194	303	107
22	91	113	222	51	1,380	1,600	889	98	2,610	221	303	106
23	122	113	221	47	1,480	1,580	632	98	2,590	284	301	106
24	142	113	223	38	1,580	1,580	562	98	2,540	374	301	106
25	167	112	229	50	1,640	1,570	750	98	2,460	396	301	106
26	186	112	229	57	1,640	1,540	1,090	148	1,470	381	296	106
27	187	112	227	52	1,630	1,540	1,210	196	1,340	369	296	106
28	211	112	227	49	1,620	1,630	1,210	244	1,910	369	296	106
29	236	111	227	49	-----	1,710	1,180	324	1,900	355	294	91
30	236	111	198	46	-----	1,700	1,180	327	1,830	345	294	77
31	234	-----	174	62	-----	1,700	-----	327	-----	343	294	-----
TOTAL	3,495	4,552	5,093	4,550	30,358	49,190	40,823	8,886	50,190	11,596	9,777	4,915
MEAN	113	152	164	147	1,084	1,587	1,361	287	1,673	374	315	164
MAX	236	240	229	257	1,640	1,710	1,710	863	2,620	1,760	345	307
MIN	78	111	62	38	117	1,520	562	87	329	87	294	66
AC-FT	6,930	9,030	10,100	9,020	60,210	97,570	80,970	17,630	99,550	23,000	19,390	9,750
CAL YR 1968	TOTAL	66,881		MEAN	183	MAX	402	MIN	58	AC-FT	132,700	
WTR YR 1969	TOTAL	223,425		MEAN	612	MAX	2,620	MIN	38	AC-FT	443,200	

10-3385. DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°19'25", long 120°14'00", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.17, T.17 N., R.16 E., Nevada County, on left bank 10 ft downstream from bridge on Donner Memorial State Park road, 0.2 mile downstream from Donner Lake outlet, 0.7 mile upstream from Cold Creek, and 2.5 miles west of Truckee.

DRAINAGE AREA.--14.6 sq mi.

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

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

AVERAGE DISCHARGE (unadjusted).--32 years (1929-35, 1936-37, 1939-42, 1943-52, 1955-57, 1958-69), 32.5 cfs (23,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 346 cfs May 13 (gage height, 3.76 ft); no flow Nov. 5.
Period of record: Maximum daily discharge, 700 cfs (estimated) Nov. 21, 1950; maximum gage height observed, 4.55 ft Dec. 25, 1964; no flow at times in most years.

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

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	20	30	24	105	40	82	61	251	36	9.2	6.4
2	67	20	29	22	96	37	93	84	225	35	8.8	6.4
3	48	20	27	21	87	36	95	85	208	26	8.3	6.4
4	47	8.0	24	21	78	34	95	121	208	20	8.3	6.4
5	46	0	23	20	74	32	100	170	190	17	8.3	6.0
6	46	1.1	22	20	74	31	102	192	175	15	8.3	6.0
7	45	1.9	20	20	68	30	96	222	175	14	8.8	6.0
8	44	1.7	20	20	63	29	92	263	175	12	9.2	6.0
9	48	1.5	18	20	58	28	88	302	138	11	9.2	6.4
10	48	1.3	19	19	56	27	42	314	118	11	9.2	6.4
11	50	1.0	23	20	53	26	53	323	116	10	9.2	6.4
12	53	.80	22	23	52	24	102	329	102	9.7	9.2	6.4
13	52	.50	20	27	48	24	107	343	92	9.7	8.8	6.7
14	84	.40	20	33	46	24	111	340	92	9.7	8.8	6.7
15	113	.50	22	32	48	23	109	333	93	9.2	8.3	7.0
16	110	.50	24	30	48	23	105	274	109	8.8	8.3	6.7
17	94	.50	22	30	45	23	105	242	122	9.2	8.3	6.7
18	80	43	21	30	43	24	111	242	170	8.8	8.3	6.7
19	70	74	21	48	41	24	114	216	192	9.2	8.3	6.4
20	59	68	20	103	39	24	122	211	113	8.8	8.3	6.4
21	52	62	20	158	39	24	134	195	72	8.8	8.3	6.4
22	46	56	18	160	37	25	156	168	72	9.2	8.3	6.0
23	44	53	20	145	37	25	180	111	64	9.2	8.3	6.0
24	39	51	24	138	39	26	185	82	58	11	7.9	6.0
25	37	47	30	140	42	28	165	85	52	12	7.4	5.3
26	34	42	31	154	43	29	151	90	42	11	7.0	5.0
27	32	40	30	149	42	31	143	90	38	11	6.7	5.0
28	29	37	30	140	40	36	74	105	38	10	6.7	4.6
29	26	34	29	134	-----	41	19	116	37	10	6.4	5.0
30	23	31	26	124	-----	50	26	118	37	9.2	6.7	5.0
31	21	-----	25	112	-----	66	-----	138	-----	9.2	6.4	-----
TOTAL	1,693	717.70	730	2,137	1,541	944	3,157	5,965	3,574	400.7	253.5	182.8
MEAN	54.6	23.9	23.5	68.9	55.0	30.5	105	192	119	12.9	8.18	6.09
MAX	113	74	31	160	105	66	185	343	251	36	9.2	7.0
MIN	21	0	18	19	37	23	19	61	37	8.8	6.4	4.6
AC-FT	3,360	1,420	1,450	4,240	3,060	1,870	6,260	11,830	7,090	795	503	363
CAL YR 1968	TOTAL 10,747.40		MEAN 29.4		MAX 188		MIN 0		AC-FT 21,320			
WTR YR 1969	TOTAL 21,295.70		MEAN 58.3		MAX 343		MIN 0		AC-FT 42,240			

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3394. MARTIS CREEK NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°20'20", long 120°07'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.8, T.17 N., R.17 E., Nevada County, on left bank 0.8 mile upstream from mouth, and 3.5 miles northeast of Truckee.

DRAINAGE AREA.--41.0 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

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

AVERAGE DISCHARGE.--11 years, 23.0 cfs (16,660 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 647 cfs Jan. 20 (gage height, 4.33 ft); minimum, 4.1 cfs Oct. 1-11.
Period of record: Maximum discharge, 1,880 cfs Feb. 1, 1963 (gage height, 6.16 ft); minimum, 1.1 cfs July 19, 20, 1961.

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

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	8.0	9.2	11	30	18	211	148	93	19	11	9.1
2	4.3	12	9.0	11	35	17	171	146	84	18	11	9.5
3	4.3	24	9.0	12	35	18	145	136	81	18	10	9.5
4	4.2	12	9.5	12	35	18	164	129	80	18	9.8	9.5
5	4.2	9.5	11	11	35	17	184	133	74	16	10	9.1
6	4.2	9.1	10	10	35	17	125	152	68	16	10	9.5
7	4.6	9.0	11	10	33	16	107	167	62	17	10	10
8	5.2	8.7	11	11	32	15	111	179	85	17	10	11
9	4.7	8.7	13	10	31	15	112	197	78	17	9.8	9.8
10	4.7	8.6	31	11	31	15	128	211	62	16	9.8	9.8
11	4.2	8.6	15	13	31	15	151	244	64	15	10	9.8
12	12	34	11	16	30	17	181	222	57	14	9.8	9.8
13	7.7	13	11	42	25	17	167	211	51	14	9.8	9.5
14	8.9	10	12	66	25	16	132	199	47	14	9.5	9.1
15	6.7	13	13	51	26	16	119	181	59	13	9.5	9.1
16	7.5	12	10	37	25	18	124	175	74	13	9.5	9.5
17	7.4	11	8.0	33	21	22	128	179	57	12	9.5	9.5
18	7.2	15	8.0	28	21	25	143	177	66	12	9.5	9.5
19	7.7	14	8.0	221	22	28	141	162	46	12	9.5	9.8
20	8.1	12	7.5	519	20	26	155	149	41	11	9.8	9.8
21	7.8	11	6.5	445	15	24	179	141	36	11	9.5	10
22	7.9	11	7.0	151	15	24	208	138	32	11	9.1	10
23	7.8	11	9.0	105	20	28	201	141	30	11	9.1	9.6
24	7.8	11	12	78	18	32	169	140	29	11	8.8	9.2
25	7.8	11	20	114	18	35	136	132	27	11	8.8	9.4
26	7.8	10	15	254	17	41	117	128	26	10	8.8	8.2
27	7.8	10	9.0	129	17	49	114	121	25	10	9.1	7.7
28	7.7	10	9.0	99	17	62	125	110	23	11	9.1	7.4
29	7.6	11	11	60	-----	84	141	106	21	10	9.5	7.6
30	8.1	10	10	40	-----	128	148	103	20	11	9.5	8.5
31	8.0	-----	10	30	-----	199	-----	99	-----	11	9.5	-----
TOTAL	208.1	358.2	345.7	2,640	715	1,072	4,437	4,856	1,598	420	298.6	279.8
MEAN	6.71	11.9	11.2	85.2	25.5	34.6	148	157	53.3	13.5	9.63	9.33
MAX	12	34	31	519	35	199	211	244	93	19	11	11
MIN	4.2	8.0	6.5	10	15	15	107	99	20	10	8.8	7.4
AC-FT	413	710	686	5,240	1,420	2,130	8,800	9,630	3,170	833	592	555
CAL YR 1968	TOTAL	6,144.6	MEAN	16.8	MAX	105	MIN	2.6	AC-FT	12,190		
WTR YR 1969	TOTAL	17,228.4	MEAN	47.2	MAX	519	MIN	4.2	AC-FT	34,170		

PEAK DISCHARGE (BASE, 170 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	2230	4.33	647	4-12	1700	3.23	278
1-26	0530	3.61	388	4-22	2015	3.11	251
3-31	1830	3.24	280	5-10	2345	3.19	275

PYRAMID AND WINNEMUCCA LAKES BASIN

541

10-3399, ALDER CREEK NEAR TRUCKEE, CALIF.

LOCATION.--Lat 39°22'07", long 120°10'54", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.18 N., R.16 E., Nevada County, on right bank 2 miles upstream from mouth, and 2.5 miles north of Truckee.

DRAINAGE AREA.--7.47 sq mi.

PERIOD OF RECORD.--October 1958 to September 1969 (discontinued).

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

AVERAGE DISCHARGE.--11 years, 9.16 cfs (6,640 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 203 cfs May 11 (gage height, 2.92 ft); no flow for part of Dec. 6, result of construction upstream.

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

REMARKS.--Records good except those for winter months, which are poor. No upstream diversions or regulation.

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.1	1.1	2.0	9.4	4.5	54	80	48	7.8	2.3	1.7
2	.80	1.8	.80	2.0	10	5.6	47	77	46	7.6	2.3	1.7
3	.70	5.4	.80	2.0	9.0	4.3	38	68	42	6.8	2.0	1.7
4	.70	3.0	.80	2.2	8.2	4.3	39	64	42	6.8	2.0	1.7
5	.70	2.2	.80	2.2	7.0	4.5	41	79	40	6.6	1.8	1.7
6	.70	1.8	1.1	2.1	7.0	4.3	37	97	37	6.3	1.8	1.7
7	.80	1.7	1.1	2.4	6.3	4.9	36	108	35	6.8	1.8	1.7
8	.80	1.6	1.2	2.7	6.2	4.9	29	114	36	6.0	1.7	1.8
9	.80	1.6	1.0	2.4	5.8	4.0	27	122	33	6.3	1.7	1.7
10	.80	1.4	7.0	2.1	5.8	4.3	29	134	29	5.8	1.7	1.7
11	.80	1.4	30	2.8	5.6	4.3	33	156	26	4.9	1.8	1.6
12	2.5	4.7	5.8	2.8	5.6	4.3	42	146	23	4.9	1.8	1.7
13	2.0	2.2	2.2	3.1	5.0	4.5	47	140	23	4.9	1.7	1.7
14	2.2	1.1	1.7	3.8	5.1	4.9	44	135	22	4.7	1.8	1.7
15	1.7	1.4	1.7	4.3	5.1	4.5	40	122	21	4.5	1.8	1.6
16	1.4	1.2	1.6	3.8	4.9	4.0	41	116	21	4.3	1.8	1.6
17	1.3	1.2	1.6	3.5	4.3	4.5	46	118	21	3.8	1.8	1.7
18	1.2	2.8	1.7	3.8	4.7	4.7	54	119	26	3.8	1.8	1.7
19	1.1	2.6	1.7	5.0	4.7	4.7	57	104	19	3.6	1.8	1.7
20	1.1	1.7	1.4	50	4.5	5.1	67	95	17	3.6	1.7	1.7
21	1.1	1.6	1.0	40	4.4	5.1	79	91	14	3.4	1.7	1.7
22	1.1	1.6	1.0	28	4.7	5.1	94	88	13	3.4	1.7	1.7
23	1.1	1.4	1.4	21	4.5	5.8	87	88	12	3.4	1.7	1.6
24	1.1	1.3	2.0	16	4.3	6.3	66	88	11	3.1	1.7	1.6
25	1.1	1.2	5.0	16	4.1	7.0	56	83	11	3.1	1.7	1.6
26	1.0	1.1	4.5	30	3.9	8.0	52	80	10	3.0	1.7	1.6
27	1.0	1.0	2.7	21	3.6	10	51	74	10	2.6	1.7	1.6
28	1.0	1.0	1.6	20	4.0	13	61	64	9.3	2.6	1.6	1.6
29	1.0	1.0	2.1	15	-----	18	74	59	9.0	2.5	1.7	1.6
30	1.3	1.1	1.2	14	-----	28	79	56	8.3	2.3	1.7	1.6
31	1.2	-----	1.4	9.0	-----	47	-----	54	-----	2.3	1.7	-----
TOTAL	34.90	54.2	89.00	335.0	157.7	244.4	1,547	3,019	714.6	141.5	55.5	50.0
MEAN	1.13	1.81	2.87	10.8	5.63	7.88	51.6	97.4	23.8	4.56	1.79	1.67
MAX	2.5	5.4	30	50	10	47	94	156	48	7.8	2.3	1.8
MIN	.70	1.0	.80	2.0	3.6	4.0	27	54	8.3	2.3	1.6	1.6
AC-FT	69	108	177	664	313	485	3,070	5,990	1,420	281	110	99
CAL YR 1968	TOTAL	2,229.00	MEAN	6.09	MAX	36	MIN	.60	AC-FT	4,420		
WTR YR 1969	TOTAL	6,442.80	MEAN	17.7	MAX	156	MIN	.70	AC-FT	12,780		

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	1345	-	about 90	4-22	1745	2.49	114
1-26	0900	1.81	33	5-11	1830	2.91	203
3-31	2300	2.14	62	6-18	0230	1.92	37

PYRAMID AND WINNEMUCCA LAKES BASIN

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

LOCATION.--Lat 39°22'45", long 120°08'25", in NW¹/₄SW¹/₄ sec.30, T.18 N., R.17 E., Nevada County, in control house at Prosser Creek Dam on Prosser Creek, 1.5 miles upstream from mouth, and 3 miles west of Boca.

DRAINAGE AREA.--50 sq mi, approximately.

PERIOD OF RECORD.--January 1963 to current year.

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

EXTREMES.--Current year: Maximum contents, 21,050 acre-ft Aug. 4 (elevation, 5,730.05 ft); minimum, 1,350 acre-ft Apr. 9 (elevation 5,672.30 ft).

Period of record: Maximum contents, 30,760 acre-ft May 22, 1963 (elevation, 5,743.95 ft); minimum, 1,350 acre-ft Apr. 9, 1969 (elevation, 5,672.30 ft).

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

COOPERATION.--Records furnished by Bureau of Reclamation.

MONTHEND ELEVATIONS AND CONTENTS AT 0800, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31	5,702.88	8,360	-2,430
Nov. 30	5,702.55	8,250	-110
Dec. 31	5,703.00	8,400	+150
Calendar year 1968	-	-	-10
Jan. 31	5,701.40	7,880	-520
Feb. 28	5,702.04	8,080	+200
Mar. 31	5,678.19	2,270	-5,810
Apr. 30	5,677.95	2,230	-40
May 31	5,697.34	6,650	+4,420
June 30	5,720.60	15,750	+9,100
July 31	5,729.90	20,960	+5,210
Aug. 31	5,729.01	20,420	-540
Sept. 30	5,724.85	18,010	-2,410
Water year 1968-69	-	-	+7,220

PYRAMID AND WINNEMUCCA LAKES BASIN

543

10-3405. PROSSER CREEK NEAR BOCA, CALIF.

LOCATION.--Lat 39°22'10", long 120°07'10", in SW $\frac{1}{4}$ sec.32, T.18 N., R.17 E., Nevada County, on left bank 0.2 mile upstream from mouth, and 2 miles southwest of Boca.

DRAINAGE AREA.--53.6 sq mi.

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

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

AVERAGE DISCHARGE (adjusted for storage).--26 years (1942-50, 1951-69), 85.2 cfs (61,730 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 752 cfs May 10 (gage height, 4.66 ft); minimum daily, 8.8 cfs Oct. 15.

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

REMARKS.--Records excellent. Flow regulated by Prosser Creek Dam since Jan. 31, 1963.

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	9.2	42	42	128	60	349	480	377	14	21	12
2	118	9.6	31	43	126	60	384	476	265	14	29	12
3	116	10	25	43	98	60	405	472	202	14	29	12
4	114	17	25	43	85	60	346	460	278	14	29	12
5	116	25	25	43	85	109	328	452	322	14	29	12
6	116	60	25	32	85	131	325	452	303	14	29	12
7	113	81	25	27	84	209	276	492	448	14	29	12
8	113	64	25	27	84	248	252	512	402	14	29	12
9	78	54	25	26	84	243	228	588	433	14	29	12
10	59	54	26	26	55	331	225	698	448	14	28	12
11	27	36	26	27	44	374	250	672	314	11	28	12
12	9.6	25	26	27	44	262	271	676	248	10	28	12
13	9.2	43	26	29	44	206	273	698	194	10	28	12
14	9.2	54	26	29	50	160	399	702	80	10	28	12
15	8.8	54	27	28	44	136	464	583	16	10	28	12
16	18	54	25	28	44	130	327	668	16	10	28	12
17	24	54	25	44	44	130	264	672	16	9.6	28	12
18	43	54	25	58	44	128	305	668	17	10	28	12
19	54	54	25	64	45	128	325	632	16	12	28	12
20	54	54	25	134	45	128	332	612	15	12	28	12
21	55	54	25	277	45	106	527	540	15	12	33	12
22	56	54	25	352	45	95	636	504	15	12	29	12
23	34	54	25	419	45	95	676	399	15	12	29	12
24	25	54	25	412	45	95	676	340	15	12	28	12
25	25	46	25	256	45	95	500	346	14	12	28	12
26	25	42	25	172	45	95	398	352	14	12	28	186
27	25	42	35	170	45	95	394	358	14	12	28	280
28	15	42	42	169	50	106	320	364	14	12	28	278
29	9.2	42	42	167	-----	116	292	367	14	12	28	312
30	9.2	42	42	165	-----	120	415	367	14	12	28	328
31	9.2	-----	42	141	-----	271	-----	374	-----	12	17	-----
TOTAL	1,605.4	1,337.8	883	3,520	1,727	4,582	11,162	15,976	4,554	376.6	865	1,684
MEAN	51.8	44.6	28.5	114	61.7	148	372	515	152	12.1	27.9	56.1
MAX	118	81	42	419	128	374	676	702	448	14	33	328
MIN	8.8	9.2	25	26	44	60	225	340	14	9.6	17	12
AC-FT	3,180	2,650	1,750	6,980	3,430	9,090	22,140	31,690	9,030	747	1,720	3,340
MEAN a	12.2	42.7	30.9	105	65.4	53.3	371	587	305	96.9	19.2	15.6
AC-FT a	750	2,540	1,900	6,460	3,630	3,280	22,100	36,110	18,130	5,960	1,180	930

CAL YR 1968	TOTAL 25,246.2	MEAN 69.0	MAX 582	MIN 8.8	AC-FT 50,080	MEAN a 69.0	AC-FT a 50,070
WTR YR 1969	TOTAL 48,272.8	MEAN 132	MAX 702	MIN 8.8	AC-FT 95,750	MEAN a 142	AC-FT a 103,000

a Adjusted for change in storage in Prosser Creek Reservoir.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3420. LITTLE TRUCKEE RIVER NEAR HOBART MILLS, CALIF.

LOCATION.--Lat 39°30'05", long 120°16'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T.19 N., R.15 E., Sierra County, on left bank 0.5 mile upstream from Independence Creek, and 7.5 miles northwest of Hobart Mills.

DRAINAGE AREA.--36.5 sq mi.

PERIOD OF RECORD.--December 1946 to current year.

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

AVERAGE DISCHARGE.--22 years (1947-69), 89.3 cfs (64,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,240 cfs May 24 (gage height, 4.47 ft); minimum, 2.3 cfs Sept. 12. Period of record: Maximum discharge, 7,910 cfs Feb. 1, 1963 (gage height, 7.76 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurements at gage heights 6.97 and 7.68 ft (adjusted to datum used in 1963); minimum, 0.40 cfs Oct. 19, 1966.

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

REVISIONS.--WRD 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	6.4	19	15	90	40	150	346	865	199	21	2.8
2	3.1	13	15	15	85	40	160	335	797	176	19	2.8
3	3.1	39	15	16	80	40	141	289	861	166	17	2.8
4	3.1	20	16	15	76	37	147	249	896	158	16	2.6
5	3.1	16	17	15	80	38	149	294	841	157	15	2.6
6	3.1	14	16	14	76	39	132	404	831	151	14	2.7
7	3.0	14	16	15	70	39	114	510	740	143	14	2.6
8	3.0	13	16	16	62	42	107	590	683	139	13	2.7
9	3.0	19	16	13	58	36	99	667	587	145	12	2.7
10	3.0	20	14	14	54	37	102	722	485	145	12	2.6
11	3.0	18	15	14	52	38	116	846	457	135	9.5	2.5
12	12	86	14	14	52	36	143	920	463	124	4.8	2.5
13	20	48	13	19	50	34	164	909	517	118	4.7	2.5
14	14	34	15	21	50	34	159	830	538	112	4.3	2.5
15	8.8	30	20	29	46	34	134	672	543	89	4.3	2.5
16	8.0	27	23	29	46	33	131	664	560	76	4.3	2.6
17	7.2	24	25	24	45	32	158	767	501	64	4.4	2.6
18	7.2	42	19	21	44	33	189	910	522	57	4.2	2.6
19	6.8	50	16	39	42	33	201	845	519	53	4.3	2.6
20	6.4	39	13	131	44	32	233	697	466	50	4.2	2.6
21	6.0	34	12	208	45	30	295	699	400	46	3.7	2.8
22	5.7	32	11	180	45	30	387	773	366	43	3.5	2.8
23	5.7	35	12	154	46	30	389	898	372	42	3.4	2.8
24	5.7	31	14	126	45	32	284	1,030	350	38	3.4	2.7
25	5.4	28	16	118	45	32	226	989	304	35	3.2	2.7
26	5.4	25	15	167	44	35	199	954	271	32	3.1	2.7
27	5.1	22	14	140	42	39	194	903	250	31	3.1	2.7
28	5.1	19	15	120	38	43	225	842	225	29	2.9	2.7
29	5.4	20	15	112	-----	51	282	766	211	27	2.9	2.6
30	7.6	20	15	105	-----	64	315	861	210	25	2.9	2.8
31	6.8	-----	15	95	-----	98	-----	910	-----	23	2.7	-----
TOTAL	187.9	838.4	487	2,014	1,552	1,211	5,725	22,091	15,631	2,828	236.8	79.7
MEAN	6.06	27.9	15.7	65.0	55.4	39.1	191	713	521	91.2	7.64	2.66
MAX	20	86	25	208	90	98	389	1,030	896	199	21	2.8
MIN	3.0	6.4	11	13	38	30	99	249	210	23	2.7	2.5
AC-FT	373	1,660	966	3,990	3,080	2,400	11,360	43,820	31,000	5,610	470	158
CAL YR 1968	TOTAL	20,273.8	MEAN	55.4	MAX	357	MIN	1.5	AC-FT	40,210		
WTR YR 1969	TOTAL	52,881.8	MEAN	145	MAX	1,030	MIN	2.5	AC-FT	104,900		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-11	2230	4.33	1,010	5-24	2400	4.47	1,240
5-18	2215	4.35	1,050	6-15	2315	3.98	690

10-3430. Independence Creek near Truckee, Calif.

LOCATION.--Lat 39°27'20", long 120°17'15", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.35, T.19 N., R.15 E., Sierra County, on left bank 0.3 mile downstream from Independence Lake outlet, 6.5 miles northwest of Hobart Mills, and 10 miles north-northwest of Truckee.

DRAINAGE AREA.--8.4 sq mi.

PERIOD OF RECORD.--November 1902 to September 1907, November 1909 to June 1910, August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,940 ft (from topographic map). July 1, 1904, to June 30, 1910, water-stage recorder 75 ft downstream from Independence Lake outlet; prior to July 1, 1904, water-stage recorder 600 ft downstream at approximately same datum.

AVERAGE DISCHARGE.--6 years (1902-7, 1968-69), 37.8 cfs (27,390 acre-ft per year), unadjusted.

EXTREMES.--August and September 1968: Maximum daily discharge, 64 cfs Sept. 14 (gage height, 3.65 ft); minimum daily, 4.9 cfs Aug. 11.

Current year: Maximum discharge, 163 cfs May 28 (gage height, 4.70 ft); minimum, 1.7 cfs Sept. 7.

Period of record: Maximum discharge observed, 286 cfs June 23, 1907 (gage height, 3.9 ft); no flow Sept. 28 to Nov. 10, 1905, and June 1, 1906.

REMARKS.--Records excellent. Flow regulated by Independence Lake (usable capacity, 17,300 acre-ft in 1950).

Discharge, in cubic feet per second, 1968

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	5.8	16	7	5.1	16	13	5.8	48	19	6.0	62	25	17	60
2	5.6	16	8	5.1	16	14	5.8	64	20	6.0	62	26	16	60
3	5.6	16	9	5.1	16	15	5.8	63	21	5.8	61	27	16	59
4	5.6	16	10	5.1	16	16	5.8	63	22	13	61	28	16	59
5	5.2	16	11	4.9	16	17	6.0	62	23	18	61	29	16	59
6	5.1	16	12	5.1	16	18	6.0	62	24	18	60	30	16	58
												31	16	
Total.....													278.3	1,276
Mean.....													8.98	42.5
Runoff in acre-feet.....													552	2,530

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	11	10	9.6	10	11	11	57	141	42	12	1.9
2	57	11	11	9.6	10	11	11	57	140	42	12	1.9
3	57	11	11	9.6	10	11	11	57	140	42	12	1.8
4	56	11	11	9.8	10	11	11	56	140	42	11	1.8
5	56	11	11	9.8	10	11	11	58	140	42	11	1.9
6	56	11	11	9.8	10	11	11	59	139	31	11	1.9
7	56	11	11	9.8	9.8	11	11	61	139	24	10	1.8
8	55	11	11	9.8	9.8	11	11	62	139	24	9.8	2.0
9	55	11	10	9.6	9.8	11	11	63	138	24	9.2	2.0
10	54	11	10	9.3	9.8	11	11	64	136	24	7.3	2.0
11	54	11	10	9.3	10	11	35	67	136	25	5.9	1.9
12	53	11	10	9.3	10	11	54	68	135	25	4.4	3.2
13	53	11	10	8.8	10	11	54	68	117	25	4.2	3.2
14	53	11	10	8.8	10	11	54	68	92	32	3.8	3.2
15	52	11	10	9.1	10	11	54	68	84	36	3.1	3.2
16	52	11	9.8	9.1	10	11	54	69	84	36	3.1	3.2
17	52	11	9.8	9.1	10	11	54	70	84	36	2.8	3.2
18	52	11	9.6	9.1	10	11	54	71	84	35	2.6	2.0
19	52	11	9.3	9.6	10	11	54	70	84	34	2.4	1.1
20	52	11	9.3	9.6	10	11	54	70	84	33	2.2	1.1
21	51	11	9.3	9.8	10	11	54	71	84	32	2.4	1.1
22	51	11	9.3	10	10	11	56	71	83	32	2.2	1.0
23	51	11	9.3	10	11	11	56	73	83	32	2.2	1.0
24	33	11	9.3	10	11	11	55	73	83	31	2.2	1.0
25	12	10	9.6	10	11	11	55	73	83	30	2.2	7.3
26	12	10	9.6	15	11	11	55	117	73	30	2.2	5.6
27	12	10	9.6	13	11	11	55	149	67	20	2.2	5.6
28	12	11	9.6	10	11	11	55	151	50	16	2.4	5.4
29	12	11	9.6	10	-----	11	56	151	42	16	2.5	5.1
30	12	10	9.6	10	-----	11	57	146	42	16	2.4	5.1
31	11	-----	9.6	10	-----	11	-----	143	-----	13	2.1	-----
TOTAL	1,353	326	309.2	306.3	285.2	341	1,185	2,501	3,066	922	164.8	347.1
MEAN	43.6	10.9	9.97	9.88	10.2	11.0	39.5	80.7	102	29.7	5.32	11.6
MAX	57	11	11	15	11	11	57	151	141	42	12	3.2
MIN	11	10	9.3	8.8	9.8	11	11	56	42	13	2.1	1.8
AC-FT	2,680	647	613	608	566	676	2,350	4,960	6,080	1,830	327	688
CAL YR 1968 TOTAL				MEAN	MAX	MIN	AC-FT					
WTR YR 1969 TOTAL	11,106.6				MEAN 30.4	MAX 151	MIN 1.8	AC-FT 22,030				

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3435, SAGEHEN CREEK NEAR TRUCKEE, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 39°25'54", long 120°14'07", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.7, T.18 N., R.16 E., Nevada County, on left bank 2.2 miles upstream from bridge on State Highway 89, and 7.5 miles north of Truckee.

DRAINAGE AREA.--10.8 sq mi.

PERIOD OF RECORD.--October 1953 to current year.

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

AVERAGE DISCHARGE.--16 years, 12.0 cfs (8,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 243 cfs May 13 (gage height, 3.70 ft); minimum daily, 2.4 cfs Oct. 1-5. Period of record: Maximum discharge, 765 cfs Feb. 1, 1963 (gage height, 4.64 ft, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 cfs Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.0	3.5	3.6	7.5	4.5	26	63	98	21	5.4	3.6
2	2.4	5.0	3.4	3.6	7.1	4.4	22	60	96	19	5.2	3.6
3	2.4	9.1	3.6	3.7	6.9	4.4	19	51	95	18	5.0	3.6
4	2.4	4.9	3.4	3.8	6.5	4.4	20	50	94	18	4.8	3.5
5	2.4	4.0	3.4	3.8	6.4	4.4	21	66	92	17	4.8	3.5
6	2.5	3.7	3.3	3.9	6.2	4.4	17	85	87	17	4.7	3.6
7	2.5	3.6	3.4	4.0	5.8	4.4	15	103	81	16	4.6	3.8
8	2.5	3.5	3.5	3.9	5.7	4.4	15	108	86	15	4.6	4.0
9	2.6	3.6	3.4	3.8	5.6	4.4	16	114	79	15	4.6	3.7
10	2.5	3.4	3.8	3.6	5.5	4.4	19	128	67	14	4.6	3.6
11	2.7	4.0	4.1	3.7	5.4	4.2	23	152	66	13	4.5	3.5
12	6.8	10	4.4	3.7	5.4	4.2	28	158	62	12	4.4	3.6
13	4.5	4.9	3.7	5.6	5.2	4.2	29	163	61	12	4.3	3.5
14	4.2	4.1	3.8	6.1	5.1	4.2	26	143	63	12	4.2	3.4
15	3.6	4.3	3.7	4.8	5.2	4.4	23	132	58	11	4.2	3.4
16	3.3	4.1	4.0	4.4	5.0	4.6	24	137	55	10	4.1	3.4
17	3.1	4.2	3.7	4.2	4.9	4.8	29	147	52	9.8	4.1	3.5
18	3.1	6.3	3.6	4.6	4.9	4.9	33	153	50	9.2	4.0	3.4
19	3.0	5.3	3.7	20	4.9	4.9	36	140	46	8.9	3.9	3.5
20	2.9	4.6	3.5	50	4.8	4.9	44	128	43	8.4	3.9	3.6
21	2.9	4.3	3.5	36	4.7	4.7	56	126	40	8.0	3.9	3.6
22	2.9	4.5	3.6	18	4.7	4.9	67	129	37	7.8	3.8	3.5
23	2.9	4.4	3.7	13	4.7	5.3	63	140	36	7.7	3.8	3.4
24	2.9	4.2	3.8	11	4.8	5.5	45	142	34	7.4	3.7	3.4
25	2.8	4.1	3.7	12	4.7	5.7	38	134	32	7.0	3.7	3.4
26	2.8	3.8	3.7	20	4.6	6.4	36	131	29	6.6	3.7	3.4
27	2.8	3.6	3.7	14	4.6	7.7	37	125	27	6.4	3.7	3.4
28	2.8	3.4	3.7	11	4.6	9.6	46	111	25	6.2	3.6	3.4
29	3.0	3.4	3.6	9.1	-----	12	57	107	24	6.0	3.7	3.3
30	3.2	3.5	3.6	8.5	-----	18	60	108	22	5.7	3.7	3.4
31	3.0	-----	3.6	8.0	-----	26	-----	105	-----	5.5	3.7	-----
TOTAL	93.8	134.8	113.1	305.4	151.4	195.2	990	3,639	1,737	350.6	130.9	105.5
MEAN	3.03	4.49	3.65	9.85	5.41	6.30	33.0	117	57.9	11.3	4.22	3.52
MAX	6.8	10	4.4	50	7.5	26	67	163	98	21	5.4	4.0
MIN	2.4	3.0	3.3	3.6	4.6	4.2	15	50	22	5.5	3.6	3.3
AC-FT	186	267	224	606	300	387	1,960	7,220	3,450	695	260	209
CAL YR 1968	TOTAL 3,041.0			MEAN 8.31	MAX 35	MIN 2.3	AC-FT 6,030					
WTR YR 1969	TOTAL 7,946.7			MEAN 21.8	MAX 163	MIN 2.4	AC-FT 15,760					

10-3443. Stampede Reservoir near Boca, Calif.

LOCATION.--Lat 39°28'15", long 120°06'15", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.29, T.19 N., R.17 E., Sierra County, in control house on Stampede dam on Little Truckee River, just downstream from mouth of Davies Creek and 6.2 miles from Boca.

DRAINAGE AREA.--136 sq mi.

PERIOD OF RECORD.--August and September 1969.

GAGE.--Water-stage recorder with mercury-column manometer. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Maximum elevation during period, 5,787.3 ft (below top of inactive storage); no storage prior to Aug. 1.

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Aug. 1, 1969. Usable capacity, 220,200 acre-ft between elevations 5,796.5 (top of inactive storage) and 5,948.7 ft (spillway crest). Inactive storage, 5,000 acre-ft (includes 800 acre-ft dead storage) below elevation 5,796.5 ft. Elevation of streambed at dam axis, 5,737.0 ft. Figures given herein represent usable contents. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

Month-end elevations and contents, at 0800 hours, August and September 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Aug. 31	5,775.3	0	0
Sept. 30	5,787.3	0	0
Water year 1968-69	-	-	0

NOTE.--Storage began Aug. 1, 1969, but did not reach top of inactive storage during the period August and September.

10-3444. LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR BOCA, CALIF.

LOCATION.--Lat 39°26'10", long 120°05'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.18 N., R.17 E., Nevada County, on left bank 1 mile upstream from Boca Reservoir, 1.5 miles upstream from Dry Creek, and 3.5 miles north of Boca.

DRAINAGE AREA.--146 sq mi.

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

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

AVERAGE DISCHARGE (adjusted for storage).--37 years (1903-10, 1939-69), 195 cfs (141,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,030 cfs Apr. 23 (gage height, 3.29 ft); maximum gage height, 3.92 ft (backwater from ice); minimum daily discharge, 0.30 cfs Sept. 16-21.

Period of record: Maximum discharge, 13,300 cfs Feb. 1, 1963 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.30 cfs Sept. 16-21, 1969.

REMARKS.--Records excellent except those for winter months or those for indefinite stage-discharge relationship, which are poor. Flow slightly regulated by Independence Lake (capacity, 17,500 acre-ft) and one trans-mountain diversion to Sierra Valley, and Stampede Reservoir since Aug. 1, 1969.

REVISIONS (WATER YEARS).--WSP 1564: 1903-4, 1906-7, 1910, drainage area at site used 1903-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	32	48	55	166	90	787	1,280	1,220	298	24	.60
2	68	32	35	60	144	88	787	1,240	1,130	262	1.8	.60
3	68	66	38	70	134	90	672	1,070	1,140	253	1.3	.60
4	70	81	40	64	128	86	696	900	1,170	241	1.2	.50
5	73	46	45	59	134	86	760	961	1,140	233	1.1	.50
6	70	46	42	50	125	86	608	1,240	1,130	221	1.0	.50
7	70	44	46	56	123	82	510	1,390	1,060	202	1.0	.50
8	70	41	50	54	115	80	503	1,490	1,020	192	1.0	.50
9	70	42	48	51	123	75	530	1,540	1,020	202	.90	.50
10	70	48	51	50	125	75	565	1,620	870	206	1.0	.50
11	70	45	50	56	120	75	720	1,750	752	192	1.0	.50
12	88	106	38	64	123	85	940	1,780	769	175	1.0	.50
13	101	108	39	70	106	85	1,040	1,740	760	172	.90	.50
14	101	79	55	70	113	75	910	1,720	814	172	.90	.50
15	90	68	48	70	110	75	696	1,510	787	162	.80	.40
16	83	64	38	66	103	85	712	1,380	796	142	.90	.30
17	81	59	42	60	96	106	805	1,380	744	128	.90	.30
18	79	61	45	64	101	120	972	1,490	744	115	.80	.30
19	79	92	40	76	106	110	972	1,470	760	94	.80	.30
20	75	81	38	348	98	110	1,100	1,310	704	103	.80	.30
21	73	68	35	530	81	115	1,330	1,230	616	94	.80	.30
22	73	64	36	318	76	113	1,570	1,240	551	83	.80	.40
23	73	70	45	253	85	125	1,770	1,310	551	91	.80	.50
24	71	68	60	221	75	131	1,230	1,400	537	89	.80	.50
25	42	64	70	196	78	142	950	1,400	496	78	.70	.50
26	32	46	60	266	76	159	860	1,350	433	101	.70	.50
27	30	45	50	241	75	196	850	1,340	392	83	.70	.50
28	29	44	50	217	80	241	961	1,330	359	53	.70	.50
29	29	42	50	206	-----	298	1,180	1,220	313	59	.70	.50
30	30	42	52	188	-----	409	1,240	1,200	308	64	.70	.60
31	31	-----	55	171	-----	593	-----	1,230	-----	60	.60	-----
TOTAL	2,060	1,794	1,439	4,320	3,019	4,286	27,226	42,511	23,086	4,620	51.10	14.00
MEAN	66.5	59.8	46.4	139	108	138	908	1,371	770	149	1.65	.47
MAX	101	108	70	530	166	593	1,770	1,780	1,220	298	24	.60
MIN	29	32	35	50	75	75	503	900	308	53	.60	.30
AC-FT	4,090	3,560	2,850	8,570	5,990	8,500	54,000	84,320	45,790	9,160	101	28
MEAN a	-	-	-	-	-	-	-	-	-	-	29.9	26.7
AC-FT a	-	-	-	-	-	-	-	-	-	-	1,840	1,590

CAL YR 1968	TOTAL	44,492	MEAN	122	MAX	606	MIN	11	AC-FT	88,250	MEAN a	-	AC-FT a	-
WTR YR 1969	TOTAL	114,426.10	MEAN	313	MAX	1,780	MIN	.30	AC-FT	227,000	MEAN a	318	AC-FT a	230,000

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0200	2.18	586	4-23	0200	3.39	2,030
4- 1	2300	2.53	880	5-11	0600	3.30	1,880

a Adjusted for change in storage in Stampede Reservoir.

NOTE.--Stage-discharge relation indefinite, or no gage-height record July 28 to Sept. 30.

10-3444.9 Boca Reservoir at Boca, Calif.

LOCATION.--Lat 39°23'20", long 120°05'40", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T.18 N., R.17 E., Nevada County, in control house at Boca Dam on Little Truckee River, 1,800 ft upstream from mouth, and 0.5 mile northwest of Boca.

DRAINAGE AREA.--172 sq mi.

PERIOD OF RECORD.--December 1938 to current year. Month-end contents only for December 1938 to September 1957, published in WSP 1734.

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

EXTREMES.--Current year: Maximum contents, 41,100 acre-ft June 15 (elevation, 5,605.20 ft); minimum, 96 acre-ft Feb. 21 to Mar. 19 (elevation, 5,522.60 ft).

Period of record: Maximum contents, 41,440 acre-ft Dec. 23, 1955 (elevation, 5,605.55 ft); minimum, 37 acre-ft Mar. 4-9, 1955 (elevation, 5,521.65 ft).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,900 acre-ft between elevations 5,521 (outlet sill) and 5,605 ft (top of spillway gates). Elevation of spillway (gate open) is 5,589.01 ft. Dead storage, 240 acre-ft. Figures given herein represent usable contents. Water is used for irrigation in the State of Nevada and for power development.

COOPERATION.--Daily elevations furnished by Washoe County Water Conservation District.

REVISIONS.--WSP 1634: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,522	58	5,540	2,340	5,580	20,020
5,525	270	5,550	4,970	5,590	27,510
5,530	760	5,560	8,790	5,600	36,150
5,535	1,440	5,570	13,760	5,605.5	41,390

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12,940	8,990	6,140	1,950	2,390	96	3,830	27,840	40,510	40,170	40,800	35,360
2	12,830	8,900	5,940	1,930	2,240	96	5,540	28,320	40,410	40,310	40,850	36,010
3	12,730	8,810	5,760	1,930	2,020	96	6,540	28,450	40,020	40,410	40,800	36,740
4	12,620	8,880	5,560	1,930	1,800	96	7,160	28,280	39,880	40,410	40,660	34,510
5	12,510	8,880	5,060	1,910	1,610	96	7,850	28,000	40,220	40,660	40,510	34,150
6	12,410	8,790	5,180	1,890	1,410	96	8,400	28,160	40,510	40,850	40,360	33,560
7	12,300	8,750	4,680	1,870	1,200	96	8,500	28,490	40,850	40,850	40,260	33,040
8	12,200	8,640	4,860	1,880	1,030	96	8,400	28,940	40,900	40,850	40,120	32,470
9	12,100	8,590	4,680	1,860	879	96	8,400	29,150	40,850	40,900	39,980	31,690
10	11,890	8,500	4,480	1,840	754	96	8,400	29,400	40,800	40,800	39,830	31,000
11	11,710	8,420	4,350	1,800	681	96	8,680	-	40,700	40,900	39,680	30,240
12	11,430	8,380	4,020	1,820	648	96	9,370	-	40,750	40,900	39,440	29,730
13	11,180	8,440	3,740	1,840	595	96	10,690	-	40,850	40,900	39,300	29,400
14	10,980	8,440	3,430	1,940	543	96	11,840	-	41,000	40,900	39,160	29,110
15	10,790	8,400	3,100	2,000	372	96	12,410	-	41,100	40,900	39,010	28,740
16	10,660	8,290	2,790	2,060	164	96	12,730	-	40,700	40,900	38,820	28,240
17	10,560	8,160	2,470	2,100	109	96	13,270	-	40,460	40,900	38,580	27,590
18	10,500	8,040	2,240	2,100	115	96	14,100	31,900	40,510	40,900	38,390	26,910
19	10,420	7,890	2,100	2,160	115	96	15,200	32,600	40,610	40,900	38,200	26,200
20	10,420	7,810	1,950	2,610	115	122	16,350	33,220	40,660	40,900	38,010	25,610
21	10,240	7,680	1,820	3,510	96	109	17,610	33,480	40,460	40,900	37,870	24,800
22	10,110	7,540	1,790	3,640	96	122	19,740	33,970	40,170	40,900	37,730	24,180
23	9,970	7,400	1,800	3,130	96	122	21,640	34,420	40,120	40,900	37,540	23,540
24	9,830	7,260	1,840	2,610	96	122	23,620	35,280	40,310	40,800	37,310	22,920
25	9,760	7,120	1,890	1,990	96	129	24,450	36,150	40,410	40,610	37,120	22,320
26	9,600	6,980	1,890	2,170	96	171	24,910	36,940	40,410	40,660	36,840	21,640
27	9,480	6,790	1,890	2,370	96	254	25,140	37,780	40,310	40,610	36,560	21,640
28	9,350	6,620	1,910	2,510	96	455	25,450	38,390	40,120	40,560	36,330	21,600
29	9,240	6,450	1,950	2,540	-----	760	26,080	39,060	40,020	40,700	36,100	21,600
30	9,170	6,300	1,970	2,560	-----	1,360	26,950	39,490	39,930	40,700	35,820	21,600
31	9,100	-----	1,970	2,480	-----	2,260	-----	39,930	-----	40,750	35,560	-----
(+)	5,560.70	5,553.85	5,538.10	5,540.70	5,522.60	5,539.60	5,589.30	5,604.00 [†]	5,604.00	5,604.85	5,599.35	5,582.25
(#)	-3,950	-2,800	-4,330	+510	-2,380	+2,160	+24,690	+12,980	0	+820	-5,190	-13,960

CALENDAR YEAR 1968..... # +330

WATER YEAR 1969..... # +8,550

[†] ELEVATION, IN FEET, AT END OF MONTH.

[#] CHANGE IN CONTENTS, IN ACRE-FEET.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3445. LITTLE TRUCKEE RIVER AT BOCA, CALIF.

LOCATION.--Lat 39°23'10", long 120°05'40", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.28, T.18 N., R.17 E., Nevada County, on right bank 800 ft upstream from mouth, 1,000 ft downstream from Boca Dam, and 0.3 mile northwest of Boca.

DRAINAGE AREA.--172 sq mi.

PERIOD OF RECORD.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to current year. Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

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

AVERAGE DISCHARGE (unadjusted).--34 years (1911-15, 1939-69), 191 cfs (138,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,720 cfs May 13 (gage height, 5.46 ft); minimum daily, 0.36 cfs Sept. 27.

Period of record: Maximum discharge, 8,800 cfs Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in most years.

REMARKS.--Records excellent. Flow regulated by Boca Reservoir (capacity, 40,900 acre-ft), Independence Lake (capacity, 17,500 acre-ft), one transmountain diversion to Sierra Valley, and Stampede Reservoir (capacity, 225,000 acre-ft) since Aug. 1, 1969.

REVISIONS.--WSP 1564: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	89	141	57	272	122	298	1,090	1,140	218	19	116
2	124	89	138	57	270	117	448	1,200	1,280	219	25	117
3	124	90	137	57	266	119	578	1,220	1,200	219	42	131
4	125	90	136	57	261	116	650	1,150	1,040	157	53	170
5	125	90	136	57	256	109	708	1,090	948	130	53	230
6	125	90	135	58	251	118	714	1,130	958	171	52	257
7	124	90	134	58	234	108	715	1,250	990	204	52	257
8	124	89	132	58	221	104	713	1,370	1,040	192	70	300
9	151	88	135	57	216	111	713	1,460	1,040	199	80	350
10	170	87	135	57	191	94	714	1,530	903	198	78	350
11	195	95	164	58	175	114	720	1,600	757	192	78	300
12	212	100	180	58	174	113	734	1,670	742	176	78	200
13	211	100	192	59	172	109	750	1,690	742	165	76	150
14	182	98	202	59	198	98	765	1,670	744	171	75	150
15	166	119	199	59	209	107	773	1,170	913	161	92	200
16	142	131	187	60	164	115	778	1,020	927	135	99	300
17	125	131	170	73	127	132	785	1,100	805	125	96	330
18	125	141	136	82	141	148	792	1,120	735	113	86	320
19	125	146	119	83	138	146	802	1,120	738	97	76	310
20	124	144	105	253	122	153	814	1,120	746	92	75	310
21	137	143	63	494	110	146	826	1,040	746	87	73	308
22	146	142	48	548	118	141	842	990	627	79	90	298
23	145	142	48	535	120	158	866	959	483	128	98	288
24	131	142	48	517	103	170	879	943	437	167	96	288
25	112	141	48	367	95	180	883	949	438	112	109	285
26	106	139	48	268	102	196	886	954	438	75	119	118
27	106	139	48	272	123	205	889	960	436	75	120	.36
28	107	138	48	275	128	217	891	965	371	33	119	.48
29	71	138	49	277	-----	232	896	970	334	3.7	118	.54
30	68	140	53	277	-----	250	930	972	255	3.7	118	.54
31	85	-----	57	276	-----	273	-----	968	-----	8.0	118	-----
TOTAL	4,137	3,501	3,571	5,523	4,957	4,521	22,752	36,440	22,953	4,105.4	2,533	6,434.92
MEAN	133	117	115	178	177	146	758	1,175	765	132	81.7	214
MAX	212	146	202	548	272	273	930	1,690	1,280	219	120	350
MIN	68	87	48	57	95	94	298	943	255	3.7	19	.36
AC-FT	8,210	6,940	7,080	10,950	9,830	8,970	45,130	72,280	45,530	8,140	5,020	12,760
CAL YR 1968	TOTAL	46,282.9	MEAN	126	MAX	558	MIN	1.6	AC-FT	91,800		
WTR YR 1969	TOTAL	121,428.32	MEAN	333	MAX	1,690	MIN	.36	AC-FT	240,800		

10-3460. TRUCKEE RIVER AT FARAD, CALIF.

LOCATION.--Lat 39°25'41", long 120°01'59", in NE $\frac{1}{4}$ sec.12, T.18 N., R.17 E., Nevada County, on left bank 0.5 mile upstream from Mystic Canyon, 0.7 mile downstream from Farad powerplant, 2.5 miles north of Floriston, 3.4 miles downstream from Bronco Creek, and 3.5 miles upstream from California-Nevada State line.

DRAINAGE AREA.--932 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 5,153.21 ft above mean sea level (Bureau of Reclamation bench mark). March to October 1890, nonrecording gage at site 7 miles upstream at different datum. Sept. 7, 1899, to May 31, 1909, nonrecording gage at approximately present location at different datum. June 1, 1909, to July 31, 1912; nonrecording gage at site 2.5 miles downstream at different datum. Aug. 1, 1912, to Dec. 31, 1937, water-stage recorder at site 4.1 miles upstream at different datum. Jan. 1, 1938, to Aug. 27, 1957, water-stage recorder at approximately present location at different datum.

AVERAGE DISCHARGE.--70 years (1899-1969), 794 cfs (575,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,120 cfs May 11 (gage height, 7.73 ft); minimum, 312 cfs Dec. 28. 1899 to current year: Maximum discharge, 17,500 cfs Nov. 21, 1950 (gage height, 14.5 ft, present datum, from floodmarks), from slope-area measurement of peak flow; minimum, 28 cfs Dec. 18, 1930.

REMARKS.--Records excellent. Flow regulated by Lake Tahoe, Prosser Creek, Stampede and Boca Reservoirs, Donner and Independence Lakes, and by several powerplants. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report for Truckee River at Floriston, Calif. No appreciable inflow between sampling point and gaging station.

REVISIONS.--WSP 1714: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	464	385	409	374	847	1,980	3,480	3,720	3,550	2,550	535	522
2	449	412	388	373	881	1,960	3,280	3,370	3,540	2,390	550	522
3	408	559	446	369	890	1,960	3,520	3,290	3,480	1,950	558	529
4	406	467	449	370	933	1,950	3,580	3,150	3,510	1,360	565	543
5	404	439	424	370	997	1,970	3,670	3,200	3,500	1,060	557	556
6	399	449	421	372	1,130	2,020	3,490	3,510	3,620	937	556	575
7	399	434	418	428	1,390	2,070	3,340	3,890	3,930	948	552	577
8	398	416	420	431	1,470	2,120	3,280	4,230	4,120	850	555	616
9	394	416	418	426	1,490	2,140	3,250	4,660	4,160	772	562	588
10	393	415	451	423	1,450	2,170	3,230	4,860	4,000	694	560	542
11	394	398	488	428	1,450	2,260	3,340	4,860	3,870	667	555	585
12	423	509	396	443	1,530	2,160	3,570	4,860	3,740	630	544	610
13	437	438	398	506	1,600	2,050	3,630	4,830	3,740	620	537	570
14	425	364	411	558	1,680	1,970	3,620	4,680	3,650	619	532	566
15	416	379	420	509	1,730	1,950	3,360	3,880	3,780	625	530	585
16	408	387	402	409	1,670	1,960	3,060	3,610	3,850	587	542	599
17	379	383	450	412	1,680	2,000	3,100	3,810	3,750	574	540	572
18	377	438	450	441	1,690	2,030	3,280	3,970	4,050	564	533	556
19	380	554	408	919	1,670	2,020	3,320	3,810	4,350	569	512	554
20	370	501	395	2,230	1,640	2,040	3,450	3,590	4,330	553	507	552
21	371	481	412	2,690	1,620	2,000	3,820	3,440	4,220	546	498	550
22	371	470	403	1,950	1,700	2,040	4,030	3,340	4,060	561	509	540
23	370	482	402	1,710	1,790	2,080	3,760	3,290	3,910	619	514	526
24	381	466	428	1,580	1,890	2,100	3,370	3,280	3,770	754	510	523
25	367	450	436	1,370	1,970	2,140	3,090	3,200	3,610	738	517	522
26	397	422	422	1,610	1,980	2,180	3,220	3,210	3,110	688	528	503
27	395	420	439	1,260	1,970	2,240	3,390	3,240	1,900	652	533	481
28	392	409	428	1,120	1,990	2,400	3,360	3,160	2,830	619	532	477
29	391	406	422	1,020	-----	2,660	3,370	3,180	2,790	577	536	498
30	380	408	416	957	-----	2,880	3,590	3,320	2,670	552	535	502
31	380	-----	378	875	-----	3,310	-----	3,360	-----	544	528	-----
TOTAL	12,318	13,157	13,048	26,933	42,728	66,810	102,850	115,800	109,390	26,369	16,622	16,441
MEAN	397	439	421	869	1,526	2,155	3,428	3,735	3,646	851	536	548
MAX	464	559	488	2,690	1,990	3,310	4,030	4,860	4,350	2,550	565	616
MIN	367	364	378	369	847	1,950	3,060	3,150	1,900	544	498	477
AC-FT	24,430	26,100	25,880	53,420	84,750	132,500	204,000	229,700	217,000	52,300	32,970	32,610
CAL YR 1968	TOTAL 210,998			MEAN 576	MAX 1,870	MIN 330	AC-FT 418,500					
WTR YR 1969	TOTAL 562,466			MEAN 1,541	MAX 4,860	MIN 364	AC-FT 1,116,000					

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3480. TRUCKEE RIVER AT RENO, NEV.

LOCATION.--Lat 39°31'55", long 119°47'05", in NW $\frac{1}{4}$ sec.7, T.19 N., R.20 E., Washoe County, on left bank 400 ft downstream from Kietzke Lane bridge, 0.5 mile downstream from Scott Island, 1.5 miles east of Reno Post Office, and 5 miles upstream from Steamboat Creek.

DRAINAGE AREA.--1,067 sq mi.

PERIOD OF RECORD.--July 1906 to September 1921, June 1925 to September 1926, January 1930 to December 1935, January to December 1943, January 1946 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734.

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

AVERAGE DISCHARGE.--43 years (1906-21, 1925-26, 1930-34, 1946-69), 673 cfs (487,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,420 cfs May 13 (gage height, 8.01 ft); minimum, 140 cfs Sept. 4. Period of record: Maximum discharge, 20,800 cfs Dec. 23, 1955; maximum gage height, 13.83 ft Nov. 21, 1950; no flow Sept. 12, 14-24, 26-30, 1926.

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

REVISIONS.--WSP 1714: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	263	377	349	910	2,010	4,120	3,840	3,360	2,310	186	202
2	232	273	361	357	924	2,000	3,890	3,400	3,430	2,180	191	189
3	202	405	381	353	931	1,990	3,770	3,300	3,360	1,740	194	196
4	191	409	421	353	959	1,990	3,960	3,120	3,380	1,200	209	207
5	191	381	409	349	1,050	2,010	4,150	3,130	3,320	850	224	209
6	191	385	401	349	1,130	2,080	3,890	3,420	3,460	688	204	241
7	196	389	389	381	1,430	2,100	3,680	3,880	3,750	700	204	244
8	194	373	385	409	1,490	2,180	3,600	4,300	4,050	575	199	273
9	199	353	381	397	1,540	2,190	3,590	4,780	4,240	502	215	284
10	186	369	421	397	1,530	2,210	3,560	5,080	3,940	421	215	227
11	196	353	493	401	1,510	2,320	3,680	5,050	3,810	373	212	247
12	218	439	417	417	1,640	2,250	3,990	5,140	3,630	330	209	270
13	241	409	389	511	1,640	2,110	4,100	5,110	3,590	312	196	247
14	251	349	409	570	1,710	2,050	4,020	4,940	3,520	312	189	247
15	235	319	425	493	1,780	2,010	3,640	4,120	3,570	301	189	247
16	244	334	405	393	1,700	2,050	3,240	3,600	3,810	267	202	280
17	224	327	413	349	1,690	2,160	3,200	3,820	3,660	235	207	287
18	209	345	439	381	1,720	2,210	3,450	4,090	4,010	221	196	260
19	215	515	405	1,230	1,720	2,180	3,460	3,940	4,360	227	181	260
20	215	461	377	3,700	1,670	2,180	3,640	3,600	4,360	215	186	254
21	212	439	373	3,980	1,650	2,140	4,030	3,410	4,160	202	179	257
22	212	421	377	2,410	1,710	2,170	4,450	3,240	4,010	212	184	260
23	209	430	405	1,900	1,780	2,250	4,130	3,250	3,820	280	191	235
24	207	425	413	1,710	1,900	2,270	3,590	3,200	3,670	381	179	235
25	209	413	443	1,760	1,980	2,290	3,190	3,150	3,530	401	186	232
26	209	385	409	2,670	2,000	2,380	3,240	3,120	3,280	334	196	227
27	221	377	393	1,560	2,000	2,450	3,450	3,130	1,490	312	199	207
28	218	369	421	1,300	2,010	2,640	3,420	3,070	2,650	298	199	204
29	224	365	397	1,170	-----	3,000	3,380	3,010	2,560	229	202	215
30	221	373	393	1,070	-----	3,290	3,610	3,150	2,480	207	207	235
31	251	-----	373	973	-----	3,910	-----	3,200	-----	196	207	-----
TOTAL	6,661	11,448	12,495	32,642	43,704	71,070	111,120	116,590	106,260	17,011	6,137	7,178
MEAN	215	382	403	1,053	1,561	2,293	3,704	3,761	3,542	549	198	239
MAX	251	515	493	3,980	2,010	3,910	4,450	5,140	4,360	2,310	224	287
MIN	186	263	361	349	910	1,990	3,190	3,010	1,490	196	179	189
AC-FT	13,210	22,710	24,780	64,740	86,690	141,000	220,400	231,300	210,800	33,740	12,170	14,240
CAL YR 1968	TOTAL 155,396			MEAN 425	MAX 2,040		MIN 186	AC-FT 308,200				
WTR YR 1969	TOTAL 542,316			MEAN 1,486	MAX 5,140		MIN 179	AC-FT 1,076,000				

10-3547, MILL CREEK AT MILFORD, CALIF.

LOCATION.--Lat 40°10'15", long 120°22'14", in SE¹/₄NE¹/₄ sec.26, T.27 N., R.14 E., Lassen County, on left bank 7 ft upstream from culvert on U.S. Highway 395 in Milford.

DRAINAGE AREA.--2.26 sq mi.

PERIOD OF RECORD.--August 1963 to September 1969 (discontinued as a continuous-record station; continued as crest-stage gage only).

GAGE.--Water-stage recorder with recording rain-gage attachment and crest-stage gages. Altitude of gage is 4,200 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 1.12 cfs (811 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 24 cfs Jan. 21 (gage height, 4.41 ft); minimum daily, 0.33 cfs Sept. 29, 30.

Period of record: Maximum discharge, 28 cfs Jan. 29, 1967 (gage height, 4.13 ft), from rating curve extended above 13 cfs on basis of computation of flow through culvert at gage heights 3.00, 3.59, and 4.13 ft; maximum gage height, 4.41 ft Jan. 21, 1969 (backwater from debris); no flow Aug. 23, 1964, Aug. 28, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	.74	.94	.94	2.0	1.3	5.2	2.6	.76	.48	.64	.70
2	.58	.76	.94	.94	2.0	1.3	3.9	2.4	.76	.48	.70	.70
3	.58	.84	.94	.94	1.9	1.2	3.4	2.6	.76	.48	.70	.70
4	.64	.88	.88	.76	1.9	1.2	3.5	2.6	.70	.36	.70	.70
5	.70	.83	.82	.44	1.9	1.3	3.5	2.4	.70	.44	.70	.64
6	.70	.78	.82	.64	1.8	1.3	2.7	2.2	.70	.44	.70	.58
7	.70	.76	.82	.64	1.7	1.3	2.4	2.0	.70	.40	.70	.44
8	.70	.76	.82	.64	1.7	1.3	2.5	2.0	.70	.40	.70	.43
9	.70	.74	.82	.64	1.8	1.3	2.9	2.0	.82	.67	.70	.44
10	.70	.71	1.0	.64	1.8	1.3	3.9	2.0	.82	.82	.70	.44
11	.76	.70	.94	.70	1.8	1.3	3.9	2.0	.94	.76	.70	.44
12	.76	.92	.88	.70	1.8	1.3	3.9	2.0	.82	.70	.70	.44
13	.76	.91	.82	.88	1.7	1.3	4.5	1.8	.76	.70	.70	.44
14	.76	.90	.82	.94	1.7	1.3	3.9	1.7	.82	.76	.70	.44
15	.76	.89	.94	.76	1.9	1.4	3.7	1.6	.94	.76	.64	.44
16	.76	.88	.82	.76	1.7	1.4	3.5	1.6	.88	.76	.58	.44
17	.76	.88	.76	.76	1.6	1.5	2.9	1.5	.76	.70	.53	.40
18	.76	.88	.76	.76	1.7	1.6	3.4	1.2	.82	.70	.64	.40
19	.75	.88	.82	1.8	1.6	1.6	3.9	1.2	.82	.70	.64	.40
20	.74	.88	.82	8.9	1.6	1.6	4.1	1.2	.82	.44	.64	.40
21	.73	.88	.82	14	1.6	1.6	4.5	1.1	.76	.53	.64	.40
22	.71	.88	.88	4.5	1.6	1.6	4.8	1.1	.58	.66	.82	.36
23	.69	.82	.88	2.4	1.5	1.6	4.6	1.0	.64	.70	.70	.36
24	.66	.88	.94	1.9	1.5	1.6	4.2	1.0	.64	.70	.58	.35
25	.62	.88	.94	2.7	1.5	1.7	3.5	.94	.58	.70	.82	.35
26	.59	.88	.94	8.8	1.3	1.9	3.1	.94	.64	.70	.82	.35
27	.58	.88	.94	3.5	1.3	2.1	2.9	.94	.58	.64	.82	.34
28	.63	.88	.94	2.8	1.4	2.5	2.8	.94	.53	.64	.82	.34
29	.67	.94	.94	2.4	-----	3.3	2.8	.94	.53	.64	.82	.33
30	.72	.94	.94	2.5	-----	4.8	2.7	.82	.48	.64	.82	.33
31	.74	-----	.94	2.4	-----	6.2	-----	.82	-----	.64	.82	-----
TOTAL	21.49	25.38	27.28	72.08	47.3	56.0	107.5	49.14	21.76	19.14	21.89	13.52
MEAN	.69	.85	.88	2.33	1.69	1.81	3.58	1.59	.73	.62	.71	.45
MAX	.76	.94	1.0	14	2.0	6.2	5.2	2.6	.94	.82	.82	.70
MIN	.58	.70	.76	.44	1.3	1.2	2.4	.82	.48	.36	.53	.33
AC-FT	43	50	54	143	94	111	213	97	43	38	43	27
(a)	.24	.32	2.90	10.72	1.19	.14	.30	.32	1.65	.06	0	0

CAL YR 1968 TOTAL 295.61 MEAN .81 MAX 2.8 MIN .17 AC-FT 586
WTR YR 1969 TOTAL 482.48 MEAN 1.32 MAX 14 MIN .33 AC-FT 957

a Precipitation, in inches (Some precipitation falling as snow may not be included).
NOTE.--No gage-height record Oct. 19 to Nov. 17.

HONEY LAKE BASIN

10-3565. SUSAN RIVER AT SUSANVILLE, CALIF.

LOCATION.--Lat 40°25'03", long 120°40'15", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.30 N., R.12 E., Lassen County, on left bank 0.5 mile west of Susanville and 1.1 miles upstream from Piute Creek.

DRAINAGE AREA.--184 sq mi.

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

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

AVERAGE DISCHARGE.--25 years (1900-1901, 1903-5, 1917-20, 1950-69), 96.5 cfs (69,910 acre-ft per year).

EXTREMES --Current year: Maximum discharge, 3,190 cfs Jan. 21 (gage height, 6.46 ft), from rating curve extended as explained below; minimum daily, 3.9 cfs Oct. 3-5.

Period of record: Maximum discharge, 5,100 cfs Dec. 22, 1964 (gage height, 7.30 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 6.62 ft; no flow Aug. 15, 1961.

REMARKS.--Records fair. Flow regulated by McCoy Flat Reservoir and Hog Flat Reservoir (combined usable capacity, 25,300 acre-ft). Diversions for irrigation of 1,400 acres above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	9.2	13	19	139	59	730	817	248	32	61	6.5
2	4.0	10	10	21	120	53	568	798	250	30	64	29
3	3.9	17	11	21	105	55	476	774	239	28	60	53
4	3.9	14	13	22	105	54	456	674	235	36	57	59
5	3.9	10	12	22	102	53	512	677	228	48	53	56
6	4.0	9.2	12	24	94	57	432	752	213	51	50	62
7	4.2	9.2	12	31	85	53	376	837	196	47	46	58
8	4.5	9.0	13	29	81	53	364	903	232	46	41	55
9	4.9	9.0	13	28	85	49	376	971	237	62	37	56
10	4.9	8.5	100	31	99	52	392	1,010	210	85	32	57
11	5.1	9.8	66	24	117	59	432	1,040	219	88	29	58
12	11	62	28	28	125	52	500	1,150	196	85	26	57
13	11	20	27	234	104	47	500	1,120	180	82	25	57
14	10	15	25	180	102	46	448	1,010	176	81	22	56
15	9.2	14	22	84	99	49	388	910	166	79	19	57
16	9.2	14	21	59	90	63	396	838	152	91	18	33
17	8.3	12	20	44	84	85	439	808	144	102	17	15
18	8.3	27	19	44	84	102	553	778	104	101	15	11
19	7.7	24	18	276	80	99	510	718	90	99	14	11
20	7.7	18	18	1,530	75	99	537	650	78	97	13	10
21	7.7	16	17	1,540	74	98	608	476	65	96	12	11
22	7.5	15	17	464	64	125	704	400	59	94	9.9	10
23	7.5	14	20	270	71	166	719	351	56	105	8.1	9.7
24	7.5	16	22	206	63	170	605	330	53	104	6.5	9.3
25	7.7	16	23	215	69	186	523	285	48	102	6.5	8.6
26	7.5	14	21	998	68	228	492	270	46	99	6.7	7.9
27	7.7	13	20	412	53	300	479	285	44	99	6.6	7.4
28	7.7	13	21	288	62	396	534	250	42	97	6.7	7.4
29	8.3	13	20	217	-----	480	822	224	40	96	6.7	7.4
30	11	13	20	188	-----	605	847	230	36	72	6.7	7.1
31	10	-----	20	150	-----	862	-----	243	-----	63	6.4	-----
TOTAL	219.8	463.9	694	7,699	2,499	4,855	15,718	20,579	4,282	2,397	781.8	942.3
MEAN	7.09	15.5	22.4	248	89.3	157	524	664	143	77.3	25.2	31.4
MAX	11	62	100	1,540	139	862	847	1,150	250	105	64	62
MIN	3.9	8.5	10	19	53	46	364	224	36	28	6.4	6.5
AC-FT	436	920	1,380	15,270	4,960	9,630	31,180	40,820	8,490	4,750	1,550	1,870
CAL YR 1968	TOTAL	22,750.7	MEAN	62.2	MAX	665	MIN	1.7	AC-FT	45,130		
WTR YR 1969	TOTAL	61,130.8	MEAN	167	MAX	1,540	MIN	3.9	AC-FT	121,300		

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1600	3.80	436	3-31	1830	5.14	1,140
1-21	0400	6.46	3,190	4-29	2130	4.87	958
1-26	0500	5.98	2,160	5-12	1800	5.51	1,480

10-3584.7. WILLOW CREEK TRIBUTARY NEAR SUSANVILLE, CALIF.

LOCATION.--Lat 40°29'48", long 120°33'30", in SW¼ sec.31, T.31 N., R.13 E., Lassen County, on left bank at culvert on State Highway 139, and 7.5 miles northeast of Susanville.

DRAINAGE AREA.--3.08 sq mi.

PERIOD OF RECORD.--Water years 1963-65 (annual maximum), October 1965 to current year.

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

EXTREMES.--Current year: Maximum discharge, 48 cfs Jan. 21 (gage height, 3.91 ft); no flow for several months. Period of record: Maximum discharge, 97 cfs Feb. 1, 1963 (gage height, 4.90 ft); no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.84	.23	9.5	1.7	.04	0	0	0
2	0	0	0	0	.52	.23	5.8	1.6	0	0	0	0
3	0	0	0	0	.52	.23	5.2	1.9	0	0	0	0
4	0	0	0	0	.62	.23	5.6	1.6	0	0	0	0
5	0	0	0	0	.44	.26	6.6	1.2	0	0	0	0
6	0	0	0	0	.32	.29	3.8	1.2	0	0	0	0
7	0	0	0	0	.23	.29	3.7	1.1	0	0	0	0
8	0	0	0	0	.23	.29	3.8	1.0	0	0	0	0
9	0	0	0	0	.62	.29	4.5	1.1	.08	0	0	0
10	0	0	.07	0	2.4	.23	4.5	1.0	0	0	0	0
11	0	.01	0	0	5.2	.20	5.0	1.0	.12	0	0	0
12	0	.01	0	0	5.2	.23	5.5	1.3	0	0	0	0
13	0	0	0	0	1.6	.23	3.8	1.0	0	0	0	0
14	0	0	0	1.3	.90	.20	3.4	.84	0	0	0	0
15	0	0	0	3.4	.78	.29	2.9	.67	.36	0	0	0
16	0	0	0	1.0	.62	.48	2.9	.48	.40	0	0	0
17	0	0	0	.08	.57	.78	2.9	.40	.14	0	0	0
18	0	.01	0	.02	.52	2.1	3.3	.36	.01	0	0	0
19	0	0	0	4.5	.48	2.9	2.9	.29	0	0	0	0
20	0	0	0	18	.40	2.4	3.1	.23	0	0	0	0
21	0	0	0	16	.32	2.6	3.2	.23	0	0	0	0
22	0	0	0	2.6	.32	5.0	3.7	.20	0	0	0	0
23	0	0	0	2.2	.29	6.3	4.0	.14	0	0	0	0
24	0	0	0	.72	.29	5.6	3.6	.16	0	0	0	0
25	0	0	0	1.2	.29	6.8	2.6	.01	0	0	0	0
26	0	0	0	10	.23	9.1	2.6	.01	0	0	0	0
27	0	0	0	4.8	.26	12	2.4	.01	0	0	0	0
28	0	0	0	2.4	.29	14	2.2	.01	0	0	0	0
29	0	0	0	1.8	-----	16	1.9	0	0	0	0	0
30	0	0	0	1.2	-----	16	1.9	.01	0	0	0	0
31	0	-----	0	1.2	-----	16	-----	.03	-----	0	0	-----
TOTAL	0	0.03	0.07	72.42	25.30	121.78	116.8	20.78	1.15	0	0	0
MEAN	0	.001	.002	2.34	.90	3.93	3.89	.67	.038	0	0	0
MAX	0	.01	.07	18	5.2	16	9.5	1.9	.40	0	0	0
MIN	0	0	0	0	.23	.20	1.9	0	0	0	0	0
AC-FT	0	.06	.1	144	50	242	232	41	2.3	0	0	0
(a)	0	1.73	2.19	6.56	1.52	.17	.20	.21	.75	.16	0	0
CAL YR 1968	TOTAL	108.39	MEAN	.30	MAX	14	MIN	0	AC-FT	215		
WTR YR 1969	TOTAL	358.33	MEAN	.98	MAX	18	MIN	0	AC-FT	711		

a Precipitation, in inches (Some precipitation falling as snow may not be included).

HONEY LAKE BASIN

10-3585, WILLOW CREEK NEAR SUSANVILLE, CALIF.

LOCATION.--Lat 40°29'21", long 120°32'10", in SW¼NE¼ sec.5, T.30 N., R.13 E., Lassen County, on left bank 4 miles upstream from Peters Valley Creek, and 8 miles northeast of Susanville.

DRAINAGE AREA.--90.0 sq mi, excludes that of Eagle Lake basin.

PERIOD OF RECORD.--October 1950 to current year.

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

AVERAGE DISCHARGE.--19 years, 33.0 cfs (23,910 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 744 cfs Jan. 21 (gage height, 5.43 ft); minimum daily, 10 cfs Sept. 1-17.

Period of record: Maximum discharge, 816 cfs Feb. 1, 1963 (gage height, 5.59 ft), from rating curve extended above 540 cfs; minimum, 8.1 cfs Nov. 16, 1951.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	26	29	31	137	60	299	60	13	14	24	10
2	14	26	27	32	124	58	225	55	13	14	23	10
3	14	30	27	33	103	56	198	53	13	14	23	10
4	14	31	28	34	88	54	170	55	13	16	21	10
5	15	30	29	34	83	55	185	51	13	20	21	10
6	15	28	28	31	74	54	169	47	13	20	19	10
7	15	27	29	32	71	53	149	45	13	20	19	10
8	15	27	29	31	70	54	140	43	13	26	18	10
9	16	26	29	28	67	51	134	42	15	25	18	10
10	17	25	37	30	82	50	124	42	16	27	18	10
11	16	25	52	31	105	51	115	42	16	25	16	10
12	24	32	47	36	142	50	110	45	16	24	15	10
13	39	33	40	51	134	53	109	49	15	25	15	10
14	34	31	38	83	117	49	105	41	15	25	15	10
15	34	30	32	81	99	47	100	36	19	24	14	10
16	33	30	30	78	95	47	90	36	20	24	13	10
17	30	29	40	57	95	57	87	35	19	24	12	10
18	28	31	37	51	91	95	89	32	18	23	12	11
19	26	31	34	108	85	118	84	30	18	22	13	11
20	25	31	30	442	73	123	82	28	17	22	13	13
21	24	30	27	636	72	120	81	27	17	23	12	13
22	24	29	25	416	66	168	78	26	16	23	12	13
23	25	29	25	250	63	213	76	25	15	23	12	14
24	24	29	29	195	47	228	86	24	15	23	12	14
25	23	30	30	158	56	254	82	22	14	23	12	14
26	23	29	30	375	62	294	76	21	14	23	12	14
27	23	29	31	331	61	328	73	21	15	23	12	15
28	23	28	33	213	61	351	70	20	15	24	11	15
29	24	28	35	191	-----	360	68	19	14	24	11	15
30	25	28	34	170	-----	365	64	15	14	24	11	15
31	26	-----	31	148	-----	365	-----	14	-----	24	11	-----
TOTAL	701	868	1,002	4,417	2,423	4,281	3,518	1,101	457	691	470	347
MEAN	22.6	28.9	32.3	142	86.5	138	117	35.5	15.2	22.3	15.2	11.6
MAX	39	33	52	636	142	365	299	60	20	27	24	15
MIN	13	25	25	28	47	47	64	14	13	14	11	10
AC-FT	1,390	1,720	1,990	8,760	4,810	8,490	6,980	2,180	906	1,370	932	688
CAL YR 1968	TOTAL 10,117.9		MEAN 27.6		MAX 388		MIN 9.2		AC-FT 20,070			
WTR YR 1969	TOTAL 20,276		MEAN 55.6		MAX 636		MIN 10		AC-FT 40,220			

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0345	5.43	744	3-30	1445	4.62	422
1-26	1830	4.59	412				

10-3609. BIDWELL CREEK BELOW MILL CREEK, NEAR FORT BIDWELL, CALIF.

LOCATION.--Lat 41°52'57", long 120°10'26", in SE $\frac{1}{4}$ sec.6, T.46 N., R.16 E., Modoc County, on right bank 0.9 mile downstream from Mill Creek, and 2.0 miles northwest of Fort Bidwell.

DRAINAGE AREA.--25.6 sq mi.

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1961, published as Bidwell Creek near Fort Bidwell.

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

AVERAGE DISCHARGE.--9 years, 19.9 cfs (14,420 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 256 cfs May 11 (gage height, 4.07 ft); minimum daily, 2.9 cfs Oct. 2, 3.

Period of record: Maximum discharge, 682 cfs Dec. 24, 1964 (gage height, 5.64 ft), from rating curve extended above 105 cfs on basis of slope-area measurement of maximum flow; minimum, 1.4 cfs Nov. 5, 1960.

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

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.3	9.4	6.0	7.5	5.7	77	80	69	21	7.9	3.9
2	2.9	7.5	9.0	6.3	7.1	5.4	66	80	66	21	7.9	3.8
3	2.9	6.3	9.0	6.5	6.8	5.4	51	74	63	19	7.1	3.8
4	3.0	5.7	9.0	7.5	6.8	5.4	47	71	63	18	7.1	3.8
5	3.2	5.1	9.0	8.3	6.8	5.7	51	74	66	18	7.1	3.8
6	3.0	4.3	7.9	10	6.5	5.7	51	88	63	18	7.1	3.8
7	3.2	4.6	7.1	12	6.3	5.7	38	102	60	18	6.8	3.8
8	3.4	8.3	7.1	10	6.3	5.7	37	116	74	17	6.8	3.8
9	3.0	16	7.1	9.8	6.8	5.7	39	135	66	16	6.5	3.8
10	3.0	10	8.3	9.8	6.5	5.7	44	163	60	15	6.5	3.6
11	3.2	8.7	8.7	9.4	6.8	6.0	52	188	54	14	6.0	3.6
12	6.0	14	8.3	9.0	6.8	6.0	58	247	47	14	5.7	3.6
13	5.4	11	7.5	11	6.3	6.0	56	208	44	14	5.7	3.6
14	4.6	9.4	6.8	10	6.5	6.3	51	175	42	14	5.7	3.6
15	4.1	9.8	6.5	9.0	6.8	6.5	49	135	39	13	5.7	3.6
16	4.1	8.7	6.5	8.3	6.5	7.9	49	126	36	13	5.7	3.6
17	3.8	9.0	6.5	7.9	6.3	8.3	63	130	34	12	5.4	3.6
18	3.8	18	6.5	9.0	6.3	8.3	80	151	32	12	5.4	3.8
19	3.8	19	6.5	12	6.3	7.9	77	141	31	11	4.9	3.9
20	5.1	16	6.5	19	6.3	7.5	85	116	30	11	4.9	3.9
21	3.9	14	6.5	24	6.3	7.5	71	110	29	11	4.6	4.1
22	3.6	19	6.5	16	6.0	8.7	120	106	28	10	4.6	3.9
23	3.4	16	6.5	13	6.0	13	113	110	31	10	4.6	3.8
24	3.2	14	6.5	12	5.7	14	99	116	29	10	4.6	3.9
25	3.4	13	6.3	10	5.7	16	82	113	28	9.8	4.6	3.9
26	3.4	11	5.7	9.4	5.7	21	69	110	26	9.4	4.3	3.9
27	3.2	10	5.4	9.0	5.7	30	63	92	26	9.0	4.1	3.8
28	3.2	10	5.7	9.0	5.7	38	74	80	24	8.7	4.1	3.8
29	4.3	9.8	5.4	8.3	-----	47	88	71	23	8.7	4.1	3.9
30	5.4	9.4	5.7	7.9	-----	58	88	71	22	8.3	4.1	3.9
31	4.3	-----	5.7	7.5	-----	77	-----	74	-----	8.3	3.9	-----
TOTAL	115.8	321.9	219.1	316.9	179.1	457.0	1,988	3,653	1,305	412.2	173.5	113.6
MEAN	3.74	10.7	7.07	10.2	6.40	14.7	66.3	118	43.5	13.3	5.60	3.79
MAX	6.0	19	9.4	24	7.5	77	120	247	74	21	7.9	4.1
MIN	2.9	4.3	5.4	6.0	5.7	5.4	37	71	22	8.3	3.9	3.6
AC-FT	230	638	435	629	355	906	3,940	7,250	2,590	818	344	225
CAL YR 1968	TOTAL 3,995.6		MEAN 10.9		MAX 80		MIN 2.9		AC-FT 7,930			
WTR YR 1969	TOTAL 9,255.1		MEAN 25.4		MAX 247		MIN 2.9		AC-FT 18,360			

BUENA VISTA LAKE BASIN

11-1853. GOLDEN TROUT CREEK NEAR CARTAGO, CALIF.

LOCATION.--Lat 36°22'30", long 118°17'16", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.10, T.18 S., R.34 E., Tulare County, Inyo National Forest, on right bank 0.5 mile upstream from Tunnel Ranger Station and 15 miles west of Cartago.

DRAINAGE AREA.--23.6 sq mi.

PERIOD OF RECORD.--October 1956 to September 1967, April to September 1969.

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

EXTREMES.--Maximum discharge during period April to September, 430 cfs May 31 (gage height, 5.73 ft); minimum daily, 19 cfs April 3, 8, 9.

Period of record: Maximum discharge, 202 cfs June 12, 1967 (gage height, 4.17 ft); maximum gage height, 6.21 ft Jan. 25, 1967 (backwater from ice); minimum discharge, 0.2 cfs Feb. 11, 1959.

REMARKS.--Records fair. No storage or diversion above station. Station operated as a continuous record station for the heavy snow-melt period of 1969.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							20	55	348	88	36	24
2							20	66	346	83	36	24
3							19	68	370	80	35	24
4							20	67	366	76	33	24
5							21	60	366	72	32	23
6							21	60	352	70	31	24
7							20	70	334	66	30	24
8							19	83	310	63	30	24
9							19	106	274	61	30	23
10							20	122	246	59	38	23
11							21	131	235	56	39	23
12							22	137	217	56	33	23
13							24	156	192	58	31	23
14							25	163	190	54	30	23
15							24	169	183	51	30	23
16							23	177	178	49	29	23
17							23	191	160	48	29	23
18							24	205	150	48	28	23
19							25	211	144	49	27	23
20							27	223	142	46	27	23
21							29	242	139	45	27	23
22							30	241	138	59	27	23
23							32	244	138	48	26	23
24							31	264	133	44	26	23
25							31	284	126	42	26	23
26							31	300	118	40	25	23
27							35	312	112	44	25	22
28							38	316	105	47	25	22
29					-----		42	334	99	42	24	22
30					-----		46	348	93	39	24	22
31		-----			-----		-----	352	-----	38	24	-----
TOTAL							782	5,757	6,304	1,721	913	693
MEAN							26.1	186	210	55.5	29.5	23.1
MAX							46	352	370	88	39	24
MIN							19	55	93	38	24	22
AC-FT							1,550	11,420	12,500	3,410	1,810	1,370

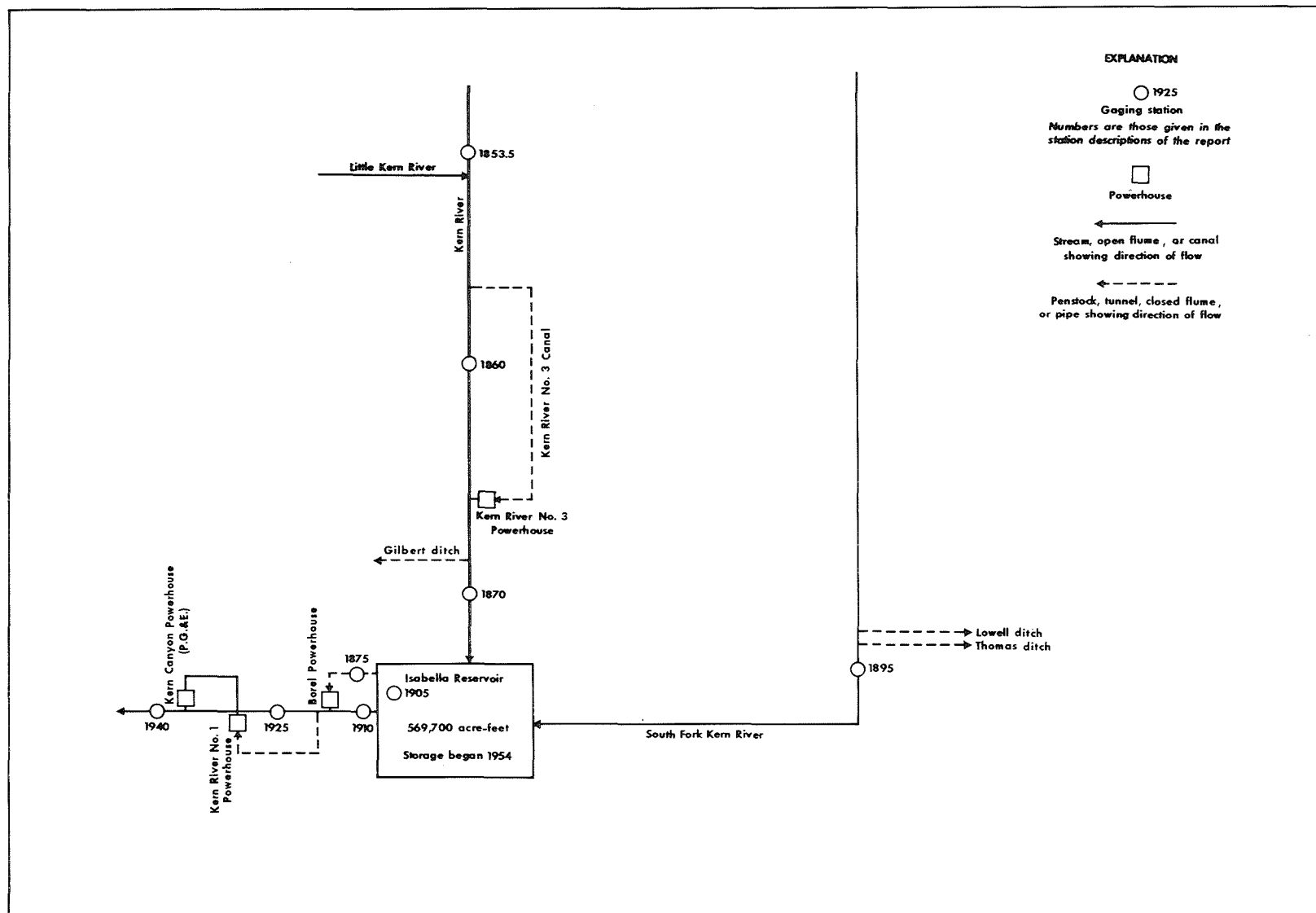


FIGURE 2.--Schematic diagram showing diversions and storage in Kern River basin.

BUENA VISTA LAKE BASIN

11-1853.5, KERN RIVER NEAR QUAKING ASPEN CAMP, CALIF.

LOCATION.--Lat 36°08'04", long 118°25'49", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.20 S., R.33 E., Tulare County, Sequoia National Forest, on right bank 0.4 mile upstream from Little Kern River, and 6.8 miles east of Quaking Aspen Camp.

DRAINAGE AREA.--530 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

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

AVERAGE DISCHARGE.--9 years, 595 cfs (431,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,680 cfs June 3 (gage height, 10.14 ft); minimum daily, 145 cfs Oct. 1-3, 6-12.

Period of record: Maximum discharge, 9,360 cfs Dec. 6, 1966 (gage height, 10.89 ft in gage well, 12.9 ft outside from floodmarks), from rating curve extended above 5,000 cfs on basis of slope-area measurement of maximum flow; minimum, 61 cfs Jan. 20, 1962.

REMARKS.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	170	178	207	437	375	1,290	2,360	7,040	3,490	1,970	580
2	145	168	168	197	422	382	1,280	2,410	6,980	3,460	1,850	576
3	145	182	173	194	397	361	1,240	2,320	7,020	3,400	1,760	584
4	149	192	173	197	375	330	1,190	2,190	6,690	3,290	1,690	576
5	147	187	170	197	364	306	1,300	2,020	6,550	3,170	1,590	562
6	145	185	173	199	333	297	1,210	2,110	6,400	3,080	1,370	548
7	145	182	173	204	313	287	1,130	2,220	6,360	3,050	1,250	562
8	145	182	168	207	350	287	1,030	2,500	6,140	3,050	1,170	559
9	145	182	166	204	350	287	1,060	2,840	5,560	2,980	1,140	545
10	145	182	168	197	319	290	1,100	3,180	4,680	3,000	1,340	528
11	145	182	180	194	306	284	1,220	3,320	4,370	2,890	1,760	504
12	145	185	154	197	300	284	1,390	3,260	4,380	2,870	1,470	489
13	152	187	175	217	294	284	1,510	3,480	4,150	3,340	1,260	474
14	225	178	190	238	290	273	1,520	3,560	4,630	3,520	1,180	468
15	212	197	199	220	316	284	1,440	3,420	4,970	2,900	1,130	456
16	190	197	197	209	310	294	1,410	3,520	4,790	2,710	1,090	447
17	185	212	185	204	316	336	1,480	3,830	4,250	2,610	1,120	444
18	182	212	175	209	313	382	1,570	4,090	4,030	2,720	1,040	438
19	180	212	190	367	300	408	1,600	4,170	4,370	2,740	942	429
20	175	207	180	303	290	426	1,820	4,210	4,620	2,840	880	426
21	170	197	158	554	284	430	2,040	4,420	4,670	2,890	832	426
22	168	197	170	334	284	430	2,200	4,520	4,760	2,720	796	414
23	168	202	204	305	281	484	2,240	4,420	4,980	2,710	772	405
24	166	199	207	591	256	534	2,010	4,700	4,960	2,500	760	399
25	163	182	204	2,320	220	577	1,890	4,940	4,490	2,250	756	393
26	163	173	197	1,520	273	618	1,880	5,100	3,860	2,040	728	387
27	161	180	182	785	333	700	1,920	5,130	3,680	2,030	692	384
28	161	175	214	670	390	815	2,010	5,100	3,460	2,080	664	379
29	161	170	204	538	-----	913	2,160	5,400	3,240	2,230	640	379
30	170	178	200	488	-----	1,050	2,280	6,120	3,360	2,020	612	394
31	173	-----	195	441	-----	1,240	-----	6,490	-----	2,000	590	-----
TOTAL	5,071	5,634	5,670	12,907	9,016	14,248	47,420	117,350	149,440	86,580	34,844	14,155
MEAN	164	188	183	416	322	460	1,581	3,785	4,981	2,793	1,124	472
MAX	225	212	214	2,320	437	1,240	2,280	6,490	7,040	3,520	1,970	584
MIN	145	168	154	194	220	273	1,030	2,020	3,240	2,000	590	379
AC-FT	10,060	11,180	11,250	25,600	17,880	28,260	94,060	232,800	296,400	171,700	69,110	28,080
CAL YR 1968	TOTAL	135,966		MEAN	371	MAX	1,650	MIN	143	AC-FT	269,700	
WTR YR 1969	TOTAL	502,335		MEAN	1,376	MAX	7,040	MIN	145	AC-FT	996,400	

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-25	0930	7.64	3,770	6-23	0600	8.42	5,340
4- 5	1830	5.27	1,524	7-14	0400	7.58	4,190
6- 3	0400	10.14	7,680	8-11	0800	5.73	1,940

11-1854. LITTLE KERN RIVER NEAR QUAKING ASPEN CAMP, CALIF.

LOCATION.--Lat 36°08'08", long 118°26'09", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.20 S., R.33 E., Tulare County, Sequoia National Forest, on right bank 600 ft upstream from mouth and 5 miles east of Quaking Aspen Camp.

DRAINAGE AREA.--132 sq mi.

PERIOD OF RECORD.--August 1957 to September 1968, April to September 1969 and annual maximum.

GAGE.--Water-stage recorder. Datum of gage is 4,682 ft above mean sea level (river-profile survey).
Prior to Sept. 26, 1967, on left bank at same datum.

EXTREMES.--Current year: Maximum discharge, 2,900 cfs Jan. 25 (gage height, 7.06 ft); minimum for period April to September, 36 cfs Sept. 28, 29.

Period of record: Maximum discharge, 13,100 cfs Dec. 6, 1966 (gage height, 12.60 ft in gage well, 13.0 ft, from floodmarks), from rating curve extended above 1,300 cfs on basis of slope-area measurement of maximum flow; minimum, 3.5 cfs Nov. 18, 1961.

Flood of Dec. 23, 1955, reached a stage of 12.4 ft, from floodmarks (discharge, 12,200 cfs).

REMARKS.--Records good. No regulation or diversion above station. Station converted to crest-stage partial-record station in September 1968. Operated as a continuous record station for the heavy snow-melt period of 1969.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							756	1,160	2,110	621	214	62
2							750	1,140	2,010	600	205	60
3							709	1,090	1,840	590	193	59
4							692	1,010	1,780	570	184	59
5							762	936	1,650	550	175	57
6							709	954	1,580	540	157	57
7							610	1,020	1,480	520	149	59
8							605	1,120	1,230	505	138	56
9							643	1,200	1,100	485	133	54
10							709	1,430	995	465	163	51
11							804	1,540	930	446	184	48
12							888	1,480	900	438	144	47
13							918	1,550	888	460	128	47
14							858	1,400	942	456	119	47
15							798	1,280	942	415	117	46
16							798	1,390	1,000	384	110	46
17							840	1,600	967	362	108	44
18							912	1,550	912	362	104	44
19							942	1,480	918	354	95	43
20							1,100	1,470	936	338	89	43
21							1,210	1,510	930	354	85	44
22							1,240	1,510	912	338	83	43
23							1,180	1,320	942	314	80	41
24							1,060	1,650	960	294	78	40
25							988	1,740	882	276	76	39
26							988	1,600	786	258	72	38
27							1,000	1,580	738	272	70	38
28							1,050	1,550	692	266	68	36
29					-----		1,100	1,770	654	252	67	36
30					-----		1,130	1,840	638	238	64	38
31		-----			-----		-----	1,980	-----	224	64	-----
TOTAL							26,749	43,850	33,244	12,547	3,716	1,422
MEAN							892	1,415	1,108	405	120	47.4
MAX							1,240	1,980	2,110	621	214	62
MIN							605	936	638	224	64	36
AC-FT							53,060	86,980	65,940	24,890	7,370	2,820

BUENA VISTA LAKE BASIN

11-1860. KERN RIVER NEAR KERNVILLE, CALIF.

LOCATION.--Lat 35°56'43", long 118°28'36", in SW $\frac{1}{4}$ sec.12, T.23 S., R.32 E. (unsurveyed), Tulare County, on left bank at Packsaddle Canyon Creek, 30 ft upstream from sand trap sluice gates, 100 ft downstream from diversion dam, and 13.4 miles north of Kernville.

DRAINAGE AREA.--846 sq mi.

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

GAGE.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. Altitude of gage is 3,620 ft (from topographic map). Prior to Apr. 1, 1913, at site 1.4 miles downstream at different datum. Apr. 1 to Sept. 14, 1913, nonrecording gage and Sept. 15, 1913, to Sept. 30, 1967, water-stage recorder, at site 1.2 miles downstream at different datum.

AVERAGE DISCHARGE (River only).--9 years (1911-20), 790 cfs (571,900 acre-ft per year); 48 years (1921-69), 349 cfs (252,800 acre-ft per year); median of yearly mean discharges, 214 cfs (155,000 acre-ft per year). (Combined river and diversion).--58 years (1911-69), 727 cfs (526,700 acre-ft per year); median of yearly mean discharges, 615 cfs (445,000 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge not determined, occurred Jan. 25; minimum daily, 36 cfs Dec. 16-18.

Period of record: Maximum discharge, 60,000 cfs Dec. 6, 1966 (gage height, 22.77 ft, site and datum then in use, from floodmarks), from rating curve extended above 6,000 cfs on basis of computed flow over dam at gage height 17.55 ft (basic data for computation furnished by Southern California Edison Co.) and slope-area measurement of maximum flow; no flow July 31 to Nov. 7, Nov. 12 to Dec. 7, 1924, Jan. 16 to Feb. 7, 1925.

(Combined flow).--Current year: Maximum discharge not determined, occurred Jan. 25; minimum daily, 141 cfs Oct. 12.

Period of record: Maximum discharge, 60,000 cfs Dec. 6, 1966; minimum daily, 78 cfs Aug. 30, 31, Sept. 17, 19, 1924.

REMARKS.--Records good. Since 1921 Kern River No. 3 Canal diverts up to 630 cfs 100 ft upstream from station, from left bank of Kern River in sec.12, T.23 S., R.32 E. (unsurveyed), for power development; water is returned to river 15 miles downstream from station. For records of combined discharge of river and canal, see following page. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 20 discharge measurements for Kern River and gage-height record and 11 discharge measurements for canal furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1445: 1912, 1916(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	53	42	44	450	195	2,500	3,570	9,600	3,600	1,780	111
2	160	51	41	44	351	182	2,390	3,590	9,500	3,620	1,610	102
3	160	44	42	44	264	170	2,270	3,500	9,600	3,590	1,520	108
4	160	44	41	44	215	97	2,040	3,320	9,020	3,490	1,440	102
5	161	44	40	44	200	104	2,280	3,080	9,000	3,350	1,310	86
6	153	46	41	44	152	70	2,230	3,200	8,710	3,290	1,090	70
7	159	46	40	44	123	59	1,830	3,370	8,370	3,240	920	89
8	155	45	41	44	95	52	1,780	3,670	7,830	3,220	836	87
9	153	46	40	44	76	50	1,850	4,120	6,890	3,140	785	102
10	153	47	39	44	110	47	1,970	5,170	5,720	3,120	974	87
11	143	47	40	49	107	44	2,180	5,410	5,190	3,050	1,480	85
12	141	45	38	50	157	110	2,390	5,410	4,930	3,010	1,170	84
13	145	44	37	62	137	95	2,620	5,810	4,740	3,290	938	79
14	160	44	37	78	81	76	2,620	5,850	5,480	3,600	836	78
15	282	44	37	71	240	55	2,340	5,720	5,620	3,070	760	81
16	228	41	36	70	212	86	2,350	5,800	6,000	2,830	700	81
17	210	42	36	70	155	253	2,440	6,050	5,330	2,700	735	80
18	190	43	36	68	147	452	2,650	6,560	4,880	2,780	635	79
19	86	42	38	2,600	94	528	2,650	6,710	5,240	2,830	544	80
20	66	42	40	2,160	65	584	2,990	6,780	5,580	2,870	456	81
21	61	42	40	2,910	48	584	3,350	6,910	5,560	2,890	396	84
22	61	42	48	1,420	49	560	3,570	7,130	5,660	2,770	348	82
23	59	42	44	800	45	715	3,600	6,890	6,020	2,740	318	82
24	60	44	45	2,320	241	902	3,250	7,220	5,850	2,470	305	83
25	58	44	44	14,400	240	1,060	2,960	7,600	5,360	2,270	305	81
26	55	44	44	7,100	225	1,200	2,940	7,860	3,860	1,970	278	81
27	57	43	44	3,650	195	1,390	2,990	7,980	3,730	1,830	240	80
28	57	43	44	1,550	264	1,610	3,130	7,780	3,640	1,770	202	80
29	56	42	44	1,280	-----	1,890	3,250	8,280	3,500	1,870	174	80
30	56	42	44	760	-----	2,180	3,530	8,610	3,520	1,780	148	80
31	54	-----	44	559	-----	2,460	-----	9,140	-----	1,820	125	-----
TOTAL	3,859	1,328	1,267	42,467	4,738	17,860	78,940	182,090	183,930	87,870	23,358	2,565
MEAN	124	44.3	40.9	1,370	169	576	2,631	5,874	6,131	2,835	753	85.5
MAX	282	53	48	14,400	450	2,460	3,600	9,140	9,600	3,620	1,780	111
MIN	54	41	36	44	45	44	1,780	3,080	3,500	1,770	125	70
AC-FT	7,650	2,630	2,510	84,230	9,400	35,420	156,600	361,200	364,800	174,300	46,330	5,090

CAL YR 1968 TOTAL 62,096 MEAN 170 MAX 1,320 MIN 15 AC-FT 123,200
WTR YR 1969 TOTAL 630,272 MEAN 1,727 MAX 14,400 MIN 36 AC-FT 1,250,000

NOTE.--Stage-discharge relation indefinite Jan. 21 to Feb. 1.

11-1860. KERN RIVER NEAR KERNVILLE, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER NO. 3 CANAL
NEAR KERNVILLE, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	203	198	257	1,040	810	3,100	4,180	10,200	4,200	2,410	722
2	160	200	192	244	936	792	3,000	4,200	10,100	4,220	2,240	712
3	160	210	189	244	854	788	2,860	4,110	10,200	4,190	2,150	719
4	160	236	195	246	803	717	2,650	3,930	9,620	4,100	2,070	712
5	161	219	191	256	786	700	2,890	3,680	9,600	3,960	1,920	696
6	153	207	193	267	748	683	2,820	3,800	9,320	3,900	1,700	677
7	159	198	194	274	669	651	2,430	3,970	8,970	3,840	1,540	696
8	155	194	192	281	680	628	2,390	4,270	8,440	3,830	1,470	691
9	153	193	188	277	690	626	2,470	4,720	7,490	3,750	1,420	706
10	153	198	190	267	710	624	2,570	5,770	6,320	3,730	1,600	658
11	143	199	219	250	730	599	2,780	6,010	5,790	3,660	2,110	629
12	141	196	189	257	765	654	3,000	6,010	5,530	3,620	1,800	611
13	145	200	190	300	750	640	3,240	6,410	5,330	3,900	1,560	587
14	160	194	217	500	698	604	3,230	6,450	6,070	4,230	1,460	575
15	282	234	291	420	860	609	2,950	6,320	6,220	3,700	1,380	563
16	228	265	285	372	823	681	2,960	6,400	6,600	3,450	1,320	553
17	210	242	228	243	779	852	3,040	6,650	5,920	3,320	1,360	546
18	190	237	203	351	771	1,070	3,260	7,160	5,480	3,400	1,260	536
19	180	240	216	3,040	716	1,150	3,250	7,310	5,840	3,460	1,170	523
20	215	229	207	2,610	669	1,200	3,600	7,380	6,180	3,500	1,080	521
21	207	219	176	3,360	640	1,190	3,950	7,510	6,060	3,520	1,010	530
22	201	214	187	1,870	639	1,150	4,170	7,730	6,260	3,400	948	511
23	199	216	234	1,250	617	1,310	4,200	7,490	6,610	3,370	928	498
24	195	219	254	2,770	817	1,500	3,850	7,820	6,450	3,100	925	489
25	191	211	291	14,400	836	1,670	3,560	8,200	5,960	2,900	924	479
26	187	189	269	7,100	839	1,810	3,540	8,460	4,450	2,600	896	471
27	185	191	222	3,700	812	1,990	3,590	8,580	4,320	2,460	858	465
28	183	194	271	2,020	886	2,220	3,730	8,380	4,230	2,400	820	459
29	183	188	266	1,790	-----	2,480	3,850	8,880	4,090	2,500	792	452
30	205	195	254	1,340	-----	2,780	4,130	9,210	4,120	2,410	760	467
31	212	-----	265	1,140	-----	3,060	-----	9,740	-----	2,450	737	-----
TOTAL	5,616	6,330	6,856	51,696	21,563	36,238	97,060	200,730	201,770	107,070	42,618	17,454
MEAN	181	211	221	1,668	770	1,169	3,235	6,475	6,726	3,454	1,375	582
MAX	282	265	291	14,400	1,040	3,060	4,200	9,740	10,200	4,230	2,410	722
MIN	141	188	176	243	617	599	2,390	3,680	4,090	2,400	737	452
AC-FT	11,140	12,560	13,600	102,500	42,770	71,880	192,500	398,100	400,200	212,400	84,530	34,620
CAL YR 1968	TOTAL 177,697		MEAN 486		MAX 1,880		MIN 141		AC-FT 352,500			
WTR YR 1969	TOTAL 795,001		MEAN 2,178		MAX 14,400		MIN 141		AC-FT 1,577,000			

BUENA VISTA LAKE BASIN

11-1863.4. SALMON CREEK TRIBUTARY B NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'06", long 118°23'04", in SE¼NE¼ sec.26, T.23 S., R.33 E., Tulare County, Sequoia National Forest, on left bank 0.2 mile upstream from junction with Salmon Creek, 6.3 miles east of Fairview, and 10.3 miles north of Kernville.

DRAINAGE AREA.--0.46 sq mi.

PERIOD OF RECORD.--October 1962 to September 1969 (discontinued). December 1960 to September 1962 (incomplete) in files of U.S. Forest Service.

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

AVERAGE DISCHARGE.--7 years, 0.242 cfs (175 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5.83 cfs May 24 (gage height, 1.12 ft); minimum daily, 0.003 cfs many days.
Period of record: Maximum discharge, 22.1 cfs Dec. 6, 1966 (gage height, 1.93 ft, result of release of stored water from debris dam), by slope-area measurement of maximum flow; minimum daily, 0.002 cfs Aug. 21-23, Sept. 26, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.004	.004	.003	.006	.07	.04	.51	2.85	5.09	.78	.20	.05
2	.004	.004	.003	.006	.06	.04	.54	3.02	4.97	.74	.18	.05
3	.004	.004	.003	.007	.06	.04	.48	2.85	4.62	.71	.18	.05
4	.004	.004	.003	.007	.06	.04	.45	2.45	4.18	.64	.17	.05
5	.004	.004	.003	.007	.05	.04	.48	2.08	3.87	.60	.17	.05
6	.004	.004	.003	.007	.05	.04	.45	2.15	3.58	.57	.15	.05
7	.004	.004	.003	.007	.05	.04	.40	2.68	3.29	.54	.15	.05
8	.004	.004	.003	.007	.05	.04	.37	3.29	2.85	.51	.14	.05
9	.004	.004	.003	.007	.05	.04	.37	3.87	2.68	.48	.14	.05
10	.004	.004	.005	.007	.05	.04	.37	4.40	2.60	.45	.14	.04
11	.004	.004	.005	.007	.05	.04	.48	4.62	2.52	.42	.14	.04
12	.004	.006	.003	.007	.05	.04	.69	4.62	2.30	.42	.13	.04
13	.005	.008	.003	.01	.05	.04	.94	4.40	2.08	.41	.13	.04
14	.008	.004	.003	.01	.05	.04	1.04	4.51	1.94	.40	.13	.04
15	.006	.004	.01	.01	.05	.04	.91	4.40	1.94	.37	.11	.04
16	.004	.004	.007	.01	.04	.04	.95	4.40	1.98	.35	.11	.04
17	.004	.004	.005	.01	.04	.05	1.13	4.51	1.88	.32	.11	.03
18	.004	.006	.003	.01	.04	.05	1.29	4.74	1.81	.32	.10	.03
19	.004	.006	.003	.09	.04	.05	1.39	4.85	1.68	.30	.10	.03
20	.004	.004	.003	.07	.04	.05	1.59	4.97	1.62	.30	.09	.03
21	.004	.004	.003	.11	.04	.05	1.80	5.21	1.51	.30	.09	.03
22	.004	.004	.003	.06	.04	.05	2.08	5.21	1.45	.28	.08	.03
23	.004	.004	.003	.04	.04	.05	2.01	5.21	1.34	.26	.08	.03
24	.004	.004	.003	.06	.04	.05	1.56	5.45	1.29	.26	.08	.03
25	.004	.004	.004	.83	.04	.06	1.45	5.45	1.18	.24	.07	.03
26	.004	.003	.005	.42	.04	.07	1.45	5.33	1.09	.22	.07	.03
27	.004	.003	.005	.22	.04	.09	1.62	5.21	1.04	.26	.07	.03
28	.004	.003	.005	.15	.04	.13	1.88	5.21	.95	.26	.06	.03
29	.005	.003	.005	.11	-----	.15	2.22	5.09	.91	.24	.06	.03
30	.006	.003	.005	.09	-----	.24	2.60	4.97	.86	.22	.06	.03
31	.004	-----	.006	.08	-----	.43	-----	5.09	-----	.20	.05	-----
TOTAL	0.134	0.125	0.124	2.472	1.32	2.21	33.50	133.09	69.10	12.37	3.54	1.15
MEAN	.004	.004	.004	.080	.047	.071	1.12	4.29	2.30	.399	.114	.038
MAX	.008	.008	.01	.83	.07	.43	2.60	5.45	5.09	.78	.20	.05
MIN	.004	.003	.003	.006	.04	.04	.37	2.08	.86	.20	.05	.03
AC-FT	.3	.2	.2	4.9	2.6	4.4	66.4	264	137	24.5	7.0	2.3
(a)	1.25	.96	2.62	10.23	2.22	1.76	1.06	.30	1.24	1.10	0	.08
CAL YR 1968	TOTAL	36.943	MEAN	0.101	MAX	0.67	MIN	0.003	AC-FT	73.3		
WTR YR 1969	TOTAL	259.135	MEAN	.710	MAX	5.45	MIN	.003	AC-FT	514		

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

11-1863.6. SALMON CREEK TRIBUTARY C NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'14", long 118°23'28", in NE¼NW¼ sec.26, T.23 S., R.33 E., Tulare County, Sequoia National Forest, on left bank 0.1 mile upstream from junction with Salmon Creek, 6.0 miles east of Fairview, and 10.5 miles north of Kernville.

DRAINAGE AREA.--0.35 sq mi.

PERIOD OF RECORD.--October 1962 to September 1969 (discontinued). December 1960 to September 1962 (incomplete) in the files of U.S. Forest Service.

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

AVERAGE DISCHARGE.--7 years, 0.173 cfs (125 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4.08 cfs June 1 (gage height, 0.97 ft); minimum daily, 0.01 cfs Oct. 1-12.

Period of record: Maximum discharge, 60 cfs Dec. 6, 1966 (gage height, 2.71 ft, from floodmarks), by slope-area measurement of maximum flow; minimum daily, 0.004 cfs Aug. 12, 16, 19, 23-27, 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.03	.03	.04	.22	.08	.40	1.62	3.97	.51	.18	.06
2	.01	.03	.03	.04	.20	.08	.42	1.68	3.97	.51	.17	.06
3	.01	.03	.03	.04	.18	.08	.40	1.68	3.48	.48	.17	.06
4	.01	.03	.03	.04	.17	.08	.40	1.45	3.02	.45	.15	.05
5	.01	.03	.03	.04	.17	.08	.45	1.34	2.77	.42	.15	.05
6	.01	.03	.03	.04	.14	.08	.42	1.34	2.52	.42	.14	.06
7	.01	.02	.03	.04	.13	.08	.40	1.51	2.37	.40	.13	.06
8	.01	.03	.03	.04	.13	.08	.40	1.81	2.15	.37	.13	.05
9	.01	.03	.03	.04	.11	.09	.40	2.22	2.01	.37	.13	.05
10	.01	.02	.03	.04	.11	.09	.42	2.60	1.81	.35	.13	.05
11	.01	.02	.03	.04	.11	.09	.48	2.77	1.68	.32	.13	.05
12	.01	.03	.03	.04	.11	.09	.57	3.02	1.56	.32	.11	.05
13	.02	.03	.03	.06	.11	.09	.67	2.94	1.45	.33	.11	.05
14	.04	.03	.04	.06	.11	.09	.71	2.85	1.34	.32	.11	.05
15	.02	.03	.07	.05	.10	.09	.71	2.60	1.29	.30	.10	.05
16	.02	.03	.04	.05	.10	.09	.71	2.68	1.36	.28	.10	.05
17	.02	.03	.04	.05	.10	.09	.78	2.77	1.23	.28	.10	.05
18	.02	.03	.07	.06	.09	.09	.86	2.94	1.13	.26	.09	.05
19	.02	.03	.03	.29	.09	.10	.95	2.94	1.04	.28	.09	.05
20	.02	.03	.05	.23	.08	.10	1.08	3.02	.99	.26	.08	.05
21	.02	.03	.05	.37	.08	.10	1.23	3.02	.95	.26	.08	.05
22	.02	.03	.06	.22	.08	.10	1.33	3.02	.91	.26	.08	.05
23	.02	.03	.05	.17	.06	.10	1.29	3.02	.82	.24	.08	.05
24	.02	.03	.04	.29	.05	.11	1.13	3.20	.78	.22	.07	.05
25	.02	.03	.04	1.41	.06	.13	1.09	3.20	.74	.20	.07	.05
26	.02	.03	.04	.79	.09	.14	1.04	3.38	.71	.20	.07	.04
27	.02	.03	.04	.49	.08	.15	1.09	3.48	.67	.24	.06	.04
28	.02	.03	.04	.37	.08	.18	1.18	3.58	.60	.24	.06	.04
29	.02	.02	.04	.30	-----	.22	1.34	3.67	.57	.22	.06	.04
30	.03	.03	.04	.28	-----	.26	1.51	3.87	.54	.20	.06	.04
31	.03	-----	.04	.24	-----	.35	-----	3.97	-----	.18	.06	-----
TOTAL	0.54	0.30	1.21	6.26	3.14	3.58	23.86	83.19	48.43	9.69	3.25	1.50
MEAN	.017	.029	.039	.202	.112	.115	.795	2.68	1.61	.313	.105	.050
MAX	.04	.03	.07	1.41	.22	.35	1.51	3.97	3.97	.51	.18	.06
MIN	.01	.02	.03	.04	.05	.08	.40	1.34	.54	.18	.06	.04
AC-FT	1.1	1.7	2.4	12.4	6.2	7.1	47.3	165	96.1	19.2	6.4	3.0
CAL YR 1968	TOTAL	26.55		MEAN	0.073	MAX	0.24	MIN	0.01	AC-FT	52.7	
WTR YR 1969	TOTAL	185.51		MEAN	.508	MAX	3.97	MIN	.01	AC-FT	368	

BUENA VISTA LAKE BASIN

11-1863.8. SALMON CREEK TRIBUTARY E NEAR FAIRVIEW, CALIF.

LOCATION.--Lat 35°54'14", long 118°23'46", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.26, T.23 S., R.33 E., Tulare County, Sequoia National Forest, on left bank 0.2 mile upstream from junction with Salmon Creek, 5.7 miles east of Fairview, and 10.5 miles north of Kernville.

DRAINAGE AREA.--0.20 sq mi.

PERIOD OF RECORD.--October 1962 to September 1969 (discontinued). July 1961 to September 1962 in files of U.S. Forest Service.

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

AVERAGE DISCHARGE.--7 years, 0.105 cfs (76 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3.38 cfs May 12 (gage height, 0.90 ft); minimum daily, 0.004 cfs Oct. 2-12, 22-29.
Period of record: Maximum discharge, 24 cfs Dec. 6, 1966 (gage height, unknown), by slope-area measurement of maximum flow; minimum daily, 0.001 cfs for several days in 1966.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.006	.006	.01	.02	.05	.03	.20	1.75	1.68	.22	.08	.03
2	.004	.006	.01	.02	.05	.03	.20	1.75	1.62	.22	.08	.03
3	.004	.006	.01	.02	.04	.03	.20	1.68	1.51	.20	.08	.03
4	.004	.006	.01	.02	.04	.03	.18	1.39	1.34	.20	.06	.03
5	.004	.006	.01	.02	.04	.04	.20	1.18	1.29	.18	.06	.03
6	.004	.006	.01	.02	.03	.04	.22	1.13	1.18	.18	.06	.02
7	.004	.006	.01	.02	.03	.04	.20	1.23	1.04	.17	.06	.03
8	.004	.006	.01	.02	.03	.04	.18	1.75	.99	.15	.06	.02
9	.004	.006	.01	.02	.02	.05	.18	2.37	.91	.15	.05	.02
10	.004	.006	.01	.02	.02	.05	.22	2.68	.82	.14	.05	.02
11	.004	.006	.01	.02	.02	.05	.26	2.77	.74	.14	.05	.02
12	.004	.006	.01	.02	.01	.05	.32	3.02	.71	.13	.05	.02
13	.006	.008	.01	.03	.01	.05	.40	3.02	.64	.13	.05	.02
14	.008	.008	.01	.03	.01	.05	.45	2.85	.60	.13	.05	.02
15	.006	.01	.02	.01	.01	.05	.45	2.77	.57	.11	.05	.02
16	.006	.01	.02	.01	.01	.05	.48	2.77	.57	.11	.05	.02
17	.006	.01	.02	.01	.01	.06	.57	2.85	.51	.10	.05	.02
18	.006	.01	.02	.02	.01	.06	.64	2.60	.48	.10	.05	.02
19	.006	.01	.02	.14	.01	.06	.74	2.52	.42	.10	.05	.02
20	.006	.01	.02	.10	.01	.07	.97	2.37	.40	.10	.05	.02
21	.006	.01	.02	.16	.01	.07	1.32	2.37	.37	.10	.05	.02
22	.004	.01	.02	.07	.01	.07	1.51	2.37	.35	.10	.04	.02
23	.004	.01	.02	.05	.01	.07	1.45	2.37	.35	.10	.04	.02
24	.004	.01	.02	.12	.01	.08	1.13	2.37	.32	.10	.04	.02
25	.004	.01	.02	.57	.01	.08	1.04	2.22	.32	.10	.04	.02
26	.004	.01	.02	.27	.01	.08	1.04	2.15	.30	.09	.04	.02
27	.004	.01	.02	.14	.02	.08	1.04	2.01	.28	.10	.03	.02
28	.004	.01	.02	.10	.02	.10	1.13	1.88	.26	.11	.03	.02
29	.004	.01	.02	.08	-----	.13	1.39	1.81	.26	.10	.03	.02
30	.006	.01	.02	.07	-----	.14	1.62	1.81	.24	.09	.03	.02
31	.006	-----	.02	.06	-----	.17	-----	1.75	-----	.09	.03	-----
TOTAL	0.150	0.248	0.48	2.28	0.56	2.00	19.93	67.56	21.07	4.04	1.54	0.66
MEAN	.005	.008	.015	.074	.020	.065	.664	2.18	.702	.130	.050	.022
MAX	.008	.01	.02	.57	.05	.17	1.62	3.02	1.68	.22	.08	.03
MIN	.004	.006	.01	.01	.01	.03	.18	1.13	.24	.09	.03	.02
AC-FT	.3	.5	1.0	4.5	1.1	4.0	39.5	134	41.8	8.0	3.1	1.3
CAL YR 1968	TOTAL	14.554	MEAN	0.040	MAX	0.20	MIN	0.004	AC-FT	28.9		
WTR YR 1969	TOTAL	120.518	MEAN	.330	MAX	3.02	MIN	.004	AC-FT	239		

11-1870. KERN RIVER AT KERNVILLE, CALIF.

LOCATION.--Lat 35°45'34", long 118°25'12", in NE¼NW¼ sec.15, T.25 S., R.33 E., Kern County, on left bank 0.5 mile upstream from highway bridge at Kernville, 1.7 miles upstream from Caldwell Creek, 9.5 miles upstream from Isabella Dam, and 42 miles northeast of Bakersfield.

DRAINAGE AREA.--1,009 sq mi.

PERIOD OF RECORD.--January 1905 to December 1912, October 1953 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 2,634.57 ft above mean sea level. January 1905 to September 1912, nonrecording gage at two sites 3.5 miles downstream at different datums. October 1953 to Feb. 20, 1967, water-stage recorder 0.6 mile downstream at datum 2,621.57 ft above mean sea level.

AVERAGE DISCHARGE.--23 years, 902 cfs (653,600 acre-ft per year); median of yearly mean discharges, 720 cfs (522,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 28,900 cfs Jan. 25 (gage height, 14.00 ft), from rating curve extended as explained below; minimum daily, 162 cfs Oct. 1, 2, 12.

Period of record: Maximum discharge, 74,000 cfs Dec. 6, 1966 (gage height, 19.32 ft, from floodmarks, present site), from rating curve extended above 11,000 cfs on basis of slope-area measurement of maximum flow; minimum discharge, 74 cfs Oct. 27, 1954, Aug. 1, Oct. 4, 1961.

Maximum stage known from at least 1912 to December 1966, 18.4 ft, from floodmarks, Nov. 19, 1950, site and datum then in use (discharge, 38,700 cfs).

REMARKS.--Records good. Slight regulation at times by operation of Kern River No. 3 canal and powerplant.

A few small diversions for irrigation above station. Gilbert irrigation ditch diverts up to 7 cfs around station during irrigation season. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Four discharge measurements furnished by the Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	195	222	292	1,430	1,190	3,940	4,890	10,800	4,420	2,440	731
2	162	188	215	276	1,360	1,130	3,680	4,980	10,900	4,420	2,300	719
3	165	198	218	276	1,280	1,120	3,680	4,680	10,500	4,330	2,160	719
4	168	222	222	280	1,180	1,020	3,220	4,370	10,000	4,230	2,060	719
5	168	205	222	288	1,160	971	3,420	3,780	9,870	4,090	1,980	707
6	165	201	222	296	1,210	971	3,460	3,970	9,330	3,990	1,750	701
7	165	198	222	300	1,080	918	2,710	4,280	8,920	3,920	1,570	713
8	165	201	218	308	1,080	859	2,530	4,860	8,400	3,910	1,460	719
9	165	198	215	304	1,070	859	2,580	5,540	7,540	3,830	1,410	695
10	168	201	218	288	1,030	872	2,670	6,140	6,380	3,810	1,480	683
11	165	201	258	276	992	807	3,010	6,340	5,720	3,650	2,140	644
12	162	205	226	280	1,010	800	3,480	6,140	5,660	3,600	1,860	619
13	168	215	222	300	986	833	3,860	6,600	5,240	4,010	1,560	591
14	208	208	258	516	926	755	3,830	6,660	5,940	4,750	1,450	570
15	300	284	338	420	1,050	807	3,340	6,560	6,260	3,720	1,380	547
16	240	320	342	370	1,110	872	3,190	6,520	6,500	3,440	1,310	531
17	222	300	284	360	1,010	1,040	3,340	6,380	5,840	3,290	1,320	506
18	218	280	254	360	1,000	1,290	3,700	7,340	5,380	3,340	1,270	498
19	243	265	258	3,500	956	1,420	3,680	7,520	5,640	3,470	1,160	496
20	212	258	250	2,400	884	1,460	4,020	7,420	5,960	3,560	1,090	469
21	192	243	201	4,060	842	1,520	4,620	7,640	6,020	3,580	1,030	460
22	188	230	192	2,530	830	1,450	4,930	7,880	6,140	3,560	992	449
23	188	225	276	1,320	814	1,580	4,960	7,540	6,400	3,470	950	438
24	188	220	288	3,920	1,090	1,800	4,160	8,000	6,460	3,180	924	432
25	188	210	329	16,700	1,650	1,860	3,810	8,400	5,880	2,900	918	416
26	188	205	338	8,130	1,300	1,950	3,780	8,680	5,040	2,560	911	410
27	185	212	265	4,000	1,210	2,150	3,860	8,680	4,730	2,500	866	410
28	185	208	304	2,640	1,230	2,480	4,010	8,550	4,500	2,670	826	410
29	182	201	316	1,950	-----	2,760	4,390	8,950	4,210	2,760	800	410
30	201	205	296	1,660	-----	3,320	4,680	9,690	4,300	2,540	781	425
31	208	-----	300	1,500	-----	3,780	-----	10,200	-----	2,450	755	-----
TOTAL	5,884	6,702	7,989	60,100	30,770	44,644	110,540	209,180	204,460	109,950	42,903	16,837
MEAN	190	223	258	1,939	1,099	1,440	3,685	6,748	6,815	3,547	1,384	561
MAX	300	320	342	16,700	1,650	3,780	4,960	10,200	10,900	4,750	2,440	731
MIN	162	188	192	276	814	755	2,530	3,780	4,210	2,450	755	410
AC-FT	11,670	13,290	15,850	119,200	61,030	88,550	219,300	414,900	405,500	218,100	85,100	33,400
CAL YR 1968	TOTAL 184,224			MEAN 503	MAX 1,860	MIN 126	AC-FT 365,400					
WTR YR 1969	TOTAL 849,959			MEAN 2,329	MAX 16,700	MIN 162	AC-FT 1,686,000					

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	unknown	9.3	7,200	5-2	0100	8.50	5,280
1-21	1730	8.63	5,860	6-1	1100	10.85	11,200
1-25	1100	14.00	26,900	6-16	1700	9.38	7,120
2-24	2330	6.63	2,550	6-24	1100	9.25	6,860
3-31	2300	7.98	4,600	7-14	0900	8.20	5,220
4-13	2300	7.93	4,330	8-11	1400	6.20	2,320
4-22	2200	8.77	5,760				

BUENA VISTA LAKE BASIN

11-1875. BOREL CANAL BELOW ISABELLA DAM, CALIF.

LOCATION.--Lat 35°38'32", long 118°28'09", in NE¼ sec.30, T.26 S., R.33 E., Kern County, on right bank 500 ft downstream from Isabella Dam, and 3 miles upstream from point where canal crosses Erskine Creek.

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

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

AVERAGE DISCHARGE.--48 years, 369 cfs (267,300 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 634 cfs Mar. 13, 14, 1952; no flow at times each year.

REMARKS.--Records excellent. Canal diverts from right bank of Kern River 5.5 miles upstream from Isabella Dam, and above South Fork Kern River. When capacity of Isabella Reservoir is above 110,000 acre-ft, the diversion is at the dam. Canal is used to supply Borel powerplant of Southern California Edison Co., 6 miles downstream from station, at which point water is returned to the Kern River. Water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Water-stage recorder graph and 24 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	0	220	332	504	563	568	583	583	557	554	542
2	205	0	220	331	505	562	568	583	583	552	554	550
3	191	0	209	316	514	561	568	583	583	544	552	547
4	231	0	204	307	542	561	568	583	583	545	554	547
5	212	0	203	307	561	560	568	583	583	546	562	556
6	179	0	223	325	535	568	569	583	569	544	560	553
7	180	0	230	334	494	569	568	588	569	545	420	556
8	186	0	76	332	495	567	566	592	569	540	404	554
9	187	0	0	347	496	568	566	592	567	529	552	554
10	178	0	0	341	496	570	566	592	567	528	552	551
11	176	0	0	333	496	567	575	592	568	526	551	547
12	175	0	0	315	494	567	580	592	568	526	551	545
13	166	132	0	327	494	568	580	592	569	528	552	548
14	37	228	0	432	520	567	580	592	569	517	557	545
15	0	266	0	426	558	567	580	592	569	511	556	539
16	0	309	0	425	558	565	580	592	569	508	550	537
17	0	320	208	418	562	566	580	592	569	510	550	538
18	0	319	273	415	570	565	580	592	569	510	547	539
19	0	301	259	471	579	566	580	589	569	510	549	537
20	0	275	256	547	582	568	580	583	569	510	549	538
21	0	267	241	489	584	567	583	583	569	510	543	538
22	0	266	201	408	584	572	583	583	569	22	541	540
23	0	266	205	407	584	566	583	583	569	157	544	521
24	0	264	267	407	578	553	581	583	569	538	542	516
25	0	262	331	438	561	554	581	583	569	548	541	533
26	0	241	353	500	563	554	582	583	569	554	542	530
27	0	225	309	500	561	555	583	583	569	551	541	530
28	0	225	286	508	561	558	582	583	569	550	542	532
29	0	224	318	507	-----	563	583	583	569	554	543	486
30	0	221	334	502	-----	566	583	583	569	552	540	425
31	0	-----	334	502	-----	567	-----	583	-----	552	542	-----
TOTAL	2,504	4,611	5,760	12,549	15,131	17,490	17,294	18,183	17,134	15,674	16,737	16,074
MEAN	80.8	154	186	405	540	564	576	587	571	506	540	536
MAX	231	320	353	547	584	572	583	592	583	557	562	556
MIN	0	0	0	307	494	553	566	583	567	22	404	425
AC-FT	4,970	9,150	11,420	24,890	30,010	34,690	34,300	36,070	33,980	31,090	33,200	31,880

CAL YR 1968	TOTAL 146,583.00	MEAN 401	MAX 588	MIN 0	AC-FT 290,700
WTR YR 1969	TOTAL 159,141.00	MEAN 436	MAX 592	MIN 0	AC-FT 315,700

BUENA VISTA LAKE BASIN

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11-1882. SOUTH FORK KERN RIVER NEAR OLANCHA, CALIF.

LOCATION.--Lat 36°10'57", long 118°07'40", in NW¼SW¼ sec.18, T.20 S., R.36 E., Tulare County, Inyo National Forest, on left bank 50 ft upstream from small unnamed left bank tributary, 2.0 miles downstream from Snake Creek, and 9.7 miles southwest of Olancha.

DRAINAGE AREA.--146 sq mi.

PERIOD OF RECORD.--October 1956 to September 1967, April to September 1969.

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

EXTREMES.--Maximum discharge during period April to September, 2,360 cfs May 10 (gage height, 6.66 ft); minimum daily, 22 cfs Sept. 28-30.

Period of record: Maximum discharge, 1,590 cfs May 22, 1967 (gage height, 5.87 ft); minimum daily, 0.1 cfs July 20 to Aug. 3, 1961.

REMARKS.--Records fair. No storage or diversion above station. Station operated as a continuous record station for the heavy snow-melt period of 1969.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							565	1,450	1,210	282	96	30
2							560	1,460	1,120	268	87	29
3							540	1,350	1,050	258	85	29
4							540	1,210	976	245	78	28
5							580	1,040	904	235	72	28
6							520	1,290	835	226	66	28
7							470	1,420	780	222	63	30
8							460	1,710	728	212	59	32
9							500	1,980	682	203	57	29
10							550	2,090	642	196	61	27
11							610	2,010	587	185	72	26
12							660	1,820	571	179	138	25
13							700	1,980	547	188	83	25
14							650	1,940	527	188	67	25
15							610	1,840	527	170	62	25
16							600	1,800	571	160	58	25
17							640	1,880	559	150	56	25
18							670	1,890	492	143	53	25
19							705	1,840	460	145	48	25
20							785	1,820	439	140	46	24
21							860	1,850	422	132	44	25
22							922	1,800	418	130	41	25
23							1,050	1,610	408	126	39	25
24							976	1,640	397	115	37	24
25							928	1,630	378	106	36	23
26							934	1,590	357	99	35	23
27							994	1,490	339	102	34	23
28							1,090	1,400	322	124	32	22
29							1,220	1,330	310	122	32	22
30							1,380	1,290	298	116	31	22
31								1,250		108	31	
TOTAL							22,269	50,700	17,856	5,275	1,799	774
MEAN							742	1,635	595	170	58.0	25.8
MAX							1,380	2,090	1,210	282	138	32
MIN							460	1,040	298	99	31	22
AC-FT							44,170	100,600	35,420	10,460	3,570	1,540

BUENA VISTA LAKE BASIN

11-1895. SOUTH FORK KERN RIVER NEAR ONYX, CALIF.

LOCATION.--Lat 35°44'22", long 118°10'33", T.25 S., R.35 E., Kern County, on left bank 0.8 mile north of State Highway 178, 1.6 miles upstream from Canebroke Creek, and 5 miles northeast of Onyx.

DRAINAGE AREA.--530 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,900 ft (from topographic map). Sept. 12, 1911, to Aug. 31, 1914, nonrecording gage and Jan. 23, 1919, to Apr. 17, 1936, water-stage recorder, at site 140 ft upstream at datum 4.88 ft lower. Apr. 18, 1936, to September 1942, and October 1947, to Feb. 9, 1967, at datum 4.88 ft higher.

AVERAGE DISCHARGE.--45 years (1911-13, 1919-25, 1926-27, 1929-42, 1946-69), 116 cfs (84,040 acre-ft per year); median of yearly mean discharges, 78 cfs (56,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,200 cfs Jan. 25 (gage height, 9.00 ft, from floodmarks), from rating curve extended as explained below; minimum daily, 9.2 cfs Oct. 9.

Period of record: Maximum discharge, 28,700 cfs Dec. 6, 1966 (gage height, 16.9 ft, from floodmarks, present datum), from rating curve extended above 3,300 cfs on basis of slope-area measurement of maximum flow; no flow for several days in 1929, 1934, 1960-61.

REMARKS.--Records good except those for Jan. 25 to Feb. 4, which are fair. Lowell and Thomas ditches divert above station for irrigation of 160 acres below station; combined capacity, 7 cfs.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	32	33	37	270	282	1,120	2,750	2,400	490	188	75
2	12	31	30	37	242	260	1,110	2,940	2,280	466	169	72
3	11	31	27	36	205	260	1,130	2,960	2,160	444	160	71
4	15	32	28	37	188	252	1,040	2,730	2,020	426	152	69
5	16	33	28	37	176	236	1,090	2,170	1,840	410	141	65
6	16	31	32	37	178	250	1,060	2,470	1,670	398	134	61
7	16	31	33	37	162	236	896	2,750	1,560	380	127	67
8	12	31	33	38	172	209	918	3,070	1,440	362	128	66
9	9.2	33	32	38	163	220	958	3,590	1,320	348	117	67
10	10	31	34	35	176	220	1,010	3,770	1,230	334	110	63
11	15	30	39	35	186	192	1,080	3,770	1,100	317	121	59
12	19	30	32	39	207	194	1,180	3,230	1,050	305	134	58
13	19	30	28	41	176	205	1,310	3,330	1,040	299	163	58
14	26	31	32	63	174	176	1,370	3,180	966	369	127	58
15	31	39	50	52	229	190	1,280	3,010	958	317	118	58
16	37	41	46	45	229	220	1,250	2,900	1,050	282	110	58
17	33	36	39	42	207	288	1,350	2,910	1,160	262	107	58
18	29	39	30	44	231	376	1,500	2,910	966	248	108	58
19	28	41	30	417	218	390	1,590	2,960	882	258	106	59
20	30	42	32	428	188	418	1,780	2,970	847	260	102	59
21	30	40	23	899	184	439	2,030	2,970	805	290	100	61
22	29	39	18	461	186	383	2,270	2,940	777	367	94	62
23	28	38	36	230	180	448	2,450	2,790	757	250	88	60
24	26	39	46	772	237	505	2,310	2,770	744	220	86	58
25	26	37	50	4,680	432	505	2,140	2,760	712	203	84	57
26	27	33	43	1,940	341	525	2,170	2,730	666	188	81	56
27	27	29	30	950	299	610	2,270	2,620	634	184	78	56
28	25	26	34	592	288	686	2,400	2,510	592	214	75	55
29	24	28	40	444	-----	798	2,560	2,470	552	245	74	55
30	26	30	33	366	-----	896	2,870	2,420	525	233	75	56
31	30	-----	33	311	-----	1,090	-----	2,420	-----	205	79	-----
TOTAL	694.2	1,014	1,054	13,220	6,124	11,959	47,492	89,770	34,703	9,574	3,536	1,835
MEAN	22.4	33.8	34.0	426	219	386	1,583	2,896	1,157	309	114	61.2
MAX	37	42	50	4,680	432	1,090	2,870	3,770	2,400	490	188	75
MIN	9.2	26	18	35	162	176	896	2,170	525	184	74	55
AC-FT	1,380	2,010	2,090	26,220	12,150	23,720	94,200	178,100	68,830	18,990	7,010	3,640
CAL YR 1968	TOTAL	28,791.1	MEAN	78.7	MAX	350	MIN	3.7	AC-FT	10,640		
WTR YR 1969	TOTAL	220,975.2	MEAN	605	MAX	4,680	MIN	9.2	AC-FT	438,300		

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	2200	4.18	974	6-17	0200	4.61	1,290
1-21	0930	4.57	1,380	7-14	0800	3.37	430
1-25	0930	9.00	9,200	7-21	2330	4.12	868
2-15	1830	3.00	320	7-29	0430	3.22	372
2-24	2400	3.65	610	8-13	0500	2.50	182
5-11	0900	6.54	4,040				

11-1905. ISABELLA RESERVOIR NEAR LAKE ISABELLA, CALIF.
(Formerly published as Isabella Reservoir near Isabella)

LOCATION.--Lat 35°38'46", long 118°28'41", in SW $\frac{1}{4}$ sec.19, T.26 S., R.33 E., Kern County, in main control tower near left abutment of main dam on Kern River, 1.5 miles north of town of Lake Isabella, and 2.8 miles upstream from Erskine Creek.

DRAINAGE AREA.--2,074 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1968, published as "near Isabella."

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

EXTREMES.--Current year: Maximum contents, 578,100 acre-ft July 14 (elevation, 2,606.21 ft); minimum, 119,300 acre-ft Dec. 7 (elevation, 2,550.17 ft).

Period of record: Maximum contents, 578,100 acre-ft July 14, 1969 (elevation, 2,606.21 ft); minimum since appreciable storage was first attained, 4,330 acre-ft Apr. 21, 1955.

REMARKS.--Reservoir is formed by earthfill dam with sidehill spillway and auxiliary earthfill dam, completed in 1954; regulation began Apr. 15, 1954. Usable capacity, 569,700 acre-ft between elevations 2,470.0 ft (invert of main outlet) and 2,605.5 ft (spillway crest) above mean sea level. Dead storage, 326 acre-ft. Surcharge flood control storage, 271,800 acre-ft between ungated spillway crest and elevation 2,627.0 ft (maximum design spillway flood pool). Records, including extremes, represent total contents at 2400 hours. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (see sta 11-1875) through concrete conduit in auxiliary dam.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

2,500	5,850	2,540	77,340
2,505	8,860	2,550	118,500
2,510	13,100	2,570	239,000
2,515	18,900	2,590	407,500
2,520	26,430	2,620	747,400
2,530	47,320		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122,000	119,800	119,400	124,400	253,200	256,800	175,800	177,000	467,600	570,700	551,200	427,900
2	121,900	119,800	119,400	124,400	254,400	256,700	175,400	181,600	480,800	573,900	548,800	424,400
3	121,800	119,800	119,400	124,400	255,300	256,400	175,300	186,000	493,200	575,200	545,800	420,800
4	121,600	119,800	119,400	124,400	256,000	256,000	173,600	189,300	503,800	576,200	542,200	417,200
5	121,400	119,700	119,400	124,400	256,800	255,200	173,100	191,100	512,400	576,600	538,300	413,800
6	121,300	119,700	119,400	124,400	258,500	254,000	173,900	192,700	520,100	577,100	534,200	410,800
7	121,200	119,700	119,400	124,400	259,200	252,200	172,000	196,900	526,700	577,200	531,500	407,700
8	121,100	119,600	119,700	124,400	259,900	250,100	168,800	201,400	532,400	577,400	528,700	404,700
9	121,000	119,600	120,100	124,400	260,700	248,200	165,200	208,200	536,000	577,400	524,000	401,800
10	120,900	119,600	120,600	124,300	260,600	246,100	161,700	217,000	537,600	577,300	519,300	399,100
11	120,800	119,500	121,200	124,300	259,600	243,900	159,100	226,200	538,100	577,000	515,700	396,600
12	120,700	119,500	121,600	124,300	258,800	241,300	157,200	234,700	539,100	576,400	512,000	394,200
13	120,700	119,500	122,000	124,600	257,900	238,000	156,700	244,700	539,700	577,000	507,400	391,800
14	120,700	119,400	122,600	124,800	256,600	233,800	156,100	255,200	540,900	578,100	503,700	389,200
15	120,800	120,000	123,300	125,100	256,100	229,200	154,700	266,000	542,800	577,400	499,400	386,700
16	120,700	120,000	124,100	125,100	255,500	224,600	152,900	276,700	545,500	576,500	495,600	384,100
17	120,700	120,000	124,100	125,000	254,300	220,400	151,400	288,400	546,800	575,000	491,600	381,600
18	120,600	119,900	124,100	125,500	253,000	216,400	150,800	300,800	548,000	573,500	487,500	379,000
19	120,600	119,900	124,000	131,800	251,900	212,600	150,300	313,100	549,800	572,300	483,200	376,400
20	120,500	119,800	124,000	137,800	250,300	208,400	150,900	324,400	552,500	571,100	478,900	373,900
21	120,400	119,800	124,000	146,300	248,800	204,500	152,900	335,900	555,400	570,000	474,300	371,600
22	120,400	119,800	124,000	152,700	247,000	200,300	156,300	348,200	558,700	570,200	469,800	369,600
23	120,400	119,700	124,000	155,600	246,200	195,900	159,900	358,500	562,200	568,900	465,200	367,300
24	120,300	119,700	124,200	165,300	246,800	192,000	162,000	369,700	565,800	567,000	460,600	365,300
25	120,200	119,600	124,300	208,400	252,000	188,100	162,900	381,500	568,100	565,100	456,200	363,400
26	120,200	119,600	124,400	230,200	254,700	184,200	163,800	393,600	568,900	562,700	451,400	361,100
27	120,100	119,500	124,400	239,600	255,800	180,700	164,900	405,500	569,100	560,700	447,300	358,900
28	120,100	119,500	124,400	244,900	256,400	177,900	166,500	416,900	569,700	558,600	443,400	356,700
29	120,000	119,500	124,500	248,200	-----	175,900	168,900	428,900	569,400	556,500	439,400	355,200
30	119,900	119,500	124,500	250,400	-----	174,800	172,700	441,500	569,700	554,200	435,500	354,400
31	119,900	-----	124,500	251,900	-----	175,100	-----	454,200	-----	551,500	431,600	-----
MAX	122,000	120,000	124,500	251,900	260,700	256,800	175,800	454,200	569,700	578,100	551,200	427,900
MIN	119,900	119,400	119,400	124,300	246,200	174,800	150,300	177,000	467,600	551,500	431,600	354,400
(a)	2,550.28	2,550.20	2,551.23	2,571.76	2,572.35	2,560.40	2,560.00	2,594.74	2,605.47	2,603.86	2,592.48	2,584.25
(b)	-2,300	-400	+5,000	+127,400	+4,500	-81,300	-2,400	+281,500	+115,500	-18,200	-119,900	-77,200
(c)	1,953	991	466	494	687	1,510	1,887	4,342	6,485	8,899	9,043	5,912
CAL YR 1968	b +52,100		MAX 260,700		MIN 119,400							
WTR YR 1969	b +232,200		MAX 578,100		MIN 119,400							

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

BUENA VISTA LAKE BASIN

11-1910. KERN RIVER BELOW ISABELLA DAM, CALIF.

LOCATION.--Lat 35°38'21", long 118°29'02", in S $\frac{1}{2}$ NW $\frac{1}{4}$ sec.30, T.26 S., R.33 E., Kern County, on right bank 200 ft downstream from highway bridge, 0.6 mile downstream from Isabella Dam, and 1.6 miles southwest of town of Lake Isabella.

DRAINAGE AREA.--2,074 sq mi.

PERIOD OF RECORD.--April 1945 to current year. Prior to October 1952, published as "below Isabella dams site."

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

AVERAGE DISCHARGE (adjusted for diversion to Borel Canal since 1945 and for change in storage and evaporation from Isabella Reservoir since 1954).--24 years, 900 cfs (652,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,300 cfs May 3 (gage height, 17.67 ft); minimum daily, 2.3 cfs Nov. 16, 17.

Period of record: Maximum discharge, 39,000 cfs Nov. 19, 1950 (gage height, 28.6 ft, from floodmarks, present site and datum), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 2.1 cfs (regulated) Nov. 27, 1951. Maximum discharge since construction of Isabella Dam in 1954, 7,300 cfs May 3, 1969 (gage height, 17.67 ft); no flow Oct. 29, 1954, Mar. 22, 1960.

REMARKS.--Records good. Flow regulated by Isabella Reservoir (see sta 11-1905) beginning Apr. 15, 1954. Borel Canal (see sta 11-1875) diverts above station. Diversion for irrigation of 3,500 acres between head of Isabella Reservoir and upstream stations. An additional 6,500 acres in reservoir can be irrigated when reservoir stage is low. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	9.6	206	6.9	3.2	509	1,440	4,470	5,310	5,370	3,960	2,170	2,210	
2	9.6	206	6.5	3.1	509	1,440	4,820	5,320	5,340	2,580	2,980	2,090	
3	9.6	206	6.3	3.1	502	1,440	4,820	5,060	5,420	3,370	3,120	2,010	
4	9.6	221	6.3	3.1	474	1,440	4,810	5,330	5,980	3,450	3,250	2,000	
5	9.6	228	5.7	3.1	457	1,440	4,540	5,330	6,430	3,440	3,250	1,920	
6	9.6	228	4.6	3.1	469	1,600	3,860	5,320	6,440	3,450	3,250	1,830	
7	7.4	223	3.4	3.1	497	1,930	4,350	4,650	6,440	3,450	2,440	1,800	
8	6.3	221	3.3	3.1	499	1,930	4,930	5,210	6,430	3,450	2,430	1,720	
9	6.0	221	3.2	3.1	499	1,930	5,290	5,100	6,410	3,460	3,240	1,600	
10	5.4	221	3.1	3.1	896	1,930	5,290	4,940	6,420	3,460	3,240	1,490	
11	5.0	221	3.2	3.1	1,300	1,920	5,300	4,930	6,130	3,470	3,250	1,410	
12	5.2	221	3.2	3.1	1,310	2,000	5,290	4,880	5,930	3,480	3,250	1,340	
13	14	90	3.2	3.1	1,350	2,470	5,300	4,380	6,010	3,200	3,230	1,340	
14	162	3.3	3.2	3.1	1,430	2,770	5,300	3,840	6,010	3,560	2,960	1,340	
15	236	2.8	3.2	3.2	1,480	3,050	5,310	3,400	6,010	3,690	2,930	1,340	
16	237	2.3	3.2	3.2	1,520	3,040	5,310	3,420	6,010	3,690	2,740	1,340	
17	235	2.3	3.1	3.2	1,560	3,130	5,310	3,420	6,010	3,690	2,750	1,340	
18	235	4.1	3.1	3.2	1,650	3,430	5,310	3,430	5,630	3,700	2,800	1,340	
19	235	5.3	3.1	3.3	1,630	3,480	5,310	3,460	5,440	3,680	2,800	1,300	
20	235	5.2	3.1	4.8	1,590	3,640	5,310	3,900	5,110	3,700	2,800	1,240	
21	235	4.9	3.1	4.9	1,580	3,700	5,310	3,930	4,940	3,690	2,790	1,210	
22	224	4.9	3.1	3.0	1,580	3,850	5,330	3,990	4,940	3,870	2,800	1,160	
23	219	4.7	3.1	3.0	1,580	3,870	5,320	4,450	4,910	4,070	2,760	1,160	
24	219	4.7	3.1	8.6	1,210	4,020	5,320	4,290	4,920	3,650	2,700	1,160	
25	210	4.7	3.2	169	358	4,030	5,310	4,330	4,920	3,270	2,650	1,080	
26	206	5.4	3.4	501	472	4,090	5,280	4,360	4,920	3,250	2,490	1,080	
27	206	5.3	3.4	505	1,030	4,230	5,300	4,330	4,620	3,250	2,380	1,080	
28	206	5.3	3.4	506	1,440	4,240	5,310	4,310	4,430	3,250	2,260	1,080	
29	206	5.3	3.4	509	-----	4,250	5,310	4,380	4,430	3,240	2,260	807	
30	206	5.5	3.4	509	-----	4,240	5,320	4,680	4,230	3,250	2,250	450	
31	206	-----	3.4	509	-----	4,240	-----	5,240	-----	3,250	2,220	-----	
TOTAL	4,024.9	2,789.0	116.9	3,291.9	29,381	90,210	153,340	138,920	166,230	107,970	86,440	42,267	
MEAN	130	93.0	3.77	106	1,049	2,910	5,111	4,481	5,541	3,483	2,788	1,409	
MAX	237	228	6.9	509	1,650	4,250	5,330	5,330	6,440	4,070	3,250	2,210	
MIN	5.0	2.3	3.1	3.0	358	1,440	3,860	3,400	4,230	2,580	2,170	450	
AC-FT	7,980	5,530	232	6,530	58,280	178,900	304,100	275,500	329,700	214,200	171,500	83,840	
MEAN a	205	257	278	2,592	1,681	2,178	5,678	9,717	8,161	3,838	1,528	746	
AC-FT a	12,590	15,290	17,110	159,400	93,390	133,900	337,900	597,400	485,600	236,000	93,940	44,360	
CAL YR 1968 TOTAL	94,795.7	MEAN	259	MAX	1,500	MIN	2.3	AC-FT	188,000	MEAN a	599	AC-FT a	434,700
WTR YR 1969 TOTAL	824,980.7	MEAN	2,260	MAX	6,440	MIN	2.3	AC-FT	1,636,000	MEAN a	3,076	AC-FT a	2,227,000

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

11-1925. KERN RIVER NEAR DEMOCRAT SPRINGS, CALIF.

LOCATION.--Lat 35°31'15", long 118°40'34", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.28 S., R.31 E., Kern County, on left bank 1.0 mile southwest of Democrat Springs, and 2.1 miles upstream from Cow Creek:

DRAINAGE AREA.--2,258 sq mi.

PERIOD OF RECORD.--July 1950 to current year. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

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

AVERAGE DISCHARGE (River only).--19 years, 614 cfs (444,800 acre-ft per year), unadjusted.

(Combined river and diversion).--19 years, 967 cfs (700,600 acre-ft per year), adjusted for storage.

EXTREMES (River only).--Current year: Maximum discharge, 6,660 cfs June 7 (gage height, 16.74 ft); minimum daily, 1.0 cfs Dec. 19-21.

Period of record (prior to regulation by Isabella Reservoir): Maximum discharge, 40,000 cfs Nov. 19, 1950 (gage height, 30.7 ft), from rating curve extended above 8,700 cfs on basis of computation of maximum flow over dam (basic data for computation furnished by Southern California Edison Co.); minimum daily, 0.7 cfs Nov. 17-19, 1951.

1954 to current year: Maximum discharge, 10,100 cfs Dec. 6, 1966 (gage height, 18.55 ft); minimum daily, 0.1 cfs Oct. 30 to Nov. 12, 1955.

(Combined flow).--Current year: Maximum discharge, 7,050 cfs June 7; minimum daily, 10 cfs Dec. 17.

Period of record (prior to regulation by Isabella Reservoir): Maximum discharge, 40,000 cfs Nov. 19, 1950; minimum daily, 123 cfs Sept. 22, 1951.

1954 to current year: Maximum discharge, 10,100 cfs Dec. 6, 1966; minimum daily, 10 cfs Dec. 17, 1968.

REMARKS.--Records good. Kern River No. 1 conduit diverts up to about 420 cfs from left bank of Kern River in sec.13, T.28 S., R.30 E., for power development; water is returned to river 7 miles below station. Flow regulated by Isabella Reservoir 20 miles upstream beginning in 1954 (see sta 11-1905). Many diversions above station for irrigation. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 12 discharge measurements for river and gage-height record and 12 discharge measurements for conduit furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	1.5	1.4	1.2	693	2,050	4,720	5,570	5,620	4,130	2,440	2,420
2	5.0	1.5	1.5	1.2	684	1,980	5,050	5,470	5,710	2,710	3,530	2,300
3	1.3	1.5	1.5	1.2	666	1,980	5,120	4,870	5,810	3,380	3,120	2,170
4	1.3	1.5	1.5	1.2	627	1,940	4,940	5,300	6,020	3,550	3,520	2,150
5	1.3	1.5	1.5	1.2	624	1,900	4,920	5,270	6,520	3,520	3,530	2,080
6	1.3	1.4	1.5	1.2	702	1,950	4,120	5,260	6,620	3,540	3,510	1,940
7	1.3	1.4	127	1.2	654	2,380	4,470	5,010	6,640	3,530	3,440	1,930
8	1.3	1.4	223	1.2	615	2,350	4,800	5,410	6,620	3,570	3,740	1,860
9	45	1.4	37	1.2	600	2,350	5,210	5,350	6,560	3,560	3,410	1,750
10	180	1.4	16	1.2	775	2,380	5,460	5,250	6,570	3,540	3,350	1,620
11	185	1.4	15	1.2	1,540	2,330	5,510	5,200	6,340	3,530	3,310	1,520
12	185	1.3	14	1.2	1,570	2,370	5,510	5,020	5,980	3,540	3,360	1,420
13	185	1.4	12	1.3	1,540	2,660	5,560	4,950	5,970	3,300	3,360	1,420
14	200	1.4	11	40	1,660	2,970	5,560	4,600	5,970	3,710	3,210	1,420
15	240	1.7	11	75	1,800	3,300	5,560	4,170	5,980	3,850	3,110	1,400
16	245	1.5	12	61	1,880	3,330	5,560	4,100	5,990	3,860	3,010	1,400
17	215	1.4	10	58	1,860	3,400	5,560	4,100	6,010	3,870	2,970	1,400
18	10	1.2	83	53	2,020	3,780	5,560	4,070	5,710	3,900	3,020	1,400
19	1.4	1.2	1.0	120	2,050	3,820	5,560	4,030	5,380	3,880	3,010	1,400
20	1.4	1.2	1.0	357	1,980	4,070	5,510	4,150	5,090	3,900	3,000	1,310
21	1.4	1.2	1.0	362	2,000	4,100	5,510	4,170	4,870	3,870	3,000	1,290
22	1.4	1.3	1.1	253	2,000	4,240	5,510	4,320	4,850	3,470	3,010	1,220
23	1.4	1.3	1.1	121	1,990	4,230	5,460	4,720	4,820	3,870	2,990	1,220
24	1.4	1.3	1.1	401	2,050	4,390	5,460	4,570	4,810	4,000	2,920	1,210
25	1.4	1.3	1.2	1,720	1,730	4,390	5,460	4,570	4,810	3,570	2,900	1,210
26	1.4	1.3	1.3	1,500	1,270	4,430	5,460	4,570	4,820	3,560	2,730	1,210
27	1.4	1.3	1.2	1,100	1,430	4,560	5,460	4,610	4,620	3,550	2,620	1,210
28	1.4	1.3	1.2	904	2,030	4,570	5,510	4,610	4,400	3,550	2,470	1,210
29	1.5	1.3	1.2	820	-----	4,590	5,520	5,210	4,380	3,560	2,460	1,190
30	1.5	1.3	1.2	750	-----	4,590	5,570	5,510	4,280	3,550	2,450	354
31	1.5	-----	1.2	711	-----	4,590	-----	5,510	-----	3,540	2,420	-----
TOTAL	1,731.3	41.1	594.7	9,421.7	39,040	101,970	159,180	149,520	167,770	112,460	94,920	45,634
MEAN	55.8	1.37	19.2	304	1,394	3,289	5,306	4,823	5,592	3,628	3,062	1,521
MAX	245	1.7	223	1,720	2,050	4,590	5,570	5,570	6,640	4,130	3,740	2,420
MIN	1.3	1.2	1.0	1.2	600	1,900	4,120	4,030	4,280	2,710	2,420	354
AC-FT	3,430	82	1,180	18,690	77,430	202,300	315,700	296,600	332,800	223,100	188,300	90,520
CAL YR 1968	TOTAL	131,861.1	MEAN	360	MAX	1,400	MIN	1.0	AC-FT	261,500		
WTR YR 1969	TOTAL	882,282.8	MEAN	2,417	MAX	6,640	MIN	1.0	AC-FT	1,750,000		

BUENA VISTA LAKE BASIN

11-1925. KERN RIVER NEAR DEMOCRAT SPRINGS, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER NO. 1 CONDUIT
NEAR DEMOCRAT SPRINGS, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	208	224	332	1,080	2,420	5,110	5,950	6,000	4,530	2,840	2,810
2	209	208	224	331	1,070	2,340	5,440	5,850	6,100	3,110	3,930	2,690
3	202	208	220	324	1,050	2,350	5,510	5,250	6,200	3,780	3,510	2,570
4	204	212	208	307	1,020	2,320	5,330	5,690	6,400	3,950	3,910	2,550
5	246	226	206	306	1,020	2,280	5,310	5,660	6,910	3,920	3,920	2,480
6	184	225	210	312	1,100	2,330	4,510	5,650	7,010	3,940	3,900	2,340
7	182	224	249	331	1,050	2,760	4,860	5,400	7,030	3,930	3,740	2,320
8	181	220	227	329	1,020	2,730	5,190	5,800	7,010	3,970	3,800	2,250
9	197	220	37	337	1,000	2,730	5,600	5,750	6,950	3,960	3,800	2,140
10	189	220	16	347	1,180	2,700	5,850	5,650	6,960	3,940	3,750	2,020
11	185	220	15	330	1,950	2,640	5,900	5,600	6,730	3,930	3,700	1,920
12	185	221	14	324	1,980	2,680	5,900	5,400	6,370	3,940	3,750	1,820
13	185	217	12	309	1,930	2,970	5,950	5,000	6,360	3,700	3,750	1,820
14	200	230	11	409	2,060	3,280	5,950	4,600	6,360	4,120	3,600	1,820
15	240	270	11	446	2,200	3,610	5,950	4,170	6,370	4,250	3,500	1,800
16	245	298	12	431	2,280	3,660	5,950	4,100	6,380	4,260	3,400	1,800
17	234	319	10	429	2,260	3,750	5,950	4,100	6,400	4,270	3,360	1,800
18	237	319	305	424	2,420	4,020	5,950	4,070	6,100	4,300	3,410	1,800
19	234	312	257	489	2,460	4,150	5,950	4,200	5,770	4,280	3,410	1,800
20	234	289	257	717	2,380	4,410	5,900	4,500	5,480	4,300	3,400	1,710
21	233	272	254	720	2,360	4,450	5,900	4,550	5,260	4,260	3,400	1,690
22	230	269	231	614	2,380	4,610	5,900	4,700	5,240	3,860	3,410	1,620
23	218	269	181	499	2,380	4,600	5,850	5,100	5,210	4,270	3,390	1,620
24	218	267	243	789	2,440	4,760	5,850	4,950	5,200	4,400	3,310	1,610
25	215	265	305	2,060	2,090	4,760	5,850	4,950	5,210	3,970	3,290	1,610
26	208	259	370	1,880	1,630	4,810	5,850	4,950	5,220	3,960	3,120	1,610
27	208	229	342	1,480	1,800	4,940	5,850	5,000	5,020	3,950	3,010	1,610
28	208	228	291	1,290	2,400	4,950	5,900	5,000	4,800	3,950	2,860	1,610
29	208	226	306	1,200	-----	4,980	5,900	5,600	4,780	3,960	2,860	1,590
30	210	224	335	1,140	-----	4,980	5,950	5,900	4,680	3,950	2,850	727
31	208	-----	334	1,110	-----	4,980	-----	5,900	-----	3,940	2,820	-----
TOTAL	6,547	7,374	5,917	20,346	49,990	112,950	170,860	158,990	179,510	124,850	106,700	57,557
MEAN	211	246	191	656	1,785	3,644	5,695	5,129	5,984	4,027	3,442	1,919
MAX	246	319	370	2,060	2,460	4,980	5,950	5,950	7,030	4,530	3,930	2,810
MIN	181	208	10	306	1,000	2,280	4,510	4,070	4,680	3,110	2,820	727
AC-FT	12,990	14,630	11,740	40,360	99,150	224,000	338,900	315,400	356,100	247,600	211,600	114,200
CAL YR 1968	TOTAL	241,340	MEAN	659	MAX	1,790	MIN	10	AC-FT	478,700		
WTR YR 1969	TOTAL	1,001,591	MEAN	2,744	MAX	7,030	MIN	10	AC-FT	1,987,000		

11-1940. KERN RIVER NEAR BAKERSFIELD, CALIF.

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

DRAINAGE AREA.--2,407 sq mi.

PERIOD OF RECORD.--October 1893 to current year. Daily discharges for period October 1953 to September 1963 are in files of California District office of Geological Survey. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and prior to Jan. 24 a wooden control. Datum of gage is at mean sea level.

AVERAGE DISCHARGE.--76 years, 961 cfs (696,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,580 cfs June 5 (elevation, unknown); minimum daily, 37 cfs Dec. 15.

Period of record: Maximum discharge, 36,000 cfs Nov. 19, 1950 (elevation, 461.37 ft); minimum daily, 74 cfs Sept. 19, 1948. Maximum discharge since construction of Isabella Dam in 1954, 9,290 cfs Dec. 6, 1966 (elevation, 454.94 ft); minimum daily, 37 cfs Dec. 15, 1968.

REMARKS.-- Flow regulated by Isabella Reservoir beginning in 1954 (see sta 11-1905), and three powerplants; many diversions above station for irrigation.

COOPERATION.--Records furnished by Kern County Land Company and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255	231	256	367	1,280	2,480	5,990	6,420	6,320	4,620	2,850	3,090
2	227	231	245	350	1,260	2,440	6,320	6,380	6,220	3,430	3,420	2,980
3	215	231	240	342	1,250	2,420	6,220	5,620	6,370	4,210	4,050	2,890
4	232	237	239	346	1,240	2,370	6,150	6,350	6,890	4,290	4,120	2,870
5	238	264	258	363	1,220	2,330	5,860	6,270	7,520	4,270	4,150	2,750
6	200	266	263	378	1,190	2,570	5,100	6,250	7,480	4,300	4,130	2,620
7	193	274	203	375	1,220	2,750	5,600	5,460	7,370	4,290	2,860	2,520
8	191	256	153	387	1,210	2,760	6,350	6,110	7,250	4,310	2,900	2,370
9	155	259	78	386	1,200	2,710	7,090	6,020	7,210	4,310	4,020	2,220
10	131	253	55	375	1,600	2,640	7,190	5,910	7,250	4,320	4,070	2,110
11	181	259	44	359	1,940	2,620	6,850	5,880	6,870	4,330	4,120	2,010
12	183	251	41	446	2,000	2,810	6,770	5,810	6,640	4,340	4,120	1,950
13	193	251	39	548	2,050	3,300	6,680	5,370	6,620	3,940	4,080	1,940
14	217	261	40	518	2,130	3,470	6,500	4,820	6,630	4,470	3,840	1,930
15	231	299	37	548	2,260	3,640	6,420	4,390	6,610	4,590	3,800	1,910
16	263	341	39	483	2,250	3,700	6,410	4,370	6,610	4,600	3,640	1,910
17	283	352	225	472	2,280	4,050	6,370	4,370	6,600	4,620	3,630	1,900
18	317	358	290	485	2,430	4,210	6,360	4,360	6,220	4,630	3,660	1,900
19	265	310	294	540	2,440	4,270	6,340	4,400	6,090	4,740	3,650	1,850
20	263	302	280	626	2,360	4,260	6,320	4,800	5,800	4,670	3,660	1,800
21	261	300	240	741	2,380	4,380	6,320	4,790	5,690	4,680	3,640	1,750
22	246	301	243	619	2,370	4,560	6,300	4,900	5,670	3,920	3,650	1,710
23	241	299	305	1,200	2,460	4,830	6,320	5,250	5,640	4,510	3,620	1,690
24	230	297	369	2,630	2,890	5,130	6,400	5,220	5,630	4,530	3,550	1,610
25	224	276	392	2,600	2,040	5,180	6,450	5,240	5,610	4,080	3,480	1,610
26	229	260	406	2,080	1,770	5,430	6,480	5,250	5,580	4,090	3,310	1,610
27	225	260	360	1,520	2,300	5,710	6,480	5,210	5,340	4,100	3,220	1,610
28	222	259	353	1,420	2,550	5,680	6,480	5,180	5,140	4,070	3,150	1,610
29	231	257	373	1,340	-----	5,620	6,440	5,290	5,140	4,090	3,140	1,500
30	235	256	372	1,310	-----	5,640	6,430	5,470	4,920	4,080	3,130	890
31	224	-----	369	1,290	-----	5,660	-----	6,220	-----	3,620	3,110	-----
TOTAL	7,001	8,251	7,101	25,444	53,570	119,620	190,990	167,380	188,930	133,050	111,770	61,110
MEAN	226	275	229	821	1,913	3,859	6,366	5,399	6,298	4,292	3,605	2,037
MAX	317	358	406	2,630	2,890	5,710	7,190	6,420	7,520	4,740	4,150	3,090
MIN	131	231	37	342	1,190	2,330	5,100	4,360	4,920	3,430	2,850	890
AC-FT	13,890	16,370	14,080	50,470	106,300	237,300	378,800	332,000	374,700	263,900	221,700	121,200
CAL YR 1968	TOTAL	250,568	MEAN	685	MAX	1,770	MIN	37	AC-FT	497,000		
WTR YR 1969	TOTAL	1,074,217	MEAN	2,943	MAX	7,520	MIN	37	AC-FT	2,131,000		

NOTE.--No gage-height record Jan. 24 to Mar. 31. Mean daily discharge is computed for a 24-hour period from noon on date listed to noon on the following day.

BUENA VISTA LAKE BASIN

11-1942. WAGONWHEEL CREEK NEAR REWARD, CALIF.

LOCATION.--Lat 35°19'24", long 119°44'31", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.30 S., R.21 E., Kern County, at culvert on private road 3.5 miles west of Reward.

DRAINAGE AREA.--1.38 sq mi.

PERIOD OF RECORD.--Water years 1958-65 (annual maximum), October 1965 to current year.

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

EXTREMES.--Current year: Maximum discharge, 68 cfs Feb. 28 (gage height, 8.79 ft), from rating curve extended above 35 cfs based on slope-area measurement of peak flow; no flow most of year.

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

REMARKS.--Records poor. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 1.4; November, 0.8; December, 1.0; January, 3.8; February, 7.3; March, 0.3; April, 1.4; the water year, 16.0.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	.29	0	1.4	0	0	0	0	0
6	0	0	0	0	5.0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	1.0	0	0	0	0	0	0	0
19	0	0	0	1.8	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	2.3	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	.65	7.2	0	0	0	0	0	0	0
24	0	0	0	2.0	11	0	0	0	0	0	0	0
25	0	0	0	4.1	3.2	0	0	0	0	0	0	0
26	0	0	0	2.4	1.1	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	.50	7.2	0	0	0	0	0	0	0
29	0	0	0	0	-----	0	0	0	0	0	0	0
30	0	0	0	0	-----	0	0	0	0	0	0	0
31	0	-----	0	0	-----	0	-----	0	-----	0	0	-----
TOTAL	0	0	0	13.75	35.99	0	1.4	0	0	0	0	0
MEAN	0	0	0	.44	1.29	0	.047	0	0	0	0	0
MAX	0	0	0	4.1	11	0	1.4	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	27	71	0	2.8	0	0	0	0	0

CAL YR 1968	TOTAL	.49	MEAN	.001	MAX	.31	MIN	0	AC-FT	1.0
WTR YR 1969	TOTAL	51.14	MEAN	.14	MAX	11	MIN	0	AC-FT	101

PEAK DISCHARGE (BASE, 5.0 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	2000	6.89	11	2-24	2030	8.39	56
1-21	0900	6.86	9.8	2-25	2400	8.25	52
1-26	0630	7.54	30	2-28	1200	8.79	68
2- 6	1230	7.07	16	4- 5	1630	7.66	34
2-23	0930	7.62	33				

11-1955. SAN EMIGDIO CREEK AT SAN EMIGDIO RANCHHOUSE, CALIF.

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

DRAINAGE AREA.--48.8 sq mi.

PERIOD OF RECORD.--March 1959 to current year.

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

AVERAGE DISCHARGE.--10 years, 1.38 cfs (1,000 acre-ft per year); median of yearly mean discharges, 1.2 cfs (840 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 538 cfs Jan. 25 (gage height, 12.66 ft, from floodmarks), from rating curve extended as explained below; minimum daily, 0.59 cfs Nov. 27-29, Dec. 4, 7-10.
Period of record: Maximum discharge, 6,690 cfs Aug. 5, 1961 (gage height, 19.87 ft, from floodmarks), from rating curve extended above 20 cfs on basis of slope-area measurements at gage heights 10.94 and 19.87 ft; minimum daily, 0.30 cfs Apr. 23, 24, 1962 and many days in 1965, 1966.
Maximum stage known since at least 1938 (from information by local residents), that of Aug. 5, 1961.

REMARKS.--Records fair. Small diversions for stock and domestic use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	1.0	.66	.87	.66	1.7	1.3	5.0	10	6.7	7.9	5.0
2	.78	.97	.62	.87	.70	1.3	1.3	5.1	10	6.2	7.6	5.0
3	.78	.97	.62	.87	.70	4.0	2.1	5.2	10	6.4	7.0	5.0
4	.70	.92	.59	.82	.70	2.0	2.0	5.3	10	6.4	6.7	4.9
5	.66	.97	.62	.82	.82	1.6	7.3	5.5	10	6.0	6.8	5.0
6	.66	.92	.62	.78	2.4	1.6	2.6	5.7	10	6.4	6.7	5.5
7	.66	.92	.59	.78	1.6	1.5	2.1	6.0	10	6.6	6.8	5.4
8	.66	.92	.59	.82	.90	1.4	2.0	6.2	10	6.2	6.7	4.9
9	.70	.92	.59	.82	1.0	1.4	1.8	6.4	10	5.8	6.4	5.0
10	.70	.87	.59	.82	.90	1.7	2.1	6.7	11	6.1	6.4	5.2
11	.74	.87	1.2	.82	.95	1.6	2.2	7.0	13	7.3	6.6	5.0
12	.70	1.2	.66	.78	4.5	1.5	2.4	7.2	12	8.4	6.2	5.2
13	.96	.97	.66	.92	2.5	1.7	2.8	7.4	12	7.8	6.0	5.2
14	2.0	1.1	.66	.97	2.5	1.8	2.9	7.7	12	7.2	5.8	5.5
15	1.1	3.5	.74	.87	4.6	1.7	3.0	8.0	11	6.8	6.0	5.6
16	.92	.97	1.8	.82	3.0	1.5	2.9	8.2	12	6.8	6.2	5.8
17	.87	.97	.70	.82	1.7	1.5	3.0	8.5	11	7.0	6.1	6.0
18	.82	.97	.66	.82	2.5	1.6	3.0	8.8	11	6.6	6.1	6.0
19	.82	.70	.62	8.4	5.5	1.7	3.1	9.0	11	6.6	6.1	6.1
20	.82	.62	.82	5.3	3.5	1.7	3.2	9.2	9.9	6.4	5.2	6.1
21	.78	.66	.74	6.0	2.3	2.0	3.6	9.3	9.3	6.2	5.0	6.2
22	.78	.62	.82	1.5	2.5	2.3	4.2	9.5	9.0	6.1	5.0	6.1
23	.78	.66	.82	.78	4.0	1.7	4.3	9.7	8.8	6.1	5.2	6.0
24	.78	.70	.82	2.2	6.0	1.3	4.6	9.9	8.3	6.2	5.4	6.1
25	.78	.66	1.3	81	9.0	1.5	5.2	9.9	8.0	6.4	5.5	5.6
26	.78	.62	1.5	1.3	2.5	1.4	5.2	9.9	7.6	6.4	5.5	5.8
27	.82	.59	1.0	.72	1.9	1.3	4.7	10	7.3	6.2	5.6	5.8
28	.78	.59	.97	.74	2.6	1.2	4.7	10	7.0	8.8	5.5	5.8
29	.93	.59	.97	.62	-----	1.1	4.9	10	7.3	8.9	5.6	5.6
30	1.2	.62	.87	.62	-----	1.2	6.3	10	7.2	7.9	5.4	5.5
31	1.0	-----	.87	.62	-----	1.3	-----	10	-----	7.6	5.2	-----
TOTAL	26.24	27.56	25.29	124.89	72.43	50.8	100.8	246.3	295.7	210.5	188.2	165.9
MEAN	.85	.92	.82	4.03	2.59	1.64	3.36	7.95	9.86	6.79	6.07	5.53
MAX	2.0	3.5	1.8	81	9.0	4.0	7.3	10	13	8.9	7.9	6.2
MIN	.66	.59	.59	.62	.66	1.1	1.3	5.0	7.0	5.8	5.0	4.9
AC-FT	52	55	50	248	144	101	200	489	587	418	373	329

CAL YR 1968 TOTAL 351.21 MEAN .96 MAX 3.5 MIN .47 AC-FT 697
WTR YR 1969 TOTAL 1,534.61 MEAN 4.20 MAX 81 MIN .59 AC-FT 3,040

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	unknown	10.6	97	2-25	unknown	11.10	176
1-25	unknown	12.66	538				

BUENA VISTA LAKE BASIN

11-1956. PASTORIA CREEK NEAR LEBEC, CALIF.

LOCATION.--Lat 34°54'33", long 118°48'55", in Los Alamos Y Agua Caliente Grant, Kern County, on right bank just upstream from unnamed tributary, and 5.8 miles northeast of Lebec.

DRAINAGE AREA.--27.5 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,970.93 ft above mean sea level.

AVERAGE DISCHARGE.--5 years, 0.84 cfs (609 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 109 cfs Feb. 25 (gage height, 3.39 ft), from rating curve extended as explained below; minimum daily, 0.43 cfs Nov. 3, 8 Dec. 20.

Period of record: Maximum discharge, 109 cfs Feb. 25, 1969 (gage height, 3.39 ft), from rating curve extended above 6.2 cfs on basis of slope-area measurements of maximum flow; no flow for many days in 1964-67.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	.54	.72	.48	1.4	30	2.6	2.1	1.3	1.4	.75	.66
2	.66	.48	.66	.54	1.3	20	2.7	2.7	1.6	1.4	.69	.69
3	.66	.43	.54	.69	1.3	15	3.1	2.2	1.5	1.3	.66	.66
4	.57	.51	.57	.66	1.3	8.4	2.6	2.2	1.4	1.2	.63	.69
5	.57	.54	.66	.63	1.4	14	7.2	2.7	1.7	1.2	.75	.75
6	.60	.45	.60	.69	5.5	7.9	3.0	2.4	1.8	1.2	.75	.72
7	.66	.48	.57	.69	1.7	6.5	2.8	2.2	1.6	1.4	.72	.66
8	.63	.43	.57	.66	.69	6.3	2.6	2.3	1.4	1.4	.69	.75
9	.69	.51	.60	.63	.60	6.1	2.4	2.2	1.8	1.4	.69	.66
10	.60	.57	.54	.63	.69	6.1	9.8	2.0	2.0	1.7	.72	.63
11	.60	.51	1.8	.75	.63	5.3	3.0	2.2	1.8	1.8	.69	.66
12	.57	2.1	.72	.66	9.7	5.7	4.5	2.5	1.7	1.4	.67	.66
13	.57	.54	.63	.54	4.4	6.1	3.2	2.3	1.7	1.4	.63	.63
14	1.4	.63	.57	.90	2.4	5.5	3.0	2.6	1.6	1.5	.63	.60
15	.63	.86	.57	.75	6.2	5.3	2.8	2.2	1.7	1.4	.60	.63
16	.63	.60	2.2	.54	4.4	5.0	2.6	2.2	4.2	1.4	.63	.69
17	.54	.54	.72	.72	3.2	5.0	2.5	2.0	1.4	1.6	.60	.66
18	.54	.51	.69	1.6	8.4	5.0	2.5	1.8	1.4	1.6	.57	.60
19	.48	.51	.66	3.5	12	5.0	2.5	1.9	1.4	1.4	.60	.66
20	.48	.48	.43	2.4	7.4	4.6	2.4	2.0	1.3	1.3	.60	.66
21	.60	.48	.48	7.6	7.8	5.1	2.4	2.2	1.3	1.3	.60	.63
22	.63	.51	1.3	1.2	7.8	4.5	2.3	2.0	1.2	1.2	.57	.63
23	.63	.69	2.1	1.2	11	4.5	2.3	2.0	1.2	1.1	.57	.69
24	.60	.78	1.4	1.0	11	4.8	2.3	1.9	1.6	1.1	.60	.66
25	.57	1.1	2.0	6.4	65	4.5	2.3	1.8	1.4	1.0	.63	.75
26	.54	.75	2.2	4.8	40	4.1	2.3	1.7	1.3	1.0	.85	.85
27	.48	.57	1.0	1.6	35	3.7	2.2	2.0	1.3	1.0	.72	.75
28	.54	.57	.72	1.8	38	3.4	2.5	2.0	1.4	1.0	.60	.66
29	.60	.63	.69	1.4	-----	3.1	2.4	1.7	1.4	1.0	.63	.69
30	1.3	.72	.66	1.4	-----	2.8	2.3	1.4	1.4	.85	.69	.66
31	.57	-----	.51	1.4	-----	2.7	-----	1.2	-----	.85	.66	-----
TOTAL	19.77	19.02	28.08	48.46	290.21	216.0	91.1	64.6	47.8	39.80	20.39	20.29
MEAN	.64	.63	.91	1.56	10.4	6.97	3.04	2.08	1.59	1.28	.66	.68
MAX	1.4	2.1	2.2	7.6	65	30	9.8	2.7	4.2	1.8	.85	.85
MIN	.48	.43	.43	.48	.60	2.7	2.2	1.2	1.2	.85	.57	.60
AC-FT	39	38	56	96	576	428	181	128	95	79	40	40

CAL YR 1968 TOTAL 302.47
WTR YR 1969 TOTAL 905.52

MEAN .83 MAX 2.2
MEAN 2.48 MAX 65

MIN .40 AC-FT 600
MIN .43 AC-FT 1,800

PEAK DISCHARGE (BASE, 10 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-18	0300	2.69	12	2-18	2200	2.90	18
1-19	2030	2.88	17	2-21	2230	2.76	14
1-21	0230	3.01	22	2-25	0200	3.39	109
1-25	0700	2.90	18	3- 5	1030	2.65	26
1-26	1300	2.77	14	4- 5	1500	2.82	44
2- 6	0300	2.94	19	4-10	0300	2.85	46
2-12	1800	3.18	29	6-16	1930	3.06	24
2-15	1730	3.05	24				

11-1964. CALIENTE CREEK ABOVE TEHACHAPI CREEK, NEAR CALIENTE, CALIF.

LOCATION.--Lat 35°18'41", long 118°34'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.30 S., R.32 E., Kern County, on right bank 0.5 mile upstream from Harper Canyon, 1.0 mile upstream from Oiler Canyon, and 3.6 miles northeast of Caliente.

DRAINAGE AREA.--165 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

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

AVERAGE DISCHARGE.--8 years, 2.82 cfs (2,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 717 cfs Feb. 25 (gage height, 5.20 ft, from floodmarks), from rating curve extended above 190 cfs on basis of slope-area measurements at gage heights 5.20 and 7.48 ft; no flow for several months.

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

REMARKS.--Records fair. Small diversions above station for stock and domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.48	1.0	8.4	120	80	11	3.9	2.0	1.5	1.7
2	0	0	.48	.94	7.6	102	66	11	4.3	1.9	1.6	1.5
3	0	0	.48	.86	7.3	112	68	11	4.3	2.2	1.6	1.6
4	0	0	.54	.86	6.5	76	62	11	4.5	1.9	1.4	1.5
5	0	0	.54	.78	6.9	44	58	11	4.1	2.0	1.5	1.5
6	0	0	.60	.72	18	50	70	11	4.3	2.0	1.6	1.5
7	0	0	.60	.72	68	44	66	9.6	4.3	2.3	1.6	1.9
8	0	0	.54	.78	58	40	50	9.1	4.1	2.2	1.7	1.8
9	0	0	.54	.78	54	32	39	9.1	4.5	2.0	1.5	1.8
10	0	0	.54	.78	47	32	37	8.7	4.7	1.9	1.7	1.9
11	0	0	.66	.72	36	30	37	8.4	4.7	1.9	2.0	1.8
12	0	0	.69	.72	25	26	37	8.4	4.1	2.3	1.9	1.7
13	0	0	.48	.86	22	26	36	8.0	4.1	2.0	2.0	1.8
14	0	0	.44	1.5	18	19	36	8.0	3.7	1.9	1.7	1.8
15	0	0	.44	1.4	17	14	28	7.6	3.7	1.9	1.7	1.8
16	0	0	.72	1.2	18	13	22	7.3	3.7	1.9	1.8	1.7
17	0	0	.72	1.1	18	14	20	6.9	3.5	1.5	1.6	1.7
18	0	0	.54	1.2	22	16	20	6.3	3.5	1.3	1.8	1.9
19	0	0	.60	2.0	50	19	19	6.3	3.5	1.4	1.8	2.2
20	0	0	.66	2.7	68	32	18	6.0	3.3	1.5	1.8	2.2
21	0	0	.66	2.3	58	34	17	5.8	3.2	1.4	1.8	2.0
22	0	0	.54	2.4	56	19	17	5.8	2.9	1.6	1.7	1.9
23	0	0	.48	2.3	56	17	16	5.6	2.9	1.3	1.8	1.9
24	0	0	.48	4.3	67	28	15	5.3	2.7	1.3	1.8	1.8
25	0	.17	.66	82	354	24	16	4.9	2.4	1.4	2.2	1.8
26	0	.38	1.8	70	222	20	16	4.7	2.3	1.5	2.0	1.8
27	0	.48	1.5	41	174	52	14	5.3	2.6	1.9	1.9	1.7
28	0	.60	1.3	22	132	58	12	5.3	2.6	2.0	1.8	1.8
29	0	.48	1.3	17	-----	58	12	5.1	2.6	1.8	1.8	2.0
30	0	.38	1.0	15	-----	72	12	4.9	2.3	1.7	1.9	2.2
31	0	-----	1.0	11	-----	76	-----	4.5	-----	1.6	1.6	-----
TOTAL	0	2.49	22.01	290.92	1,694.7	1,319	1,016	232.9	107.3	55.5	54.1	54.2
MEAN	0	.083	.71	9.38	60.5	42.5	33.9	7.51	3.58	1.79	1.75	1.81
MAX	0	.60	1.8	82	354	120	80	11	4.7	2.3	2.2	2.2
MIN	0	0	.44	.72	6.5	13	12	4.5	2.3	1.3	1.4	1.5
AC-FT	0	4.9	44	577	3,360	2,620	2,020	462	213	110	107	108

CAL YR 1968	TOTAL	182.71	MEAN	.50	MAX	3.7	MIN	0	AC-FT	362
WTR YR 1969	TOTAL	4,849.12	MEAN	13.3	MAX	354	MIN	0	AC-FT	9,620

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-25	1800	2.87	214	2-25	0800	5.20	717
2-7	0600	2.15	76				

BUENA VISTA LAKE BASIN

11-1964.2. TEHACHAPI CREEK NEAR TEHACHAPI, CALIF.

LOCATION.--Lat 35°10'26", long 118°28'43", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.32 S., R.33 E., Kern County, on right bank 1.3 miles downstream from Brite Creek, and 3.2 miles northwest of Tehachapi.

DRAINAGE AREA.--53.2 sq mi.

PERIOD OF RECORD.--September 1962 to current year.

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

AVERAGE DISCHARGE.--7 years, 0.26 cfs (188 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 244 cfs Feb. 25 (gage height, 1.73 ft), from rating curve extended above 63 cfs; minimum daily, 0.01 cfs for many days.

Period of record: Maximum discharge, 1,700 cfs Aug. 8, 1963 (gage heights, 5.30 ft in gage well, 6.40 ft, from floodmarks, site and datum then in use), from slope-area measurement of maximum flow; no flow for parts of most years.

REVISIONS.--The maximum discharge for the water year 1967 has been revised to 77 cfs Dec. 6, 1966 (gage height, 1.06 ft), superseding figure published in WRD Calif. 1967.

REMARKS.--Records good. No regulation.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	.02	.02	.83	24	1.2	.04	.04	.04	.04	.04
2	.01	.01	.02	.03	.83	12	1.4	.04	.04	.04	.04	.04
3	.01	.02	.02	.03	.50	12	6.3	.04	.04	.04	.03	.04
4	.01	.02	.02	.03	.24	12	2.2	.04	.04	.04	.03	.04
5	.02	.02	.02	.03	.50	8.2	3.1	.04	.04	.04	.03	.04
6	.02	.02	.02	.03	5.9	8.2	2.1	.04	.04	.04	.03	.04
7	.02	.01	.02	.03	6.5	8.2	.50	.04	.04	.04	.03	.04
8	.02	.01	.02	.03	2.5	6.2	.36	.04	.04	.04	.02	.04
9	.02	.01	.02	.03	1.7	6.2	.24	.04	.05	.04	.02	.04
10	.02	.01	.02	.03	1.4	9.7	.36	.04	.05	.04	.02	.04
11	.02	.02	.03	.03	1.2	7.5	.15	.04	.05	.04	.02	.04
12	.02	.02	.02	.03	2.8	5.7	.09	.04	.05	.04	.02	.04
13	.04	.02	.02	.04	3.4	8.9	.09	.04	.05	.04	.03	.04
14	.02	.03	.02	.04	1.4	5.7	.06	.04	.04	.04	.02	.04
15	.02	.02	.02	.03	2.6	3.9	.04	.04	.05	.04	.02	.04
16	.02	.02	.03	.03	3.2	3.9	.04	.03	.05	.04	.02	.04
17	.02	.01	.03	.03	1.2	3.9	.04	.03	.04	.04	.02	.04
18	.02	.01	.03	.04	3.3	4.7	.04	.03	.04	.04	.03	.04
19	.02	.01	.03	.05	8.9	4.3	.04	.04	.04	.04	.03	.04
20	.02	.01	.04	.04	7.5	3.5	.04	.04	.03	.04	.02	.04
21	.02	.01	.04	.05	4.3	2.8	.04	.04	.04	.04	.02	.04
22	.01	.01	.03	.03	5.2	2.5	.04	.04	.04	.04	.02	.04
23	.01	.01	.03	.04	4.6	2.2	.04	.03	.03	.04	.02	.04
24	.01	.02	.04	3.6	17	1.9	.04	.03	.04	.04	.03	.04
25	.01	.02	.05	13	106	1.7	.04	.03	.03	.04	.03	.04
26	.01	.02	.04	6.0	46	1.2	.04	.02	.04	.04	.04	.04
27	.01	.02	.03	3.3	21	1.1	.04	.03	.05	.09	.04	.04
28	.02	.02	.04	2.3	27	1.0	.04	.03	.04	.15	.04	.04
29	.02	.02	.03	2.2	-----	.83	.04	.03	.04	.04	.03	.04
30	.02	.02	.03	1.9	-----	.83	.04	.03	.04	.04	.03	.04
31	.02	-----	.02	1.0	-----	1.0	-----	.04	-----	.04	.03	-----
TOTAL	0.54	0.49	0.85	34.07	287.50	175.76	18.79	1.12	1.25	1.40	0.85	1.20
MEAN	.017	.016	.027	1.10	10.3	5.67	.63	.036	.042	.045	.027	.040
MAX	.04	.03	.05	13	106	24	6.3	.04	.05	.15	.04	.04
MIN	.01	.01	.02	.02	.24	.83	.04	.02	.03	.04	.02	.04
AC-FT	1.1	1.0	1.7	68	570	349	37	2.2	2.5	2.8	1.7	2.4
CAL YR 1968	TOTAL 17.31			MEAN .047	MAX 1.1	MIN 0		AC-FT 34				
WTR YR 1969	TOTAL 523.82			MEAN 1.44	MAX 106	MIN .01		AC-FT 1,040				

PEAK DISCHARGE (BASE, 10 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-25	1100	0.87	43	3- 4	1600	0.70	17
1-26	1500	.69	15	3-10	1500	.68	14
2- 7	1600	.65	12	3-13	1500	.69	15
2-19	1800	.70	17	4- 3	0200	.65	12
2-25	0100	1.73	244	4- 5	2100	.64	11
2-28	2000	1.00	66				

TULARE LAKE BASIN

581

11-1972.5. AVENAL CREEK NEAR AVENAL, CALIF.

LOCATION.--Lat 35°51'15", long 120°07'34", in NW¼ sec.10, T.24 S., R.17 E., Kings County, on right bank 550 ft downstream from road ford, 0.4 mile downstream from unnamed tributary, and 10 miles south of Avenal.

DRAINAGE AREA.--57.1 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

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

AVERAGE DISCHARGE.--8 years, 4.11 cfs (2,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,600 cfs Feb. 24 (gage height, 7.89 ft), from rating curve extended as explained below; no flow for several months.

Period of record: Maximum discharge, 2,600 cfs Feb. 24, 1969 (gage height, 7.89 ft), from rating curve extended above 510 cfs on basis of slope-area measurements at gage heights 5.72 and 7.54 ft; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	27	125	19	2.0	1.7	1.1	.68	.58
2	0	0	0	0	10	98	20	2.0	2.0	1.0	.68	.58
3	0	0	0	0	7.0	84	24	2.0	2.0	1.0	.68	.58
4	0	0	0	0	5.4	72	19	2.3	1.7	1.0	.63	.63
5	0	0	0	0	27	64	25	2.3	1.7	1.0	.63	.68
6	0	0	0	0	154	59	27	2.0	2.0	1.0	.63	.68
7	0	0	0	0	54	55	22	2.3	1.7	1.1	.63	.83
8	0	0	0	0	35	50	19	2.3	2.0	1.0	.63	.68
9	0	0	0	0	29	46	17	2.3	2.3	1.0	.63	.68
10	0	0	0	0	25	45	15	2.3	2.7	.98	.63	.68
11	0	0	0	0	23	40	12	2.0	2.7	1.0	.58	.73
12	0	0	0	0	22	38	12	2.0	2.7	1.0	.58	.68
13	0	0	0	0	19	36	10	2.3	2.0	1.1	.58	.63
14	0	0	0	0	10	33	10	2.3	1.6	1.2	.58	.58
15	0	0	0	0	62	32	10	2.7	1.6	1.1	.63	.63
16	0	0	0	0	36	30	7.0	2.7	1.6	1.1	.58	.68
17	0	0	0	0	29	29	7.0	2.7	1.6	1.1	.58	.63
18	0	0	0	.02	86	29	5.4	2.3	1.6	1.0	.63	.63
19	0	0	0	263	43	27	5.4	2.3	1.6	.98	.63	.63
20	0	0	0	169	31	26	5.4	2.7	1.6	.93	.58	.68
21	0	0	0	337	25	26	2.7	2.7	1.4	.88	.54	.63
22	0	0	0	65	24	24	2.7	2.3	1.4	.83	.54	.63
23	0	0	0	37	198	23	5.4	2.3	1.3	.78	.54	.63
24	0	0	0	164	1,190	23	5.4	2.0	1.3	.73	.54	.63
25	0	0	0	1,080	676	22	4.4	2.0	1.3	.83	.54	.63
26	0	0	0	426	320	21	2.7	2.0	1.3	.83	.54	.58
27	0	0	0	109	171	21	2.7	2.0	1.3	.83	.54	.58
28	0	0	0	75	217	20	2.3	2.0	1.3	.78	.54	.58
29	0	0	0	60	-----	19	2.3	2.0	1.3	.78	.58	.63
30	0	0	0	48	-----	17	2.3	2.0	1.2	.73	.58	.63
31	0	-----	0	36	-----	19	-----	1.7	-----	.73	.58	-----
TOTAL	0	0	0	2,869.02	3,555.4	1,253	324.1	68.8	51.5	29.42	18.46	19.25
MEAN	0	0	0	92.5	127	40.4	10.8	2.22	1.72	.95	.60	.64
MAX	0	0	0	1,080	1,190	125	27	2.7	2.7	1.2	.68	.83
MIN	0	0	0	0	5.4	17	2.3	1.7	1.2	.73	.54	.58
AC-FT	0	0	0	5,690	7,050	2,490	643	136	102	58	37	38
CAL YR 1968	TOTAL	12.90	MEAN	.035	MAX	.5	MIN	0	AC-FT	26		
WTR YR 1969	TOTAL	8,188.95	MEAN	22.4	MAX	1,190	MIN	0	AC-FT	16,240		

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1400	4.27	735	2-18	0700	2.72	110
1-21	0030	5.02	1,120	2-24	1300	7.89	2,600
1-25	0730	7.54	2,420	2-28	1600	3.57	406
2- 6	1500	3.10	210	4- 2	2400	2.20	36
2-15	1700	3.10	210	4- 5	1800	2.32	50

TULARE LAKE BASIN

11-1978. POSO CREEK NEAR OILDALE, CALIF.

LOCATION.--Lat 35°30'50", long 118°54'17", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.28 S., R.29 E., Kern County, on downstream side of highway bridge opposite mouth of Hillvale Canyon, 10 miles northeast of Oildale, and 12 miles northeast of Bakersfield.

DRAINAGE AREA.--230 sq mi.

PERIOD OF RECORD.--July 1959 to current year.

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

AVERAGE DISCHARGE.--10 years, 28.5 cfs (20,650 acre-ft per year); median of yearly mean discharges, 10 cfs (7,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,700 cfs Feb. 25 (gage height, 12.85 ft), from rating curve extended as explained below; minimum daily, 1.9 cfs Sept. 26.

Period of record: Maximum discharge, 6,700 cfs Feb. 25, 1969 (gage height, 12.85 ft), from rating curve extended above 820 cfs on basis of contracted-opening measurement at gage height 11.57 ft; minimum, 0.9 cfs July 26, 1961.

Flood of Apr. 4, 1958, reached a stage of 8.6 ft, from floodmarks (discharge, 2,750 cfs, furnished by Kern County Land Co.).

REMARKS.--Records good. Oilfield waste comprises most of low flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	5.4	5.0	4.8	131	1,030	463	182	67	30	5.5	3.2
2	2.2	5.2	4.8	5.0	112	715	407	175	69	26	5.2	3.2
3	2.3	5.2	4.8	4.8	118	764	745	170	64	24	5.0	3.2
4	2.3	5.2	5.0	4.6	112	610	540	175	60	24	4.7	3.5
5	2.5	5.0	5.2	4.6	108	435	470	175	58	22	4.4	3.5
6	2.6	5.0	5.2	4.6	233	365	848	168	53	20	4.1	3.9
7	2.8	5.2	5.0	4.8	532	260	575	162	55	20	4.0	3.7
8	2.6	5.2	5.0	4.8	371	192	470	160	55	20	3.9	3.0
9	2.6	5.0	5.0	4.6	300	170	400	162	58	18	4.9	3.0
10	2.6	4.8	5.2	4.4	267	203	351	170	84	17	4.9	3.2
11	3.0	5.2	5.2	4.2	252	162	323	165	84	17	4.2	3.9
12	3.0	5.2	5.0	4.6	263	145	330	158	80	16	3.7	3.5
13	3.0	5.0	5.0	5.6	411	160	351	150	76	17	3.5	3.5
14	2.2	5.0	5.2	11	322	140	330	148	69	17	3.5	3.5
15	2.5	5.2	5.0	24	287	138	267	150	60	16	3.5	3.2
16	4.2	4.6	5.6	25	601	150	235	142	58	15	3.5	3.0
17	3.3	4.4	5.2	19	428	192	225	132	82	15	3.2	2.8
18	4.1	4.8	4.6	17	404	295	235	125	76	13	3.0	3.0
19	5.2	5.4	5.0	54	660	358	220	120	60	13	3.2	3.2
20	4.8	5.2	4.4	489	720	442	210	118	46	11	3.0	3.5
21	5.4	4.2	4.8	178	672	526	235	118	40	10	2.8	3.0
22	4.6	4.6	5.0	244	656	435	260	112	38	9.0	3.2	2.8
23	5.2	4.8	4.8	175	660	379	255	108	37	7.6	3.5	3.0
24	5.2	5.0	5.0	127	888	379	230	100	36	6.2	3.2	2.6
25	5.2	5.0	5.2	1,560	3,180	365	200	96	37	5.3	3.7	2.8
26	5.0	5.0	5.2	1,340	1,400	316	200	92	37	5.3	3.5	1.9
27	5.2	4.8	4.8	976	855	330	192	92	36	6.2	3.7	2.3
28	5.2	4.8	5.0	425	680	365	186	96	35	6.7	3.0	2.6
29	5.6	5.4	5.0	298	-----	358	178	86	34	6.4	3.0	3.2
30	5.8	5.0	5.0	224	-----	386	182	78	33	6.1	3.2	2.8
31	5.6	-----	5.0	167	-----	470	-----	71	-----	5.8	3.5	-----
TOTAL	118.1	149.8	155.2	6,414.4	15,623	11,235	10,113	4,156	1,677	445.6	117.2	93.5
MEAN	3.81	4.99	5.01	207	558	362	337	134	55.9	14.4	3.78	3.12
MAX	5.8	5.4	5.6	1,560	3,180	1,030	848	182	84	30	5.5	3.9
MIN	2.2	4.2	4.4	4.2	108	138	178	71	33	5.3	2.8	1.9
AC-FT	234	297	308	12,720	30,990	22,280	20,060	8,240	3,330	884	232	185
CAL YR 1968	TOTAL	3,942.8	MEAN	10.8	MAX	71	MIN	2.0	AC-FT	7,820		
WTR YR 1969	TOTAL	50,297.8	MEAN	138	MAX	3,180	MIN	1.9	AC-FT	99,760		

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	0900	8.00	880	3- 1	0300	8.65	1,200
1-25	1900	10.57	3,020	3-21	0900	7.75	575
1-26	2100	10.44	2,870	4- 3	1100	8.35	995
2- 7	0400	7.35	600	4- 6	0600	8.45	1,060
2-13	1200	7.04	482	6-10	1500	6.75	90
2-16	0600	7.80	780	6-17	1300	6.80	100
2-25	0400	12.85	6,700				

11-2008. DEER CREEK NEAR FOUNTAIN SPRINGS, CALIF.

LOCATION.--Lat 35°56'30", long 118°49'19", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.23 S., R.29 E., Tulare County, on left bank 1.0 mile upstream from Pothole Creek, 6.3 miles northeast of Fountain Springs, and 12 miles east of Terra Bella.

DRAINAGE AREA.--83.3 sq mi (revised).

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 3,340 cfs Feb. 24 (gage height, 9.85 ft), from rating curve extended as explained below; minimum daily, 0.58 cfs Oct. 1.

Period of record: Maximum discharge, 3,340 cfs Feb. 24, 1969 (gage height, 9.85 ft), from rating curve extended above 600 cfs on basis of slope-area measurements at gage height 8.83 ft in gage well, 9.18 ft and 12.54 ft, from floodmarks); no flow Aug. 14-22, 1968.

Flood of Dec. 6, 1966, reached a stage of 12.54 ft, from floodmarks (discharge, 5,330 cfs).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	6.8	10	21	161	499	298	176	101	49	22	10
2	.94	6.4	12	20	146	421	291	167	100	48	22	9.8
3	1.3	6.1	9.8	20	140	418	391	162	97	47	21	9.4
4	1.2	6.4	9.4	19	130	350	296	166	95	46	20	8.9
5	1.2	6.4	9.4	21	143	314	366	153	91	45	20	8.4
6	1.3	6.4	9.4	21	410	291	367	153	90	45	20	8.9
7	1.8	6.4	8.9	20	319	272	306	150	86	44	20	10
8	2.0	6.1	8.4	19	248	253	289	150	85	44	19	9.8
9	2.4	6.1	8.0	17	204	236	274	150	91	42	19	9.4
10	2.6	6.1	8.0	16	186	250	265	150	91	40	18	9.4
11	2.4	6.1	13	15	176	217	260	150	88	39	18	8.9
12	2.6	6.4	12	14	208	210	267	148	86	38	18	8.4
13	2.4	9.4	10	15	200	222	262	145	80	37	18	8.0
14	9.8	8.9	10	43	166	208	253	143	77	37	17	8.0
15	11	54	15	39	235	208	231	138	73	38	16	8.0
16	6.4	33	32	27	241	214	217	137	88	34	16	8.4
17	5.4	17	21	22	196	231	217	135	82	33	16	8.9
18	4.8	13	16	22	236	246	224	135	74	32	15	8.9
19	4.5	11	14	651	381	253	210	134	69	32	14	9.4
20	4.5	9.8	14	442	353	272	217	132	67	31	14	10
21	4.5	9.4	12	360	316	289	229	129	66	30	14	12
22	4.5	8.9	11	317	333	265	231	124	65	33	12	12
23	4.5	8.4	12	166	437	260	224	124	62	30	13	10
24	4.5	8.0	12	512	985	267	204	124	62	28	13	9.4
25	4.3	8.0	16	1,570	1,610	277	192	122	61	28	13	8.9
26	4.3	8.0	45	1,080	725	277	184	121	60	28	13	8.4
27	4.3	8.0	23	560	499	286	182	118	58	29	12	8.4
28	4.0	8.0	20	375	503	291	178	116	56	32	12	8.4
29	4.0	7.6	44	277	-----	298	180	110	53	28	12	8.4
30	7.6	7.6	26	212	-----	311	180	107	52	25	12	8.0
31	8.4	-----	22	184	-----	319	-----	106	-----	24	11	-----
TOTAL	124.02	313.7	493.3	7,097	9,887	8,725	7,485	4,275	2,306	1,116	500	274.8
MEAN	4.00	10.5	15.9	229	353	281	250	138	76.9	36.0	16.1	9.16
MAX	11	54	45	1,570	1,610	499	391	176	101	49	22	12
MIN	.58	6.1	8.0	14	130	208	178	106	52	24	11	8.0
AC-FT	246	622	978	14,080	19,610	17,310	14,850	8,480	4,570	2,210	992	545
CAL YR 1968	TOTAL -		MEAN -		MAX -		MIN -		AC-FT -			
WTR YR 1969	TOTAL 42,596.82		MEAN 117		MAX 1,610		MIN .58		AC-FT 84,490			

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-15	1400	3.98	137	2-15	1930	5.12	398
1-19	2100	7.57	1,590	2-24	2300	9.85	3,340
2-25	0930	8.83	2,510	4- 3	0200	5.58	557
2- 6	1400	5.85	660	4- 5	2000	6.06	752

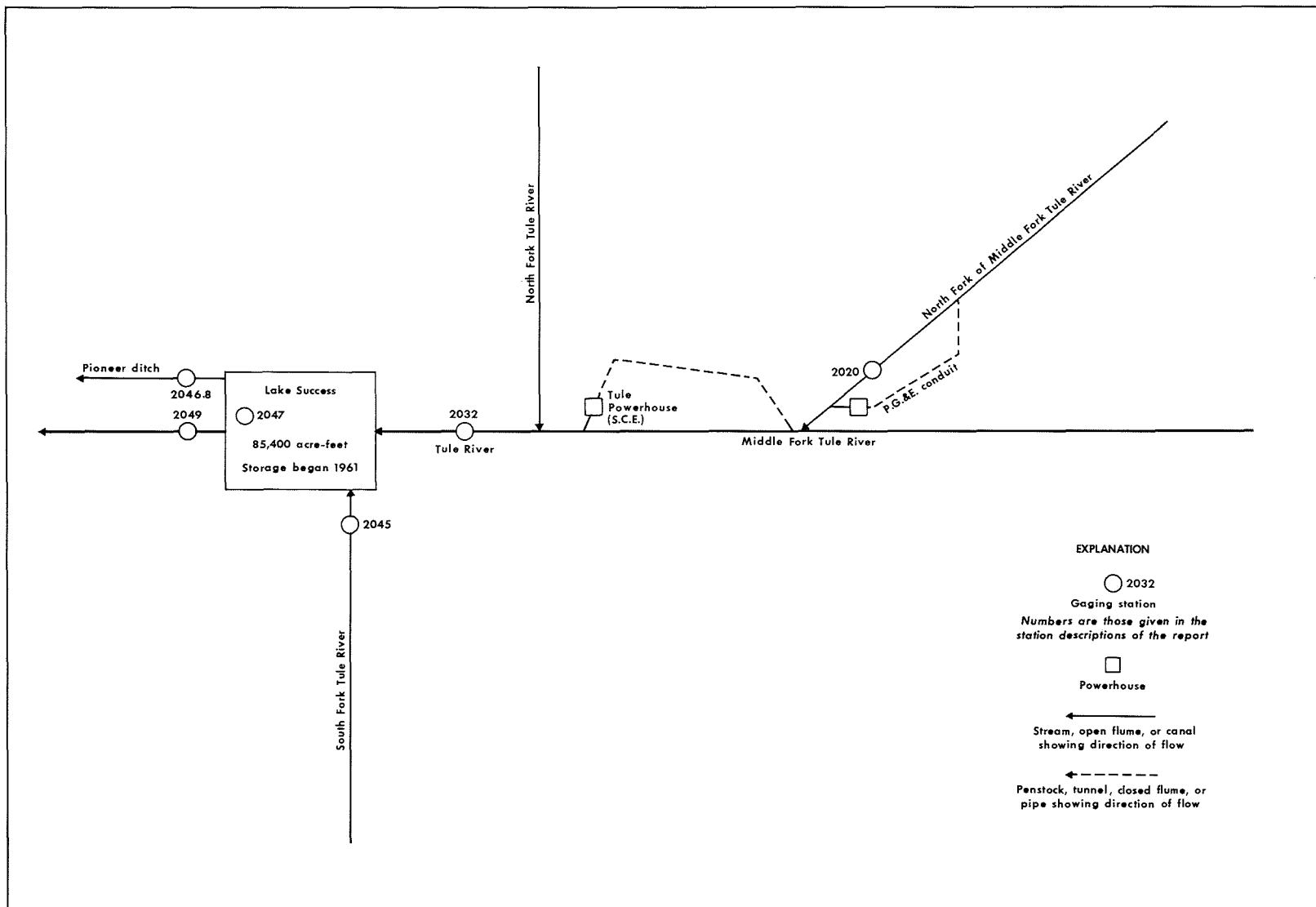


FIGURE 3.--Schematic diagram showing diversions and storage in Tule River basin.

11-2020. NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CALIF.

LOCATION.--Lat 36°10'29", long 118°41'41", in T.20 S., R.30 E. (unsurveyed), Tulare County, on right bank 1.2 miles upstream from mouth, 2.2 miles downstream from Hossack Creek, and 7.4 miles northeast of Springville.

DRAINAGE AREA.--39.3 sq mi.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A. January 1909 to December 1912 at site 2 miles upstream, records not equivalent. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

GAGE.--Water-stage recorder. Concrete control on river since Aug. 6, 1958. Water-stage recorder and rectangular concrete channel for conduit diversion. Altitude of gage is 2,920 ft (from topographic map).

AVERAGE DISCHARGE (River only).--30 years, 28.1 cfs (20,360 acre-ft per year).
(Combined river and diversion).--30 years, 59.6 cfs (43,180 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge, 5,080 cfs Jan. 25 (gage height, 9.19 ft), from rating curve extended above 390 cfs as explained below; minimum daily, 0.86 cfs Oct. 5, 6.
Period of record: Maximum discharge, 16,900 cfs Dec. 6, 1966 (gage height, 13.83 ft, from floodmarks), from rating curve extended above 270 cfs on basis of critical-depth determinations at gage heights 9.67 and 12.47 ft; no flow Sept. 10, 11, 1955.
(Combined flow).--Current year: Maximum discharge, 5,080 cfs Jan. 25; minimum daily, 12 cfs Oct. 9.
Period of record: Maximum discharge, 16,900 cfs Dec. 6, 1966; minimum daily, 7.2 cfs Aug. 18, Oct. 17, 1961.

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

COOPERATION.--Gage-height record, 10 discharge measurements for the river, gage-height record, nine discharge measurements for the conduit, and computations of daily discharges furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1445: 1951.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.2	2.3	4.3	107	116	268	248	485	125	11	4.3
2	1.2	1.2	1.9	4.2	89	81	261	248	472	123	11	4.5
3	1.2	1.5	1.8	4.1	81	57	242	239	464	125	11	4.3
4	1.2	1.5	1.8	3.9	76	49	230	212	382	121	11	4.3
5	.86	1.4	1.8	3.9	63	46	235	201	369	116	7.3	4.5
6	.86	1.4	1.8	3.8	63	42	242	227	348	110	5.5	4.8
7	1.1	1.4	1.8	3.3	50	39	201	245	322	103	5.2	5.2
8	1.1	1.4	1.8	2.7	42	36	188	310	281	98	5.7	5.0
9	2.6	1.3	1.8	2.6	39	36	178	373	255	92	5.5	5.0
10	10	1.4	1.7	2.4	38	34	171	434	230	87	5.7	5.2
11	13	1.3	2.8	2.3	38	32	191	452	201	81	5.5	5.2
12	11	1.8	2.1	2.2	43	32	218	451	178	81	5.2	5.2
13	12	2.0	1.9	3.1	38	32	235	442	178	87	5.2	5.5
14	36	1.4	2.8	8.1	31	32	231	398	201	84	5.2	5.7
15	25	13	4.0	8.3	58	32	193	376	204	76	5.2	5.7
16	21	3.9	8.4	3.8	53	36	180	402	261	68	5.2	5.9
17	19	2.4	4.1	3.4	42	42	193	451	236	61	5.0	5.9
18	15	2.5	3.1	50	41	47	210	452	212	55	5.0	5.9
19	11	2.3	3.0	773	39	50	204	446	204	50	4.6	6.1
20	11	2.3	2.7	294	36	56	231	438	204	46	4.3	6.6
21	15	1.8	2.8	419	35	66	306	438	196	47	4.1	6.8
22	17	1.7	2.3	306	33	61	356	386	201	43	4.1	6.6
23	11	1.7	2.3	123	34	73	329	398	204	36	4.1	5.9
24	5.3	1.7	2.7	590	129	93	255	451	199	31	4.3	3.3
25	4.4	1.8	9.4	2,640	125	117	230	451	183	26	4.1	1.9
26	5.1	1.8	7.6	1,350	83	129	204	434	163	21	4.1	7.9
27	5.0	1.8	4.5	613	66	154	199	432	152	23	4.1	14
28	4.2	1.7	8.2	348	125	185	218	406	143	20	4.3	15
29	1.4	1.5	9.1	245	-----	224	236	434	135	16	4.5	26
30	2.5	1.5	5.2	159	-----	245	230	457	129	14	4.5	13
31	1.3	-----	4.5	117	-----	278	-----	464	-----	11	4.5	-----
TOTAL	267.52	63.6	112.0	8,093.4	1,697	2,552	6,865	11,796	7,392	2,077	176.0	205.2
MEAN	8.63	2.12	3.61	261	60.6	82.3	229	381	246	67.0	5.68	6.84
MAX	36	13	9.4	2,640	129	278	356	464	485	125	11	26
MIN	.86	1.2	1.7	2.2	31	32	171	201	129	11	4.1	1.9
AC-FT	531	126	222	16,050	3,370	5,060	13,620	23,400	14,660	4,120	349	407
CAL YR 1968	TOTAL	2,123.99	MEAN	5.80	MAX	61	MIN	.27	AC-FT	4,210		
WTR YR 1969	TOTAL	41,296.72	MEAN	113	MAX	2,640	MIN	.86	AC-FT	81,910		

TULARE LAKE BASIN

11-2020, NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF NORTH FORK OF MIDDLE FORK TULE RIVER AND
PACIFIC GAS AND ELECTRIC CO. CONDUIT NEAR SPRINGVILLE, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	19	25	153	133	336	315	548	186	69	34
2	14	16	19	26	138	123	329	315	535	184	67	34
3	14	20	19	26	131	115	310	306	529	186	64	33
4	14	20	18	29	122	104	298	279	447	182	62	32
5	14	17	18	31	121	99	303	268	434	177	56	33
6	14	17	18	35	129	94	310	294	411	171	53	34
7	14	17	18	35	115	90	269	312	384	164	51	33
8	14	16	17	34	105	85	256	377	344	159	50	32
9	12	16	17	31	100	84	246	439	320	153	49	32
10	13	16	17	27	98	82	239	500	294	149	50	32
11	15	16	27	26	97	78	259	517	265	125	50	31
12	13	19	19	25	106	78	286	516	241	141	47	30
13	16	19	19	40	102	77	303	507	241	148	45	31
14	43	17	29	56	96	77	299	462	264	145	44	31
15	26	45	39	44	124	77	261	440	267	137	43	31
16	22	30	39	36	117	84	248	466	322	130	42	30
17	20	24	26	31	105	95	261	515	297	123	42	30
18	18	24	22	89	104	105	278	516	272	117	41	30
19	15	23	22	815	102	110	272	510	266	112	41	30
20	15	21	21	352	96	120	299	502	260	108	39	31
21	17	21	20	486	93	132	374	501	257	109	38	32
22	24	20	19	373	90	127	424	449	262	104	38	31
23	20	20	21	190	89	139	397	461	265	98	37	29
24	15	20	26	648	192	160	323	514	260	93	37	27
25	15	19	38	2,640	192	185	298	514	244	88	37	25
26	15	19	32	1,350	149	197	271	497	224	83	36	31
27	15	18	27	614	119	222	266	495	213	85	36	36
28	15	18	30	349	142	253	285	468	204	82	35	37
29	15	18	30	250	-----	292	288	498	196	78	36	48
30	22	18	25	202	-----	313	297	522	190	76	36	35
31	17	-----	26	172	-----	346	-----	528	-----	72	35	-----
TOTAL	530	600	737	9,087	3,327	4,276	8,885	13,803	9,256	3,965	1,406	965
MEAN	17.1	20.0	23.8	293	119	138	296	445	309	128	45.4	32.2
MAX	43	45	39	2,640	192	346	424	528	548	186	69	48
MIN	12	16	17	25	89	77	239	268	190	72	35	25
AC-FT	1,050	1,190	1,460	18,020	6,600	8,480	17,620	27,380	18,360	7,860	2,790	1,910
CAL YR 1968	TOTAL	12,114		MEAN	33.1	MAX	105	MIN	12	AC-FT	24,030	
WTR YR 1969	TOTAL	56,837		MEAN	156	MAX	2,640	MIN	12	AC-FT	112,700	

11-2032. TULE RIVER NEAR SPRINGVILLE, CALIF.

LOCATION.--Lat 36°06'02", long 118°52'07", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.21 S., R.29 E., Tulare County, on left bank 10 ft downstream from highway bridge, 3.5 miles southwest of Springville, and 4.1 miles upstream from Success Dam.

DRAINAGE AREA.--247 sq mi.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 680 ft (from topographic map). Prior to Mar. 20, 1968, at site 1.9 miles upstream at different datum.

AVERAGE DISCHARGE.--12 years, 151 cfs (109,400 acre-ft per year); median of yearly mean discharges, 85 cfs (61,580 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,300 cfs Jan. 25 (gage height, 11.40 ft); minimum daily, 5.7 cfs Oct. 1.

Period of record: Maximum discharge, 49,600 cfs Dec. 6, 1966 (gage height, 17.18 ft, in gage well, 19.7 ft, from floodmarks, site and datum then in use), from rating curve extended above 7,400 cfs on basis of slope-area measurement of maximum flow; no flow for many days in 1961.

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

REMARKS.--Records good. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries. Diversion to Tule River diversion ditch starts 400 ft upstream most of which is returned to the river 0.5 mile downstream. Records since Mar. 20, 1968, include flow diverted to Tule River diversion ditch.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	29	39	88	695	1,310	1,040	840	996	323	122	53
2	7.1	27	47	86	630	1,070	1,020	824	996	305	115	51
3	7.9	26	41	80	566	1,140	1,190	758	928	289	113	48
4	8.4	30	39	80	492	952	920	723	872	285	107	48
5	9.0	29	39	89	524	856	1,500	681	848	281	105	47
6	9.9	29	39	96	1,440	800	1,550	716	808	269	103	47
7	11	29	38	98	825	716	1,160	765	772	265	101	50
8	12	28	39	94	646	674	1,080	872	730	265	95	49
9	12	25	36	89	566	639	1,030	1,000	744	258	89	48
10	11	25	36	78	542	674	978	1,060	695	254	87	49
11	11	25	53	72	548	578	1,000	1,150	597	240	93	44
12	11	28	60	68	668	584	1,080	1,110	554	237	91	45
13	15	36	47	70	647	618	1,080	1,110	524	230	85	44
14	71	34	47	210	531	508	1,050	1,060	530	281	78	42
15	69	162	110	176	731	475	904	996	548	237	78	43
16	37	157	173	130	848	502	832	996	938	223	79	43
17	30	92	132	111	591	548	848	1,070	653	212	75	43
18	27	71	87	133	724	604	896	1,070	566	202	73	45
19	23	62	75	5,830	1,060	618	896	1,060	530	195	72	47
20	21	60	71	2,400	689	653	944	1,020	508	189	71	48
21	21	52	62	2,780	640	702	1,100	1,000	492	180	65	49
22	21	46	60	1,810	788	625	1,190	1,000	486	183	65	49
23	22	44	57	821	906	632	1,130	960	480	171	66	48
24	22	42	58	2,010	2,830	688	960	1,000	475	160	64	46
25	22	41	59	10,400	4,580	751	808	1,030	450	155	62	44
26	21	39	195	4,780	1,680	786	751	996	420	150	57	44
27	20	39	133	2,310	1,210	816	744	987	395	152	56	44
28	20	39	101	1,660	1,390	880	772	944	375	160	56	43
29	21	37	161	1,200	-----	952	832	960	357	145	56	43
30	33	37	112	1,000	-----	1,020	856	978	339	138	56	44
31	40	-----	95	760	-----	1,100	-----	978	-----	132	55	-----
TOTAL	672.0	1,420	2,341	39,609	27,987	23,471	30,141	29,714	18,606	6,766	2,490	1,388
MEAN	21.7	47.3	75.5	1,278	1,000	757	1,005	959	620	218	80.3	46.3
MAX	71	162	195	10,400	4,580	1,310	1,550	1,150	996	323	122	53
MIN	5.7	25	36	68	492	475	744	681	339	132	55	42
AC-FT	1,330	2,820	4,640	78,560	55,510	46,550	59,780	58,940	36,900	13,420	4,940	2,750
CAL YR 1968	TOTAL	24,741.3	MEAN	67.6	MAX	322	MIN	4.6	AC-FT	49,070		
WTR YR 1969	TOTAL	184,605.0	MEAN	506	MAX	10,400	MIN	5.7	AC-FT	366,200		

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	2000	10.15	11,300	2-28	1800	7.02	2,300
1-21	1000	7.75	3,930	3- 3	0400	6.45	1,420
1-25	0830	11.40	17,300	4- 3	0500	6.65	1,700
2- 6	1500	7.00	2,170	4- 5	2000	7.64	3,660
2-12	2000	5.88	787	5-11	0200	6.12	1,250
2-16	0100	6.40	1,350	6-16	1300	6.81	2,260
2-19	0900	6.38	1,330	7-14	0500	4.94	370
2-24	2400	10.13	11,100				

NOTE.--Peak discharge adjusted for Tule River diversion.

TULARE LAKE BASIN

11-2045, SOUTH FORK TULE RIVER NEAR SUCCESS, CALIF.

LOCATION.--Lat 36°02'33", long 118°51'24", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.22 S., R.29 E., Tulare County, on left bank 0.5 mile upstream from Crew Creek, 4 miles southeast of Success, and 5 miles upstream from mouth.

DRAINAGE AREA.--109 sq mi.

PERIOD OF RECORD.--June 1930 to December 1954, January 1956 to current year. Monthly and yearly discharge only for some periods published in WSP 1735.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft (from topographic map). Prior to June 26, 1951, at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--37 years, 42.3 cfs (30,650 acre-ft per year); median of yearly mean discharges 27 cfs (19,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,280 cfs Jan. 25 (gage height, 8.69 ft); minimum daily, 0.42 cfs Oct. 1.
Period of record: Maximum discharge, 14,300 cfs Dec. 6, 1966 (gage height, 12.50 ft in gage well, 13.3 ft, from floodmarks), from rating curve extended above 4,300 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

REMARKS.--Records good. Diversions for irrigation of 1,600 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	6.0	10	24	193	595	455	288	193	74	33	14
2	.50	4.7	12	24	184	495	435	284	190	70	32	13
3	.58	4.5	9.5	24	178	510	510	264	175	66	31	13
4	.58	6.0	9.0	24	177	421	398	260	167	67	30	12
5	.74	5.0	9.0	27	193	365	538	241	158	64	29	12
6	.90	5.0	8.5	28	460	349	540	251	153	64	28	12
7	.90	5.0	8.5	27	361	329	435	260	156	61	27	15
8	1.2	4.7	8.0	24	284	294	403	270	156	60	26	13
9	1.4	4.5	8.0	23	251	284	394	284	187	56	26	13
10	.74	5.0	7.5	20	226	294	381	294	181	56	24	13
11	.58	5.0	16	19	211	267	381	291	158	54	26	12
12	.82	6.5	15	18	254	270	394	274	148	54	24	12
13	.82	14	11	20	244	274	394	274	137	53	23	9.6
14	25	10	12	68	202	254	377	260	130	53	22	9.6
15	15	87	27	49	251	257	337	248	126	50	22	9.6
16	5.5	38	47	34	270	267	309	254	192	49	22	9.6
17	4.2	21	27	29	232	284	321	254	156	47	22	10
18	3.7	17	20	34	284	298	337	254	139	46	21	10
19	3.7	16	16	1,300	403	305	321	248	128	44	20	10
20	3.2	15	15	679	349	329	333	241	122	42	20	13
21	3.2	12	12	722	321	349	365	238	118	40	18	15
22	3.2	12	13	611	390	309	365	232	116	41	17	14
23	2.9	11	15	363	490	313	361	229	108	37	17	12
24	2.4	11	16	811	1,470	333	321	235	104	36	17	11
25	2.2	11	23	2,670	2,230	349	298	229	101	35	17	11
26	2.1	9.0	49	1,620	966	357	274	220	97	34	15	10
27	2.1	8.0	29	926	636	373	267	220	92	36	15	9.6
28	2.2	8.0	27	630	636	408	267	217	87	38	15	9.6
29	2.2	7.5	55	369	-----	430	274	208	82	33	15	9.6
30	13	7.0	30	257	-----	460	277	202	79	31	15	9.6
31	12	-----	26	211	-----	485	-----	202	-----	29	14	-----
TOTAL	117.98	376.4	591.0	11,685	12,346	10,907	11,062	7,726	4,136	1,520	683	346.8
MEAN	3.81	12.5	19.1	377	441	352	369	249	138	49.0	22.0	11.6
MAX	25	87	55	2,670	2,230	595	540	294	193	74	33	15
MIN	.42	4.5	7.5	18	177	254	267	202	79	29	14	9.6
AC-FT	234	747	1,170	23,180	24,490	21,630	21,940	15,320	8,200	3,010	1,350	688

CAL YR 1968 TOTAL 6,567.91 MEAN 17.9 MAX 149 MIN .03 AC-FT 13,030
WTR YR 1969 TOTAL 61,497.18 MEAN 168 MAX 2,670 MIN .42 AC-FT 122,000

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-15	1200	3.71	214	2-24	2300	8.35	4,720
1-19	1930	7.00	2,820	2-28	1800	5.03	992
1-21	0800	5.07	929	4- 3	0100	4.76	804
1-25	0930	8.69	5,280	4- 5	1900	5.21	1,090
2- 6	1500	4.60	630	6- 9	1500	3.57	264
2-15	2000	4.11	390	6-16	1600	3.93	403
2-19	0900	4.24	450				

11-2046.8. PIONEER DITCH BELOW SUCCESS DAM, CALIF.

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

PERIOD OF RECORD.--April 1959 to current year. Prior to October 1960, monthly diversions only, published with Tule River near Porterville.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 549.00 ft above mean sea level (levels by Corps of Engineers). Prior to Feb. 1, 1961, at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE.--10 years, 7.38 cfs (5,350 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 29 cfs Apr. 15, 1961; no flow at times in most years.

REMARKS.--Records excellent. Ditch receives water from Lake Success (see sta 11-2047).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	6.4	0	0	0	0	0	5.5	12	13	14	14
2	12	6.4	0	0	0	0	0	6.0	12	14	14	14
3	12	6.4	0	0	0	0	0	6.0	12	14	14	14
4	11	4.2	0	0	0	0	0	6.0	12	14	14	14
5	11	3.1	0	0	0	0	0	6.0	12	14	14	14
6	11	3.3	0	0	0	0	0	8.5	12	14	14	14
7	11	3.3	0	0	0	0	0	9.8	12	14	14	14
8	11	3.3	0	0	0	0	0	9.8	12	14	14	14
9	11	3.3	0	0	0	0	0	9.8	12	14	14	14
10	11	3.3	0	0	0	0	0	9.8	12	14	14	14
11	10	3.3	0	0	0	0	0	9.8	12	14	14	14
12	10	3.4	0	0	0	0	0	9.8	12	14	14	14
13	10	3.4	0	0	0	0	0	9.8	12	14	14	14
14	3.4	3.4	0	0	0	0	0	9.8	12	14	14	14
15	0	3.4	0	0	0	0	0	9.8	12	14	14	13
16	0	3.4	0	0	0	0	0	9.6	12	14	14	12
17	0	3.4	0	0	0	0	0	9.6	12	14	14	12
18	0	3.4	0	0	0	0	0	9.6	12	14	14	12
19	0	3.4	0	0	0	0	0	9.6	12	14	14	12
20	0	3.4	0	0	0	0	0	9.6	12	15	14	12
21	0	3.6	0	0	0	0	0	9.6	12	15	14	12
22	0	2.1	0	0	0	0	0	9.6	12	15	14	12
23	0	0	0	0	0	0	0	10	12	15	14	12
24	0	0	0	0	0	0	0	12	12	15	14	12
25	0	0	0	0	0	0	0	12	12	15	14	12
26	0	0	0	0	0	0	0	12	12	15	14	12
27	3.0	0	0	0	0	0	0	12	12	15	14	12
28	6.7	0	0	0	0	0	3.0	12	12	15	14	12
29	7.1	0	0	0	-----	0	4.5	12	12	15	14	11
30	7.1	0	0	0	-----	0	4.5	12	12	14	14	10
31	7.1	-----	0	0	-----	0	-----	12	-----	14	14	-----
TOTAL	177.4	82.6	0	0	0	0	12.0	299.4	360	443	434	386
MEAN	5.72	2.75	0	0	0	0	.40	9.66	12.0	14.3	14.0	12.9
MAX	12	6.4	0	0	0	0	4.5	12	12	15	14	14
MIN	0	0	0	0	0	0	0	5.5	12	13	14	10
AC-FT	352	164	0	0	0	0	24	594	714	879	861	766
CAL YR 1968	TOTAL 2,440.00		MEAN 6.67		MAX 21		MIN 0		AC-FT 4,840			
WTR YR 1969	TOTAL 2,194.40		MEAN 6.01		MAX 15		MIN 0		AC-FT 4,350			

TULARE LAKE BASIN

11-2047. LAKE SUCCESS NEAR SUCCESS, CALIF.

LOCATION.--Lat 36°03'40", long 118°55'18", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.35, T.21 S., R.28 E., Tulare County, in control tower near right abutment of Success Dam on Tule River, 5 miles east of Porterville.

DRAINAGE AREA.--391 sq mi.

PERIOD OF RECORD.--November 1961 to current year.

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

EXTREMES.--Current year: Maximum contents, 95,300 acre-ft June 20, 21 (elevation, 656.42 ft); minimum, 8,230 acre-ft Oct. 13 (elevation, 589.73 ft).

Period of record: Maximum contents, 101,300 acre-ft Dec. 7, 1966 (elevation, 658.63 ft); minimum since reservoir first filled, 8,230 acre-ft Oct. 13, 1968 (elevation, 589.73 ft).

REMARKS.--Lake is formed by earthfill dam and dike. Storage began November 1961. Usable capacity, 85,400 acre-ft between elevations 559.0 ft (invert of outlet structure) and 652.5 ft (spillway crest). Surcharge flood control storage, 117,400 acre-ft between ungated spillway crest and elevation 686.8 ft (maximum spillway design flood pool). Dead storage 720 acre-ft. Records, including extremes, represent usable contents at 2400 hours.

COOPERATION.--Record of contents furnished by Corps of Engineers, not rounded to Geological Survey standards.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

580	4,010	620	32,000
585	5,900	640	59,500
590	8,380	660	105,100
600	14,900	690	217,200

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,818	8,759	12,488	10,429	68,501	77,298	60,431	65,992	94,321	93,333	72,002	47,518
2	8,759	8,782	12,617	10,003	66,515	74,385	63,491	66,651	94,557	92,971	71,030	47,199
3	8,699	8,800	12,739	10,003	65,361	71,608	67,158	67,099	94,635	92,481	70,029	46,940
4	8,640	8,842	12,841	10,205	65,035	68,282	69,664	67,511	94,531	92,019	69,000	46,710
5	8,582	8,902	12,957	10,442	65,073	65,896	71,794	68,044	94,426	91,559	67,925	46,495
6	8,535	8,980	13,053	10,680	67,177	64,940	73,386	68,800	94,348	91,025	66,884	46,253
7	8,483	9,052	13,169	10,939	66,797	63,958	73,725	69,745	94,321	90,544	65,838	46,055
8	8,436	9,124	13,286	11,161	65,531	62,842	73,386	70,845	94,139	90,040	64,807	45,857
9	8,385	9,197	13,211	11,378	64,052	61,653	72,586	72,210	94,165	89,438	63,827	45,632
10	8,333	9,264	13,101	11,557	63,266	60,645	71,649	73,682	94,191	88,914	62,768	45,422
11	8,288	9,338	13,053	11,709	63,175	59,300	70,743	75,245	94,060	88,270	61,689	45,184
12	8,236	9,417	12,991	11,869	63,249	58,153	70,009	76,792	93,982	87,678	60,609	44,948
13	8,231	9,528	12,902	12,063	63,361	57,279	69,261	78,410	93,930	87,065	59,510	44,713
14	8,374	9,646	12,821	12,272	63,194	56,534	68,401	79,852	93,930	86,504	58,377	44,479
15	8,552	10,135	12,889	12,070	63,342	56,031	67,315	81,063	93,878	85,850	57,347	44,260
16	8,658	10,519	13,142	11,743	63,846	55,531	66,031	82,244	94,688	85,176	56,484	44,069
17	8,729	10,744	13,233	11,372	63,902	55,167	64,826	83,557	95,029	84,482	55,664	43,934
18	8,800	10,920	13,259	11,128	64,315	54,986	64,183	84,912	95,187	83,817	54,789	43,825
19	8,860	11,070	13,238	23,902	65,627	54,821	63,566	86,164	95,292	83,016	53,941	43,717
20	8,914	11,220	13,204	28,328	66,089	54,789	63,119	87,408	95,319	82,244	53,120	43,636
21	8,920	11,345	13,135	34,025	66,243	54,904	63,305	88,517	95,319	81,478	52,294	43,541
22	8,860	11,471	13,046	37,695	66,437	54,821	63,939	89,363	95,292	80,604	51,603	43,447
23	8,783	11,603	12,964	39,047	66,476	54,756	64,447	90,040	95,240	79,739	51,013	43,353
24	8,729	11,723	12,896	43,407	73,407	54,821	64,712	90,822	95,187	78,768	50,459	43,259
25	8,652	11,843	12,902	66,865	83,793	55,068	64,769	91,636	95,029	77,919	49,926	43,165
26	8,582	11,950	13,060	75,051	83,699	55,415	64,674	92,275	94,898	77,122	49,457	43,045
27	8,552	12,063	12,752	76,813	81,294	55,914	64,504	92,790	94,609	76,375	49,142	42,951
28	8,582	12,171	12,245	77,232	79,467	56,602	64,504	93,151	94,348	75,634	48,799	42,845
29	8,611	12,252	11,910	75,721	-----	57,518	64,807	93,384	94,060	74,857	48,472	42,765
30	8,670	12,353	11,405	73,428	-----	58,637	65,340	93,696	93,748	73,937	48,162	42,659
31	8,729	-----	10,887	70,989	-----	59,757	-----	93,982	-----	72,964	47,839	-----
MAX	8,920	12,353	13,286	77,232	83,793	77,298	73,725	93,982	95,319	93,333	72,002	47,518
MIN	8,231	8,759	10,887	10,003	63,175	54,756	60,431	65,992	93,748	72,964	47,839	42,659
(a)	590.60	596.27	594.06	646.01	649.94	640.12	643.16	655.91	655.82	646.96	632.72	629.00
(b)	-150	+3,670	-1,500	+60,100	+8,500	-19,700	+5,500	+28,700	-300	-20,700	-25,200	-5,100
(c)	218	89	67	77	204	431	691	1,370	1,580	2,000	1,540	953

CAL YR 1968 b -900 MAX 43,900 MIN 8,230
WTR YR 1969 b +33,800 MAX 95,300 MIN 8,230

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

11-2049. TULE RIVER BELOW SUCCESS DAM, CALIF.

LOCATION.--Lat 36°03'23", long 118°55'22", in SW $\frac{1}{4}$ sec.35, T.21 S., R.28 E., Tulare County, on right bank 1,000 ft downstream from Success Dam, and 5 miles east of Porterville.

DRAINAGE AREA.--393 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1960, published as "at Worth Bridge, near Porterville."

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 536.00 ft above mean sea level (levels by Corps of Engineers). Prior to October 1960, at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE (adjusted for storage, diversion and evaporation).--16 years, 182 cfs (131,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,210 cfs Feb. 27, 28, Mar. 1, 3, 4 (gage height, 9.44 ft); minimum daily, 0.50 cfs Nov. 10, 11, 23-30.

Period of record: Maximum discharge, 27,000 cfs Dec. 23, 1955 (gage height, 21.65 ft, site and datum then in use), from rating curve extended above 1,400 cfs on basis of studies of upstream peaks; no flow at times in 1954-57, 1959-62, 1965. Maximum discharge since construction of Success Dam in 1961, 9,050 cfs Dec. 6, 1966 (includes flow through spillway).

Flood of Nov. 19, 1950, reached a stage of 26 ft, from floodmarks, site and datum then in use (discharge, 32,000 cfs).

REMARKS.--Records good. Flow regulated by Lake Success beginning Nov. 23, 1961 (see sta 11-2047). Discharge records during periods of high flow include flow over spillway that bypasses the gaging station. Pioneer ditch (see sta 11-2046.8) diverts above station for irrigation. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	.60	318	2,080	3,200	1,300	810	1,000	610	646	221
2	17	18	.60	299	1,800	3,180	8.8	810	1,020	610	646	221
3	17	18	.60	114	1,300	3,180	3.3	810	1,070	610	646	182
4	17	17	.60	26	792	3,140	148	810	1,090	610	646	154
5	16	6.6	.60	28	705	2,410	1,060	670	1,060	610	646	154
6	16	1.2	.60	28	1,180	1,610	1,250	570	983	610	646	154
7	16	1.1	.60	28	1,500	1,510	1,420	561	932	610	646	154
8	16	1.1	.60	28	1,600	1,510	1,660	554	932	610	632	152
9	18	.70	70	28	1,600	1,510	1,790	558	883	610	622	151
10	18	.50	93	29	1,160	1,500	1,790	558	835	610	622	151
11	18	.50	86	29	800	1,500	1,800	558	788	610	636	151
12	18	.70	86	29	800	1,420	1,810	537	701	610	646	151
13	18	.70	92	29	800	1,310	1,800	496	662	610	654	151
14	18	.70	96	206	800	1,130	1,800	526	662	610	662	151
15	7.4	.70	96	332	800	1,010	1,800	572	662	610	604	151
16	2.1	.70	96	328	800	1,010	1,810	574	662	610	506	126
17	2.1	.70	96	313	800	1,010	1,800	566	627	610	498	101
18	2.1	.70	96	286	800	1,010	1,590	566	615	620	498	88
19	2.1	.70	96	426	800	1,010	1,520	570	618	634	494	88
20	2.1	.70	100	577	870	1,010	1,520	570	618	634	497	88
21	24	.70	102	589	1,010	1,010	1,320	628	618	634	483	88
22	48	.70	102	562	1,270	1,010	1,220	754	618	653	403	88
23	50	.50	102	423	1,490	1,010	1,220	800	618	680	345	88
24	50	.50	102	390	1,660	1,010	1,140	800	618	680	342	88
25	50	.50	102	993	2,590	1,010	1,110	800	618	625	342	87
26	50	.50	163	2,180	3,000	1,010	1,110	850	618	581	280	87
27	31	.50	290	2,260	3,200	1,020	1,110	900	618	578	231	86
28	2.4	.50	348	2,030	3,210	1,020	1,040	952	618	575	226	86
29	13	.50	348	2,320	-----	1,020	940	1,000	618	574	223	86
30	19	.50	363	2,410	-----	1,020	838	1,000	618	622	221	86
31	19	-----	353	2,200	-----	1,180	-----	1,000	-----	646	221	-----
TOTAL	612.3	94.40	3,482.80	19,838	39,217	45,490	38,728.1	21,730	22,600	19,106	15,410	3,810
MEAN	19.8	3.15	112	640	1,401	1,467	1,291	701	753	616	497	127
MAX	50	18	363	2,410	3,210	3,200	1,810	1,000	1,090	680	662	221
MIN	2.1	.50	.60	26	705	1,010	3.3	496	615	574	221	86
AC-FT	1,210	187	6,910	39,350	77,790	90,230	76,820	43,100	44,830	37,900	30,570	7,560
MEAN a	26.5	68.2	89.6	1,619	1,557	1,154	1,397	1,199	788	325	128	68.9
AC-FT a	1,630	4,060	5,510	99,530	86,470	70,950	83,120	73,700	46,900	20,000	7,850	4,100

CAL YR 1968 TOTAL 27,963.60 MEAN 76.4 MAX 454 MIN .50 AC-FT 55,460 MEAN a 885 AC-FT a 64,270
WTR YR 1969 TOTAL 230,118.60 MEAN 630 MAX 3,210 MIN .50 AC-FT 456,400 MEAN a 696 AC-FT a 503,800

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

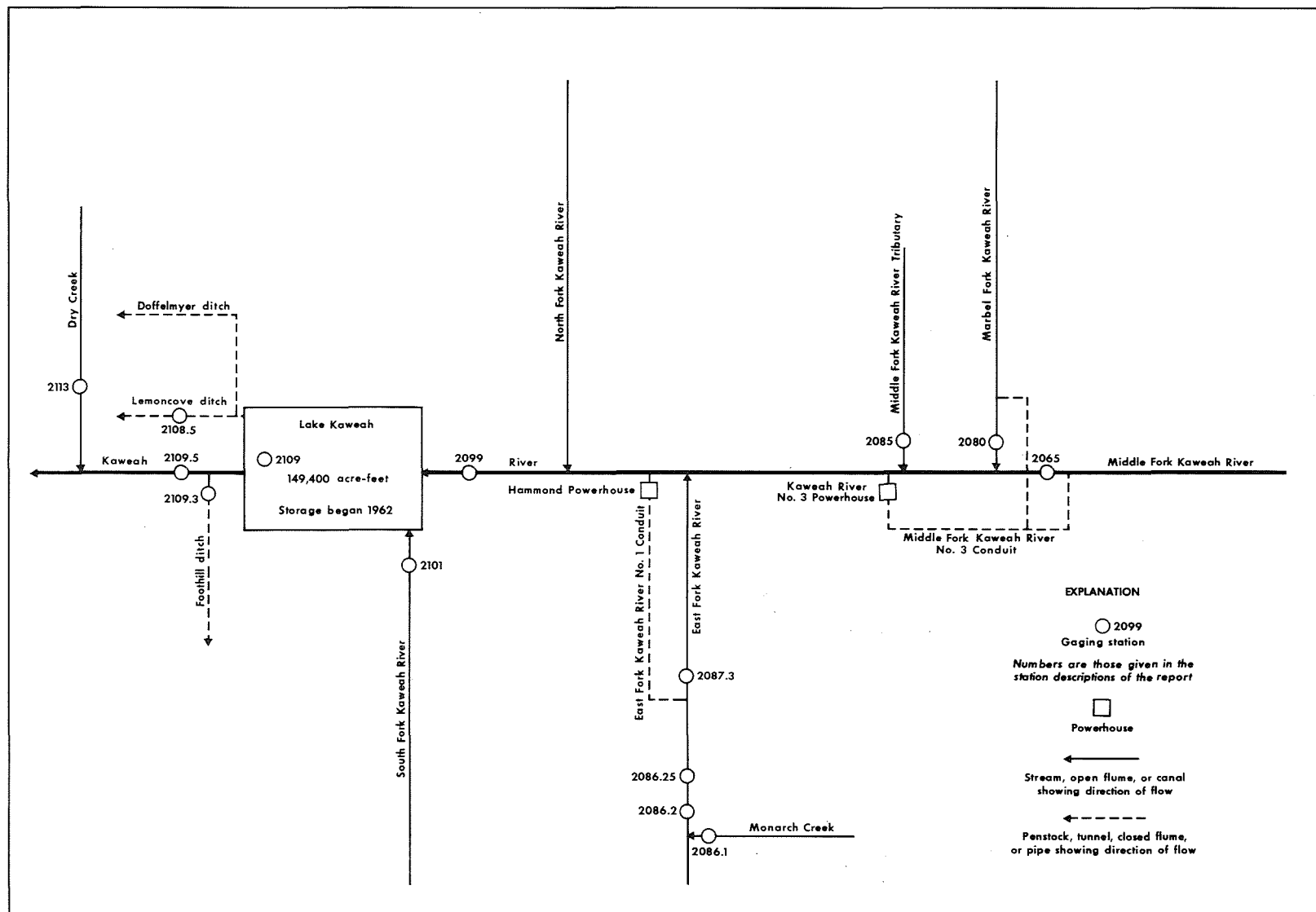


FIGURE 4.--Schematic diagram showing diversions and storage in Kaweah River basin.

11-2065. MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CALIF.

LOCATION.--Lat 36°30'46", long 118°47'25", in NW¼NW¼ sec.25, T.16 S., R.29 E., Tulare County, Sequoia National Park, on right bank 0.7 mile southeast of Potwisha Camp, and 0.9 mile upstream from confluence with Marble Fork Kaweah River.

DRAINAGE AREA.--102 sq mi.

PERIOD OF RECORD.--July 1949 to current year. Monthly discharge only for water years 1956, 1957, published in WSP 1735. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

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

AVERAGE DISCHARGE (River only).--20 years, 139 cfs (100,700 acre-ft per year).

(Combined river and diversion).--20 years, 179 cfs (129,700 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge, 6,580 cfs Jan. 25 (gage height, 11.82 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 15.70 ft; minimum daily, 5.1 cfs Sept. 17.

Period of record: Maximum discharge, 46,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks, datum then in use), by slope-area measurement of maximum flow; minimum daily, 0.1 cfs Nov. 12-15, 1949.

(Combined flow).--Current year: Maximum discharge, 6,580 cfs Jan. 25; minimum daily, 12 cfs Oct. 12.

Period of record: Maximum discharge, 46,800 cfs Dec. 23, 1955; minimum daily, 8.8 cfs Sept. 23-25, 1949.

REMARKS.--Records good. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River 0.5 mile upstream from station in NE¼ sec.26, T.16 S., R.29 E. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 conduit, and the combined flow passes through Kaweah River No. 3 powerhouse of Southern California Edison Co.; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 16 discharge measurements for river and gage-height record and 12 discharge measurements for conduit furnished by Southern California Edison Co.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.8	11	17	316	314	634	734	1,800	880	411	40
2	14	10	11	21	288	288	610	742	1,780	885	382	42
3	13	36	12	24	266	284	598	670	1,690	860	360	42
4	14	30	13	31	248	260	530	606	1,600	825	350	39
5	14	16	13	39	246	244	602	570	1,530	795	316	35
6	14	13	13	42	280	236	582	654	1,500	765	254	35
7	14	12	12	34	250	242	504	755	1,410	750	226	48
8	14	12	12	26	240	206	477	960	1,240	742	208	43
9	14	13	12	18	234	204	444	1,100	1,080	730	204	38
10	13	13	12	14	232	196	390	1,200	835	726	270	33
11	13	12	27	14	234	187	423	1,210	702	718	298	23
12	12	24	13	12	252	187	474	1,160	690	706	240	14
13	15	16	13	67	238	182	492	1,140	800	698	208	9.8
14	124	12	45	106	218	177	495	1,120	955	722	206	7.9
15	56	44	63	58	300	180	432	1,120	1,030	694	182	6.6
16	51	14	54	41	286	198	399	1,180	1,060	694	174	5.2
17	48	15	16	27	250	226	438	1,290	990	690	155	5.1
18	47	17	14	134	242	254	486	1,320	860	678	140	10
19	45	14	14	1,470	234	268	480	1,290	920	686	124	16
20	41	13	14	631	202	274	590	1,300	960	706	114	16
21	39	11	14	1,090	187	276	734	1,350	965	682	109	16
22	35	11	14	720	186	264	800	1,370	1,060	666	100	16
23	32	11	14	363	168	282	730	1,340	1,070	638	99	15
24	30	11	41	903	516	308	602	1,470	1,010	586	99	15
25	16	12	72	3,520	522	338	504	1,500	905	522	109	15
26	7.7	12	38	1,870	378	372	480	1,460	855	483	85	15
27	7.2	12	19	1,050	324	423	510	1,420	850	474	68	15
28	7.0	12	33	718	336	483	582	1,470	815	477	55	15
29	12	11	33	510	-----	542	646	1,560	800	456	50	15
30	34	11	22	411	-----	594	698	1,680	855	447	45	15
31	23	-----	18	348	-----	634	-----	1,770	-----	456	43	-----
TOTAL	831.9	459.8	712	14,329	7,673	9,123	16,366	36,511	32,617	20,837	5,684	660.6
MEAN	26.8	15.3	23.0	462	274	294	546	1,178	1,087	672	183	22.0
MAX	124	44	72	3,520	522	634	800	1,770	1,800	885	411	48
MIN	7.0	9.8	11	12	168	177	390	570	690	447	43	5.1
AC-FT	1,650	912	1,410	28,420	15,220	18,100	32,460	72,420	64,690	41,330	11,270	1,310
CAL YR 1968	TOTAL	25,032.1	MEAN	68.4	MAX	390	MIN	7.0	AC-FT	49,650		
WTR YR 1969	TOTAL	145,804.3	MEAN	399	MAX	3,520	MIN	5.1	AC-FT	289,200		

TULARE LAKE BASIN

11-2065. MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MIDDLE FORK KAWEAH RIVER AND MIDDLE FORK KAWEAH RIVER
NO. 3 CONDUIT NEAR POTWISHA CAMP, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	34	36	74	316	314	634	793	1,810	932	457	99
2	14	32	34	75	288	288	610	797	1,780	937	428	101
3	13	70	36	77	266	284	598	724	1,690	912	406	100
4	14	69	38	86	248	260	530	659	1,600	878	395	97
5	14	55	37	94	246	244	602	623	1,570	847	360	93
6	14	49	36	99	280	236	582	707	1,560	817	298	93
7	14	43	35	96	250	242	504	808	1,470	801	271	105
8	14	41	33	93	240	206	477	1,010	1,300	792	253	100
9	14	44	32	85	234	204	459	1,150	1,140	780	249	95
10	13	45	32	76	232	196	443	1,240	887	777	315	90
11	13	43	73	73	234	187	487	1,250	754	770	343	83
12	12	68	42	71	252	187	539	1,210	741	757	285	75
13	15	65	41	126	238	182	557	1,190	852	750	253	70
14	124	50	91	166	218	177	552	1,170	1,010	773	251	68
15	56	105	123	118	300	180	488	1,170	1,080	745	226	66
16	51	76	114	101	286	198	459	1,230	1,110	745	218	64
17	48	74	68	90	260	226	498	1,340	1,040	740	199	62
18	47	79	60	201	261	254	546	1,380	911	727	184	60
19	45	76	58	1,510	253	268	539	1,340	971	735	168	61
20	41	73	52	632	228	274	650	1,350	1,010	754	158	62
21	39	66	48	1,090	219	276	795	1,410	1,020	731	153	64
22	35	60	52	721	218	264	862	1,430	1,110	714	143	60
23	32	59	53	379	200	282	794	1,400	1,120	685	142	56
24	30	57	96	917	539	308	668	1,530	1,060	634	142	55
25	29	51	132	3,520	522	338	571	1,570	957	569	138	53
26	28	45	101	1,870	378	372	552	1,530	906	529	126	51
27	27	43	80	1,050	324	423	585	1,450	902	520	120	50
28	27	38	91	718	336	483	657	1,480	866	523	114	48
29	25	35	92	510	-----	542	718	1,570	851	502	109	52
30	46	35	80	411	-----	594	764	1,690	907	493	104	52
31	39	-----	76	348	-----	634	-----	1,780	-----	502	102	-----
TOTAL	946	1,680	1,972	15,477	7,866	9,123	17,720	37,981	33,985	22,371	7,110	2,185
MEAN	30.5	56.0	63.6	499	281	294	591	1,225	1,133	722	229	72.8
MAX	124	105	132	3,520	539	634	862	1,780	1,810	937	457	105
MIN	12	32	32	71	200	177	443	623	741	493	102	48
AC-FT	1,880	3,330	3,910	30,700	15,600	18,100	35,150	75,330	67,410	44,370	14,100	4,330
CAL YR 1968	TOTAL	37,710.4	MEAN	103	MAX	441	MIN	9.8	AC-FT	74,800		
WTR YR 1969	TOTAL	158,416	MEAN	434	MAX	3,520	MIN	12	AC-FT	314,200		

11-2080. MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CALIF.

LOCATION.--Lat 36°31'08", long 118°48'03", in SE $\frac{1}{4}$ sec.23, T.16 S., R.29 E., Tulare County, Sequoia National Park, on left bank 0.1 mile north of Potwisha Camp, and 0.3 mile upstream from confluence with Middle Fork Kaweah River.

DRAINAGE AREA.--51.4 sq mi.

PERIOD OF RECORD.--March 1950 to current year. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

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

AVERAGE DISCHARGE (River only).--19 years, 77.2 cfs (55,930 acre-ft per year); median of yearly mean discharges, 55 cfs (40,900 acre-ft per year).

(Combined river and diversion).--19 years, 103 cfs (74,620 acre-ft per year); median of yearly mean discharges, 81 cfs (58,500 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge, 2,610 cfs Jan. 25 (gage height, 8.86 ft), from rating curve extended as explained below; minimum daily, 0.38 cfs Sept. 11.

Period of record: Maximum discharge, 12,500 cfs Dec. 23, 1955 (gage height, 13.4 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.

(Combined flow).--Current year: Maximum discharge, 2,610 cfs Jan. 25; minimum daily, 2.3 cfs Oct. 2.

Period of record: Maximum discharge, 12,500 cfs Dec. 23, 1955; minimum daily, 1.6 cfs July 30, Sept. 14-16, 1961, Aug. 25, 1968.

REMARKS.--Records fair. Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mile above station; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks. For records of combined discharge of river and conduit, see following page. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 18 discharge measurements for river and gage-height record and 13 discharge measurements for conduit furnished by Southern California Edison Co.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.7	2.7	6.7	167	112	275	494	1,260	586	198	3.3
2	1.5	3.1	1.6	5.5	149	104	262	491	1,240	590	193	5.6
3	2.0	13	1.6	4.6	137	104	240	431	1,170	586	175	4.2
4	1.1	7.0	.88	5.2	130	95	222	386	1,120	566	173	1.7
5	1.2	3.0	.83	8.7	126	90	252	371	1,060	546	145	.46
6	1.4	1.1	3.2	11	133	89	242	443	1,020	527	104	.49
7	1.4	1.2	3.5	7.1	124	84	205	527	960	532	89	5.4
8	1.9	1.3	.88	4.9	115	82	202	658	846	515	86	3.0
9	3.4	4.0	1.0	4.6	111	80	202	750	710	509	84	1.1
10	3.4	4.8	3.9	4.9	106	80	200	822	546	512	127	.40
11	3.4	2.0	10	5.2	96	76	228	810	464	500	139	.38
12	3.4	3.3	3.0	4.9	70	76	262	770	458	503	95	.43
13	3.8	7.3	8.7	25	58	74	288	802	534	566	77	.43
14	52	2.0	12	65	53	71	265	770	666	455	72	.49
15	22	7.4	24	38	54	71	225	766	662	458	65	.58
16	14	6.7	8.4	14	52	74	212	826	658	461	60	.62
17	12	3.3	1.0	6.3	58	80	242	915	582	449	56	.66
18	13	5.6	3.0	35	58	89	278	930	521	437	49	.66
19	11	6.5	4.2	715	50	92	275	900	602	458	41	1.1
20	9.1	3.8	3.1	317	49	95	341	890	642	479	37	1.7
21	8.3	2.2	3.0	608	47	94	428	935	630	428	34	.78
22	7.5	2.0	5.2	332	49	90	473	970	682	404	28	1.0
23	5.9	1.9	5.2	182	48	98	455	930	678	389	27	1.1
24	5.5	1.5	13	298	103	109	353	1,020	614	347	46	.88
25	2.6	1.4	16	1,940	165	122	290	1,060	598	308	75	.83
26	.78	1.5	1.9	1,130	145	139	288	1,020	570	280	24	.78
27	.78	1.6	2.3	524	119	157	326	1,020	570	272	13	.78
28	.83	1.6	1.2	342	115	183	383	1,020	546	252	14	.83
29	.88	2.3	1.0	252	-----	208	425	1,080	546	245	8.5	.94
30	1.7	3.4	.94	209	-----	242	461	1,160	578	258	6.2	1.0
31	1.3	-----	4.1	182	-----	270	-----	1,220	-----	252	4.5	-----
TOTAL	198.47	107.5	151.33	7,287.6	2,687	3,430	8,800	25,187	21,733	13,670	2,345.2	41.62
MEAN	6.40	3.58	4.88	235	96.0	111	293	812	724	441	75.7	1.39
MAX	52	13	24	1,940	167	270	473	1,220	1,260	590	198	5.6
MIN	.78	1.1	.83	4.6	47	71	200	371	458	245	4.5	.38
AC-FT	394	213	300	14,450	5,330	6,800	17,450	49,960	43,110	27,110	4,650	83
CAL YR 1968	TOTAL	8,862.00	MEAN	24.2	MAX	172	MIN	.40	AC-FT	17,580		
WTR YR 1969	TOTAL	85,638.72	MEAN	235	MAX	1,940	MIN	.38	AC-FT	169,900		

TULARE LAKE BASIN

11-2080. MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER
NO. 3 CONDUIT AT POTWISHA CAMP, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	11	13	22	167	112	275	522	1,290	628	245	40
2	2.3	9.5	11	22	149	104	262	520	1,250	630	241	44
3	2.7	29	12	23	137	104	240	459	1,170	621	229	41
4	2.9	33	12	25	130	95	223	414	1,120	606	223	39
5	3.0	27	11	31	126	90	254	396	1,080	588	192	36
6	3.4	21	11	37	133	89	244	464	1,050	570	154	37
7	3.4	17	12	39	124	84	206	547	991	574	143	45
8	3.2	16	11	39	115	82	202	678	876	559	139	43
9	3.6	21	10	35	111	80	202	770	740	553	137	39
10	3.6	23	9.4	29	106	80	200	841	577	555	182	36
11	3.6	21	22	28	104	76	228	829	498	544	194	32
12	3.6	25	13	27	106	76	262	789	490	546	149	28
13	4.0	31	15	47	102	74	288	821	569	608	130	25
14	52	21	26	85	97	71	284	793	701	497	125	24
15	22	31	53	57	98	71	242	792	697	505	119	25
16	14	33	42	44	96	74	229	854	694	512	114	24
17	12	31	25	37	102	80	268	944	618	498	111	24
18	13	36	20	65	102	89	310	958	556	485	106	23
19	11	38	19	730	94	92	307	931	636	503	95	22
20	9.3	34	16	317	93	95	373	921	679	517	92	24
21	8.4	30	14	608	90	94	460	966	669	475	89	24
22	7.6	26	16	332	89	90	505	1,000	722	451	82	21
23	6.0	28	17	190	86	98	487	962	717	435	81	20
24	5.6	26	27	303	132	109	385	1,050	652	393	101	19
25	7.1	18	40	1,940	165	122	322	1,100	636	354	110	18
26	7.6	18	33	1,130	145	139	320	1,060	608	327	78	18
27	7.2	16	34	524	119	157	360	1,050	608	320	55	17
28	6.6	14	29	342	115	183	419	1,050	584	300	50	17
29	7.0	13	25	252	-----	208	463	1,110	585	293	46	18
30	11	13	24	209	-----	242	495	1,190	619	305	43	19
31	13	-----	22	182	-----	270	-----	1,250	-----	299	42	-----
TOTAL	262.6	710.5	644.4	7,751	3,233	3,430	9,315	26,031	22,682	15,051	3,897	842
MEAN	8.47	23.7	20.8	250	115	111	311	840	756	486	126	28.1
MAX	52	38	53	1,940	167	270	505	1,250	1,290	630	245	45
MIN	2.3	9.5	9.4	22	86	71	200	396	490	293	42	17
AC-FT	521	1,410	1,280	15,370	6,410	6,800	18,480	51,630	44,990	29,850	7,730	1,670
CAL YR 1968	TOTAL	17,087.9	MEAN	46.7	MAX	221	MIN	1.6	AC-FT	33,890		
WTR YR 1969	TOTAL	93,849.5	MEAN	257	MAX	1,940	MIN	2.3	AC-FT	186,100		

11-2085, MIDDLE FORK KAWEAH RIVER TRIBUTARY NEAR HAMMOND, CALIF.

LOCATION.--Lat 36°29'35", long 118°49'30", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.34, T.16 S., R.29 E., Tulare County, Sequoia National Park, at culvert on State Highway 198, 2.7 miles northeast of Hammond.

DRAINAGE AREA.--1.90 sq mi.

PERIOD OF RECORD.--1960-67 (annual maximum only), May 1967 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,740 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 203 cfs Jan. 25 (gage height, 22.06 ft, from high-water mark in gage house), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 879 cfs Dec. 6, 1966 (gage height, 30.63 ft), from rating curve extended above 22 cfs on basis of computation of flow through culvert at gage heights 12.50, 14.80, 16.00, 18.41, 22.06 ft and computation of flow through culvert plus road-overflow at gage height 30.63 ft; no flow for many days each year.

REMARKS.--Records good. Minor diversion above station for domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.02	.04	.20	7.5	22	4.7	3.3	1.5	1.0	.10	.08
2	0	.02	.04	.24	6.9	20	5.7	3.3	1.4	.90	.30	.04
3	.03	.02	.03	.36	6.4	21	7.4	3.3	1.3	.70	.24	0
4	0	.02	.03	.36	6.2	19	5.5	3.4	1.2	.80	.13	0
5	0	.05	.01	.36	6.6	17	11	3.2	1.2	.80	.13	.02
6	0	.02	.10	.36	12	15	13	3.0	1.2	.70	.13	.02
7	0	.02	.05	.36	9.4	14	9.5	2.8	1.2	.70	.10	.06
8	0	.03	.02	.36	8.3	13	8.3	2.8	1.2	.70	.10	.02
9	0	.02	.02	.36	7.8	12	7.8	2.6	1.8	.70	.30	.01
10	0	.01	.03	.36	7.6	12	7.4	2.5	1.9	.70	.20	.01
11	0	.01	.03	.36	7.6	11	7.0	2.4	1.6	.68	.16	.03
12	0	.02	.02	.30	8.4	11	6.6	2.4	1.6	.68	.13	.03
13	0	.02	.02	.30	8.1	10	6.5	2.4	1.5	.67	.13	.04
14	0	.02	.10	.30	7.4	9.5	6.4	2.4	1.4	.67	.05	.02
15	0	.02	.30	.30	12	8.9	6.0	2.4	1.3	.67	.06	.03
16	0	.02	.20	.24	12	8.6	5.7	2.1	4.6	.61	.05	.02
17	0	.02	.10	.24	10	8.4	5.5	2.1	2.3	.49	.11	.04
18	0	.02	.06	2.7	11	8.6	5.4	2.0	1.6	.43	.06	.02
19	0	.02	.05	49	11	8.3	5.2	2.1	1.6	.43	.04	.02
20	0	.02	.05	11	10	8.0	4.9	2.0	1.4	.61	.07	.01
21	0	.02	.04	24	10	8.2	4.7	1.9	1.4	.49	.03	.01
22	0	.02	.03	22	10	8.0	4.7	1.9	1.4	.43	.08	.02
23	0	.02	.02	7.8	12	7.3	4.7	1.8	1.3	.49	.08	.01
24	0	.02	.03	15	43	7.0	4.6	1.8	1.2	.43	.07	0
25	0	.02	.10	75	49	6.3	4.4	1.8	1.2	.36	.02	.01
26	0	.02	.20	44	28	6.2	4.2	1.6	1.2	.49	.04	0
27	0	.02	.15	20	21	5.8	3.9	1.8	1.2	.55	.06	0
28	0	.02	.10	14	21	5.5	3.7	1.7	1.2	.30	.08	.01
29	0	.03	.10	11	-----	5.1	3.6	1.5	1.1	.30	.04	.02
30	.03	.04	.13	9.1	-----	5.0	3.4	1.5	1.1	.30	.13	.03
31	.02	-----	.16	8.0	-----	4.9	-----	1.5	-----	.24	.08	-----
TOTAL	0.08	0.65	2.36	317.96	370.2	326.6	181.4	71.3	45.1	18.02	3.30	0.63
MEAN	.003	.022	.076	10.3	13.2	10.5	6.05	2.30	1.50	.58	.11	.021
MAX	.03	.05	.30	75	49	22	13	3.4	4.6	1.0	.30	.08
MIN	0	.01	.01	.20	6.2	4.9	3.4	1.5	1.1	.24	.02	0
AC-FT	.2	1.3	4.7	631	734	648	360	141	89	36	6.6	1.3

CAL YR 1968 TOTAL 50.85 MEAN .14 MAX .61 MIN 0 AC-FT 101
WTR YR 1969 TOTAL 1,337.60 MEAN 3.66 MAX 75 MIN 0 AC-FT 2,650

PEAK DISCHARGE (BASE, 3.0 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1800	15.79	112	2-28	1600	12.14	27
1-22	0100	13.17	52	4- 2	2230	11.42	13
1-25	unknown	22.06	203	4- 5	1700	12.32	31
2- 6	unknown	11.86	22	6-16	0900	13.07	50
2-24	2100	16.08	116				

TULARE LAKE BASIN

11-2086.1. MONARCH CREEK NEAR HAMMOND, CALIF.

LOCATION.--Lat 36°27'09", long 118°35'37", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.15, T.17 S., R.31 E., Tulare County, Sequoia National Forest, on right bank 0.2 mile upstream from mouth, 0.3 mile northeast of Mineral King, and 14.9 miles east of Hammond.

DRAINAGE AREA.--1.89 sq mi.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,200 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 81 cfs June 1 (gage height, 2.71 ft); minimum daily, 1.0 cfs Oct. 10-12.

Period of record: Maximum discharge, 81 cfs June 1, 1969 (gage height, 2.71 ft); minimum daily, 1.0 cfs Sept. 27-30, Oct. 10-12, 1968.

REMARKS.--Records good except those for the period of indefinite stage-discharge relation, which are poor. Records of chemical analyses and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

LAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1	3.6	1.8	2.6	2.4	6.9	21	56	36	21	4.5
2	1.1	1.2	5.7	1.8	2.6	2.2	6.9	21	63	35	19	4.4
3	1.1	1.6	2.0	1.9	2.4	2.1	6.1	20	57	34	19	4.3
4	1.1	1.6	1.8	2.0	2.4	2.0	5.7	18	50	34	18	4.2
5	1.1	1.4	1.7	2.2	2.2	2.0	5.9	18	45	34	16	4.2
6	1.1	1.3	1.6	2.3	2.6	1.9	5.1	17	46	34	14	4.3
7	1.1	1.3	1.6	2.4	2.4	1.9	4.4	21	45	34	14	4.1
8	1.1	1.3	1.5	2.6	2.2	1.8	4.0	28	40	33	13	4.0
9	1.1	1.4	1.5	2.5	2.2	1.8	4.0	33	35	33	13	3.8
10	1.0	1.4	1.5	2.4	2.1	1.7	3.7	36	31	34	17	3.7
11	1.0	1.3	3.8	2.3	2.2	1.7	4.1	36	27	33	14	3.6
12	1.0	1.7	2.7	2.2	2.1	1.7	5.3	36	26	33	12	3.4
13	1.2	1.6	1.7	2.3	2.1	1.6	5.9	41	28	36	12	3.4
14	2.0	1.7	1.7	2.4	2.0	1.6	6.9	43	33	32	11	3.3
15	1.5	3.6	1.8	2.2	2.1	1.6	6.1	45	35	32	11	3.3
16	1.3	2.2	1.8	2.1	2.1	1.6	5.3	47	34	32	9.6	3.3
17	1.2	2.2	1.8	2.1	2.0	1.7	6.1	52	33	32	9.1	3.3
18	1.2	2.4	1.8	2.6	2.0	1.8	7.5	51	33	30	8.4	3.2
19	1.2	2.6	1.8	5.3	2.0	1.9	7.5	51	33	30	8.0	3.2
20	1.2	2.8	1.8	4.0	1.9	1.9	11	48	33	31	7.6	3.2
21	1.1	3.0	1.8	4.3	1.9	2.0	14	53	34	31	7.2	3.1
22	1.1	3.0	1.6	4.2	1.9	2.1	16	49	36	30	6.8	3.1
23	1.1	3.0	1.7	3.4	1.9	2.2	16	44	36	30	6.5	3.0
24	1.1	2.5	1.8	3.6	2.5	2.3	14	48	36	27	6.4	2.9
25	1.1	3.6	2.0	9.0	6.8	2.4	13	49	35	26	6.0	2.8
26	1.1	4.3	2.0	4.2	5.6	2.8	13	46	34	25	5.4	2.8
27	1.1	2.2	2.0	3.6	4.3	3.2	14	45	34	25	5.2	2.7
28	1.1	2.1	2.0	3.2	2.8	3.7	17	47	33	23	5.0	2.7
29	1.1	2.0	1.9	3.0	-----	4.6	18	55	34	23	4.8	2.8
30	1.3	1.8	1.9	2.8	-----	5.3	19	54	36	24	4.6	2.7
31	1.1	-----	1.8	2.8	-----	6.5	-----	49	-----	23	4.5	-----
TOTAL	36.0	63.2	63.7	93.5	71.9	74.0	272.4	1,222	1,131	949	329.1	103.3
MEAN	1.16	2.11	2.05	3.02	2.57	2.39	9.08	39.4	37.7	30.6	10.6	3.44
MAX	2.0	4.3	5.7	9.0	6.8	6.5	19	55	63	36	21	4.5
MIN	1.0	1.1	1.5	1.8	1.9	1.6	3.7	17	26	23	4.5	2.7
AC-FT	71	125	126	185	143	147	540	2,420	2,240	1,880	653	205

CAL YR 1968 TOTAL MEAN - MAX - MIN - AC-FT -
 WTR YR 1969 TOTAL 4,409.1 MEAN 12.1 MAX 63 MIN 1.0 AC-FT 8,750

PEAK DISCHARGE (BASE, 10 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12- 2	0315	1.68	10	5- 1	1945	2.10	22
1-25	0415	1.83	16	6- 1	1800	2.71	81
4-22	0315	2.10	16	8-10	1745	2.23	31

TULARE LAKE BASIN

599

11-2086.2. EAST FORK KAWEAH RIVER BELOW MOSQUITO CREEK, NEAR HAMMOND, CALIF.

LOCATION.--Lat 36°27'05", long 118°37'04", in SW¼NW¼ sec.16, T.17 S., R.13 E., Tulare County, Sequoia National Forest, on right bank 300 ft downstream from Mosquito Creek, and 13.2 miles east of Hammond.

DRAINAGE AREA.--16.0 sq mi.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,280 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 589 cfs May 31 (gage height, 4.39 ft); minimum daily, 4.7 cfs Oct. 8-12.

Period of record: Maximum discharge, 589 cfs May 31, 1969 (gage height, 4.39 ft); minimum daily, 4.7 cfs Oct. 8-12, 1968.

REMARKS.--Records good. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.0	7.6	10	17	16	45	118	497	233	108	33
2	5.0	6.0	8.2	9.6	16	15	45	123	479	233	103	33
3	5.0	7.9	7.2	9.6	16	14	43	114	473	228	99	32
4	5.0	7.9	7.2	9.6	15	14	42	105	414	221	97	31
5	5.0	7.6	7.2	10	15	13	43	97	386	219	89	30
6	5.0	6.9	7.2	10	14	13	39	98	370	216	79	30
7	5.0	6.9	7.2	11	14	13	35	117	350	208	74	30
8	4.7	6.6	7.6	11	14	12	33	152	270	197	70	30
9	4.7	6.6	7.6	11	14	12	33	182	195	191	69	29
10	4.7	6.9	7.9	11	14	12	32	201	180	190	92	28
11	4.7	6.9	8.6	10	14	12	36	194	175	185	89	26
12	4.7	7.9	10	10	14	12	44	195	170	188	75	24
13	6.0	7.6	7.9	12	14	11	50	210	190	226	70	23
14	9.6	7.2	8.2	12	13	11	53	221	215	200	66	23
15	7.9	11	8.6	12	14	11	47	222	220	191	63	22
16	7.2	8.6	9.0	11	14	11	46	237	230	191	60	21
17	7.2	8.2	10	10	14	12	50	266	220	181	56	20
18	7.2	8.6	10	12	13	13	55	280	229	169	54	20
19	6.9	9.0	8.0	33	14	14	57	284	231	169	51	19
20	6.6	9.3	13	24	13	14	70	281	242	168	49	19
21	6.3	9.6	14	24	13	14	88	315	245	166	47	18
22	6.0	9.6	9.5	28	13	14	99	321	268	161	45	17
23	5.7	10	9.2	24	13	16	97	266	286	167	44	18
24	5.7	10	10	23	15	17	83	318	288	146	44	19
25	5.7	9.0	10	53	46	19	74	360	257	132	43	18
26	5.4	8.6	13	39	39	21	72	357	235	122	41	18
27	5.4	8.2	16	32	28	24	77	355	233	124	40	17
28	5.4	7.9	12	25	17	28	88	363	222	115	38	16
29	5.4	7.6	11	26	-----	33	97	430	215	111	36	17
30	6.3	7.6	10	20	-----	37	106	488	228	115	34	17
31	6.0	-----	10	18	-----	43	-----	522	-----	114	33	-----
TOTAL	180.4	241.7	292.9	560.8	470	521	1,779	7,792	8,213	5,477	1,958	698
MEAN	5.82	8.06	9.45	18.1	16.8	16.8	59.3	251	274	177	63.2	23.3
MAX	9.6	11	16	53	46	43	106	522	497	233	108	33
MIN	4.7	6.0	7.2	9.6	13	11	32	97	170	111	33	16
AC-FT	358	479	581	1,110	932	1,030	3,530	15,460	16,290	10,860	3,880	1,380
CAL YR 1968	TOTAL -		MEAN -		MAX -		MIN -		AC-FT -			
WTR YR 1969	TOTAL 28,183.8		MEAN 77.2		MAX 522		MIN 4.7		AC-FT 55,900			

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-25	0915	2.86	81	6-23	2200	3.97	341
4-22	2000	3.04	103	7-13	1730	3.84	288
5- 1	1845	3.20	127	8-10	1815	3.39	166
5-31	2245	4.39	589				

TULARE LAKE BASIN

11-2086, 25. EAST FORK KAWEAH RIVER AT SEQUOIA-NATIONAL PARK BOUNDARY, NEAR HAMMOND, CALIF.

LOCATION.--Lat 36°27'30", long 118°39'11", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.7, T.17 S., R.31 E., Tulare County, Sequoia National Park, on right bank 0.6 mile southwest of Silver City, and 11.4 miles east of Hammond.

DRAINAGE AREA.--23.7 sq mi.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,160 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 934 cfs May 31 (gage height, 5.74 ft); minimum daily, 5.4 cfs Oct. 9-12.

Period of record: Maximum discharge, 934 cfs May 31, 1969 (gage height, 5.74 ft); minimum daily, 5.4 cfs Oct. 9-12, 1968.

REMARKS.--Records good. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	7.6	9.5	12	27	20	82	184	760	288	150	35
2	5.6	7.7	11	12	24	17	81	189	719	285	141	35
3	5.5	11	9.8	12	22	17	73	175	645	280	134	34
4	5.5	10	9.5	13	22	16	71	157	571	272	128	33
5	5.5	9.5	9.1	15	21	16	74	148	534	266	118	32
6	5.5	8.8	9.1	16	14	16	65	158	541	264	104	33
7	5.5	8.4	9.1	16	20	16	56	193	514	255	96	32
8	5.5	8.4	8.8	16	23	16	54	244	429	247	90	32
9	5.4	8.4	8.8	15	19	15	53	296	334	239	89	32
10	5.4	8.8	9.5	14	19	15	54	318	266	237	122	30
11	5.4	8.8	11	13	19	15	65	310	234	233	120	27
12	5.4	11	12	13	19	14	79	315	219	230	96	26
13	7.5	9.8	9.8	18	18	14	90	332	248	264	89	24
14	14	9.1	12	20	18	14	89	339	287	244	83	24
15	9.8	13	13	17	19	14	78	337	298	235	76	23
16	8.8	12	12	16	18	15	77	364	299	233	71	22
17	8.3	12	14	15	17	16	88	413	300	221	67	22
18	8.3	12	16	16	17	18	98	436	281	210	63	20
19	8.1	12	10	50	17	18	101	434	296	213	60	20
20	7.7	12	15	39	17	19	129	437	312	211	58	20
21	7.5	12	16	64	16	18	163	476	313	210	55	20
22	7.3	12	15	47	16	18	169	470	344	207	52	20
23	7.0	12	14	36	16	21	156	410	368	208	50	19
24	6.8	12	12	72	17	25	131	483	361	188	50	18
25	6.8	11	11	213	76	29	115	511	322	175	50	18
26	6.7	10	14	114	62	34	112	507	291	168	49	18
27	6.6	10	18	68	46	40	122	496	292	170	45	18
28	6.5	9.8	14	48	24	49	138	502	272	160	42	17
29	6.5	9.5	13	39	-----	58	152	579	269	156	40	18
30	9.5	9.5	13	33	-----	67	169	640	282	161	37	18
31	7.9	-----	12	32	-----	78	-----	719	-----	159	36	-----
TOTAL	217.4	308.1	371.0	1,124	663	758	2,984	11,572	11,201	6,889	2,461	740
MEAN	7.01	10.3	12.0	36.3	23.7	24.5	99.5	373	373	222	79.4	24.7
MAX	14	13	18	213	76	78	169	719	760	288	150	35
MIN	5.4	7.6	8.8	12	14	14	53	148	219	156	36	17
AC-FT	431	611	736	2,230	1,320	1,500	5,920	22,950	22,220	13,660	4,880	1,470

CAL YR 1968	TOTAL -	MEAN -	MAX -	MIN -	AC-FT -
WTR YR 1969	TOTAL 39,288.5	MEAN 108	MAX 760	MIN 5.4	AC-FT 77,930

PEAK DISCHARGE (BASE, 70 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-25	0945	4.41	335	5- 2	0345	3.95	218
2-25	1300	3.32	99	5-31	2245	5.74	934
4- 1	2000	3.29	95	6-22	2130	4.70	432
4-21	2045	3.85	195	8-10	1930	3.87	228

11-2087.3. EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CALIF.

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

DRAINAGE AREA.--85.8 sq mi.

PERIOD OF RECORD.--May 1952 to September 1955, October 1957 to current year. Prior to October 1962, combined only.

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

AVERAGE DISCHARGE (River only).--15 years, 94.0 cfs (68,100 acre-ft per year).
(Total flow).--15 years, 120 cfs (86,940 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge, 4,700 cfs Jan. 25 (gage height, 10.76 ft), from rating curve extended above 850 cfs on basis of critical-depth measurement at gage height 21 ft; minimum daily, 0.31 cfs Dec. 21.

Period of record: Maximum discharge, 13,000 cfs Dec. 6, 1966 (gage height, 21 ft, from floodmarks), from rating curve extended above 850 cfs on basis of critical-depth measurement over diversion dam of peak flow; no flow Jan. 22, Oct. 18-20, 1962.

(Combined flow).--Current year: Maximum discharge, 4,700 cfs Jan. 25 (gage height, 10.76 ft), from rating curve extended above 850 cfs on basis of critical-depth measurement at gage height 21 ft; minimum daily, 11 cfs Oct. 12.

Period of record: Maximum discharge, 13,000 cfs Dec. 6, 1966 (gage height, 21 ft, from floodmarks), from rating curve extended above 850 cfs on basis of critical-depth measurement over diversion dam of peak flow; minimum daily, 3.5 cfs Sept. 28, 29, 1960.

REMARKS.--Records fair. East Fork Kaweah River No. 1 conduit diverts up to 30 cfs from left bank of river near diversion dam. Flow from this conduit passes through Hammond powerhouse of Southern California Edison Co.; water is returned to Middle Fork Kaweah River in sec.8, T.17 S., R.29 E., 1.9 miles downstream from mouth of East Fork. For records of combined discharge of river and conduit, see following page. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records for East Fork Kaweah River No. 1 conduit near Three Rivers and 13 discharge measurements were furnished by Southern California Edison Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	.93	2.5	9.9	181	252	316	525	1,580	688	224	34
2	.66	.91	13	9.4	163	194	325	534	1,530	677	208	33
3	.65	12	25	8.8	156	198	307	462	1,420	654	185	31
4	.64	7.9	24	9.7	153	176	272	394	1,310	638	170	30
5	.64	2.1	22	13	153	167	325	373	1,270	632	156	28
6	.64	1.1	13	16	167	164	276	430	1,280	615	124	28
7	.88	.73	.91	14	192	157	258	534	1,230	582	110	33
8	1.0	.58	.52	11	232	154	267	654	1,080	534	114	31
9	1.0	.63	.47	9.6	178	150	254	761	908	503	96	30
10	.97	.66	.87	8.3	143	140	254	866	690	488	137	26
11	.95	.65	27	8.0	143	130	289	896	529	472	163	24
12	.95	14	4.2	7.9	156	124	330	896	610	462	116	22
13	.96	8.1	4.1	27	146	121	344	1,040	626	514	104	19
14	46	2.1	41	70	181	113	339	1,030	761	467	96	19
15	8.5	48	59	48	294	113	307	986	872	436	89	19
16	1.4	12	45	19	267	110	294	1,040	992	430	82	18
17	.51	6.4	11	13	200	116	325	1,140	1,060	404	77	17
18	2.2	6.2	8.0	156	156	118	354	1,170	824	394	72	21
19	.78	5.8	6.7	1,470	156	118	349	1,130	896	410	66	19
20	.77	4.4	.56	483	174	116	399	1,100	944	410	62	19
21	.74	3.8	.31	883	216	116	472	1,120	938	415	60	22
22	.74	3.0	15	490	216	104	534	1,060	986	404	58	17
23	.90	3.3	15	316	212	118	493	986	1,040	389	56	14
24	.99	4.4	26	822	593	134	384	1,120	1,080	358	54	13
25	.89	2.3	57	2,840	430	163	373	1,190	926	330	54	11
26	.85	1.3	56	1,490	312	174	373	1,190	766	298	50	10
27	.83	1.5	42	626	272	192	384	1,190	738	316	46	9.6
28	.80	.76	35	402	292	216	399	1,170	699	290	45	9.3
29	.81	.65	34	320	-----	241	425	1,330	688	262	42	36
30	10	.96	18	280	-----	280	482	1,400	699	264	39	42
31	1.4	-----	12	236	-----	302	-----	1,540	-----	254	35	-----
TOTAL	89.71	157.16	619.14	11,116.6	6,134	4,971	10,503	29,257	28,972	13,990	2,990	684.9
MEAN	2.89	5.24	20.0	359	219	160	350	944	966	451	96.5	22.8
MAX	46	48	59	2,840	593	302	534	1,540	1,580	688	224	42
MIN	.51	.58	.31	7.9	143	104	254	373	529	254	35	9.3
AC-FT	178	312	1,230	22,050	12,170	9,860	20,830	58,030	57,470	27,750	5,930	1,360
CAL YR 1968	TOTAL	19,313.51	MEAN	52.8	MAX	302	MIN	.31	AC-FT	38,310		
WTR YR 1969	TOTAL	109,484.51	MEAN	300	MAX	2,840	MIN	.31	AC-FT	217,200		

TULARE LAKE BASIN

11-2087.3, EAST FORK KAWEAH RIVER NEAR THREE RIVERS, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF EAST FORK KAWEAH RIVER AND EAST FORK KAWEAH RIVER NO. 1 CONDUIT NEAR THREE RIVERS, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	18	22	31	181	252	318	545	1,610	708	250	59
2	12	17	22	30	163	194	334	554	1,560	697	234	58
3	12	32	26	30	156	198	321	482	1,440	674	211	57
4	12	29	25	31	153	176	288	414	1,340	658	196	56
5	12	22	23	34	153	167	338	393	1,290	652	182	54
6	12	20	22	36	167	164	276	450	1,300	635	150	54
7	12	20	21	35	192	157	267	554	1,250	602	135	59
8	12	20	20	36	232	154	283	675	1,100	556	139	56
9	12	20	19	35	178	150	274	782	932	526	122	54
10	12	20	20	33	143	140	276	887	713	512	163	50
11	12	20	47	33	143	130	311	907	552	496	189	48
12	11	35	24	33	156	124	352	909	633	486	140	45
13	13	29	24	52	146	121	366	1,060	649	538	128	42
14	66	22	62	96	190	114	361	1,050	784	493	120	42
15	28	70	80	73	309	114	329	1,010	895	464	113	42
16	21	35	66	44	282	110	316	1,060	1,020	456	106	41
17	19	29	31	38	209	116	347	1,160	1,080	431	101	40
18	18	29	29	178	156	118	376	1,190	844	421	96	41
19	18	29	27	1,470	156	118	371	1,150	914	437	90	40
20	17	26	27	483	179	116	421	1,120	964	437	86	42
21	16	26	28	883	232	119	494	1,140	958	440	83	45
22	16	25	28	490	232	104	554	1,080	1,010	431	82	41
23	15	25	28	316	228	118	513	1,010	1,060	416	80	38
24	15	26	47	822	603	134	404	1,140	1,100	385	78	37
25	15	24	70	2,840	430	164	393	1,220	947	357	78	35
26	15	22	56	1,490	312	174	393	1,220	787	325	75	34
27	15	22	48	626	272	192	404	1,220	758	343	72	34
28	14	21	50	402	292	216	419	1,200	719	316	71	34
29	14	21	51	320	-----	241	445	1,360	708	288	68	45
30	30	21	39	280	-----	280	502	1,430	719	290	64	42
31	20	-----	33	236	-----	302	-----	1,570	-----	280	60	-----
TOTAL	528	775	1,115	11,536	6,245	4,977	11,046	29,942	29,636	14,750	3,762	1,365
MEAN	17.0	25.8	36.0	372	223	161	368	966	988	476	121	45.5
MAX	66	70	80	2,840	603	302	554	1,570	1,610	708	250	59
MIN	11	17	19	30	143	104	267	393	552	280	60	34
AC-FT	1,050	1,540	2,210	22,880	12,390	9,870	21,910	59,390	58,780	29,260	7,460	2,710
CAL YR 1968	TOTAL	26,591	MEAN	72.7	MAX	161	MIN	11	AC-FT	52,740		
WTR YR 1969	TOTAL	115,677	MEAN	317	MAX	2,840	MIN	11	AC-FT	229,400		

11-2099, KAWEAH RIVER AT THREE RIVERS, CALIF.

LOCATION.--Lat 36°26'38", long 118°54'09", in SW¼SW¼ sec.13, T.17 S., R.28 E., Tulare County, on right bank opposite schoolhouse in Three Rivers, 0.2 mile downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 809.62 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 532 cfs (385,400 acre-ft per year); median of yearly mean discharges, 310 cfs (225,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 24,200 cfs Jan. 25 (gage height, 12.49 ft); minimum daily, 28 cfs Oct. 1, 3-7, 9.

Period of record: Maximum discharge, 73,000 cfs Dec. 5, 1966 (gage height, 16.69 ft in gage well, 19.0 ft, from floodmarks), from rating curve extended above 13,000 cfs on basis of slope-area measurements at gage heights 13.68 and 16.69 ft; minimum, 14 cfs Sept. 9, 10, 1959, Oct. 16, 1961.

Flood of Dec. 23, 1955, reached a stage of 17.9 ft, from floodmarks.

REMARKS.--Records good. Diversions of 200 acres above station. Power is developed on the Middle and East Fork Kaweah River. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	75	91	179	1,450	2,070	2,270	2,820	6,030	2,600	1,080	195
2	29	69	84	179	1,270	1,760	2,210	2,790	5,820	2,580	998	195
3	28	90	86	179	1,150	1,740	2,310	2,480	5,520	2,520	936	195
4	28	176	90	186	1,070	1,540	1,960	2,280	5,190	2,450	915	186
5	28	130	88	206	1,100	1,360	2,730	2,230	4,830	2,380	850	179
6	28	108	89	226	2,000	1,300	2,630	2,510	4,770	2,310	685	177
7	28	97	91	240	1,470	1,190	2,100	2,880	4,500	2,270	611	202
8	30	92	83	234	1,260	1,080	1,960	3,440	3,130	2,230	575	195
9	28	94	80	220	1,140	1,040	1,890	3,900	3,620	2,170	550	186
10	29	96	77	197	1,080	1,060	1,800	4,120	2,980	2,160	645	175
11	29	95	146	179	1,050	958	1,930	4,050	2,520	2,130	859	165
12	29	108	118	172	1,130	922	2,140	4,000	2,420	2,090	633	155
13	30	152	104	211	1,070	908	2,210	4,020	2,570	2,310	544	144
14	202	116	148	594	950	856	2,180	3,940	2,950	2,140	512	142
15	178	210	366	375	1,550	844	1,930	3,900	3,130	2,000	477	139
16	108	193	370	294	1,480	862	1,820	4,020	3,320	1,990	455	136
17	97	154	214	254	1,200	950	1,970	4,480	3,160	1,950	422	135
18	91	154	160	551	1,290	1,040	2,180	4,620	2,740	1,900	390	130
19	88	157	149	9,460	1,400	1,080	2,140	4,560	2,840	1,880	357	129
20	80	152	128	3,260	1,200	1,100	2,440	4,530	2,980	1,950	335	130
21	74	138	116	6,440	1,170	1,130	2,890	4,710	2,930	1,850	322	138
22	68	129	121	4,190	1,220	1,040	3,070	4,950	3,110	1,770	302	135
23	64	125	133	1,900	1,290	1,090	2,860	4,530	3,240	1,710	294	128
24	60	123	151	3,230	4,510	1,210	2,420	5,070	3,070	1,580	296	122
25	60	116	349	17,100	5,180	1,340	2,140	5,280	2,820	1,420	296	121
26	57	103	362	10,100	2,800	1,460	2,070	5,190	2,650	1,340	274	116
27	53	97	236	4,760	2,100	1,620	2,200	5,070	2,620	1,300	254	114
28	51	92	218	3,150	2,200	1,800	2,380	5,010	2,520	1,280	238	109
29	48	86	242	2,310	-----	1,960	2,570	5,370	2,440	1,200	224	109
30	78	85	202	1,890	-----	2,170	2,730	5,640	2,480	1,170	216	119
31	95	-----	186	1,600	-----	2,340	-----	5,910	-----	1,170	204	-----
TOTAL	1,924	3,612	5,078	74,066	45,780	40,820	68,130	128,300	102,900	59,800	15,749	4,501
MEAN	62.1	120	164	2,389	1,635	1,317	2,271	4,139	3,430	1,929	508	150
MAX	202	210	370	17,100	5,180	2,340	3,070	5,910	6,030	2,600	1,080	202
MIN	28	69	77	172	950	844	1,800	2,230	2,420	1,170	204	109
AC-FT	3,820	7,160	10,070	146,900	90,800	80,970	135,100	254,500	204,100	118,600	31,240	8,930
CAL YR 1968	TOTAL	96,341	MEAN	263	MAX	1,110	MIN	27	AC-FT	191,100		
WTR YR 1969	TOTAL	550,660	MEAN	1,509	MAX	17,100	MIN	28	AC-FT	1,092,000		

PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1800	11.06	16,900	2-15	1800	6.74	2,440
1-21	1630	9.37	9,400	2-24	2230	9.97	11,900
1-25	0930	12.49	24,200	4-5	1900	8.07	5,310
2-6	1600	6.76	2,460	5-31	2400	8.65	7,050

TULARE LAKE BASIN

11-2101. SOUTH FORK KAWEAH RIVER AT THREE RIVERS, CALIF.

LOCATION.--Lat 36°25'00", long 118°54'48", in SE $\frac{1}{4}$ sec.26, T.17 S., R.28 E., Tulare County, on right bank 200 ft upstream from unnamed tributary, 0.5 mile upstream from mouth, and 1.8 miles southwest of Three Rivers.

DRAINAGE AREA.--86.7 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.22 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 69.3 cfs (50,210 acre-ft per year); median of yearly mean discharges, 45 cfs (32,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,360 cfs Feb. 24 (gage height, 6.87 ft), from rating curve extended as explained below; minimum daily, 0.40 cfs Oct. 1.

Period of record: Maximum discharge, 11,600 cfs Dec. 6, 1966 (gage height, 9.30 ft, in gage well, 10.4 ft, from floodmarks), from rating curve extended above 2,600 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1960-62.

Flood of December 23, 1955, reached a stage of 9.5 ft, from floodmarks (discharge, 10,000 cfs).

REMARKS.--Records good. Several small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	5.8	9.5	24	185	390	337	301	800	400	69	10
2	.56	5.4	10	22	173	345	325	317	814	386	63	10
3	.76	6.2	9.5	22	146	350	400	287	718	376	56	9.0
4	1.0	10	9.5	22	129	300	298	266	694	358	51	8.5
5	1.2	9.0	9.5	24	134	260	624	249	744	341	47	7.5
6	1.2	8.0	9.0	25	343	240	514	273	730	325	41	7.5
7	1.0	7.5	9.0	25	220	220	381	305	706	309	38	8.5
8	1.0	7.5	8.5	24	179	205	337	368	640	301	36	8.5
9	1.2	7.5	8.5	23	165	190	313	422	550	291	33	8.0
10	1.4	8.0	8.5	21	157	192	294	390	376	280	33	7.5
11	1.9	8.5	13	20	157	170	291	376	321	266	48	8.0
12	2.5	10	12	19	197	176	301	363	333	252	37	8.5
13	2.9	14	11	22	200	173	305	405	405	276	30	8.5
14	12	12	14	72	162	157	301	405	526	294	28	8.0
15	15	36	34	56	304	154	259	381	526	239	27	8.0
16	9.6	28	44	40	269	157	239	410	568	223	26	8.5
17	7.4	18	27	33	203	182	239	470	598	200	25	8.0
18	6.2	14	20	79	239	213	259	490	538	185	23	8.5
19	5.9	13	18	2,150	309	223	249	490	562	170	22	8.0
20	5.6	13	17	540	223	236	280	490	598	162	20	8.5
21	5.6	13	14	880	223	256	317	508	622	162	18	9.5
22	5.6	12	14	500	243	229	337	538	616	185	16	12
23	5.3	12	14	200	262	229	325	430	622	141	16	10
24	5.3	12	14	380	1,960	243	294	574	628	124	14	9.5
25	5.0	12	24	3,640	1,830	259	269	634	550	105	13	8.0
26	4.7	10	43	1,500	700	273	243	628	465	94	12	8.0
27	4.4	9.5	27	580	470	287	233	610	450	94	12	7.0
28	3.8	9.5	24	460	550	309	252	616	425	101	11	7.5
29	3.6	8.5	35	345	-----	341	280	658	395	85	11	9.0
30	6.2	8.5	28	266	-----	354	291	682	381	77	11	10
31	8.2	-----	24	216	-----	368	-----	718	-----	72	10	-----
TOTAL	136.42	348.4	562.5	12,230	10,332	7,681	9,387	14,054	16,901	6,874	897	258.0
MEAN	4.40	11.6	18.1	395	369	248	313	453	563	222	28.9	8.60
MAX	15	36	44	3,640	1,960	390	624	718	814	400	69	12
MIN	.40	5.4	8.5	19	129	154	233	249	321	72	10	7.0
AC-FT	271	691	1,120	24,260	20,490	15,240	18,620	27,880	33,520	13,630	1,780	512
CAL YR 1968	TOTAL	12,565.55	MEAN	34.3	MAX	179	MIN	.26	AC-FT	24,920		
WTR YR 1969	TOTAL	79,661.32	MEAN	218	MAX	3,640	MIN	.40	AC-FT	158,000		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	2000	6.68	5,820	4- 3	0300	3.76	628
1-25	1000	6.73	5,960	4- 5	1800	5.24	2,130
2-15	1800	3.71	592	6- 2	0100	4.56	1,030
2-24	2200	6.87	6,360	6-22	2400	4.07	828
2-28	unknown	4.10	870				

TULARE LAKE BASIN

605

11-2108.5, LEMONCOVE DITCH BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'55", long 119°00'22", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., Tulare County, on left bank 250 ft downstream from outlet tunnel of Terminus Dam, and 2.4 miles northeast of Lemoncove.

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 546.3 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--7 years, 4.88 cfs (3,540 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 8.4 cfs many days in 1963, 1964, 1968, 1969; no flow many days in 1962, 1969.

REMARKS.--Records excellent. Ditch receives water from Lake Kaweah (see sta 11-2109) which is used for irrigation. At times, up to 3 cfs is diverted 200 ft upstream into Doffelmyer ditch for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	1.1	1.1	1.2	.10	0	0	3.0	7.0	7.0	8.1	8.3
2	8.1	1.1	1.1	1.2	.10	0	0	3.0	7.0	7.0	8.1	8.4
3	8.0	1.1	1.1	1.2	.10	0	0	3.0	6.9	7.0	8.1	8.4
4	8.1	1.0	1.1	1.2	.10	0	0	3.1	6.9	7.0	8.1	8.4
5	8.1	1.0	1.1	1.3	0	0	0	3.8	6.6	7.0	8.1	8.4
6	8.1	1.1	1.0	1.3	0	0	0	4.8	6.9	7.0	8.1	8.4
7	8.1	1.1	.90	1.3	0	0	0	5.8	7.0	7.0	8.4	8.4
8	8.1	1.1	.90	1.2	0	0	0	6.2	7.0	7.0	8.4	8.4
9	8.2	1.1	1.1	1.2	0	0	0	6.2	3.1	7.0	8.4	8.4
10	8.2	1.1	1.3	1.2	0	0	0	6.2	1.6	7.0	8.4	8.4
11	7.5	1.2	1.3	1.2	0	0	0	6.1	2.0	7.0	8.4	8.4
12	7.1	1.2	1.3	1.2	0	0	0	6.8	2.0	7.0	8.4	8.4
13	7.1	1.2	1.3	1.2	0	0	0	7.2	2.7	7.0	8.4	8.4
14	3.0	1.2	1.3	1.2	0	0	0	7.0	3.0	7.0	8.4	8.3
15	1.0	1.1	1.3	1.3	0	0	0	7.0	4.8	7.0	8.4	8.3
16	1.0	1.1	1.2	1.3	0	0	0	7.0	6.0	7.0	8.4	8.3
17	1.0	1.1	1.2	1.3	0	0	0	7.0	4.0	7.0	8.4	8.3
18	2.2	1.1	1.2	1.4	0	0	0	7.0	3.0	7.0	8.4	8.4
19	3.0	1.1	1.1	1.3	0	0	0	7.0	3.0	7.1	8.4	8.4
20	3.0	1.1	1.1	1.2	0	0	0	7.0	3.0	7.1	8.3	8.4
21	4.2	1.0	1.1	.80	0	0	.60	7.0	3.0	7.1	8.4	8.4
22	5.0	1.0	1.0	.60	0	0	1.0	7.0	5.0	7.1	8.4	8.4
23	5.2	1.1	1.0	.40	0	0	1.0	7.0	6.7	7.1	8.4	8.4
24	5.2	1.1	1.2	.20	0	0	1.0	7.0	7.0	7.1	8.4	8.4
25	5.2	1.1	1.2	.20	0	0	1.6	7.0	7.0	7.1	8.4	8.4
26	5.2	1.1	1.2	.20	0	0	2.6	7.0	7.0	7.1	8.4	8.4
27	5.2	1.1	1.2	.10	0	0	3.0	7.0	7.0	7.1	8.4	8.4
28	5.2	1.1	1.1	.10	0	0	3.0	7.1	7.0	7.8	8.3	8.4
29	5.7	1.1	1.1	.10	-----	0	3.0	7.0	7.0	8.1	8.3	8.4
30	2.7	1.1	1.2	.10	-----	0	3.0	7.0	7.0	8.1	8.3	8.4
31	1.1	-----	1.2	.10	-----	0	-----	7.0	-----	8.1	8.3	-----
TOTAL	166.9	33.0	35.50	27.80	0.40	0	19.80	191.3	157.2	222.0	258.1	251.5
MEAN	5.38	1.10	1.15	.90	.014	0	.66	6.17	5.24	7.16	8.33	8.38
MAX	8.2	1.2	1.3	1.4	.10	0	3.0	7.2	7.0	8.1	8.4	8.4
MIN	1.0	1.0	.90	.10	0	0	0	3.0	1.6	7.0	8.1	8.3
AC-FT	331	65	70	55	.8	0	39	379	312	440	512	499
CAL YR 1968	TOTAL 1,798.00			MEAN 4.91	MAX 8.4	MIN .80	AC-FT 3,570					
WTR YR 1969	TOTAL 1,363.50			MEAN 3.74	MAX 8.4	MIN 0	AC-FT 2,700					

TULARE LAKE BASIN

11-2109. LAKE KAWEAH NEAR LEMONCOVE, CALIF.

LOCATION.--Lat 36°24'53", long 119°00'07", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., Tulare County, in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 miles northeast of Lemoncove.

DRAINAGE AREA.--560 sq mi.

PERIOD OF RECORD.--October 1961 to current year. Fragmentary prior to March 1962. Prior to October 1962, published as Terminus Reservoir near Lemoncove.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to May 22, 1962, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 158,800 acre-ft June 26, 27 (elevation, 698.68 ft); minimum, 7,910 acre-ft Jan. 12 (elevation, 569.43 ft).

Period of record: Maximum contents, 160,200 acre-ft July 3, 4, 1967 (elevation, 699.39 ft), storage increased by a temporary sandbag dam in the ungated spillway; minimum since initial season of operation, 2,870 acre-ft Oct. 11-13, 1962; minimum elevation, 549.62 ft Oct. 13, 1962.

REMARKS.--Reservoir is formed by earthfill dam and earthfill auxiliary dam; completed and storage began in February 1962. Usable capacity, 149,400 acre-ft between elevations 520.0 (invert of outlet structure) and 694.0 ft (spillway crest). Dead storage, 166 acre-ft. Spillway design flood pool elevation, 745.1 ft (capacity, 266,000 acre-ft). Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-Feet)

520	166	580	12,000
525	343	600	22,800
530	598	620	39,400
535	953	640	61,700
540	1,460	660	89,800
550	2,940	680	123,400
560	5,090	700	161,500
570	8,110	720	204,300

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.32	8.05	8.04	8.03	122.8	117.1	84.2	68.9	151.4	155.9	142.8	102.1
2	8.32	8.05	8.02	8.02	117.4	116.0	85.7	69.0	154.6	155.2	142.5	101.5
3	8.33	8.13	8.02	8.02	112.4	115.8	87.6	68.4	156.3	154.7	141.9	100.8
4	8.32	8.32	8.05	8.03	108.8	116.2	88.4	67.5	156.9	154.3	140.9	100.1
5	8.32	8.38	8.04	8.09	106.6	115.6	91.5	66.3	156.9	153.8	139.7	99.0
6	8.31	8.36	8.04	8.12	107.4	114.4	94.2	65.8	156.8	153.0	138.0	97.9
7	8.31	8.30	8.05	8.08	105.6	112.0	94.8	65.9	156.1	152.3	136.0	96.9
8	8.31	8.22	8.03	8.03	102.5	108.6	93.7	67.2	154.6	151.8	134.2	95.6
9	8.31	8.14	8.02	7.99	99.1	105.2	91.9	69.6	152.3	151.3	132.6	94.2
10	8.31	8.06	8.03	7.96	95.0	101.8	90.0	72.7	148.7	151.0	131.1	92.8
11	8.30	8.03	8.16	7.94	90.5	90.1	88.2	75.6	145.0	151.6	129.9	91.6
12	8.30	8.04	8.21	7.91	86.6	94.2	86.9	78.4	143.0	152.2	128.4	90.8
13	8.33	8.14	8.15	7.99	83.5	90.3	85.8	81.3	142.4	153.3	126.6	90.0
14	8.69	8.15	8.19	8.77	81.3	86.9	84.6	84.1	143.2	153.9	124.6	89.3
15	9.04	8.39	8.83	8.51	81.0	83.9	82.7	86.7	144.7	154.2	122.8	88.5
16	9.17	8.59	9.02	8.15	80.7	81.0	80.6	89.8	146.7	154.5	121.5	87.9
17	9.27	8.63	8.50	8.04	79.9	78.3	78.7	93.8	148.6	154.6	120.0	87.3
18	9.36	8.60	8.09	8.31	80.3	76.9	77.4	98.1	149.4	154.6	118.2	86.9
19	9.44	8.52	8.04	33.0	81.1	76.6	75.9	102.1	150.5	154.5	116.2	86.5
20	9.51	8.45	8.05	40.9	81.2	76.3	75.0	106.0	151.9	154.5	114.2	86.1
21	9.40	8.34	8.02	54.6	81.2	76.2	75.1	110.4	153.2	154.6	112.5	85.8
22	9.21	8.23	7.97	63.6	81.5	75.8	75.6	114.5	154.8	154.5	111.2	85.5
23	9.01	8.12	8.00	66.9	82.0	75.4	75.8	117.5	156.6	153.9	110.1	85.2
24	8.80	8.04	8.06	72.9	94.1	75.3	74.9	121.6	158.0	152.7	109.1	85.0
25	8.58	8.02	8.59	117.0	110.5	75.4	73.5	126.2	158.7	151.1	107.9	84.7
26	8.35	8.00	8.78	136.7	115.9	75.7	71.9	130.1	158.8	149.7	106.5	84.5
27	8.10	8.04	8.28	139.8	116.7	76.3	70.5	133.3	158.8	148.6	105.1	84.3
28	8.02	8.10	8.15	139.4	117.3	77.3	69.5	136.4	158.3	147.4	104.1	84.1
29	8.04	8.08	8.28	136.8	-----	78.6	69.0	139.8	157.2	146.1	103.3	83.8
30	8.06	8.05	8.18	132.8	-----	80.4	68.8	143.5	156.5	144.8	103.1	83.1
31	8.10	-----	8.09	128.0	-----	82.4	-----	147.4	-----	143.6	102.7	-----
MAX	9.51	8.63	9.02	139.8	122.8	117.1	94.8	147.4	158.8	155.9	142.8	102.1
MIN	8.02	8.00	7.97	7.91	79.9	75.3	68.8	65.8	142.4	143.6	102.7	83.1
(a)	569.98	569.85	569.96	682.55	676.56	655.16	645.52	692.85	697.49	690.86	668.03	655.58
(b)	-230	-50	+40	+119,910	-10,700	-34,900	-13,600	478,600	+9,100	-12,900	-40,900	-19,600
(c)	164	50	35	56	148	353	473	948	1,180	1,773	1,796	1,228
CAL YR 1968	b	+ 140	MAX	84.2	MIN	7.78						
WTR YR 1969	b	+74,770	MAX	158.8	MIN	7.91						

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation in acre-feet.

11-2109.3. FOOTHILL DITCH BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'48", long 119°00'47", in NE $\frac{1}{4}$ sec.35, T.17 S., R.27 E., Tulare County, on left bank 0.7 mile downstream from Terminus Dam, and 2.1 miles northeast of Lemoncove.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 492.8 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--8 years, 17.5 cfs (12,680 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 50 cfs Feb. 10, 1962; minimum daily, 1.0 cfs Feb. 1-2, 1962.

REMARKS.--Records excellent. Ditch receives water from Lake Kaweah (see sta 11-2109) which is used for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	10	8.4	15	9.1	9.6	16	15	17	19	18
2	12	14	10	8.3	15	9.4	9.6	17	15	21	18	18
3	12	12	10	8.2	14	9.2	9.6	17	16	21	18	18
4	12	12	10	8.2	14	8.9	9.8	17	16	21	18	18
5	12	12	10	8.2	13	9.0	9.8	17	16	21	18	19
6	12	14	9.0	8.4	13	9.1	9.6	17	16	21	19	19
7	12	15	8.9	8.4	14	9.4	9.5	16	16	21	18	19
8	12	15	8.8	8.4	14	9.6	9.7	16	16	22	18	19
9	12	15	8.5	8.0	14	9.6	10	16	16	21	18	20
10	12	15	8.3	8.0	14	9.6	9.8	16	16	21	16	20
11	12	14	8.4	8.0	13	9.6	9.8	16	15	18	19	19
12	12	12	8.6	7.7	12	9.6	9.8	15	15	17	22	18
13	12	12	8.6	7.7	12	9.6	9.8	15	15	18	22	18
14	12	12	8.6	8.3	11	9.6	14	15	14	18	23	18
15	14	11	8.5	9.0	11	9.6	16	15	14	18	22	18
16	14	12	9.2	9.0	11	9.6	16	15	14	18	22	18
17	14	11	9.9	8.4	10	9.6	16	15	14	18	22	18
18	14	12	9.3	8.2	10	9.5	16	15	14	18	22	17
19	14	11	8.5	8.4	9.8	9.4	16	15	14	18	22	17
20	14	11	8.2	8.1	10	9.4	16	15	14	18	22	17
21	15	11	8.2	11	10	9.4	16	15	14	17	22	17
22	15	11	8.2	10	10	9.4	16	16	14	17	22	17
23	15	11	8.1	8.8	10	9.4	16	16	14	18	21	17
24	15	11	7.8	10	9.7	9.4	16	15	14	18	21	17
25	15	11	7.7	8.1	5.9	9.4	16	15	14	18	21	17
26	15	11	8.5	11	6.4	9.4	16	15	15	17	21	17
27	15	10	9.3	13	8.8	9.4	16	15	15	17	21	16
28	14	10	8.8	14	9.0	9.6	16	15	15	18	21	16
29	13	10	8.4	14	-----	9.2	16	15	15	18	19	17
30	13	10	8.5	14	-----	9.2	16	15	15	18	17	18
31	14	-----	8.5	14	-----	9.4	-----	15	-----	18	17	-----
TOTAL	412	362	273.3	293.2	319.6	291.6	396.4	483	446	580	621	535
MEAN	13.3	12.1	8.82	9.46	11.4	9.41	13.2	15.6	14.9	18.7	20.0	17.8
MAX	15	15	10	14	15	9.6	16	17	16	22	23	20
MIN	12	10	7.7	7.7	5.9	8.9	9.5	15	14	17	16	16
AC-FT	817	718	542	582	634	578	786	958	885	1,150	1,230	1,060
CAL YR 1968	TOTAL 5,584.3			MEAN 15.3	MAX 21		MIN 7.7	AC-FT 11,080				
WTR YR 1969	TOTAL 5,013.1			MEAN 13.7	MAX 23		MIN 5.9	AC-FT 9,940				

TULARE LAKE BASIN

11-2109.5. KAWEAH RIVER BELOW TERMINUS DAM, CALIF.

LOCATION.--Lat 36°24'51", long 119°00'42", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.17 S., R.27 E., Tulare County, on left bank 0.6 mile downstream from Terminus Dam, and 2.2 miles northeast of Lemoncove.

DRAINAGE AREA.--561 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 495.90 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE (adjusted for change in contents, evaporation and diversion).--8 years, 752 cfs (544,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,610 cfs June 3 (gage height, 8.77 ft); minimum daily, 2.5 cfs Oct. 2.

Period of record: Maximum discharge, 5,610 cfs June 3, 1969 (gage height, 8.77 ft); no flow at times in most years.

REVISIONS.--The maximum discharge for the water year 1967 has been revised to 5,370 cfs Dec. 8, 1966 (gage height, 8.62 ft), superseding figure published in WRD Calif. 1967.

REMARKS.--Records excellent. Flow regulated by Lake Kaweah (see sta 11-2109). Lemoncove ditch (see sta 11-2108.5) diverts water from Lake Kaweah for irrigation. Foothill ditch (see sta 11-2109.3) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 cfs above the station for irrigation. At times, some of this water is returned to the river above the station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	78	87	218	4,280	2,710	1,600	2,980	4,750	3,240	1,550	480
2	2.5	63	87	192	4,260	2,720	1,700	2,980	4,990	3,180	1,200	520
3	3.9	48	74	184	3,800	2,320	1,730	2,980	5,390	3,060	1,280	518
4	5.8	72	67	189	3,030	1,740	1,760	2,980	5,560	2,910	1,450	534
5	7.5	97	79	189	2,360	1,970	1,800	2,980	5,560	2,910	1,440	676
6	6.9	106	76	221	2,110	2,180	1,810	2,980	5,560	2,910	1,580	716
7	5.6	107	76	263	2,640	2,690	2,050	2,980	5,560	2,860	1,670	689
8	5.7	107	79	264	2,980	2,990	2,760	2,990	5,560	2,690	1,540	813
9	7.0	106	72	245	2,990	2,990	3,000	2,990	5,420	2,590	1,390	890
10	7.2	106	69	222	3,280	2,990	2,990	2,990	5,180	2,450	1,410	884
11	6.4	94	70	198	3,490	3,060	2,990	2,990	4,640	2,020	1,470	763
12	6.4	90	96	186	3,330	3,100	3,000	2,990	3,810	1,900	1,460	566
13	6.9	106	112	171	2,800	3,090	2,990	2,990	3,280	1,990	1,500	484
14	15	114	113	328	2,240	2,750	2,990	3,000	2,950	1,980	1,550	484
15	43	116	127	556	2,030	2,490	2,990	2,990	2,850	1,950	1,400	484
16	55	131	336	495	2,030	2,490	2,990	2,990	2,790	1,940	1,180	449
17	42	139	479	341	1,870	2,500	2,990	2,990	2,750	1,950	1,230	394
18	39	168	352	270	1,510	2,000	2,990	2,990	2,750	1,980	1,330	336
19	38	186	185	596	1,500	1,490	2,980	2,980	2,760	1,970	1,400	309
20	36	186	129	349	1,500	1,490	2,980	2,980	2,770	1,960	1,340	286
21	91	185	128	1,040	1,500	1,490	2,980	2,990	2,780	1,850	1,180	271
22	128	175	128	874	1,500	1,490	2,980	3,280	2,800	1,880	1,040	268
23	129	171	115	469	1,500	1,490	2,980	3,490	2,800	2,040	816	253
24	126	154	114	775	1,200	1,490	2,980	3,490	2,840	2,210	795	232
25	126	126	120	190	43	1,490	2,980	3,490	2,880	2,250	906	216
26	127	108	331	2,380	1,040	1,490	2,980	3,690	2,950	2,050	973	204
27	127	78	478	3,940	2,240	1,500	2,980	4,020	3,000	1,900	953	189
28	76	60	308	3,940	2,580	1,500	2,980	4,000	3,140	1,920	836	191
29	33	78	209	4,040	-----	1,510	2,980	4,270	3,280	1,920	554	245
30	47	87	262	4,220	-----	1,520	2,980	4,520	3,280	1,860	348	425
31	66	-----	242	4,300	-----	1,530	-----	4,770	-----	1,810	368	-----
TOTAL	1,425.1	3,442	5,200	31,845	65,633	66,260	80,890	101,730	114,630	70,130	37,139	13,769
MEAN	46.0	115	168	1,027	2,344	2,137	2,696	3,282	3,821	2,262	1,197	459
MAX	129	186	479	4,300	4,280	3,100	3,000	4,770	5,560	3,240	1,670	890
MIN	2.5	48	67	171	43	1,490	1,600	2,980	2,750	1,810	348	189
AC-FT	2,830	6,830	10,310	63,160	130,200	131,400	160,400	201,800	227,400	139,100	73,620	27,310
MEAN a	63.3	128	179	2,989	2,166	1,585	2,489	4,596	4,015	2,108	592	175
AC-FT a	3,890	7,620	11,000	183,800	120,300	97,450	148,100	282,600	238,900	129,600	36,390	10,430

CAL YR 1968 TOTAL 98,733.1 MEAN 270 MAX 1,360 MIN 2.5 AC-FT 195,800 MEAN a 296 AC-FT a 214,600
WTR YR 1969 TOTAL 592,093.1 MEAN 1,622 MAX 5,560 MIN 2.5 AC-FT 1,174,000 MEAN a 1,754 AC-FT a 1,270,000

a Adjusted for diversion to Lemoncove ditch, Foothill ditch, and change in contents and evaporation from Lake Kaweah.

TULARE LAKE BASIN

609

11-2113. DRY CREEK NEAR LEMONCOVE, CALIF.

LOCATION.--Lat 36°26'51", long 119°01'38", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.17 S., R.27 E., Tulare County, on right bank 0.5 mile downstream from Bequette Canyon, 2.9 miles upstream from mouth, and 4.4 miles north of Lemoncove. Prior to Mar. 8, 1969, at site 1.6 miles downstream.

DRAINAGE AREA.--75.6 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 570 ft (from topographic map). Prior to Mar. 8, 1969, 1.6 miles downstream at different datum.

AVERAGE DISCHARGE.--10 years, 23.1 cfs (16,740 acre-ft per year); median of yearly mean discharge, 7.0 cfs (5,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,070 cfs Jan. 25 (gage height, 5.18 ft, from floodmarks); no flow for many days.

Period of record: Maximum discharge, 14,500 cfs Dec. 6, 1966 (gage height, 7.30 ft in gage well, 8.94 ft, from floodmarks); no flow for several months each year.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	5.3	170	872	140	76	34	14	3.0	.35
2	0	0	0	5.3	130	675	135	73	32	14	3.0	.35
3	0	0	0	5.3	100	540	151	73	30	12	3.0	.25
4	0	0	0	6.1	84	450	120	76	26	12	2.4	.20
5	0	0	0	6.1	100	370	347	73	26	10	1.9	.10
6	0	0	0	5.3	728	340	542	69	29	10	1.9	0
7	0	0	0	5.3	400	300	281	66	32	9.2	2.4	0
8	0	0	0	4.5	200	259	242	65	32	8.6	3.0	0
9	0	0	0	4.5	150	250	202	63	60	8.3	3.5	0
10	0	0	0	3.7	110	245	183	62	72	7.7	3.5	0
11	0	0	0	3.0	93	224	171	60	49	7.1	4.0	0
12	0	0	0	3.0	112	208	161	55	45	6.8	4.0	0
13	0	0	0	4.5	96	211	157	53	38	6.8	4.0	0
14	0	0	0	31	80	189	147	51	29	7.7	3.5	0
15	0	0	.20	20	160	185	137	51	24	6.8	3.0	0
16	0	0	12	11	240	180	127	45	45	6.0	2.4	.02
17	0	0	7.9	7.0	110	177	123	41	49	5.6	1.9	.07
18	0	0	4.5	17	239	177	123	36	36	5.6	1.4	.15
19	0	0	2.1	2,130	425	171	115	36	32	5.4	1.4	.30
20	0	0	1.5	870	310	168	109	36	28	5.4	1.4	.25
21	0	0	1.1	1,450	350	218	109	32	24	5.0	1.2	.45
22	0	0	0	939	325	176	105	32	24	4.8	.80	.55
23	0	0	0	200	500	162	102	29	23	4.4	.65	.55
24	0	0	.28	302	1,820	157	98	28	22	4.2	.55	.55
25	0	0	8.8	3,150	2,740	154	93	26	22	4.2	.45	.35
26	0	0	35	1,130	1,000	154	90	26	19	4.2	.55	.30
27	0	0	16	512	769	151	85	30	18	4.4	.65	.15
28	0	0	7.9	400	810	151	82	40	18	5.4	.65	.10
29	0	0	8.8	300	-----	150	80	40	17	4.4	.65	.10
30	0	0	7.0	230	-----	146	79	38	16	4.2	.65	.10
31	0	-----	5.3	202	-----	143	-----	38	-----	3.6	.55	-----
TOTAL	0	0	118.38	11,962.9	12,351	7,953	4,636	1,519	951	217.8	61.95	5.24
MEAN	0	0	3.82	386	441	257	155	49.0	31.7	7.03	2.00	.17
MAX	0	0	35	3,150	2,740	872	542	76	72	14	4.0	.55
MIN	0	0	0	3.0	80	143	79	26	16	3.6	.45	0
AC-FT	0	0	235	23,730	24,500	15,770	9,200	3,010	1,890	432	123	10
CAL YR 1968	TOTAL	1,037.72	MEAN	2.84	MAX	35	MIN	0	AC-FT	2,060		
WTR YR 1969	TOTAL	39,776.27	MEAN	109	MAX	3,150	MIN	0	AC-FT	78,900		

PEAK DISCHARGE (BASE, 50 CFS).--Peaks occurred during period of no gage-height record, Jan. 19 to Mar. 7.

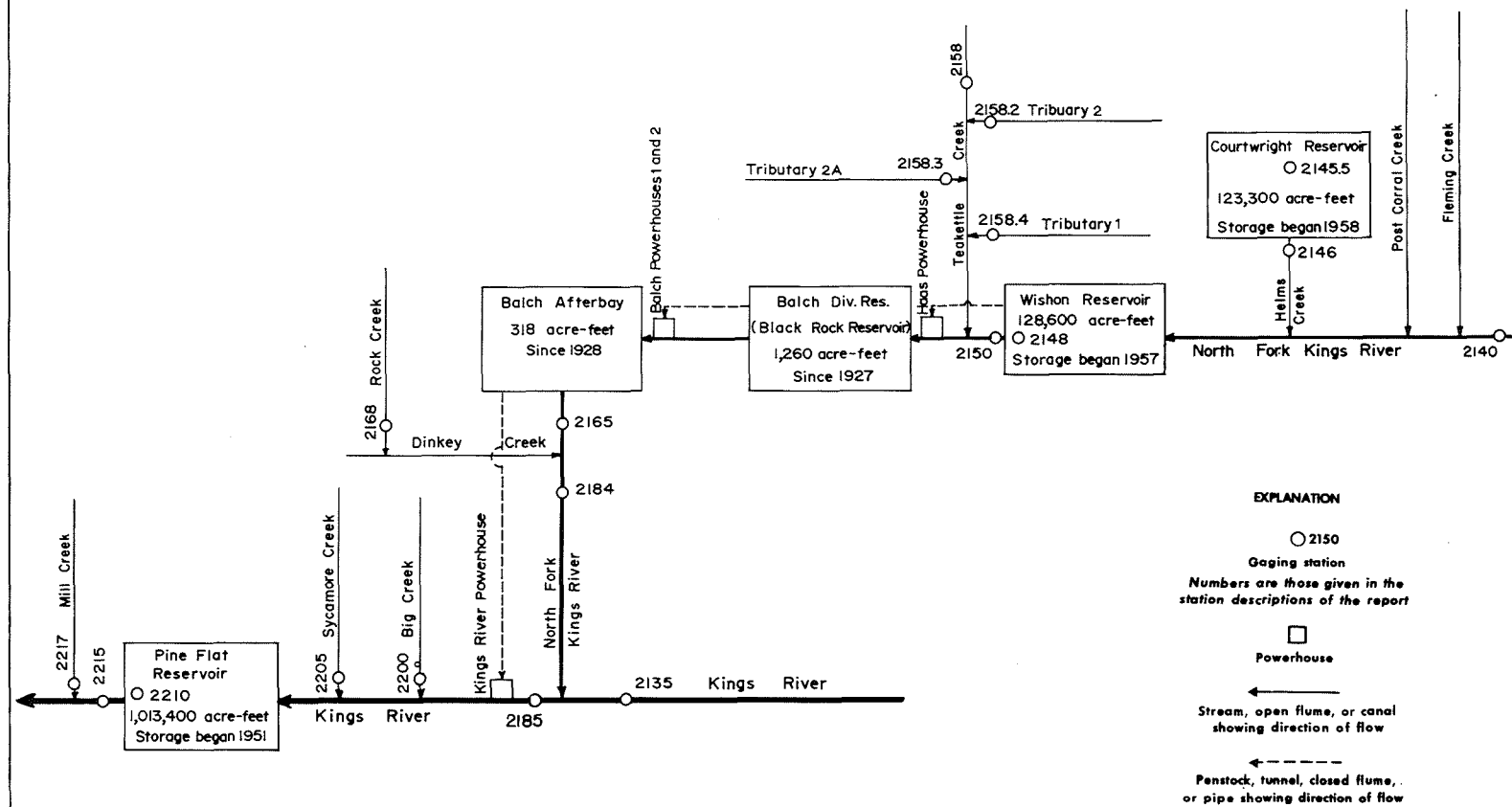


FIGURE 5.--Schematic diagram showing diversions and storage in Kings River basin.

11-2135. KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°51'48", long 119°07'24", in NE $\frac{1}{4}$ sec.27, T.12 S., R.26 E., Fresno County, on right bank at Rogers Crossing, 0.9 mile upstream from North Fork, 2.9 miles south of Balch Camp, and 9.6 miles southeast of Trimmer.

DRAINAGE AREA.--952 sq mi.

PERIOD OF RECORD.--October 1926 to December 1928, October 1931 to current year. Prior to September 1965, published as Kings River above North Fork. Monthly figures only for some periods published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 1,001.5 ft above mean sea level (river-profile survey). March 1927 to December 1928, at site 0.5 mile downstream at different datum. October 1931 to September 1965, on left bank at datum 2.00 ft higher.

AVERAGE DISCHARGE.--40 years, 1,453 cfs (1,053,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 35,000 cfs Jan. 25 (gage height, 14.00 ft, from floodmarks), from rating curve extended as explained below; minimum daily, 107 cfs Oct. 4-12.

Period of record: Maximum discharge, 59,100 cfs Dec. 23, 1955 (gage height, 18.26 ft, present datum), from rating curve extended above 12,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 70 cfs Jan. 14, 1963.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. No diversion or regulation above station. See schematic diagram of Kings River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	217	272	461	1,700	2,050	3,860	6,080	17,600	8,900	5,040	980
2	110	204	257	444	1,420	1,790	3,770	6,210	17,900	8,870	4,700	972
3	109	283	245	435	1,080	1,720	3,750	5,700	17,100	8,710	4,290	972
4	107	404	249	457	939	1,540	3,320	5,120	15,900	8,520	4,340	972
5	107	348	238	480	953	1,450	3,910	4,600	15,100	8,320	4,050	930
6	107	321	224	510	1,320	1,430	3,790	5,070	14,900	8,260	3,340	895
7	107	302	224	510	1,100	1,330	3,180	6,020	14,100	8,040	2,860	937
8	107	291	220	500	957	1,250	2,970	7,240	13,000	7,810	2,620	972
9	107	283	211	490	888	1,220	2,860	8,450	10,800	7,910	2,510	965
10	107	302	211	452	824	1,200	2,840	9,570	7,650	8,070	2,880	916
11	107	314	314	426	778	1,110	3,100	10,100	6,440	7,880	3,720	869
12	107	367	241	408	811	1,080	3,550	9,410	6,600	7,880	3,280	869
13	112	386	238	573	777	1,060	3,920	9,860	7,200	9,120	2,720	850
14	325	340	357	1,120	723	1,020	3,920	9,990	9,060	8,550	2,510	810
15	352	478	593	798	1,400	1,040	3,440	9,380	10,100	7,750	2,370	772
16	257	452	648	668	1,270	1,120	3,260	9,540	10,000	7,560	2,310	732
17	234	430	435	593	886	1,260	3,380	10,400	8,160	7,360	2,240	642
18	234	426	371	968	910	1,430	3,770	11,100	7,040	7,300	2,110	587
19	238	430	367	10,400	895	1,530	3,860	10,800	8,610	7,780	1,920	570
20	230	422	329	4,200	832	1,550	4,480	10,400	10,200	7,910	1,800	553
21	224	400	287	8,480	797	1,590	5,260	10,800	10,300	8,390	1,670	542
22	217	386	310	4,890	770	1,510	6,020	11,900	10,600	7,910	1,580	515
23	211	378	325	2,540	779	1,580	5,990	11,700	11,500	7,110	1,500	500
24	201	378	477	2,880	3,900	1,710	4,890	12,700	10,600	6,720	1,500	480
25	198	352	824	18,800	3,780	1,860	4,310	13,900	10,300	6,150	1,500	466
26	198	314	648	13,800	2,380	2,000	4,170	14,100	8,900	5,370	1,430	457
27	198	306	548	6,210	2,160	2,200	4,360	13,800	8,610	5,120	1,310	448
28	193	287	575	4,050	2,230	2,480	4,730	13,300	8,260	4,730	1,220	444
29	190	264	558	2,970	-----	2,860	5,230	14,300	7,880	5,320	1,130	430
30	217	264	505	2,310	-----	3,220	5,670	15,400	8,520	5,230	1,080	439
31	224	-----	470	1,880	-----	3,660	-----	16,400	-----	5,150	1,010	-----
TOTAL	5,547	10,329	11,771	93,703	37,259	51,850	121,560	313,340	322,930	229,700	76,540	21,486
MEAN	179	344	380	3,023	1,331	1,673	4,052	10,110	10,760	7,410	2,469	716
MAX	352	478	824	18,800	3,900	3,660	6,020	16,400	17,900	9,120	5,040	980
MIN	107	204	211	408	723	1,020	2,840	4,600	6,440	4,730	1,010	430
AC-FT	11,000	20,490	23,350	185,900	73,900	102,800	241,100	621,500	640,500	455,600	151,800	42,620
CAL YR 1968	TOTAL	301,018	MEAN	822	MAX	4,600	MIN	107	AC-FT	597,100		
WTR YR 1969	TOTAL	1,296,015	MEAN	3,551	MAX	18,800	MIN	107	AC-FT	2,571,000		

PEAK DISCHARGE (BASE, 6,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	unknown	10.40	17,300	6- 2	0300	11.43	19,600
1-25	unknown	14.00	35,000	6-15	0400	9.15	11,100
4-22	2300	7.30	6,400	6-23	0400	9.54	13,300

NOTE.--No gage-height record Jan. 24-29, Feb. 2-25.

11-2140. NORTH FORK KINGS RIVER BELOW MEADOW BROOK, CALIF.

LOCATION.--Lat 37°04'53", long 118°51'43", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.12, T.10 S., R.28 E., Fresno County, Sierra National Forest, on left bank 800 ft downstream from Nichols Canyon, 0.6 mile downstream from Meadow Brook, 3.9 miles west of Blackcap Mountain, 5.9 miles east of Courtright Dam, and 23 miles southeast of town of Huntington Lake.

DRAINAGE AREA.--37.7 sq mi.

PERIOD OF RECORD.--October 1921 to September 1935, October 1956 to current year. Monthly discharge only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Records for Jan. 1-23, and Dec. 1-21, 1934, published in WSP 551 and 766, respectively, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 8,144.66 ft above mean sea level, unadjusted (levels by Pacific Gas and Electric Co.).

AVERAGE DISCHARGE.--27 years, 71.6 cfs (51,870 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,040 cfs June 2 (gage height, 5.65 ft), from rating curve extended above 800 cfs; minimum daily, 1.1 cfs Oct. 1-3, 8-11.

Period of record: Maximum discharge, 2,040 cfs June 2, 1969 (gage height, 5.65 ft), from rating curve extended above 800 cfs; minimum recorded, 0.3 cfs Sept. 12-14, 1924.

Flood of Dec. 23, 1955, reached a stage of 5.85 ft, from floodmarks (discharge, 2,000 cfs).

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record, seven discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1315-A: 1922(M). WSP 1515: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	10	12	20	35	27	114	327	1,500	637	169	12
2	1.1	17	12	20	34	25	101	314	1,500	616	152	12
3	1.1	44	11	18	26	24	81	266	1,500	596	132	12
4	1.2	35	11	19	25	23	79	229	1,270	570	123	12
5	1.2	26	9.9	20	24	23	80	227	1,230	551	112	12
6	1.2	20	9.9	23	23	22	83	298	1,120	527	91	12
7	1.2	19	9.5	25	26	20	86	436	1,070	491	79	14
8	1.1	23	9.1	25	28	19	88	515	836	497	70	13
9	1.1	29	8.7	23	26	19	93	576	589	503	67	15
10	1.1	27	8.3	21	25	19	97	623	406	509	87	15
11	1.1	25	9.1	20	23	18	119	576	381	521	126	14
12	1.2	28	11	20	23	18	140	551	436	533	101	13
13	6.1	24	12	21	22	18	150	616	603	716	77	12
14	22	20	13	27	22	18	140	623	694	564	66	11
15	12	23	22	28	23	18	130	596	701	491	61	10
16	13	31	35	25	25	18	140	630	623	463	57	9.9
17	16	31	37	23	26	20	150	686	463	426	53	9.5
18	15	33	29	22	26	22	171	694	469	442	47	9.1
19	13	31	20	25	26	22	199	658	576	458	44	8.7
20	11	28	19	35	24	22	229	672	658	431	38	8.7
21	10	27	17	140	22	22	251	731	672	527	34	8.7
22	9.1	28	16	110	22	22	254	803	731	503	31	7.9
23	8.7	27	15	80	22	23	260	845	731	349	28	7.5
24	9.1	23	16	120	35	26	251	1,030	716	298	26	7.2
25	9.5	17	22	200	40	31	199	1,060	694	246	26	6.8
26	9.5	17	35	230	35	31	194	1,030	596	214	24	6.4
27	9.1	15	42	120	30	41	194	1,030	576	201	21	6.1
28	8.7	12	36	85	26	57	211	1,030	533	254	18	5.7
29	8.7	12	31	90	-----	70	269	1,130	539	254	16	6.1
30	12	12	26	67	-----	79	302	1,260	583	211	14	6.4
31	14	-----	22	47	-----	99	-----	1,390	-----	189	13	-----
TOTAL	230.2	714	586.5	1,749	744	916	4,855	21,452	22,996	13,788	2,003	303.7
MEAN	7.43	23.8	18.9	56.4	26.6	29.5	162	692	767	445	64.6	10.1
MAX	22	44	42	230	40	99	302	1,390	1,500	716	169	15
MIN	1.1	10	8.3	18	22	18	79	227	381	189	13	5.7
AC-FT	457	1,420	1,160	3,470	1,480	1,820	9,630	42,550	45,610	27,350	3,970	602
CAL YR 1968	TOTAL 16,566.4		MEAN 45.3		MAX 358	MIN 1.0		AC-FT 32,860				
WTR YR 1969	TOTAL 70,337.4		MEAN 193		MAX 1,500	MIN 1.1		AC-FT 139,500				

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-10	2000	4.43	665	7-1	2100	4.63	819
6-2	2030	5.65	2,040	7-13	2000	5.08	1,260
6-15	2000	4.63	819	7-18	2130	4.68	862
6-22	2130	4.84	1,010	7-21	2130	5.27	1,490

11-2146. HELMS CREEK BELOW COURTRIGHT DAM, CALIF.

LOCATION.--Lat 37°04'35", long 118°58'04", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.7, T.10 S., R.28 E., Fresno County, Sierra National Forest, on left bank 500 ft downstream from Courtright Dam, 2.5 miles upstream from North Fork Kings River, and 17 miles southeast of town of Huntington Lake.

DRAINAGE AREA.--39.7 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder and broad-crested weir with V-notch. Altitude of gage is 7,840 ft (from Pacific Gas and Electric Co. survey).

AVERAGE DISCHARGE (adjusted for storage).--11 years, 79.7 cfs (57,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,340 cfs Aug. 29 (gage height, 5.81 ft); minimum daily, 0.70 cfs Nov. 8.

Period of record: Maximum discharge, 1,340 cfs Aug. 29, 1969 (gage height, 5.81 ft); maximum gage height, 6.52 ft June 2, 1961; minimum daily discharge, 0.70 cfs Nov. 8, 1968.

REMARKS.--Records good. Flow regulated by Courtright Reservoir 500 ft upstream since October 1958 (see sta 11-2145.5). No diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record, 12 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1715: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.4	9.0	10	15	15	17	20	53	119	117	893
2	5.9	14	9.0	10	15	15	17	21	55	119	117	901
3	5.9	79	9.0	10	15	16	20	21	57	142	116	885
4	5.9	33	10	10	15	16	21	21	59	116	116	925
5	5.9	22	10	10	15	16	19	21	61	116	117	925
6	5.9	8.8	10	10	15	16	18	22	62	116	117	909
7	5.8	5.1	10	10	15	16	17	22	64	117	117	933
8	5.9	.70	10	10	15	16	17	22	66	113	119	917
9	5.9	1.2	10	10	15	16	18	22	69	113	119	901
10	5.9	2.9	10	10	15	16	18	23	72	113	119	909
11	5.9	3.1	10	10	15	16	18	23	74	113	119	925
12	6.2	3.6	10	10	15	16	18	24	75	113	119	917
13	10	4.0	10	10	15	16	18	24	77	113	119	893
14	30	4.1	10	10	15	16	18	25	80	114	119	893
15	18	3.9	10	10	15	14	18	25	85	116	119	893
16	12	4.1	10	10	15	14	18	26	88	116	119	862
17	11	4.4	10	10	15	14	19	27	90	116	119	885
18	10	4.7	10	10	15	14	19	28	91	117	119	893
19	9.3	5.3	10	18	15	14	19	29	92	117	119	917
20	8.5	6.0	10	17	15	14	19	31	95	117	119	901
21	8.0	6.5	10	17	15	16	20	32	98	117	119	901
22	7.4	7.1	10	17	15	15	20	33	101	117	349	832
23	7.1	7.5	10	17	15	14	20	35	104	117	901	925
24	6.9	7.8	10	16	15	14	20	37	107	117	917	893
25	6.8	8.1	10	16	15	15	20	39	110	117	862	893
26	6.8	8.4	10	15	15	16	20	41	113	117	855	893
27	6.8	8.7	10	15	15	16	20	44	117	117	901	855
28	6.6	8.7	10	15	15	16	20	46	117	117	855	885
29	6.6	9.0	10	15	-----	17	20	48	116	117	986	825
30	7.0	9.0	10	15	-----	17	20	50	117	117	974	727
31	6.6	-----	10	15	-----	17	-----	51	-----	117	941	-----
TOTAL	256.5	296.10	307.0	388	420	479	566	933	2,565	3,623	11,024	26,706
MEAN	8.27	9.87	9.90	12.5	15.0	15.5	18.9	30.1	85.5	117	356	890
MAX	30	79	10	18	15	17	21	51	117	142	986	933
MIN	5.8	.70	9.0	10	15	14	17	20	53	113	116	727
AC-FT	509	587	609	770	833	950	1,120	1,850	5,090	7,190	21,870	52,970
CAL YR 1968	TOTAL 41,892.90			MEAN 114		MAX 625		MIN .70		AC-FT 83,090		
WTR YR 1969	TOTAL 47,563.60			MEAN 130		MAX 986		MIN .70		AC-FT 94,340		

TULARE LAKE BASIN

RESERVOIRS IN TULARE LAKE BASIN, CALIF.

11-2145.5. COURTRIGHT RESERVOIR.--Lat 37°04'40", long 118°58'05", in NW $\frac{1}{4}$ sec.7, T.10 S., R.28 E., Fresno County, Sierra National Forest, at left end of dam on Helms Creek, 2.5 miles upstream from mouth, 4.6 miles east of Nelson Mountain, and 9.7 miles west of Blackcap Mountain. Drainage area, 39.7 sq mi. Period of record, October 1958 to current year. Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Extremes for current year: Maximum contents, 108,900 acre-ft July 23 (elevation, 8,174.80 ft); no contents Oct. 1 to Nov. 5. Extremes for period of record: Maximum contents, 124,200 acre-ft July 13, 1967 (elevation, 8,184.55 ft); no contents in 1961-62, 1968.

Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,300 acre-ft between elevations 7,902 (invert of tunnel) and 8,184 ft (elevation of spillway). Dead storage negligible. See schematic diagram of Kings River basin. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

11-2148. WISHON RESERVOIR.--Lat 37°00'20", long 118°58'00", in NW $\frac{1}{4}$ sec.6, T.11 S., R.28 E., Fresno County, Sierra National Forest, on right end of dam on North Fork Kings River, 1.2 miles north of Cliff Camp, 1.3 miles upstream from Cliff Camp gaging station, and 20 miles southeast of town of Big Creek. Drainage area, 177 sq mi. Period of record, December 1957 to current year. Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Extremes for current year: Maximum contents, 129,100 acre-ft July 4 (elevation, 6,550.51 ft); minimum, 11,900 acre-ft Mar. 6 (elevation, 6,385.75 ft). Extremes for period of record: Maximum contents, 129,700 acre-ft July 29, 1958 (elevation, 6,551.1 ft); no contents in 1960.

Reservoir is formed by rockfill dam completed in 1957. Capacity, 128,600 acre-ft between elevations 6,317 (bottom of slide gates) and 6,550 ft (operating crest of spillway gates). Dead storage negligible. Water is diverted to Haas powerhouse for power. See schematic diagram of Kings River basin. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

MONTH-END ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Courtright Reservoir				Wishon Reservoir		
Sept. 30.....	7,902.2	0	-	6,509.6	90,600	-
Oct. 31.....	7,902.2	0	0	6,480.2	66,400	-24,200
Nov. 30.....	7,964.0	562	+562	6,464.7	55,100	-11,300
Dec. 31.....	7,968.0	676	+114	6,439.0	38,900	-16,200
CAL YR 1968.....	-	-	-64,620	-	-	+28,400
Jan. 31.....	7,974.3	884	+208	6,434.3	36,200	-2,700
Feb. 28.....	7,986.5	1,420	+536	6,388.8	13,300	-22,900
Mar. 31.....	7,994.2	1,870	+450	6,389.8	13,700	+400
Apr. 30.....	8,053.7	10,500	+8,630	6,395.6	16,300	+2,600
May 31.....	8,139.0	63,800	+53,300	6,495.1	78,300	+62,000
June 30.....	8,170.9	103,200	+39,400	6,550.0	128,600	+50,300
July 31.....	8,174.3	108,100	+4,900	6,545.8	124,400	-4,200
Aug. 31.....	8,160.5	88,800	-19,300	6,520.8	100,600	-23,800
Sept. 30.....	8,106.5	35,800	-53,000	6,534.2	112,900	+12,300
WTR YR 1969.....	-	-	+35,800	-	-	+22,300

11-2150. NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CALIF.

LOCATION.--Lat 36°59'38", long 118°58'49", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.12, T.11 S., R.27 E., Fresno County, Sierra National Forest, on right bank at Cliff Camp Bridge, 1 mile northwest of Cliff Camp, 1.2 miles downstream from Wishon Dam, and 2 miles downstream from Woodchuck Creek.

DRAINAGE AREA.--181 sq mi.

PERIOD OF RECORD.--August 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 6,143.95 ft above mean sea level, adjustment of 1912 (levels by San Joaquin Light and Power Corp.). Prior to Nov. 24, 1922, at site 1 mile upstream at different datum.

AVERAGE DISCHARGE (adjusted for storage and diversion).--48 years, 365 cfs (264,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,460 cfs June 8 (gage height, 9.24 ft); minimum daily, 8.0 cfs Mar. 13, 14.

Period of record (prior to regulation by Wishon Reservoir): Maximum discharge, 14,000 cfs Dec. 11, 1937 (gage height, 18.0 ft, from floodmarks), from rating curve extended above 4,200 cfs on basis of velocity-area studies; minimum, 0.6 cfs Dec. 30, 1930.

1957 to current year: Maximum discharge, 4,880 cfs May 28, 1958 (gage height, 11.75 ft); minimum daily, 0.8 cfs Dec. 14, 1957.

REMARKS.--Records good. Flow regulated by Wishon Reservoir 1.2 miles upstream since Dec. 5, 1957 (see sta 11-2148) and Courtright Reservoir since Oct. 17, 1958 (see sta 11-2145.5). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record, nine discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1715: 1951, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	9.0	9.8	16	11	48	786	42	1,300	18	15
2	13	11	9.0	9.8	16	10	38	913	42	1,240	18	14
3	13	14	8.7	10	15	10	31	989	48	782	18	15
4	13	11	8.5	11	15	9.2	33	971	52	861	17	17
5	13	11	8.5	12	15	8.7	37	975	51	1,070	17	18
6	13	10	8.3	13	17	9.0	29	975	50	971	17	18
7	12	10	8.3	13	16	8.5	23	994	1,240	730	17	18
8	12	10	8.3	12	14	8.3	23	1,020	2,340	619	16	18
9	12	10	8.3	11	13	8.5	25	1,060	1,660	666	16	18
10	12	10	8.7	9.8	13	8.3	33	1,090	1,130	666	16	18
11	12	10	11	9.2	13	8.0	43	1,120	1,020	666	16	18
12	12	12	9.0	9.5	13	8.3	53	1,160	994	616	16	18
13	13	10	8.5	42	12	8.0	48	1,170	1,110	541	15	18
14	14	10	9.5	26	12	8.0	34	1,250	1,330	685	15	18
15	12	12	20	17	12	9.0	28	1,380	1,520	575	15	18
16	12	12	14	13	11	11	36	1,420	1,600	425	15	17
17	12	12	11	12	11	14	48	1,470	1,550	117	16	17
18	12	12	10	13	11	15	48	1,480	1,380	45	16	17
19	12	11	10	183	10	16	53	1,350	1,120	199	16	17
20	12	10	9.2	86	9.5	15	64	1,280	1,110	85	16	17
21	11	9.8	8.7	211	9.5	14	70	1,300	1,220	21	16	16
22	11	9.5	8.5	46	9.5	15	185	1,320	1,290	239	15	15
23	11	9.5	9.2	26	9.8	19	347	1,340	1,510	233	15	15
24	11	9.5	12	31	12	21	328	1,360	1,640	21	16	15
25	11	9.5	11	379	25	23	177	1,390	1,470	20	16	15
26	11	9.2	10	199	13	26	42	1,410	1,120	19	15	15
27	11	9.0	9.2	42	11	31	49	1,430	734	20	15	15
28	11	9.0	9.2	27	10	36	58	1,450	844	19	15	15
29	11	8.7	9.0	23	-----	41	65	1,480	882	19	15	15
30	12	8.7	9.2	20	-----	49	472	895	1,000	19	16	15
31	11	-----	9.5	18	-----	55	-----	44	-----	18	16	-----
TOTAL	371	310.4	303.3	1,544.1	364.3	533.8	2,568	36,272	31,099	13,507	496	495
MEAN	12.0	10.3	9.78	49.8	13.0	17.2	85.6	1,170	1,037	436	16.0	16.5
MAX	14	14	20	379	25	55	472	1,480	2,340	1,300	18	18
MIN	11	8.7	8.3	9.2	9.5	8.0	23	44	42	18	15	14
AC-FT	736	616	602	3,060	723	1,060	5,090	71,950	61,680	26,790	984	982
CAL YR 1968	TOTAL	4,528.8	MEAN	12.4	MAX	33	MIN	7.8	AC-FT	8,980		
WTR YR 1969	TOTAL	87,863.9	MEAN	241	MAX	2,340	MIN	8.0	AC-FT	174,300		

TULARE LAKE BASIN

11-2158. TEAKETTLE CREEK AT SITE NO. 3, NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'40", long 119°01'35", in NE¼ sec.21, T.11 S., R.27 E., Fresno County, Sierra National Forest, on left bank 1.6 miles east of Patterson Mountain, 1.8 miles upstream from mouth, and 2.9 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.86 sq mi.

PERIOD OF RECORD.--October 1957 to September 1969 (discontinued).

GAGE.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,705.4 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

AVERAGE DISCHARGE.--12 years, 1.43 cfs (1,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 29.5 cfs Jan. 25 (gage height, 2.66 ft); minimum daily, 0.17 cfs Oct. 11.

Period of record: Maximum discharge, 99.0 cfs Feb. 1, 1963 (gage height, 3.81 ft); minimum daily, 0.08 cfs Sept. 6, 12-15, 1961.

REMARKS.--Records good. No diversion or regulation above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.27	.27	.36	2.70	1.20	2.88	6.26	22.3	7.62	2.49	1.18
2	.20	.32	.27	.36	2.55	1.10	2.74	6.05	22.0	7.38	2.42	1.18
3	.20	.74	.27	.36	2.30	1.10	2.55	5.63	22.0	7.03	2.36	1.14
4	.21	.42	.29	.36	2.14	1.10	2.49	5.44	21.4	6.81	2.25	1.14
5	.21	.34	.27	.36	2.02	1.14	2.55	5.84	20.7	6.47	2.19	1.14
6	.21	.31	.29	.38	1.92	1.10	2.36	6.69	19.8	6.15	2.14	1.10
7	.20	.31	.29	.40	1.81	1.10	2.30	7.86	19.2	6.05	2.08	1.10
8	.18	.29	.27	.40	1.76	1.10	2.30	8.88	17.4	5.84	2.02	1.06
9	.18	.29	.27	.42	1.66	1.10	2.25	9.94	16.8	5.53	1.97	1.06
10	.18	.29	.29	.42	1.62	1.10	2.25	10.8	14.7	5.44	1.97	1.03
11	.17	.27	.31	.42	1.56	1.10	2.49	11.4	13.7	5.24	1.92	1.03
12	.20	.49	.29	.42	1.52	1.10	2.88	12.4	13.0	5.89	1.86	.99
13	.62	.36	.29	1.27	1.48	1.10	3.08	13.0	13.6	5.34	1.81	.99
14	1.03	.32	.29	.92	1.43	1.10	3.08	12.9	13.9	4.77	1.76	.99
15	.34	.38	.54	.73	1.39	1.06	2.81	12.5	15.1	4.50	1.71	.96
16	.29	.32	.40	.67	1.34	1.06	2.94	13.0	14.9	4.33	1.71	.96
17	.27	.32	.36	.67	1.34	1.10	3.22	13.9	13.2	4.16	1.66	.96
18	.26	.40	.36	.67	1.30	1.10	3.44	14.4	13.0	4.00	1.62	.92
19	.26	.40	.36	7.88	1.30	1.14	3.67	14.4	12.9	3.83	1.56	.96
20	.24	.38	.36	3.33	1.26	1.14	4.50	14.2	12.4	3.67	1.52	.99
21	.24	.36	.36	7.74	1.22	1.10	5.05	14.9	11.8	3.60	1.48	.99
22	.24	.34	.36	3.38	1.22	1.14	5.15	15.9	11.8	3.44	1.43	.92
23	.23	.34	.36	2.36	1.22	1.26	4.96	16.8	11.6	3.30	1.43	.89
24	.23	.32	.36	2.40	1.39	1.30	4.42	17.6	10.9	3.22	1.39	.86
25	.23	.29	.36	22.1	1.30	1.39	4.00	18.0	10.1	3.08	1.34	.82
26	.23	.29	.36	12.8	1.20	1.52	4.00	18.4	9.68	3.37	1.34	.82
27	.23	.29	.36	6.34	1.10	1.62	4.33	19.0	9.15	3.08	1.30	.79
28	.23	.27	.36	5.00	1.10	1.81	4.77	18.6	8.62	2.88	1.30	.79
29	.24	.27	.36	4.00	-----	2.02	5.44	19.2	8.24	2.74	1.30	.86
30	.41	.27	.36	3.40	-----	2.30	5.84	20.5	7.99	2.68	1.26	.79
31	.29	-----	.36	3.00	-----	2.68	-----	21.8	-----	2.55	1.22	-----
TOTAL	8.45	10.26	10.30	93.32	44.15	40.28	104.74	406.19	431.88	143.99	53.81	29.41
MEAN	.273	.342	.332	3.01	1.58	1.30	3.49	13.1	14.4	4.64	1.74	.980
MAX	1.03	.74	.54	22.1	2.70	2.68	5.84	21.8	22.3	7.62	2.49	1.18
MIN	.17	.27	.27	.36	1.10	1.06	2.25	5.44	7.99	2.55	1.22	.79
AC-FT	16.8	20.4	20.4	185	87.6	79.9	208	806	857	286	107	58.3
CAL YR 1968	TOTAL	214.59	MEAN	.586	MAX	1.66	MIN	0.16	AC-FT	426		
WTR YR 1969	TOTAL	1,376.78	MEAN	3.77	MAX	22.3	MIN	.17	AC-FT	2,730		

11-2158.2. TEAKETTLE CREEK TRIBUTARY NO. 2 NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'35", long 119°02'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.11 S., R.27 E., Fresno County, Sierra National Forest, on right bank 0.8 mile upstream from junction with Teakettle Creek, 1.2 miles east of Patterson Mountain, and 2.8 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.85 sq mi.

PERIOD OF RECORD.--October 1957 to September 1969 (discontinued).

GAGE.--Water-stage recorder, sharp-crested 90° V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,905.4 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 2.00 ft lower.

AVERAGE DISCHARGE.--12 years, 1.24 cfs (898 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 25.9 cfs June 3 (gage height, 2.57 ft); maximum gage height, 2.77 ft May 18 (backwater from debris); minimum daily, 0.14 cfs Oct. 1-11.
Period of record: Maximum discharge, 70.2 cfs Dec. 6, 1966 (gage height, 3.62 ft); minimum, 0.04 cfs Dec. 5, 1957, Sept. 12, 1961.

REMARKS.--Records good. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yields. See schematic diagram of Kings River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.20	.20	.21	1.38	.79	2.08	4.42	22.0	9.94	2.30	.92
2	.14	.24	.20	.23	1.30	.76	2.02	4.50	22.3	9.54	2.19	.92
3	.14	.58	.20	.23	1.22	.76	1.86	4.33	22.3	9.15	2.08	.89
4	.14	.29	.20	.24	1.18	.76	1.71	4.08	21.8	8.75	2.02	.89
5	.14	.24	.20	.24	1.06	.76	1.76	4.08	21.4	8.36	1.92	.86
6	.14	.21	.20	.26	1.06	.73	1.66	4.68	20.7	7.86	1.86	.86
7	.14	.21	.21	.26	.99	.73	1.62	5.44	19.8	7.50	1.81	.86
8	.14	.21	.20	.26	.99	.73	1.62	6.36	17.6	7.27	1.76	.82
9	.14	.21	.20	.26	.92	.73	1.62	7.62	16.1	6.69	1.71	.79
10	.14	.21	.20	.24	.92	.73	1.62	9.02	14.2	6.47	1.71	.79
11	.14	.20	.21	.23	.89	.73	1.81	9.54	12.9	6.15	1.62	.76
12	.15	.34	.23	.21	.89	.70	2.08	10.3	12.2	6.05	1.56	.76
13	.52	.26	.21	.90	.86	.70	2.19	12.2	13.6	5.84	1.52	.76
14	.91	.21	.21	.56	.86	.70	2.19	12.4	14.7	5.44	1.48	.76
15	.27	.29	.34	.42	.89	.70	2.02	12.2	15.9	5.05	1.43	.73
16	.23	.26	.27	.34	.86	.73	2.08	12.2	14.9	4.68	1.43	.73
17	.20	.27	.24	.36	.86	.76	2.36	12.9	13.4	4.50	1.39	.70
18	.20	.31	.24	.44	.82	.79	2.49	13.0	14.6	4.33	1.34	.67
19	.18	.29	.23	4.11	.82	.79	2.81	12.5	14.4	4.08	1.30	.70
20	.18	.27	.23	2.42	.82	.82	3.22	12.6	14.2	3.83	1.26	.73
21	.18	.26	.23	3.75	.79	.79	4.08	13.2	13.7	3.67	1.22	.70
22	.17	.24	.23	1.52	.79	.79	3.01	14.4	14.6	3.52	1.18	.67
23	.17	.26	.24	1.10	.79	.82	2.81	15.5	14.2	3.30	1.14	.64
24	.17	.24	.26	1.32	.82	.92	2.62	16.8	13.4	3.15	1.10	.64
25	.17	.21	.24	13.3	.82	.99	2.34	17.6	12.4	2.94	1.10	.62
26	.17	.21	.26	8.42	.79	1.06	2.36	18.0	11.7	3.15	1.06	.59
27	.17	.21	.24	3.66	.76	1.18	2.62	18.2	11.2	2.94	1.06	.59
28	.16	.21	.23	2.49	.79	1.30	2.88	18.0	10.5	2.68	1.03	.59
29	.17	.21	.21	2.02	-----	1.43	3.37	19.0	10.2	2.62	1.03	.62
30	.29	.20	.21	1.71	-----	1.62	3.75	19.8	10.1	2.49	.99	.59
31	.21	-----	.21	1.56	-----	1.92	-----	21.4	-----	2.36	.96	-----
TOTAL	6.41	7.55	6.98	53.27	25.94	27.72	70.66	366.27	461.0	164.30	45.56	22.15
MEAN	.207	.252	.225	1.72	.926	.894	2.36	11.8	15.4	5.30	1.47	.738
MAX	.91	.58	.34	13.3	1.38	1.92	4.08	21.4	22.3	9.94	2.30	.92
MIN	.14	.20	.20	.21	.76	.70	1.62	4.08	10.1	2.36	.96	.59
AC-FT	12.7	15.0	13.8	106	51.5	55.0	140	726	914	326	90.4	43.9
CAL YR 1968	TOTAL	176.49	MEAN	0.482	MAX	1.57	MIN	0.13	AC-FT	350		
WTR YR 1969	TOTAL	1,257.15	MEAN	3.45	MAX	22.3	MIN	.14	AC-FT	2,490		

TULARE LAKE BASIN

11-2158.3. TEAKETTLE CREEK TRIBUTARY NO. 2A NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'25", long 119°01'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.11 S., R.27 E., Fresno County, Sierra National Forest, on left bank 0.1 mile upstream from confluence with Teakettle Creek tributary No. 2, 1.3 miles east of Patterson Mountain, and 2.6 miles north of Black Rock Reservoir.

DRAINAGE AREA.--0.27 sq. mi.

PERIOD OF RECORD.--October 1957 to September 1969 (discontinued).

GAGE.--Water-stage recorder and 90° sharp-crested V-notch weir. Datum of gage is 6,924 ft above mean sea level (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

AVERAGE DISCHARGE.--12 years, 0.44 cfs (319 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17.8 cfs Jan. 25 (gage height, 2.21 ft); minimum daily, 0.02 cfs Oct. 1-4, 8-10.

Period of record: Maximum discharge, 60.3 cfs Dec. 6, 1966 (gage height, 3.61 ft); minimum daily, 0.01 cfs for many days in 1960-62.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

REVISIONS (WATER YEARS).--Revised figures of discharge, in cubic feet per second, for the water year 1968, superseding those published in WRD Calif. 1968 are given herewith:

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
Aug. 19	0.02	Aug. 30	0.02	Sept. 9	0.02	Sept. 20	0.02
20	.02	31	.02	10	.02	21	.02
21	.02			11	.02	22	.02
22	.02	Sept. 1	.02	12	.02	23	.02
23	.02	2	.02	13	.02	24	.02
24	.02	3	.02	14	.02	25	.02
25	.02	4	.02	15	.02	26	.02
26	.02	5	.02	16	.02	27	.02
27	.02	6	.02	17	.02	28	.02
28	.02	7	.02	18	.02	29	.02
29	.02	8	.02	19	.02	30	.02

MONTH	CFS-DAYS	MAXIMUM	MINIMUM	MEAN	ACRE-FEET
August	0.70	0.03	0.02	0.023	1.4
September	.60	.02	.02	.020	1.2
WTR YR 1968	52.81	.54	.02	.144	10.5

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.05	.05	.08	1.60	.41	.96	2.14	8.49	2.02	.62	.26
2	.02	.06	.05	.08	1.50	.40	.96	1.97	8.24	1.97	.59	.26
3	.02	.25	.05	.08	1.30	.40	.82	1.86	7.99	1.81	.56	.24
4	.02	.09	.05	.09	1.20	.40	.79	1.86	7.50	1.76	.54	.24
5	.03	.07	.05	.10	1.10	.40	.82	2.02	7.03	1.66	.54	.24
6	.03	.06	.05	.10	1.00	.37	.76	2.42	6.69	1.62	.52	.24
7	.03	.06	.05	.10	.90	.36	.76	2.74	6.26	1.52	.49	.24
8	.02	.05	.05	.11	.82	.36	.76	3.08	5.53	1.43	.49	.23
9	.02	.05	.05	.10	.76	.36	.76	3.60	5.63	1.39	.47	.23
10	.02	.05	.05	.10	.70	.36	.76	4.00	4.68	1.30	.47	.21
11	.03	.05	.06	.12	.62	.35	.86	4.42	4.25	1.26	.45	.21
12	.04	.12	.05	.12	.60	.35	.99	4.96	4.00	1.26	.42	.21
13	.28	.07	.05	.80	.58	.35	1.10	5.15	4.16	1.22	.40	.21
14	.27	.07	.06	.60	.58	.36	1.06	5.15	4.33	1.14	.40	.20
15	.06	.07	.17	.47	.54	.36	.92	4.96	4.71	1.10	.38	.18
16	.05	.07	.10	.41	.50	.38	.96	5.15	4.16	1.06	.38	.18
17	.04	.08	.08	.40	.46	.40	1.10	5.53	3.75	1.03	.38	.18
18	.04	.10	.07	.40	.45	.40	1.22	5.84	3.83	.99	.36	.17
19	.04	.10	.07	5.00	.45	.42	1.26	6.05	3.75	.96	.34	.18
20	.04	.08	.07	2.50	.44	.42	1.48	5.94	3.67	.92	.34	.20
21	.04	.07	.07	4.70	.40	.40	1.62	6.26	3.52	.89	.32	.18
22	.03	.07	.07	2.50	.40	.40	1.62	6.69	3.44	.86	.32	.17
23	.03	.07	.07	1.60	.43	.45	1.52	7.03	3.37	.82	.31	.17
24	.03	.07	.08	1.40	.49	.47	1.30	7.50	3.15	.79	.31	.16
25	.03	.05	.09	13.0	.46	.52	1.18	7.62	2.81	.76	.31	.16
26	.03	.05	.08	6.00	.45	.54	1.30	7.50	2.68	.84	.29	.15
27	.03	.05	.09	4.00	.42	.62	1.48	7.38	2.49	.76	.29	.15
28	.03	.05	.07	3.00	.41	.67	1.62	7.15	2.30	.70	.29	.15
29	.04	.05	.06	2.50	-----	.76	1.81	7.50	2.19	.67	.27	.16
30	.10	.05	.06	2.10	-----	.82	1.97	7.86	2.08	.64	.27	.15
31	.05	-----	.06	1.80	-----	.96	-----	8.49	-----	.62	.26	-----
TOTAL	1.56	2.18	2.08	54.36	19.56	14.22	34.52	159.82	136.68	35.77	12.38	5.91
MEAN	.050	.073	.067	1.75	.699	.459	1.15	5.16	4.56	1.15	.399	.197
MAX	.28	.25	.17	13.0	1.60	.96	1.97	8.49	8.49	2.02	.62	.26
MIN	.02	.05	.05	.08	.40	.35	.76	1.86	2.08	.62	.26	.15
AC-FT	3.1	4.3	4.1	108	38.8	28.2	68.5	317	271	70.9	24.6	11.7

CAL YR 1968 TOTAL 53.37 MEAN .146 MAX .54 MIN .02 AC-FT 106
WTR YR 1969 TOTAL 479.04 MEAN 1.31 MAX 13.0 MIN .02 AC-FT 950

NOTE.--No gage-height record Dec. 22 to Jan. 16, Jan. 18 to Feb. 12, Feb. 14 to Mar. 13.

11-2158.4. TEAKETTLE CREEK TRIBUTARY NO. 1 NEAR PATTERSON MOUNTAIN, CALIF.

LOCATION.--Lat 36°57'00", long 119°01'10", in NW¹/₄NW¹/₄ sec.27, T.11 S., R.27 E., Fresno County, Sierra National Forest, on left bank 0.2 mile upstream from confluence with Teakettle Creek, 2.1 miles north of Black Rock Reservoir, and 2.2 miles east of Patterson Mountain.

DRAINAGE AREA.--0.77 sq mi.

PERIOD OF RECORD.--October 1957 to September 1969 (discontinued).

GAGE.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,407.7 ft above mean sea level (levels by U.S. Forest Service). Prior to August 1959 at datum 4.0 ft lower.

AVERAGE DISCHARGE.--12 years, 1.32 cfs (956 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 41.5 cfs Jan. 25 (gage height, 3.08 ft); minimum daily, 0.15 cfs Oct. 9-11.

Period of record: Maximum discharge, 142 cfs Dec. 6, 1966 (gage height, 4.49 ft); minimum daily, 0.06 cfs Sept. 12, 13, 1961.

REMARKS.--Records good. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.23	.26	.32	4.10	1.52	2.30	6.15	19.2	4.86	1.71	.86
2	.18	.26	.26	.32	3.70	1.52	2.36	5.94	19.0	4.68	1.66	.86
3	.17	.68	.26	.32	3.30	1.52	2.30	5.74	18.4	4.50	1.62	.84
4	.17	.34	.26	.32	2.94	1.52	2.36	5.63	17.6	4.30	1.60	.82
5	.17	.27	.26	.34	2.88	1.52	2.36	6.05	16.8	4.00	1.50	.80
6	.17	.26	.26	.36	2.74	1.52	2.36	7.03	15.9	3.80	1.50	.80
7	.16	.24	.26	.36	2.55	1.48	2.30	8.36	14.9	3.70	1.50	.80
8	.16	.24	.26	.36	2.36	1.48	2.30	9.15	13.6	3.60	1.40	.80
9	.15	.24	.26	.36	2.30	1.43	2.25	10.5	13.7	3.50	1.40	.78
10	.15	.24	.29	.36	2.19	1.43	2.25	11.6	11.7	3.50	1.40	.78
11	.15	.24	.34	.34	2.14	1.43	2.30	12.4	10.8	3.50	1.40	.76
12	.16	.40	.29	.34	2.08	1.39	2.80	13.4	10.2	3.30	1.30	.72
13	.44	.31	.27	1.52	2.02	1.39	3.20	13.6	10.5	3.10	1.30	.72
14	.74	.27	.36	1.09	2.02	1.39	3.20	13.6	10.8	2.90	1.20	.72
15	.27	.31	.82	.79	1.97	1.34	2.70	13.2	10.9	2.90	1.20	.72
16	.23	.31	.52	.64	1.92	1.34	2.90	13.7	9.94	2.80	1.20	.66
17	.21	.31	.40	.59	1.92	1.39	3.10	14.7	9.28	2.70	1.20	.66
18	.21	.34	.36	1.32	1.92	1.43	3.50	14.9	8.88	2.70	1.20	.64
19	.20	.34	.34	15.9	1.86	1.43	3.80	14.9	8.75	2.60	1.10	.62
20	.20	.31	.32	7.91	1.81	1.43	4.10	14.9	8.36	2.50	1.10	.68
21	.20	.29	.32	15.3	1.81	1.39	4.70	15.5	8.11	2.25	1.10	.66
22	.18	.29	.31	5.61	1.76	1.34	4.60	16.5	7.86	2.30	1.00	.66
23	.18	.29	.31	3.58	1.71	1.39	4.20	17.0	7.62	2.25	1.00	.64
24	.18	.29	.32	3.72	1.92	1.43	3.80	18.0	7.15	2.19	1.00	.62
25	.18	.29	.36	30.0	1.92	1.52	3.75	18.0	6.58	2.08	.98	.59
26	.18	.27	.38	22.1	1.76	1.66	3.83	17.8	6.26	2.30	.98	.56
27	.18	.27	.36	10.6	1.66	1.71	4.16	17.6	5.94	2.19	.96	.56
28	.18	.27	.32	7.27	1.52	1.92	4.77	17.2	5.53	2.02	.90	.54
29	.18	.26	.32	6.05	-----	2.08	5.34	18.0	5.34	1.97	.92	.56
30	.31	.26	.32	5.40	-----	2.25	5.94	18.4	5.05	1.86	.90	.54
31	.23	-----	.32	4.70	-----	2.30	-----	19.2	-----	1.81	.86	-----
TOTAL	6.65	8.92	10.29	148.19	62.68	47.89	99.83	408.65	324.65	92.66	38.09	20.97
MEAN	.215	.297	.332	4.78	2.24	1.54	3.33	13.2	10.8	2.99	1.23	.699
MAX	.74	.68	.82	30	4.10	2.30	5.94	19.2	19.2	4.86	1.71	.86
MIN	.15	.23	.26	.32	1.52	1.34	2.25	5.63	5.05	1.81	.86	.54
AC-FT	13.2	17.7	20.4	294	124	95.0	198	811	644	184	75.6	41.6
CAL YR 1968 TOTAL	191.26			MEAN .523		MAX 1.62	MIN .15	AC-FT 379				
WTR YR 1969 TOTAL	1,269.47			MEAN 3.48		MAX 30.0	MIN .15	AC-FT 2,520				

TULARE LAKE BASIN

11-2165. NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CALIF.

LOCATION.--Lat 36°54'12", long 119°07'14", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.12 S., R.26 E., Fresno County, Sierra National Forest, on left bank 100 ft downstream from bridge at Balch Camp, 200 ft upstream from Dinkey Creek, and 9.3 miles east of Trimmer.

DRAINAGE AREA.--250 sq mi.

PERIOD OF RECORD.--October 1919 to September 1930, March 1960 to current year. Records for water year 1920 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-A. Prior to October 1962, published as "above Dinkey Creek."

GAGE.--Water-stage recorder. Concrete control since Apr. 15, 1966. Altitude of gage is 1,240 ft (from river-profile map). October 1919 to Apr. 14, 1966, at site 100 ft downstream at different datum.

AVERAGE DISCHARGE (prior to storage and diversion).--11 years (1919-30), 387 cfs (280,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,770 cfs Jan. 25 (gage height, unknown); minimum daily, 8.5 cfs Apr. 17.

Period of record (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 cfs June 4, 1922 (gage height, 12.18 ft, site and datum then in use); minimum, 4 cfs Aug. 29 to Sept. 1, 1924.

1960 to current year: Maximum discharge, 14,000 cfs Feb. 1, 1963 (gage height, 13.24 ft, site and datum then in use, backwater from Dinkey Creek), from rating curve extended above 890 cfs; minimum daily, 0.30 cfs Nov. 3, 1964.

REMARKS.--Records good except those above 23 cfs, which are fair. Flow regulated by Courtright Reservoir (see sta 11-2145.5) and Wishon Reservoir (see sta 11-2148), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record, nine discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1966(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	12	12	25	61	53	1,080	1,030	1,470	17	16
2	9.7	10	9.7	12	22	51	261	1,200	1,210	1,440	18	16
3	9.7	12	11	12	20	46	240	1,250	1,000	1,130	18	17
4	10	12	11	12	19	40	225	1,180	959	950	17	17
5	9.5	11	11	11	153	34	66	1,220	914	1,300	17	18
6	9.7	11	11	11	827	31	65	1,300	888	1,170	18	17
7	9.7	11	11	11	187	28	19	1,450	1,630	872	18	17
8	10	11	10	11	153	24	16	1,510	2,830	769	18	17
9	10	11	10	11	56	23	14	1,650	2,810	793	18	17
10	10	11	11	11	34	25	13	1,700	1,490	785	18	17
11	10	11	12	11	63	22	46	1,730	1,290	878	17	17
12	10	12	11	11	20	23	12	1,730	1,260	752	16	18
13	10	12	11	16	19	22	11	1,750	1,400	728	16	18
14	12	10	14	17	17	20	10	1,870	1,680	785	16	18
15	10	12	15	14	269	17	10	2,020	1,890	705	16	18
16	10	11	17	13	204	16	9.5	2,090	2,140	591	16	18
17	10	10	13	13	130	15	8.5	2,240	1,940	422	16	18
18	10	10	12	28	35	24	78	2,300	1,690	162	16	18
19	10	10	12	2,740	25	14	327	2,120	1,480	313	16	18
20	10	10	12	249	23	13	327	2,070	1,490	295	16	18
21	10	10	12	2,720	23	18	288	2,080	1,560	163	16	18
22	10	10	11	187	22	15	501	2,130	1,580	249	16	18
23	10	10	11	38	24	14	559	2,170	1,820	401	16	18
24	10	10	13	108	380	13	579	2,280	1,950	171	16	18
25	10	10	18	4,950	500	12	580	2,340	1,830	125	16	19
26	10	10	19	612	400	12	276	2,310	1,550	113	16	19
27	10	10	15	515	226	11	339	2,330	1,040	108	16	19
28	9.7	10	14	150	58	11	406	2,340	1,030	63	16	19
29	10	10	14	77	-----	10	511	2,410	1,170	16	16	19
30	11	9.7	13	41	-----	10	772	2,070	1,230	17	16	19
31	11	-----	13	28	-----	10	-----	1,050	-----	16	16	-----
TOTAL	312.0	317.7	389.7	12,652	3,934	685	6,622.0	56,970	45,781	17,752	514	534
MEAN	10.1	10.6	12.6	408	141	22.1	221	1,838	1,526	573	16.6	17.8
MAX	12	12	19	4,950	827	61	772	2,410	2,830	1,470	18	19
MIN	9.5	9.7	9.7	11	17	10	8.5	1,050	888	16	16	16
AC-FT	619	630	773	25,100	7,800	1,360	13,130	113,000	90,810	35,210	1,020	1,060
CAL YR 1968	TOTAL 3,439.2			MEAN 9.40	MAX 98	MIN 5.3	AC-FT 6,820					
WTR YR 1969	TOTAL 146,463.4			MEAN 401	MAX 4,950	MIN 8.5	AC-FT 290,500					

NOTE.--No gage-height record Dec. 1 to Feb. 28.

11-2168. ROCK CREEK AT DINKEY CREEK, CALIF.

LOCATION.--Lat 37°05'24", long 119°09'39", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.10 S., R.26 E., Fresno County, on right bank 0.4 mile northwest of town of Dinkey Creek, and 0.5 mile upstream from mouth.

DRAINAGE AREA.--7.60 sq mi.

PERIOD OF RECORD.--July 1960 to current year.

GAGE.--Water-stage recorder and low-flow concrete control. Altitude of gage is 6,150 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 20.2 cfs (14,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 554 cfs Jan. 25 (gage height, 6.06 ft); minimum daily, 0.01 cfs Oct. 1, 3, 8-12.

Period of record: Maximum discharge, 2,850 cfs Feb. 1, 1963 (gage height, 8.68 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1961-62, 1964-67.

REMARKS.--Records good. No diversions or regulation above station. See schematic diagram of Kings River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.17	2.0	2.4	30	40	91	165	244	27	4.4	.80
2	.02	.58	1.9	2.3	28	29	81	156	234	26	4.2	.80
3	.01	23	1.9	2.2	26	17	63	130	220	24	4.0	.80
4	.02	11	1.9	2.2	24	15	56	115	202	22	3.9	.72
5	.02	6.5	1.9	2.2	23	14	61	156	183	20	3.5	.64
6	.02	4.1	1.9	2.3	28	14	53	198	162	19	3.4	.56
7	.02	3.0	1.9	2.4	31	13	44	230	140	17	3.2	.56
8	.01	2.4	1.9	2.2	23	12	45	237	115	16	3.0	.56
9	.01	2.0	1.9	2.2	18	11	44	258	105	15	2.9	.51
10	.01	1.8	1.9	2.2	16	12	46	268	95	14	2.9	.51
11	.01	1.4	1.9	2.0	15	11	64	273	76	13	2.9	.51
12	.01	4.1	2.3	2.5	15	11	80	314	70	12	2.8	.51
13	.61	5.3	2.1	8.0	14	11	89	268	78	15	2.4	.46
14	7.6	3.9	2.3	55	14	10	80	262	91	14	2.3	.46
15	1.1	4.0	6.4	20	13	11	60	246	104	14	2.3	.46
16	.21	6.0	6.0	10	14	11	65	258	106	12	2.2	.46
17	.14	7.2	5.8	14	13	13	89	246	82	11	2.1	.46
18	.11	10	5.5	17	13	15	105	268	75	10	2.0	.46
19	.08	10	4.8	191	12	15	113	258	74	9.6	1.9	.42
20	.07	8.6	3.7	163	12	16	161	242	68	8.6	1.8	.46
21	.06	7.2	2.8	250	12	15	150	257	65	8.0	1.6	.51
22	.05	6.4	2.7	100	12	15	144	261	61	7.8	1.5	.51
23	.04	6.2	2.6	57	10	18	120	272	57	7.4	1.5	.51
24	.04	5.1	2.5	57	24	22	80	281	52	7.0	1.4	.42
25	.04	4.0	5.0	452	76	27	67	277	47	6.7	1.4	.35
26	.03	2.9	4.0	356	71	33	79	257	40	6.2	1.2	.20
27	.03	2.9	3.5	122	51	42	105	261	36	6.4	1.1	.18
28	.03	2.4	3.0	76	37	52	130	244	33	6.2	1.1	.12
29	.03	2.1	2.6	57	-----	62	149	247	30	5.6	1.0	.85
30	.51	2.1	2.4	43	-----	77	159	249	29	5.3	.96	.56
31	.29	-----	2.4	34	-----	89	-----	255	-----	4.6	.88	-----
TOTAL	11.24	156.35	93.4	2,109.1	675	753	2,673	7,409	2,974	390.4	71.74	15.33
MEAN	.36	5.21	3.01	68.0	24.1	24.3	89.1	239	99.1	12.6	2.31	.51
MAX	7.6	23	6.4	452	76	89	161	314	244	27	4.4	.85
MIN	.01	.17	1.9	2.0	10	10	44	115	29	4.6	.88	.12
AC-FT	22	310	185	4,180	1,340	1,490	5,300	14,700	5,900	774	142	30
CAL YR 1968	TOTAL	2,977.95	MEAN	8.14	MAX	65	MIN	.01	AC-FT	5,910		
WTR YR 1969	TOTAL	17,331.56	MEAN	47.5	MAX	452	MIN	.01	AC-FT	34,380		

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0830	5.60	390	4-20	2100	4.63	184
1-25	0630	6.06	554	5-1	2000	4.77	206
4-1	2100	4.06	109	5-24	1800	5.86	474
4-13	2200	4.00	102	6-15	1800	4.69	171

TULARE LAKE BASIN

11-2184. NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CALIF.

LOCATION.--Lat 36°52'47", long 119°07'40", in NW $\frac{1}{4}$ sec.22, T.12 S., R.26 E., Fresno County, Sierra National Forest, on right bank 1.1 miles upstream from mouth, 1.7 miles south of Balch Camp, 2.1 miles downstream from Dinkey Creek, and 9 miles east of Trimmer.

DRAINAGE AREA.--387 sq mi.

PERIOD OF RECORD.--March 1960 to current year. Prior to October 1962, published as "below Dinkey Creek."

GAGE.--Water-stage recorder. Altitude of gage is 1,035 ft (from river-profile map).

EXTREMES.--Current year: Maximum discharge, 15,000 cfs Jan. 25 (gage height, 14.31 ft), from rating curve extended above 4,900 cfs; minimum daily, 14 cfs Oct. 1-6.

Period of record: Maximum discharge, 27,400 cfs Feb. 1, 1963 (gage height, 19.20 ft), from rating curve extended above 4,900 cfs; minimum daily, 14 cfs Aug. 26-30, 1964, Sept. 1-4, 6-23, Sept. 26 to Oct. 6, 1968.

REMARKS.--Records good. Flow regulated by Courtright Reservoir (see sta 11-2145.5), Wishon Reservoir (see sta 11-2148), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Gage-height record, 12 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	26	41	78	483	451	1,010	2,900	3,940	2,640	158	52
2	14	23	37	79	430	382	1,190	2,910	3,930	2,550	149	51
3	14	179	35	79	401	363	1,070	2,790	3,740	2,180	141	52
4	14	127	36	89	379	328	936	2,590	3,540	1,960	134	51
5	14	70	34	101	477	305	994	2,770	3,380	2,320	127	50
6	14	52	35	118	1,040	303	888	3,220	3,200	2,100	122	48
7	15	42	35	125	513	283	684	3,630	3,830	1,860	115	48
8	15	37	34	120	464	268	665	3,890	4,670	1,610	111	49
9	15	38	33	110	379	262	646	4,180	3,980	1,650	105	48
10	15	39	32	93	345	268	638	4,330	2,990	1,590	102	47
11	15	37	79	88	371	252	812	4,340	2,650	1,670	101	46
12	15	57	47	85	338	252	926	4,560	2,560	1,480	95	46
13	16	73	46	277	312	245	985	4,450	2,850	1,530	92	45
14	16	50	75	413	296	234	926	4,410	3,340	1,550	87	44
15	16	65	193	239	574	237	744	4,460	3,640	1,330	84	45
16	16	70	179	172	477	252	752	4,630	3,890	1,120	81	44
17	16	71	91	140	404	279	921	4,810	3,480	875	79	44
18	17	81	77	301	348	317	1,130	4,850	3,150	526	79	44
19	17	90	77	5,160	333	314	1,410	4,670	3,040	668	76	44
20	17	79	61	1,530	307	321	1,690	4,500	3,060	620	73	45
21	17	69	53	4,570	303	338	1,870	4,640	3,070	470	70	47
22	17	61	57	1,280	301	310	2,090	4,770	3,190	556	66	46
23	17	60	62	661	301	343	2,190	4,810	3,300	696	65	44
24	18	57	101	724	1,200	385	1,690	5,040	3,350	407	63	42
25	18	53	182	7,820	1,180	433	1,550	5,010	3,160	324	61	42
26	18	44	133	5,120	926	490	1,200	4,980	2,800	285	60	41
27	17	42	101	1,700	570	556	1,440	5,000	2,230	285	58	39
28	17	39	99	1,030	451	642	1,720	4,900	2,170	260	57	39
29	18	35	91	748	-----	736	2,040	5,030	2,260	199	56	41
30	30	37	83	623	-----	847	2,480	4,780	2,380	184	55	44
31	34	-----	80	533	-----	960	-----	3,990	-----	170	54	-----
TOTAL	526	1,803	2,319	34,206	13,903	11,956	37,287	131,840	96,770	35,665	2,776	1,368
MEAN	17.0	60.1	74.8	1,103	497	386	1,243	4,253	3,226	1,150	89.5	45.6
MAX	34	179	193	7,820	1,200	960	2,480	5,040	4,670	2,640	158	52
MIN	14	23	32	78	296	234	638	2,590	2,170	170	54	39
AC-FT	1,040	3,580	4,600	67,850	27,580	23,710	73,960	261,500	191,900	70,740	5,510	2,710

CAL YR 1968 TOTAL 38,136 MEAN 104 MAX 432 MIN 14 AC-FT 75,640
WTR YR 1969 TOTAL 370,419 MEAN 1,015 MAX 7,820 MIN 14 AC-FT 734,700

11-2185. KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°52'29", long 119°08'27", in NE $\frac{1}{4}$ sec.21, T.12 S., R.26 E., Fresno County, on right bank 0.8 mile downstream from North Fork, 2.4 miles southwest of Balch Camp, and 8.5 miles southeast of Trimmer.

DRAINAGE AREA.--1,342 sq mi.

PERIOD OF RECORD.--October 1951 to current year. Prior to January 1952 monthly discharge only, published in WSP 1735. Published as Kings River below North Fork October 1951 to September 1965.

GAGE.--Water-stage recorder. Datum of gage is 942.42 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--18 years, 2,238 cfs (1,621,000 acre-ft per year), adjusted for change in contents in Wishon and Courtright Reservoirs.

EXTREMES.--Current year: Maximum discharge, 39,900 cfs Jan. 25; minimum daily, 108 cfs Oct. 6.

Period of record: Maximum discharge, 85,200 cfs Dec. 23, 1955 (gage height, 23.08 ft), from rating curve extended above 22,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 97 cfs Jan. 13, 1963.

Flood of Nov. 19, 1950, reached a stage of 21.6 ft, from floodmarks (discharge, 74,200 cfs).

REMARKS.--Records good. Flow regulated by Courtright and Wishon Reservoirs (see sta 11-2145.5, 11-2148).

Records include flow diverted to Kings River powerplant since Mar. 1, 1962. This station measures inflow to Pine Flat Reservoir. See schematic diagram of Kings River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Two discharge measurements furnished by Kings River Water Association. Records of diversion to Kings River powerplant furnished by Pacific Gas and Electric Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	828	678	310	557	2,840	2,880	5,460	9,760	22,100	12,600	6,120	1,890
2	824	343	504	887	2,520	2,460	5,540	10,000	21,800	12,700	5,710	1,850
3	777	650	669	982	2,270	2,720	5,450	9,580	21,500	12,100	5,250	1,860
4	659	725	529	630	1,930	2,140	4,880	8,860	20,300	11,400	5,280	1,740
5	306	791	642	629	2,320	2,060	5,480	8,520	19,500	11,600	4,870	1,590
6	108	729	747	963	2,950	2,020	5,050	9,520	19,000	11,300	4,180	1,130
7	634	745	383	976	2,500	1,800	4,450	10,700	19,100	10,800	3,800	1,150
8	434	709	254	1,020	2,320	1,750	4,040	12,200	19,600	10,300	3,590	1,820
9	750	335	523	1,070	2,170	1,590	4,180	13,900	17,300	10,500	3,490	1,790
10	603	334	585	964	2,080	1,530	3,780	15,200	12,400	10,700	3,850	1,440
11	829	685	839	744	2,080	1,470	4,040	15,700	11,100	10,700	4,690	1,780
12	108	763	771	511	2,090	1,570	4,750	15,500	10,800	10,700	4,140	1,600
13	118	920	728	1,200	1,990	1,440	5,290	15,900	11,500	12,300	3,670	1,710
14	1,030	764	687	2,120	1,930	1,400	5,160	15,900	13,800	12,000	3,510	1,620
15	1,120	908	902	1,460	2,900	1,340	4,820	15,300	15,000	10,200	3,360	1,600
16	916	562	1,360	1,320	2,680	1,300	4,630	15,600	15,100	9,820	3,310	1,550
17	799	500	871	1,180	2,240	1,710	4,950	16,400	13,200	9,370	3,250	1,480
18	732	755	947	1,480	2,130	1,860	5,440	17,000	11,700	8,880	3,140	1,410
19	363	918	698	15,400	1,910	1,870	5,570	16,600	12,800	9,540	2,900	1,370
20	258	831	995	6,680	1,590	1,870	6,350	16,200	13,800	9,700	2,710	1,340
21	596	910	858	14,500	1,760	1,820	7,190	16,800	14,400	10,000	2,580	1,350
22	706	860	839	6,920	1,270	1,670	8,510	17,900	14,900	9,330	2,480	1,330
23	685	448	758	3,710	1,250	1,800	8,510	17,900	15,200	8,430	2,410	1,320
24	626	425	902	4,310	5,420	2,290	7,410	19,000	14,700	8,000	2,410	1,290
25	432	727	1,250	26,600	4,980	2,800	6,540	19,600	14,100	7,220	2,410	1,280
26	219	665	1,180	19,400	3,560	3,050	6,220	20,200	12,400	6,760	2,330	1,250
27	216	808	1,150	8,780	2,940	3,420	6,600	20,000	11,500	6,680	2,210	1,260
28	578	359	882	5,930	2,900	3,950	7,310	19,400	11,000	6,130	2,110	1,270
29	685	365	753	4,640	-----	4,390	8,050	20,200	10,800	6,470	2,030	1,050
30	678	428	1,020	3,920	-----	4,800	8,960	20,700	11,500	6,230	1,950	1,270
31	770	-----	852	3,340	-----	5,320	-----	20,900	-----	6,180	1,910	-----
TOTAL	18,387	19,640	24,388	142,823	69,520	72,090	174,610	480,940	451,900	298,640	105,650	44,390
MEAN	593	655	787	4,607	2,483	2,325	5,820	15,510	15,060	9,634	3,408	1,480
MAX	1,120	920	1,360	26,600	5,420	5,320	8,960	20,900	22,100	12,700	6,120	1,890
MIN	108	334	254	511	1,250	1,300	3,780	8,520	10,800	6,130	1,910	1,050
AC-FT	36,470	38,960	48,370	283,300	137,900	143,000	346,300	953,900	896,300	592,300	209,600	88,050
MEAN a	199	474	525	4,587	2,080	2,340	6,008	17,370	16,580	9,642	2,709	797
AC-FT a	12,250	28,200	32,300	280,800	115,500	143,900	357,500	1,068,000	986,700	592,900	166,600	47,430
CAL YR 1968 TOTAL	424,032.00			MEAN 1,159	MAX 4,840	MIN 108	AC-FT 841,100	MEAN a 1,108	AC-FT a 804,700			
WTR YR 1969 TOTAL	1,902,978			MEAN 5,214	MAX 26,600	MIN 108	AC-FT 3,774,000	MEAN a 5,294	AC-FT a 3,832,000			

a Adjusted for change in contents in Wishon and Courtright Reservoirs.

TULARE LAKE BASIN

11-2200. BIG CREEK ABOVE PINE FLAT RESERVOIR, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°54'59", long 119°14'37", in NE $\frac{1}{4}$ sec.4, T.12 S., R.25 E., Fresno County, on right bank 2.4 miles upstream from mouth, and 2.7 miles northeast of Trimmer.

DRAINAGE AREA.--69.9 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Prior to September 1965 published as Big Creek above Pine Flat Reservoir.

GAGE.--Water-stage recorder. Datum of gage is 962.04 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--16 years, 53.9 cfs (39,050 acre-ft per year); median of yearly mean discharges, 31 cfs (22,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 16,400 cfs Jan. 25 (gage height, 10.43 ft), from rating curve extended as explained below; no flow Oct. 1-4.

Period of record: Maximum discharge, 16,400 cfs Jan. 25, 1969 (gage height, 10.43 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement at gage-height 9.21 ft; no flow at times most years.

REMARKS.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Two discharge measurement furnished by Kings River Water Association.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.9	5.6	38	310	585	370	281	98	46	13	5.9
2	0	3.6	7.1	34	289	448	372	274	94	41	12	5.9
3	0	11	5.9	32	271	436	474	253	92	40	12	5.6
4	0	20	5.0	31	258	367	349	242	84	40	11	5.3
5	.53	9.1	5.0	30	302	331	531	250	82	39	11	5.3
6	.80	6.2	5.0	31	575	328	590	268	80	38	11	5.0
7	.91	4.9	4.9	31	370	305	444	268	80	37	10	5.0
8	1.0	4.4	4.9	29	316	279	400	268	78	35	9.8	5.0
9	1.0	4.0	4.7	27	294	274	373	274	107	34	9.8	4.9
10	1.0	3.9	4.9	24	279	274	355	271	123	33	9.8	4.7
11	.91	3.7	38	22	274	255	370	268	93	31	9.8	4.6
12	.91	6.5	19	21	307	261	382	266	88	31	9.1	4.6
13	1.5	12	19	121	281	250	367	245	82	30	9.1	4.6
14	8.8	8.0	29	332	250	232	340	232	76	36	8.4	4.7
15	7.4	18	172	103	518	235	305	219	86	30	8.4	4.7
16	3.6	19	285	70	398	253	302	214	92	28	8.4	4.7
17	2.7	11	52	54	305	268	319	209	88	26	8.4	4.9
18	2.2	9.8	30	324	328	289	325	198	80	25	8.4	4.9
19	1.9	9.4	25	4,770	340	289	322	185	71	24	8.4	4.9
20	1.8	8.0	20	1,220	307	276	331	177	66	23	8.0	5.0
21	1.8	6.5	16	3,670	307	371	343	167	63	21	7.7	5.9
22	1.6	5.6	14	1,230	337	297	331	162	63	20	7.4	6.5
23	1.6	5.3	15	536	367	300	337	150	60	20	7.4	5.9
24	1.6	5.0	36	577	1,730	307	302	143	58	19	7.1	5.3
25	1.5	5.6	285	5,300	1,130	310	274	139	57	18	7.1	5.0
26	1.5	5.3	164	2,720	656	322	263	128	55	18	7.1	4.8
27	1.5	4.9	70	934	480	337	263	127	52	18	7.1	4.6
28	1.5	4.7	56	620	553	352	279	123	50	19	6.8	4.4
29	1.5	4.6	68	452	-----	370	287	113	49	15	6.8	4.6
30	4.7	4.4	48	388	-----	373	287	108	48	14	6.8	4.9
31	6.2	-----	44	334	-----	394	-----	104	-----	13	6.5	-----
TOTAL	61.96	228.3	1,558.0	24,105	12,132	9,968	10,587	6,326	2,295	862	273.6	152.1
MEAN	2.00	7.61	50.3	778	433	322	353	204	76.5	27.8	8.83	5.07
MAX	8.8	20	285	5,300	1,730	585	590	281	123	46	13	6.5
MIN	0	3.6	4.7	21	250	232	263	104	48	13	6.5	4.4
AC-FT	123	453	3,090	47,810	24,060	19,770	21,000	12,550	4,550	1,710	543	302
CAL YR 1968	TOTAL	6,005.34	MEAN	16.4	MAX	285	MIN	0	AC-FT	11,910		
WTR YR 1969	TOTAL	68,548.96	MEAN	188	MAX	5,300	MIN	0	AC-FT	136,000		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-16	0230	4.21	625	2- 6	1430	4.32	682
12-25	1800	4.15	595	2-15	1700	4.51	796
1-13	2300	4.42	742	2-24	1800	6.94	3,780
1-19	1400	8.11	6,630	2-28	1700	4.58	838
1-21	1430	8.09	6,570	4- 3	0100	4.48	778
1-25	0800	10.43	16,400	4- 5	1900	4.96	1,110

11-2205. SYCAMORE CREEK ABOVE PINE FLAT RESERVOIR, NEAR TRIMMER, CALIF.

LOCATION.--Lat 36°55'13", long 119°18'32", in NW¼ sec.1, T.12 S., R.24 E., Fresno County, on right bank 0.1 mile downstream from Little Dry Creek, 1.7 miles northwest of Trimmer, and 4.8 miles upstream from mouth.

DRAINAGE AREA.--56.1 sq mi.

PERIOD OF RECORD.--April 1953 to current year. Prior to October 1965, published as Sycamore Creek above Pine Flat Reservoir.

GAGE.--Water-stage recorder. Datum of gage is 1,141.96 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--16 years, 23.6 cfs (17,100 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 16,800 cfs Jan. 25 (gage height, 13.83 ft in gage well, 15.32 ft, from floodmarks), from rating curve extended as explained below; no flow Oct. 1 to Nov. 2.
Period of record: Maximum discharge, 16,800 cfs Jan. 25, 1969 (gage height, 13.83 ft in gage well, 15.32 ft, from floodmarks), from rating curve extended above 5,200 cfs on basis of slope-area measurements at gage heights 9.78 and 13.83 ft; no flow for several months each year.

REMARKS.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--One discharge measurement furnished by Kings River Water Association.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.50	9.9	128	446	78	50	16	7.8	1.5	.32
2	0	0	.42	7.8	112	278	141	47	16	7.2	1.3	.32
3	0	.25	.36	6.7	98	285	168	45	16	6.6	1.1	.38
4	0	.36	.36	5.6	82	228	95	45	15	6.1	.84	.38
5	0	.28	.36	5.2	239	206	244	45	16	6.1	.72	.38
6	0	.32	.36	4.9	674	196	254	44	16	5.0	.72	.38
7	0	.36	.36	4.6	262	184	168	41	16	5.0	.72	.38
8	0	.36	.36	4.3	190	166	138	41	16	5.0	.62	.38
9	0	.42	.36	4.0	155	159	118	39	33	4.6	.62	.32
10	0	.42	.50	4.0	132	202	108	39	42	4.6	.62	.32
11	0	.42	5.9	3.6	120	159	102	37	20	4.6	.72	.26
12	0	.66	3.3	3.6	142	162	98	34	16	4.1	.62	.21
13	0	.50	1.6	133	108	157	92	33	16	3.6	.53	.26
14	0	.50	31	208	92	135	88	33	15	3.2	.53	.26
15	0	3.6	112	38	272	130	85	32	18	3.2	.53	.16
16	0	1.6	165	22	201	128	75	30	20	3.2	.53	.21
17	0	.58	18	16	135	130	72	30	16	2.8	.53	.45
18	0	.42	8.3	474	223	130	68	28	15	2.5	.53	.62
19	0	.36	6.7	2,800	281	118	66	27	15	2.5	.53	.53
20	0	.36	6.2	597	204	112	63	27	14	2.5	.53	.53
21	0	.36	4.3	1,950	197	205	61	26	13	2.2	.45	.53
22	0	.36	3.6	671	212	128	60	25	13	2.0	.45	.53
23	0	.42	3.3	225	360	115	66	22	12	2.0	.45	.62
24	0	.42	9.9	330	2,640	108	65	21	11	1.7	.45	.62
25	0	.42	122	3,330	1,220	100	58	20	10	2.0	.45	.62
26	0	.36	132	1,200	557	95	56	19	9.6	2.0	.45	.62
27	0	.36	36	376	311	92	53	20	9.0	2.2	.45	.62
28	0	.36	24	274	402	90	48	20	9.0	3.2	.45	.62
29	0	.36	36	218	-----	88	47	19	9.0	2.2	.45	.62
30	0	.42	17	184	-----	85	45	18	8.4	1.7	.38	.53
31	0	-----	12	150	-----	82	-----	16	-----	1.7	.38	-----
TOTAL	0	15.61	762.04	13,260.2	9,749	4,899	2,880	973	471.0	113.1	19.15	12.98
MEAN	0	.52	24.6	428	348	158	96.0	31.4	15.7	3.65	.62	.43
MAX	0	3.6	165	3,330	2,640	446	254	50	42	7.8	1.5	.62
MIN	0	0	.36	3.6	82	82	45	16	8.4	1.7	.38	.16
AC-FT	0	31	1,510	26,300	19,340	9,720	5,710	1,930	934	224	38	26
CAL YR 1968	TOTAL	1,882.37	MEAN	5.14	MAX	165	MIN	0	AC-FT	3,730		
WTR YR 1969	TOTAL	33,155.08	MEAN	90.8	MAX	3,330	MIN	0	AC-FT	65,760		

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-16	0100	3.86	544	2-15	1700	3.05	430
12-25	1730	3.14	341	2-24	1500	8.51	5,720
1-13	2200	4.56	906	2-28	1600	3.90	795
1-19	1900	8.61	4,620	3- 3	0100	2.90	385
1-21	0500	7.16	2,910	3-21	0500	2.84	367
1-25	0700	13.83	16,800	4- 2	2100	2.92	391
2- 5	2400	5.15	1,590	4- 5	1930	4.08	894

TULARE LAKE BASIN

11-2210. PINE FLAT RESERVOIR NEAR PIEDRA, CALIF.

LOCATION.--Lat 36°49'58", long 119°19'29", in NE $\frac{1}{4}$ sec.2, T.13 S., R.24 E., Fresno County, near center of Pine Flat Dam on Kings River, 1.9 miles upstream from Mill Creek, 3.5 miles northeast of Piedra, and 16 miles northeast of Sanger.

DRAINAGE AREA.--1,545 sq mi.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Apr. 8, 1952, nonrecording mercury gage on dam at same datum.

EXTREMES.--Current year: Maximum contents, 999,500 acre-ft June 9 (elevation, 951.17 ft); minimum, 308,000 acre-ft Oct. 1 (elevation, 797.44 ft).

Period of record: Maximum contents, 1,009,000 acre-ft July 15, 1967 (elevation, 952.76 ft); minimum since gross pool elevation first obtained, 305,900 acre-ft Sept. 29, 1968 (elevation, 796.77 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam; regulation of discharge from reservoir began Dec. 4, 1951. Total capacity, 1,001,500 acre-ft between elevations 565.5 (bottom of lower tier of river outlets) and 951.5 ft (gross pool elevation). No dead storage. Reservoir is used for flood control and conservation storage. Water is released down Kings River for diversion by the Kings River Water Association. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.

COOPERATION.--Records furnished by Corps of Engineers. Contents are rounded to Geological Survey standards.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

715	104,400	840	457,800
720	113,400	860	538,800
740	154,000	890	673,400
760	201,400	920	824,200
780	255,400	950	992,600
800	316,200	960	1,052,800
820	383,600		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	308.0	343.5	380.9	421.7	783.1	820.9	662.7	581.2	942.7	953.3	965.7	814.7
2	309.5	344.4	381.8	423.2	782.4	820.0	661.0	581.5	958.8	955.6	962.4	809.9
3	311.0	345.5	382.9	424.9	781.6	818.7	659.5	580.7	970.8	958.7	958.5	805.1
4	312.3	346.9	383.8	425.8	780.0	815.7	656.2	578.3	978.5	961.3	955.1	799.8
5	312.9	348.6	384.9	426.9	780.0	811.4	657.1	575.5	984.3	965.4	951.6	794.3
6	313.0	350.0	385.9	428.5	784.1	806.7	658.9	574.8	989.5	969.9	947.1	787.9
7	313.9	351.5	386.3	430.0	785.0	800.8	656.9	576.6	994.3	973.4	942.0	781.5
8	314.8	352.9	386.3	431.7	785.1	794.7	653.1	582.0	999.1	976.4	936.6	776.7
9	316.2	353.6	386.7	433.4	784.4	788.1	649.2	590.8	999.5	980.2	931.2	771.7
10	317.4	354.2	387.5	435.0	783.0	782.0	644.3	602.6	991.7	984.2	926.7	766.8
11	318.8	355.5	388.7	436.1	781.3	775.2	639.8	615.8	980.9	987.1	923.8	763.1
12	319.2	357.2	389.8	436.7	779.8	768.9	636.9	628.2	970.2	989.2	920.1	759.5
13	319.6	359.0	390.6	439.6	777.8	762.5	634.5	641.3	961.6	994.4	915.4	755.9
14	321.5	360.7	392.1	445.1	775.4	755.9	631.7	654.4	958.2	997.5	910.7	752.4
15	323.7	362.6	394.4	448.2	776.3	748.9	627.4	666.2	957.4	997.6	905.7	749.2
16	325.6	363.9	398.0	450.8	776.2	741.7	622.5	678.4	956.8	997.2	900.7	746.2
17	327.3	364.9	399.5	453.0	774.7	734.8	617.6	692.8	952.1	995.7	895.8	743.8
18	328.7	366.3	400.9	458.7	774.3	728.5	613.6	708.2	944.9	994.6	890.7	740.9
19	329.4	368.1	401.8	512.3	773.8	722.3	610.1	722.1	941.0	995.5	885.2	737.9
20	329.9	369.8	402.9	531.2	772.1	716.0	607.9	734.8	940.4	996.5	879.2	735.5
21	331.0	371.5	403.9	575.5	770.7	710.6	607.1	748.3	941.6	998.0	873.1	733.2
22	332.4	373.1	404.8	595.2	768.4	704.2	607.3	763.6	945.0	998.7	866.8	731.0
23	333.8	373.9	405.8	605.4	767.2	698.0	607.7	778.6	950.0	998.0	860.6	729.0
24	335.0	374.7	406.8	617.8	789.2	692.2	604.9	796.0	953.6	996.0	854.7	726.8
25	335.8	375.9	409.9	696.8	807.4	686.8	600.1	815.3	956.5	993.3	849.3	724.6
26	336.3	377.1	413.1	745.7	814.5	681.7	594.6	834.7	956.6	989.5	844.2	722.2
27	336.7	378.4	415.1	765.2	816.3	677.1	589.8	853.6	955.6	985.2	839.1	719.7
28	337.8	378.9	416.6	775.7	818.9	672.9	585.9	871.4	953.5	979.9	834.1	717.1
29	339.2	379.7	417.8	780.3	-----	669.3	583.0	891.2	951.6	976.1	829.2	714.3
30	340.6	380.3	419.4	792.4	-----	666.6	581.2	910.6	951.8	972.3	824.3	712.5
31	342.1	-----	420.9	783.2	-----	664.6	-----	926.1	-----	968.7	819.5	-----
MAX	342.1	380.3	420.9	783.2	818.9	820.9	662.7	926.1	999.5	998.7	965.7	814.7
MIN	308.0	343.5	380.9	421.7	767.2	664.6	581.2	574.8	940.4	953.3	819.5	712.5
(a)	807.94	819.09	830.29	912.19	919.02	888.14	869.85	938.55	943.03	945.94	919.12	898.12
(b)	+35.5	+38.2	+40.6	+362.3	+35.7	-154.3	-83.4	+344.9	+25.7	+16.9	-149.2	-107.0
(c)	987.0	323.0	197.0	139.0	231.0	819.0	1,167.0	2,194.0	2,856.0	4,130.0	4,058.0	2,716.0

CAL YR 1968 b -278.7 MAX 739.1 MIN 305.9
WTR YR 1969 b +405.9 MAX 999.5 MIN 308.0

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

11-2215. KINGS RIVER BELOW PINE FLAT DAM, CALIF.

LOCATION.--Lat 36°49'50", long 119°20'07", in NW¼ sec.2, T.13 S., R.24 E., Fresno County, on right bank 3,200 ft downstream from Pine Flat Dam, and 2.9 miles northeast of Piedra.

DRAINAGE AREA.--1,545 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Monthly and yearly discharges only and adjusted flow for some periods published in WSP 1735.

GAGE.--Water-stage recorder and concrete control since Sept. 1, 1956. Datum of gage is 556.97 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1956, at site 0.2 mile downstream at datum 3.48 ft lower.

AVERAGE DISCHARGE (adjusted for change in storage and evaporation).--16 years, 2,309 cfs (1,673,000 acre-ft per year).

EXTREMES.--Current: Maximum discharge, 17,100 cfs June 3, 4, 8, 9 (gage height, 10.73 ft); minimum daily, 33 cfs Jan. 24.

Period of record: Maximum discharge, 17,100 cfs June 3, 4, 8, 9, 1969 (gage height, 10.73 ft); minimum, 1.1 cfs Feb. 26, 27, 1962.

REMARKS.--Records excellent. Flow regulated by Pine Flat Reservoir 0.6 mile upstream (see sta 11-2210) and Wishon and Courtright Reservoirs (see sta 11-2145.5 and 11-2148). See schematic diagram of Kings River basin.

COOPERATION.--Six discharge measurements furnished by Kings River Water Association.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	52	126	224	3,530	3,480	6,990	10,300	14,200	11,700	7,490	4,400
2	87	52	125	224	3,520	3,990	7,200	10,300	14,700	11,300	7,310	4,340
3	76	52	128	224	3,500	4,470	7,070	10,400	16,000	10,500	7,120	4,350
4	76	53	134	226	3,500	4,830	7,160	10,400	17,000	10,000	6,910	4,450
5	75	49	131	226	3,520	4,920	6,460	10,300	17,000	9,350	6,580	4,470
6	75	48	189	232	3,060	5,140	5,550	10,200	17,000	9,000	6,400	4,380
7	76	48	309	237	3,320	5,360	6,380	10,300	17,000	8,990	6,350	4,350
8	76	49	335	237	3,470	5,370	6,620	10,000	17,000	8,710	6,330	4,280
9	66	49	328	246	3,550	5,430	6,760	9,980	16,800	8,510	6,210	4,220
10	50	49	312	257	3,750	5,280	6,810	9,940	16,800	8,480	6,130	4,260
11	50	49	297	264	3,920	5,380	6,850	9,820	16,600	8,820	6,080	3,440
12	50	50	303	278	3,920	5,370	6,890	9,950	16,400	9,010	5,980	3,450
13	51	49	310	271	3,940	5,250	6,980	9,980	16,100	9,000	5,980	3,380
14	52	50	301	36	4,000	5,300	7,240	10,100	16,000	9,570	5,890	3,310
15	51	51	236	129	3,870	5,490	7,450	10,200	16,000	10,000	5,840	3,140
16	51	49	160	172	3,780	5,520	7,540	10,100	16,000	10,000	5,780	2,910
17	51	49	204	203	3,950	5,680	7,740	10,100	16,000	10,000	5,730	2,570
18	51	49	295	198	3,840	5,610	7,980	10,100	15,400	9,420	5,670	2,810
19	51	50	396	58	3,560	5,700	8,050	10,400	15,200	9,000	5,640	2,810
20	51	50	389	41	3,720	5,830	8,250	10,600	14,700	9,010	5,710	2,620
21	51	60	400	42	3,640	5,640	8,630	10,800	14,400	9,030	5,740	2,460
22	51	88	405	36	3,650	5,690	9,020	11,000	13,800	9,020	5,670	2,400
23	51	89	404	45	3,410	5,770	9,240	11,100	13,500	9,000	5,520	2,340
24	51	76	413	33	1,930	5,810	9,260	11,200	13,500	9,010	5,440	2,330
25	54	81	346	50	127	5,810	9,300	11,200	13,200	8,720	5,240	2,360
26	51	100	184	36	2,080	5,940	9,250	11,200	12,800	8,510	4,930	2,420
27	51	160	281	556	3,300	6,060	9,330	11,200	12,500	8,510	4,860	2,470
28	51	177	319	1,830	3,340	6,400	9,520	11,200	12,400	8,500	4,700	2,530
29	51	163	319	3,180	-----	6,480	9,930	11,200	12,100	8,220	4,580	2,490
30	52	142	303	3,520	-----	6,500	10,200	12,200	11,700	8,020	4,510	2,110
31	52	-----	251	3,530	-----	6,620	-----	14,300	-----	7,900	4,350	-----
TOTAL	1,864	2,133	8,633	16,841	94,697	170,120	235,650	330,070	451,800	284,810	180,670	97,850
MEAN	60.1	71.1	278	543	3,382	5,488	7,855	10,650	15,060	9,187	5,828	3,262
MAX	132	177	413	3,530	4,000	6,620	10,200	14,300	17,000	11,700	7,490	4,470
MIN	50	48	125	33	127	3,480	5,550	9,820	11,700	7,900	4,350	2,110
AC-FT	3,700	4,230	17,120	33,400	187,800	337,400	467,400	654,700	896,100	564,900	358,400	194,100
MEAN a	260	538	679	6,398	3,626	3,004	6,662	18,150	17,060	9,538	2,770	829
AC-FT a	15,970	32,030	41,780	393,400	201,400	184,700	396,400	1,116,000	1,015,000	586,500	170,300	49,300

CAL YR 1968 TOTAL 570,154 MEAN 1,558 MAX 6,380 MIN 48 AC-FT 1,131,000 MEAN a 1,146 AC-FT a 831,900
WTR YR 1969 TOTAL 1,875,138 MEAN 5,137 MAX 17,000 MIN 33 AC-FT 3,719,000 MEAN a 5,805 AC-FT a 4,203,000

a Adjusted for change in contents in Wishon, Courtright, and Pine Flat Reservoirs, and evaporation from Pine Flat Reservoir.

TULARE LAKE BASIN

11-2217. MILL CREEK NEAR PIEDRA, CALIF.

LOCATION.--Lat 36°49'07", long 119°20'27", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.13 S., R.24 E., Fresno County, on left bank 150 ft upstream from road bridge, 0.7 mile upstream from mouth, and 2.3 miles east of Piedra.

DRAINAGE AREA.--120 sq mi.

PERIOD OF RECORD.--October 1957 to current year in reports of Geological Survey. November 1938 to September 1957 in reports of Kings River Water Association.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 550 ft (from topographic map). Prior to July 14, 1958, at site 150 ft upstream at same datum.

AVERAGE DISCHARGE.--12 years, 45.9 cfs (33,250 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,860 cfs Jan. 25 (gage height, 9.24 ft in gage well, 9.72 ft, from floodmarks); maximum gage height, 9.65 ft in gage well Jan. 19 (backwater from debris); no flow many days.

Period of record: Maximum discharge, 11,000 cfs Dec. 6, 1966 (gage height, 9.53 ft in gage well, 10.2 ft, from floodmarks); maximum gage height, 9.65 ft in gage well Jan. 19, 1969 (backwater from debris); no flow for several months in most years.

REMARKS.--Records good. Some small diversions above station for irrigation. See schematic diagram of Kings River basin.

COOPERATION.--Four discharge measurements furnished by Kings River Water Association.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	24	327	1,100	216	123	47	28	3.4	.20
2			0	21	223	709	206	114	51	25	3.2	.10
3			0	19	170	646	325	114	47	21	2.8	0
4			0	16	130	586	226	114	36	21	2.6	0
5			0	15	154	495	549	114	32	25	2.4	0
6			0	14	935	451	634	106	32	21	2.3	0
7			.08	13	550	408	419	106	32	15	2.2	0
8			.20	13	385	366	366	114	32	15	2.2	0
9			.20	12	249	356	325	106	40	14	2.2	0
10			.40	11	178	377	305	106	55	11	2.1	0
11			3.6	11	146	335	285	98	51	9.2	2.0	0
12			6.1	11	186	315	265	89	44	9.2	1.9	0
13			4.6	39	162	335	245	80	44	15	1.8	0
14			7.6	338	130	295	226	72	36	15	1.6	0
15			58	92	288	265	216	72	36	14	1.5	0
16			134	58	385	255	188	72	40	11	1.5	0
17			41	43	170	265	188	80	44	10	1.3	0
18			20	258	415	275	178	72	40	8.4	1.3	0
19			15	5,460	640	265	168	72	36	7.0	1.1	0
20			14	2,400	490	265	168	64	32	5.0	.90	.16
21			11	4,560	565	356	159	72	36	3.6	.80	.50
22			10	2,040	535	295	159	64	32	3.4	.60	.90
23			8.8	744	800	255	159	64	28	3.4	.40	1.1
24			10	1,240	4,430	245	150	55	25	3.4	.30	1.1
25			46	7,400	4,520	245	132	64	21	3.4	.20	1.2
26			208	3,470	2,010	245	123	64	21	3.9	.20	1.1
27			79	1,550	1,080	235	132	55	21	4.2	.20	1.1
28			46	976	912	235	123	55	25	5.0	.20	1.1
29			48	672	-----	235	114	55	25	4.5	.20	1.1
30			38	520	-----	226	114	55	28	3.6	.20	1.1
31		-----	31	434	-----	226	-----	51	-----	3.4	.20	-----
TOTAL	0	0	840.58	32,474	21,165	11,162	7,063	2,542	1,069	341.6	43.80	10.76
MEAN	0	0	27.1	1,048	756	360	235	82.0	35.6	11.0	1.41	.36
MAX	0	0	208	7,400	4,520	1,100	634	123	55	28	3.4	1.2
MIN	0	0	0	11	130	226	114	51	21	3.4	.20	0
AC-FT	0	0	1,670	64,410	41,980	22,140	14,010	5,040	2,120	678	87	21
CAL YR 1968	TOTAL	3,271.85	MEAN	8.9	MAX	208	MIN	0	ACFT	6,490		
WAT YR 1969	TOTAL	76,711.74	MEAN	210	MAX	7,400	MIN	0	ACFT	152,200		

11-2245. LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CALIF.

LOCATION.--Lat 36°12'53", long 120°28'11", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.20 S., R.14 E., Fresno County, on right bank 50 ft downstream from highway bridge, 1.1 miles upstream from Nunez Canyon, 3.0 miles downstream from White Creek, and 8.1 miles northwest of Coalinga.

DRAINAGE AREA.--95.8 sq mi.

PERIOD OF RECORD.--May 1945 to current year. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 1,100 ft (from topographic map). Prior to Aug. 2, 1959, at site 100 ft downstream at same datum.

AVERAGE DISCHARGE.--24 years, 4.36 cfs (3,160 acre-ft per year); median of yearly mean discharges, 0.9 cfs (650 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,360 cfs Feb. 24 (gage height, 10.34 ft); no flow for several months.
1949 to current year: Maximum discharge, 4,360 cfs Feb. 24, 1969 (gage height, 10.34 ft); no flow for several months each year.

REMARKS.--Records fair. Minor diversion for irrigation and stock ponds.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	58	304	22	12	3.4	2.3	.80	.10
2	0	0	0	0	48	230	23	13	3.4	1.9	.66	.10
3	0	0	0	0	40	170	28	14	3.7	1.9	.52	.10
4	0	0	0	0	36	145	22	16	3.4	1.9	.40	.10
5	0	0	0	0	46	135	79	13	3.4	1.7	.52	.10
6	0	0	0	0	130	130	88	11	3.7	1.7	.40	.20
7	0	0	0	0	78	115	51	11	4.0	1.9	.40	1.7
8	0	0	0	0	65	105	36	11	3.7	1.7	.40	1.7
9	0	0	0	0	54	105	33	10	7.4	1.5	.40	1.4
10	0	0	0	0	43	96	28	8.6	6.4	1.4	.20	.92
11	0	0	0	0	32	92	25	8.6	6.4	1.6	.20	.80
12	0	0	0	0	40	92	22	8.0	5.5	1.9	.20	.52
13	0	0	0	0	38	88	22	8.0	4.8	1.9	.20	.40
14	0	0	0	5.8	36	76	21	8.6	4.0	1.9	.20	.30
15	0	0	0	.05	174	72	19	8.6	3.7	1.7	.20	.30
16	0	0	0	0	62	57	17	7.4	3.6	1.5	.20	.30
17	0	0	0	0	37	54	17	6.4	3.6	1.5	.15	.40
18	0	0	0	1.7	58	51	16	5.1	3.5	1.5	.20	.30
19	0	0	0	185	46	48	16	5.5	3.4	1.2	.20	.40
20	0	0	0	146	36	42	16	4.8	3.4	1.0	.20	.40
21	0	0	0	921	27	42	16	5.1	3.3	1.0	.15	.40
22	0	0	0	98	35	36	15	5.1	3.2	.92	.15	.40
23	0	0	0	45	99	30	18	4.8	3.2	.80	.15	.40
24	0	190	0	56	2,190	29	18	4.4	3.1	.80	.15	.20
25	0	0	0	1,320	948	28	15	4.4	3.0	.80	.15	.20
26	0	0	0	909	580	25	16	4.4	2.8	.92	.15	.30
27	0	0	0	239	430	24	14	4.4	2.7	.92	.15	.20
28	0	0	0	130	470	24	13	4.4	2.5	.80	.15	.20
29	0	0	0	95	-----	22	12	4.0	2.3	.66	.10	.20
30	0	0	0	84	-----	22	13	3.7	2.5	.66	.10	.20
31	0	-----	0	74	-----	22	-----	3.4	-----	.80	.15	-----
TOTAL	0	0	0	4,309.55	5,936	2,511	751	238.7	113.0	42.68	8.20	13.24
MEAN	0	0	0	139	212	81.0	25.0	7.70	3.77	1.38	.26	.44
MAX	0	0	0	1,320	2,190	304	88	16	7.4	2.3	.80	1.7
MIN	0	0	0	0	27	22	12	3.4	2.3	.66	.10	.10
AC-FT	0	0	0	8,550	11,770	4,980	1,490	473	224	85	16	26
CAL YR 1968	TOTAL	47.81	MEAN	.13	MAX	1.1	MIN	0	AC-FT	95		
WTR YR 1969	TOTAL	13,923.37	MEAN	38.1	MAX	2,190	MIN	0	AC-FT	27,620		

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1500	6.36	689	2-15	1500	7.32	716
1-21	0030	9.16	3,270	2-18	0900	6.23	65
1-25	0800	11.2	3,920	2-24	1300	10.34	4,360
2- 6	0600	6.79	180	2-28	1530	8.04	1,110
2-12	0800	6.08	53	4- 5	2100	7.44	170

11-2260, NORTH FORK SAN JOAQUIN RIVER BELOW IRON CREEK, CALIF.

LOCATION.--Lat 37°37'07", long 119°13'29", in SE¼ sec.4, T.4 S., R.25 E., Madera County, Sierra National Forest, on right bank 0.8 mile downstream from Iron Creek, and 27 miles northeast of town of Bass Lake.

DRAINAGE AREA.--35.5 sq mi.

PERIOD OF RECORD.--October 1920 to September 1928 (fragmentary prior to July 1921), October 1951 to September 1958 (no winter records), October 1958 to September 1969 (discontinued). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 22, 1922, non-recording gages at approximately same site at different datums.

AVERAGE DISCHARGE.--18 years (1921-28, 1958-69), 114 cfs (82,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,350 cfs June 2 (gage height, 6.88 ft); minimum daily, 5.8 cfs Oct. 11.

Period of record: Maximum discharge recorded, 3,860 cfs July 24, 1956 (gage height, 8.15 ft), from rating curve extended above 1,100 cfs; minimum, 0.4 cfs Nov. 13, 1955, Jan. 17, 1963.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and two discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1345: 1925-26(M), 1927, 1928(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	26	23	21	26	22	150	348	940	574	271	61
2	6.9	49	23	20	25	26	136	330	1,020	568	282	67
3	6.6	114	23	21	24	24	109	254	1,000	561	289	68
4	6.3	81	23	32	24	22	94	193	912	548	268	64
5	6.3	74	22	39	24	21	98	243	894	554	230	57
6	6.3	57	22	44	23	21	74	390	840	511	193	59
7	6.3	55	22	44	23	21	61	505	813	505	174	64
8	6.3	76	20	38	25	20	57	574	663	548	166	68
9	6.0	105	20	32	24	20	62	642	487	561	177	68
10	6.0	98	18	28	24	20	63	678	330	561	174	55
11	5.8	79	20	26	24	19	83	663	325	542	272	48
12	7.2	79	22	27	25	19	122	710	470	587	196	40
13	37	62	21	28	24	19	132	702	621	663	179	39
14	45	45	22	34	23	19	126	635	670	529	177	36
15	34	52	24	30	24	19	90	600	678	517	164	35
16	40	56	32	28	24	21	84	628	614	505	164	33
17	50	58	32	26	25	24	113	686	453	475	208	31
18	48	74	28	27	24	27	145	702	395	511	150	31
19	43	69	25	52	24	26	152	649	535	548	118	29
20	42	64	24	80	23	28	237	642	621	542	114	28
21	38	61	23	95	22	25	305	678	656	574	111	23
22	35	60	22	64	22	24	325	768	710	652	104	22
23	41	59	22	50	21	26	271	822	656	594	104	24
24	45	50	28	46	20	27	166	777	614	493	113	25
25	43	38	31	64	15	29	128	777	600	431	102	25
26	39	33	25	72	25	38	134	759	542	380	86	26
27	37	30	27	52	32	56	167	795	517	313	75	26
28	35	26	28	47	28	74	227	759	458	293	71	24
29	30	25	25	39	-----	98	293	849	481	361	67	30
30	44	24	23	31	-----	122	338	849	535	370	59	28
31	35	-----	21	28	-----	154	-----	912	-----	309	59	-----
TOTAL	837.9	1,779	741	1,265	667	1,111	4,542	19,519	19,050	15,680	4,917	1,234
MEAN	27.0	59.3	23.9	40.8	23.8	35.8	151	630	635	506	159	41.1
MAX	50	114	32	95	32	154	338	912	1,020	663	289	68
MIN	5.8	24	18	20	15	19	57	193	325	293	59	22
AC-FT	1,660	3,530	1,470	2,510	1,320	2,200	9,010	38,720	37,790	31,100	9,750	2,450
CAL YR 1968	TOTAL 29,785.4		MEAN 81.4		MAX 570	MIN 5.8		AC-FT 59,080				
WTR YR 1969	TOTAL 71,342.9		MEAN 195		MAX 1,020	MIN 5.8		AC-FT 141,500				

SAN JOAQUIN RIVER BASIN

11-2265. SAN JOAQUIN RIVER AT MILLER CROSSING, CALIF.

LOCATION.--Lat 37°30'38", long 119°11'47", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.5 S., R.25 E., Madera County, Sierra National Forest, on right bank at Miller Crossing, 2.4 miles downstream from North Fork San Joaquin River, 4.6 miles east of Clover Meadow ranger station, and 23 miles northeast of town of Bass Lake.

DRAINAGE AREA.--249 sq mi.

PERIOD OF RECORD.--October 1921 to September 1928, October 1951 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as Middle Fork San Joaquin River at Miller Bridge.

GAGE.--Water-stage recorder. Altitude of gage is 4,570 ft (from topographic map). Prior to Mar. 24, 1922, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--25 years, 602 cfs (435,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,390 cfs June 2 (gage height, 18.44 ft); minimum daily, 38 cfs Oct. 11.

Period of record: Maximum discharge, 16,600 cfs Dec. 23, 1955 (gage height, 21.28 ft), from rating curve extended above 5,100 cfs on basis of contracted-opening measurement of maximum flow; minimum, 19 cfs Nov. 17, 1961.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and two discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	96	114	179	335	254	1,220	2,070	6,380	3,010	1,240	290
2	41	106	107	175	295	300	1,110	2,050	6,940	3,070	1,220	298
3	40	547	112	189	268	270	925	1,760	6,490	3,000	1,210	300
4	40	288	107	258	260	234	845	1,480	5,910	2,870	1,170	300
5	40	232	106	252	254	244	925	1,680	5,810	2,780	1,050	280
6	40	195	106	260	246	224	770	2,360	5,530	2,660	905	272
7	40	175	107	256	250	206	628	3,020	5,210	2,580	800	282
8	40	191	103	246	240	198	596	3,470	4,640	2,620	750	290
9	39	250	99	218	240	191	616	3,900	3,670	2,700	730	300
10	39	265	102	191	258	184	664	4,100	2,730	2,700	750	275
11	38	238	114	187	252	180	860	4,000	2,340	2,640	864	248
12	40	285	107	216	252	175	1,100	4,170	2,310	2,760	835	228
13	126	228	120	322	232	172	1,180	4,340	3,340	3,130	735	212
14	125	172	127	385	230	174	1,080	4,170	3,910	2,760	700	204
15	118	214	216	334	240	182	845	3,860	4,010	2,470	680	195
16	111	228	196	260	244	212	810	3,970	3,840	2,360	664	187
17	122	222	165	228	234	254	950	4,380	3,140	2,250	730	179
18	130	240	150	226	234	300	1,210	4,500	2,740	2,250	656	172
19	120	248	135	830	230	300	1,250	4,250	3,240	2,330	564	167
20	115	224	125	837	222	288	1,640	4,140	3,650	2,340	544	163
21	108	212	120	1,030	212	265	1,920	4,430	3,690	2,420	500	157
22	99	206	130	688	208	275	2,120	4,860	4,050	2,530	472	146
23	100	204	150	564	204	316	1,920	5,020	3,910	2,200	468	141
24	107	191	165	520	151	328	1,340	5,230	3,530	2,000	484	141
25	108	152	190	1,500	232	358	1,110	5,340	3,470	1,770	488	139
26	101	143	216	1,590	305	421	1,040	5,230	3,020	1,600	436	139
27	99	142	200	676	280	532	1,180	5,370	2,850	1,480	388	138
28	97	122	242	600	258	644	1,440	5,200	2,590	1,350	352	132
29	94	116	218	470	-----	785	1,760	5,420	2,480	1,440	328	151
30	114	120	200	410	-----	945	1,960	5,640	2,750	1,460	302	148
31	116	-----	185	375	-----	1,170	-----	6,100	-----	1,390	290	-----
TOTAL	2,589	6,252	4,534	14,472	6,866	10,581	35,014	125,510	118,170	72,920	21,305	6,274
MEAN	83.5	208	146	467	245	341	1,167	4,049	3,939	2,352	687	209
MAX	130	547	242	1,590	335	1,170	2,120	6,100	6,940	3,130	1,240	300
MIN	38	96	99	175	151	172	596	1,480	2,310	1,350	290	132
AC-FT	5,140	12,400	8,990	28,700	13,620	20,990	69,450	248,900	234,400	144,600	42,260	12,440

CAL YR 1968 TOTAL 132,579 MEAN 362 MAX 1,980 MIN 38 AC-FT 263,000
WTR YR 1969 TOTAL 424,487 MEAN 1,163 MAX 6,940 MIN 38 AC-FT 842,000

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-26	0800	14.72	2,540	6-22	2200	16.58	4,990
4-22	2130	14.53	2,350	7-13	1630	16.04	4,170
6- 2	2000	18.44	8,390	7-22	1800	15.75	3,760
6-14	2200	16.36	4,640				

SAN JOAQUIN RIVER BASIN

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11-2285. GRANITE CREEK NEAR CATTLE MOUNTAIN, CALIF.

LOCATION.--Lat 37°31'36", long 119°15'28", in NE $\frac{1}{4}$ sec.5, T.5 S., R.25 E., Madera County, Sierra National Forest, on right bank 0.7 mile downstream from confluence of East and West Forks of Granite Creek, 1.6 miles northwest of Cattle Mountain, and 21 miles northeast of town of Bass Lake.

DRAINAGE AREA.--47.8 sq mi.

PERIOD OF RECORD.--October 1921 to September 1928, May 1952 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 14, 1922, nonrecording gage at same site at different datum.

AVERAGE DISCHARGE.--7 years (1921-28), 110 cfs (79,640 acre-ft per year).

EXTREMES.--Current year: Maximum discharge recorded, 1,510 cfs July 22 (gage height, 8.28 ft); minimum daily, 0.22 cfs Oct. 1-5.

Period of record: Maximum discharge recorded, 3,140 cfs Dec. 23, 1964 (gage height, 9.49 ft), from rating curve extended above 1,100 cfs; no flow at times in 1924, 1926.

REMARKS.--Records good above 50 cfs and fair below. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and two discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	12							-	592	71	4.7
2	.22	18							-	560	69	4.3
3	.22	109							-	548	69	4.3
4	.22	75							-	532	66	4.3
5	.22	60							-	524	54	4.0
6	.34	48							-	488	44	3.7
7	.34	43							-	500	36	6.0
8	.34	57							-	492	32	6.4
9	.34	190							-	476	29	6.0
10	.34	188							-	444	32	6.0
11	.34	76							-	428	30	5.0
12	.58	72							-	440	31	4.0
13	6.9	58							-	557	28	3.5
14	24	42							-	417	26	2.9
15	11	43							-	369	24	2.4
16	7.1	48							-	336	22	2.1
17	7.4	53							-	282	26	1.8
18	16	69							-	282	33	1.8
19	16	75							848	303	24	1.6
20	15	70							798	329	18	1.6
21	13	66							798	315	15	1.6
22	11	63							920	435	13	1.6
23	10	61							729	298	12	1.3
24	11	54							736	218	12	1.3
25	11	42							650	178	11	1.3
26	9.2	38							592	137	10	1.2
27	7.9	35							568	126	7.9	1.1
28	7.1	32							528	108	7.1	1.1
29	6.7	30							532	112	6.0	1.3
30	11	29							588	110	5.7	1.6
31	15	-----							-----	93	5.0	-----
TOTAL	220.02	1,856							-	11,029	868.7	89.8
MEAN	7.10	61.9							-	356	28.0	2.99
MAX	24	190							-	592	71	6.4
MIN	.22	12							-	93	5.0	1.1
AC-FT	436	3,680							-	21,880	1,720	178

SAN JOAQUIN RIVER BASIN

11-2295. WARD TUNNEL INTAKE AT FLORENCE LAKE, CALIF.

LOCATION.--Lat 37°16'27", long 118°58'23", in NW¼ sec.1, T.8 S., R.27 E., Fresno County, Sierra National Forest, in gatehouse at entrance to tunnel.

PERIOD OF RECORD.--April 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Florence Lake tunnel at intake 1925-36 and as Ward tunnel at intake 1937-62.

GAGE.--Water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--44 years, 276 cfs (200,000 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,990 cfs Apr. 30, 1926; no flow at times.

REMARKS.--Records excellent. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake for use in Big Creek powerplants. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and rating table for Venturi meter furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1515: 1931. WRD Calif. 1967: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	280	53	95	552	188	425	863	32	1,180	674	514
2	20	358	44	88	508	188	398	907	31	821	676	512
3	18	163	48	84	544	123	355	863	32	674	676	512
4	18	108	48	85	564	152	319	767	32	691	676	508
5	17	88	44	90	304	169	359	680	32	691	691	506
6	16	33	47	97	59	123	294	685	31	691	775	506
7	7.9	.66	47	97	.66	109	236	650	31	690	690	506
8	.39	131	44	95	.66	102	218	613	31	693	584	518
9	.39	106	44	88	.75	98	223	470	31	608	640	526
10	.39	81	41	77	.75	95	216	332	30	3.0	742	524
11	.39	76	40	73	196	90	265	353	30	259	780	526
12	.39	79	38	74	532	88	366	368	30	409	778	524
13	.39	77	47	92	284	86	439	159	323	480	778	524
14	.39	76	52	124	135	83	430	35	478	482	681	522
15	.39	78	55	115	115	84	339	34	478	364	646	520
16	.48	92	67	103	110	89	312	34	480	323	645	334
17	.48	95	74	91	117	99	351	34	482	380	628	350
18	.48	95	79	90	120	110	421	34	754	512	628	322
19	.48	96	82	124	114	106	434	34	963	517	626	208
20	.48	88	71	120	108	106	582	33	1,030	517	626	285
21	.57	82	62	140	105	102	754	33	1,030	517	626	237
22	142	81	64	188	102	97	850	33	1,030	517	625	429
23	120	82	70	220	95	104	878	33	1,030	398	621	493
24	.66	78	81	.84	73	123	697	33	1,030	353	620	489
25	.66	61	71	.75	71	138	544	33	1,030	457	620	486
26	.66	58	83	.84	131	161	500	33	1,030	515	618	484
27	.93	62	95	.93	161	188	529	33	1,140	517	616	480
28	.75	54	113	.93	229	225	613	33	1,190	558	548	477
29	.75	52	112	179	-----	270	728	33	1,180	650	520	489
30	.84	57	108	615	-----	312	816	32	1,180	676	518	498
31	.84	-----	99	589	-----	380	-----	32	-----	674	516	-----
TOTAL	391.08	2,867.66	2,023	3,837.29	5,331.82	4,388	13,891	8,309	16,231	16,817.0	20,088	13,809
MEAN	12.6	95.6	65.3	124	190	142	463	268	541	542	648	460
MAX	142	358	113	615	564	380	878	907	1,190	1,180	780	526
MIN	.39	.66	38	.75	.66	83	216	32	30	3.0	516	208
AC-FT	776	5,690	4,010	7,610	10,580	8,700	27,550	16,480	32,190	33,360	39,840	27,390
CAL YR 1968	TOTAL	69,097.74	MEAN	189	MAX	664	MIN	.39	AC-FT	137,100		
WTR YR 1969	TOTAL	107,983.85	MEAN	296	MAX	1,190	MIN	.39	AC-FT	214,200		

11-2296, FLORENCE LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°16'26", long 118°58'23", in NW $\frac{1}{4}$ sec.1, T.8 S., R.27 E., Fresno County, Sierra National Forest, in gatehouse of Ward tunnel intake, near dam on South Fork San Joaquin River, 16 miles northeast of town of Big Creek.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--November 1925 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Current year: Maximum contents, 64,900 acre-ft Aug. 11 (elevation, 7,328.00 ft); minimum, 267 acre-ft Oct. 7 (elevation, 7,224.83 ft).

Period of record: Maximum contents, 66,000 acre-ft July 3, 1932 (elevation, 7,329.14 ft); no available contents Oct. 2-4, 1926, Nov. 30 to Dec. 2, 1927.

NOTE.--Prior to 1960 maximum and minimum daily contents were published.

REMARKS.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,400 acre-ft between elevations 7,220.9 (throat of Venturi tube in Ward tunnel intake) and 7,327.5 ft (top of spillway drum gates) above mean sea level. Additional storage of 168 acre-ft is not available for diversion. Water is diverted through Ward tunnel to Huntington Lake and used for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

7,220.9	0	7,235	1,770	7,260	11,600	7,290	32,000
7,222	63	7,240	2,980	7,265	14,600	7,300	39,900
7,224	201	7,245	4,670	7,270	17,800	7,310	48,300
7,227	495	7,250	6,650	7,275	21,100	7,320	57,300
7,230	887	7,255	8,950	7,280	24,600	7,330	66,800

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	1093	343	403	3424	571	777	1569	57945	54977	64570	56849
2	275	487	342	401	2605	570	732	1556	58169	55501	64512	56248
3	275	467	344	397	1859	636	656	1413	57936	56109	64407	55648
4	272	413	340	395	954	678	691	1210	57759	56599	64310	55051
5	271	394	338	394	561	506	653	1233	57675	56766	64339	54418
6	269	461	341	394	704	499	575	1703	57535	56738	64310	53833
7	279	595	338	395	1025	497	527	3222	57386	56942	64301	53287
8	308	465	335	396	1386	496	517	5641	57099	57573	64426	52653
9	337	383	332	389	1707	496	515	8112	56516	58580	64455	52032
10	363	375	330	377	2014	494	542	11408	55934	60026	64570	51360
11	389	373	329	377	1861	494	651	14797	55695	60054	64821	50664
12	418	388	337	377	944	494	773	17893	55851	60007	64522	49927
13	480	374	348	423	507	493	799	21633	55907	60933	64416	49195
14	628	369	349	435	438	493	709	25446	56248	61502	64387	48442
15	725	398	360	421	421	493	635	28947	56294	62224	64397	47640
16	812	406	374	415	421	493	651	32732	56137	62538	64325	47198
17	907	402	380	403	426	493	739	36994	55556	62471	64301	46844
18	1000	409	387	411	423	493	765	41335	55179	62872	64195	46379
19	1079	400	380	464	420	493	890	45463	55391	63235	63925	46259
20	1161	392	371	434	415	493	1164	49645	55584	63302	63599	45839
21	1242	385	365	490	410	492	1359	54144	55639	63341	63207	45633
22	1037	383	372	564	406	492	1559	56423	55934	63436	62729	44977
23	884	382	373	968	406	492	1357	56784	55814	63254	62205	44181
24	966	376	379	1783	450	492	1016	57016	55695	62957	61691	43365
25	1051	355	379	2639	444	490	876	57108	55418	62700	61188	42588
26	1134	362	390	3509	564	490	884	57071	55078	62614	60593	41807
27	1212	362	409	4530	614	499	985	57081	54812	62853	59932	41014
28	1296	350	420	5614	601	507	1156	57173	54537	63197	59339	40219
29	1378	351	419	5808	-----	626	1341	57414	54574	63848	58767	39372
30	1464	352	418	5080	-----	710	1460	57563	54812	64291	58150	38547
31	1546	-----	412	4258	-----	792	-----	57833	-----	64368	57517	-----
MEAN	766	423	366	1398	943	531	865	31534	56137	60833	62981	48049
MAX	1546	1093	420	5808	3424	792	1559	57833	58169	64368	64821	56849
MIN	269	350	329	377	406	490	515	1210	54537	54977	57517	38547
(a)	7,233.83	7,225.72	7,226.28	7,243.86	7,227.86	7,229.32	7,233.37	7,320.56	7,317.29	7,327.46	7,320.22	7,298.39
(b)	+1,270	-1,200	+60	+3,850	-3,660	+191	+668	+56,340	-3,000	+9,600	-6,900	-19,000
CAL YR 1968	b	+81										
WTR YR 1969	b	+38,220										

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet, rounded to Geological Survey standards.

SAN JOAQUIN RIVER BASIN

11-2300. SOUTH FORK SAN JOAQUIN RIVER NEAR FLORENCE LAKE, CALIF.

LOCATION.--Lat 37°16'24", long 118°57'54", in SE $\frac{1}{4}$ sec.36, T.7 S., R.27 E., Fresno County, Sierra National Forest, on left bank 0.1 mile downstream from spillway of Florence Lake Dam, and 6 miles upstream from Bear Creek.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1925, published as "near Lake Florence."

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,200 ft (from topographic map).

AVERAGE DISCHARGE (Combined flow of South Fork San Joaquin River and Ward tunnel at intake).--48 years, 317 cfs (229,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,530 cfs June 2 (gage height, 15.23 ft); minimum daily, 3.2 cfs Feb. 15-23, Mar. 6-16, 19-23.

Period of record: Maximum discharge, 4,320 cfs June 6, 1940 (gage height, 15.38 ft); no flow at times.

REMARKS.--Records good. Flow regulated by Florence Lake 0.1 mile upstream beginning in 1925 (see sta 11-2296) and by diversion into Ward tunnel (see sta 11-2295). See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.7	3.3	3.3	3.3	3.3	3.7	4.2	3,220	925	598	40
2	3.3	3.7	3.3	3.3	3.3	3.3	3.6	4.0	3,310	1,180	715	30
3	3.3	4.0	3.3	3.3	3.3	3.3	3.4	4.0	3,270	1,170	650	9.2
4	3.3	3.3	3.3	3.3	3.3	3.3	3.5	4.0	3,140	1,170	586	8.8
5	3.3	3.3	3.3	3.3	3.3	3.3	3.5	4.2	3,050	1,300	330	8.8
6	3.3	3.3	3.3	3.3	3.3	3.2	3.3	4.2	3,000	1,340	81	9.0
7	3.3	3.3	3.3	3.3	3.3	3.2	3.3	4.4	2,950	1,230	12	8.5
8	3.3	3.3	3.3	3.3	3.3	3.2	3.3	4.6	2,880	1,120	15	8.4
9	3.3	3.3	3.3	3.3	3.3	3.2	3.3	4.9	2,630	1,010	27	8.3
10	3.3	3.3	3.3	3.3	3.3	3.2	3.4	4.9	2,020	1,420	32	8.2
11	3.4	3.3	3.3	3.3	3.3	3.2	3.6	5.3	1,620	1,900	315	8.0
12	3.4	3.6	3.3	3.3	3.3	3.2	3.9	5.2	1,630	1,890	354	7.1
13	3.7	3.3	3.3	3.7	3.3	3.2	3.7	5.3	1,740	1,760	28	6.7
14	3.8	3.3	3.3	3.4	3.3	3.2	3.6	5.5	1,900	1,740	14	6.6
15	3.5	3.5	3.3	3.3	3.2	3.2	3.6	5.6	2,180	1,450	16	6.6
16	3.5	3.4	3.3	3.3	3.2	3.2	3.6	5.8	2,080	1,560	12	6.6
17	3.5	3.4	3.3	3.3	3.2	3.3	3.8	6.0	1,710	1,600	9.2	6.5
18	3.6	3.5	3.3	3.4	3.2	3.3	3.8	6.1	1,210	1,330	8.6	6.5
19	3.6	3.4	3.3	4.2	3.2	3.2	4.0	6.3	1,190	1,540	13	6.5
20	3.6	3.3	3.3	3.4	3.2	3.2	4.0	6.5	1,350	1,740	9.2	6.5
21	3.6	3.3	3.3	4.0	3.2	3.2	4.0	34	1,320	1,800	9.1	6.5
22	3.6	3.3	3.3	3.4	3.2	3.2	4.2	1,420	1,580	1,850	19	6.4
23	3.6	3.3	3.3	3.4	3.2	3.2	3.9	2,470	1,780	1,940	33	6.4
24	3.6	3.3	3.4	3.6	3.6	3.3	3.8	2,710	1,580	1,800	36	6.4
25	3.6	3.3	3.3	3.4	4.0	3.3	3.8	2,850	1,440	1,380	36	6.3
26	3.6	3.3	3.3	3.3	3.3	3.3	3.8	2,890	1,140	1,050	36	6.3
27	3.6	3.3	3.5	3.3	3.3	3.4	3.9	2,830	980	795	38	6.2
28	3.6	3.3	3.3	3.3	3.3	3.5	4.0	2,820	840	611	36	6.2
29	3.6	3.3	3.3	3.3	-----	3.5	4.1	2,930	680	532	36	6.2
30	3.6	3.3	3.3	3.3	-----	3.7	4.2	2,990	790	566	38	6.2
31	3.6	-----	3.3	3.3	-----	3.9	-----	3,060	-----	775	38	-----
TOTAL	108.2	101.5	102.6	105.2	92.5	102.2	111.6	27,105.0	58,210	41,474	4,180.1	269.9
MEAN	3.49	3.38	3.31	3.39	3.30	3.30	3.72	874	1,940	1,338	135	9.00
MAX	3.8	4.0	3.5	4.2	4.0	3.9	4.2	3,060	3,310	1,940	715	40
MIN	3.3	3.3	3.3	3.3	3.2	3.2	3.3	4.0	680	532	8.6	6.2
AC-FT	215	201	204	209	183	203	221	53,760	115,500	82,260	8,290	535

CAL YR 1968 TOTAL 1,641.1 MEAN 4.48 MAX 7.3 MIN 3.1 AC-FT 3,260
WTR YR 1969 TOTAL 131,962.8 MEAN 362 MAX 3,310 MIN 3.2 AC-FT 261,700

11-2305. BEAR CREEK NEAR LAKE THOMAS A. EDISON, CALIF.

LOCATION.--Lat 37°20'18", long 118°58'23", in SW $\frac{1}{4}$ sec.12, T.7 S., R.27 E. (unsurveyed), Fresno County, Sierra National Forest, on right bank 0.2 mile upstream from diversion dam, 1.7 miles upstream from mouth, 2.1 miles south of Lake Thomas A. Edison, and 2.4 miles northeast of Mono Hot Springs.

DRAINAGE AREA.--52.5 sq mi.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

GAGE.--Water-stage recorder. Datum of gage is 7,366.94 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--48 years, 89.6 cfs (64,920 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,390 cfs June 2 (gage height, 6.54 ft); minimum daily, 3.5 cfs Oct. 4-9, 11.

Period of record: Maximum discharge, 1,680 cfs July 26, 1956 (gage height, 7.12 ft); minimum recorded, 1.2 cfs Sept. 29 to Oct. 5, 1924.

REMARKS.--Records good except those for winter periods, which are fair. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 611: 1922(M). WSP 1345: 1931-35. WSP 1515: 1922-30. WSP 1930: Drainage area. DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	12	16	23	41	40	132	289	1,010	600	362	77
2	3.8	16	15	22	33	39	123	277	1,090	605	370	78
3	3.8	37	17	20	31	33	103	229	1,070	610	346	78
4	3.5	34	16	24	28	30	105	184	1,020	560	318	77
5	3.5	29	14	25	26	26	111	195	972	575	301	73
6	3.5	23	15	28	26	24	85	274	942	565	256	69
7	3.5	22	14	29	36	24	73	374	900	540	223	67
8	3.5	22	14	27	37	22	69	465	810	525	212	69
9	3.5	27	13	25	33	21	72	545	625	545	209	69
10	3.8	26	13	21	29	21	73	610	445	570	226	66
11	3.5	24	12	20	25	20	99	555	362	580	301	61
12	3.8	26	14	20	26	20	136	530	390	600	292	57
13	7.0	24	17	20	26	20	143	580	505	720	226	53
14	18	24	16	27	24	19	121	570	585	720	209	50
15	14	28	19	29	24	19	94	535	665	600	200	46
16	14	38	22	26	30	21	96	595	625	575	195	44
17	14	36	23	22	30	24	117	645	490	560	198	43
18	15	33	31	22	28	28	134	635	395	570	195	39
19	13	33	26	26	28	25	148	600	495	615	167	38
20	12	31	22	25	28	26	220	600	580	605	157	37
21	11	30	20	31	26	24	256	645	600	610	148	34
22	10	28	19	37	24	24	277	720	696	620	139	33
23	11	29	18	51	23	27	232	720	685	595	134	32
24	12	24	20	130	24	30	160	774	640	550	134	31
25	12	20	23	87	30	35	145	822	605	485	136	31
26	12	22	29	68	55	43	155	822	515	420	123	30
27	12	20	36	65	60	54	172	816	510	400	111	29
28	12	17	36	74	44	66	212	840	475	358	101	28
29	12	17	32	82	-----	82	250	858	490	400	90	28
30	14	17	28	66	-----	112	268	900	565	425	83	28
31	12	-----	24	50	-----	127	-----	948	-----	390	78	-----
TOTAL	280.5	769	634	1,222	875	1,126	4,381	18,152	19,757	17,093	6,240	1,495
MEAN	9.05	25.6	20.5	39.4	31.3	36.3	146	586	659	551	201	49.8
MAX	18	38	36	130	60	127	277	948	1,090	720	370	78
MIN	3.5	12	12	20	23	19	69	184	362	358	78	28
AC-FT	556	1,530	1,260	2,420	1,740	2,230	8,690	36,000	39,190	33,900	12,380	2,970

CAL YR 1968 TOTAL 17,231.7 MEAN 47.1 MAX 342 MIN 3.5 AC-FT 34,180
WTR YR 1969 TOTAL 72,024.5 MEAN 197 MAX 1,090 MIN 3.5 AC-FT 142,900

PEAK DISCHARGE (BASE, 440 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
6- 2	2030	6.54	1,390	6-22	2130	5.82	882
6-14	2200	5.69	804	7-13	2100	6.09	1,050

SAN JOAQUIN RIVER BASIN

11-2310, LAKE THOMAS A. EDISON NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°22'13", long 118°59'13", in sec.26, T.6 S., R.27 E. (unsurveyed), Fresno County, Sierra National Forest, in outlet works of dam on Mono Creek at lower end of Vermilion Valley, 18.1 miles northeast of town of Big Creek.

DRAINAGE AREA.--90.0 sq mi.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Current year: Maximum contents, 125,300 acre-ft Aug. 14 (elevation, 7,642.62 ft); minimum, 5,080 acre-ft Mar. 27 (elevation, 7,553.09 ft).

Period of record: Maximum contents, 125,900 acre-ft Aug. 18, 1958 (elevation, 7,642.95 ft); minimum since appreciable storage was attained, 5,080 acre-ft Mar. 27, 1969 (elevation, 7,553.09 ft).

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Lake is formed by earthfill dam; dam completed and storage began on Oct. 12, 1954. Usable capacity, 125,000 acre-ft between elevations 7,508.9 (invert of outlet works) and 7,642.5 ft (top of gates in service spillway) above mean sea level. Water is released for diversion to Ward tunnel via Mono Creek diversion works. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

7,508.9	0	7,535	513	7,560	9,520	7,610	68,600
7,515	18	7,540	928	7,570	18,100	7,620	85,000
7,520	64	7,545	1,830	7,580	28,500	7,630	102,400
7,525	156	7,550	3,570	7,590	40,500	7,640	120,400
7,530	297	7,555	6,150	7,600	53,800	7,643	126,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	CCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.50	40.90	33.40	24.40	19.50	14.80	6.04	14.10	69.90	105.50	125.00	122.10
2	45.90	40.90	33.10	24.10	19.30	14.20	6.38	14.70	73.10	107.50	125.00	121.80
3	45.20	40.80	32.70	23.80	19.10	13.60	6.65	15.20	76.20	109.30	125.10	121.60
4	44.60	40.50	32.30	23.60	19.00	13.00	6.93	15.60	78.90	111.00	125.10	121.40
5	43.80	40.20	32.00	23.30	18.90	12.30	7.28	16.10	81.20	112.80	124.90	121.10
6	43.10	40.10	31.70	23.00	18.80	11.70	7.56	16.80	83.10	114.50	125.10	120.70
7	42.40	40.10	31.30	22.70	18.70	11.10	7.78	17.60	85.20	116.10	125.20	120.30
8	42.30	40.00	31.00	22.50	18.50	10.40	7.70	18.90	86.80	117.60	125.20	120.00
9	42.30	39.70	30.70	22.20	18.40	9.79	7.32	20.30	88.00	118.80	125.20	119.80
10	42.30	39.40	30.40	21.90	18.20	9.14	6.95	22.00	88.60	119.70	125.20	119.50
11	42.30	39.10	30.10	21.60	18.10	8.88	6.64	23.60	88.80	120.60	125.10	119.30
12	42.30	38.80	29.70	21.40	18.10	8.95	6.43	25.00	89.10	121.30	125.20	119.10
13	42.40	38.50	29.40	21.20	18.00	8.99	6.23	26.70	89.70	122.20	125.20	118.90
14	42.50	38.20	29.20	21.00	17.80	8.74	6.03	28.40	90.30	123.00	125.30	118.70
15	42.30	38.00	28.90	20.70	17.70	8.37	5.91	30.00	91.30	123.40	125.20	118.50
16	42.30	37.80	28.60	20.40	17.50	8.03	5.91	31.60	92.30	123.70	125.20	118.10
17	42.30	37.70	28.20	20.20	17.40	7.71	5.95	33.50	92.90	124.10	125.20	117.80
18	42.40	37.40	27.90	20.00	17.30	7.42	6.05	35.50	93.20	124.20	125.20	117.30
19	42.40	37.20	27.60	20.00	17.10	7.12	6.21	37.30	93.60	124.30	125.10	117.00
20	42.30	37.10	27.30	19.90	16.90	6.84	6.53	39.10	94.50	124.40	125.10	116.50
21	42.20	36.70	27.00	19.80	16.80	6.58	6.95	41.10	95.50	124.40	125.10	116.00
22	42.10	36.50	26.70	19.70	16.60	6.29	7.61	43.30	96.80	124.40	125.00	115.90
23	42.10	36.20	26.30	19.60	16.50	5.98	8.38	45.50	98.00	124.20	124.80	115.60
24	42.10	35.90	26.20	19.80	16.50	5.68	9.02	47.90	98.20	124.00	124.60	115.20
25	42.10	35.50	26.00	19.80	16.40	5.41	9.66	50.40	99.10	123.90	124.40	114.90
26	42.10	35.20	25.80	19.70	16.20	5.17	10.20	53.00	99.70	124.00	124.10	114.60
27	41.70	34.80	25.50	19.70	15.90	5.08	10.90	55.80	100.40	124.10	123.90	114.20
28	41.60	34.40	25.30	19.70	15.40	5.18	11.60	58.40	101.40	124.30	123.50	113.90
29	41.50	34.10	25.00	19.40	-----	5.30	12.40	61.10	102.50	124.60	123.20	113.60
30	41.50	33.80	24.70	19.50	-----	5.47	13.30	63.80	103.80	124.90	122.90	113.20
31	41.30	-----	24.70	19.60	-----	5.73	-----	66.70	-----	125.00	122.50	-----
MEAN	42.65	37.85	28.67	21.10	17.66	8.47	7.75	34.48	90.74	120.38	124.74	117.89
MAX	46.50	40.90	33.40	24.40	19.50	14.80	13.30	66.70	103.80	125.00	125.30	122.10
MIN	41.30	33.80	24.70	19.40	15.40	5.08	5.91	14.10	69.90	105.50	122.50	113.20
(a)	7,590.68	7,584.55	7,576.47	7,571.47	7,567.06	7,554.28	7,564.64	7,608.80	7,630.82	7,642.48	7,641.13	7,636.04
(b)	-5,900	-7,500	-9,100	-5,100	-4,200	-9,670	+7,570	+53,400	+37,100	+21,200	-2,500	-9,300

CAL YR 1968 b -42,600
WTR YR 1969 b +66,000

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11-2315. MONO CREEK BELOW LAKE THOMAS A. EDISON, CALIF.

LOCATION.--Lat 37°21'40", long 118°59'26", in SW $\frac{1}{4}$ sec.35, T.6 S., R.27 E. (unsurveyed), Fresno County, Sierra National Forest, on left bank 0.6 mile upstream from diversion dam, 1 mile downstream from Lake Thomas A. Edison, and 1.9 miles northeast of Mono Hot Springs.

DRAINAGE AREA.--92.5 sq mi.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermillion Valley."

GAGE.--Water-stage recorder. Altitude of gage is 7,400 ft (from topographic map).

AVERAGE DISCHARGE (Adjusted for storage).--48 years, 152 cfs (110,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 834 cfs July 25 (gage height, 7.17 ft); minimum daily, 11 cfs Oct. 9-13, 17-19, 24, 25.

Period of record: Maximum discharge, 1,760 cfs June 2, 1938 (gage height, 8.62 ft); minimum daily, 0.3 cfs Nov. 11, 12, 1954.

REMARKS.--Records good. Flow regulated by Lake Thomas A. Edison 1 mile upstream beginning Oct. 12, 1954 (see sta 11-2310). No diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Southern California Edison Co. in connection with Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1011: 1943. WSP 1515: 1956. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	193	205	188	133	400	25	87	313	97	520	281
2	309	66	205	188	150	395	25	226	280	24	485	281
3	375	163	205	188	123	395	26	226	321	40	430	195
4	347	192	205	188	141	395	26	226	496	40	480	188
5	390	192	205	188	144	390	28	226	658	42	430	217
6	385	56	205	188	144	390	26	238	658	42	223	297
7	385	29	205	188	144	385	26	241	658	42	289	297
8	28	137	201	188	144	385	192	249	658	45	289	234
9	11	195	201	188	144	380	338	253	658	258	269	197
10	11	195	201	188	144	380	338	253	658	405	297	198
11	11	195	201	188	98	157	338	249	658	405	395	201
12	11	195	201	188	62	13	334	261	658	510	238	180
13	11	195	201	188	144	43	334	261	658	597	273	150
14	58	195	201	188	144	156	330	261	658	668	204	153
15	116	195	201	188	144	215	247	261	658	702	265	166
16	12	102	201	188	144	215	188	265	658	702	277	240
17	11	119	201	185	144	208	188	269	658	702	277	211
18	11	198	201	185	144	198	192	269	658	751	277	266
19	11	141	198	188	144	198	192	269	658	817	277	212
20	70	102	198	188	141	198	201	248	658	817	198	289
21	96	208	198	192	141	198	205	230	658	817	195	290
22	64	153	198	188	141	195	113	198	658	822	234	134
23	12	208	198	137	147	195	24	214	663	822	289	215
24	11	208	198	76	156	192	20	269	663	822	285	212
25	11	208	125	249	156	192	20	269	663	712	285	206
26	15	208	198	105	156	192	22	253	663	536	285	142
27	243	208	198	142	273	117	23	160	515	490	285	223
28	81	208	198	238	400	59	28	185	325	415	285	230
29	83	205	198	168	-----	57	29	218	277	370	285	185
30	19	205	198	38	-----	55	30	269	277	370	281	230
31	129	-----	80	61	-----	39	-----	297	-----	450	281	-----
TOTAL	3,652	5,074	6,029	5,348	4,290	6,987	4,108	7,400	17,300	14,332	9,383	6,520
MEAN	118	169	194	173	153	225	137	239	577	462	303	217
MAX	390	208	205	249	400	400	338	297	663	822	520	297
MIN	11	29	80	38	62	13	20	87	277	24	195	134
AC-FT	7,240	10,060	11,960	10,610	8,510	13,860	8,150	14,680	34,310	28,430	18,610	12,930
CAL YR 1968	TOTAL 55,012		MEAN 150		MAX 440		MIN 11		AC-FT 109,100			
WTR YR 1969	TOTAL 90,423		MEAN 248		MAX 822		MIN 11		AC-FT 179,400			

SAN JOAQUIN RIVER BASIN

11-2345. CHIQUITO CREEK NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°24'47", long 119°22'52", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.6 S., R.24 E., Madera County, Sierra National Forest, on right bank 0.5 mile downstream from Beasore Creek, 0.6 mile southwest of Arnold Meadow, and 12 miles northeast of town of Bass Lake.

DRAINAGE AREA.--60.1 sq mi.

PERIOD OF RECORD.--September 1921 to September 1928, November 1951 to current year (no winter records 1952-54, 1956). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "near Arnold Meadow."

GAGE.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map). Prior to Apr. 30, 1922, non-recording gage at same site and datum.

AVERAGE DISCHARGE.--21 years (1921-28, 1954-55, 1956-69), 91.0 cfs (65,930 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,060 cfs Jan. 26 (gage height, 9.97 ft); minimum daily, 3.7 cfs Oct. 1-4, 8.
Period of record: Maximum discharge, 8,630 cfs Dec. 23, 1955 (gage height, 16.38 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 1.2 cfs Sept. 7, 9, 1961.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	8.9	20	29	175	93	410	796	1,120	287	62	21
2	3.7	12	18	29	165	91	398	778	1,080	275	58	21
3	3.7	135	20	30	156	89	353	687	990	260	56	21
4	3.7	47	20	35	152	87	347	599	915	260	54	20
5	4.0	32	18	42	147	86	368	683	865	252	50	20
6	4.0	28	20	47	131	87	320	854	804	238	47	20
7	4.0	23	19	49	129	86	287	1,030	814	229	45	22
8	3.7	24	19	47	131	84	284	1,180	683	224	44	20
9	4.0	29	18	42	129	84	284	1,280	583	214	42	20
10	4.0	32	20	37	125	84	299	1,250	501	204	41	19
11	4.0	26	24	36	123	82	359	1,260	424	192	41	18
12	4.3	38	24	42	125	82	420	1,530	410	187	40	18
13	15	32	21	91	115	80	462	1,380	445	201	37	17
14	40	24	23	94	115	79	438	1,270	512	182	35	17
15	16	24	41	75	115	86	371	1,210	490	162	35	17
16	11	31	33	64	113	95	392	1,280	523	150	34	16
17	11	31	29	60	111	104	470	1,330	504	139	36	16
18	11	36	28	65	111	115	523	1,290	462	135	37	16
19	9.8	37	27	311	106	119	551	1,220	470	133	33	16
20	8.4	34	25	375	100	121	663	1,150	466	127	32	17
21	8.0	33	27	645	98	117	751	1,120	438	119	30	18
22	7.6	30	30	353	98	119	782	1,240	431	113	29	17
23	7.2	31	32	232	95	137	715	1,300	424	108	28	16
24	7.2	29	42	194	67	150	543	1,300	398	100	27	16
25	6.8	24	50	690	96	167	487	1,230	380	93	27	15
26	6.8	21	37	1,180	100	194	508	1,180	351	87	25	14
27	6.4	21	40	489	98	229	583	1,170	335	87	24	14
28	6.4	20	47	325	96	272	659	1,100	311	86	24	13
29	6.4	19	40	241	-----	320	735	1,110	287	79	23	16
30	11	20	35	210	-----	371	778	1,120	287	74	23	16
31	11	-----	30	190	-----	410	-----	1,160	-----	68	22	-----
TOTAL	253.8	931.9	877	6,349	3,322	4,320	14,540	35,087	16,703	5,065	1,141	527
MEAN	8.19	31.1	28.3	205	119	139	485	1,132	557	163	36.8	17.6
MAX	40	135	50	1,180	175	410	782	1,530	1,120	287	62	22
MIN	3.7	8.9	18	29	67	79	284	599	287	68	22	13
AC-FT	503	1,850	1,740	12,590	6,590	8,570	28,840	69,590	33,130	10,050	2,260	1,050
CAL YR 1968	TOTAL	20,062.2	MEAN	54.8	MAX	222	MIN	3.4	AC-FT	39,790		
WTR YR 1969	TOTAL	89,116.7	MEAN	244	MAX	1,530	MIN	3.7	AC-FT	176,800		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	1000	7.64	773	5-1	2000	7.90	890
1-26	0700	9.97	2,060	5-12	2000	9.66	1,850
4-13	2200	6.97	504	6-16	2000	7.42	683
4-21	2130	7.88	881				

11-2347. MAMMOTH POOL RESERVOIR NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°19'45", long 119°19'40", in SW $\frac{1}{4}$ sec.10, T.7 S., R.24 E., Madera County, Sierra National Forest, in gatehouse of power tunnel intake near dam on San Joaquin River, 10 miles northwest of town of Big Creek.

DRAINAGE AREA.--995 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Current year: Maximum contents, 126,500 acre-ft June 2, 3; maximum elevation, 3,335.86 ft June 3; minimum contents, 4,720 acre-ft Mar. 28 (elevation, 3,140.69 ft).

Period of record: Maximum contents, 126,500 acre-ft June 2, 3, 1969; maximum elevation, 3,335.86 ft June 3, 1969; minimum contents since appreciable storage was attained, 4,710 acre-ft Mar. 20, 1966 (elevation, 3,140.65 ft).

REMARKS.--Reservoir is formed by an earthfill dam; storage began Oct. 8, 1959. Usable capacity, 119,900 acre-ft between elevations 3,100.00 (invert of power tunnel) and 3,330.00 ft (crest of spillway) above mean sea level. Additional storage of 2,780 acre-ft is not available for release. Water is diverted through tunnel for power development; water is returned to river 8.5 miles downstream from dam. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,100	0	3,130	3,110	3,180	14,100	3,280	56,400
3,105	417	3,140	4,600	3,190	17,400	3,280	72,100
3,110	861	3,150	6,400	3,200	21,400	3,300	89,800
3,115	1,360	3,160	8,620	3,220	31,100	3,320	109,300
3,120	1,900	3,170	11,200	3,240	42,800	3,335	125,500

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.40	19.00	12.10	9.75	87.40	34.40	19.60	122.70	126.20	122.50	120.40	91.00
2	19.30	18.70	12.00	9.65	86.10	32.40	23.40	122.70	126.50	122.40	120.40	89.40
3	19.10	20.40	12.00	9.64	84.60	30.20	26.20	122.40	126.10	122.30	120.30	87.90
4	19.20	19.90	12.00	9.71	83.00	28.10	28.40	122.10	125.90	122.20	120.10	86.10
5	19.30	18.60	12.00	9.76	81.50	26.90	31.80	122.70	125.80	122.20	119.80	84.40
6	19.40	18.40	12.00	9.63	80.00	25.20	34.20	123.40	125.50	122.10	118.40	82.30
7	19.50	18.10	12.20	9.65	78.20	23.70	35.20	123.90	125.30	122.10	117.20	80.30
8	19.50	17.90	12.30	9.48	76.40	21.30	35.90	124.20	124.60	122.00	116.50	78.60
9	19.50	17.70	12.20	9.25	74.50	19.10	36.50	124.40	124.00	122.00	115.80	76.90
10	19.30	17.70	12.10	9.23	72.50	16.70	37.20	124.30	123.30	122.20	115.00	75.10
11	19.30	17.40	11.50	8.79	70.60	14.40	39.20	124.50	123.00	122.40	114.50	73.30
12	19.40	16.70	11.30	8.82	68.70	12.20	42.50	124.70	123.30	122.50	115.20	71.30
13	19.70	16.40	11.30	11.20	66.60	9.79	46.50	124.50	123.80	122.90	114.70	68.90
14	19.30	16.00	11.30	13.50	64.40	9.23	50.00	124.20	124.00	122.50	113.90	66.30
15	19.10	15.40	11.60	14.10	62.90	9.10	52.00	124.10	124.10	122.10	112.90	63.90
16	19.10	15.00	11.40	13.90	61.00	8.90	54.00	124.30	124.00	122.10	111.90	61.40
17	19.10	14.60	10.60	13.70	59.00	7.07	56.90	124.60	123.20	122.10	111.00	59.00
18	19.20	14.30	10.50	14.50	56.80	5.64	61.40	124.50	123.00	122.00	110.10	56.50
19	19.30	14.10	10.20	25.90	54.60	6.31	66.00	124.20	123.40	122.10	109.20	54.10
20	19.30	13.90	10.20	34.10	52.30	5.75	72.70	124.20	123.40	122.20	108.10	51.60
21	19.00	13.50	10.30	49.30	49.80	4.96	81.00	124.50	123.60	122.30	106.90	49.00
22	18.90	13.30	10.50	53.20	47.50	5.17	90.20	125.10	123.90	122.50	105.70	46.50
23	19.00	13.10	10.50	53.70	45.20	4.96	98.50	125.40	123.50	122.20	104.40	44.30
24	19.00	12.80	10.70	54.40	44.00	5.00	103.10	125.60	123.50	122.00	103.10	42.30
25	19.00	12.40	11.30	68.90	42.00	4.77	106.30	125.60	123.20	121.60	101.90	40.20
26	19.20	12.40	11.20	83.60	40.20	5.04	109.50	125.50	122.80	121.10	100.50	38.20
27	19.20	12.40	10.80	87.00	38.50	5.35	113.50	125.50	122.60	120.90	99.10	36.10
28	19.00	12.40	10.70	88.40	36.50	6.40	119.00	125.40	122.30	120.50	97.60	34.10
29	18.90	12.40	10.30	88.60	-----	8.35	122.40	125.70	122.20	120.40	96.10	32.10
30	18.90	12.10	9.91	88.30	-----	11.20	122.60	125.80	122.40	120.60	94.40	30.20
31	18.90	-----	9.82	88.50	-----	15.30	-----	126.20	-----	120.60	92.70	-----
MEAN	19.20	15.57	11.19	34.13	63.03	13.64	63.86	124.42	123.95	121.92	109.93	61.71
MAX	19.70	20.40	12.30	88.60	87.40	34.40	122.60	126.20	126.50	122.90	120.40	91.00
MIN	18.90	12.10	9.82	8.79	36.50	4.77	19.60	122.10	122.20	120.40	92.70	30.20
(a)	3,193.90	3,173.44	3,164.88	3,298.61	3,229.64	3,183.86	3,332.42	3,335.63	3,332.23	3,330.56	3,303.07	3,218.35
(b)	-800	-6,800	-2,280	+78,680	-52,000	-21,200	+107,300	+3,600	-3,800	-1,800	-27,900	-62,500

CAL YR 1968 b -15,780
WTR YR 1969 b +10,500

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2347.6. SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°19'00", long 119°19'37", in NW¼SW¼ sec.14, T.7 S., R.24 E., Madera County, Sierra National Forest, on right bank 1,500 ft upstream from Shakeflat Creek, 4,900 ft downstream from Mammoth Pool dam, and 10 miles northwest of town of Big Creek.

DRAINAGE AREA.--1,003 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,865.50 ft above mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Current year: Maximum discharge, 18,400 cfs June 3 (gage height, 18.38 ft); minimum daily, 11 cfs Nov. 11, 13, 14.

Period of record: Maximum discharge, 18,400 cfs June 3, 1969 (gage height, 18.38 ft); minimum daily, 0.3 cfs Oct. 14, Dec. 5, 1959.

REMARKS.--Records good. Flow regulated by Mammoth Pool Reservoir 4,900 ft upstream (see sta 11-2347). Flow partly regulated by Florence Lake (see sta 11-2296), Lake Thomas A. Edison (see sta 11-2310) and diversions through Ward tunnel (see sta 11-2295) and through Mono-Bear conduit to Ward tunnel. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 12 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	12	13	24	29	22	4,540	16,000	4,210	446	31
2	14	14	12	13	24	26	22	4,980	16,400	4,160	297	31
3	14	18	12	13	23	26	24	4,430	16,200	4,040	256	31
4	14	12	12	13	22	24	22	3,490	15,200	3,600	165	32
5	14	12	12	13	27	22	29	3,560	14,600	3,610	76	32
6	14	12	12	13	47	22	28	5,220	14,000	3,560	40	31
7	14	12	12	12	38	22	24	7,030	13,200	3,340	28	31
8	14	12	12	12	35	21	38	8,280	12,300	3,080	28	31
9	14	12	12	12	35	21	53	9,220	9,810	3,220	28	31
10	14	12	14	12	34	21	52	9,830	7,240	3,320	27	31
11	14	11	14	12	35	20	52	9,420	5,630	3,500	27	31
12	14	12	12	12	36	22	52	10,500	5,660	3,700	27	31
13	15	11	12	27	35	25	53	10,300	6,860	4,200	27	31
14	16	11	16	22	35	24	53	9,720	8,090	3,800	27	31
15	16	15	22	16	47	24	53	8,790	8,770	3,600	26	30
16	16	12	17	15	39	24	51	8,930	8,630	3,400	26	30
17	16	12	13	15	36	24	49	9,710	7,350	3,470	26	30
18	15	12	12	27	38	24	50	10,000	5,520	3,260	28	30
19	15	12	12	83	35	24	50	9,450	5,760	3,410	29	30
20	15	12	12	42	35	24	50	8,900	6,850	3,740	29	30
21	15	12	12	82	34	26	51	9,310	6,840	3,850	29	31
22	15	12	12	37	33	24	51	10,700	7,350	3,990	29	31
23	15	12	12	28	35	24	59	12,800	7,830	3,970	29	31
24	15	12	17	38	73	24	69	13,600	6,740	3,450	29	30
25	15	12	22	78	36	24	69	13,800	6,560	2,810	30	30
26	15	12	17	61	29	22	69	13,600	5,450	1,650	32	30
27	14	12	14	35	26	20	70	13,600	4,870	1,140	32	31
28	14	12	15	30	35	20	70	13,200	4,200	664	31	31
29	14	12	14	24	-----	20	1,980	13,600	3,540	420	31	31
30	15	12	13	26	-----	21	4,200	14,400	3,730	458	31	31
31	15	-----	13	24	-----	22	-----	15,200	-----	449	31	-----
TOTAL	454	370	425	860	981	716	7,515	300,110	261,180	95,071	1,997	923
MEAN	14.6	12.3	13.7	27.7	35.0	23.1	251	9,681	8,706	3,067	64.4	30.8
MAX	16	18	22	83	73	29	4,200	15,200	16,400	4,210	446	32
MIN	14	11	12	12	22	20	22	3,490	3,540	420	26	30
AC-FT	901	734	843	1,710	1,950	1,420	14,910	595,300	518,000	188,600	3,960	1,830
CAL YR 1968	TOTAL	5,801.1	MEAN	15.9	MAX	52	MIN	9.1	AC-FT	11,510		
WTR YR 1969	TOTAL	670,602	MEAN	1,837	MAX	16,400	MIN	11	AC-FT	1,330,000		

LOCATION.--Lat 37°15'18", long 119°09'37", in SW $\frac{1}{2}$ SW $\frac{1}{4}$ sec.5, T.8 S., R.26 E., Fresno County, Sierra National Forest, at tunnel outlet at east end of Huntington Lake, 6 miles northeast of Big Creek.

GAGE.--Pressure differential recorder to record discharge through penstock. November 1927 to May 23, 1956, water-stage recorder at datum 6,999.00 ft above mean sea level (levels by Southern California Edison Co.). May 24, 1956, to Sept. 30, 1968, no recorder, see REMARKS below.

EXTREMES.--Period of record: Maximum daily discharge, 2,080 cfs June 21, 1935; no flow at times in 1961, 1964-65, 1968.

COOPERATION.--Records furnished by Southern California Edison Co. and reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	401	434	259	320	726	636	579	1,100	219	1,240	1,190	863
2	302	539	245	296	681	634	578	928	239	1,190	1,210	864
3	433	376	274	298	713	630	524	895	203	1,160	1,200	800
4	335	359	262	283	725	484	437	808	215	1,180	1,200	765
5	426	322	240	310	545	571	538	722	192	1,210	1,200	816
6	393	137	270	146	230	509	364	724	171	1,180	1,270	880
7	402	0	273	172	165	503	368	642	161	1,180	1,200	880
8	96	193	263	303	179	542	494	544	139	1,180	1,080	819
9	0	337	221	317	187	481	610	568	106	1,130	1,120	793
10	0	310	252	264	171	486	644	428	60	556	1,230	806
11	0	297	241	297	275	219	624	501	105	792	1,290	788
12	0	310	247	291	661	171	866	456	88	934	1,220	766
13	0	302	250	299	505	150	907	357	352	1,010	1,280	724
14	78	294	251	330	318	253	914	16	589	1,020	1,090	724
15	151	320	347	329	291	313	697	134	592	918	1,120	724
16	49	239	344	300	290	313	609	138	662	861	1,120	636
17	0	248	287	315	272	336	661	170	490	905	1,090	556
18	0	358	484	307	290	327	770	141	765	996	1,110	638
19	0	282	665	348	289	334	773	135	1,080	1,020	1,070	415
20	108	212	272	321	284	333	1,030	139	1,140	1,040	967	615
21	58	318	285	375	286	307	1,270	164	1,120	1,040	965	502
22	177	295	293	370	263	320	1,260	151	1,140	1,050	974	578
23	399	332	312	406	268	341	1,190	175	1,120	945	1,030	728
24	0	315	302	251	256	324	922	176	1,130	888	1,030	728
25	0	281	250	371	261	362	723	196	1,140	956	1,030	730
26	0	273	327	179	334	414	694	166	1,090	1,030	1,020	639
27	0	271	326	183	528	360	718	198	1,190	1,010	1,020	730
28	0	263	365	342	635	363	863	162	1,270	1,080	938	730
29	84	274	355	389	-----	402	980	173	1,240	1,170	900	730
30	37	266	363	726	-----	457	1,180	187	1,270	1,200	840	731
31	90	-----	195	728	-----	554	-----	195	-----	1,190	881	-----
TOTAL	4,019	8,757	9,320	10,166	10,628	12,429	22,787	11,489	19,278	32,261	33,885	21,698
MEAN	130	292	301	328	380	401	760	371	643	1,041	1,093	723
MAX	433	539	665	728	726	636	1,270	1,100	1,270	1,240	1,290	880
MIN	0	0	195	146	165	150	364	16	60	556	840	415
AC-FT	7,970	17,370	18,490	20,160	21,080	24,650	45,200	22,790	38,240	63,990	67,210	43,040
CAL YR 1968	TOTAL 143,568.00		MEAN 392		MAX 890		MIN 0		AC-FT 284,800			
WTR YR 1969	TOTAL 196,717.00		MEAN 539		MAX 1,290		MIN 0		AC-FT 390,200			

SAN JOAQUIN RIVER BASIN

11-2360. HUNTINGTON LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°14'03", long 119°12'41", in SW¼ sec.14, T.8 S., R.25 E., Fresno County, Sierra National Forest, in gate tower of dam 1 on Big Creek, 2 miles northeast of town of Big Creek.

DRAINAGE AREA.--80.5 sq mi.

PERIOD OF RECORD.--April 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to June 19, 1920, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 89,320 acre-ft Aug. 8 (elevation, 6,950.11 ft); minimum, 11,900 acre-ft Mar. 30 (elevation, 6,871.28 ft).
Period of record: Maximum contents, 90,500 acre-ft May 31, 1926 (elevation, 6,950.92 ft); minimum, 2,100 acre-ft Nov. 6, 1937 (elevation, 6,838.53 ft).

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 89,200 acre-ft between elevations 6,819.9 (invert of outlet tunnel No. 1) and 6,950 ft (spillway crest at dam 1) above mean sea level. Additional storage of 600 acre-ft is not available for release. Huntington-Shaver conduit has diverted water from Huntington Lake to Shaver Lake since Apr. 21, 1928 (see sta 11-2390). Water is used for power development in Big Creek plants. Figures given herein represent usable contents. See schematic diagram of San Joaquin River basin.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

6,819.9	0	6,835	1,550	6,870	11,300	6,920	50,800
6,820	8	6,840	2,350	6,880	16,400	6,930	62,600
6,822	142	6,845	3,320	6,890	22,900	6,940	75,300
6,825	382	6,850	4,480	6,900	30,900	6,950	89,200
6,830	899	6,860	7,430	6,910	40,200	6,951	90,610

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63999	55064	57360	59746	64720	29577	12619	28761	51250	74682	88923	87282
2	63369	55716	57348	59831	64012	27958	13012	29103	53083	76519	89023	87268
3	62950	56172	57372	59915	63270	26639	13173	29348	54439	78201	89109	87126
4	63098	56382	57372	59963	62531	25390	13134	29255	55517	79791	89152	86913
5	63295	56476	57313	60071	61626	24547	13429	29078	56476	81325	89195	86771
6	63480	56301	57325	60216	60168	23766	13323	29280	57301	82748	89267	86927
7	63689	55903	57360	60337	58393	23095	13041	29627	57833	84028	89281	87083
8	63282	55798	57396	60459	57171	22652	13017	30086	57821	85148	89209	87027
9	62715	55962	57360	60568	55833	22206	13323	30792	57053	86445	89123	86885
10	62151	56055	57443	60580	54081	21825	13654	31132	55517	87140	89180	86771
11	61577	56125	57490	60944	52584	20991	14039	31763	53990	86856	89281	86587
12	61041	56312	57443	61029	52163	20179	14959	32797	52436	86785	89267	86360
13	60738	56359	57407	61626	51262	19279	16034	33510	51677	87154	89267	86064
14	60495	56452	57608	62213	50089	18582	17104	33492	51902	87381	89052	85768
15	60252	56617	57786	62384	48786	17995	17664	33546	52197	87410	89037	85458
16	59831	56546	57869	62531	47402	17445	18032	33904	52481	87410	89123	85008
17	59290	56570	57917	62703	45931	16948	18576	34472	51925	87424	89037	84406
18	58738	56747	58012	63085	44628	16463	19440	35086	51745	87566	88980	83944
19	58202	56770	58190	64360	43301	15955	20381	35468	52822	87736	88780	83053
20	57845	56688	58238	65244	41975	15496	21881	35770	54485	88179	88494	82512
21	57702	56770	58274	66562	40649	14965	23758	36384	56359	88279	88222	81876
22	57714	56841	58310	67459	39302	14431	25281	37158	58417	88637	87965	81325
23	57881	56959	58393	68286	38096	13936	26370	38057	60349	88680	87850	81050
24	57325	57101	58667	68426	37187	13454	26536	39302	62445	88465	87722	80775
25	56782	57136	58786	68975	35930	13056	26235	40608	64298	88337	87580	80487
26	56230	57183	58917	68821	35188	12764	25982	41853	65833	88308	87355	80009
27	55810	57242	59085	68184	33629	12510	25935	43136	67496	88351	87211	79723
28	55739	57254	59338	67827	31509	12170	26306	44333	69091	88437	87168	79449
29	55541	57278	59554	66878	-----	12027	26960	45792	70571	88580	87211	79218
30	55122	57325	59722	66184	-----	12013	27991	47327	72639	88723	87310	78961
31	54752	-----	59626	65470	-----	12278	-----	49238	-----	88837	87310	-----
MEAN	59698	56537	58074	63577	48979	18406	19040	35466	57648	85921	88539	84070
MAX	63999	57325	59722	68975	64720	29577	27991	49238	72639	88837	89281	87282
MIN	54752	55064	57313	59746	31509	12013	12619	28761	51250	74682	87168	78961
(a)	6,923.46	6,925.66	6,927.59	6,932.35	6,900.74	6,872.16	6,896.60	6,918.58	6,937.95	6,949.77	6,948.70	6,942.69
(b)	-9,700	+2,500	+2,300	+5,900	-34,000	-19,200	+15,700	+21,200	+23,400	+16,200	-1,500	-8,300
CAL YR 1968	b -22,800											
WTR YR 1969	b +14,500											

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet, rounded to Geological Survey standards.

11-2370. BIG CREEK BELOW HUNTINGTON LAKE, CALIF.

LOCATION.--Lat 37°13'19", long 119°12'43", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T.8 S., R.25 E., Fresno County, Sierra National Forest, on right bank 1,200 ft upstream from Grouse Creek, and 1 mile downstream from Huntington Lake.

DRAINAGE AREA.--81.1 sq mi.

PERIOD OF RECORD.--June 1925 to current year.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 6,600 ft (from topographic map). Prior to Oct. 1, 1942, at datum 1.00 ft lower and from Oct. 1, 1942, to Sept. 30, 1948, at datum 1.00 ft higher.

EXTREMES.--Current year: Maximum discharge, 38 cfs Aug. 14 (gage height, 3.12 ft); minimum daily, 1.1 cfs Dec. 18-23, Dec. 26 to Jan. 2.
Period of record: Maximum discharge, 2,040 cfs June 23, 1925 (gage height, 11.3 ft, present datum), siphon spillways operating at Huntington Lake; minimum daily recorded, 0.1 cfs Jan. 18-21, Aug. 21 to Sept. 24, Oct. 7-18, Dec. 5-16, 1931.

REMARKS.--Records good. Flow regulated by Huntington Lake 1 mile upstream beginning in 1913 (see sta 11-2360). During most of year flow is diverted for power development at Big Creek powerhouse No. 1. See schematic diagram of San Joaquin River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and one discharge measurement furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1315-A: 1943(M). WSP 1635: 1925-29. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.3	2.2	1.1	2.9	1.6	3.0	8.7	11	2.6	2.5	2.4
2	2.4	2.5	2.4	1.1	2.7	1.6	3.0	8.7	10	2.6	2.8	2.4
3	2.3	3.2	2.4	1.2	2.6	1.5	2.8	8.1	9.5	2.5	4.0	2.4
4	2.3	2.5	2.4	1.2	2.6	1.5	2.8	7.7	8.7	2.5	5.9	2.3
5	2.4	2.4	2.4	1.2	2.5	1.5	3.1	7.7	8.1	2.4	11	2.3
6	2.1	2.4	2.4	1.2	2.5	1.5	2.9	9.8	7.4	2.4	17	2.4
7	2.0	2.4	2.4	1.2	2.3	1.5	2.7	11	6.8	2.6	28	2.4
8	1.9	2.4	2.5	1.2	2.3	1.5	2.7	12	6.2	2.9	29	2.4
9	1.9	2.3	2.3	1.2	2.2	1.4	2.7	12	6.2	3.0	9.5	2.4
10	2.1	2.4	2.4	1.2	2.2	1.4	2.8	14	5.5	3.0	5.9	2.4
11	2.3	2.3	2.4	1.2	2.2	1.4	3.2	15	5.1	2.9	21	2.4
12	2.4	2.7	2.3	1.2	2.1	1.4	3.6	17	4.8	2.8	26	2.4
13	2.8	2.5	2.3	1.9	2.1	1.4	3.7	16	4.6	2.9	24	2.4
14	2.8	2.4	2.4	2.1	2.1	1.3	3.5	15	4.4	2.9	23	2.3
15	2.4	2.5	2.6	1.8	2.1	1.3	3.4	14	4.3	2.9	3.1	2.3
16	2.4	2.5	1.9	1.5	2.0	1.4	3.7	14	4.7	2.8	5.8	2.4
17	2.4	2.5	1.2	1.4	1.9	1.4	4.2	14	4.4	2.8	5.6	2.4
18	2.3	2.6	1.1	1.7	1.9	1.4	4.5	14	4.0	2.8	3.0	2.4
19	2.4	2.5	1.1	6.0	1.9	1.4	4.9	14	3.8	2.8	2.5	2.4
20	2.4	2.4	1.1	4.2	1.9	1.4	5.3	13	3.6	2.7	2.5	2.4
21	2.3	2.4	1.1	8.0	1.8	1.4	6.2	13	3.5	2.8	2.4	2.4
22	2.3	2.4	1.1	3.7	1.8	1.4	7.1	13	3.4	2.7	2.4	2.4
23	2.4	2.4	1.1	2.8	1.8	1.4	6.2	13	3.3	2.7	2.4	2.4
24	2.3	2.4	1.2	2.6	1.9	1.6	5.2	14	3.2	2.8	2.4	2.4
25	2.3	2.4	1.2	11	2.0	1.7	5.0	14	3.0	2.7	2.4	2.3
26	2.3	2.3	1.1	11	1.7	1.8	5.1	13	3.0	2.7	2.4	2.3
27	2.3	2.2	1.1	5.2	1.7	2.0	5.4	12	2.9	2.7	2.4	2.4
28	2.2	2.2	1.1	4.2	1.7	2.2	5.9	12	2.8	2.6	2.4	2.5
29	2.2	2.2	1.1	3.6	-----	2.5	7.4	12	2.7	2.6	2.4	2.6
30	2.4	2.2	1.1	3.3	-----	2.8	8.4	11	2.6	2.6	2.4	2.5
31	2.3	-----	1.1	3.0	-----	3.0	-----	11	-----	2.5	2.4	-----
TOTAL	71.5	72.8	54.5	93.2	59.4	50.6	130.4	383.7	153.5	84.2	258.5	71.8
MEAN	2.31	2.43	1.76	3.01	2.12	1.63	4.35	12.4	5.12	2.72	8.34	2.39
MAX	2.8	3.2	2.6	11	2.9	3.0	8.4	17	11	3.0	29	2.6
MIN	1.9	2.2	1.1	1.1	1.7	1.3	2.7	7.7	2.6	2.4	2.4	2.3
AC-FT	142	144	108	185	118	100	259	761	304	167	513	142
CAL YR 1968	TOTAL	734.8		MEAN	2.01	MAX	3.2	MIN	1.0	AC-FT	1,460	
WTR YR 1969	TOTAL	1,484.1		MEAN	4.07	MAX	29	MIN	1.1	AC-FT	2,940	

SAN JOAQUIN RIVER BASIN

11-2375. PITMAN CREEK BELOW TAMARACK CREEK, CALIF.

LOCATION.--Lat 37°11'54", long 119°12'48", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.35, T.8 S., R.25 E., Fresno County, Sierra National Forest, on right bank 0.8 mile downstream from confluence of Tamarack Creek and South Fork Tamarack Creek, 1.4 miles upstream from mouth, and 1.9 miles east of town of Big Creek.

DRAINAGE AREA.--22.9 sq mi.

PERIOD OF RECORD.--October 1927 to current year. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,005 ft (from Southern California Edison Co. contour map). Prior to Sept. 29, 1940, at site 10 ft downstream at same datum.

AVERAGE DISCHARGE.--42 years, 39.7 cfs (28,760 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,210 cfs May 31 (gage height, 8.32 ft); minimum daily, 0.19 cfs Oct. 2, 3.

Period of record: Maximum discharge, 3,670 cfs Dec. 23, 1955 (gage height, 11.20 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 10.77 ft; no flow Oct. 15-18, 1931.

REMARKS.--Records good. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and one discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 931: 1940. WSP 1395: 1928-29, 1938. WSP 1515: 1929. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	1.0	3.6	5.3	20	14	67	298	793	215	22	3.1
2	.19	2.0	3.4	5.2	20	14	72	298	763	208	20	3.0
3	.19	14	3.2	5.2	20	14	71	256	718	192	19	2.8
4	.20	8.6	2.8	5.5	20	14	64	223	695	178	17	2.7
5	.20	5.1	2.5	6.2	20	14	71	266	661	166	16	2.6
6	.22	4.1	2.8	6.9	20	14	67	352	605	156	14	2.6
7	.24	3.4	3.1	8.0	20	14	55	420	566	151	13	2.6
8	.22	3.2	3.1	8.3	19	14	52	465	472	150	12	2.5
9	.22	3.4	3.1	7.6	18	14	52	510	400	139	11	2.3
10	.22	3.9	3.1	6.9	18	14	52	515	330	132	11	2.2
11	.22	3.6	3.2	6.6	18	14	59	579	294	125	11	2.1
12	.28	4.8	3.6	6.9	18	14	77	680	298	120	9.8	2.0
13	1.9	4.7	3.4	8.3	18	14	92	590	352	146	9.0	1.9
14	5.2	3.6	3.4	9.4	18	14	95	566	415	139	8.3	1.9
15	2.5	3.6	4.1	11	18	14	83	533	415	115	7.6	1.9
16	1.4	4.6	4.1	11	18	14	82	560	410	103	7.2	1.9
17	1.1	4.2	4.1	9.0	18	15	103	611	324	90	7.2	1.9
18	.90	5.0	4.1	8.0	17	15	126	605	314	82	6.9	1.8
19	.81	6.2	4.1	14	16	15	136	578	342	79	6.2	1.8
20	.70	6.2	4.1	16	15	15	173	563	338	72	5.5	2.1
21	.62	6.2	3.8	22	14	15	206	602	324	64	5.3	2.2
22	.56	5.3	3.6	20	14	15	230	626	338	65	5.1	2.1
23	.56	5.2	3.7	18	14	16	232	647	320	61	4.9	1.9
24	.51	4.9	5.0	16	14	16	157	704	302	50	4.6	1.6
25	.46	4.1	5.0	33	14	18	125	692	276	44	4.3	1.6
26	.46	4.3	5.0	50	14	22	121	684	250	37	4.0	1.4
27	.46	4.3	5.0	45	14	25	148	674	234	40	3.8	1.4
28	.46	3.8	5.0	38	14	29	190	668	212	37	3.8	1.3
29	.44	3.3	5.0	30	-----	36	230	728	209	30	3.6	2.8
30	1.3	3.6	5.0	25	-----	45	278	750	216	28	3.5	2.4
31	1.3	-----	5.0	20	-----	58	-----	814	-----	25	3.3	-----
TOTAL	24.24	140.2	120.0	482.3	481	579	3,566	17,057	12,186	3,239	279.9	64.4
MEAN	.78	4.67	3.87	15.6	17.2	18.7	119	550	406	104	9.03	2.15
MAX	5.2	14	5.0	50	20	58	278	814	793	215	22	3.1
MIN	.19	1.0	2.5	5.2	14	14	52	223	209	25	3.3	1.3
AC-FT	48	278	238	957	954	1,150	7,070	33,830	24,170	6,420	555	128

CAL YR 1968 TOTAL 5,643.24 MEAN 15.4 MAX 120 MIN .17 AC-FT 11,190
WTR YR 1969 TOTAL 38,219.04 MEAN 105 MAX 814 MIN .19 AC-FT 75,810

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-23	0100	5.54	283	6-16	1700	6.91	593
5-1	2330	5.78	336	6-19	1930	6.25	432
5-11	2130	7.88	992	6-30	2030	5.57	264
5-31	1830	8.32	1,210	7-13	2000	5.34	238

11-2390. HUNTINGTON-SHAVER CONDUIT OUTLET NEAR SHAVER LAKE, CALIF.

LOCATION.--Lat 37°09'18", long 119°13'53", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.15, T.9 S., R.25 E., Fresno County, Sierra National Forest, on left bank at tunnel outlet, 2.3 miles northeast of Shaver Lake, and 3.5 miles south of town of Big Creek.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October 1928, published in WSP 1315-A. Prior to October 1962, published as Huntington-Shaver conduit at outlet.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,680 ft (from topographic map).

AVERAGE DISCHARGE.--41 years, 222 cfs (160,800 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,780 cfs June 3, 4, 1938; minimum daily, 0.90 cfs Sept. 8-11, 1955, Nov. 15, 19, 26, 27, 1966.

REMARKS.--Records good. Conduit diverts from Huntington Lake to Shaver Lake, with additions from Pitman Creek and seepage en route. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and five discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 931: 1940.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	1.0	2.1	4.2	545	1,030	73	1,080	1,600	684	660	305
2	27	1.2	2.1	4.4	540	850	70	1,120	1,540	682	660	305
3	27	16	1.9	4.4	535	675	64	1,120	1,490	676	658	305
4	27	9.2	2.1	4.5	525	560	69	1,090	1,490	667	657	305
5	27	4.7	2.1	5.0	520	435	73	1,110	1,490	660	655	304
6	27	3.0	2.1	5.4	510	330	68	1,190	1,500	653	696	304
7	27	2.5	2.1	5.6	510	260	60	1,270	1,490	691	617	305
8	13	2.1	2.1	5.6	500	190	57	1,320	1,490	720	577	305
9	2.1	2.3	2.1	5.6	495	150	56	1,410	1,490	540	639	305
10	1.3	2.5	2.1	5.6	480	110	55	1,510	1,480	83	637	304
11	1.3	2.5	2.1	5.3	470	80	64	1,530	1,480	893	691	304
12	1.3	3.8	3.0	5.3	468	50	81	1,580	1,470	941	720	303
13	1.4	3.2	2.8	5.9	464	35	95	1,570	1,470	966	703	303
14	4.4	2.7	2.8	7.0	457	25	100	1,560	1,470	948	639	301
15	1.6	2.1	3.0	7.7	450	20	90	1,560	1,470	806	551	301
16	1.3	3.0	3.8	9.2	442	20	90	1,560	1,470	698	518	300
17	1.3	2.7	3.8	8.1	434	18	106	1,570	1,470	680	576	298
18	1.3	3.2	4.1	7.0	421	18	127	1,580	1,470	675	610	297
19	1.2	5.0	4.4	11	410	18	138	1,570	1,540	669	608	296
20	1.2	5.0	4.1	13	400	18	208	1,570	1,450	667	564	296
21	1.2	4.4	4.1	18	390	18	384	1,580	1,270	660	542	294
22	1.2	4.1	3.7	19	375	18	592	1,580	1,300	660	540	293
23	1.2	4.1	3.7	18	365	18	748	1,580	1,160	657	540	291
24	1.2	3.8	3.8	18	345	20	746	1,600	999	646	540	291
25	1.2	2.5	3.9	35	335	23	691	1,590	997	637	538	290
26	1.0	2.7	4.0	47	325	26	660	1,590	991	631	537	289
27	1.0	2.3	3.9	47	665	29	667	1,590	991	635	537	289
28	1.0	1.9	4.2	59	1,160	34	726	1,590	985	633	380	289
29	1.0	1.9	4.2	333	-----	41	845	1,590	989	655	307	289
30	.94	2.1	4.2	555	-----	48	976	1,600	784	666	305	289
31	1.0	-----	4.2	550	-----	59	-----	1,610	-----	664	305	-----
TOTAL	234.64	107.5	98.6	1,828.8	13,536	5,226	8,779	45,370	40,286	21,143	17,707	8,950
MEAN	7.57	3.58	3.18	59.0	483	169	293	1,464	1,343	682	571	298
MAX	28	16	4.4	555	1,160	1,030	976	1,610	1,600	966	720	305
MIN	.94	1.0	1.9	4.2	325	18	55	1,080	784	83	305	289
AC-FT	465	213	196	3,630	26,850	10,370	17,410	89,990	79,910	41,940	35,120	17,750
CAL YR 1968	TOTAL	32,247.54	MEAN	88.1	MAX	510	MIN	.94	AC-FT	63,960		
WTR YR 1969	TOTAL	163,266.54	MEAN	447	MAX	1,610	MIN	.94	AC-FT	323,800		

SAN JOAQUIN RIVER BASIN

11-2395. SHAVER LAKE NEAR BIG CREEK, CALIF.

LOCATION.--Lat 37°08'40", long 119°18'08", in SE¼ sec.13, T.9 S., R.24 E., Fresno County, Sierra National Forest, near center of dam on Stevenson Creek, 6 miles southwest of town of Big Creek.

DRAINAGE AREA.--29.1 sq mi.

PERIOD OF RECORD.--November 1909 to current year. Prior to January 1927, monthly contents only, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rockfilled dam a short distance upstream at different datum.

EXTREMES.--Current year: Maximum contents, 135,800 acre-ft Aug. 7, 13 (elevation, 5,370.23 ft); minimum, 4,870 acre-ft Apr. 20 (elevation, 5,270.33 ft).

Period of record: Maximum contents, 135,900 acre-ft July 5, 1946 (elevation, 5,370.25 ft); minimum, 26 acre-ft Jan. 29, 1927, during period of construction.

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

REMARKS.--Storage began prior to 1905. Original lake formed by rockfilled dam (usable capacity, 5,500 acre-ft). Water diverted by Fresno Flume and Lumber Co.'s flumes Nos. 1 and 2 beginning prior to 1907 and discontinued July 7, 1920. Present lake formed by concrete-arch dam; dam completed Nov. 18, 1927. Usable capacity of present lake, 135,300 acre-ft between elevations 5,225 (trash-rack foundation) and 5,370 ft (crest of spillway) above mean sea level. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) through Huntington-Shaver conduit and released for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1565: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,225	0	5,250	700	5,280	9,190	5,330	60,900
5,230	42	5,255	1,250	5,290	15,600	5,340	76,700
5,235	97	5,260	2,070	5,300	24,000	5,350	94,600
5,240	191	5,265	3,210	5,310	34,500	5,360	114,200
5,245	379	5,270	4,750	5,320	46,800	5,371	137,500

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

JAY	CCY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.00	10.20	11.40	13.60	36.00	37.40	14.30	16.00	87.20	132.20	135.60	132.00
2	9.83	10.30	11.40	13.60	36.10	38.10	13.70	17.60	89.30	132.30	135.70	131.50
3	9.58	10.50	11.40	13.70	36.20	38.30	13.10	19.20	91.30	132.50	135.70	130.90
4	9.64	10.60	11.40	13.70	36.30	38.30	12.50	20.70	93.30	132.50	135.70	130.40
5	9.69	10.60	11.40	13.80	36.60	38.00	12.10	22.30	95.20	132.60	135.70	129.80
6	9.74	10.60	11.50	13.90	36.80	37.60	11.60	24.20	97.10	132.70	135.70	129.40
7	9.80	10.60	11.50	13.90	36.80	37.00	10.80	26.30	99.20	132.80	135.70	129.00
8	9.84	10.60	11.50	14.00	37.20	36.20	10.10	28.40	101.10	133.00	135.50	128.50
9	9.84	10.70	11.50	14.10	37.50	35.40	9.30	30.80	103.20	132.90	135.50	127.90
10	9.85	10.70	11.60	14.10	37.50	34.60	8.60	33.40	105.10	131.80	135.50	127.40
11	9.86	10.70	11.70	14.10	37.40	33.60	7.95	36.10	106.90	132.30	135.60	126.80
12	9.87	10.80	11.70	14.20	37.30	32.60	7.34	38.90	108.60	132.90	135.70	126.30
13	9.97	10.80	11.70	14.80	37.20	31.40	7.04	41.50	110.40	133.50	135.80	126.30
14	10.10	10.90	11.90	15.20	37.10	30.30	6.55	44.10	112.20	134.10	135.70	126.40
15	10.10	10.90	12.30	15.40	37.10	29.20	5.98	46.60	114.20	134.50	135.60	126.40
16	10.10	11.00	12.50	15.50	36.90	28.10	5.46	49.10	116.10	134.60	135.20	126.30
17	10.10	11.00	12.50	15.70	36.70	26.70	5.11	51.60	117.90	134.70	135.20	126.30
18	10.10	11.00	12.60	16.30	36.60	25.50	5.17	54.10	119.70	134.80	135.20	126.20
19	10.10	11.10	12.60	19.40	36.30	24.90	4.97	56.60	121.50	135.10	135.20	126.20
20	10.10	11.10	12.70	21.40	36.10	23.80	5.03	58.90	123.30	135.20	135.20	126.20
21	10.10	11.10	12.70	25.20	35.80	23.00	5.46	61.30	124.60	135.20	135.10	126.20
22	10.10	11.20	12.70	26.00	35.40	22.00	6.35	63.70	125.90	135.30	135.00	126.10
23	10.10	11.20	12.70	26.50	35.30	20.90	7.47	66.00	127.10	135.30	134.90	125.90
24	10.10	11.20	12.90	27.30	35.40	20.00	8.41	68.80	127.90	135.30	134.80	125.30
25	10.10	11.30	13.10	31.00	35.10	19.00	9.18	71.20	128.70	135.30	134.70	124.70
26	10.10	11.30	13.30	33.80	34.70	18.10	9.88	73.50	129.50	135.50	134.60	124.10
27	10.20	11.30	13.30	34.30	35.00	17.30	10.70	75.80	130.20	135.50	134.50	123.50
28	10.20	11.30	13.40	34.40	36.40	16.90	11.60	78.10	130.90	135.50	134.10	122.90
29	10.20	11.30	13.40	34.80	-----	16.00	12.80	80.30	131.70	135.50	133.50	122.40
30	10.20	11.30	13.50	35.60	-----	15.30	14.30	82.60	132.10	135.60	132.90	121.80
31	10.20	-----	13.50	35.80	-----	14.80	-----	84.90	-----	135.60	132.50	-----
MEAN	9.99	10.91	12.30	20.81	36.39	27.76	9.10	49.12	113.38	134.08	135.08	126.77
MAX	10.20	11.30	13.50	35.80	37.50	38.30	14.30	84.90	132.10	135.60	135.80	132.00
MIN	9.58	10.20	11.40	13.60	34.70	14.80	4.97	16.00	87.20	131.80	132.50	121.80
(a)	5,281.85	5,283.72	5,287.10	5,311.16	5,311.67	5,288.88	5,288.22	5,344.75	5,368.51	5,370.15	5,368.74	5,363.67
(b)	-100	+1,100	+2,200	+22,300	+600	-21,600	-500	+70,600	+47,200	+3,500	-3,100	-10,700

CAL YR 1968 b -22,500

WTR YR 1969 b+111,500

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-2419.5. REDINGER LAKE NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°08'42", long 119°26'58", in SW $\frac{1}{4}$ sec.15, T.9 S., R.23 E., Madera County, Sierra National Forest, on upstream face of dam No. 7 on San Joaquin River, 4.2 miles northeast of Auberry.

DRAINAGE AREA.--1,295 sq mi.

PERIOD OF RECORD.--November 1950 to current year. Prior to October 1965, collected by Southern California Edison Co., available in files of California district office.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

EXTREMES.--Current year: Maximum contents, 26,000 acre-ft Mar. 5, Apr. 20; maximum elevation, 1,402.68 ft

Mar. 5; minimum contents, 9,340 acre-ft Sept. 30 (elevation, 1,358.96 ft).

Period of record: Maximum contents, 26,100 acre-ft June 15, 1963, Oct. 29, 1964, Oct. 27, 1967; maximum elevation, 1,402.98 ft Oct. 27, 1967; minimum contents since appreciable storage was attained, 6,280 acre-ft Mar. 3, 1956 (elevation, 1,347.98 ft).

REMARKS.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,119 acre-ft between elevations 1,320.0 (invert of tunnel) and 1,403.0 ft (top of radial gates). Additional storage of 8,914 acre-ft is not available for release. Water is used for power development in Big Creek powerhouse No. 4. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

1,320	0	1,330	2,010	1,355	8,200	1,380	16,500
1,322	384	1,335	3,120	1,360	9,650	1,385	18,400
1,324	778	1,340	4,280	1,365	11,200	1,390	20,400
1,326	1,180	1,345	5,520	1,370	12,900	1,400	24,700
1,328	1,590	1,350	6,810	1,375	14,600	1,403	26,119

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10035	17423	24189	25033	25419	25768	25680	25556	25360	25579	25782	25351
2	9808	17512	24403	25082	25828	25865	25749	25547	25598	25415	25579	25319
3	9555	16752	24703	25082	25819	25883	25906	25579	25685	25588	25525	25442
4	10194	16875	24902	25055	25823	25897	25786	25648	25911	25588	25680	25328
5	10466	17621	25132	24960	25397	25971	25593	25763	25763	25556	25671	25328
6	10682	17836	25392	25037	25643	25893	25791	25805	25740	25538	25561	25328
7	10977	18159	25447	25019	25474	25759	25916	25652	25823	25552	25588	25351
8	11226	18476	25502	24969	25301	25874	25754	25689	25520	25552	25474	25369
9	11696	18739	24730	25168	25351	25856	25740	25786	25538	25694	25424	25087
10	12315	18835	23605	25164	25712	25846	25620	25671	25588	25749	25474	24242
11	12617	19117	23998	25246	25934	25897	25893	25722	25648	25689	25456	23456
12	12834	19503	24390	25237	25920	25865	25777	25657	25689	25717	25337	22620
13	13044	19768	23834	24920	25851	25786	25925	25671	25782	25800	25365	21766
14	12947	20117	23390	24816	25630	24780	25717	25566	25620	25529	25319	20895
15	13247	20386	23189	24632	25397	23416	25731	25584	25620	25506	25314	20088
16	13528	20761	23698	24609	25616	22168	25740	25588	25602	25579	25246	19283
17	13738	20815	24331	24748	25851	23110	25722	25625	25556	25511	25191	18488
18	13991	21139	24452	25538	25851	24216	25708	25584	25593	25543	25155	17664
19	14235	21295	24703	25168	25731	23504	25703	25365	25712	25657	25291	16848
20	14464	21341	24820	24331	25552	23517	25957	25763	25639	25579	25451	16048
21	14798	21706	24884	25159	25328	24247	25893	25694	25749	25634	25360	15175
22	15022	21975	24911	25323	25800	24560	25768	25786	25726	25497	25360	14332
23	15186	22181	24555	24654	25722	24649	25920	25703	25579	25465	25374	13686
24	15377	22434	23945	24649	24798	24748	25703	25740	25754	25483	25310	13075
25	15587	22845	24149	24202	25566	25291	25689	25699	25534	25607	25332	12492
26	15809	22970	23909	24816	25837	25671	25930	25722	25506	25552	25346	11873
27	16089	23189	24131	25488	25689	25819	25851	25814	25529	25749	25305	11268
28	16489	23451	24340	24997	25865	25634	25429	25543	25538	25598	25314	10673
29	16634	23658	24600	25101	-----	25897	25442	25630	25552	25598	25351	10068
30	16525	23949	24771	25759	-----	25584	25593	25556	25547	25717	25352	9636
31	17171	-----	24911	24470	-----	25749	-----	25652	-----	25703	25374	-----
MEAN	13454	20361	24449	24982	25632	25120	25754	25657	25633	25598	25410	19053
MAX	17171	23949	25502	25759	25934	25971	25957	25814	25911	25800	25782	25442
MIN	9808	16752	23189	24202	24798	22168	25429	25365	25360	25415	25155	9636
(a)	1,381.87	1,398.21	1,400.36	1,399.38	1,402.45	1,402.20	1,401.86	1,401.99	1,401.76	1,402.10	1,401.38	1,359.95
(b)	+7,100	+6,700	+1,000	-400	+1,400	-200	-100	+100	-200	+200	-300	-15,760
CAL YR 1968	b	-100										
WTR YR 1969	b	-460										

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet, rounded to Geological Survey standards.

SAN JOAQUIN RIVER BASIN

11-2420. SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°08'40", long 119°27'13", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.9 S., R.23 E., Madera County, Sierra National Forest, on right bank 1,000 ft downstream from diversion dam, 0.4 mile upstream from Willow Creek, and 4.2 miles northeast of Auberry.

DRAINAGE AREA.--1,295 sq mi.

PERIOD OF RECORD.--March 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,175.54 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--18 years, 487 cfs (352,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 18,300 cfs June 3 (gage height, 25.98 ft), from rating curve extended above 7,000 cfs on basis of computed flow over dam; minimum daily, 3.6 cfs Dec. 27, 28, Mar. 20, 25.
Period of record: Maximum discharge, 73,200 cfs Dec. 23, 1955 (gage height, 54.2 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of computed flow over dam; no flow Sept. 25, 1951.

REMARKS.--Records good. Flow regulated by nine powerplants and six reservoirs with combined capacity of about 559,900 acre-ft. Conduit to powerhouse No. 4 diverts 1,000 ft above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 13 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	20	21	8.9	5.0	1,130	950	5,530	15,900	4,730	740	20
2	22	20	21	9.3	181	870	837	5,870	16,000	4,830	696	20
3	22	14	21	11	442	870	1,090	5,400	16,400	4,440	573	20
4	22	10	21	11	409	733	920	4,300	15,300	4,000	352	20
5	22	16	21	11	633	32	1,590	4,010	15,000	4,040	330	20
6	22	19	21	11	692	309	1,460	5,900	14,600	4,020	322	20
7	22	19	21	11	533	273	1,140	8,060	13,600	3,740	18	20
8	22	19	21	11	26	460	1,160	9,290	13,100	3,520	7.8	20
9	22	19	21	11	4.2	529	1,040	10,300	11,200	3,530	7.8	20
10	22	19	21	13	293	521	1,040	11,300	8,490	3,780	7.8	20
11	22	19	10	14	391	417	848	10,600	6,560	4,440	7.8	20
12	22	20	4.4	14	537	495	1,110	11,700	6,420	4,530	7.8	20
13	22	20	15	12	466	492	930	11,300	6,670	5,080	12	20
14	17	20	16	5.7	575	53	1,100	11,000	9,080	5,740	19	20
15	20	16	6.6	6.4	1,210	4.2	885	9,900	9,960	4,420	20	20
16	20	16	5.5	4.4	721	3.9	870	9,840	10,000	3,880	20	20
17	20	16	5.4	4.5	497	3.8	900	10,700	8,700	3,880	20	20
18	20	19	9.2	4.5	752	3.7	788	11,100	6,470	3,580	20	20
19	20	19	15	5,110	788	3.7	875	10,800	6,510	3,550	20	20
20	20	20	16	93	842	3.6	828	9,860	7,610	3,940	20	20
21	21	20	16	3,820	485	3.9	1,100	10,200	7,400	4,160	20	20
22	21	20	16	4.9	354	3.7	1,130	11,000	7,960	4,440	20	19
23	21	20	18	4.4	733	3.7	975	13,100	8,840	4,510	20	19
24	21	20	16	4.2	4,080	3.7	1,100	13,700	7,180	3,880	20	19
25	21	20	5.2	7,030	1,480	3.6	830	14,000	7,460	3,230	20	19
26	21	20	4.4	687	956	144	720	13,900	6,210	2,020	20	19
27	21	20	3.6	910	879	635	860	13,800	5,560	1,540	20	20
28	21	20	3.6	1,100	1,010	772	1,020	13,600	4,710	1,260	20	20
29	21	20	3.9	11	-----	700	2,290	13,600	4,030	764	20	20
30	21	21	4.8	49	-----	1,090	5,080	14,400	4,120	700	20	20
31	22	-----	7.0	875	-----	890	-----	14,700	-----	784	20	-----
TOTAL	655	561	411.6	19,872.2	19,974.2	11,456.5	35,466	322,760	281,040	110,958	3,441.0	595
MEAN	21.1	18.7	13.3	641	713	370	1,182	10,410	9,368	3,579	111	19.8
MAX	22	21	21	7,030	4,080	1,130	5,080	14,700	16,400	5,740	740	20
MIN	17	10	3.6	4.2	4.2	3.6	720	4,010	4,030	700	7.8	19
AC-FT	1,300	1,110	816	39,420	39,620	22,720	70,350	640,200	557,400	220,100	6,830	1,180

CAL YR 1968 TOTAL 5,150.9 MEAN 14.1 MAX 23 MIN 2.0 AC-FT 10,220
WTR YR 1969 TOTAL 807,190.5 MEAN 2,211 MAX 16,400 MIN 3.6 AC-FT 1,601,000

11-2424, NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CALIF.

LOCATION.--Lat 37°23'52", long 119°33'55", in NE¼ sec.21, T.6 S., R.22 E., Madera County, on right bank at road bridge 0.6 mile downstream from Sequel campground, 3.0 miles upstream from Chilkoot Creek, and 4.7 miles (revised) southeast of Sugar Pine.

DRAINAGE AREA.--16.9 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,200 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 882 cfs Jan. 26 (gage height, 5.24 ft); from rating curve extended as explained below; minimum daily, 1.1 cfs Oct. 11.

Period of record: Maximum discharge, 1,600 cfs Dec. 6, 1966 (gage height, 5.90 ft), from rating curve extended above 250 cfs on basis of a step-backwater survey; minimum daily, 1.0 cfs Sept. 18, 19, 26-28, 1968.

REMARKS.--Records good. No storage above station. Madera irrigation district diverts up to 80 cfs through Sequel ditch to the Fresno River basin 2.2 miles upstream.

REVISIONS (WATER YEARS).--1967 report: 1966(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.8	2.8	3.4	42	43	74	146	229	48	10	3.3
2	1.2	5.1	2.6	3.4	38	20	68	140	220	44	9.8	3.4
3	1.2	50	2.6	3.2	36	16	60	128	217	41	9.5	3.3
4	1.3	11	2.6	3.4	33	14	58	120	205	37	11	3.3
5	1.4	6.6	2.4	3.5	32	14	72	132	193	35	12	3.3
6	1.3	5.0	2.4	3.5	49	14	70	157	177	32	12	3.3
7	1.3	3.2	2.6	3.8	43	12	57	182	160	28	11	3.3
8	1.3	3.0	2.8	3.8	25	12	56	202	140	26	11	3.1
9	1.3	2.9	2.6	3.4	23	12	56	220	144	24	10	3.1
10	1.2	2.9	3.8	3.4	21	12	61	223	124	21	9.8	3.1
11	1.1	2.9	7.2	3.0	21	11	77	229	104	18	7.7	3.1
12	1.5	7.0	4.5	3.2	21	11	88	250	94	17	7.0	3.1
13	4.5	4.0	3.2	56	19	11	88	244	94	19	8.0	3.1
14	10	3.4	5.7	57	17	11	80	232	104	16	5.3	3.0
15	3.5	4.5	23	18	21	12	70	217	117	15	4.5	3.0
16	2.8	4.0	14	11	19	12	73	226	130	15	4.1	3.1
17	2.4	4.0	6.6	9.0	16	14	90	241	106	14	4.5	3.0
18	2.3	4.0	5.0	50	16	15	99	244	93	14	4.3	3.1
19	2.3	3.4	4.8	380	15	16	101	238	94	13	4.1	3.1
20	2.2	3.2	4.8	159	14	16	122	247	93	13	4.0	3.3
21	2.0	3.0	3.5	410	13	17	142	244	87	12	4.0	3.3
22	2.0	2.9	3.5	96	12	16	146	226	88	12	3.6	4.0
23	2.0	2.9	3.4	47	23	19	136	226	82	12	3.6	3.8
24	1.9	3.0	6.6	48	34	24	113	220	73	12	3.4	3.6
25	1.9	2.9	11	492	52	28	101	214	64	12	3.6	3.4
26	1.9	2.8	9.0	414	54	35	98	208	59	11	3.4	3.3
27	1.9	2.8	6.6	141	49	41	104	202	55	11	3.4	3.1
28	1.8	2.6	5.0	94	45	48	118	202	50	11	3.4	2.9
29	1.9	2.6	4.0	73	-----	60	134	208	49	11	3.4	2.9
30	5.7	2.6	3.5	56	-----	72	142	214	48	11	3.4	2.7
31	3.2	-----	3.5	49	-----	81	-----	223	-----	10	3.4	-----
TOTAL	71.5	161.0	165.6	2,701.0	803	739	2,754	6,405	3,493	615	198.2	96.4
MEAN	2.31	5.37	5.34	87.1	28.7	23.8	91.8	207	116	19.8	6.39	3.21
MAX	10	50	23	492	54	81	146	250	229	48	12	4.0
MIN	1.1	2.6	2.4	3.0	12	11	56	120	48	10	3.4	2.7
AC-FT	142	319	328	5,360	1,590	1,470	5,460	12,700	6,930	1,220	393	191
CAL YR 1968	TOTAL	1,650.8	MEAN	4.51	MAX	50	MIN	1.0	AC-FT	3,270		
WTR YR 1969	TOTAL	18,202.7	MEAN	49.9	MAX	492	MIN	1.1	AC-FT	36,100		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-3	1100	3.34	113	2-26	0100	3.49	102
1-13	2000	3.54	162	4-21	2000	3.81	167
1-19	0900	4.79	734	5-19	2000	4.19	282
1-21	0500	5.17	826	6-15	1900	3.82	169
1-26	0700	5.24	882				

SAN JOAQUIN RIVER BASIN

11-2434. BASS LAKE NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'36", long 119°31'40", in NE¼ sec.26, T.7 S., R.22 E., Madera County, Sierra National Forest, at outlet tower at dam on North Fork Willow Creek, 2.2 miles southeast of town of Bass Lake, and 5 miles north of town of North Fork.

DRAINAGE AREA.--50.4 sq mi.

PERIOD OF RECORD.--January 1912 to current year. Bass Lake was formerly called Crane Valley Reservoir.

GAGE.--Water-stage recorder. Datum of gage is mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Current year: Maximum contents, 45,420 acre-ft June 23 (elevation, 3,376.39 ft); minimum, 21,120 acre-ft Oct. 21 (elevation, 3,351.91 ft).
Period of record: Maximum contents, 45,960 acre-ft June 17, 1923 (elevation, 3,376.8 ft); minimum, 35 acre-ft Nov. 19, 1953 (elevation, 3,270.2 ft).

REMARKS.--Reservoir formed by earth- and rockfill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft between elevations, 3,280.22 (invert of outlet conduit No. 3) and 3,376.40 ft (top of spillway gates) above mean sea level. Additional storage of 300 acre-ft not available for release. Water is released through Crane Valley powerhouse below dam for use in three small powerhouses before being discharged into Kerckhoff Reservoir at Wishon powerhouse. Water diverted from South Fork Willow Creek via Browns Creek ditch into Bass Lake near left end of dam. Madera Irrigation District has water rights to divert up to 50 cfs from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) during October and March to July each year. Chilkoot ditch can divert up to 7 cfs from Chilkoot Creek into North Fork Willow Creek just upstream from diversion dam from Oct. 1 to Aug. 1 each water year if available. See schematic diagram of San Joaquin River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

MONTH-END CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Contents
Sept. 30.....	25,460
Oct. 31.....	21,270
Nov. 30.....	22,270
Dec. 31.....	22,720
Jan. 31.....	34,100
Feb. 28.....	34,090
Mar. 31.....	32,900
Apr. 30.....	37,380
May 31.....	44,200
June 30.....	45,200
July 31.....	41,710
Aug. 31.....	34,490
Sept. 30.....	26,560

11-2435. PACIFIC GAS AND ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'21", long 119°31'44", in SE $\frac{1}{4}$ sec.26, T.7 S., R.22 E., Madera County, Sierra National Forest, on left bank 1,000 ft downstream from Crane Valley powerhouse and dam, and 2.5 miles southeast of town of Bass Lake.

PERIOD OF RECORD.--October 1940 to current year. Prior to October 1954, published as "near Crane Valley Reservoir."

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 3,300 ft (from topographic map).

AVERAGE DISCHARGE.--29 years, 68.1 cfs (49,340 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 167 cfs June 23, 24, 1965; no flow at times.

REMARKS.--Records good. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passed through Crane Valley powerhouse, then to powerhouse No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverted to powerhouses No. 2 and 1A before it enters San Joaquin River at Kerckhoff Reservoir through Wishon powerhouse No. 1. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record, seven discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	.60	4.7	111	145	139	145	147	151	141	142	143
2	146	.60	.20	111	145	147	145	147	152	139	142	143
3	146	.30	0	111	145	148	145	147	152	139	142	142
4	146	.20	5.8	111	145	147	145	145	152	139	141	142
5	46	.10	.20	111	145	148	145	146	152	138	139	142
6	0	0	.20	116	145	148	144	148	152	138	139	142
7	98	0	.20	119	145	140	146	148	152	138	139	63
8	132	.10	4.7	119	145	148	146	148	152	138	139	112
9	119	0	9.2	119	145	149	146	147	139	137	139	144
10	119	6.2	76	119	145	144	146	149	145	120	139	143
11	62	4.2	120	45	146	149	146	149	145	112	139	143
12	.40	.30	120	.20	146	149	146	149	144	113	139	143
13	6.4	.30	61	70	146	149	147	147	144	113	139	142
14	81	7.1	.20	96	146	150	147	148	144	124	139	142
15	135	2.4	.30	96	146	151	147	149	145	139	138	142
16	145	.40	62	120	146	151	147	149	145	139	138	142
17	145	.40	118	120	146	151	147	149	145	139	137	141
18	144	.40	119	120	146	152	147	149	145	140	137	141
19	144	7.3	119	60	146	150	147	150	145	141	107	141
20	144	.30	59	.10	146	147	147	150	145	142	135	141
21	47	.40	.10	4.9	146	147	148	152	146	143	135	141
22	0	5.4	8.0	4.9	146	149	149	152	147	143	137	140
23	0	.30	76	1.7	126	149	148	150	147	142	143	141
24	0	.30	53	.10	130	147	149	150	147	142	143	139
25	0	.40	.10	.10	130	147	147	152	147	142	143	140
26	0	6.4	79	4.5	130	147	146	152	147	143	143	140
27	0	.30	118	58	137	147	146	153	146	143	142	140
28	.20	.30	118	146	147	146	147	153	144	143	142	140
29	.30	.30	112	145	-----	146	146	154	144	143	138	140
30	.50	.30	111	145	-----	146	147	154	142	144	143	140
31	.50	-----	111	145	-----	146	-----	153	-----	143	143	-----
TOTAL	2,153.30	45.60	1,665.90	2,529.50	4,002	4,574	4,394	4,636	4,403	4,240	4,301	4,135
MEAN	69.5	1.52	53.7	81.6	143	148	146	150	147	137	139	138
MAX	146	7.3	120	146	147	152	149	154	152	144	143	144
MIN	0	0	0	.10	126	139	144	145	139	112	107	63
AC-FT	4,270	90	3,300	5,020	7,940	9,070	8,720	9,200	8,730	8,410	8,530	8,200
CAL YR 1968	TOTAL 10,527.10		MEAN 28.8		MAX 147	MIN 0	AC-FT 20,880					
WTR YR 1969	TOTAL 41,079.30		MEAN 113		MAX 154	MIN 0	AC-FT 81,480					

SAN JOAQUIN RIVER BASIN

11-2440. NORTH FORK WILLOW CREEK NEAR BASS LAKE, CALIF.

LOCATION.--Lat 37°17'20", long 119°31'45", in SE¼ sec.26, T.7 S., R.22 E., Madera County, Sierra National Forest, on right bank 1,500 ft downstream from Bass Lake spillway, and 2.5 miles southeast of town of Bass Lake.

DRAINAGE AREA.--50.8 sq mi.

PERIOD OF RECORD.--May 1940 to current year. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

GAGE.--Water-stage recorder. Broad-crested weir with V-notch since Dec. 21, 1961. Altitude of gage is 3,200 ft (from topographic map).

AVERAGE DISCHARGE.--29 years, 15.5 cfs (11,230 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,300 cfs Jan. 26 (gage height, unknown); minimum daily, 0.20 cfs Nov. 10, 11.

Period of record: Maximum discharge, 1,300 cfs Jan. 26, 1969 (gage height, unknown); minimum daily, 0.1 cfs Nov. 13-16, 1940.

REMARKS.--Records poor. Flow regulated by Bass Lake (see sta 11-2434) 1,500 ft upstream and by diversion into Pacific Gas and Electric Co. conduit No. 3 near Bass Lake (see sta 11-2435). At times in October and March to July, up to 50 cfs may be diverted through Soquel ditch into Nelder Creek in Fresno River basin. Brown's ditch diverted 17,000 acre-ft from South Fork Willow Creek into Bass Lake in 1969 water year. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record, 20 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	.28	.32	.68	55	80	99	20	105	.49	.49	.49
2	.41	.34	.28	.58	47	110	35	50	94	.49	.49	.49
3	.41	1.1	.26	.55	44	75	15	56	55	.49	.49	.49
4	.41	.34	.26	.49	54	64	15	60	55	.49	.49	.49
5	.39	.30	.24	.47	87	22	30	70	45	.49	.49	.49
6	.34	.30	.24	.44	93	15	160	74	42	.49	.49	.49
7	.34	.34	.24	.41	60	11	140	82	40	.49	.49	25
8	.36	.30	.24	.41	39	10	124	94	45	.49	.49	32
9	.36	.22	.24	.41	25	7.2	115	100	55	.49	.49	.49
10	.36	.20	.30	.41	21	7.2	93	120	67	.49	.49	.49
11	.34	.20	.41	.36	21	6.9	85	161	50	.49	.49	.49
12	.32	.39	.30	.36	22	6.5	82	197	50	.49	.49	.49
13	.55	.26	.28	5.9	24	6.5	76	199	5.3	.49	.49	.49
14	.65	.28	.61	2.6	27	6.9	60	250	.49	.49	.49	.49
15	.49	.75	1.4	1.0	32	7.2	50	211	11	.49	.49	.49
16	.47	.32	.87	.75	69	7.6	47	190	82	.49	.49	.49
17	.44	.28	.47	14	55	8.3	50	170	147	.49	.49	.49
18	.47	.26	.36	15	40	10	70	160	85	.49	.49	.49
19	.47	.26	.34	80	45	15	110	160	.49	.49	.49	.49
20	.49	.26	.30	150	40	102	160	150	.49	.49	.49	.49
21	.49	.24	.36	220	35	99	170	140	11	.49	.49	.49
22	.49	.24	.26	560	21	80	140	130	35	.49	.49	.49
23	.44	.24	.30	60	16	35	130	130	38	.49	.49	.49
24	.47	.26	1.1	150	200	40	100	130	75	.49	.49	.49
25	.44	.26	3.7	450	290	50	80	120	63	.49	.49	.49
26	.44	.24	1.2	1,050	150	70	50	120	31	.49	.49	.49
27	.41	.22	.65	900	90	80	35	110	12	.49	.49	.49
28	.44	.22	.91	500	65	100	21	110	.49	.49	.49	.49
29	.49	.22	.72	150	-----	110	21	110	.49	.49	.49	.49
30	.36	.22	.58	76	-----	130	20	110	.49	.49	.49	.49
31	.28	-----	.55	64	-----	150	-----	105	-----	.49	.49	-----
TOTAL	13.23	9.34	18.29	4,454.82	1,767	1,522.3	2,383	3,889	1,301.24	15.19	15.19	70.72
MEAN	.43	.31	.59	144	63.1	49.1	79.4	125	43.4	.49	.49	2.36
MAX	.65	1.1	3.7	1,050	290	150	170	250	147	.49	.49	32
MIN	.28	.20	.24	.36	16	6.5	15	20	.49	.49	.49	.49
AC-FT	26	19	36	8,840	3,500	3,020	4,730	7,710	2,580	30	30	140

CAL YR 1968 TOTAL 239.76 MEAN .66 MAX 12 MIN .20 AC-FT 476
WTR YR 1969 TOTAL 15,459.32 MEAN 42.4 MAX 1,050 MIN .20 AC-FT 30,660

NOTE.--No gage-height record Jan. 17 to Sept. 30.

11-2465. WILLOW CREEK AT MOUTH, NEAR AUBERRY, CALIF.

LOCATION.--Lat 37°09'03", long 119°27'34", in SE¼NE¼ sec.16, T.9 S., R.23 E., Madera County, Sierra National Forest, on left bank 40 ft upstream from bridge, 0.4 mile upstream from mouth, 1.3 miles downstream from Whiskey Creek, and 4.3 miles northeast of Auberry.

DRAINAGE AREA.--130 sq mi.

PERIOD OF RECORD.--January 1952 to current year.

GAGE.--Water-stage recorder. Concrete control since Oct. 22, 1964. Datum of gage is 1,174.69 ft above mean sea level (levels by Southern California Edison Co.).

AVERAGE DISCHARGE.--17 years, 63.1 cfs (45,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,820 cfs Jan. 26 (gage height, 18.27 ft); no flow Oct. 1-6.
Period of record: Maximum discharge, 15,700 cfs Dec. 23, 1955 (gage height, 28.5 ft, from floodmarks), from rating curve extended above 4,700 cfs; no flow at times in 1955, 1959-62, 1964-66, 1968.

REMARKS.--Records good. Flow regulated by Bass Lake 10 miles upstream (see sta 11-2434) and diversion into Pacific Gas and Electric Co. conduit No. 1. See schematic diagram of San Joaquin River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1930: 1956-58(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.4	3.5	14	420	557	530	542	506	27	7.8	2.7
2	0	2.5	4.0	14	370	428	445	551	445	27	7.7	2.6
3	0	33	3.2	13	338	385	497	512	352	26	7.1	2.5
4	0	13	3.2	13	320	293	392	494	320	26	6.7	2.4
5	0	5.0	3.2	13	435	255	713	572	303	24	6.4	2.4
6	0	3.4	3.2	13	641	237	822	659	285	23	6.4	2.3
7	.02	2.8	3.1	13	445	214	620	756	271	25	6.2	14
8	.02	2.6	3.0	13	315	207	575	786	257	18	6.0	5.4
9	.02	2.3	2.9	13	267	201	545	838	345	17	5.9	3.5
10	.10	2.2	3.3	12	227	197	527	894	382	16	5.8	2.6
11	.10	2.2	55	11	211	191	584	904	322	16	5.6	2.3
12	.12	4.2	24	12	259	178	635	1,000	257	15	5.4	2.2
13	1.0	5.6	9.2	216	225	175	632	886	199	14	5.1	2.6
14	7.1	3.5	10	410	191	156	611	830	80	14	4.9	2.3
15	4.4	8.2	52	86	392	152	545	778	86	14	4.7	2.3
16	2.5	5.9	114	40	420	156	539	778	262	13	4.5	2.6
17	2.0	4.4	21	30	299	168	599	778	368	13	4.4	3.5
18	1.7	4.3	14	235	312	188	638	766	222	12	4.3	3.8
19	1.6	4.5	12	3,900	335	199	629	738	82	12	4.3	2.6
20	1.5	4.1	9.8	1,240	261	283	718	700	65	11	4.2	2.6
21	1.3	3.5	8.6	3,570	243	388	798	686	58	11	4.0	2.8
22	1.4	3.3	8.5	1,050	216	295	786	672	86	11	3.8	2.8
23	1.7	3.1	8.8	542	239	301	689	662	87	10	3.6	4.1
24	1.6	3.4	13	621	1,800	322	581	656	123	10	3.6	4.5
25	1.5	4.0	84	4,320	1,130	358	521	629	109	9.8	3.6	4.3
26	1.5	3.3	68	4,390	682	412	491	599	66	9.8	3.5	4.3
27	1.5	3.0	25	1,980	482	458	518	578	34	9.8	3.5	3.1
28	1.5	2.8	22	1,200	509	473	548	554	32	10	3.4	2.6
29	1.2	2.7	24	818	-----	509	518	539	31	9.3	3.4	3.2
30	1.9	2.7	18	635	-----	551	542	530	29	8.6	3.3	3.0
31	4.0	-----	16	521	-----	587	-----	518	-----	8.3	3.2	-----
TOTAL	41.28	148.9	649.5	25,958	11,984	9,474	17,788	21,385	6,064	470.6	152.3	101.9
MEAN	1.33	4.96	21.0	837	428	306	593	690	202	15.2	4.91	3.40
MAX	7.1	33	114	4,390	1,800	587	822	1,000	506	27	7.8	14
MIN	0	2.2	2.9	11	191	152	392	494	29	8.3	3.2	2.2
AC-FT	82	295	1,290	51,490	23,770	18,790	35,280	42,420	12,030	933	302	202
CAL YR 1968	TOTAL	3,990.58	MEAN	10.9	MAX	114	MIN	0	AC-FT	7,920		
WTR YR 1969	TOTAL	94,217.48	MEAN	258	MAX	4,390	MIN	0	AC-FT	186,900		

SAN JOAQUIN RIVER BASIN

11-2470. SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER, CALIF.

LOCATION.--Lat 37°04'45", long 119°33'36", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.10, T.10 S., R.22 E., Fresno County, on left bank 1.1 miles downstream from Kerckhoff powerhouse, 1.4 miles upstream from Big Sandy Creek, and 3.8 miles southeast of Prather.

DRAINAGE AREA.--1,481 sq mi.

PERIOD OF RECORD.--April 1910 to September 1914, December 1936 to December 1937, December 1942 to current year. Published as "near North Fork" 1910-14 and as "below Kerckhoff powerhouse" 1915-62.

GAGE.--Water-stage recorder. Datum of gage is 563.4 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1914, at site 11 miles upstream at different datum.

AVERAGE DISCHARGE.--30 years (1910-14, 1943-69), 2,396 cfs (1,736,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 26,100 cfs Jan. 26 (gage height, 30.46 ft); minimum daily, 72 cfs Nov. 2.

Period of record: Maximum discharge, 92,200 cfs Dec. 23, 1955 (gage height, 51.0 ft, from floodmarks), from rating curve extended above 20,000 cfs on basis of records for San Joaquin River above Willow Creek, near Auberry and Willow Creek at mouth, near Auberry; minimum daily, 24 cfs Sept. 26, 1966.

REMARKS.--Records excellent. Flow regulated by 12 powerplants and eight reservoirs with total usable capacity of 609,300 acre-ft. Earliest storage began in 1901 at Bass Lake (see sta 11-2434). See records for Florence, Lake Thomas A. Edison, Mammoth Pool Reservoir, Huntington, Shaver, and Redinger Lakes, given elsewhere in this report. Backwater from Millerton Lake has affected record at times since November 1947, when spillway gates were installed at Friant Dam. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record, telemark readings, and 10 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,350	943	658	966	4,023	5,713	4,890	8,510	19,300	7,460	4,170	2,700
2	1,130	72	393	860	4,053	5,040	4,640	8,960	19,300	7,540	4,110	2,690
3	814	1,130	395	1,060	4,290	4,990	5,140	8,510	19,800	7,380	4,040	2,540
4	160	1,700	425	700	4,200	4,460	4,680	7,800	18,700	7,040	3,930	2,790
5	262	907	403	1,190	4,640	4,060	5,900	7,380	17,800	7,080	3,810	2,680
6	170	443	428	1,380	5,050	4,100	5,570	8,310	17,600	7,040	3,850	2,650
7	143	515	379	1,290	4,510	4,290	5,270	11,300	16,200	6,840	3,550	2,590
8	345	800	438	1,190	4,160	4,220	5,210	12,300	15,700	6,500	3,050	2,710
9	285	517	962	1,130	3,930	4,340	5,050	13,200	13,800	6,550	2,930	2,550
10	304	712	1,100	792	4,010	4,420	4,980	13,900	11,800	6,840	2,870	3,110
11	236	808	1,210	780	4,130	4,250	4,880	13,500	9,680	7,310	2,890	3,130
12	173	1,130	583	870	4,340	4,280	5,150	14,800	9,400	7,350	2,890	3,120
13	220	823	1,160	1,140	4,270	4,190	5,000	14,600	10,300	7,750	2,910	3,140
14	1,210	551	638	2,280	4,250	3,950	5,100	13,900	11,800	8,520	3,220	3,140
15	777	1,410	1,700	1,710	4,930	3,810	4,930	13,000	12,300	7,310	2,520	3,100
16	436	825	1,710	1,700	4,890	3,800	4,770	13,000	12,600	6,900	2,860	3,100
17	548	755	1,330	1,560	4,440	3,780	4,890	13,300	12,000	6,920	2,970	3,090
18	478	742	757	1,170	4,540	3,830	4,910	14,200	9,450	6,670	2,750	3,120
19	472	932	815	12,600	4,700	3,840	4,820	13,900	9,260	6,580	2,680	3,120
20	460	892	933	5,160	4,690	3,810	4,930	13,000	10,300	6,850	2,600	3,110
21	410	695	516	11,200	4,720	4,120	5,220	13,200	10,100	7,030	2,700	3,140
22	357	800	536	5,050	4,130	3,470	5,280	13,800	10,600	7,270	2,680	3,120
23	304	735	820	4,250	4,580	3,920	5,080	15,900	11,500	7,400	2,680	3,040
24	344	675	1,540	4,180	10,100	3,950	5,040	16,600	10,000	5,850	2,700	2,970
25	307	735	1,270	14,400	7,800	3,950	4,920	17,000	10,400	6,300	2,670	2,960
26	288	352	1,720	11,900	5,690	4,080	4,610	16,800	9,040	5,390	2,710	3,020
27	270	415	1,450	6,370	5,130	4,440	4,680	16,800	8,320	4,770	2,580	2,980
28	217	435	807	5,860	5,080	4,700	4,790	16,500	7,580	4,490	2,590	2,960
29	305	413	1,330	4,620	-----	4,680	5,470	16,400	7,140	4,190	2,670	2,980
30	267	473	1,230	4,280	-----	4,960	8,120	17,600	7,100	4,060	2,650	3,050
31	265	-----	809	4,730	-----	4,940	-----	17,800	-----	4,060	2,710	-----
TOTAL	13,307	22,533	28,445	116,368	135,370	132,380	153,920	416,970	368,970	203,350	94,140	88,510
MEAN	429	723	918	3,754	4,835	4,270	5,131	13,450	12,300	6,550	3,037	2,950
MAX	1,350	1,700	1,720	14,400	10,100	5,710	8,120	17,800	19,800	8,520	4,170	3,140
MIN	143	72	379	700	3,930	3,470	4,610	7,380	7,100	4,060	2,520	2,540
AC-FT	26,390	44,800	56,420	230,800	268,500	262,600	305,300	827,000	731,800	403,300	186,700	175,600
CAL YR 1968	TOTAL	494,116	MEAN	1,350	MAX	2,630	MIN	72	AC-FT	930,100		
WTR YR 1969	TOTAL	1,774,318	MEAN	4,861	MAX	19,800	MIN	72	AC-FT	3,519,000		

11-2472. BIG SANDY CREEK TRIBUTARY, NEAR TOLLHOUSE, CALIF.

LOCATION.--Lat 37°01'53", long 119°26'50", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.27, T.10 S., R.23 E., Fresno County, at culvert on Lodge Road, 2.8 miles west of Tollhouse.

DRAINAGE AREA.--0.46 sq mi.

PERIOD OF RECORD.--Water years 1960-68 (annual maximum), October 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,900 ft (from topographic map). Prior to September 23, 1968, crest-stage gage at same site and datum.

EXTREMES.--Current year: Maximum discharge, 48 cfs Jan. 25 (gage height, 7.40 ft), as explained below; no flow for several months.

Period of record: Maximum discharge, 48 cfs Jan. 25, 1969 (gage height, 7.40 ft), by computation of peak flow through culvert and flow-over-road; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.02	.46	6.7	1.2	.66	.09	0	0	0
2	0	0	0	.02	.38	4.0	1.9	.62	.09	0	0	0
3	0	0	0	.02	.30	3.7	1.6	.62	.07	0	0	0
4	0	0	0	.02	.30	2.6	.85	.62	.07	0	0	0
5	0	0	0	.02	2.5	2.0	4.2	.58	.05	0	0	0
6	0	0	0	.01	3.9	2.0	4.5	.54	.07	0	0	0
7	0	0	0	.01	1.6	2.6	1.8	.50	.05	0	0	0
8	0	0	0	.01	1.2	2.1	1.4	.46	.07	0	0	0
9	0	0	0	.01	1.0	2.1	1.6	.46	.26	0	0	0
10	0	0	0	.01	.90	2.9	1.5	.42	.18	0	0	0
11	0	0	0	.01	.80	1.9	1.6	.34	.14	0	0	0
12	0	0	0	.01	.90	2.4	1.5	.26	.11	0	0	0
13	0	0	0	1.2	.70	1.9	1.2	.22	.09	0	0	0
14	0	0	.06	1.3	.70	1.6	1.2	.22	.07	0	0	0
15	0	0	.34	.46	1.4	1.6	.75	.22	.05	0	0	0
16	0	0	.09	.30	1.0	1.9	.85	.26	.04	0	0	0
17	0	0	.01	.22	.80	1.7	1.2	.30	.05	0	0	0
18	0	0	0	2.8	1.9	1.5	1.2	.30	.03	0	0	0
19	0	0	0	13	2.3	1.5	1.1	.30	.03	0	0	0
20	0	0	0	3.8	1.7	1.5	1.0	.30	.02	0	0	0
21	0	0	0	11	1.0	3.0	1.0	.30	.01	0	0	0
22	0	0	0	3.9	1.0	1.8	.95	.26	.01	0	0	0
23	0	0	0	1.0	4.1	1.5	1.0	.22	.01	0	0	0
24	0	0	.01	2.6	16	1.4	1.0	.22	.01	0	0	0
25	0	0	.26	12	11	1.2	.95	.22	.01	0	0	0
26	0	0	.70	6.6	6.7	1.2	.85	.22	0	0	0	0
27	0	0	.26	2.1	3.9	1.0	.80	.22	0	0	0	0
28	0	0	.26	1.6	5.9	1.0	.75	.18	0	0	0	0
29	0	0	.14	1.0	-----	.85	.70	.18	0	0	0	0
30	0	0	.04	.80	-----	1.2	.66	.14	0	0	0	0
31	0	-----	.03	.58	-----	1.2	-----	.11	-----	0	0	-----
TOTAL	0	0	2.20	66.43	74.34	63.55	40.81	10.47	1.68	0	0	0
MEAN	0	0	.071	2.14	2.66	2.05	1.36	.34	.056	0	0	0
MAX	0	0	.70	13	16	6.7	4.5	.66	.26	0	0	0
MIN	0	0	0	.01	.30	.85	.66	.11	0	0	0	0
AC-FT	0	0	4.4	132	147	126	81	21	3.3	0	0	0

CAL YR 1968 TOTAL -
WTR YR 1969 TOTAL 259.48

MEAN -
MEAN .71

MAX -
MAX 16

MIN -
MIN 0

AC-FT -
AC-FT 515

LOCATION.--Lat 37°00'10", long 119°42'21", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.11 S., R.21 E., Madera County, at Friant Dam
0.9 mile northeast of Friant.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to Oct. 1, 1948, water-stage recorder at several sites at various datums. Oct. 1, 1948, to Sept. 30, 1949, water-stage recorder at site 8.8 miles downstream.

EXTREMES.--Period of record: Maximum daily discharge, 1,322 cfs June 27, 1964; no flow for several months in each year.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey, not rounded to Geological Survey standards.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	486	777	1,200	1,260	1,270	1,160
2	0	0	0	0	0	0	552	780	1,240	1,260	1,270	1,080
3	0	0	0	0	0	0	392	780	1,270	1,270	1,270	1,040
4	0	0	0	0	0	0	199	774	1,260	1,270	1,270	1,080
5	0	0	0	0	0	0	203	774	1,250	1,270	1,270	1,050
6	0	0	0	0	0	0	143	750	1,260	1,260	1,270	1,050
7	179	0	0	0	0	0	104	760	1,270	1,250	1,270	1,050
8	224	0	0	0	0	131	113	719	1,270	1,250	1,270	1,050
9	203	0	0	0	0	403	115	707	1,270	1,250	1,260	1,080
10	202	0	0	0	0	500	112	695	1,180	1,260	1,260	1,100
11	197	0	0	0	0	495	110	717	1,140	1,260	1,250	1,070
12	203	0	0	0	0	490	110	763	1,080	1,260	1,240	1,040
13	182	0	0	0	0	484	111	680	865	1,260	1,230	1,030
14	149	0	0	0	127	494	113	638	895	1,270	1,230	1,020
15	141	0	0	0	377	487	156	655	927	1,260	1,230	1,010
16	133	0	0	0	499	478	206	668	950	1,260	1,210	946
17	140	0	0	0	663	505	421	652	981	1,270	1,190	912
18	146	0	0	0	732	515	576	651	1,060	1,270	1,210	874
19	135	0	0	0	672	717	601	664	1,110	1,270	1,220	852
20	125	0	0	0	836	800	602	841	1,130	1,270	1,230	849
21	122	0	0	0	1,040	828	603	922	1,180	1,260	1,230	846
22	122	0	0	0	1,100	825	696	894	1,210	1,260	1,210	824
23	41	0	0	0	1,100	798	746	1,010	1,210	1,270	1,190	811
24	0	0	0	0	769	827	745	1,110	1,220	1,270	1,180	807
25	0	0	0	0	162	872	745	1,140	1,230	1,270	1,180	804
26	0	0	0	0	0	641	748	1,160	1,210	1,270	1,200	800
27	0	0	0	0	0	510	696	1,190	1,200	1,270	1,200	760
28	0	0	0	0	0	490	669	1,230	1,200	1,270	1,200	733
29	0	0	0	0	-----	476	668	1,220	1,210	1,270	1,190	731
30	0	0	0	0	-----	463	736	1,210	1,240	1,270	1,180	716
31	0	-----	0	0	-----	448	-----	1,190	-----	1,270	1,170	-----
TOTAL	2,644	0	0	0	8,077	13,677	12,477	26,721	34,718	39,200	38,050	28,175
MEAN	85.3	0	0	0	288	441	416	862	1,157	1,265	1,227	939
MAX	224	0	0	0	1,100	872	748	1,230	1,270	1,270	1,270	1,160
MIN	0	0	0	0	0	0	104	638	865	1,250	1,170	716
AC-FT	5,240	0	0	0	16,020	27,130	24,750	53,000	68,860	77,750	75,470	55,880
CAL YR 1968	TOTAL	72,230.00	MEAN	197	MAX	1,130	MIN	0	AC-FT	143,300		
WTR YR 1969												

11-2500. FRIANT-KERN CANAL AT FRIANT, CALIF.

LOCATION.--Lat 36°59'53", long 119°42'11", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.11 S., R.21 E., Fresno County, at Friant Dam 0.9 mile northeast of Friant.

PERIOD OF RECORD.--March 1949 to current year.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to July 8, 1949, nonrecording gages at various sites and datums. July 8 to Sept. 30, 1949, water-stage recorder at site 0.2 mile downstream.

AVERAGE DISCHARGE.--20 years, 1,281 cfs (928,100 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 4,564 cfs Apr. 17, 1962; no flow for several months in most years.

REMARKS.--Canal diverts from Millerton Lake (see sta 11-2501) at left end of Friant Dam for irrigation in upper San Joaquin Valley.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey, not rounded to Geological Survey standards.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	702	223	0	63	0	0	1,020	1,690	2,320	2,750	4,270	3,620
2	708	185	0	63	0	0	1,120	1,700	2,530	2,930	4,260	3,630
3	686	152	33	64	627	0	1,060	1,680	2,660	3,010	4,290	3,690
4	554	137	50	64	994	0	924	1,570	2,760	2,840	4,300	3,660
5	481	105	50	64	985	0	674	1,680	2,840	2,700	4,290	3,400
6	485	53	56	65	978	0	424	1,590	2,770	2,890	4,290	3,250
7	479	0	60	59	994	0	389	1,670	2,580	3,170	4,270	3,190
8	473	0	60	56	1,000	0	349	1,880	2,630	3,360	4,250	3,140
9	467	0	60	56	989	0	357	1,910	2,710	3,450	4,280	3,080
10	462	0	61	57	684	0	413	1,790	2,640	3,560	4,280	3,040
11	415	0	61	19	502	0	474	1,860	2,540	4,030	4,260	3,290
12	375	0	54	0	467	0	500	1,960	2,430	3,850	4,270	3,270
13	371	0	50	0	403	0	550	1,990	2,310	4,010	4,290	3,120
14	220	0	51	0	398	0	504	2,010	2,230	4,260	4,260	3,170
15	103	0	51	0	291	0	487	2,000	2,410	4,320	4,230	3,220
16	104	0	24	0	202	0	565	1,920	2,610	4,380	4,210	3,260
17	90	0	0	0	310	0	613	1,930	2,710	4,400	4,260	3,350
18	85	0	0	0	293	0	641	2,080	2,790	4,240	4,300	3,320
19	73	80	0	0	158	568	639	2,150	2,870	4,020	4,280	3,220
20	60	0	39	0	114	595	753	2,110	2,800	3,880	4,290	3,130
21	185	0	58	0	132	455	927	2,100	2,730	4,350	4,280	3,110
22	61	0	58	0	131	307	1,200	2,180	2,910	4,400	4,280	3,140
23	61	0	59	0	130	294	1,550	2,200	3,070	4,410	4,300	3,180
24	61	0	59	0	80	331	1,530	2,090	3,150	4,410	4,300	3,180
25	77	0	60	0	0	408	1,440	2,210	3,170	4,370	4,300	3,130
26	90	81	60	0	0	538	1,300	2,290	2,940	4,340	4,290	3,040
27	161	0	61	0	0	622	1,370	2,340	2,630	4,330	4,290	2,880
28	229	0	62	0	0	670	1,540	2,440	2,530	4,230	4,280	2,860
29	279	0	62	0	-----	719	1,530	2,420	2,650	4,210	3,960	2,670
30	221	0	62	0	-----	823	1,770	2,280	2,710	4,300	3,730	2,330
31	172	-----	63	0	-----	912	-----	2,230	-----	4,290	3,670	-----
TOTAL	8,990	1,016	1,424	630	10,862	7,242	26,613	61,950	80,630	119,690	131,110	95,570
MEAN	290	33.9	45.9	20.3	388	234	887	1,998	2,688	3,861	4,229	3,186
MAX	708	223	63	65	1,000	912	1,770	2,440	3,170	4,410	4,300	3,690
MIN	60	0	0	0	0	0	349	1,570	2,230	2,700	3,670	2,330
AC-FT	17,830	2,020	2,820	1,250	21,540	14,360	52,790	122,900	159,900	237,400	260,100	189,600
CAL YR 1968	TOTAL 392,663.00		MEAN 1,073		MAX 3,840		MIN 0		AC-FT 778,800			
WTR YR 1969	TOTAL 545,727.00		MEAN 1,495		MAX 4,410		MIN 0		AC-FT 1,082,000			

SAN JOAQUIN RIVER BASIN

11-2501, MILLERTON LAKE AT FRIANT, CALIF.

LOCATION.--Lat 37°00'00", long 119°42'13", in SW $\frac{1}{4}$ sec.5, T.11 S., R.21 E., Fresno County, near center of Friant Dam on San Joaquin River, just upstream from Cottonwood Creek, and 0.9 mile northeast of Friant.

DRAINAGE AREA.--1,637 sq mi.

PERIOD OF RECORD.--October 1941 to current year. Monthend contents only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to May 29, 1944, nonrecording gage on left bank at same datum.

EXTREMES.--Current year: Maximum contents, 520,300 acre-ft July 25 (elevation, 577.96 ft); minimum, 133,600 acre-ft Apr. 11 (elevation, 467.81 ft).
Period of record: Maximum contents, 528,200 acre-ft June 20, 1963 (elevation, 579.56 ft); minimum since lake first filled, 133,600 acre-ft Apr. 11, 1969 (elevation, 467.81 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944, and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 (invert of river outlet) and 578.0 ft (top of drum-type spillway gates) above mean sea level. Not available for release, 17,400 acre-ft. Millerton Lake is one of the storage units in Central Valley project. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

400	36,400	500	215,600
420	57,000	520	279,400
440	83,300	540	353,000
460	117,500	560	436,500
480	161,700	580	530,400

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166.7	165.8	204.5	257.1	452.8	362.0	140.3	137.8	396.8	464.0	502.7	343.2
2	167.3	165.4	205.1	258.6	446.3	360.3	136.5	138.2	413.0	467.2	499.4	339.0
3	167.6	167.1	205.7	260.5	438.8	358.4	136.3	137.8	428.6	469.8	495.9	334.6
4	166.7	169.9	206.3	261.7	430.2	354.7	136.1	136.8	439.3	471.9	492.0	330.6
5	166.0	171.4	206.9	263.9	423.4	349.2	139.8	137.7	446.5	474.3	487.9	326.9
6	165.2	172.0	207.5	266.3	419.3	343.2	143.0	145.9	451.6	476.2	483.8	323.4
7	164.0	172.9	208.1	268.6	412.9	336.7	142.3	151.4	454.8	477.6	479.4	320.0
8	162.9	174.3	208.7	270.8	404.9	329.6	140.5	156.5	456.7	478.7	474.1	316.9
9	162.0	175.4	210.5	272.7	396.2	322.5	137.0	163.2	453.8	480.5	468.5	313.9
10	161.1	176.6	212.3	274.2	388.4	317.2	134.4	171.7	447.0	482.5	462.9	311.5
11	160.3	178.1	214.5	275.6	380.8	310.4	133.6	179.2	436.9	484.8	457.3	308.9
12	159.4	180.3	215.6	277.3	374.0	303.2	134.9	189.3	428.7	487.6	451.8	306.2
13	158.7	182.0	217.4	280.5	366.9	296.1	136.0	199.3	424.9	490.9	446.2	303.8
14	160.1	182.9	218.8	286.2	360.0	288.0	136.9	207.9	424.9	495.2	441.3	301.5
15	161.2	185.6	222.2	289.7	355.3	279.3	136.5	214.3	425.7	497.3	435.4	299.0
16	161.2	187.1	225.6	293.0	350.3	270.5	135.5	220.1	426.7	498.0	430.2	296.5
17	161.7	188.5	228.2	296.1	343.5	261.5	135.2	227.5	426.3	499.0	424.9	293.9
18	162.0	189.8	229.6	299.2	338.1	252.5	135.3	235.8	420.8	501.0	419.1	291.5
19	162.4	191.4	231.1	333.5	334.2	242.0	135.4	243.3	415.3	503.4	413.4	289.3
20	162.7	193.1	232.8	346.6	329.4	231.5	135.5	248.4	413.8	506.9	407.3	287.3
21	163.0	194.3	233.6	377.7	324.7	222.5	135.9	254.1	414.3	509.8	401.5	285.3
22	163.2	195.9	234.4	390.2	318.8	212.0	136.0	261.3	417.1	513.2	395.7	283.4
23	163.7	197.2	235.8	399.0	315.0	202.0	135.9	273.0	423.8	516.8	389.9	281.2
24	164.0	198.4	238.8	406.3	339.3	191.8	135.8	285.9	431.3	519.0	384.3	278.9
25	164.5	199.7	241.3	438.4	353.6	181.5	136.1	299.4	439.5	520.3	378.6	276.7
26	164.7	200.2	245.0	460.6	358.2	171.6	136.4	312.6	446.0	519.8	372.9	274.8
27	164.8	200.9	247.8	468.5	359.0	163.6	136.4	325.6	451.2	517.9	367.2	273.2
28	164.6	201.7	249.2	471.5	359.7	158.5	136.1	337.6	455.6	515.6	361.6	271.6
29	164.6	202.5	251.6	468.0	-----	154.1	136.0	349.4	458.3	512.6	356.5	270.5
30	164.6	203.1	253.9	463.3	-----	150.2	137.6	363.7	460.9	509.2	351.9	270.0
31	164.4	-----	255.3	459.1	-----	145.5	-----	378.6	-----	505.8	347.5	-----
MAX	167.6	203.1	255.3	471.5	452.8	362.0	143.0	378.6	460.9	520.3	502.7	343.2
MIN	158.7	165.4	204.5	257.1	315.0	145.5	133.6	136.8	396.8	464.0	347.5	270.0
(a)	481.08	495.66	512.80	565.02	541.72	473.16	469.64	546.41	565.41	574.98	538.61	517.25
(b)	-1.2	+38.7	+52.2	+203.8	-99.4	-214.2	-7.9	+241.0	+82.3	+44.9	-158.3	-77.5
(c)	740	270	230	330	470	750	740	1,840	2,890	3,960	3,430	2,050
CAL YR 1968	b	-8.6	MAX 288.9	MIN 149.2								
WTR YR 1969	b	+104.4	MAX 520.3	MIN 133.6								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

11-2510. SAN JOAQUIN RIVER BELOW FRIANT, CALIF.

LOCATION.--Lat 36°59'04", long 119°43'24", in SW $\frac{1}{4}$ sec.7, T.11 S., R.21 E., Fresno County, on left bank 0.5 mile west of Friant, 1.5 miles downstream from Cottonwood Creek, 2 miles downstream from Friant Dam, and at mile 268.1.

DRAINAGE AREA.--1,676 sq mi.

PERIOD OF RECORD.--October 1907 to current year. Published as "near Pollasky" October 1907 to December 1908 and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 294.00 ft above mean sea level (levels by Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 miles upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, water-stage recorder at site 2.5 miles upstream at different datum.

AVERAGE DISCHARGE.--62 years, 2,368 cfs (1,716,000 acre-ft per year), including diversions to Madera Canal, 1944-69, Friant-Kern Canal, 1949-69, and adjusted for change in contents and evaporation from Millerton Lake 1941-69.

EXTREMES.--Current year: Maximum discharge, 12,400 cfs June 6 (gage height, 11.69 ft); minimum daily, 32 cfs Dec. 6-9, 11-13.

Period of record: Maximum discharge, 77,200 cfs Dec. 11, 1937 (gage height, 23.8 ft, site and datum then in use); minimum, 38 cfs (regulated) July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 12,400 cfs June 6, 1969; minimum, 5.5 cfs Oct. 20, 1941.

REMARKS.--Records good. Flow regulated by Millerton Lake beginning in 1941 (see sta 11-2501) and by other reservoirs described in REMARKS for San Joaquin River below Kerckhoff powerhouse. Diversion for irrigation through Madera and Friant-Kern Canals (see sta 11-2495, 11-2500).

COOPERATION.--One discharge measurement furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	104	81	56	37	7,560	6,390	6,330	6,730	8,110	1,940	163	54	
2	106	83	56	37	7,790	6,980	5,430	7,020	8,500	1,940	165	54	
3	106	84	56	38	7,790	7,050	4,480	7,000	9,700	1,950	165	54	
4	106	76	56	38	7,860	7,180	4,100	6,510	10,800	1,960	165	54	
5	106	71	47	40	7,900	7,430	4,250	5,090	11,800	1,960	163	49	
6	104	71	32	40	7,650	7,860	5,120	3,060	12,400	1,970	163	47	
7	104	65	32	41	7,580	8,120	5,860	6,430	12,300	1,780	160	49	
8	104	58	32	41	7,680	8,190	6,200	7,940	12,300	1,330	138	47	
9	97	58	32	41	7,700	8,210	6,820	8,140	12,400	994	108	46	
10	93	54	33	42	7,770	7,610	6,250	8,090	12,300	994	108	46	
11	84	47	32	42	7,830	7,790	5,050	8,090	11,900	994	108	52	
12	81	48	32	42	7,790	7,990	4,290	8,020	10,600	994	106	83	
13	83	48	32	65	7,790	8,010	4,100	7,980	9,440	994	106	80	
14	69	50	34	111	7,560	8,150	4,360	8,020	8,860	994	88	75	
15	58	50	34	62	7,410	8,190	4,840	8,090	8,860	1,000	76	75	
16	57	50	33	54	7,360	8,240	4,800	8,140	8,860	1,000	78	76	
17	52	50	33	52	7,310	8,260	4,290	8,050	8,860	822	80	80	
18	48	50	33	69	7,180	8,280	3,960	8,020	8,860	305	80	80	
19	48	51	34	287	6,790	8,310	3,780	8,090	8,360	151	80	80	
20	48	51	34	201	6,820	8,330	3,780	8,090	7,310	125	78	80	
21	48	51	33	470	6,660	8,150	3,790	8,020	6,170	123	76	80	
22	48	51	33	267	6,600	8,260	3,470	8,070	5,260	136	73	76	
23	48	51	34	302	6,680	8,300	3,100	8,070	4,010	160	73	76	
24	51	51	35	1,200	5,510	8,370	3,100	8,070	2,260	208	76	76	
25	58	51	37	3,080	4,510	8,390	2,960	8,090	1,900	262	78	76	
26	63	51	38	3,300	5,420	8,400	2,560	8,070	1,910	245	68	76	
27	69	51	37	3,500	6,090	7,670	2,750	8,070	1,910	205	52	75	
28	74	52	37	5,170	6,220	6,490	2,870	8,070	1,920	165	52	73	
29	83	54	37	6,900	-----	5,990	3,730	8,110	1,930	163	54	73	
30	83	54	37	6,970	-----	5,960	5,640	8,050	1,930	163	54	73	
31	81	-----	37	7,220	-----	6,300	-----	8,120	-----	163	54	-----	
TOTAL	2,364	1,713	1,158	39,759	198,810	238,850	132,060	235,410	231,720	26,190	3,088	2,015	
MEAN	76.3	57.1	37.4	1,283	7,100	7,705	4,402	7,594	7,724	845	99.6	67.2	
MAX	106	84	56	7,220	7,900	8,400	6,820	8,140	12,400	1,970	165	83	
MIN	48	47	32	37	4,510	5,960	2,560	3,060	1,900	123	52	46	
AC-FT	4,690	3,400	2,300	78,860	394,300	473,800	261,900	466,900	459,600	51,950	6,120	4,000	
MEAN a	443	746	936	4,622	5,994	4,908	5,581	14,400	13,000	6,764	3,036	2,924	
AC-FT a	27,240	44,390	57,550	284,200	332,900	301,800	332,100	885,500	773,500	415,900	186,700	174,000	
CAL YR 1968 TOTAL	29,539	MEAN	80.7	MAX	217	MIN	30	AC-FT	58,590	MEAN a	1,359	AC-FT a	986,500
WTR YR 1969 TOTAL	1,113,137	MEAN	3,050	MAX	12,400	MIN	32	AC-FT	2,208,000	MEAN a	5,270	AC-FT a	3,816,000

a Adjusted for change in contents and evaporation in Millerton Lake and for diversions to Madera and Friant-Kern Canals.

SAN JOAQUIN RIVER BASIN

11-2533.1. CANTUA CREEK NEAR CANTUA CREEK, CALIF.

LOCATION.--Lat 36°24'08", long 120°25'57", in SE $\frac{1}{4}$ sec.34, T.17 S., R.14 E., Fresno County, on left bank 9.2 miles southwest of town of Cantua Creek, and 19 miles north of Coalinga.

DRAINAGE AREA.--46.4 sq mi.

PERIOD OF RECORD.--Water years 1958-66 (annual maximum), October 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 680 ft (from topographic map). Prior to Sept. 16, 1966, crest-stage gage at datum 2.00 ft lower.

EXTREMES.--Current year: Maximum discharge, 1,920 cfs Feb. 24 (gage height, 6.60 ft), from rating curve extended as explained below; no flow for several months.

Period of record: Maximum discharge, 1,920 cfs Feb. 24, 1969 (gage height, 6.60 ft), from rating curve extended above 170 cfs on basis of slope-area measurements at gage heights 4.57, 6.04, and 6.60 ft; no flow for several months each year.

REMARKS.--Records good. Some small dams for stock use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	12	84	14	7.5	3.5	2.5	.05	0
2	0	0	0	0	11	63	14	8.0	4.0	2.5	.05	0
3	0	0	0	0	9.4	59	17	7.5	4.5	2.5	.02	0
4	0	0	0	0	9.0	53	14	7.5	4.0	2.5	0	0
5	0	0	0	0	16	51	34	7.0	4.0	2.5	0	0
6	0	0	0	0	53	48	30	6.0	4.0	2.0	0	0
7	0	0	0	0	24	45	20	6.0	4.0	2.0	0	0
8	0	0	0	0	22	40	16	5.5	4.5	2.0	0	0
9	0	0	0	0	20	38	16	5.5	5.0	1.5	0	0
10	0	0	0	0	18	36	16	5.5	5.0	1.5	0	0
11	0	0	0	0	16	33	14	5.5	5.0	1.5	0	0
12	0	0	0	0	15	32	13	6.0	4.5	2.0	0	0
13	0	0	0	0	13	33	12	5.5	4.5	1.5	0	0
14	0	0	0	5.6	11	29	11	5.5	4.0	1.5	0	0
15	0	0	0	.27	43	26	11	6.4	3.5	.86	0	0
16	0	0	0	0	25	24	10	8.5	4.2	.68	0	0
17	0	0	0	0	18	24	10	8.5	3.5	.68	0	0
18	0	0	0	.73	30	23	10	8.0	3.5	.62	0	0
19	0	0	0	105	22	21	9.5	8.0	3.5	.62	0	0
20	0	0	0	106	20	21	9.0	7.5	3.5	.50	0	0
21	0	0	0	221	18	21	9.0	6.5	3.5	.17	0	0
22	0	0	0	33	17	19	8.5	5.5	3.5	.09	0	0
23	0	0	0	21	35	19	10	5.0	3.0	.07	0	0
24	0	0	0	36	537	19	10	5.0	3.0	.08	0	0
25	0	0	0	449	191	18	9.5	5.0	3.0	.11	0	0
26	0	0	0	245	106	17	9.0	5.5	3.0	.15	0	0
27	0	0	0	58	79	16	8.0	5.5	3.0	.13	0	0
28	0	0	0	30	119	16	8.0	5.5	3.0	.11	0	0
29	0	0	0	22	-----	16	8.5	5.0	2.5	.09	0	0
30	0	0	0	18	-----	15	8.0	4.5	2.5	.08	0	0
31	0	-----	0	14	-----	15	-----	4.0	-----	.07	0	-----
TOTAL	0	0	0	1,364.60	1,509.4	974	389.0	192.4	112.2	33.11	0.12	0
MEAN	0	0	0	44.0	53.9	31.4	13.0	6.21	3.74	1.07	.004	0
MAX	0	0	0	449	537	84	34	8.5	5.0	2.5	.05	0
MIN	0	0	0	0	9.0	15	8.0	4.0	2.5	.07	0	0
AC-FT	0	0	0	2,710	2,990	1,930	772	382	223	66	.2	0

CAL YR 1968	TOTAL	110.10	MEAN	.30	MAX	3.0	MIN	0	AC-FT	218
WTR YR 1969	TOTAL	4,574.83	MEAN	12.5	MAX	537	MIN	0	AC-FT	9,070

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1230	3.95	405	2-15	1500	2.77	81
1-20	2300	4.76	724	2-24	1300	6.60	1,920
1-25	0530	6.04	1,390	2-28	1330	2.42	154
2- 5	2300	2.96	127	4- 5	1600	2.08	68

11-2555, PANOCHÉ CREEK BELOW SILVER CREEK, NEAR PANOCHÉ, CALIF.

LOCATION.--Lat 36°37'08", long 120°40'22", in SW¼SW¼ sec.16, T.15 S., R.12 E., Fresno County, on right bank 1.1 miles downstream from Silver Creek, 9 miles east of Panoche, and 18 miles southwest of Mendota.

DRAINAGE AREA.--293 sq mi.

PERIOD OF RECORD.--October 1949 to September 1953, October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 558.26 ft above mean sea level.

AVERAGE DISCHARGE.--15 years, 2.70 cfs (1,960 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,400 cfs Feb. 24 (gage height, 8.42 ft), from rating curve extended as explained below; no flow for several months.

Period of record: Maximum discharge, 5,400 cfs Feb. 24, 1969 (gage height, 8.42 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

Flood of Apr. 2, 1958, reached a stage of 7.01 ft (discharge, 5,090 cfs, by slope-area measurement).

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Some small dams for stock use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	10	119	6.0	3.5	1.1	.31	0	0
2	0	0	0	0	9.6	99	5.6	3.4	1.1	.30	0	0
3	0	0	0	0	9.2	85	5.4	3.3	1.1	.28	0	0
4	0	0	0	0	8.8	74	6.5	3.1	1.0	.26	0	0
5	0	0	0	0	8.8	65	12	3.0	1.0	.25	0	0
6	0	0	0	0	130	58	54	2.9	.99	.23	0	0
7	0	0	0	0	74	51	33	2.8	.95	.22	0	1.3
8	0	0	0	0	16	46	21	2.7	.89	.20	0	.80
9	0	0	0	0	12	41	15	2.6	.85	.19	0	.28
10	0	0	0	0	9.9	36	12	2.5	.82	.17	0	.09
11	0	0	0	0	9.2	33	10	2.4	.79	.16	0	.03
12	0	0	0	0	17	30	8.8	2.3	.76	.15	0	.01
13	0	0	0	0	14	27	7.9	2.3	.72	.14	0	0
14	0	0	0	0	10	25	7.2	2.2	.70	.13	0	0
15	0	0	0	0	30	22	6.8	2.1	.67	.11	0	0
16	0	0	0	0	48	20	6.4	2.0	.64	.10	0	0
17	0	0	0	0	14	19	6.0	2.0	.61	.09	0	0
18	0	0	0	0	12	17	5.6	1.9	.59	.08	0	0
19	0	0	0	0	12	16	5.5	1.8	.56	.07	0	0
20	0	0	0	5.1	12	14	5.3	1.8	.54	.07	0	0
21	0	0	0	127	10	13	5.1	1.7	.52	.06	0	0
22	0	0	0	25	9.4	12	4.9	1.6	.50	.05	0	0
23	0	0	0	8.1	99	11	4.7	1.6	.47	.04	0	0
24	0	0	0	27	1,690	10	4.6	1.5	.45	.03	0	0
25	0	0	0	839	350	9.5	4.4	1.5	.43	.02	0	0
26	0	0	0	406	214	9.0	4.2	1.4	.41	.02	0	0
27	0	0	0	45	168	8.3	4.1	1.4	.39	.01	0	0
28	0	0	0	20	137	7.8	3.9	1.3	.37	.01	0	0
29	0	0	0	14	-----	7.2	3.8	1.3	.35	0	0	0
30	0	0	0	12	-----	6.8	3.6	1.2	.33	0	0	0
31	0	-----	0	11	-----	6.4	-----	1.2	-----	0	0	-----
TOTAL	0	0	0	1,539.2	3,143.9	998.0	283.3	66.3	20.60	3.75	0	2.51
MEAN	0	0	0	49.7	112	32.2	9.44	2.14	.69	.12	0	.084
MAX	0	0	0	839	1,690	119	54	3.5	1.1	.31	0	1.3
MIN	0	0	0	0	8.8	6.4	3.6	1.2	.33	0	0	0
AC-FT	0	0	0	3,050	6,240	1,980	562	132	41	7.4	0	5.0
CAL YR 1968	TOTAL	32.06	MEAN	.088	MAX	1.7	MIN	0	AC-FT	64		
WTR YR 1969	TOTAL	6,057.56	MEAN	16.6	MAX	1,690	MIN	0	AC-FT	12,020		

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	1200	4.83	445	2-15	2100	3.52	111
1-25	0900	7.20	2,940	2-23	1400	4.57	368
1-26	1000	6.19	1,510	2-24	1000	8.42	5,400
2-6	2000	4.05	210				

NOTE.--No gage-height record Feb. 25 to Sept. 30.

SAN JOAQUIN RIVER BASIN

11-2571. MIAMI CREEK NEAR OAKHURST, CALIF.

LOCATION.--Lat 37°23'37", long 119°39'12", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.6 S., R.21 E., Madera County, Sierra National Forest, on left bank 200 ft downstream from county road bridge, and 4.6 miles north of Oakhurst.

DRAINAGE AREA.--10.6 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 8.92 cfs (6,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 610 cfs Jan. 19 (gage height, 8.17 ft); minimum daily, 0.50 cfs Oct. 1.

Period of record: Maximum discharge, 804 cfs Feb. 1, 1963 (gage height, 9.08 ft); no flow for many days in most years.

REMARKS.--No known diversions above station.

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

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1963(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	1.2	2.1	5.9	39	31	55	48	19	12	6.1	3.7
2	.60	1.5	2.0	5.8	35	28	53	46	19	11	6.1	3.6
3	.60	1.1	1.9	5.9	32	27	56	44	18	11	5.8	3.5
4	.60	4.1	1.8	6.3	28	26	49	42	17	11	5.6	4.3
5	.60	2.3	2.1	6.4	29	25	89	42	17	11	5.4	3.5
6	.60	1.8	2.1	6.4	30	26	78	44	17	11	5.3	3.5
7	.60	1.6	2.1	6.3	27	24	59	45	17	11	5.2	3.5
8	.70	1.5	2.1	5.9	26	23	53	45	17	10	5.1	3.5
9	.70	1.5	1.8	5.4	25	23	54	46	26	10	5.0	3.3
10	.60	1.5	2.4	4.9	24	23	56	45	27	9.7	5.1	3.4
11	.60	1.5	8.8	4.6	25	21	57	44	22	9.4	5.1	3.4
12	.80	3.6	4.5	4.5	40	21	58	47	20	9.1	4.9	3.4
13	2.0	2.9	3.4	6.4	33	20	57	42	19	8.7	4.8	3.4
14	3.2	2.3	6.0	5.9	29	21	53	39	18	8.9	4.6	3.4
15	1.4	4.2	28	21	49	22	48	37	17	8.6	4.5	3.3
16	1.2	3.1	21	13	40	25	48	35	17	8.4	4.5	3.3
17	1.1	2.7	8.1	10	33	30	51	34	17	8.2	4.6	3.3
18	1.0	2.7	5.8	5.4	32	36	53	33	16	8.1	4.5	3.2
19	1.0	2.8	5.1	36.3	30	36	52	32	16	8.1	4.4	3.1
20	1.0	2.6	4.6	12.3	27	35	54	30	15	7.9	4.4	3.2
21	1.0	2.3	6.0	31.9	26	38	57	29	15	7.8	4.3	3.3
22	1.0	2.1	4.1	10.6	25	36	57	28	14	7.6	4.2	3.1
23	.90	2.0	3.9	4.8	24	41	64	27	14	7.4	4.2	2.9
24	.90	2.2	12	5.3	4.9	44	55	26	13	7.3	4.2	2.9
25	.90	2.2	31	3.38	4.3	45	4.9	2.5	13	7.3	4.3	2.9
26	.90	1.9	15	20.5	3.4	4.8	4.8	2.4	13	7.2	4.0	2.9
27	.90	1.8	8.9	8.1	3.0	5.0	4.8	2.4	13	7.5	4.1	2.7
28	.80	1.7	8.5	5.6	3.1	5.3	4.8	2.3	13	7.3	4.0	2.7
29	.90	1.6	7.5	5.1	-----	5.5	5.0	2.2	12	6.7	4.0	2.7
30	1.8	1.6	6.6	4.7	-----	5.6	5.0	2.1	12	6.5	3.9	2.7
31	1.4	-----	6.1	4.2	-----	5.8	-----	2.0	-----	6.2	3.8	-----
TOTAL	30.80	75.8	225.3	2,121.3	895	1,047	1,659	1,089	503	271.9	146.0	97.6
MEAN	.99	2.53	7.27	68.4	32.0	33.8	55.3	35.1	16.8	8.77	4.71	3.25
MAX	3.2	11	31	36.3	49	58	89	48	27	12	6.1	4.3
MIN	.50	1.2	1.8	4.5	2.4	20	4.8	20	12	6.2	3.8	2.7
AC-FT	61	150	447	4,210	1,780	2,080	3,290	2,160	998	539	290	194

CAL YR 1968 TOTAL 1,532.60 MEAN 4.19 MAX 31 MIN .30 AC-FT 3,040
WTR YR 1969 TOTAL 8,161.70 MEAN 22.4 MAX 363 MIN .50 AC-FT 16,190

11-2575. FRESNO RIVER NEAR KNOWLES, CALIF.

LOCATION.--Lat 37°14'14", long 119°46'26", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.15, T.8 S., R.20 E., Madera County, on left bank at Fresno Crossing, 0.1 mile downstream from Bean Gulch, and 6 miles northeast of Knowles.

DRAINAGE AREA.--133 sq mi.

PERIOD OF RECORD.--September 1911 to August 1913, November 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,086.4 ft above mean sea level (river-profile survey). Prior to June 13, 1930, nonrecording gage 10 ft upstream and June 13, 1930, to Jan. 13, 1931, water-stage recorder at site 40 ft upstream at datum 0.34 ft lower.

AVERAGE DISCHARGE.--54 years (1911-12, 1916-69), 80.5 cfs (58,320 acre-ft per year); median of yearly mean discharge, 61 cfs (44,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,640 cfs Feb. 24 (gage height, 9.18 ft); minimum daily, 0.80 cfs Oct. 2.

Period of record: Maximum discharge, 13,300 cfs Dec. 23, 1955 (gage height, 11.52 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; no flow at times in some years.

REMARKS.--Records good. Diversions for irrigation of 160 acres above station. Diversions into Fresno River basin above station of up to 80 cfs at times since 1897 from the San Joaquin River basin and up to 60 cfs at times since 1888 from the Merced River basin. Diversions are for irrigation downstream from station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	8.7	14	60	469	1,130	395	277	154	126	37	17
2	.80	8.1	18	56	438	831	382	273	154	123	35	16
3	1.5	32	17	52	395	837	570	264	152	122	33	16
4	1.0	42	18	51	369	671	390	256	158	119	31	15
5	.90	17	18	52	639	597	885	248	164	117	28	15
6	1.0	12	17	52	1,150	566	1,030	248	162	114	25	15
7	.89	11	17	52	700	517	639	256	161	113	25	15
8	1.2	13	17	51	522	465	517	285	162	109	24	18
9	1.4	13	17	49	447	447	473	285	193	105	23	15
10	1.7	13	17	45	395	625	487	281	248	101	23	15
11	2.3	13	60	41	369	509	447	273	192	98	24	14
12	3.2	14	38	40	535	478	438	269	193	94	25	14
13	5.5	25	25	272	473	465	425	260	184	92	24	13
14	17	22	46	726	365	407	407	252	176	97	23	13
15	13	23	104	260	820	386	386	243	170	89	24	14
16	7.1	35	192	183	739	378	361	235	189	82	24	14
17	5.9	25	84	152	513	382	361	231	191	78	24	15
18	5.7	23	52	329	714	399	365	227	174	71	25	14
19	5.5	21	44	3,080	820	395	348	223	165	67	24	14
20	5.4	23	37	1,100	657	390	348	165	157	63	23	14
21	5.3	21	26	3,240	634	611	353	140	155	59	22	15
22	5.1	19	23	1,210	557	434	348	191	152	56	20	16
23	5.4	18	33	562	978	399	378	200	150	55	22	14
24	5.5	17	40	559	3,200	399	361	208	145	53	22	13
25	5.5	18	197	3,070	2,230	386	319	197	143	51	20	13
26	5.1	19	222	2,290	1,580	382	306	193	140	49	19	13
27	5.2	17	122	1,110	985	386	302	194	137	45	19	12
28	5.3	16	99	879	978	386	290	193	135	48	19	12
29	5.4	16	119	648	-----	390	290	189	133	44	19	12
30	7.9	15	85	570	-----	390	285	179	131	40	18	13
31	11	-----	68	495	-----	399	-----	168	-----	37	17	-----
TOTAL	149.39	569.8	1,886	21,336	22,671	15,437	12,886	7,103	4,920	2,517	741	429
MEAN	4.82	19.0	60.8	688	810	498	430	229	164	81.2	23.9	14.3
MAX	17	42	222	3,240	3,200	1,130	1,030	285	248	126	37	18
MIN	.80	8.1	14	40	365	378	285	140	131	37	17	12
AC-FT	296	1,130	3,740	42,320	44,970	30,620	25,560	14,090	9,760	4,990	1,470	851
CAL YR 1968	TOTAL 13,341.62		MEAN 36.5		MAX 222	MIN .09	AC-FT 26,460					
WTR YR 1969	TOTAL 90,645.19		MEAN 248		MAX 3,240	MIN .80	AC-FT 179,800					

PEAK DISCHARGE (BASE, 590 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	0130	4.31	1,560	2-24	1800	9.18	7,640
1-19	1200	7.33	4,520	3-1	0600	3.96	1,290
1-21	1200	7.32	4,510	3-10	1900	3.08	709
1-25	1045	8.01	5,480	3-21	0615	3.20	770
2-6	1800	4.06	1,370	4-3	0445	3.25	798
2-15	1945	4.28	1,540	4-5	2030	5.08	2,260
2-19	0600	3.39	879				

SAN JOAQUIN RIVER BASIN

11-2580, FRESNO RIVER NEAR DAULTON, CALIF.

LOCATION.--Lat 37°05'51", long 119°53'19", in NW¹/₄ sec.3, T.10 S., R.19 E., Madera County, on left bank 0.4 mile downstream from Willow Creek, and 5.3 miles southeast of Daulton.

DRAINAGE AREA.--258 sq mi.

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 382.37 ft above mean sea level. October 1941 to Sept. 27, 1946, at site 300 ft downstream and Sept. 28, 1946, to Sept. 28, 1949, at present site, at datum 3.37 ft higher. Sept. 29, 1949, to Mar. 19, 1963, at datum 1.00 ft higher.

AVERAGE DISCHARGE.--28 years, 109 cfs (78,970 acre-ft per year); median of yearly mean discharges, 70 cfs (50,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,300 cfs Feb. 24 (gage height, 12.69 ft), from rating curve extended as explained below; no flow Oct. 1-12.
Period of record: Maximum discharge, 17,500 cfs Dec. 23, 1955 (gage height, 12.64 ft, present datum), from rating curve extended above 6,400 cfs on basis of slope-area measurement at gage height 12.69 ft; maximum gage height, 12.69 ft Feb. 24, 1969; no flow at times in most years.
Flood of Mar. 3, 1938, reached a discharge of 15,000 cfs (furnished by Bureau of Reclamation).

REMARKS.--Records good. No diversion for irrigation between this station and station near Knowles. Some regulation at low flow by mining operations above station. See REMARKS for station near Knowles.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	9.7	16	73	615	2,170	466	314	189	135	38	13
2	0	7.7	22	65	573	1,440	446	309	181	131	37	13
3	0	17	21	60	494	1,450	780	299	178	127	35	13
4	0	48	15	53	458	1,110	550	294	175	124	32	12
5	0	27	15	55	792	930	1,040	285	173	123	29	11
6	0	15	16	58	1,600	846	1,950	283	167	121	26	12
7	0	13	15	55	1,180	762	942	282	165	119	26	13
8	0	11	15	51	810	685	715	313	163	116	22	12
9	0	12	15	46	665	665	630	315	169	109	18	14
10	0	12	14	46	578	1,210	630	316	264	105	18	13
11	0	11	28	44	537	910	586	313	234	103	18	12
12	0	13	60	40	725	759	560	305	206	99	22	12
13	2.8	23	35	113	720	835	537	297	199	100	23	13
14	15	26	31	1,450	546	662	514	292	188	102	21	13
15	11	27	57	402	1,000	611	482	285	181	96	21	13
16	8.6	37	245	238	1,310	574	454	270	187	87	22	13
17	5.6	29	144	172	864	564	434	266	201	79	20	14
18	4.3	27	81	168	1,230	570	430	262	192	75	20	16
19	3.8	25	62	3,800	1,490	558	414	251	179	72	20	14
20	4.1	25	53	1,690	1,100	551	402	232	171	67	23	14
21	3.5	21	40	6,360	1,070	1,040	410	187	164	62	21	13
22	3.2	19	30	2,520	925	695	398	196	159	59	20	14
23	3.0	17	28	1,100	1,400	586	406	227	157	58	21	14
24	3.2	17	34	872	7,250	564	461	233	156	56	18	13
25	3.4	18	129	5,790	5,050	528	378	235	157	54	17	11
26	2.7	19	378	3,850	3,000	509	358	229	154	52	16	11
27	2.6	16	206	1,840	1,720	498	348	218	149	47	16	12
28	2.8	15	129	1,360	1,560	490	332	216	146	50	16	12
29	3.3	15	150	1,080	-----	486	331	211	142	47	16	11
30	6.2	15	117	858	-----	478	328	204	139	43	16	11
31	6.1	-----	89	710	-----	482	-----	201	-----	39	13	-----
TOTAL	95.2	587.4	2,290	35,019	39,262	24,218	16,712	8,140	5,285	2,657	681	382
MEAN	3.07	19.6	73.9	1,130	1,402	781	557	263	176	85.7	22.0	12.7
MAX	15	48	378	6,360	7,250	2,170	1,950	316	264	135	38	16
MIN	0	7.7	14	40	458	478	328	187	139	39	13	11
AC-FT	189	1,170	4,540	69,460	77,880	48,040	33,150	16,150	10,480	5,270	1,350	758
CAL YR 1968	TOTAL	14,532.01	MEAN	39.7	MAX	378	MIN	0	AC-FT	28,820		
WTR YR 1969	TOTAL	135,328.60	MEAN	371	MAX	7,250	MIN	0	AC-FT	268,400		

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	0600	6.09	2,570	2-24	unknown	12.69	17,300
1-19	1400	9.37	6,320	3-10	0715	4.47	1,390
1-21	1500	10.10	9,820	3-21	1015	4.50	1,390
1-25	1230	10.58	11,100	4- 5	2300	6.97	3,800
2- 6	2230	5.39	1,830				

11-2589, WEST FORK CHOWCHILLA RIVER NEAR MARIPOSA, CALIF.

LOCATION.--Lat 37°25'14", long 119°52'25", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.6 S., R.19 E., Mariposa County, on left bank 15 ft downstream from bridge on Indian Peak Road, 0.5 mile downstream from Humbug Creek, and 6.7 miles southeast of Mariposa.

DRAINAGE AREA.--33.6 sq mi.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 19.3 cfs (13,980 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,350 cfs Jan. 25 (gage height, 8.93 ft in gage well, 11.1 ft, from floodmarks); no flow for many days.

Period of record: Maximum discharge, 4,350 cfs Jan. 25, 1969 (gage height, 8.93 ft in gage well, 11.1 ft, from floodmarks); no flow for many days in each year.

REMARKS.--No known diversions above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.60	7.3	86	350	65	39	9.1	3.3	.30	0
2	0	0	.80	6.4	78	239	70	38	9.1	2.9	.30	0
3	0	.40	.70	6.1	71	241	102	37	9.1	2.7	.30	0
4	0	.10	.60	5.3	64	182	70	37	8.8	2.6	.20	0
5	0	0	.50	4.8	168	163	253	35	8.3	2.3	.20	0
6	0	0	.40	4.2	311	153	174	34	8.0	2.2	.20	0
7	0	0	.40	3.9	143	139	113	33	7.8	2.2	.20	0
8	0	0	.40	3.6	105	128	95	31	8.0	2.1	.20	0
9	0	0	.40	3.5	90	125	87	28	9.4	2.0	.20	0
10	0	0	.60	3.2	83	165	84	26	12	1.8	.30	0
11	0	0	3.6	3.1	82	165	78	25	11	1.8	.20	0
12	0	.20	1.8	3.1	147	149	74	21	10	1.7	.30	0
13	0	.10	1.1	216	102	134	72	20	9.6	1.7	.70	0
14	0	.20	2.2	164	91	118	70	20	8.0	1.6	.70	.30
15	0	1.7	52	37	257	112	66	20	7.5	1.3	.60	.30
16	0	.50	57	21	153	107	63	19	7.3	1.3	.60	.30
17	0	.30	7.0	14	115	110	62	18	8.8	1.2	.60	0
18	0	.20	3.2	317	192	112	60	17	7.5	1.0	.40	0
19	0	.20	3.6	1,480	208	109	57	16	7.0	1.0	.10	0
20	0	.20	2.7	363	143	113	55	16	6.4	.80	.10	0
21	0	.20	1.8	1,530	132	193	52	15	5.9	.80	.10	0
22	0	.20	1.4	246	127	118	50	14	5.5	.70	.10	0
23	0	.20	1.4	112	213	105	74	14	5.3	.60	.10	0
24	0	.30	6.8	163	1,330	100	68	13	5.1	.60	.10	0
25	0	.40	126	1,720	435	92	53	12	4.8	.60	.10	0
26	0	.40	54	623	429	87	49	12	4.6	.60	0	0
27	0	.40	19	201	239	84	46	12	4.4	.60	0	0
28	0	.30	26	155	280	80	44	12	4.2	.60	0	0
29	0	.30	25	112	-----	75	42	12	3.9	.50	0	0
30	0	.30	14	100	-----	71	40	11	3.8	.40	0	0
31	0	-----	9.1	86	-----	68	-----	10	-----	.40	0	-----
TOTAL	0	7.10	424.10	7,714.5	5,874	4,187	2,288	667	220.2	43.90	7.20	0.90
MEAN	0	.24	13.7	249	210	135	76.3	21.5	7.34	1.42	.23	.030
MAX	0	1.7	126	1,720	1,330	350	253	39	12	3.3	.70	.30
MIN	0	0	.40	3.1	64	68	40	10	3.8	.40	0	0
AC-FT	0	14	841	15,300	11,650	8,300	4,540	1,320	437	87	14	1.8
CAL YR 1968	TOTAL	1,301.10	MEAN	3.55	MAX	126	MIN	0	AC-FT	2,580		
WTR YR 1969	TOTAL	21,433.90	MEAN	58.7	MAX	1,720	MIN	0	AC-FT	42,510		

11-2590. CHOWCHILLA RIVER AT BUCHANAN DAMSITE, NEAR RAYMOND, CALIF.

LOCATION.--Lat 37°13'02", long 119°59'03", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.8 S., R.18 E., Madera County, on right bank 1.9 miles upstream from Raynor Creek, and 4.3 miles west of Raymond.

DRAINAGE AREA.--235 sq mi.

PERIOD OF RECORD.--October 1921 to September 1923, October 1930 to current year. Prior to Oct. 1, 1962, published as "at Buchanan damsite."

GAGE.--Water-stage recorder. Datum of gage is 407.32 ft above mean sea level. October 1921 to September 1923, water-stage recorder at site 2.5 miles upstream at different datum.

AVERAGE DISCHARGE.--41 years (1921-23, 1930-69), 102 cfs (73,900 acre-ft per year); median of yearly mean discharges, 94 cfs (68,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 13,700 cfs Feb. 24 (gage height, 12.92 ft); no flow for many days.

Period of record: Maximum discharge, 30,000 cfs Dec. 23, 1955 (gage height, 16.50 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement at gage height 15.06 ft; no flow for part of each year except 1937-38, 1940-43.

REMARKS.--Records excellent. No storage or large diversion above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	7.7	70	582	2,410	420	217	63	27	5.8	1.7
2	0	0	8.3	58	550	1,550	397	200	57	25	5.4	1.6
3	0	1.2	9.2	48	494	1,490	688	195	55	24	5.0	1.6
4	0	13	8.6	45	459	1,140	468	195	54	23	4.7	1.4
5	0	14	7.9	43	716	959	809	193	54	22	4.2	1.3
6	0	8.2	7.6	40	1,530	873	1,800	176	53	21	3.2	1.2
7	0	5.9	7.5	37	1,140	786	800	174	53	21	2.6	1.2
8	0	4.7	7.3	35	679	702	615	168	52	21	2.4	1.1
9	0	4.2	7.0	33	574	682	540	157	55	20	2.4	1.0
10	0	3.9	7.6	31	512	1,140	539	158	70	19	2.3	1.0
11	0	3.7	11	29	474	882	494	149	72	17	2.4	1.1
12	0	5.3	32	28	648	797	466	142	67	16	2.2	1.2
13	0	6.1	21	504	624	812	440	135	64	16	2.1	1.2
14	0	8.4	18	2,230	481	660	421	134	58	15	2.0	1.2
15	0	13	49	396	1,210	602	394	127	53	15	1.8	1.2
16	0	21	327	219	1,190	564	374	126	50	14	1.6	1.3
17	0	16	106	153	700	547	356	117	53	13	1.5	1.3
18	0	11	53	187	1,200	547	346	112	54	12	1.6	1.5
19	0	9.4	39	6,340	1,500	536	328	105	50	12	1.9	1.6
20	0	8.4	36	1,480	1,100	532	316	103	45	10	2.1	1.8
21	0	7.5	30	6,330	954	1,000	306	101	42	9.7	2.2	2.1
22	0	6.8	24	2,040	848	651	291	94	41	8.9	2.3	2.3
23	0	6.5	21	820	1,700	549	308	91	39	8.5	2.1	2.3
24	0	6.4	22	708	7,010	524	399	87	37	8.2	1.8	2.3
25	0	6.6	169	5,970	4,160	502	304	79	36	7.8	1.7	2.3
26	0	7.0	585	3,470	3,510	484	281	76	34	7.6	1.8	2.1
27	0	6.9	211	1,500	1,860	474	263	75	33	7.3	1.8	1.9
28	0	6.3	112	1,430	1,680	467	240	75	32	7.3	1.8	1.8
29	0	6.0	161	1,010	-----	458	237	75	30	7.4	1.9	1.9
30	0	6.0	104	780	-----	445	217	71	29	7.0	1.8	1.8
31	0	-----	82	662	-----	438	-----	66	-----	6.4	1.7	-----
TOTAL	0	223.4	2,291.7	36,726	38,085	24,203	13,857	3,973	1,485	449.1	78.1	47.3
MEAN	0	7.45	73.9	1,185	1,360	781	462	128	49.5	14.5	2.52	1.58
MAX	0	21	585	6,340	7,010	2,410	1,800	217	72	27	5.8	2.3
MIN	0	0	7.0	28	459	438	217	66	29	6.4	1.5	1.0
AC-FT	0	443	4,550	72,840	75,540	48,010	27,480	7,880	2,950	891	155	94
CAL YR 1968	TOTAL	8,141.06	MEAN	22.2	MAX	585	MIN	0	AC-FT	16,150		
WTR YR 1969	TOTAL	121,418.60	MEAN	333	MAX	7,010	MIN	0	AC-FT	240,800		

PEAK DISCHARGE (BASE, 770 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-26	0015	5.37	845	2-15	2130	7.98	3,000
1-14	0130	9.57	5,290	2-19	1115	6.63	1,650
1-19	1200	12.71	12,900	2-24	2000	12.92	13,700
1-21	1730	11.24	8,600	3-10	0145	6.38	1,480
1-25	1345	12.37	11,800	3-21	1030	6.37	1,440
2- 6	2200	7.37	2,330	4- 6	0045	8.76	4,000

11-2602. BEAR CREEK NEAR CATHEYS VALLEY, CALIF.

LOCATION.--Lat 37°28'40", long 120°06'44", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.5 S., R.17 E., Mariposa County, on downstream side of bridge, 0.9 mile upstream from Raster Gulch, and 3.3 miles north of town of Catheys Valley.

DRAINAGE AREA.--24.9 sq mi.

PERIOD OF RECORD.--January 1958 to September 1969 (discontinued). Prior to October 1963, published as "near Cathay."

GAGE.--Water-stage recorder. Altitude of gage is 1,210 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 14.8 cfs (10,720 acre-ft per year); median of yearly mean discharges, 9.8 cfs (7,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,720 cfs Jan. 21 (gage height, 11.04 ft), from rating curve extended above 3,500 cfs; no flow for several months.

Period of record: Maximum discharge, 7,720 cfs Jan. 21, 1969 (gage height, 11.04 ft), from rating curve extended above 3,500 cfs; no flow for many days in each year.

REMARKS.--No known diversion or regulation above station.

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

REVISIONS (WATER YEARS).--1965 report: 1958(M), 1962(M), 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.40	9.8	65	376	12	5.2	.70	.10	0	0
2	0	0	.50	7.8	58	153	12	4.8	.70	.10	0	0
3	0	0	.70	6.5	42	123	27	5.0	.70	.10	0	0
4	0	0	.70	5.5	33	75	17	7.2	.70	.10	0	0
5	0	0	.60	4.6	139	53	475	5.7	.70	.10	0	0
6	0	0	.50	3.9	493	40	329	5.0	.60	.10	0	0
7	0	0	.40	3.4	196	33	125	4.6	.60	.10	0	0
8	0	0	.40	3.0	87	27	137	4.2	.60	.10	0	0
9	0	0	.40	2.7	55	37	42	3.6	.60	.10	0	0
10	0	0	.60	2.4	40	135	32	3.2	.60	.10	0	0
11	0	0	7.1	2.3	32	98	26	2.8	.60	.10	0	0
12	0	0	7.8	2.2	46	70	21	2.6	.60	.10	0	0
13	0	0	4.3	518	37	65	18	2.3	.50	.10	0	0
14	0	0	5.2	419	31	47	16	2.0	.40	0	0	0
15	0	0	93	111	198	38	14	2.0	.40	0	0	0
16	0	0	97	47	185	32	13	1.8	.40	0	0	0
17	0	0	14	28	81	29	12	1.8	.40	0	0	0
18	0	0	8.4	194	310	25	10	1.7	.40	0	0	0
19	0	0	7.1	1,110	289	22	9.5	1.5	.30	0	0	0
20	0	0	7.8	325	149	32	8.9	1.4	.30	0	0	0
21	0	.30	6.0	1,790	97	293	8.3	1.3	.30	0	0	0
22	0	.40	4.8	264	73	80	7.7	1.2	.30	0	0	0
23	0	.40	3.7	87	354	50	9.5	1.1	.30	0	0	0
24	0	.40	6.6	79	1,410	37	15	1.1	.20	0	0	0
25	0	.40	233	1,250	389	29	9.2	1.0	.20	0	0	0
26	0	.40	202	529	320	24	8.0	1.0	.20	0	0	0
27	0	.40	87	170	249	22	7.4	1.0	.20	0	0	0
28	0	.30	89	145	141	18	6.6	.90	.20	0	0	0
29	0	.30	60	118	-----	16	6.1	.90	.20	0	0	0
30	0	.30	23	93	-----	14	5.4	.80	.20	0	0	0
31	0	-----	14	71	-----	13	-----	.80	-----	0	0	-----
TOTAL	0	3.60	986.00	7,402.1	5,599	2,106	1,439.6	79.50	13.10	1.30	0	0
MEAN	0	.12	31.8	239	200	67.9	48.0	2.56	.44	.042	0	0
MAX	0	.40	233	1,790	1,410	376	475	7.2	.70	.10	0	0
MIN	0	0	.40	2.2	31	13	5.4	.80	.20	0	0	0
AC-FT	0	7.1	1,960	14,680	11,110	4,180	2,860	158	26	2.6	0	0
CAL YR 1968	TOTAL	1,897.80	MEAN	5.19	MAX	233	MIN	0	AC-FT	3,760		
WTR YR 1969	TOTAL	17,630.20	MEAN	48.3	MAX	1,790	MIN	0	AC-FT	34,970		

SAN JOAQUIN RIVER BASIN

11-2602.25, BURNS CREEK AT HORNITOS, CALIF.

LOCATION.--Lat 37°29'45", long 120°14'17", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.5 S., R.16 E., Mariposa County, on right bank 0.3 mile south of Hornitos, and 12.4 miles upstream from Burns Dam.

DRAINAGE AREA.--26.7 sq mi.

PERIOD OF RECORD.--October 1964 to September 1969 (discontinued). December 1958 to September 1964 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 780 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 13.0 cfs (9,420 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,040 cfs Jan. 21 (gage height, 8.46 ft), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 5,900 cfs Jan. 6, 1965 (gage height, 9.30 ft), from rating curve extended as explained below; no flow for many days in each year.

Flood of Feb. 15, 1962, reached a discharge of 9,200 cfs, caused by a flood wave when a temporary debris dam lodged against a bridge approximately 0.2 mile upstream was removed thereby releasing impounded water (gage height, 10.66 ft), from rating curve extended above 1,300 cfs on basis of slope-conveyance computation of maximum flow.

REMARKS.--There is no known diversion above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	3.8	30	172	6.2	4.2	.70	.10	0	0
2	0	0	0	3.4	24	74	8.0	3.8	.70	.10	0	0
3	0	.10	0	2.8	21	67	33	3.4	.70	.10	0	0
4	0	0	0	2.5	18	44	9.3	7.3	.70	.10	0	0
5	0	0	0	2.0	76	34	475	5.6	.70	.10	0	0
6	0	0	0	1.8	255	29	115	4.2	.70	.10	0	0
7	0	0	0	1.6	68	24	44	3.4	.70	.10	0	0
8	0	0	0	1.4	37	21	29	3.1	.70	.10	0	0
9	0	0	0	1.0	27	47	22	2.8	.70	.10	0	0
10	0	0	.10	1.0	21	53	18	2.2	.60	.10	0	0
11	0	0	1.0	.80	18	23	16	2.0	.60	.10	0	0
12	0	0	.60	.80	47	22	14	1.6	.60	.10	0	0
13	0	0	.30	613	20	23	12	1.4	.60	.10	0	0
14	0	0	1.4	401	24	17	11	1.4	.70	0	0	0
15	0	.10	30	48	140	16	10	1.4	.70	0	0	0
16	0	0	28	23	67	14	9.3	1.2	.50	0	0	0
17	0	0	5.6	16	34	13	8.4	1.2	.50	0	0	0
18	0	0	2.8	131	237	12	8.0	1.0	.40	0	0	0
19	0	0	2.0	747	150	11	7.3	1.0	.40	0	0	0
20	0	0	1.6	296	60	27	6.7	1.0	.40	0	0	0
21	0	0	1.0	1,000	37	105	6.7	1.0	.30	0	0	0
22	0	0	.70	120	32	20	6.2	.90	.20	0	0	0
23	0	0	.60	51	348	16	26	.80	.20	0	0	0
24	0	0	6.0	120	760	13	14	.80	.20	0	0	0
25	0	0	80	865	224	12	8.8	.80	.20	0	0	0
26	0	0	176	318	204	11	7.3	.80	.20	0	0	0
27	0	0	20	73	70	9.3	6.2	.70	.20	0	0	0
28	0	0	13	109	138	8.8	5.6	.70	.20	0	0	0
29	0	0	9.3	60	-----	8.4	4.6	.70	.10	0	0	0
30	0	0	5.6	49	-----	7.3	4.2	.80	.10	0	0	0
31	0	-----	4.6	34	-----	6.7	-----	.80	-----	0	0	-----
TOTAL	0	0.20	390.20	5,096.90	3,187	960.5	951.8	62.00	14.20	1.30	0	0
MEAN	0	.007	12.6	164	114	31.0	31.7	2.00	.47	.042	0	0
MAX	0	.10	176	1,000	760	172	475	7.3	.70	.10	0	0
MIN	0	0	0	.80	18	6.7	4.2	.70	.10	0	0	0
AC-FT	0	.4	774	10,110	6,320	1,910	1,890	123	28	2.6	0	0
ICAL YR 1968	TOTAL	738.60	MEAN	2.02	MAX	176	MIN	0	AC-FT	1,470		
WTR YR 1969	TOTAL	10,664.10	MEAN	29.2	MAX	1,000	MIN	0	AC-FT	21,150		

11-2604.8. MARIPOSA CREEK NEAR CATHEYS VALLEY, CALIF.

LOCATION.--Lat 37°23'56", long 120°00'10", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.6 S., R.18 E., Mariposa County, on downstream side of bridge on White Rock Road, 0.3 mile downstream from China Gulch, and 5.7 miles southeast of town of Catheys Valley.

DRAINAGE AREA.--65.7 sq mi.

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1963, published as "near Cathay."

GAGE.--Water-stage recorder. Altitude of gage is 1,230 ft (from topographic map).

AVERAGE DISCHARGE.--11 years, 29.5 cfs (21,370 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,460 cfs Feb. 24 (gage height, 11.63 ft); no flow for several months.

Period of record: Maximum discharge, 7,460 cfs Feb. 24, 1969 (gage height, 11.63 ft); no flow for many days in each year.

Flood of Apr. 3, 1958, reached a stage of 11.62 ft (discharge, 7,180 cfs).

REMARKS.--Probably minor diversions above the station for irrigation.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.4	22	139	838	46	30	7.8	2.8	0	0
2	0	0	3.5	18	132	507	42	30	7.6	2.4	0	0
3	0	0	2.8	16	111	408	80	30	7.8	2.0	0	0
4	0	0	2.0	14	102	307	55	30	7.3	1.8	0	0
5	0	0	2.4	12	332	246	492	30	6.8	1.8	0	0
6	0	0	2.2	11	787	198	442	32	6.6	1.6	0	0
7	0	0	2.2	10	424	170	217	23	6.6	1.6	0	0
8	0	0	2.1	9.5	242	145	144	22	6.6	1.4	0	0
9	0	0	2.1	8.9	173	129	102	21	7.3	1.3	0	0
10	0	0	2.9	8.9	135	206	87	20	8.6	1.2	0	0
11	0	0	21	8.6	114	198	98	19	8.4	1.2	0	0
12	0	0	12	7.8	153	180	89	18	8.4	.90	0	0
13	0	2.4	7.3	889	125	189	69	18	7.3	.90	0	0
14	0	2.1	8.9	696	105	156	63	17	6.6	.90	0	0
15	0	11	83	136	395	139	57	16	5.7	1.2	0	0
16	0	7.1	128	74	318	122	54	16	5.1	.90	0	0
17	0	3.7	26	52	194	111	50	15	5.1	.60	0	0
18	0	2.6	14	653	345	102	47	14	5.1	.50	0	0
19	0	2.0	13	2,650	444	93	43	14	4.7	.20	0	0
20	0	1.8	13	615	324	89	40	13	4.5	.30	0	0
21	0	1.5	9.5	2,980	254	283	39	13	4.0	.20	0	0
22	0	1.4	8.1	521	225	158	37	12	4.0	.20	0	0
23	0	1.4	7.1	216	628	117	42	11	3.8	.20	0	0
24	0	1.5	9.5	187	3,510	101	51	11	3.5	.10	0	0
25	0	1.6	272	2,140	1,170	89	37	10	3.4	.10	0	0
26	0	1.5	191	1,030	1,020	79	34	10	3.5	.10	0	0
27	0	1.4	80	397	530	73	32	9.8	3.4	.10	0	0
28	0	1.3	74	307	536	67	31	9.5	3.2	.10	0	0
29	0	1.2	81	242	-----	61	30	9.2	3.0	.10	0	0
30	0	1.3	41	191	-----	56	29	8.9	2.9	0	0	0
31	0	-----	28	161	-----	53	-----	8.4	-----	0	0	-----
TOTAL	0	46.8	1,152.0	14,283.7	12,967	5,670	2,679	540.8	168.6	26.70	0	0
MEAN	0	1.56	37.2	461	463	183	89.3	17.4	5.62	.86	0	0
MAX	0	11	272	2,980	3,510	838	492	32	8.6	2.8	0	0
MIN	0	0	2.0	7.8	102	53	29	8.4	2.9	0	0	0
AC-FT	0	93	2,280	28,330	25,720	11,250	5,310	1,070	334	53	0	0
CAL YR 1968	TOTAL	3,268.40	MEAN	8.93	MAX	272	MIN	0	AC-FT	6,480		
WTR YR 1969	TOTAL	37,534.60	MEAN	103	MAX	3,510	MIN	0	AC-FT	74,450		

SAN JOAQUIN RIVER BASIN

11-2615, SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CALIF.

LOCATION.--Lat 37°18'36", long 120°55'48", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.7 S., R.9 E., Merced County, on left bank 30 ft downstream from Fremont Ford Bridge, 2.1 miles downstream from Salt Slough, 4.5 miles west of Stevinson, and 6.7 miles upstream from Merced River.

DRAINAGE AREA.--7,615 sq mi.

PERIOD OF RECORD.--March 1937 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. March 1937 to Oct. 1, 1959, at datum 3.77 ft below mean sea level.

AVERAGE DISCHARGE.--32 years, 820 cfs (594,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,180 cfs Feb. 26 (elevation, 68.05 ft); minimum daily, 39 cfs Oct. 20.

Period of record: Maximum discharge, 9,180 cfs Feb. 26, 1969 (elevation, 68.05 ft); minimum, 9.5 cfs Oct. 30, 1960.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water from Delta-Mendota Canal (see sta 11-3130). During periods of high flow, water bypasses this station through Mud Slough; low flows consist mainly of return water from irrigated areas. Stage affected at times by backwater from the Merced River. See REMARKS for stations upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	82	111	534	5,390	7,280	5,230	4,330	5,200	3,350	359	409
2	121	93	113	460	5,260	7,090	5,210	4,360	5,180	3,290	352	435
3	120	105	119	376	5,180	6,980	5,200	4,680	5,170	3,190	362	455
4	113	118	135	304	5,170	6,940	5,170	4,960	5,170	3,070	354	507
5	114	154	137	246	5,180	6,680	5,170	5,020	5,200	2,900	352	523
6	98	205	122	209	5,180	6,380	5,100	5,040	5,290	2,740	350	481
7	84	183	111	190	5,370	6,180	5,200	4,960	5,430	2,550	334	525
8	75	167	111	188	5,910	6,110	5,300	4,740	5,580	2,170	320	749
9	68	154	103	199	5,990	6,110	5,390	4,580	5,700	1,500	302	818
10	67	161	109	203	5,740	6,090	5,340	4,820	5,770	1,340	276	692
11	63	157	127	195	5,600	6,180	5,300	5,060	5,800	1,050	265	583
12	63	167	130	192	5,570	6,270	5,300	5,140	5,790	892	283	543
13	62	178	140	286	5,430	6,110	5,220	5,150	5,750	723	288	556
14	66	189	151	496	5,380	6,000	5,120	5,140	5,660	656	279	549
15	68	199	175	1,690	5,340	5,920	5,030	5,140	5,510	627	296	584
16	54	230	212	2,960	5,310	5,830	4,980	5,180	5,380	609	315	615
17	56	263	225	2,750	5,570	5,780	4,970	5,180	5,300	650	313	593
18	48	262	221	2,230	5,860	5,750	4,970	5,180	5,260	539	325	585
19	44	250	205	1,970	5,970	5,740	4,960	5,170	5,220	485	349	572
20	39	232	185	2,380	6,420	5,700	4,880	5,160	5,180	478	355	554
21	45	216	174	3,560	6,510	5,710	4,820	5,170	5,130	524	387	549
22	51	201	166	4,280	6,290	5,730	4,750	5,180	5,070	627	391	546
23	48	194	162	4,780	6,120	5,780	4,750	5,160	4,940	566	389	537
24	48	189	162	4,940	6,150	5,730	4,690	5,150	4,750	464	363	480
25	66	188	181	4,740	7,600	5,690	4,640	5,170	4,540	423	377	431
26	64	188	219	4,770	9,110	5,670	4,630	5,170	4,270	416	407	450
27	60	172	384	6,060	8,940	5,650	4,630	5,200	3,940	413	419	450
28	60	142	771	6,400	7,980	5,570	4,610	5,210	3,690	392	413	434
29	66	128	827	5,610	-----	5,510	4,530	5,230	3,510	397	413	423
30	72	123	718	5,400	-----	5,400	4,460	5,230	3,420	411	427	393
31	81	-----	610	5,380	-----	5,280	-----	5,220	-----	374	429	-----
TOTAL	2,217	5,290	7,316	73,978	169,520	186,840	149,550	156,080	151,800	37,816	10,844	16,021
MEAN	71.5	176	236	2,386	6,054	6,027	4,985	5,035	5,060	1,220	350	534
MAX	133	263	827	6,400	9,110	7,280	5,390	5,230	5,800	3,350	429	818
MIN	39	82	103	188	5,170	5,280	4,460	4,330	3,420	374	265	393
AC-FT	4,400	10,490	14,510	146,700	336,200	370,600	296,600	309,600	301,100	75,010	21,510	31,780
CAL YR 1968	TOTAL 68,217		MEAN 186		MAX 827	MIN 39		AC-FT 135,300				
WTR YR 1969	TOTAL 967,272		MEAN 2,650		MAX 9,110	MIN 39		AC-FT 1,919,000				

11-2645. MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CALIF.
(Hydrologic bench-mark station)

LOCATION.--Lat 37°43'54", long 119°33'28", Mariposa County, Yosemite National Park, on right bank 10 ft downstream from footbridge at Happy Isles, 0.4 mile downstream from Illilouette Creek, and 2.0 miles southeast of Yosemite National Park headquarters.

DRAINAGE AREA.--181 sq mi.

PERIOD OF RECORD.--August 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,016.58 ft above mean sea level. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft lower.

AVERAGE DISCHARGE.--54 years, 343 cfs (248,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,980 cfs June 3 (gage height, 8.18 ft); minimum daily, 2.3 cfs Oct. 3-6.

Period of record: Maximum discharge, 9,860 cfs Dec. 23, 1955 (gage height, 12.73 ft), from rating curve extended above 4,000 cfs on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum, 1.5 cfs Sept. 30, 1926.

REMARKS.--Records excellent. Up to 4 cfs can be diverted above station for Yosemite Valley water supply. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	21	55	75	189	100	730	1,520	4,280	1,570	444	77
2	2.4	32	47	74	173	108	675	1,520	4,170	1,570	410	77
3	2.3	268	52	76	161	126	585	1,230	4,210	1,460	428	80
4	2.3	160	49	86	153	145	549	1,020	3,720	1,400	428	81
5	2.3	125	46	98	151	129	598	1,070	3,630	1,320	378	80
6	2.3	98	46	111	139	120	496	1,500	3,470	1,300	323	79
7	2.4	84	44	116	130	112	413	2,000	3,200	1,260	285	100
8	2.6	81	43	111	145	104	385	2,370	2,870	1,260	262	100
9	2.6	112	42	101	139	100	385	2,680	2,250	1,270	248	95
10	2.7	143	43	88	131	95	388	2,730	1,580	1,250	258	86
11	2.7	128	50	90	131	93	476	2,610	1,320	1,220	260	84
12	3.2	154	45	97	127	93	626	2,730	1,300	1,220	268	74
13	5.5	135	53	127	118	89	690	2,850	1,770	1,360	252	66
14	29	111	53	150	118	88	670	2,740	2,140	1,380	240	53
15	18	116	63	125	120	90	549	2,540	2,250	1,120	235	49
16	17	125	64	112	124	98	524	2,670	2,380	1,020	222	45
17	17	120	63	99	117	110	626	2,930	1,850	934	238	42
18	16	137	68	108	122	122	740	3,060	1,400	898	296	39
19	16	146	64	291	118	127	760	2,880	1,700	952	238	36
20	16	128	63	281	113	129	1,040	2,740	2,050	976	195	34
21	16	118	53	408	108	126	1,320	2,910	1,970	1,080	178	34
22	16	110	55	260	108	124	1,520	3,230	1,960	1,170	167	32
23	16	111	62	223	108	143	1,470	3,480	2,050	1,540	157	29
24	16	106	85	211	95	161	988	3,470	1,750	1,020	151	27
25	16	85	82	546	95	191	800	3,510	1,750	820	153	26
26	16	76	82	610	107	232	765	3,400	1,550	690	147	24
27	17	72	88	369	106	285	850	3,340	1,450	640	126	23
28	17	60	90	294	107	350	1,060	3,190	1,350	580	113	23
29	18	57	85	245	-----	452	1,310	3,370	1,320	549	101	23
30	22	57	82	230	-----	558	1,430	3,720	1,420	585	93	24
31	21	-----	79	195	-----	690	-----	3,920	-----	567	85	-----
TOTAL	355.9	3,276	1,896	6,007	3,553	5,490	23,418	82,930	68,110	33,981	7,379	1,642
MEAN	11.5	109	61.2	194	127	177	781	2,675	2,270	1,096	238	54.7
MAX	29	268	90	610	189	690	1,520	3,920	4,280	1,570	444	100
MIN	2.3	21	42	74	95	88	385	1,020	1,300	549	85	23
AC-FT	706	6,500	3,760	11,910	7,050	10,890	46,450	164,500	135,100	67,400	14,640	3,260

CAL YR 1968 TOTAL 68,787.7 MEAN 188 MAX 1,280 MIN 2.3 AC-FT 136,400
WTR YR 1969 TOTAL 238,037.9 MEAN 652 MAX 4,280 MIN 2.3 AC-FT 472,100

PEAK DISCHARGE (BASE, 1,900 CFS).--June 3 (0100) 4,980 cfs (8.18 ft); June 15 (2200) 2,820 cfs (6.82 ft).

SAN JOAQUIN RIVER BASIN

11-2665. MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CALIF.

LOCATION.--Lat 37°43'01", long 119°39'55", Mariposa County, Yosemite National Park, on left bank 150 ft upstream from Pohono Bridge, 0.4 mile upstream from Artist Creek, and 4.8 miles southwest of Yosemite National Park Headquarters.

DRAINAGE AREA.--321 sq mi.

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3,861.66 ft above mean sea level. Prior to Sept. 5, 1918, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft higher.

AVERAGE DISCHARGE.--53 years, 603 cfs (436,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,190 cfs June 2 (gage height, 11.34 ft); minimum daily, 13 cfs Oct. 1-5.

Period of record: Maximum discharge, 23,400 cfs Dec. 23, 1955 (gage height, 21.52 ft, from floodmarks in well), from rating curve extended above 16,300 cfs on basis of computation of flow over diversion dam for Yosemite powerhouse, 1 mile downstream at gage heights 20.1 and 20.98 ft, present datum; minimum, 3.3 cfs Sept. 29, Oct. 1, 1924.

REMARKS.--Records excellent. No diversions between stations at Happy Isles Bridge and Pohono Bridge. One cfs sewage effluent returns between stations (see Remarks for sta 11-2645).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	36	117	168	491	275	1,460	3,030	7,450	2,450	625	115
2	13	42	102	165	446	268	1,390	3,080	7,320	2,450	565	111
3	13	552	111	170	428	287	1,230	2,630	7,260	2,310	580	111
4	13	340	105	190	408	302	1,120	2,190	6,750	2,200	571	112
5	13	241	98	214	400	284	1,270	2,290	6,490	2,090	518	110
6	14	193	98	242	377	282	1,100	3,190	6,220	2,030	447	107
7	15	158	98	249	346	267	929	4,090	5,770	1,940	393	120
8	16	147	94	243	355	253	880	4,790	5,240	1,930	354	129
9	16	197	92	213	357	248	875	5,300	4,110	1,920	331	121
10	17	238	99	185	342	248	854	5,410	3,120	1,860	332	119
11	18	215	119	192	340	237	1,010	5,270	2,630	1,810	339	110
12	19	272	101	214	344	242	1,300	5,430	2,520	1,770	340	100
13	20	264	116	288	309	235	1,430	5,760	3,140	1,880	329	92
14	52	205	120	339	321	233	1,420	5,680	3,890	2,050	309	86
15	35	215	152	300	343	238	1,160	5,270	3,890	1,660	297	81
16	32	231	152	264	341	263	1,120	5,380	4,360	1,500	285	76
17	32	226	137	229	318	287	1,300	5,870	3,700	1,370	287	72
18	33	263	141	260	332	313	1,580	6,170	2,730	1,300	361	69
19	33	326	142	657	319	326	1,620	5,950	3,060	1,330	309	66
20	31	283	122	696	304	342	2,110	5,560	3,500	1,340	253	64
21	30	257	102	1,100	288	348	2,670	5,780	3,430	1,400	230	62
22	29	232	111	763	287	341	3,050	6,310	3,430	1,460	217	60
23	28	227	130	591	286	374	3,010	6,720	3,630	1,880	204	57
24	28	217	200	569	247	408	2,190	6,810	3,030	1,360	196	55
25	27	180	212	1,340	273	443	1,740	6,760	3,040	1,100	196	52
26	27	163	188	1,790	291	522	1,610	6,560	2,630	940	191	50
27	27	149	185	1,100	272	636	1,750	6,500	2,490	853	176	48
28	28	126	201	838	286	763	2,120	6,290	2,280	796	159	48
29	28	118	187	642	-----	938	2,590	6,440	2,170	743	144	47
30	34	120	178	578	-----	1,120	2,840	6,870	2,290	757	133	47
31	36	-----	175	502	-----	1,360	-----	7,070	-----	730	123	-----
TOTAL	770	6,433	4,185	15,291	9,451	12,683	48,728	164,450	121,570	49,209	9,794	2,497
MEAN	24.8	214	135	493	338	409	1,624	5,305	4,052	1,587	316	83.2
MAX	52	552	212	1,790	491	1,360	3,050	7,070	7,450	2,450	625	129
MIN	13	36	92	165	247	233	854	2,190	2,170	730	123	47
AC-FT	1,530	12,760	3,300	30,330	18,750	25,160	96,650	326,200	241,100	97,610	19,430	4,950
CAL YR 1968	TOTAL 122,303		MEAN 334		MAX 1,800	MIN 13		AC-FT 242,600				
WTR YR 1969	TOTAL 445,061		MEAN 1,219		MAX 7,450	MIN 13		AC-FT 882,800				

PEAK DISCHARGE (BASE, 2,900 CFS).--Apr. 23 (0130) 3,340 cfs (7.55 ft); June 2 (0145) 8,190 cfs (11.34 ft).

11-2680. SOUTH FORK MERCED RIVER NEAR EL PORTAL, CALIF.

LOCATION.--Lat 37°39'05", long 119°53'04", in NW¼NE¼ sec.29, T.3 S., R.19 E., Mariposa County, on right bank 1,500 ft upstream from mouth, and 5.9 miles (revised) west of El Portal.

DRAINAGE AREA.--241 sq mi.

PERIOD OF RECORD.--November 1950 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map).

AVERAGE DISCHARGE.--18 years, 356 cfs (257,900 acre-ft per year); median of yearly mean discharges, 254 cfs (184,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 13,200 cfs Jan. 21 (gage height, 13.33 ft); minimum daily, 5.9 cfs Oct. 1.

Period of record: Maximum discharge, 46,500 cfs Dec. 23, 1955 (gage height, 18.70 ft), from rating curve extended above 10,500 cfs on basis of slope-area measurement at gage height 17.63 ft; minimum, 2.2 cfs Aug. 26, 27, 1961.

REMARKS.--Records excellent. Big Creek ditch diverts up to 60 cfs at times into Fresno River basin. Diversion of 0.5 cfs at Wawona for domestic use and irrigation of golf course.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	23	53	143	735	865	1,430	1,840	3,370	1,090	139	37
2	6.2	22	55	136	652	805	1,340	1,840	3,250	1,060	130	36
3	6.8	231	49	132	600	742	1,240	1,620	3,120	976	126	35
4	6.8	190	49	141	570	652	1,060	1,360	2,900	920	118	35
5	6.8	87	48	149	626	613	1,600	1,400	2,840	858	109	34
6	7.4	68	47	158	880	606	1,540	1,810	2,620	840	100	34
7	7.4	55	47	158	805	546	1,240	2,220	2,440	750	92	35
8	7.7	46	47	154	672	502	1,120	2,610	2,160	750	86	41
9	7.7	50	46	139	588	470	1,070	2,910	1,810	710	81	38
10	8.0	86	49	122	546	470	1,030	2,900	1,480	660	78	36
11	8.0	76	165	116	552	430	1,130	2,610	1,230	610	81	36
12	8.0	98	98	116	707	430	1,300	3,190	1,170	570	75	34
13	10	104	80	763	620	426	1,340	3,070	1,370	530	72	32
14	42	76	82	1,160	546	422	1,280	2,850	1,770	640	70	32
15	49	107	408	512	1,040	445	1,090	2,640	1,790	500	66	31
16	30	95	507	336	1,020	496	1,040	2,720	2,050	450	63	32
17	21	84	182	257	795	588	1,170	2,910	1,780	400	61	32
18	18	84	132	404	742	693	1,330	2,990	1,300	370	67	32
19	17	105	116	6,010	686	721	1,300	2,870	1,430	350	66	31
20	21	98	90	3,040	639	714	1,540	2,740	1,640	320	58	32
21	19	88	80	8,960	600	820	1,830	2,780	1,570	315	55	34
22	18	82	80	2,560	552	714	1,990	2,930	1,520	280	52	35
23	18	78	92	1,290	564	770	1,990	2,980	1,640	350	49	34
24	17	80	178	1,040	1,570	835	1,580	3,100	1,360	315	48	32
25	16	75	763	6,720	1,470	872	1,280	3,050	1,410	275	47	30
26	16	62	480	6,300	1,100	936	1,190	2,900	1,230	230	46	30
27	16	58	266	2,430	912	1,020	1,280	2,850	1,170	195	44	30
28	16	54	217	1,570	842	1,140	1,470	2,780	1,090	200	42	29
29	15	48	206	1,180	-----	1,260	1,690	2,960	1,010	160	41	29
30	19	47	170	976	-----	1,340	1,800	3,080	1,040	172	40	29
31	28	-----	154	812	-----	1,480	-----	3,340	-----	158	39	-----
TOTAL	492.7	2,457	5,036	47,984	21,631	22,823	41,290	81,850	54,560	16,004	2,241	997
MEAN	15.9	81.9	162	1,548	773	736	1,376	2,640	1,819	516	72.3	33.2
MAX	49	231	763	8,960	1,570	1,480	1,990	3,340	3,370	1,090	139	41
MIN	5.9	22	46	116	546	422	1,030	1,360	1,010	158	39	29
AC-FT	977	4,870	9,990	95,170	42,900	45,270	81,900	162,300	108,200	31,740	4,440	1,980
CAL YR 1968	TOTAL	56,169.6	MEAN	153	MAX	805	MIN	5.0	AC-FT	111,400		
WTR YR 1969	TOTAL	297,365.7	MEAN	815	MAX	8,960	MIN	5.9	AC-FT	589,800		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2130	9.13	2,610	4-5	1730	9.25	2,780
1-19	1000	12.03	9,090	4-22	0115	8.88	2,180
1-21	0545	13.33	13,200	5-31	2300	10.31	4,740
1-25	1045	12.90	11,700	6-16	0230	9.19	2,700
2-24	1730	9.33	2,930				

SAN JOAQUIN RIVER BASIN

11-2682. MERCED RIVER NEAR BRICEBURG, CALIF.

LOCATION.--Lat 37°38'09", long 119°55'56", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.36, T.3 S., R.18 E., Mariposa County, on left bank 150 ft upstream from Feliciana Creek, and 2.8 miles northeast of Briceburg.

DRAINAGE AREA.--691 sq mi.

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,194.98 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 19,700 cfs Jan. 26 (gage height, 17.00 ft); minimum daily, 28 cfs Oct. 1-9.

Period of record: Maximum discharge, 21,500 cfs Dec. 6, 1966 (gage height, 17.79 ft); minimum daily, 27 cfs Sept. 30, 1968.

REMARKS.--Records good. No regulation. Small diversions above station (see REMARKS for sta 11-2680).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	69	212	427	1,720	1,850	3,950	5,240	12,500	3,890	810	180
2	28	69	210	407	1,560	1,740	3,440	5,320	12,100	3,880	732	172
3	28	741	188	395	1,480	1,650	3,190	4,700	12,000	3,630	726	168
4	28	706	190	415	1,410	1,530	2,740	4,030	11,400	3,440	714	168
5	28	387	186	448	1,510	1,460	3,650	4,030	10,500	3,260	666	168
6	28	308	176	490	1,920	1,430	3,610	5,190	10,000	3,150	595	166
7	28	250	178	505	1,740	1,320	2,930	6,540	9,300	2,930	530	162
8	28	222	176	500	1,550	1,240	2,670	7,820	8,000	2,930	485	188
9	28	232	174	462	1,410	1,170	2,560	9,100	6,600	2,900	448	184
10	29	324	176	411	1,330	1,170	2,460	9,200	5,260	2,770	427	176
11	29	324	364	379	1,310	1,100	2,690	8,750	4,370	2,650	448	174
12	29	387	272	407	1,500	1,120	3,180	9,480	4,120	2,560	435	162
13	34	427	242	1,260	1,370	1,090	3,390	9,690	4,830	2,600	435	152
14	72	334	249	2,110	1,280	1,080	3,360	9,450	6,130	2,950	407	141
15	100	371	599	1,170	1,950	1,120	2,840	8,810	6,100	2,360	391	134
16	81	367	932	862	2,040	1,200	2,660	8,970	7,080	2,110	379	130
17	66	348	440	700	1,670	1,340	2,940	9,740	6,270	1,930	359	127
18	61	355	355	755	1,630	1,520	3,440	10,400	4,550	1,810	415	126
19	60	485	348	8,840	1,580	1,570	3,440	9,960	4,940	1,800	423	122
20	61	448	284	4,980	1,510	1,570	4,130	9,390	5,600	1,780	348	121
21	60	403	240	15,100	1,410	1,740	4,900	9,560	5,430	1,830	314	121
22	58	363	245	4,750	1,340	1,580	5,470	10,300	5,350	1,830	293	121
23	57	348	275	2,660	1,360	1,650	5,600	10,900	5,740	2,370	278	118
24	55	341	456	2,220	3,220	1,760	4,480	11,300	4,800	1,810	263	110
25	53	320	1,360	10,900	2,880	1,840	3,570	11,300	4,870	1,490	255	105
26	52	272	993	11,700	2,200	1,990	3,300	10,700	4,280	1,260	252	102
27	52	252	636	4,760	1,890	2,240	3,460	10,600	4,060	1,120	245	99
28	51	230	580	3,340	1,800	2,500	3,990	10,400	3,720	1,070	228	96
29	51	204	560	2,480	-----	2,870	4,590	10,500	3,530	964	212	94
30	61	198	485	2,140	-----	3,180	4,980	11,400	3,700	957	202	94
31	69	-----	453	1,840	-----	3,540	-----	11,900	-----	936	192	-----
TOTAL	1,493	10,085	12,234	87,813	47,570	52,160	107,610	274,670	197,130	70,967	12,907	4,181
MEAN	48.2	336	395	2,833	1,699	1,683	3,587	8,860	6,571	2,289	416	139
MAX	100	741	1,360	15,100	3,220	3,540	5,600	11,900	12,500	3,890	810	188
MIN	28	69	174	379	1,280	1,080	2,460	4,030	3,530	936	192	94
AC-FT	2,960	20,000	24,270	174,200	94,350	103,500	213,400	544,800	391,000	140,800	25,600	8,290
CAL YR 1968	TOTAL	199,096	MEAN	544	MAX	2,790	MIN	27	AC-FT	394,900		
WTR YR 1969	TOTAL	878,820	MEAN	2,408	MAX	15,100	MIN	28	AC-FT	1,743,000		

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1100	14.10	13,600	2-24	1700	9.07	5,280
1-21	1300	16.90	19,500	4- 1	1800	8.93	5,080
1-25	1100	16.75	19,200	4-22	0600	9.45	5,810
1-26	0900	17.00	19,700	6- 1	0200	14.65	14,700

11-2693. MAXWELL CREEK AT COULTERVILLE, CALIF.

LOCATION.--Lat 37°42'58", long 120°11'20", in SE¼ sec.34, T.2 S., R.16 E., Mariposa County, on Dogtown road bridge, 0.4 mile downstream from Cuneo Creek, and 0.5 mile northeast of Coulterville.

DRAINAGE AREA.--17.0 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,740 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 8.34 cfs (6,040 acre-ft per year); median of yearly mean discharges, 5.4 cfs (3,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,250 cfs Jan. 19 (gage height, 5.63 ft); no flow for many days.
Period of record: Maximum discharge, 1,770 cfs Dec. 22, 1964 (gage height, 5.71 ft); no flow many days in each year.

REMARKS.--No diversion or storage above station.

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

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1960(M), 1962(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.10	2.2	5.8	34	119	13	7.9	1.9	1.0	.40	.10
2	0	.30	2.2	4.4	34	112	16	7.4	1.9	1.1	.40	.10
3	0	4.6	2.1	3.4	32	105	22	7.4	1.8	1.0	.30	0
4	0	1.5	1.9	2.6	29	83	15	7.6	1.5	.90	.30	0
5	0	1.0	1.9	2.1	63	67	185	7.1	1.5	.80	.40	.10
6	0	.80	1.8	1.8	135	56	138	6.8	1.6	.80	.40	.10
7	0	.80	1.8	1.4	80	48	89	6.3	1.6	.90	.40	.20
8	0	.70	1.6	1.3	54	40	58	5.8	1.8	.90	.30	.10
9	0	.80	1.5	1.0	40	38	44	5.6	1.9	.80	.30	0
10	0	.80	1.8	.80	31	46	35	5.3	2.1	.70	.30	0
11	0	.70	6.1	.80	28	45	30	5.1	2.2	.80	.30	0
12	0	1.6	3.4	.80	39	44	27	4.7	2.1	.70	.20	0
13	.40	1.3	2.6	296	30	43	24	4.7	1.9	.70	.20	0
14	.20	1.4	3.6	149	31	39	22	4.2	1.6	.60	.10	0
15	.10	5.8	29	20	142	36	20	4.2	1.6	.70	.10	0
16	.10	2.4	20	8.2	118	31	18	4.0	1.6	.60	.10	0
17	.10	1.8	4.6	5.2	77	29	16	3.5	1.6	.60	.10	0
18	.10	1.5	3.2	113	123	26	16	3.5	1.6	.50	.20	.10
19	0	1.5	3.0	597	131	23	14	3.5	1.5	.50	.20	.10
20	0	1.4	2.6	168	97	37	13	3.3	1.5	.40	.10	.10
21	0	1.4	2.2	635	73	86	12	3.2	1.5	.40	.10	.10
22	0	1.3	2.2	164	58	57	11	3.2	1.5	.40	.10	.10
23	0	1.3	2.1	63	81	44	16	3.0	1.5	.40	.10	0
24	0	1.5	21	46	498	36	13	2.8	1.4	.40	.10	0
25	0	1.5	86	467	183	30	11	2.6	1.3	.40	.10	0
26	0	1.4	54	322	127	26	10	2.6	1.3	.40	.10	0
27	0	1.4	15	95	101	23	9.4	2.6	1.4	.40	.10	0
28	0	1.5	42	67	98	20	8.8	2.6	1.3	.50	.10	0
29	.10	1.5	21	49	-----	18	8.2	2.4	1.3	.50	.10	0
30	.20	1.5	11	40	-----	16	8.2	2.2	1.1	.40	.10	0
31	.10	-----	7.4	33	-----	14	-----	2.1	-----	.40	.10	-----
TOTAL	1.40	45.10	360.8	3,363.60	2,567	1,437	922.6	137.2	48.4	19.60	6.20	1.20
MEAN	.045	1.50	11.6	109	91.7	46.4	30.8	4.43	1.61	.63	.20	.040
MAX	.40	5.8	86	635	498	119	185	7.9	2.2	1.1	.40	.20
MIN	0	.10	1.5	.80	28	14	8.2	2.1	1.1	.40	.10	0
AC-FT	2.8	89	716	6,670	5,090	2,850	1,830	272	96	39	12	2.4
CAL YR 1968	TOTAL 1,016.10		MEAN 2.78		MAX 87		MIN 0		AC-FT 2,020			
WTR YR 1969	TOTAL 8,910.10		MEAN 24.4		MAX 635		MIN 0		AC-FT 17,670			

SAN JOAQUIN RIVER BASIN

11-2695, LAKE McCLURE AT EXCHEQUER, CALIF.

LOCATION.--Lat 37°35'02", long 120°16'09", in NW¼SE¼ sec.13, T.4 S., R.15 E., Mariposa County, on left end of New Exchequer Dam on Merced River, 0.9 mile east of Exchequer, and 5.5 miles northeast of Merced Falls.

DRAINAGE AREA.--1,037 sq mi.

PERIOD OF RECORD.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerhouse at same datum. Oct. 1, 1964, to July 31, 1966, non-recording gage at center of upstream face of dam at same datum.

EXTREMES.--Current year: Maximum contents, 1,026,000 acre-ft July 14, 15 (elevation, 867.2 ft); minimum, 327,300 acre-ft Nov. 1 (elevation, 723.2 ft).

Period of record: Maximum contents, 1,026,000 acre-ft July 14, 15, 1969 (elevation, 867.2 ft); practically no storage at times in 1926, 1930-31, 64-65 when reservoir was drained for inspection or construction.

REMARKS.--Reservoir is formed by a rockfill dam with a reinforced concrete face, completed in March 1967. Dam is downstream from and connected to the original concrete arch and gravity-type dam which was completed in April 1926. Usable capacity, 1,024,000 acre-ft between elevations 440.0 ft (invert entrance to outlet tunnel) and 867.0 ft (top of spillway gates). Dead storage, 300 acre-ft. Water is released through a series of powerplants down the Merced River to a diversion dam for Merced Irrigation District's main canal. Records, including extremes, represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

700	263,000	820	729,600
720	317,800	860	975,700
750	415,900	870	1,046,000
780	534,500		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355.30	327.30	343.60	373.90	713.30	712.20	646.00	700.50	941.30	1020.30	993.70	864.40
2	355.30	327.90	343.90	374.60	717.60	710.60	647.50	704.70	950.00	1022.50	989.50	859.40
3	355.30	329.10	344.20	375.30	721.40	708.50	648.50	707.90	958.70	1023.90	986.10	854.40
4	355.30	330.60	344.50	376.30	725.20	704.70	648.00	709.50	965.50	1025.30	982.60	849.50
5	355.30	331.30	344.50	377.30	729.60	700.50	655.50	711.10	971.00	1025.30	979.90	843.40
6	355.30	331.90	344.20	378.00	735.10	695.70	662.10	715.50	975.70	1025.30	976.40	839.10
7	352.70	332.50	344.50	378.60	735.10	691.00	665.10	722.50	979.20	1025.30	972.30	835.40
8	350.50	332.80	344.80	379.60	731.30	685.20	666.10	731.80	980.50	1025.30	968.20	830.60
9	348.90	332.80	345.50	380.30	726.30	679.50	666.60	741.80	979.20	1025.30	964.20	825.70
10	348.00	333.10	345.50	380.70	720.90	675.90	666.60	752.90	975.70	1024.60	960.10	820.90
11	347.70	334.00	346.10	381.00	714.90	673.30	666.60	763.10	972.30	1025.30	955.40	816.10
12	346.40	334.00	346.10	382.00	710.10	670.70	667.70	774.00	971.60	1025.30	953.30	810.80
13	345.80	334.60	346.70	390.90	704.70	668.20	669.20	783.80	972.30	1025.30	949.30	806.60
14	345.10	335.20	346.70	403.10	699.40	665.10	670.20	793.10	976.40	1026.00	945.30	803.10
15	343.60	336.40	348.30	407.00	697.80	662.60	669.70	800.70	980.50	1026.00	940.60	798.30
16	342.30	337.10	351.10	409.40	698.30	659.50	668.20	807.80	986.10	1025.30	936.60	794.80
17	340.80	338.00	352.10	411.60	695.20	657.00	667.70	816.70	990.20	1024.60	932.00	790.70
18	340.50	338.30	353.10	415.20	694.60	654.50	668.20	825.70	990.90	1023.20	928.00	787.20
19	340.50	338.90	353.70	459.20	693.10	652.50	668.20	833.60	993.70	1021.80	923.40	784.90
20	340.50	339.80	353.40	476.00	690.40	651.00	669.70	840.90	999.20	1020.30	919.40	780.30
21	338.60	340.50	354.00	542.80	686.80	651.00	673.80	847.60	1004.10	1018.90	914.20	776.80
22	337.40	340.50	354.30	563.20	682.60	649.50	679.00	855.10	1009.00	1017.50	910.30	772.80
23	336.40	341.10	354.70	571.80	680.00	647.50	684.20	864.40	1014.00	1017.50	906.40	770.50
24	334.90	342.00	355.90	579.50	696.20	646.00	687.30	873.80	1014.70	1016.10	901.20	767.10
25	333.70	342.30	360.80	622.90	706.30	644.50	687.80	883.30	1014.70	1014.00	897.40	764.20
26	333.70	342.60	365.40	662.10	710.60	643.00	687.80	891.60	1014.00	1011.90	892.20	761.40
27	333.70	342.60	367.60	677.90	712.80	641.50	687.80	899.90	1014.70	1009.00	887.80	758.60
28	332.20	343.00	369.30	688.90	712.80	641.50	689.40	907.10	1016.10	1006.20	882.70	755.80
29	331.30	343.00	371.00	696.20	-----	642.00	692.00	914.20	1017.50	1003.40	878.20	752.90
30	329.70	343.30	371.90	702.60	-----	642.50	695.70	923.40	1018.90	999.90	873.80	749.60
31	328.50	-----	372.90	707.90	-----	644.00	-----	932.00	-----	997.20	868.80	-----
MEAN	343.07	336.55	352.91	481.48	708.66	666.81	670.74	807.42	988.26	1019.28	934.49	800.84
MAX	355.30	343.30	372.90	707.90	735.10	712.20	695.70	932.00	1018.90	1026.00	993.70	864.40
MIN	328.50	327.30	343.60	373.90	680.00	641.50	646.00	700.50	941.30	997.20	868.80	749.60
(a)	723.6	728.4	737.6	816.0	818.9	803.6	813.7	853.5	888.2	863.1	843.7	823.6
(b)	-26,800	+14,800	+29,600	+335,000	+4,900	-68,800	+51,700	+236,300	+86,900	-21,700	-128,400	-119,200
MAX	355,300	343,300	372,900	707,900	735,100	712,200	695,700	932,000	1,018,900	1,026,000	993,700	864,400
MIN	328,500	327,300	343,600	373,900	680,000	641,500	646,000	700,500	941,300	997,200	868,800	749,600

CAL YR 1968,..... b -250,500

MAX 879,000

MIN 327,300

WTR YR 1969,..... b +394,300

MAX 1,026,000

MIN 327,300

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-2709. MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CALIF.

LOCATION.--Lat 37°31'18", long 120°19'53", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.5 S., R.15 E., Merced County, on right bank 0.1 mile south of Merced Falls, 0.2 mile downstream from Merced Falls Dam, and 5.8 miles east of Snelling.

DRAINAGE AREA.--1,061 sq mi.

PERIOD OF RECORD.--April 1901 to current year. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315-A. Published as "near Merced Falls" 1901-13; 1923-26, as "at Exchequer" 1916-64, and as "at Merced Falls" 1965. Records at present site are about equivalent when adjusted for diversion to North Side Canal and change in contents of Lake McClure.

GAGE.--Water-stage recorder. Datum of gage is 310.55 ft above mean sea level. Apr. 6, 1901, to Nov. 30, 1913, nonrecording gage at site 2 miles upstream at different datum. Nov. 22, 1915, to Apr. 28, 1922, nonrecording gage and Apr. 29 to Oct. 24, 1922, water-stage recorder at site 8 miles upstream at different datum. Oct. 25, 1922, to Sept. 30, 1964, at site 7 miles upstream at different datum.

AVERAGE DISCHARGE.--68 years, 1,345 cfs (974,500 acre-ft per year), adjusted for diversion to North Side Canal and change in contents of Lake McClure since 1965 and change in contents of McSwain Reservoir since 1969.

EXTREMES.--Current year: Maximum discharge, 9,360 cfs June 1 (gage height, 12.40 ft); minimum daily, 46 cfs Oct. 3.

1901-13, 1915 to current year: Maximum discharge observed, 47,700 cfs Jan. 31, 1911 (gage height, 23.3 ft, site and datum then in use); no flow for part of Nov. 21, 1901. Maximum discharge since construction of Exchequer Dam in 1926, 46,200 cfs Dec. 4, 1950 (gage height, 22.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 13,000 cfs on basis of computation of peak flow over dam; minimum daily, 3.4 cfs Mar. 5, 1966.

REMARKS.--Records good. Merced Falls Dam diverts water to North Side Canal to irrigate 4,100 acres below station. Flow regulated by Exchequer, McSwain, and Merced Falls powerplants, Lake McClure since 1926 (see sta 11-2695), and McSwain Reservoir (capacity, 9,200 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	958	293	114	119	110	4,910	3,230	3,720	7,340	2,790	2,480	2,540
2	122	113	115	116	109	4,960	3,270	3,730	7,660	2,800	2,460	2,530
3	46	116	114	116	110	4,950	3,270	3,740	7,500	2,810	2,430	2,540
4	53	108	115	117	115	4,930	3,260	3,740	7,570	2,840	2,450	2,540
5	52	109	115	118	782	4,910	3,530	3,710	7,840	3,020	2,460	2,550
6	52	109	114	115	2,800	4,930	3,350	3,700	7,860	3,090	2,440	2,520
7	56	110	115	117	4,180	4,990	3,300	3,730	7,820	3,200	2,440	2,280
8	309	109	115	118	4,880	4,980	3,290	3,910	7,850	2,920	2,440	2,530
9	484	109	114	191	5,100	5,000	3,290	4,240	7,650	2,840	2,440	2,530
10	486	110	115	231	5,040	4,090	3,280	4,280	7,150	2,840	2,440	2,550
11	483	110	115	214	5,020	3,290	3,280	4,280	6,100	2,640	2,210	2,570
12	484	116	113	102	5,040	3,290	3,280	4,320	4,830	2,430	2,050	2,570
13	495	112	113	217	5,000	3,280	3,280	4,720	4,280	2,430	2,060	2,190
14	481	113	116	262	4,950	3,280	3,450	5,100	4,230	2,450	2,130	2,030
15	502	111	115	122	5,050	3,280	3,740	5,420	4,210	2,460	2,500	2,400
16	496	113	115	117	4,830	3,270	3,730	5,580	4,210	2,430	2,510	1,940
17	487	112	115	127	4,930	3,260	3,740	5,670	4,220	2,440	2,530	1,970
18	468	111	114	136	4,730	3,260	3,740	5,720	4,230	2,450	2,530	1,990
19	472	112	113	363	4,960	3,260	3,730	5,940	3,640	2,440	2,520	1,990
20	469	112	112	174	4,880	3,270	3,730	6,200	2,860	2,410	2,520	1,990
21	479	109	113	699	4,890	3,280	3,720	6,340	2,840	2,420	2,500	1,990
22	495	110	142	191	4,900	3,260	3,720	6,370	2,840	2,420	2,520	1,990
23	498	112	144	117	4,800	3,250	3,750	6,360	3,260	2,430	2,550	1,660
24	487	112	118	125	4,440	3,240	3,750	6,360	4,550	2,460	2,540	1,470
25	482	114	133	436	4,150	3,240	3,760	6,340	4,970	2,460	2,510	1,470
26	471	113	169	297	3,460	3,230	3,760	6,460	4,510	2,460	2,540	1,470
27	471	112	118	129	3,340	3,220	3,760	6,620	3,700	2,400	2,550	1,470
28	463	112	118	137	3,950	3,220	3,750	6,620	2,980	2,390	2,540	1,470
29	485	112	118	121	-----	3,070	3,750	6,780	2,840	2,420	2,510	1,470
30	482	112	115	113	-----	3,220	3,750	6,970	2,800	2,450	2,510	1,460
31	494	-----	155	112	-----	3,220	-----	7,100	-----	2,460	2,530	-----
TOTAL	12,762	3,526	3,730	5,669	106,546	116,840	106,240	163,770	154,340	80,500	75,840	62,670
MEAN	412	118	120	183	3,805	3,769	3,541	5,283	5,145	2,597	2,446	2,089
MAX	958	293	169	699	5,100	5,000	3,760	7,100	7,860	3,200	2,550	2,570
MIN	46	108	112	102	109	3,070	3,230	3,700	2,800	2,390	2,050	1,460
AC-FT	25,310	6,990	7,400	11,240	211,300	231,700	210,700	324,800	306,100	159,700	150,400	124,300
(a)	498	137	95	30	0	0	1,010	3,780	3,650	4,210	4,180	3,430
MEAN b	27.8	374	604	5,630	3,907	2,646	4,428	9,194	6,657	2,309	428	140
AC-FT b	1,710	22,270	37,140	346,200	217,000	162,700	263,500	565,300	396,100	142,000	26,210	8,310
CAL YR 1968	TOTAL 337,440	MEAN 922	MAX 1,870	MIN 46	AC-FT 669,300	MEAN b 614	AC-FT b 445,500					
WTR YR 1969	TOTAL 892,433	MEAN 2,445	MAX 7,860	MIN 46	AC-FT 1,770,000	MEAN b 3,022	AC-FT b 2,188,000					

a Diversion, in acre-feet, to North Side Canal, furnished by Merced Irrigation District.

b Adjusted for change in contents in Lake McClure, McSwain Reservoir, and diversion to North Side Canal.

SAN JOAQUIN RIVER BASIN

11-2712.9. MERCED RIVER AT SHAFFER BRIDGE, NEAR CRESSEY, CALIF.

LOCATION.--Lat 37°27'15", long 120°36'28", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.36, T.5 S., R.12 E., Merced County, near center of span on downstream side of county road bridge, 0.6 mile upstream from Dry Creek, and 4.0 miles northeast of Cressey.

DRAINAGE AREA.--1,117 sq mi.

PERIOD OF RECORD.--October 1965 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 116.79 ft above mean sea level.

REMARKS.--Records good. Most water released from Lake McClure (see sta 11-2695, 11-2709) is diverted upstream into the Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 cfs.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	-	125	192	192							
2	37	-	122	174	170							
3	42	-	128	157	154							
4	37	-	133	151	139							
5	33	167	130	148	145							
6	29	125	130	142	-							
7	29	118	118	139	-							
8	27	118	120	139	-							
9	26	118	125	139	-							
10	44	118	122	-	-							
11	71	115	133	-	-							
12	136	133	128	-	-							
13	-	136	125	174	-							
14	-	120	145	-	-							
15	-	148	154	-	-							
16	-	148	148	-	-							
17	-	133	145	192	-							
18	-	130	139	188	-							
19	-	128	136	-	-							
20	-	125	139	-	-							
21	-	125	133	-	-							
22	-	125	130	-	-							
23	-	128	142	-	-							
24	-	118	192	-	-							
25	-	115	160	-	-							
26	-	118	-	-	-							
27	-	122	-	-	-							
28	-	120	-	-	-							
29	-	118	184	-	-----							
30	-	120	170	-	-----							
31	-	-----	157	-	-----	-----			-----			-----
TOTAL	-	-	-	-	-							
MEAN	-	-	-	-	-							
MAX	-	-	-	-	-							
MIN	-	-	-	-	-							
AC-FT	-	-	-	-	-							
(a)	7,110	1,310	1,350	1,020	1,330	4,230	39,810	103,700	104,900	114,200	109,400	81,940

a Diversion in acre-feet, to Main Canal near diversion dam, near Merced Falls; furnished by Merced Irrigation District.

11-2713.2. DRY CREEK NEAR SNELLING, CALIF.

LOCATION.--Lat 37°33'18", long 120°27'44", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.30, T.4 S., R.14 E., Merced County, on left bank 650 ft downstream from Fields Road, and 2.8 miles (revised) northwest of Snelling.

DRAINAGE AREA.--67.6 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 230 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 6,710 cfs Jan. 21 (gage height, 17.01 ft); no flow for many days.
Period of record: Maximum discharge, 6,710 cfs Jan. 21, 1969 (gage height, 17.01 ft); no flow for several months most years.

REMARKS.--Records good. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.22	8.2	49	275	2.2	.44	0	.08	0	0
2	0	0	.27	6.1	45	111	20	.34	0	.04	0	0
3	0	0	.18	5.3	37	126	9.0	.34	0	0	0	0
4	0	0	.18	4.5	33	79	4.9	.34	0	0	0	0
5	0	0	.15	4.0	59	66	2.7	.32	.16	.61	0	0
6	0	0	.13	3.5	706	55	125	.28	.44	.70	0	0
7	0	0	.11	3.2	146	48	45	.24	.53	.58	0	0
8	0	0	.11	3.0	69	41	30	.20	.38	.76	0	0
9	0	0	.11	2.8	49	36	23	.16	.34	.70	0	0
10	0	0	.13	2.3	39	95	18	.24	.32	.53	0	0
11	0	0	.22	2.1	33	44	15	.32	.26	.36	0	0
12	0	0	.22	2.1	51	39	12	.26	.18	.26	0	0
13	0	0	.22	803	42	49	9.3	.22	.14	.24	0	.21
14	0	0	.54	947	31	37	7.3	.16	.06	.18	0	.53
15	0	0	2.1	89	381	31	6.2	.12	.01	.12	0	.48
16	0	1.7	7.3	42	307	23	5.4	.08	0	.05	0	.30
17	0	1.7	6.1	30	78	17	4.8	.02	0	0	0	.24
18	0	.82	2.3	141	735	13	4.0	.43	0	0	0	.18
19	0	.54	1.2	1,380	374	8.4	3.4	.53	0	0	0	.10
20	0	.34	.82	401	138	9.0	3.2	.48	.52	0	0	.01
21	0	.27	.54	2,770	75	106	3.0	.34	.48	0	0	0
22	0	.22	.34	288	57	37	2.8	.26	.44	0	0	0
23	0	.18	.22	104	422	20	2.8	.20	.44	0	0	0
24	0	.54	.55	122	1,660	15	2.2	.12	.41	0	0	0
25	0	1.4	130	2,200	258	12	2.0	.06	.38	0	0	0
26	0	.34	453	878	441	9.3	1.8	.01	.26	0	0	0
27	0	.22	48	154	114	7.3	1.6	0	.24	0	0	0
28	0	.13	32	229	240	5.9	1.5	0	.24	0	0	0
29	0	.11	32	129	-----	4.6	1.4	0	.18	0	0	0
30	0	.15	16	75	-----	3.6	.76	0	.14	0	0	0
31	0	-----	11	62	-----	2.9	-----	0	-----	0	0	-----
TOTAL	0	8.66	746.26	10,891.1	6,669	1,426.0	370.26	6.51	6.55	5.21	0	2.05
MEAN	0	.29	24.1	351	238	46.0	12.3	.21	.22	.17	0	.068
MAX	0	1.7	453	2,770	1,660	275	125	.53	.53	.76	0	.53
MIN	0	0	.11	2.1	31	2.9	.76	0	0	0	0	0
AC-FT	0	17	1,480	21,600	13,230	2,830	734	13	13	10	0	4.1
CAL YR 1968	TOTAL	1,573.63	MEAN	4.30	MAX	453	MIN	0	AC-FT	3,120		
WTR YR 1969	TOTAL	20,131.60	MEAN	55.2	MAX	2,770	MIN	0	AC-FT	39,930		

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-26	0530	9.75	1,720	2-15	2400	9.89	1,760
1-13	1800	10.66	2,200	2-18	0700	9.41	1,420
1-19	0600	13.04	3,690	2-24	1000	13.69	4,120
1-21	1000	17.01	6,710	3-10	0700	5.41	134
1-25	1800	16.21	6,070	3-21	0500	6.11	268
2- 6	1700	8.32	1,030	4- 6	unknown	-	unknown

SAN JOAQUIN RIVER BASIN

11-2725, MERCED RIVER NEAR STEVINSON, CALIF.

LOCATION.--Lat 37°22'15", long 120°55'46", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.36, T.6 S., R.9 E., Merced County, on right bank 5 miles upstream from mouth, and 6 miles northwest of Stevinson.

DRAINAGE AREA.--1,273 sq mi.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. October 1940 to Aug. 16, 1955, at datum 55.74 ft higher, Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

AVERAGE DISCHARGE.--29 years, 701 cfs (507,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,190 cfs Feb. 25 (elevation, 70.56 ft); minimum daily, 122 cfs Oct. 8.

Period of record: Maximum discharge, 13,600 cfs Dec. 5, 1950 (elevation, 73.79 ft, present datum); no flow July 19 to Aug. 21, 1961, result of temporary dam below station.

REMARKS.--Records good. Practically entire flow is diverted above station for irrigation of 120,000 acres; some return flow enters above station. Flow regulated by three reservoirs (combined capacity, 1,034,000 acre-ft), the largest of which is Lake McClure (see sta 11-2695).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	528	186	258	842	4,500	2,910	2,290	5,110	1,110	497	884
2	147	543	184	250	779	4,400	2,850	2,250	4,890	1,010	505	893
3	155	446	186	241	753	4,300	2,860	2,270	5,010	968	533	917
4	174	342	188	231	693	4,150	2,840	2,450	5,530	860	567	965
5	162	297	192	224	708	4,000	3,060	2,590	5,640	1,020	535	989
6	138	256	189	216	803	3,900	3,940	2,570	5,870	1,120	525	977
7	141	228	197	205	2,390	3,800	3,830	2,200	5,800	1,150	529	1,060
8	122	207	192	200	3,530	3,800	3,480	2,060	5,730	1,250	524	977
9	126	194	188	196	4,400	3,800	3,400	2,120	5,690	1,130	543	1,030
10	130	197	186	192	4,710	3,700	3,290	2,330	5,680	1,000	574	1,050
11	127	199	189	207	4,710	3,600	3,210	2,420	5,300	980	583	1,080
12	137	186	191	240	4,760	3,500	3,130	2,420	4,320	879	522	1,100
13	170	188	194	247	4,810	3,450	3,040	2,430	3,350	778	398	1,080
14	220	197	200	364	4,810	3,420	2,910	2,650	2,750	724	350	1,040
15	274	211	214	1,340	4,820	3,400	2,940	2,940	2,600	659	338	717
16	340	216	222	685	5,200	3,360	3,270	3,290	2,530	630	446	936
17	420	219	216	483	5,190	3,340	3,160	3,390	2,500	618	620	740
18	429	204	214	396	5,170	3,320	3,030	3,420	2,450	602	658	642
19	428	186	209	336	5,790	3,310	3,000	3,560	2,440	578	635	701
20	446	181	211	1,670	5,630	3,300	2,880	3,740	2,180	547	668	707
21	457	189	209	718	4,950	3,340	2,770	3,990	1,620	551	672	757
22	464	188	209	4,380	4,760	3,410	2,690	4,200	1,510	506	668	804
23	478	184	207	1,110	4,840	3,410	2,590	4,270	1,460	502	700	829
24	493	188	216	733	5,610	3,400	2,650	4,290	1,560	505	758	768
25	495	188	236	675	6,800	3,390	2,690	4,360	2,380	493	770	590
26	496	186	236	3,220	6,120	3,380	2,630	4,340	2,940	499	732	510
27	491	189	498	2,320	5,200	3,370	2,570	4,360	2,790	540	755	479
28	476	189	470	1,370	4,600	3,250	2,570	4,520	2,130	560	785	468
29	486	186	348	1,030	-----	3,150	2,460	4,540	1,420	516	803	474
30	517	186	302	968	-----	3,030	2,330	4,610	1,250	495	815	481
31	525	-----	280	833	-----	2,990	-----	4,920	-----	469	869	-----
TOTAL	9,802	7,098	7,159	25,538	113,378	110,470	88,980	101,790	104,430	23,249	18,877	24,645
MEAN	316	237	231	824	4,049	3,564	2,966	3,284	3,481	750	609	822
MAX	525	543	498	4,380	6,800	4,500	3,940	4,920	5,870	1,250	869	1,100
MIN	122	181	184	192	693	2,990	2,330	2,060	1,250	469	338	468
AC-FT	19,440	14,080	14,200	50,650	224,900	219,100	176,500	201,900	207,100	46,110	37,440	48,880
CAL YR 1968	TOTAL	86,618	MEAN	237	MAX	1,340	MIN	70	AC-FT	171,800		
WTR YR 1969	TOTAL	635,416	MEAN	1,741	MAX	6,800	MIN	122	AC-FT	1,260,000		

11-2730. MERCED RIVER SLOUGH NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°21'36", long 120°57'38" (revised), in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.3, T.7 S., R.9 E., Merced County, on left bank 0.1 mile downstream from bridge, 0.2 mile downstream from head of slough between Merced and San Joaquin Rivers, and 5 miles northeast of Newman.

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to July 31, 1948, at datum 56.44 ft higher and Aug. 1, 1948, to Sept. 30, 1959, at datum 54.36 ft higher.

AVERAGE DISCHARGE.--28 years, 68.2 cfs (49,410 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,410 cfs Feb. 26; no flow for several months.

Period of record: Maximum daily discharge, 7,770 cfs Apr. 6, 1958; no flow for several months in each year.

REMARKS.--Records fair. Sloughs flow from Merced River to San Joaquin River, bypassing the gaging station on San Joaquin River near Newman. Flow at times consists of return flow from irrigated fields. Records include flow in South Slough.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	404	3,420	215	10	500	.25	0	0
2	0	0	0	0	330	3,300	179	6.2	538	.20	0	0
3	0	0	0	0	286	3,260	176	7.9	585	.16	0	0
4	0	0	0	0	284	2,960	161	25	610	.12	0	0
5	0	0	0	0	350	2,710	171	42	631	.08	0	0
6	0	0	0	0	412	2,440	265	46	775	0	0	0
7	0	0	0	0	898	2,190	414	44	1,030	0	0	0
8	0	0	0	0	1,740	2,020	765	34	1,330	0	0	0
9	0	0	0	0	1,950	2,020	690	20	1,640	0	0	0
10	0	0	0	0	1,810	2,010	498	20	1,810	0	0	0
11	0	0	0	0	1,720	1,970	367	38	1,830	0	0	0
12	0	0	0	0	1,650	1,910	329	56	1,570	0	0	0
13	0	0	0	0	1,550	1,870	251	62	1,150	0	0	0
14	0	0	0	0	1,530	1,580	146	69	842	0	0	0
15	0	0	0	0	1,510	1,500	80	84	602	0	0	0
16	0	0	0	0	1,520	1,360	80	102	389	0	0	0
17	0	0	0	0	1,720	1,290	74	115	262	0	0	0
18	0	0	0	0	1,960	1,230	70	120	211	0	0	0
19	0	0	0	0	2,260	1,190	69	130	180	0	0	0
20	0	0	0	0	2,550	1,160	60	148	130	0	0	0
21	0	0	0	0	2,630	1,140	47	201	67	0	0	0
22	0	0	0	34	2,390	1,180	40	262	55	0	0	0
23	0	0	0	63	2,280	1,300	33	291	47	0	0	0
24	0	0	0	170	2,400	1,240	29	299	35	0	0	0
25	0	0	0	96	3,800	1,150	28	301	32	0	0	0
26	0	0	0	231	6,080	1,100	24	310	30	0	0	0
27	0	0	0	1,000	5,970	1,060	22	313	18	0	0	0
28	0	0	0	1,180	4,540	896	22	388	5.7	0	0	0
29	0	0	0	578	-----	699	20	422	.7	0	0	0
30	0	0	0	480	-----	494	14	437	.4	0	0	0
31	0	-----	0	395	-----	296	-----	474	-----	0	0	-----
TOTAL	0	0	0	4,227	56,524	51,945	5,339	4,877.1	16,905.8	0.81	0	0
MEAN	0	0	0	136	2,019	1,676	178	157	564	.026	0	0
MAX	0	0	0	1,180	6,080	3,420	765	474	1,830	.25	0	0
MIN	0	0	0	0	284	296	14	6.2	.40	0	0	0
AC-FT	0	0	0	8,380	112,100	103,000	10,590	9,670	33,530	1.6	0	0
CAL YR 1968	TOTAL 0		MEAN 0		MAX 0		MIN 0		AC-FT 0			
WTR YR 1969	TOTAL 139,818.71		MEAN 383		MAX 6,080		MIN 0		AC-FT 277,300			

SAN JOAQUIN RIVER BASIN

11-2740. SAN JOAQUIN RIVER NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°21'02", long 120°58'34", in SW $\frac{1}{4}$ sec.3, T.7 S., R.9 E., Stanislaus County, on left bank 300 ft downstream from bridge on Hills Ferry road, 500 ft downstream from Merced River, and 3.5 miles northeast of Newman.

DRAINAGE AREA.--9,520 sq mi.

PERIOD OF RECORD.--April 1912 to current year. Prior to Oct. 1, 1937, and subsequent to Oct. 1, 1943, flow that bypassed station at discharges above 9,000 cfs not included in records.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 3, 1931, nonrecording gage at various sites within 240 ft of bridge, and Mar. 3, 1931, to Sept. 30, 1959, water-stage recorder within 300 ft of bridge at datum 47.31 ft higher. Oct. 1, 1959, to Aug. 9, 1960, water-stage recorder at site 70 ft upstream at present datum.

AVERAGE DISCHARGE.--57 years, 2,113 cfs (1,531,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 28,000 cfs Feb. 26 (elevation, 65.90 ft, from high-water mark in well); minimum daily, 211 cfs Oct. 11.

Period of record: Maximum discharge (River only), 28,000 cfs Feb. 26, 1969 (elevation, 65.90 ft, from high-water mark in well); river and Merced River Slough, 34,700 cfs Feb. 26, 1969 (elevation, 65.90 ft, present datum); minimum, 15 cfs Aug. 9, 10, 1924.

Flood of Jan. 2, 1868, reached a stage of 21.7 ft, from floodmarks; flood of February 1886, reached a stage of 19.8 ft, from floodmarks; and flood of 1911 reached a stage of 19 ft, from floodmarks. All stages referred to datum in use from 1931 to 1959. Discharges unknown.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water; low flows consist mainly of return water from irrigated areas. Record for Merced River Slough (see sta 11-2730) shows flow bypassing station.

COOPERATION.--One discharge measurement furnished by California Department of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	319	744	480	980	13,800	21,000	13,900	9,080	14,400	6,200	932	1,370
2	316	757	479	911	13,500	20,800	13,700	8,720	14,500	5,940	932	1,380
3	334	723	483	833	13,400	21,000	13,700	9,650	14,600	5,730	948	1,430
4	340	620	507	734	13,400	20,500	13,500	10,300	14,600	5,530	980	1,540
5	363	621	520	656	13,700	20,000	13,600	10,800	14,500	5,230	952	1,590
6	301	649	499	587	13,900	19,500	13,800	11,000	15,000	4,960	958	1,560
7	278	609	469	542	15,700	19,100	14,700	11,500	16,000	4,720	941	1,620
8	248	542	463	530	17,400	18,700	16,100	10,800	17,200	4,310	926	1,790
9	221	489	420	530	17,600	18,800	15,800	9,850	18,200	3,240	919	1,960
10	228	469	400	524	17,200	19,000	15,200	9,910	19,000	2,720	911	1,940
11	211	458	420	522	17,000	19,200	14,600	11,200	19,300	2,310	917	1,870
12	230	445	450	557	16,800	19,400	14,400	12,000	19,000	2,010	896	1,790
13	406	492	480	731	16,500	19,500	14,100	12,200	18,100	1,690	806	1,790
14	518	526	520	956	16,500	18,700	13,400	12,400	17,000	1,520	740	1,770
15	578	575	570	2,470	16,400	18,500	12,700	12,600	16,000	1,400	745	1,520
16	612	617	630	3,320	16,400	18,100	12,500	12,800	14,900	1,340	862	1,660
17	674	676	700	3,760	16,800	17,900	12,300	13,100	14,300	1,350	967	1,580
18	706	684	670	3,480	17,600	17,800	12,300	13,100	14,000	1,250	1,020	1,420
19	508	664	630	2,960	18,100	17,700	12,200	13,200	13,800	1,160	1,020	1,430
20	476	636	580	3,720	18,800	17,700	11,900	13,200	13,400	1,120	1,060	1,410
21	488	620	550	5,100	19,000	17,600	11,400	13,500	12,800	1,150	1,120	1,440
22	516	593	520	9,300	18,500	17,700	11,000	13,800	12,400	1,210	1,110	1,490
23	562	581	500	11,900	18,200	18,200	10,700	13,900	12,000	1,180	1,140	1,510
24	605	590	510	12,800	18,400	17,900	10,500	14,000	11,100	1,070	1,170	1,420
25	638	603	570	12,300	21,500	17,600	10,400	13,900	10,700	1,020	1,200	1,220
26	655	598	740	12,800	27,200	17,500	10,200	14,000	10,400	1,000	1,200	1,130
27	655	597	900	15,600	26,900	17,300	10,100	14,100	9,430	1,010	1,230	1,090
28	695	558	1,250	16,200	23,600	16,800	10,100	14,400	8,300	1,020	1,270	1,060
29	684	523	1,500	14,400	-----	16,100	9,860	14,500	7,260	980	1,270	1,050
30	671	501	1,150	14,100	-----	15,400	9,450	14,400	6,600	996	1,320	1,030
31	713	-----	1,070	13,800	-----	14,400	-----	14,400	-----	938	1,350	-----
TOTAL	14,749	17,760	19,630	167,603	493,800	569,400	378,110	382,310	418,790	75,304	31,812	44,860
MEAN	476	592	633	5,407	17,640	18,370	12,600	12,330	13,960	2,429	1,026	1,495
MAX	713	757	1,500	16,200	27,200	21,000	16,100	14,500	19,300	6,200	1,350	1,960
MIN	211	445	400	522	13,400	14,400	9,450	8,720	6,600	938	740	1,030
AC-FT	29,250	35,230	38,940	332,400	979,400	1,129M	750,000	758,300	830,700	149,400	63,100	88,980
CAL YR 1968	TOTAL	189,761	MEAN	518	MAX	1,660	MIN	167	AC-FT	376,400		
WTR YR 1969	TOTAL	2,614,128	MEAN	7,162	MAX	27,200	MIN	211	AC-FT	5,185,000		

11-2745, ORESTIMBA CREEK NEAR NEWMAN, CALIF.

LOCATION.--Lat 37°19'01", long 121°07'39", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.19, T.7 S., R.8 E., Stanislaus County, on right bank 220 ft upstream from California Aqueduct siphon, 3 miles downstream from Osc Creek, and 5 miles west of Newman. Prior to Aug. 14, 1969, at site 1,200 ft downstream.

DRAINAGE AREA.--134 sq mi.

PERIOD OF RECORD.--January 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 216.00 ft above mean sea level. Prior to Oct. 1, 1958, at site 120 ft downstream at datum 24.14 ft lower. Oct. 1, 1958, to Aug. 13, 1969, at site 1,200 ft downstream at datum 27.14 ft lower.

AVERAGE DISCHARGE.--37 years, 15.6 cfs (11,300 acre-ft per year); median of yearly mean discharges, 8.5 cfs (6,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,080 cfs Jan. 25 (gage height, 8.40 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement of peak flow; no flow for several months.
Period of record: Maximum discharge, 10,200 cfs Apr. 2, 1958 (gage height, 6.57 ft, site and datum then in use), from rating curve extended above 5,000 cfs; no flow for several months in each year.

REMARKS.--Records fair. No storage or diversion except for minor stock ponds.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	121	695	27	6.3	0	0	0	0
2	0	0	0	0	106	357	25	5.9	0	0	0	0
3	0	0	0	0	99	221	27	5.5	0	0	0	0
4	0	0	0	0	90	174	25	5.1	0	0	0	0
5	0	0	0	0	131	137	29	4.7	0	0	0	0
6	0	0	0	0	686	116	39	4.3	0	0	0	0
7	0	0	0	0	351	102	29	4.0	0	0	0	0
8	0	0	0	0	188	91	25	3.7	0	0	0	0
9	0	0	0	0	146	83	24	3.3	0	0	0	0
10	0	0	0	0	121	77	22	3.0	0	0	0	0
11	0	0	0	0	149	74	21	2.7	0	0	0	0
12	0	0	0	0	415	72	19	2.4	0	0	0	0
13	0	0	0	0	204	71	18	2.1	0	0	0	0
14	0	0	0	0	151	70	17	1.8	0	0	0	0
15	0	0	0	0	731	63	16	1.5	0	0	0	0
16	0	0	0	0	430	59	15	1.3	0	0	0	0
17	0	0	0	0	232	55	14	1.1	0	0	0	0
18	0	0	0	0	185	52	13	.80	0	0	0	0
19	0	0	0	1,220	152	50	13	.62	0	0	0	0
20	0	0	0	681	134	48	12	.50	0	0	0	0
21	0	0	0	772	122	48	11	.40	0	0	0	0
22	0	0	0	486	164	43	11	.31	0	0	0	0
23	0	0	0	163	293	41	10	.25	0	0	0	0
24	0	0	0	123	1,530	37	9.5	.20	0	0	0	0
25	0	0	0	2,060	1,060	33	9.0	.15	0	0	0	0
26	0	0	0	1,440	818	33	8.5	.10	0	0	0	0
27	0	0	0	470	413	31	8.2	.10	0	0	0	0
28	0	0	0	254	591	29	7.7	.10	0	0	0	0
29	0	0	0	179	-----	29	7.2	.08	0	0	0	0
30	0	0	0	150	-----	27	6.8	.06	0	0	0	0
31	0	-----	0	139	-----	27	-----	.04	-----	0	0	-----
TOTAL	0	0	0	8,137	9,813	3,045	518.9	62.41	0	0	0	0
MEAN	0	0	0	262	350	98.2	17.3	2.01	0	0	0	0
MAX	0	0	0	2,060	1,530	695	39	6.3	0	0	0	0
MIN	0	0	0	0	90	27	6.8	.04	0	0	0	0
AC-FT	0	0	0	16,140	19,460	6,040	1,030	124	0	0	0	0
CAL YR 1968	TOTAL 0	MEAN 0	MAX 0	MIN 0	AC-FT 0							
WTR YR 1969	TOTAL 21,576.31	MEAN 59.1	MAX 2,060	MIN 0	AC-FT 42,800							

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1200	6.69	3,020	2-12	0200	5.60	681
1-25	0500	8.40	5,080	2-15	1430	6.43	1,680
2- 6	1000	5.85	935	2-24	1600	7.33	2,810

SAN JOAQUIN RIVER BASIN

11-2746. DEL PUERTO CREEK TRIBUTARY NO. 1 NEAR PATTERSON, CALIF.

LOCATION.--Lat 37°24'15", long 121°26'11", in NE¼NW¼ sec.21, T.6 S., R.5 E., Stanislaus County, at culvert on county road, 300 ft upstream from Del Puerto Creek, and 17.5 miles southwest of Patterson.

DRAINAGE AREA.--0.71 sq mi.

PERIOD OF RECORD.--Water years 1959-63 (annual maximum), October 1963 to September 1969 (discontinued as a continuous-record station; re-converted to a crest-stage partial-record station).

GAGE.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,760 ft (from topographic map). Oct. 2, 1958, to Oct. 22, 1963, crest-stage gage at same site at datum 85.20 ft lower.

EXTREMES.--Current year: Maximum discharge, 17 cfs Jan. 26 (gage height, 8.37 ft); no flow for several months.

Period of record: Maximum discharge, 20 cfs Feb. 1, 1963 (gage height, 8.53 ft, present datum), from rating curve extended above 7 cfs on basis of computations of flow through culvert at gage heights 8.36, 8.50, 8.85, and 9.40 ft; no flow for several months each year.

REMARKS.--Records good. No regulation or diversion above station. Monthly precipitation, in inches, is as follows: October, 0.3; November, 3.3; December, 3.1; January, 8.9; February, 8.8; March, 0.4; April, 1.6; September, 0.9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.48	2.4	.64	.59	.40	.09	0	0
2	0	0	0	0	.44	2.1	.70	.59	.40	.09	0	0
3	0	0	0	0	.40	2.0	.67	.59	.38	.09	0	0
4	0	0	0	0	.38	1.9	.64	.57	.34	.09	0	0
5	0	0	0	0	.41	1.7	.90	.54	.38	.08	0	0
6	0	0	0	0	1.7	1.6	.79	.54	.38	.11	0	0
7	0	0	0	0	1.3	1.6	.76	.54	.38	.09	0	.11
8	0	0	0	0	1.1	1.4	.73	.54	.38	.07	0	0
9	0	0	0	0	.98	1.4	.73	.57	.40	.07	0	0
10	0	0	0	0	.90	1.3	.67	.54	.36	.05	0	0
11	0	0	0	0	1.1	1.2	.64	.54	.34	.04	0	0
12	0	0	0	0	1.7	1.2	.59	.54	.28	.03	0	0
13	0	0	0	0	1.2	1.2	.57	.54	.25	.01	0	0
14	0	0	0	0	1.2	1.1	.57	.54	.25	0	0	0
15	0	0	0	0	2.1	1.0	.54	.54	.24	0	0	0
16	0	0	0	0	1.7	.98	.54	.54	.23	0	0	0
17	0	0	0	0	1.4	.90	.54	.52	.25	0	0	0
18	0	0	0	.33	1.4	.90	.54	.52	.24	.01	0	0
19	0	0	0	2.8	1.2	.86	.54	.52	.22	.01	0	0
20	0	0	0	3.4	1.2	.90	.52	.52	.23	0	0	0
21	0	0	0	3.3	1.1	.86	.54	.50	.20	0	0	0
22	0	0	0	1.9	1.2	.82	.54	.50	.20	0	0	0
23	0	0	0	1.1	1.4	.79	.61	.50	.17	0	0	0
24	0	0	0	.86	3.9	.79	.59	.48	.17	0	0	0
25	0	0	1.3	6.0	3.3	.76	.59	.46	.18	0	0	0
26	0	0	1.7	5.7	2.9	.73	.59	.46	.18	0	0	0
27	0	0	0	1.6	2.5	.70	.59	.46	.17	0	0	0
28	0	0	0	1.1	3.6	.67	.59	.44	.17	0	0	0
29	0	0	0	.73	-----	.64	.59	.42	.16	0	0	0
30	0	0	0	.61	-----	.64	.59	.42	.12	0	0	0
31	0	-----	0	.52	-----	.64	-----	.38	-----	0	0	-----
TOTAL	0	0	3.0	29.95	42.19	35.68	18.64	15.95	8.05	0.93	0	0.11
MEAN	0	0	.097	.97	1.51	1.15	.62	.51	.27	.030	0	.004
MAX	0	0	1.7	6.0	3.9	2.4	.90	.59	.40	.11	0	.11
MIN	0	0	0	0	.38	.64	.52	.38	.12	0	0	0
AC-FT	0	0	6.0	59	84	71	37	32	16	1.8	0	.2
CAL YR 1968	TOTAL	3.69		MEAN .010	MAX 1.7	MIN 0		AC-FT 7.3				
WTR YR 1969	TOTAL	154.50		MEAN .42	MAX 6.0	MIN 0		AC-FT 306				

11-2746.3. DEL PUERTO CREEK NEAR PATTERSON, CALIF.

LOCATION.--Lat 37°29'12", long 121°12'29", in SE¼NW¼ sec.21, T.5 S., R.7 E., Stanislaus County, on left bank 1.0 mile upstream from Delta-Mendota Canal crossing, and 4.4 miles west of Patterson.

DRAINAGE AREA.--73.1 sq mi.

PERIOD OF RECORD.--October 1958 to May 1965 (maximums only), June 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 200 ft (from topographic map). Prior to June 1965, crest-stage gage at site 1.0 mile downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 913 cfs Jan. 25 (gage height, 5.92 ft), from rating curve extended above 440 cfs on basis of slope-area measurement of peak flow; no flow for several months.
Period of record: Maximum discharge, 1,800 cfs Feb. 16, 1959 (gage height, 14.68 ft, site and datum then in use), from rating curve extended above 690 cfs; no flow for several months in each year.

REMARKS.--Records good prior to May and fair thereafter. Some stock ponds and small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	25	167	16	5.9	.78	.28	0	0
2	0	0	0	0	22	107	14	5.6	.64	.28	0	0
3	0	0	0	0	19	86	14	5.3	.64	.21	0	0
4	0	0	0	0	18	74	13	5.0	.78	.17	0	0
5	0	0	0	0	19	65	16	4.8	.78	.14	0	0
6	0	0	0	0	131	58	23	4.5	.94	.11	0	0
7	0	0	0	0	79	51	16	4.3	.78	.14	0	0
8	0	0	0	0	42	45	14	4.0	.78	.14	0	0
9	0	0	0	0	32	41	13	3.8	.94	.17	0	0
10	0	0	0	0	26	38	12	3.6	.94	.17	0	0
11	0	0	0	0	33	35	11	3.4	1.3	.17	0	0
12	0	0	0	0	143	34	11	3.2	1.3	.17	0	0
13	0	0	0	0	55	33	11	3.1	1.3	.17	0	0
14	0	0	0	0	39	29	10	2.9	1.3	.17	0	0
15	0	0	0	0	222	26	9.7	2.8	1.3	.17	0	0
16	0	0	0	.05	125	26	9.2	2.6	1.3	.17	0	0
17	0	0	0	.19	74	25	9.2	2.5	1.4	.14	0	0
18	0	0	0	.57	65	23	8.7	2.3	1.4	.14	0	0
19	0	0	0	89	53	23	8.2	2.2	1.4	.14	0	0
20	0	0	0	107	42	23	8.2	1.4	1.4	.14	0	0
21	0	0	0	142	37	23	7.7	1.1	1.3	.11	0	0
22	0	0	0	80	44	21	7.7	1.1	1.3	.06	0	0
23	0	0	0	35	69	20	7.7	1.1	1.1	.01	0	0
24	0	0	0	28	399	20	9.2	1.1	.94	0	0	0
25	0	0	0	353	251	19	8.2	1.1	.64	0	0	0
26	0	0	0	261	153	19	7.8	1.4	.50	0	0	0
27	0	0	0	90	103	17	7.4	1.6	.64	0	0	0
28	0	0	0	51	147	17	7.0	1.6	.64	0	0	0
29	0	0	0	40	-----	17	6.6	1.3	.50	0	0	0
30	0	0	0	32	-----	16	6.3	1.1	.38	0	0	0
31	0	-----	0	27	-----	16	-----	.78	-----	0	0	-----
TOTAL	0	0	0	1,335.81	2,467	1,214	322.8	86.48	29.34	3.57	0	0
MEAN	0	0	0	43.1	88.1	39.2	10.8	2.79	.98	.12	0	0
MAX	0	0	0	353	399	167	23	5.9	1.4	.28	0	0
MIN	0	0	0	0	18	16	6.3	.78	.38	0	0	0
AC-FT	0	0	0	2,650	4,890	2,410	640	172	58	7.1	0	0

CAL YR 1968 TOTAL 205.53 MEAN .56 MAX 30 MIN 0 AC-FT 408
WTR YR 1969 TOTAL 5,459.00 MEAN 15.0 MAX 399 MIN 0 AC-FT 10,830

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1300	3.23	173	2-12	0100	3.96	333
1-25	0700	5.92	913	2-15	1000	4.16	389
2- 6	1400	3.35	194	2-24	1600	5.50	787

11-2747.1. MACLURE CREEK BELOW MACLURE GLACIER, NEAR TUOLUMNE MEADOWS, CALIF.

LOCATION.--Lat 37°45'09", long 119°16'52", in T.2 S., R.24 E., Tuolumne County, Yosemite National Park, in middle of stream 650 ft upstream from large unnamed lake, 2.3 miles upstream from mouth, and 9.3 miles south of town of Tuolumne Meadows.

DRAINAGE AREA.--0.37 sq mi.

PERIOD OF RECORD.--May 1967 to current year (no winter records).

GAGE.--Water-stage recorder and artificial control. Altitude of gage is 11,520 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 18.2 cfs July 20 (gage height, 2.36 ft); minimum daily recorded, 0.01 cfs Oct. 17-25, Nov. 2.

Period of record: Maximum discharge, 28 cfs July 28, 1967 (gage height, 2.64 ft); possibility of no flow during winter months each year.

REMARKS.--Records fair. No storage or diversion above station. This station measures the outflow from Maclure Glacier in Yosemite National Park.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	.02						--	3.1	3.2	6.4	2.9
2	.48	.01						--	3.1	3.3	7.4	3.2
3	.40	.03						--	3.7	3.2	7.5	3.4
4	.33	--						--	3.5	3.5	6.9	3.2
5	.29	--						--	4.0	3.8	5.7	2.9
6	.28	--						--	4.0	3.8	4.9	3.0
7	.25	--						--	3.8	3.8	4.5	3.0
8	.21	--						--	3.4	4.2	4.5	3.4
9	.17	--						--	2.5	4.6	4.6	3.4
10	.16	--						--	1.8	4.9	5.1	2.6
11	.14	--						--	1.4	5.5	5.6	2.3
12	.13	--						--	1.2	6.0	5.8	1.9
13	.11	--						--	1.3	6.6	5.8	1.8
14	.10	--						--	2.4	6.6	5.7	1.6
15	.08	--						--	3.0	6.5	5.7	1.5
16	.04	--						--	3.0	6.3	5.5	1.3
17	.01	--						--	2.4	5.8	7.7	1.2
18	.01	--						--	1.7	6.0	5.8	1.2
19	.01	--						--	1.7	7.1	4.4	1.2
20	.01	--						.35	2.6	10	4.5	1.1
21	.01	--						.43	3.1	12	4.4	.92
22	.01	--						.57	3.8	12	4.2	.84
23	.01	--						.73	4.4	13	4.4	.90
24	.01	--						.95	3.2	9.2	4.7	.98
25	.01	--						1.1	2.9	7.7	4.4	1.1
26	.03	--						1.0	2.2	7.1	3.7	1.2
27	.04	--						.92	1.9	6.5	3.1	1.2
28	.06	--						.95	1.7	5.8	2.9	1.2
29	.08	--			-----			1.3	1.7	7.1	2.6	1.0
30	.07	--			-----			2.2	2.4	8.1	2.4	.90
31	.04	-----			-----		-----	2.6	-----	7.1	2.6	-----
TOTAL	4.16	--						--	80.9	200.3	153.4	56.34
MEAN	.13	--						--	2.70	6.46	4.95	1.88
MAX	.58	--						--	4.4	13	7.7	3.4
MIN	.01	--						--	1.2	3.2	2.4	.84
AC-FT	8.3	--						--	160	397	304	112

PEAK DISCHARGE (BASE, 10 CFS).--July 20 (2300) 18.2 cfs (2.36 ft); July 30 (2200) 10.2 cfs (1.87 ft).

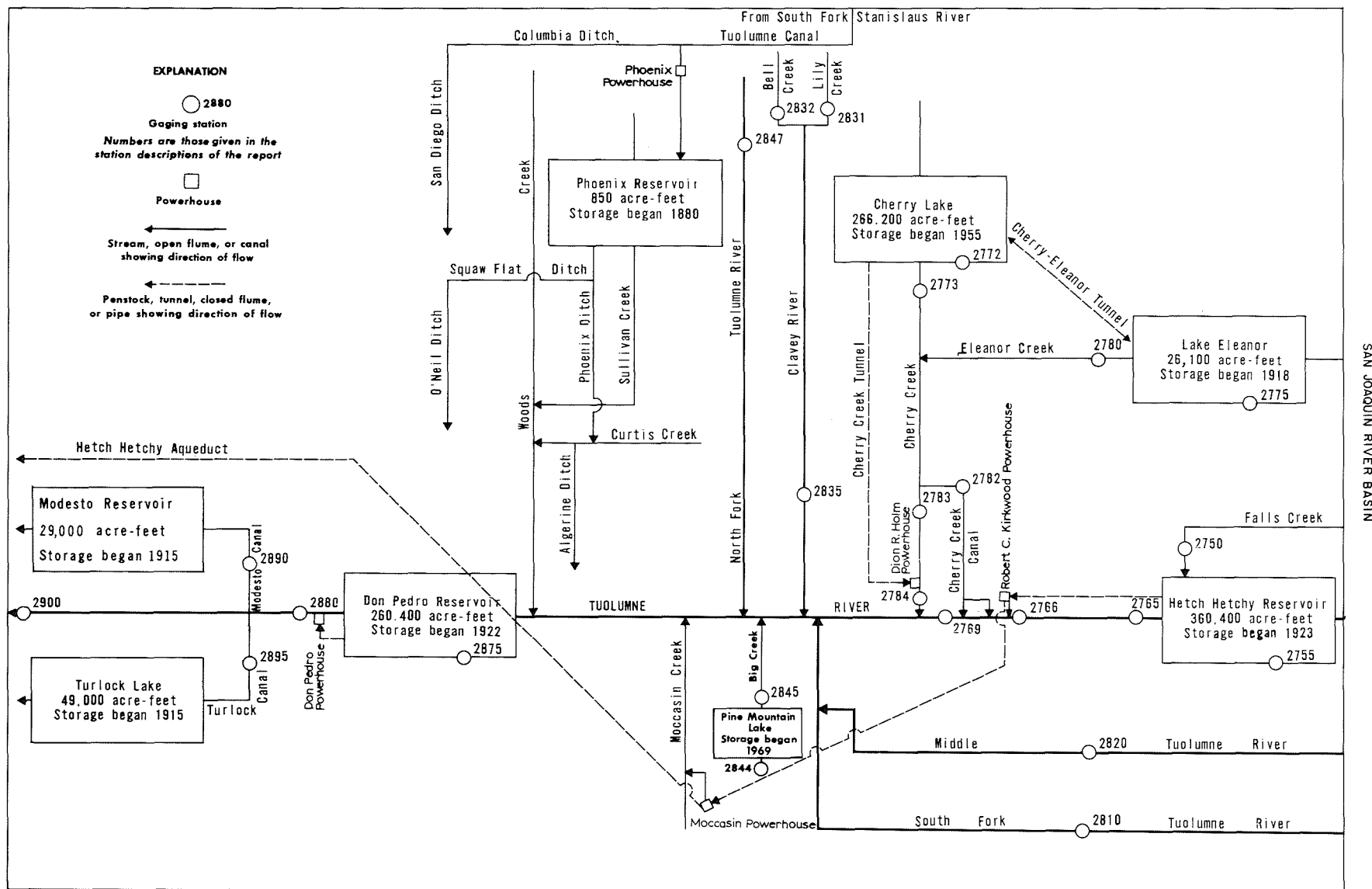


FIGURE 7.—Schematic diagram showing diversions and storage in Tuolumne River basin.

11-2750. FALLS CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'15", long 119°45'48", in SE¼ sec.3, T.1 N., R.20 E., Tuolumne County, Yosemite National Park, on right bank 0.2 mile upstream from Wampana Falls, 0.6 mile upstream from mouth, and 2 miles northeast of Hetch Hetchy.

DRAINAGE AREA.--46.0 sq mi.

PERIOD OF RECORD.--October 1915 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1918, published as "near Sequoia."

GAGE.--Water-stage recorder. Altitude of gage is 5,350 ft (from topographic map).

AVERAGE DISCHARGE.--54 years, 143 cfs (103,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,560 cfs June 3 (gage height, 6.42 ft); no flow Oct. 1-12. Period of record: Maximum discharge, 6,660 cfs Nov. 19, 1950, Dec. 23, 1955 (gage height, 9.0 ft, from flood-marks), from rating curve extended above 2,500 cfs on basis of velocity-area studies; no flow at times in many summers.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 531: 1917(M). WSP 931: 1938. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	25	52	59	70	53	300	504	1,310	528	93	9.2
2	0	42	53	58	66	61	278	520	1,360	588	80	9.0
3	0	424	52	61	64	57	270	465	1,390	584	81	9.0
4	0	245	50	78	62	70	310	394	1,340	504	78	9.0
5	0	147	45	88	60	66	282	418	1,230	486	73	9.2
6	0	108	43	99	60	58	188	560	1,190	479	65	9.0
7	0	83	42	94	60	58	155	700	1,080	465	55	8.8
8	0	76	40	86	59	57	147	860	1,030	458	50	9.0
9	0	100	39	73	58	53	145	971	695	479	46	8.5
10	0	131	44	62	59	50	161	1,120	504	482	46	8.8
11	0	117	68	60	61	49	215	1,190	472	479	47	8.8
12	0	172	59	72	60	47	260	1,050	448	458	48	7.8
13	3.0	145	53	167	61	44	278	1,080	568	462	47	6.7
14	25	97	58	140	56	44	270	1,060	755	548	43	6.1
15	30	105	87	105	56	48	210	999	914	472	41	5.3
16	19	105	72	80	55	56	212	908	860	391	40	5.0
17	14	99	68	67	58	64	240	1,010	710	328	39	4.7
18	14	125	64	98	56	73	272	1,100	520	322	38	4.1
19	15	195	59	452	56	75	305	1,070	650	325	34	3.8
20	16	140	56	272	55	72	385	908	776	338	29	3.4
21	16	110	52	342	58	62	465	920	794	325	25	3.3
22	15	94	56	149	54	68	520	1,060	720	308	24	3.1
23	14	86	64	113	54	83	516	1,190	842	282	22	2.8
24	14	84	102	117	57	87	424	1,160	625	268	21	2.7
25	14	81	75	471	64	97	308	1,170	665	230	21	2.5
26	14	70	79	446	59	115	290	1,130	588	182	20	2.3
27	14	64	100	195	56	136	295	1,200	536	163	18	2.1
28	12	56	83	136	54	170	320	1,170	496	145	15	1.8
29	12	51	75	110	-----	205	391	1,110	437	134	13	1.7
30	25	49	68	90	-----	252	458	1,190	462	132	12	1.5
31	26	-----	62	80	-----	298	-----	1,150	-----	115	10	-----
TOTAL	312.0	3,426	1,920	4,520	1,648	2,728	8,870	29,337	23,967	11,460	1,274	169.0
MEAN	10.1	114	61.9	146	58.9	88.0	296	946	799	370	41.1	5.63
MAX	30	424	102	471	70	298	520	1,200	1,390	588	93	9.2
MIN	0	25	39	58	54	44	145	394	437	115	10	1.5
AC-FT	619	6,800	3,810	8,970	3,270	5,410	17,590	58,190	47,540	22,730	2,530	335

CAL YR 1968 TOTAL 39,434.09 MEAN 108 MAX 635 MIN 0 AC-FT 78,220
WTR YR 1969 TOTAL 89,631.00 MEAN 246 MAX 1,390 MIN 0 AC-FT 177,800

PEAK DISCHARGE (BASE, 900 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-11	1600	6.07	1,230	6-15	0800	5.82	992
6- 3	0600	6.42	1,560	6-23	0800	5.81	985

11-2755. HETCH HETCHY RESERVOIR AT HETCH HETCHY, CALIF.

LOCATION.--Lat 37°56'52", long 119°47'13", in NW $\frac{1}{4}$ sec.16, T.1 N., R.20 E., Tuolumne County, Yosemite National Park, near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy, 1.5 miles downstream from Falls Creek.

DRAINAGE AREA.--455 sq mi.

PERIOD OF RECORD.--May 1923 to current year. Prior to October 1930 monthend contents, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco).

Prior to Oct. 1, 1927, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 360,200 acre-ft July 22 (elevation, 3,805.9 ft); minimum, 73,000 acre-ft Mar. 26, 27 (elevation, 3,616.4 ft).

Period of record: Maximum contents, 369,100 acre-ft Dec. 3, 1950 (elevation, 3,810.4 ft); no contents at times in 1929-31.

REMARKS.--Reservoir is formed by concrete gravity-type dam, completed to crest elevation 3,726.5 ft in 1923 and raised to 3,812.0 ft in 1937; storage began Apr. 6, 1923. Ten-foot drum gates were installed on spillway in 1949. Usable capacity, 360,400 acre-ft between elevations, 3,512.0 (somewhat above bottom outlet) and 3,806.0 ft (top of drum-type spillway gates) above mean sea level. Water is diverted from reservoir through tunnel to Robert C. Kirkwood powerplant 15 miles downstream where flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flow in excess of aqueduct capacity being spilled to river. At Moccasin Creek diversion dam, water re-enters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir at Red Mountain Bar. Flow down river is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,512	0	3,540	8,700	3,640	97,000	3,740	238,900
3,513	51	3,560	22,900	3,660	119,900	3,760	273,700
3,515	154	3,580	39,500	3,680	146,200	3,780	310,400
3,520	410	3,600	57,400	3,700	175,000	3,800	348,600
3,530	3,300	3,620	76,500	3,720	206,000	3,810.4	369,100

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	CCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169.40	133.50	128.70	108.80	128.60	95.20	81.90	131.20	315.60	353.90	358.60	336.20
2	168.00	132.60	128.00	108.10	128.10	94.00	84.00	135.30	325.70	356.40	358.60	334.70
3	166.70	134.70	127.20	107.30	127.20	92.60	85.50	138.20	331.60	357.40	359.40	333.30
4	164.80	135.30	126.30	106.90	126.30	91.00	86.80	140.80	331.80	356.40	359.40	332.00
5	164.20	135.30	125.40	106.90	125.40	89.50	89.30	143.20	331.00	356.00	359.20	330.60
6	163.00	135.00	124.50	106.90	124.60	88.40	90.60	148.00	333.30	356.40	358.80	329.30
7	161.80	134.60	123.60	106.60	123.70	87.60	91.30	155.00	336.20	357.00	358.20	328.30
8	160.50	133.80	122.50	106.20	122.60	86.70	91.90	164.00	338.10	356.80	357.80	326.80
9	159.20	133.20	121.40	105.70	121.70	85.70	92.10	174.90	335.00	356.80	357.00	325.50
10	158.00	133.10	120.70	105.10	120.70	84.80	91.50	186.70	328.30	357.00	356.60	324.00
11	157.00	132.70	120.00	104.50	119.70	83.80	91.60	197.90	320.20	356.80	355.80	322.40
12	155.90	132.80	119.30	103.90	118.70	82.80	92.80	208.70	314.10	356.80	355.20	321.10
13	154.90	133.00	118.60	104.50	117.80	81.50	94.40	219.70	314.90	357.60	354.50	319.60
14	153.90	133.00	117.90	104.50	116.90	81.00	95.20	224.80	319.80	358.00	353.50	318.70
15	152.60	133.00	117.70	105.20	116.20	79.00	95.20	227.00	324.90	357.40	352.50	317.10
16	151.50	132.70	117.40	105.10	115.70	78.30	95.00	229.00	330.10	356.60	351.70	315.80
17	150.30	132.60	116.90	104.60	114.80	77.60	95.20	232.80	331.60	356.80	351.50	314.50
18	149.10	132.60	116.00	104.30	113.30	77.00	96.20	237.40	330.60	357.40	350.90	313.00
19	147.90	133.10	115.50	109.10	111.60	76.50	97.30	240.60	332.00	358.40	350.00	311.50
20	147.20	133.10	114.60	111.40	109.70	75.90	99.80	242.30	334.30	359.20	349.00	310.20
21	145.90	133.00	113.80	116.40	107.90	75.30	103.70	245.20	336.00	360.00	348.00	309.10
22	144.70	132.70	113.00	117.60	106.00	74.70	108.30	250.20	338.90	360.00	347.00	307.80
23	143.80	132.30	112.40	117.70	104.30	74.20	112.80	255.40	341.80	359.80	346.10	306.10
24	142.60	132.10	112.30	117.50	102.80	73.70	115.20	261.50	342.40	359.20	345.70	304.80
25	141.20	131.70	112.30	123.20	100.90	73.30	116.40	267.50	343.40	358.60	344.70	303.30
26	140.00	131.20	112.20	128.70	99.70	73.00	117.40	273.20	345.10	358.40	343.50	301.40
27	139.00	130.70	111.80	129.60	98.20	73.00	118.40	278.40	346.80	358.00	342.20	299.80
28	137.80	130.70	111.20	129.90	96.70	73.60	120.00	283.40	347.60	357.20	340.80	298.80
29	136.50	130.10	110.50	129.90	-----	74.90	123.10	289.60	348.60	357.00	339.50	297.20
30	135.40	129.50	110.00	129.80	-----	76.80	126.80	297.00	350.90	357.80	337.90	295.90
31	134.50	-----	109.50	129.20	-----	79.30	-----	305.30	-----	358.40	337.00	-----
MEAN	151.53	132.79	117.78	112.76	114.99	80.99	99.99	218.85	333.35	357.53	350.99	316.29
MAX	169.40	135.30	128.70	129.90	128.60	95.20	126.80	305.30	350.90	360.00	359.40	336.20
MIN	134.50	129.50	109.50	103.90	96.70	73.00	81.90	131.20	314.10	353.90	337.00	295.90
(a)	3,671.3	3,667.5	3,651.1	3,667.3	3,639.7	3,622.8	3,665.4	3,777.3	3,801.2	3,805.0	3,794.0	3,772.2
(b)	-36,100	-5,000	-20,000	+19,700	-32,500	-17,400	+47,500	+178,500	+45,600	+7,500	-21,400	-41,100

CAL YR 1968 b -63,000

WTR YR 1969 b +125,300

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-2765. TUOLUMNE RIVER NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°56'15", long 119°47'50", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.17, T.1 N., R.20 E., Tuolumne County, Yosemite National Park, on left bank 1 mile downstream from O'Shaughnessy Dam at Hetch Hetchy, and 2.5 miles downstream from Falls Creek.

DRAINAGE AREA.--457 sq mi.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Hetch Hetchy damsite, near Sequoia" 1910-14 and as "below Hetch Hetchy damsite, near Sequoia" 1915-18.

GAGE.--Nonrecording gage read once daily (temporary installation at site 0.5 mile upstream at different datum). Altitude of gage is 3,480 ft (revised) (from topographic map). Prior to Jan. 1, 1915, water-stage recorder at site 1 mile upstream, at damsite, at different datum. Jan. 1, 1915, to Sept. 30, 1968, water-stage recorder.

AVERAGE DISCHARGE (prior to diversion to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct).--57 years (1910-67), 999 cfs (723,800 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 9,940 cfs June 4, 5; no flow Oct. 3, 4.
Period of record: Maximum discharge, 12,900 cfs June 1, 1943 (gage height, 13.90 ft); no flow Oct. 3, 4, 1968.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir 1 mile upstream beginning in April 1923 (see sta 11-2755). Flow diverted above station through tunnel to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct beginning April 26, 1967. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by city and county of San Francisco.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	35	34	34	35	372	31	646	5,120	2,190	96	95
2	10	35	34	34	36	360	30	510	5,200	2,550	96	95
3	0	38	34	33	36	342	38	525	8,410	3,120	97	95
4	0	35	34	32	35	322	37	536	9,940	3,770	98	95
5	23	35	34	37	35	360	37	542	9,940	3,730	98	94
6	34	35	34	35	35	312	37	560	7,860	3,240	97	94
7	34	35	33	35	35	123	37	570	7,040	3,030	96	94
8	34	34	35	35	35	40	36	588	7,040	3,030	95	94
9	34	33	35	35	35	35	34	638	7,060	3,030	95	94
10	33	33	35	36	35	35	385	674	6,920	3,040	94	94
11	32	33	36	37	35	35	578	702	6,720	3,040	89	94
12	34	34	36	37	34	35	578	734	6,030	3,040	85	93
13	35	34	35	37	34	35	581	1,110	4,120	3,040	90	93
14	35	34	35	37	34	34	584	3,780	3,340	3,050	93	93
15	35	34	37	37	35	33	584	4,950	3,340	3,050	93	93
16	35	34	37	37	35	34	592	4,930	3,350	2,690	92	62
17	35	33	36	37	35	34	592	4,930	3,770	1,810	92	46
18	35	33	36	37	36	33	595	5,120	3,970	1,590	92	46
19	35	34	36	54	36	32	598	5,240	3,980	1,510	90	46
20	35	33	35	50	342	32	602	5,240	4,000	1,530	91	46
21	35	33	35	43	480	33	609	5,320	4,000	1,640	91	46
22	35	32	34	43	465	33	620	5,360	4,000	1,920	90	46
23	35	32	34	38	450	32	634	5,550	4,020	1,890	89	46
24	35	32	34	37	435	32	592	5,550	4,040	1,890	89	46
25	35	32	34	57	420	32	598	5,440	3,310	1,500	89	46
26	35	32	34	72	414	32	606	5,530	2,560	980	88	45
27	35	32	34	75	405	32	609	5,470	2,400	975	88	45
28	35	32	34	75	392	32	609	5,710	2,410	975	89	45
29	35	32	34	53	-----	32	620	5,690	2,110	579	86	45
30	35	36	34	39	-----	32	630	5,480	1,960	332	85	45
31	35	-----	34	39	-----	32	-----	5,520	-----	161	92	-----
TOTAL	964	1,009	1,076	1,317	4,469	2,992	12,713	103,145	147,960	67,922	2,845	2,111
MEAN	31.1	33.6	34.7	42.5	160	96.5	424	3,327	4,932	2,191	91.8	70.4
MAX	35	38	37	75	480	372	634	5,710	9,940	3,770	98	95
MIN	0	32	33	32	34	32	30	510	1,960	161	85	45
AC-FT	1,910	2,000	2,130	2,610	8,860	5,930	25,220	204,600	293,500	134,700	5,640	4,190
CAL YR 1968	TOTAL	23,849.30	MEAN	65.2	MAX	498	MIN	0	AC-FT	47,300		
WTR YR 1969	TOTAL	348,523.00	MEAN	955	MAX	9,940	MIN	0	AC-FT	691,300		

11-2769. TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CALIF.

LOCATION.--Lat 37°52'54", long 119°58'09", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.1 S., R.18 E., Tuolumne County, Stanislaus National Forest, on left bank 0.6 mile upstream from Cherry Creek, 0.7 mile downstream from Robert C. Kirkwood power-plant and Hetch Hetchy aqueduct, and 6.3 miles west of Mather.

DRAINAGE AREA.--487 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,200 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 11,300 cfs June 4 (gage height, 9.82 ft); minimum daily, 33 cfs Jan. 9.

Period of record: Maximum discharge, 11,300 cfs June 4, 1969 (gage height, 9.82 ft); minimum daily, 13 cfs Nov. 18, 19, 25-27, 1966, Feb. 1, 1967.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir 13 miles upstream (see sta 11-2755) and Robert C. Kirkwood powerplant beginning Apr. 26, 1967. Water is diverted to Hetch Hetchy aqueduct from the tailrace of the powerplant through a closed conduit. Flow in excess of aqueduct capacity is diverted to river. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	47	56	93	335	761	350	971	5,350	2,580	248	111
2	46	50	60	90	217	967	345	1,040	5,550	3,200	440	198
3	46	93	56	83	325	1,110	365	1,100	7,380	3,770	253	191
4	43	65	56	84	320	866	325	934	10,400	4,330	161	184
5	35	54	55	88	330	831	450	1,100	10,600	3,940	245	170
6	40	51	55	65	370	782	510	1,110	8,680	3,420	263	111
7	46	51	55	71	340	447	425	1,120	7,220	3,180	286	113
8	46	50	55	97	350	375	415	1,010	6,890	3,640	298	160
9	46	50	91	33	365	380	388	978	7,010	3,710	294	165
10	47	60	58	504	390	400	852	1,020	7,010	3,670	304	180
11	47	62	82	728	405	405	873	1,050	6,750	3,620	515	182
12	48	68	69	472	450	480	880	1,110	6,500	3,620	375	176
13	53	57	62	157	450	550	704	1,450	4,690	3,480	310	113
14	60	53	66	306	455	545	859	3,900	3,670	3,600	320	113
15	50	68	93	198	550	555	873	5,300	3,670	3,600	280	160
16	50	67	152	216	416	437	838	5,320	3,840	3,180	244	134
17	57	58	96	241	584	572	845	5,420	4,310	2,390	108	118
18	64	56	82	245	704	608	901	5,380	4,590	2,170	229	117
19	77	57	81	1,010	1,110	463	873	5,620	4,510	2,070	232	113
20	48	56	72	831	957	405	831	5,620	4,450	2,080	221	54
21	64	57	71	2,220	992	460	866	5,480	4,510	2,120	226	50
22	51	54	66	1,050	1,050	455	894	5,320	4,450	2,360	225	119
23	49	53	67	566	1,060	716	936	5,400	4,650	2,390	171	118
24	49	52	110	430	1,190	711	894	5,600	4,750	2,440	105	121
25	49	55	205	1,260	1,100	435	838	5,650	4,750	2,070	209	122
26	49	54	174	1,420	840	455	859	5,850	3,420	1,430	200	126
27	48	53	127	584	796	470	894	5,850	2,930	1,420	192	51
28	54	51	110	410	796	517	929	5,820	2,950	1,420	205	51
29	83	51	108	286	-----	490	1,050	5,800	2,800	1,070	190	141
30	56	52	98	259	-----	316	1,160	5,700	2,420	608	212	136
31	50	-----	95	234	-----	380	-----	5,520	-----	365	108	-----
TOTAL	1,598	1,705	2,683	14,331	17,247	17,344	22,222	112,543	160,700	82,943	7,669	3,898
MEAN	51.5	56.8	86.5	462	616	559	741	3,630	5,357	2,676	247	130
MAX	83	93	205	2,220	1,190	1,110	1,160	5,850	10,600	4,330	515	198
MIN	35	47	55	33	217	316	325	934	2,420	365	105	50
AC-FT	3,170	3,380	5,320	28,430	34,210	34,400	44,080	223,200	318,700	164,500	15,210	7,730
CAL YR 1968	TOTAL	33,050		MEAN	90.3	MAX	544	MIN	24	AC-FT	65,550	
WTR YR 1969	TOTAL	444,883		MEAN	1,219	MAX	10,600	MIN	33	AC-FT	882,400	

11-2772. CHERRY LAKE NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'33", long 119°54'47", in SE¼NW¼ sec.5, T.1 N., R.19 E., Tuolumne County, Stanislaus National Forest, on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 miles upstream from Eleanor Creek, 7 miles north of Early Intake, and 7.3 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--117 sq mi.

PERIOD OF RECORD.--August 1956 to current year. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.

GAGE.--Nonrecording gage read once daily. Datum of gage is at mean sea level (levels by city and county of San Francisco).

EXTREMES (at 0800).--Current year: Maximum contents, 269,000 acre-ft July 14, 15 (elevation, 4,700.1 ft); minimum, 47,500 acre-ft Nov. 2 (elevation, 4,548.1 ft).

Period of record: Maximum contents, 269,300 acre-ft July 1-3, 1957 (elevation, 4,700.6 ft); minimum, 30 acre-ft Dec. 5, 1964 (elevation, 4,438.0 ft).

REMARKS.--Reservoir is formed by a rockfill dam completed in 1956; storage began in December 1955. Usable capacity, 268,810 acre-ft between elevations 4,430 (bottom of sluice gates) and 4,700 ft (top of spillway gates) above mean sea level. Additional storage of 20 acre-ft is not available for release. Water is released down Cherry Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Unmeasured diversion from Lake Eleanor into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Cherry powerhouse near mouth of Cherry Creek began on Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

CAPACITY TABLE (ELEVATION, IN FEET, AND USABLE CONTENTS, IN ACRE-FEET)

4,440	0	4,490	3,020	4,560	60,800	4,660	201,100
4,450	75	4,500	6,030	4,580	85,100	4,680	234,100
4,460	250	4,510	11,700	4,600	111,800	4,700	268,800
4,470	675	4,520	19,700	4,620	139,900	4,705	277,900
4,480	1,530	4,540	38,900	4,640	169,700		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 0800, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78.70	48.10	60.60	--	90.60	90.30	70.30	100.90	221.20	260.70	259.80	--
2	77.40	47.50	60.50	59.50	91.40	89.70	70.80	103.30	225.10	261.80	258.80	233.40
3	76.20	51.90	60.40	59.00	92.90	90.30	71.20	105.50	229.40	263.00	257.90	232.20
4	75.10	53.80	60.20	--	93.60	89.00	71.00	107.30	232.70	--	257.70	230.90
5	73.80	54.60	59.80	58.20	--	--	71.00	108.80	235.10	264.20	256.76	229.70
6	72.60	55.10	59.60	58.80	--	--	71.60	111.40	237.20	264.60	255.40	228.60
7	72.20	55.30	59.30	58.60	--	--	71.50	115.30	240.90	265.10	254.60	227.70
8	71.00	55.20	59.00	58.20	95.90	86.90	70.90	119.60	244.20	265.50	253.30	227.60
9	69.70	55.10	58.90	57.80	96.20	86.40	70.20	123.90	247.30	266.00	252.30	--
10	68.70	55.10	58.60	57.50	96.90	86.90	69.40	129.10	248.70	266.50	251.20	224.90
11	67.50	--	58.60	56.90	96.90	86.40	69.70	134.50	--	266.90	251.10	223.70
12	--	56.00	58.50	56.70	--	--	70.40	139.80	249.50	267.60	250.50	222.60
13	65.30	56.30	58.40	57.00	--	--	71.60	144.80	250.50	268.10	248.70	221.40
14	66.10	56.40	58.10	58.10	96.00	81.40	73.00	150.00	252.60	269.00	247.50	220.40
15	65.20	56.30	58.20	58.50	95.50	80.70	73.80	155.20	255.40	269.00	--	220.20
16	64.00	56.60	58.80	58.60	95.30	79.90	74.40	159.60	258.10	267.80	245.40	218.90
17	63.10	56.80	58.80	58.40	--	79.90	75.20	163.80	260.00	266.90	244.90	217.50
18	61.90	57.30	58.80	58.10	--	--	76.40	168.80	260.40	266.40	244.90	216.40
19	60.70	--	58.80	60.50	94.60	--	77.70	173.90	260.90	265.80	243.90	215.10
20	59.70	59.30	58.80	65.90	94.10	--	--	177.80	262.00	265.50	242.80	214.00
21	59.60	59.80	58.60	70.80	94.00	78.90	81.80	181.50	263.40	265.10	241.80	213.00
22	58.40	60.20	58.50	73.90	--	76.80	84.50	187.10	264.10	265.10	240.90	212.70
23	57.20	60.40	58.40	74.90	92.90	75.40	87.50	190.00	265.30	265.10	239.90	211.50
24	56.10	60.50	58.40	75.80	92.70	74.90	--	194.60	265.10	265.10	239.10	210.00
25	55.00	61.00	--	78.30	92.70	--	91.20	197.80	--	264.90	239.10	208.90
26	53.80	61.10	--	83.80	--	72.20	92.30	200.90	--	264.40	238.00	207.60
27	52.60	61.00	59.10	86.30	--	71.30	93.30	204.80	262.70	263.70	237.00	206.60
28	52.30	--	59.40	87.50	91.00	70.30	94.60	--	261.40	263.20	236.00	205.50
29	51.10	61.10	59.30	--	-----	69.70	96.20	211.70	259.80	262.50	235.10	205.30
30	50.00	60.80	59.60	--	-----	69.70	98.40	--	260.00	261.60	234.20	204.00
31	49.00	-----	59.60	89.70	-----	70.00	-----	217.40	-----	260.70	233.60	-----
MAX	78.70	61.10	60.60	89.70	--	90.30	98.40	217.40	265.30	269.00	259.80	--
MIN	49.00	47.50	--	56.70	90.60	69.70	69.40	100.90	221.20	260.70	233.60	204.00
(a)	4,549.5	4,560.0	4,558.9	4,583.5	4,584.5	4,567.7	4,590.2	4,670.0	4,695.0	4,695.4	4,679.7	4,661.8
(b)	-31,000	+11,800	-1,200	+30,100	+1,300	-21,000	+28,400	+119,000	+42,600	+700	-27,100	-29,600

CAL YR 1968 b -120,200

WTR YR 1969 b +124,000

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11-2773. CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'04", long 119°54'59", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.1 N., R.19 E., Tuolumne County, Stanislaus National Forest, on right bank 0.7 mile downstream from Cherry Valley Dam, 3.5 miles upstream from Eleanor Creek, 6.7 miles north of Early Intake, and 7.2 miles west of Hetch Hetchy.

DRAINAGE AREA.--118 sq mi.

PERIOD OF RECORD.--November 1956 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,337.08 ft above mean sea level (levels by city and county of San Francisco).

EXTREMES.--Current year: Maximum discharge, 990 cfs July 15 (gage height, 7.02 ft); minimum daily, 4.8 cfs Oct. 2, 3.

Period of record: Maximum discharge, 3,830 cfs Apr. 25, 1958 (gage height, 9.95 ft); minimum daily, 1.6 cfs Apr. 10, 1957.

REMARKS.--Records good. Flow regulated by Cherry Lake 0.7 mile upstream (see sta 11-2772). Diversion between Lake Eleanor and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and five discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.7	6.0	6.6	12	9.3	500	11	504	18	16	15
2	4.8	15	5.7	6.6	11	9.3	500	11	508	18	16	15
3	4.8	10	5.7	6.6	10	9.3	500	12	783	18	16	15
4	5.3	7.2	5.7	6.6	10	9.0	503	11	955	18	16	15
5	5.5	5.7	5.7	6.6	11	9.0	509	10	955	18	16	15
6	5.5	5.3	6.0	6.6	12	9.0	506	10	338	18	16	15
7	5.3	5.3	5.5	6.6	11	9.0	503	11	6.2	18	16	15
8	5.3	5.3	5.5	6.6	11	8.6	503	11	5.5	18	16	15
9	5.3	5.3	5.5	6.6	10	8.6	500	11	5.7	16	15	15
10	5.3	5.3	6.0	6.6	10	9.0	245	11	5.5	17	15	15
11	5.3	5.3	6.0	6.9	10	8.6	18	12	5.5	17	15	14
12	5.7	7.0	5.7	6.9	11	8.6	14	12	5.5	17	15	14
13	6.9	5.7	5.7	15	10	8.6	13	12	5.5	18	15	14
14	5.7	6.0	6.0	13	10	8.6	13	12	5.5	487	15	14
15	5.5	6.0	7.4	10	12	8.6	12	12	5.5	650	15	14
16	5.7	5.7	7.2	9.7	11	9.0	12	12	6.0	430	15	14
17	5.3	5.7	6.6	9.0	11	9.3	12	11	190	176	15	14
18	5.3	6.0	6.3	15	11	9.7	11	11	487	16	15	14
19	5.3	6.0	6.3	51	11	10	11	11	487	16	15	14
20	5.3	5.7	6.0	28	10	11	11	11	487	16	15	14
21	5.3	5.7	6.0	55	10	144	11	12	490	16	15	14
22	5.0	5.7	6.0	30	10	488	11	12	490	16	15	14
23	5.0	5.7	6.0	19	10	497	12	12	728	16	15	14
24	5.0	6.0	7.2	23	10	497	12	315	970	16	15	14
25	5.3	5.7	8.3	54	9.7	494	12	484	970	16	15	14
26	5.3	5.7	7.4	36	9.7	494	11	484	970	16	15	14
27	5.3	5.7	7.2	22	9.3	494	11	484	970	16	15	14
28	5.3	5.7	6.9	18	9.7	497	11	490	970	16	15	14
29	5.7	5.7	6.9	15	-----	500	11	498	533	16	15	14
30	5.3	5.7	6.9	14	-----	500	11	501	13	16	15	14
31	5.3	-----	6.6	12	-----	500	-----	504	-----	16	15	-----
TOTAL	165.9	186.5	195.9	528.5	293.4	5,287.1	5,009	4,021	12,854.4	2,196	473	430
MEAN	5.35	6.22	6.32	17.0	10.5	171	167	130	428	70.8	15.3	14.3
MAX	6.9	15	8.3	55	12	500	509	504	970	650	16	15
MIN	4.8	5.3	5.5	6.6	9.3	8.6	11	10	5.5	16	15	14
AC-FT	329	370	389	1,050	582	10,490	9,940	7,980	25,500	4,360	938	853
CAL YR 1968	TOTAL	3,109.8	MEAN	8.50	MAX	18	MIN	4.8	AC-FT	6,170		
WTR YR 1969	TOTAL	31,640.7	MEAN	86.7	MAX	970	MIN	4.8	AC-FT	62,760		

SAN JOAQUIN RIVER BASIN

11-2775. LAKE ELEANOR NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'27", long 119°52'48", in NW¼ sec.3, T.1 N., R.19 E., Tuolumne County, Yosemite National Park, 720 ft from left bank on downstream side of dam on Eleanor Creek, 1.7 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--78.1 sq mi.

PERIOD OF RECORD.--June 1918 to current year. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco). Prior to Oct. 1, 1927, nonrecording gage on upstream side of dam at same site and datum.

EXTREMES.--Current year: Maximum contents, 27,300 acre-ft July 6 (elevation, 4,661.2 ft); minimum, not determined.

Period of record: Maximum contents, 31,000 acre-ft Dec. 11, 1937, from capacity table then in use (elevation, 4,663.4 ft); no usable contents at times in 1921, 1929-30, 1956-60.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,100 acre-ft between elevations 4,620.9 (natural outlet of old lake) and 4,660.0 ft (top of 5-foot flashboards) above mean sea level. Water is released down Eleanor Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Figures given herein represent usable contents. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by city and county of San Francisco.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,626.2	639	4,634	4,700	4,644	11,900	4,654	20,600
4,627	996	4,636	5,960	4,646	13,500	4,656	22,400
4,628	1,480	4,638	7,330	4,648	15,300	4,658	24,300
4,630	2,450	4,640	8,710	4,650	17,000	4,660	26,100
4,632	3,580	4,642	10,300	4,652	18,800	4,663	29,100

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		-	1380	1530	14700	1920	5680	10500	25800	24800	26400	26500
2		-	1380	1530	14600	1920	5890	10900	25800	25600	26500	26500
3		2900	1330	1530	14600	1920	5750	10900	25800	26300	26600	26400
4		3240	1330	1480	14600	1920	5410	10900	25600	26800	26700	26400
5		2960	1330	1870	14600	1870	5610	11300	25500	27200	26700	26300
6		2210	1290	2010	14600	1870	5340	12400	25300	27200	26700	26300
7		1090	1290	2060	14500	1870	4930	14000	25200	27200	26800	26200
8		-	1240	2060	14500	1870	4540	15600	25000	27200	26800	26200
9		-	1190	2010	14400	1820	4200	17400	24800	27200	26800	26100
10		-	1290	1920	14400	1820	4030	19300	24700	27200	26800	26100
11		-	1480	1870	14300	1820	4200	21200	24600	27100	26800	26100
12		639	1430	1870	12800	1770	4590	23000	24500	27000	26800	26100
13		950	1480	2730	11300	1770	4930	24500	24700	27000	26800	26100
14		-	1530	3010	9800	1770	5040	24900	24800	27200	26900	26000
15		1380	1920	2840	8320	1770	4820	24900	24900	27100	26800	26000
16		1580	1960	2620	6880	1720	4700	25000	24800	27000	26800	25900
17		1670	1960	2350	5520	1770	4760	25200	24700	26900	26800	25900
18		1960	1960	2790	4260	1870	5160	25300	24600	26800	26800	25800
19		2260	1960	6300	3160	2060	5610	25200	24700	26700	26800	25800
20		2260	1920	8290	2260	2160	6440	25100	24800	26700	26800	25700
21		2160	1920	10900	2010	2210	7540	25200	24700	26700	26800	25700
22		2010	1920	10900	2010	2210	8570	25600	24700	26600	26800	25700
23		1920	1870	10400	2010	2300	9420	25800	24700	26500	26700	25700
24		1820	1770	10100	2010	2350	9500	25800	24600	26400	26700	25600
25		1770	1670	12400	1960	2560	9260	25700	24500	26400	26600	25600
26		1720	1670	14900	1960	2730	8950	25700	24500	26400	26600	25600
27		1620	1670	15000	1960	3070	8570	25700	24400	26400	26600	25500
28		1580	1620	14900	1960	3460	8710	25600	24300	26400	26500	25500
29		1480	1580	14800	----	3970	9260	25700	24300	26400	26500	25400
30		1430	1580	14700	----	4540	9820	25700	24400	26400	26500	25400
31		----	1580	14700	----	5160	----	25700	----	26400	26500	----
MEAN	-	-	1597	6335	8571	2317	6374	21281	24857	26684	26700	25937
MAX	-	-	1960	15000	14700	5160	9820	25800	25800	27200	26900	26500
MIN	-	-	1190	1480	1960	1720	4030	10500	24300	24800	26400	25400
(a)	4,605.7	4,627.9	4,628.2	4,647.3	4,629.0	4,634.8	4,641.4	4,659.5	4,658.1	4,660.3	4,660.4	4,659.2
(b)	-	-	+150	+13,120	-12,740	+3,200	+4,660	+15,880	-1,300	+2,000	+100	-100

CAL YR 1968.....b -13,920

WTR YR 1969.....b -

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

NOTE.--No reliable capacity table Oct. 1 to Nov. 2, Nov. 8-11, 14.

11-2780. ELEANOR CREEK NEAR HETCH HETCHY, CALIF.

LOCATION.--Lat 37°58'09", long 119°52'52", in SW $\frac{1}{4}$ sec.3, T.1 N., R.19 E., Tuolumne County, Yosemite National Park, on right bank 0.5 mile downstream from Lake Eleanor Dam, 1.1 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 sq mi.

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Sequoia" 1910-18.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft (from topographic map). November 1909 to November 1915, nonrecording gage and water-stage recorder at site 1 mile upstream at different datum.

AVERAGE DISCHARGE (prior to diversion to Cherry Lake).--50 years (1909-59), 223 cfs (161,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,900 cfs May 24 (gage height, 6.11 ft); minimum daily, 0.60 cfs Oct. 11.

Period of record: Maximum discharge, 11,700 cfs Nov. 19, 1950 (gage height, 14.95 ft), from rating curve extended above 2,000 cfs on basis of velocity-area studies; no flow at times in 1910, 1930-31, 1933, 1956.

REMARKS.--Records good. Flow regulated by Lake Eleanor 0.5 mile upstream beginning in 1918 (see sta 11-2775). Diversion from Lake Eleanor to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 1315-A: 1923(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	17	4.1	4.8	5.9	4.6	5.6	5.1	1,710	151	41	15
2	2.6	20	3.6	4.6	5.6	4.4	5.6	4.8	1,730	38	27	15
3	2.4	83	3.6	4.6	5.6	4.4	6.2	4.8	1,730	60	22	15
4	2.2	98	3.6	4.8	5.6	4.4	5.1	5.1	1,660	83	19	15
5	1.8	97	3.4	4.6	5.6	4.6	7.1	5.1	1,490	140	19	15
6	1.6	158	3.2	4.6	5.4	4.6	6.2	5.1	1,370	338	19	15
7	1.5	245	4.4	4.8	5.1	4.6	5.9	5.1	1,270	410	19	16
8	1.2	250	5.1	5.4	5.1	4.6	5.1	5.1	1,160	365	19	15
9	1.0	218	4.6	5.1	4.8	4.6	4.8	5.6	968	356	19	15
10	.72	169	5.4	5.1	5.1	4.6	4.6	5.6	841	375	20	15
11	.60	147	6.5	5.1	5.1	4.8	4.4	5.4	690	405	20	15
12	.86	140	5.4	5.4	5.6	4.6	4.4	6.2	590	380	20	15
13	2.2	143	5.4	11	5.1	4.6	4.4	121	600	445	20	15
14	3.8	159	6.8	7.4	4.8	4.4	4.4	747	764	415	20	15
15	5.4	103	8.6	5.9	5.9	4.6	4.4	968	855	395	20	16
16	22	8.7	5.4	5.6	5.4	5.4	4.4	911	932	334	20	16
17	20	5.6	4.8	5.4	4.8	5.6	4.1	1,050	813	288	19	16
18	13	5.4	4.4	7.9	4.8	6.5	4.1	1,250	660	268	18	16
19	5.9	5.4	4.4	21	4.8	5.6	4.1	1,250	648	250	18	15
20	6.2	5.4	4.4	11	4.8	5.4	4.4	1,120	702	242	18	15
21	26	5.6	4.6	22	4.8	5.4	4.4	1,100	726	235	18	15
22	35	5.6	4.6	8.6	4.8	6.2	4.4	1,300	666	230	17	15
23	16	4.8	4.8	6.5	4.6	6.2	5.1	1,730	696	222	17	15
24	15	5.6	8.0	8.3	4.6	5.9	5.9	1,800	642	225	16	15
25	14	5.9	8.0	18	4.6	6.2	5.4	1,770	612	140	16	15
26	13	5.9	5.1	13	4.6	6.2	4.8	1,680	542	111	16	15
27	13	5.4	4.6	7.4	4.6	6.2	4.8	1,700	490	113	16	16
28	12	5.1	4.6	6.8	4.6	6.2	4.8	1,670	445	111	16	16
29	12	4.8	4.6	6.5	-----	6.2	5.1	1,580	390	101	16	16
30	14	4.6	4.6	6.2	-----	5.9	5.1	1,640	329	94	15	15
31	16	-----	4.6	5.9	-----	5.9	-----	1,600	-----	76	15	-----
TOTAL	283.78	2,130.8	155.2	243.3	142.1	163.4	149.1	25,050.0	26,721	7,396	595	458
MEAN	9.15	71.0	5.01	7.85	5.08	5.27	4.97	808	891	239	19.2	15.3
MAX	35	250	8.6	22	5.9	6.5	7.1	1,800	1,730	445	41	16
MIN	.60	4.6	3.2	4.6	4.6	4.4	4.1	4.8	329	38	15	15
AC-FT	563	4,230	308	483	282	324	296	49,690	53,000	14,670	1,180	908
CAL YR 1968	TOTAL 16,954.38		MEAN 46.3	MAX 526	MIN .60	AC-FT 33,630						
WTR YR 1969	TOTAL 63,487.68		MEAN 174	MAX 1,800	MIN .60	AC-FT 125,900						

SAN JOAQUIN RIVER BASIN

11-2782. CHERRY CREEK CANAL NEAR EARLY INTAKE, CALIF.

LOCATION.--Lat 37°53'36", long 119°57'17", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.36, T.1 N., R.18 E., Tuolumne County, Stanislaus National Forest, on left bank 1.3 miles northeast of Early Intake, and 10 miles southwest of Hetch Hetchy.

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,700 ft (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 194 cfs July 30, 1959; no flow at times in 1964 and 1969.

REMARKS.--Records good. Canal diverts from left bank of Cherry Creek in SW $\frac{1}{4}$ sec.31, T.1 N., R.19 E., for domestic use at Early Intake and occasional power development at Early Intake powerhouse as part of Hetch Hetchy system of city and county of San Francisco. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and four discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.9	5.9	6.3	.58	.94	7.6	6.3	6.6	5.2	4.8	4.7
2	6.8	7.0	5.9	2.8	.46	.94	7.6	6.2	6.6	4.9	4.8	4.5
3	6.6	7.3	5.9	0	.40	.94	7.6	6.1	6.6	4.9	4.8	4.5
4	6.6	7.2	6.1	0	.36	.88	7.6	5.9	6.6	4.9	4.7	4.5
5	6.6	7.5	6.1	0	.46	.82	8.0	5.8	6.6	4.9	4.7	4.5
6	6.6	7.5	6.1	0	.58	.82	8.2	5.8	6.3	5.0	4.7	4.5
7	6.6	7.5	6.1	0	.52	.76	8.2	5.8	6.1	5.2	4.7	4.5
8	6.6	7.5	6.1	0	.52	.70	8.3	5.7	5.9	5.3	4.7	4.7
9	6.6	7.5	6.1	1.8	.46	.70	8.4	5.7	5.8	5.4	4.7	4.7
10	6.6	7.3	6.1	4.7	.46	.70	8.6	5.7	5.8	5.4	4.8	4.7
11	6.6	7.2	6.2	4.7	.46	.64	8.6	5.7	5.7	5.4	4.8	4.7
12	6.6	7.2	6.1	4.7	.46	.64	8.9	5.7	5.7	5.4	4.8	4.7
13	6.8	6.9	6.1	4.9	.46	.58	9.2	5.8	5.6	5.4	4.8	4.7
14	6.9	6.6	6.2	5.0	.52	.58	9.3	6.2	5.7	5.6	4.8	4.7
15	6.9	6.6	6.3	1.8	.58	.34	9.3	6.3	5.7	5.8	4.8	4.7
16	7.0	6.2	6.3	0	.58	.51	9.4	6.3	5.8	5.7	4.8	4.7
17	7.0	6.1	6.2	0	.58	0	9.6	6.2	5.8	5.6	4.8	4.7
18	7.0	6.1	6.2	0	.64	0	9.6	6.2	5.9	5.3	4.8	4.7
19	6.9	5.9	6.2	.04	.64	4.8	9.4	6.2	5.9	5.3	4.7	4.7
20	6.9	5.9	6.2	.04	.70	7.5	9.3	6.2	5.9	5.2	4.5	4.7
21	6.9	5.9	6.2	.04	.64	7.7	9.0	6.1	5.9	5.2	4.5	4.7
22	7.0	5.9	6.2	0	.64	8.0	8.7	6.2	5.9	5.2	4.7	4.7
23	6.9	5.9	6.2	0	.70	7.9	8.7	6.3	5.9	5.2	4.7	4.5
24	6.9	5.9	6.3	0	1.1	7.9	8.6	6.5	6.1	5.2	4.7	4.5
25	6.9	5.8	6.5	.04	1.1	7.9	8.4	6.6	6.1	5.0	4.7	4.5
26	7.0	5.8	6.3	0	1.0	7.7	7.7	6.6	5.9	4.9	4.7	4.4
27	7.0	5.8	6.3	0	.94	7.7	7.7	6.6	5.9	4.9	4.7	4.4
28	7.0	5.8	6.3	.04	1.0	7.7	7.7	6.6	5.9	4.9	4.7	4.4
29	7.0	5.8	6.3	.39	-----	7.7	7.2	6.6	5.8	4.9	4.7	4.4
30	7.2	5.9	6.3	1.0	-----	7.6	6.6	6.6	5.3	4.9	4.7	4.3
31	7.0	-----	6.3	.64	-----	7.6	-----	6.6	-----	4.8	4.7	-----
TOTAL	211.9	196.4	191.6	38.93	17.54	109.19	253.0	191.1	179.3	160.9	146.5	137.6
MEAN	6.84	6.55	6.18	1.26	.63	3.52	8.43	6.16	5.98	5.19	4.73	4.59
MAX	7.2	7.5	6.5	6.3	1.1	8.0	9.6	6.6	6.6	5.8	4.8	4.7
MIN	6.6	5.8	5.9	0	.36	0	6.6	5.7	5.3	4.8	4.5	4.3
AC-FT	420	390	380	77	35	217	502	379	356	319	291	273

CAL YR 1968 TOTAL 2,692.3 MEAN 7.36 MAX 30 MIN 1.7 AC-FT 5,340
WTR YR 1969 TOTAL 1,833.96 MEAN 5.02 MAX 9.6 MIN 0 AC-FT 3,640

11-2783. CHERRY CREEK NEAR EARLY INTAKE, CALIF.

LOCATION.--Lat 37°53'40", long 119°57'42", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.1 N., R.18 E., Tuolumne County, Stanislaus National Forest, on right bank 1.2 miles upstream from mouth, 1.3 miles north of Early Intake, and 10.3 miles southwest of Hetch Hetchy.

DRAINAGE AREA.--226 sq mi.

PERIOD OF RECORD.--May 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,272.00 ft above mean sea level (levels by city and county of San Francisco).

EXTREMES.--Current year: Maximum discharge, 2,780 cfs June 4 (gage height, 8.95 ft); minimum daily, 1.8 cfs Oct. 11, 12.

Period of record: Maximum discharge, 16,500 cfs Feb. 1, 1963 (gage height, 14.50 ft), from rating curve extended above 4,600 cfs; minimum daily, 0.30 cfs Apr. 5, 6, 1964.

REMARKS.--Records good. Flow regulated by Cherry Lake 10 miles upstream (see sta 11-2772) and Lake Eleanor 9.8 miles upstream (see sta 11-2775). Cherry Creek Canal diverts about 1.0 mile upstream from station (see sta 11-2782). Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. Water is returned to creek 1.2 miles below station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	16	9.4	24	150	104	746	117	2,240	260	73	28
2	2.0	20	7.6	28	139	102	738	112	2,260	63	45	27
3	2.0	108	6.6	32	133	100	738	108	2,480	83	42	26
4	2.0	120	6.4	34	127	96	710	103	2,660	116	34	26
5	2.0	119	6.1	38	129	92	813	97	2,470	170	34	26
6	2.0	170	6.1	42	130	94	768	92	1,800	368	33	28
7	2.0	285	6.2	45	114	90	722	90	1,280	389	33	28
8	2.0	308	7.0	44	108	86	710	85	1,140	410	33	30
9	2.0	268	6.6	37	104	85	702	83	952	404	33	28
10	1.9	210	8.5	30	102	86	515	79	826	417	34	27
11	1.8	178	22	28	105	82	252	77	650	445	34	27
12	1.8	182	11	35	120	83	252	74	606	410	33	27
13	4.8	172	9.0	153	109	80	242	122	606	362	33	26
14	11	192	12	232	106	80	218	720	742	821	33	26
15	5.3	170	35	115	140	84	192	865	831	1,120	32	28
16	13	20	34	83	134	86	182	925	925	813	32	28
17	20	10	18	68	120	100	182	1,020	943	583	32	28
18	20	9.9	15	84	122	123	180	1,260	1,190	335	32	28
19	8.3	10	15	886	115	132	168	1,280	1,170	320	32	28
20	4.7	8.4	12	339	109	132	166	1,120	1,220	310	31	28
21	5.2	7.6	11	1,190	104	203	164	1,100	1,260	302	31	28
22	48	7.4	14	466	99	634	157	1,290	1,200	295	30	28
23	17	6.6	13	270	103	658	176	1,760	1,390	288	30	26
24	15	7.4	42	299	124	666	188	2,080	1,670	292	30	26
25	14	8.2	81	1,110	112	678	176	2,270	1,620	228	29	26
26	12	6.6	50	924	108	690	160	2,190	1,570	152	28	27
27	12	6.2	33	359	100	694	148	2,210	1,520	154	28	28
28	11	6.1	32	275	104	714	140	2,190	1,480	154	28	28
29	10	5.9	29	212	-----	738	132	2,110	1,100	144	28	28
30	16	5.9	26	186	-----	759	124	2,170	392	130	28	27
31	14	-----	25	158	-----	764	-----	2,130	-----	116	28	-----
TOTAL	284.8	2,644.2	609.5	7,826	3,270	9,115	10,761	29,929	40,193	10,454	1,036	820
MEAN	9.19	88.1	19.7	252	117	294	359	965	1,340	337	33.4	27.3
MAX	48	308	81	1,190	150	764	813	2,270	2,660	1,120	73	30
MIN	1.8	5.9	6.1	24	99	80	124	74	392	63	28	26
AC-FT	565	5,240	1,210	15,520	6,490	18,080	21,340	59,360	79,720	20,740	2,050	1,630
CAL YR 1968	TOTAL	22,847.9	MEAN	62.4	MAX	522	MIN	1.8	AC-FT	45,320		
WTR YR 1969	TOTAL	116,942.5	MEAN	320	MAX	2,660	MIN	1.8	AC-FT	232,000		

SAN JOAQUIN RIVER BASIN

11-2784. CHERRY CREEK BELOW DION R. HOLM POWERHOUSE, NEAR MATHER, CALIF.

LOCATION.--Lat 37°53'24", long 119°58'08", in NE¼NW¼ sec.2, T.1 S., R.18 E., Tuolumne County, Stanislaus National Forest, on left bank 600 ft upstream from mouth, 0.5 mile downstream from powerhouse, 1.2 miles northwest of Early Intake, and 5.3 miles west of Mather.

DRAINAGE AREA.--234 sq mi.

PERIOD OF RECORD.--March 1963 to current year. Prior to October 1965, published as "below Cherry powerhouse, near Mather."

GAGE.--Water-stage recorder. Altitude of gage is 2,150 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 3,750 cfs June 4 (gage height, 11.46 ft, backwater from Tuolumne River); minimum daily, 27 cfs Sept. 1, 7.
Period of record: Maximum discharge, 8,530 cfs Dec. 24, 1964 (gage height, 13.55 ft), from rating curve extended above 3,200 cfs; minimum daily, 3.6 cfs Oct. 26, 27, 1964.

REMARKS.--Records good. Flow regulated by Cherry Lake 11 miles upstream (see sta 11-2772) and Lake Eleanor 10 miles upstream (see sta 11-2775). Cherry Creek Canal (see sta 11-2782) diverts about 2 miles upstream from station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and 11 discharge measurements furnished by city and county of San Francisco.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	589	320	304	199	807	775	1,670	994	3,060	1,130	647	27
2	575	322	320	626	349	458	1,660	984	3,150	946	620	590
3	565	217	317	634	775	845	1,660	990	3,430	946	143	606
4	565	420	313	608	769	785	1,630	991	3,570	948	600	603
5	558	417	315	160	759	748	1,750	984	3,440	981	555	605
6	119	448	316	613	766	754	1,480	979	2,900	1,150	557	478
7	556	556	316	636	751	749	1,640	977	2,250	1,260	600	27
8	556	580	161	642	734	747	1,670	973	1,360	1,270	613	611
9	553	548	315	640	318	331	1,660	971	1,810	1,280	618	612
10	557	310	219	624	734	756	1,450	968	1,680	1,290	132	617
11	572	280	336	590	746	748	1,150	966	1,500	1,260	615	615
12	580	468	326	213	773	751	1,150	965	1,560	1,100	623	614
13	118	456	344	774	744	762	1,140	1,010	1,550	1,020	615	517
14	588	493	350	853	741	777	1,110	1,660	1,610	1,450	622	28
15	580	497	349	720	793	756	1,080	1,930	1,710	1,950	593	616
16	588	321	391	678	355	349	1,070	1,870	1,800	1,720	339	616
17	604	129	340	667	768	774	1,070	1,960	1,820	1,490	31	617
18	608	307	334	633	800	797	1,060	2,130	2,010	1,230	507	617
19	596	333	336	1,180	758	795	1,060	2,170	2,000	1,200	505	616
20	58	309	304	1,060	746	819	896	2,050	2,030	1,190	503	520
21	576	298	188	2,160	749	895	1,050	2,020	2,060	1,120	506	42
22	628	295	271	1,420	746	1,330	1,040	2,160	2,020	911	507	621
23	596	298	332	1,140	300	830	1,070	2,650	2,200	854	412	570
24	592	125	364	1,170	777	1,360	1,080	3,010	2,410	878	25	627
25	592	298	411	2,040	762	1,370	1,060	3,140	2,370	840	506	623
26	592	294	382	1,780	749	1,380	1,050	3,110	2,320	759	500	624
27	132	291	355	1,300	764	1,390	1,030	3,120	2,270	625	503	555
28	592	123	363	1,170	757	1,460	1,020	3,100	2,250	757	457	42
29	592	288	240	1,020	-----	1,660	1,010	3,010	1,840	752	279	628
30	596	293	447	1,050	-----	1,530	1,010	3,050	1,320	737	339	633
31	600	-----	363	1,020	-----	1,700	-----	3,000	-----	728	30	-----
TOTAL	16,173	10,334	10,122	28,020	19,590	29,181	37,476	57,892	65,300	33,892	14,234	15,117
MEAN	522	344	327	904	700	941	1,249	1,867	2,177	1,093	459	504
MAX	628	580	447	2,160	807	1,700	1,750	3,140	3,570	1,950	647	633
MIN	58	123	161	160	300	331	896	965	1,320	625	29	27
AC-FT	32,060	20,500	20,080	55,580	38,860	57,880	74,330	114,800	129,500	67,220	28,230	29,980
CAL YR 1968	TOTAL 221,976		MEAN 606		MAX 1,240		MIN 58		AC-FT 440,300			
WTR YR 1969	TOTAL 337,331		MEAN 924		MAX 3,570		MIN 27		AC-FT 669,100			

11-2810. SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CALIF.

LOCATION.--Lat 37°49'18", long 120°00'43", in SE $\frac{1}{4}$ sec. 29, T.1 S., R.18 E., Tuolumne County, Stanislaus National Forest, on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mile southwest of Oakland Recreation Camp, and 0.6 mile upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 sq mi.

PERIOD OF RECORD.--March 1923 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Nov. 22, 1931, at site 50 ft upstream at same datum.

AVERAGE DISCHARGE.--46 years, 94.2 cfs (68,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,540 cfs Jan. 21 (gage height, 9.12 ft); minimum daily, 4.2 cfs Oct. 1.

Period of record: Maximum discharge, 11,900 cfs Dec. 23, 1955 (gage height, 10.9 ft, from floodmarks), from rating curve extended above 1,300 cfs on basis of slope-area measurements at gage heights 7.48 and 10.9 ft; minimum, 0.3 cfs Aug. 23, 1934.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 1445: 1923, 1925(M), 1926-28, 1929-30(M), 1932(M), 1935-36(M), 1937, 1938(M), 1943(M), 1945(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	10	20	38	290	222	588	616	750	190	40	21
2	4.4	12	17	39	262	212	536	608	705	184	39	20
3	4.5	96	16	38	244	202	512	548	670	170	38	20
4	4.5	45	17	41	234	184	436	488	612	161	36	20
5	4.5	23	15	44	248	172	809	500	612	150	34	19
6	4.8	18	16	48	280	174	690	635	560	144	33	20
7	4.9	16	16	49	234	165	532	765	520	138	32	21
8	4.9	14	16	48	212	156	488	832	440	133	31	21
9	4.9	14	15	45	200	152	460	928	369	127	30	20
10	4.9	16	26	39	192	157	440	904	363	120	30	19
11	4.6	16	50	40	194	147	472	844	309	114	29	19
12	5.1	37	26	44	242	146	560	844	285	108	28	18
13	13	26	25	496	230	146	564	850	288	107	27	18
14	26	21	28	412	212	142	512	844	336	106	26	18
15	14	35	113	175	382	147	440	795	345	96	25	18
16	10	27	100	114	336	161	420	805	434	89	24	18
17	9.1	23	42	87	258	184	460	856	438	82	25	18
18	8.3	23	38	237	242	210	516	880	306	79	30	18
19	8.0	32	34	2,410	224	224	504	820	298	75	30	18
20	7.6	28	21	1,360	210	230	584	770	309	71	28	18
21	7.6	24	21	3,860	198	272	700	780	288	69	28	19
22	7.6	22	25	1,330	176	244	740	795	275	66	26	19
23	7.4	21	32	555	192	260	790	790	280	62	26	18
24	7.3	23	103	436	323	275	645	826	246	59	26	17
25	7.0	22	197	2,730	272	298	536	775	246	56	25	17
26	7.0	18	92	2,600	230	324	480	745	222	54	24	17
27	7.2	19	57	1,030	214	366	472	745	212	51	23	16
28	7.0	17	51	670	214	424	512	725	198	51	22	16
29	7.3	16	47	476	-----	480	572	745	188	48	22	16
30	18	18	41	390	-----	536	604	735	190	46	22	16
31	14	-----	39	324	-----	600	-----	770	-----	43	21	-----
TOTAL	249.6	732	1,356	20,205	6,745	7,612	16,574	23,563	11,294	3,049	880	553
MEAN	8.05	24.4	43.7	652	241	246	552	760	376	98.4	28.4	18.4
MAX	26	96	197	3,860	382	600	809	928	750	190	40	21
MIN	4.2	10	15	38	176	142	420	488	188	43	21	16
AC-FT	495	1,450	2,690	40,080	13,380	15,100	32,870	46,740	22,400	6,050	1,750	1,100
CAL YR 1968	TOTAL 15,208.6		MEAN 41.6		MAX 248	MIN 2.2		AC-FT 30,170				
WTR YR 1969	TOTAL 92,812.6		MEAN 254		MAX 3,860	MIN 4.2		AC-FT 184,100				

PEAK DISCHARGE (BASE, 900 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1900	5.98	1,440	1-26	0730	8.34	4,180
1-19	0930	7.92	3,550	4- 5	1430	6.03	1,480
1-21	1130	9.12	5,540	5- 9	2230	5.45	1,090

SAN JOAQUIN RIVER BASIN

11-2820. MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CALIF.

LOCATION.--Lat 37°49'42", long 120°00'38", in NW¼ sec.28, T.1 S., R.18 E., Tuolumne County, Stanislaus National Forest, on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.5 mile upstream from South Fork Tuolumne River, and 4 miles east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 sq mi.

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October 1916, published in WSP 1315-A. Published as Middle Fork of Tuolumne River near Buck Meadows 1917-32 and as "near Buck Meadows" 1933-40.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map).

AVERAGE DISCHARGE.--53 years, 75.1 cfs (54,410 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,810 cfs Jan. 21 (gage height, 9.30 ft); minimum daily, 0.90 cfs Oct. 1.

Period of record: Maximum discharge, 4,920 cfs Dec. 23, 1955 (gage height, 11.75 ft from flood profile, 11.05 ft, from floodmarks inside gage well), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; no flow Sept. 4-14, 1924, Aug. 12 to Oct. 5, 1931, Sept. 11-17, 1934, Sept. 7-14, 1961.

REMARKS.--Records good. No regulation; small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 1395: 1919(M), 1938(M), 1951(P). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	4.8	9.6	20	138	124	248	410	990	260	36	8.1
2	.95	5.0	7.7	20	127	119	240	418	942	252	34	7.7
3	1.0	43	7.5	21	120	118	242	388	914	240	34	7.7
4	1.1	34	8.3	21	116	109	213	349	886	215	30	7.3
5	1.2	15	7.1	22	133	106	368	363	842	192	29	7.1
6	1.2	11	7.9	23	156	106	300	464	790	184	28	7.0
7	1.3	8.3	7.9	23	118	103	242	560	730	177	27	7.7
8	1.3	7.5	7.7	24	111	100	228	647	641	172	25	8.3
9	1.3	6.6	7.5	22	105	99	217	742	509	163	23	7.1
10	1.3	6.6	10	19	103	100	204	718	452	156	22	7.0
11	1.4	9.0	21	20	106	95	215	714	395	143	20	6.4
12	1.6	17	10	22	129	96	240	794	375	128	21	6.4
13	3.2	15	13	160	115	95	252	782	418	127	20	6.2
14	9.0	11	14	144	111	92	242	802	488	140	18	6.1
15	9.0	15	59	84	197	97	217	746	482	121	17	5.9
16	6.1	13	43	58	151	103	206	782	543	110	16	5.9
17	4.5	11	18	43	128	111	228	878	573	101	15	5.9
18	3.6	11	16	112	129	125	256	906	400	86	14	6.1
19	3.2	13	17	696	123	129	260	882	402	80	14	5.9
20	2.9	16	9.6	414	115	132	298	830	415	74	14	6.1
21	2.8	13	9.6	1,530	110	148	344	830	398	70	13	6.2
22	2.6	12	12	430	107	136	390	898	390	67	13	6.4
23	2.5	10	17	203	107	140	418	910	395	63	12	6.1
24	2.4	11	44	177	282	144	351	938	351	60	11	5.9
25	2.2	11	89	891	138	150	302	922	347	55	11	5.6
26	2.2	8.1	42	1,040	129	156	279	886	320	51	11	5.4
27	2.2	9.2	28	366	119	168	273	886	285	47	10	5.2
28	2.1	7.7	28	246	127	184	296	874	264	49	10	4.8
29	2.4	7.3	25	189	-----	197	347	922	254	45	9.6	4.5
30	4.2	8.8	22	166	-----	217	385	950	258	41	10	5.1
31	6.2	-----	20	143	-----	244	-----	978	-----	37	8.8	-----
TOTAL	87.85	370.9	638.4	7,349	3,650	4,043	8,301	23,169	15,449	3,706	576.4	191.1
MEAN	2.83	12.4	20.6	237	130	130	277	747	515	120	18.6	6.37
MAX	9.0	43	89	1,530	282	244	418	978	990	260	36	8.3
MIN	.90	4.8	7.1	19	103	92	204	349	254	37	8.8	4.5
AC-FT	174	736	1,270	14,580	7,240	8,020	16,460	45,960	30,640	7,350	1,140	379
CAL YR 1968	TOTAL 12,268.15	MEAN 33.5	MAX 176	MIN .60	AC-FT 24,330							
WTR YR 1969	TOTAL 67,531.65	MEAN 185	MAX 1,530	MIN .90	AC-FT 133,900							

PEAK DISCHARGE (BASE, 370 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1800	4.47	432	4-5	1400	5.30	680
1-19	0830	6.33	1,080	4-23	1600	4.56	458
1-21	0930	9.30	2,810	5-31	2400	6.66	1,230
1-26	0700	8.15	2,040	6-16	2400	6.12	998
2-24	1330	4.92	566				

11-2831. LILY CREEK NEAR PINECREST, CALIF.

LOCATION.--Lat 38°08'41", long 119°53'59", in T.3 N., R.19 E., Tuolumne County, on left bank 1,500 ft downstream from Mud Lake, and 5.7 miles southeast of Pinecrest.

DRAINAGE AREA.--11.9 sq mi.

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,990 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 50.0 cfs (36,220 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 738 cfs Jan. 26 (gage height, 7.59 ft); maximum gage height, 9.30 ft, Mar. 29 (backwater from ice); minimum daily discharge, 0.08 cfs Oct. 1, 5-7.

Period of record: Maximum discharge, 1,700 cfs Dec. 23, 1964 (gage height, 10.77 ft), from rating curve extended above 420 cfs; minimum daily, 0.03 cfs Sept. 29, 1968.

Flood of Feb. 1, 1963, reached a stage of 11.7 ft, from floodmarks (discharge, 2,030 cfs).

REMARKS.--Records good except those for the winter periods, which are poor. Small regulation by Y-Meadow Reservoir (capacity, 180 acre-ft). No diversions above station. See schematic diagram of Tuolumne River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	1.0	12	18	20	12	100	191	401	127	6.9	.14
2	.09	35	14	18	19	12	92	166	420	130	5.8	.13
3	.09	289	14	18	18	11	64	109	414	116	5.4	.13
4	.09	61	15	29	17	11	46	93	358	105	5.1	.13
5	.08	38	14	32	17	11	58	165	356	97	4.6	.13
6	.08	29	13	33	18	11	56	262	332	90	4.5	.13
7	.08	20	12	33	16	10	46	295	311	90	3.4	.13
8	.09	22	12	29	15	10	43	325	261	87	2.8	.16
9	.10	37	11	25	15	10	40	343	191	83	2.5	.14
10	.10	33	11	21	14	10	40	331	155	82	2.2	.13
11	.10	23	11	20	14	10	72	311	129	78	1.9	.13
12	.11	58	11	20	14	9.6	95	327	136	73	1.4	.13
13	2.2	42	14	18	14	9.1	98	349	198	71	1.3	.13
14	4.2	25	14	25	13	9.6	74	354	285	68	1.1	.13
15	1.9	25	17	23	15	10	63	306	264	61	1.7	.13
16	.96	28	20	19	18	11	60	309	221	52	1.4	.13
17	.68	30	19	17	15	12	90	358	157	44	1.0	.13
18	.56	89	17	17	13	13	120	367	187	44	.80	.13
19	.46	78	17	34	12	15	150	322	259	42	.68	.13
20	.42	44	16	315	12	16	190	311	238	39	.56	.13
21	.39	34	15	260	11	15	216	322	215	35	.42	.14
22	.39	27	14	174	11	15	214	386	194	32	.36	.14
23	.39	28	18	59	10	17	184	409	182	32	.30	.13
24	.36	23	28	34	13	20	101	397	161	25	.26	.12
25	.33	22	32	196	13	27	75	376	157	21	.22	.12
26	.33	19	29	702	12	33	69	410	133	18	.20	.12
27	.33	17	24	378	12	45	91	444	132	16	.20	.12
28	.33	15	21	56	12	60	137	372	118	13	.16	.12
29	.39	12	20	33	-----	75	176	382	111	12	.15	.11
30	1.4	12	18	26	-----	90	187	369	123	11	.15	.13
31	1.3	-----	18	22	-----	103	-----	380	-----	8.8	.14	-----
TOTAL	18.41	1,216.0	521	2,704	403	723.3	3,047	9,841	6,799	1,802.8	57.60	3.90
MEAN	.59	40.5	16.8	87.2	14.4	23.3	102	317	227	58.2	1.86	.13
MAX	4.2	289	32	702	20	103	216	444	420	130	6.9	.16
MIN	.08	1.0	11	17	10	9.1	40	93	111	8.8	.14	.11
AC-FT	37	2,410	1,030	5,360	799	1,430	6,040	19,520	13,490	3,580	114	7.7
CAL YR 1968	TOTAL	11,000.58	MEAN	30.1	MAX	289	MIN	.03	AC-FT	21,820		
WTR YR 1969	TOTAL	27,137.01	MEAN	74.3	MAX	702	MIN	.08	AC-FT	53,830		

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11- 3	0400	6.47	494	4-21	2200	5.41	294
11-18	1900	4.62	172	4-30	2200	5.04	233
1-20	0800	5.74	352	6- 2	2100	6.86	572
1-26	1200	7.59	738	6-14	2000	6.22	444

SAN JOAQUIN RIVER BASIN

11-2832. BELL CREEK NEAR PINECREST, CALIF.

LOCATION.--Lat 38°09'46", long 119°56'32", in NE $\frac{1}{4}$ sec.36, T.4 N., R.18 E., Tuolumne County, on right bank 1,400 ft downstream from Bell Meadows, and 3 miles southeast of Pinecrest.

DRAINAGE AREA.--9.11 sq mi.

PERIOD OF RECORD.--September 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,450 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 29.0 cfs (21,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 339 cfs May 11 (gage height, 5.40 ft); minimum daily, 0.04 cfs Oct. 3.

Period of record: Maximum discharge, 934 cfs Dec. 23, 1964 (gage height, 7.54 ft), from rating curve extended above 160 cfs on basis of slope-area measurement at gage height 8.79 ft; no flow at times in most years.

Flood of Feb. 1, 1963, reached a stage of 8.79 ft, from floodmarks (discharge, 1,410 cfs), from slope-area measurement of maximum flow.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	1.0	3.5	8.5	21	10	94	145	246	62	4.8	.39
2	.05	13	4.3	7.7	18	9.7	82	125	246	62	4.4	.36
3	.04	44	4.8	7.5	17	9.5	59	89	243	62	4.2	.36
4	.05	9.0	4.8	10	17	9.0	54	83	225	56	3.9	.33
5	.05	6.8	4.7	12	14	9.0	70	125	220	52	3.5	.33
6	.05	4.7	4.4	16	15	9.0	52	180	204	49	3.5	.30
7	.05	3.7	4.1	16	14	8.8	40	214	187	45	3.1	.36
8	.06	5.4	3.7	12	13	8.4	37	232	157	45	2.8	.39
9	.08	8.5	3.4	8.3	12	8.4	38	245	131	45	2.6	.33
10	.08	6.2	3.2	7.7	12	8.4	41	227	106	44	2.3	.30
11	.10	4.1	3.1	6.8	12	8.3	60	239	87	42	2.1	.30
12	.16	9.0	3.1	6.8	12	7.9	81	237	81	40	2.0	.27
13	1.2	6.2	4.1	10	12	7.2	82	245	100	39	1.8	.24
14	3.9	4.2	4.1	17	11	7.5	68	236	148	38	1.6	.24
15	2.0	4.8	4.5	13	11	8.1	52	218	140	34	1.5	.24
16	2.0	4.4	10	11	15	9.3	57	223	119	29	1.4	.24
17	1.9	5.0	7.9	10	13	9.7	79	246	97	28	1.3	.24
18	1.4	17	6.4	11	11	11	98	248	111	25	1.2	.24
19	.90	14	6.2	96	10	13	110	225	121	24	1.1	.24
20	.60	9.3	5.7	114	9.7	13	141	218	116	22	.95	.27
21	.45	7.9	5.0	103	9.3	13	164	221	100	20	.90	.27
22	.36	6.8	4.7	45	9.0	12	162	246	101	19	.80	.24
23	.30	6.8	5.0	33	8.5	15	132	255	96	17	.72	.22
24	.24	5.4	7.2	24	11	17	83	252	88	14	.68	.20
25	.22	4.5	7.2	90	11	22	65	245	82	12	.60	.20
26	.20	3.8	10	134	10	28	64	246	72	10	.54	.18
27	.20	3.2	10	65	10	39	72	254	70	8.8	.51	.18
28	.20	3.0	9.5	38	10	52	101	241	62	7.9	.54	.18
29	.20	3.0	9.3	32	-----	64	131	246	60	7.0	.51	.20
30	1.5	3.0	8.8	29	-----	77	138	252	64	6.4	.48	.20
31	2.0	-----	8.3	23	-----	96	-----	246	-----	5.5	.45	-----
TOTAL	20.59	227.7	181.0	1,017.3	348.5	620.2	2,507	6,704	3,880	970.6	56.78	8.04
MEAN	.66	7.59	5.84	32.8	12.4	20.0	83.6	216	129	31.3	1.83	.27
MAX	3.9	44	10	134	21	96	164	255	246	62	4.8	.39
MIN	.04	1.0	3.1	6.8	8.5	7.2	37	83	60	5.5	.45	.18
AC-FT	41	452	359	2,020	691	1,230	4,970	13,300	7,700	1,930	113	16
CAL YR 1968	TOTAL	5,842.88	MEAN	16.0	MAX	108	MIN	.03	AC-FT	11,590		
WTR YR 1969	TOTAL	16,541.71	MEAN	45.3	MAX	255	MIN	.04	AC-FT	32,810		

PEAK DISCHARGE (BASE, 125 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-19	1400	4.33	150	5-11	1900	5.40	339
1-26	0600	4.45	188	6-14	1900	4.90	248
4-21	2000	4.71	218				

11-2835. CLAVEY RIVER NEAR BUCK MEADOWS, CALIF.

LOCATION.--Lat 37°54'02", long 120°04'15", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.1 N., R.17 E., Tuolumne County, on right bank 300 ft upstream from Forest Service road bridge, 1.7 miles downstream from Quilty Creek, and 6 miles north of Buck Meadows Post Office.

DRAINAGE AREA.--144 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,374.08 ft above mean sea level.

AVERAGE DISCHARGE.--10 years, 249 cfs. (180,400 acre-ft per year); median of yearly mean discharges, 190 cfs (138,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,920 cfs Jan. 21 (gage height, 16.79 ft), from rating curve extended as explained below; minimum daily, 6.5 cfs Oct. 1.
Period of record: Maximum discharge, 19,200 cfs Feb. 1, 1963 (gage height, 21.40 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of maximum flow; minimum, 3.4 cfs Sept. 7, 8, 1961.

REMARKS.--Records excellent. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	17	55	104	688	373	1,460	1,560	1,420	369	67	25
2	6.7	22	42	103	630	361	1,370	1,500	1,410	363	63	24
3	6.7	514	52	104	600	353	1,180	1,300	1,400	355	59	23
4	6.7	210	49	112	572	337	1,080	1,190	1,290	326	56	23
5	8.3	102	48	125	573	329	1,720	1,310	1,220	312	53	23
6	14	76	51	141	576	333	1,440	1,630	1,120	300	51	23
7	11	59	49	157	525	322	1,180	1,900	1,060	282	49	24
8	7.9	47	49	154	482	313	1,060	2,050	931	279	46	30
9	7.4	53	46	139	450	312	1,000	2,240	766	269	44	26
10	7.4	66	53	121	425	312	992	2,120	766	260	43	25
11	7.3	55	121	121	438	298	1,190	2,070	630	252	43	24
12	8.9	94	76	128	532	298	1,400	2,040	588	238	41	24
13	22	111	80	515	472	290	1,430	2,040	615	228	39	22
14	50	77	81	772	450	288	1,330	2,010	808	227	37	22
15	24	81	186	458	601	296	1,140	1,800	895	210	36	22
16	20	84	179	328	572	312	1,130	1,760	757	195	34	22
17	17	79	122	265	502	337	1,270	1,880	648	175	34	25
18	16	95	108	345	482	381	1,400	1,910	620	166	34	25
19	15	209	100	4,210	445	411	1,420	1,730	678	159	32	22
20	14	123	71	4,680	413	432	1,640	1,580	672	153	32	22
21	13	95	64	6,780	395	448	1,890	1,560	632	144	31	22
22	13	80	79	2,520	379	438	1,980	1,650	572	134	29	22
23	13	74	89	1,350	377	490	1,880	1,730	588	131	29	21
24	12	75	174	1,160	407	542	1,400	1,690	505	120	28	20
25	12	71	291	4,230	401	598	1,220	1,590	515	109	28	21
26	12	57	185	4,970	389	662	1,140	1,570	440	99	27	23
27	12	59	140	2,120	369	763	1,180	1,620	415	93	27	20
28	12	51	138	1,420	373	934	1,320	1,470	389	89	26	19
29	12	48	124	1,080	-----	1,110	1,460	1,440	363	82	26	19
30	23	51	113	889	-----	1,300	1,550	1,440	363	78	26	19
31	20	-----	107	757	-----	1,420	-----	1,420	-----	73	25	-----
TOTAL	430.8	2,835	3,122	40,358	13,518	15,393	40,852	52,800	23,076	6,270	1,195	682
MEAN	13.9	94.5	101	1,302	483	497	1,362	1,703	769	202	38.5	22.7
MAX	50	514	291	6,780	688	1,420	1,980	2,240	1,420	369	67	30
MIN	6.5	17	42	103	369	288	992	1,190	363	73	25	19
AC-FT	854	5,620	6,190	80,050	26,810	30,530	81,030	104,700	45,770	12,440	2,370	1,350
CAL YR 1968	TOTAL	49,664.9	MEAN	136	MAX	888	MIN	6.0	AC-FT	98,510		
WTR YR 1969	TOTAL	200,531.8	MEAN	549	MAX	6,780	MIN	6.5	AC-FT	397,700		

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2030	9.34	1,410	4- 5	1345	11.54	2,720
1-21	0930	16.79	8,920	4-21	2245	10.96	2,300
1-26	0645	16.51	8,480	5- 9	0015	11.50	2,690

SAN JOAQUIN RIVER BASIN

11-2844. BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CALIF.

LOCATION.--Lat 37°50'31", long 120°11'02", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.23, T.1 S., R.16 E., Tuolumne County, on right bank
500 ft upstream from Whites Gulch and 2.5 miles east of Groveland.

DRAINAGE AREA.--16.4 sq mi.

PERIOD OF RECORD.--May to September 1969.

GAGE.--Water-stage recorder. Datum of gage is 2,56.79 ft above mean sea level (levels by Boise-Cascade Corp).

EXTREMES.--Maximum daily discharge during period May to September, 7.7 cfs May 1, 2; no flow for many days.
Flood of December 1964 reached a stage of 6.4 ft, from floodmarks (discharge not determined).

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								7.7	2.5	1.0	.05	0
2								7.7	2.4	.86	.05	0
3								7.2	2.4	.81	.04	0
4								6.9	2.3	.76	.04	0
5								6.6	2.2	.71	.04	0
6								6.4	2.2	.71	.04	0
7								6.1	2.2	.71	.04	0
8								5.9	2.2	.66	.04	0
9								5.7	2.7	.54	.04	0
10								5.6	3.0	.46	.03	0
11								5.4	3.0	.43	.03	0
12								5.3	3.0	.34	.03	0
13								5.1	2.6	.31	.03	0
14								4.9	2.3	.27	.03	0
15								4.7	2.2	.23	.03	0
16								4.6	1.9	.23	.03	0
17								4.4	2.2	.20	.03	0
18								4.2	2.0	.17	.03	0
19								4.1	1.8	.14	.03	0
20								3.9	1.7	.13	.03	0
21								3.8	1.6	.10	.03	0
22								3.6	1.6	.10	.03	0
23								3.5	1.6	.08	.03	0
24								3.4	1.4	.08	.02	0
25								3.2	1.3	.07	.02	0
26								3.1	1.3	.07	.02	0
27								3.0	1.2	.07	0	0
28								2.9	1.1	.05	0	0
29					-----			2.8	1.0	.05	0	0
30					-----			2.7	1.0	.05	0	0
31		-----			-----		-----	2.6	-----	.05	0	-----
TOTAL								147.0	59.9	10.44	0.86	0
MEAN								4.74	2.00	.34	.028	0
MAX								7.7	3.0	1.0	.05	0
MIN								2.6	1.0	.05	0	0
AC-FT								292	119	21	1.7	0

11-2845. BIG CREEK NEAR GROVELAND, CALIF.

LOCATION.--Lat 37°51'28", long 120°12'02", in NE $\frac{1}{4}$ sec.15, T.1 S., R.16 E., Tuolumne County, on right bank 0.5 mile downstream from unnamed tributary, and 2.0 miles northeast of Groveland.

DRAINAGE AREA.--24.7 sq mi.

PERIOD OF RECORD.--October 1931 to September 1933, July 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,450 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 12.5 cfs (9,060 acre-ft per year); median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,670 cfs Jan. 21 (gage height, 6.40 ft); no flow for many days.
Period of record: Maximum discharge, 4,530 cfs Feb. 1, 1963 (gage height, 7.71 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of maximum flow; no flow for several months in most years.
Flood of December 1955 reached a stage of 7.6 ft, from floodmarks (discharge, 4,300 cfs).

REMARKS.--Records good prior to Mar. 22 and poor thereafter. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.73	7.4	41	158	27	13	4.2	1.7	.36	.07
2	0	0	.80	6.1	38	126	26	12	4.0	1.6	.33	.07
3	0	2.4	.42	5.2	35	130	36	12	3.8	1.5	.31	.07
4	0	.30	.30	4.5	33	93	31	12	3.7	1.4	.29	.07
5	0	.03	.20	4.0	85	76	58	11	3.6	1.4	.26	.07
6	0	0	.15	3.6	347	66	120	11	3.5	1.3	.22	.06
7	0	0	.15	3.3	139	58	90	11	3.4	1.3	.17	.06
8	0	0	.11	3.0	78	50	79	11	3.4	1.3	.15	.06
9	0	0	.11	2.8	57	45	71	10	4.0	1.3	.15	.06
10	0	0	.60	2.5	45	56	65	9.7	4.4	1.2	.14	.06
11	0	0	4.2	2.5	42	53	60	9.4	4.5	1.1	.14	.06
12	0	.65	1.6	2.9	69	52	55	8.9	4.3	1.1	.13	.06
13	0	.15	.98	327	47	49	51	8.5	3.9	1.0	.13	.06
14	0	.30	2.1	234	51	43	46	8.1	3.5	.95	.12	.05
15	0	5.3	18	43	209	39	42	7.8	3.3	.93	.11	.05
16	0	1.1	22	21	147	37	38	7.5	3.2	.89	.10	.05
17	0	.36	5.7	14	85	35	35	7.2	3.5	.83	.10	.05
18	0	.30	3.0	128	130	35	32	6.9	3.3	.78	.09	.05
19	0	.20	2.6	1,380	118	34	31	6.7	3.0	.74	.09	.04
20	0	.15	2.0	324	93	67	30	6.5	2.8	.67	.09	.04
21	0	.08	1.4	1,630	80	76	29	6.2	2.7	.60	.09	.04
22	0	.11	1.3	455	63	50	36	5.9	2.6	.56	.08	.03
23	0	.11	1.6	118	78	41	47	5.6	2.5	.52	.08	.03
24	0	.30	17	83	698	36	22	5.2	2.3	.50	.08	.03
25	0	.42	73	870	320	34	19	5.0	2.3	.48	.08	.02
26	0	.36	46	644	170	32	17	4.8	2.2	.47	.08	.02
27	0	.30	16	170	123	31	16	4.8	2.1	.46	.08	.02
28	0	.20	20	104	126	30	15	4.8	2.0	.45	.07	.01
29	0	.20	19	67	-----	29	14	4.8	1.9	.45	.07	.01
30	0	.20	12	54	-----	28	13	4.7	1.8	.43	.07	.01
31	0	-----	9.1	41	-----	27	-----	4.6	-----	.40	.07	-----
TOTAL	0	13.52	282.15	6,754.8	3,547	1,716	1,251	246.6	95.7	28.31	4.33	1.38
MEAN	0	.45	9.10	218	127	55.4	41.7	7.95	3.19	.91	.14	.046
MAX	0	5.3	73	1,630	698	158	120	13	4.5	1.7	.36	.07
MIN	0	0	.11	2.5	33	27	13	4.6	1.8	.40	.07	.01
AC-FT	0	27	560	13,400	7,040	3,400	2,480	489	190	56	8.6	2.7
CAL YR 1968	TOTAL	1,106.26	MEAN	3.02	MAX	73	MIN	0	AC-FT	2,190		
WTR YR 1969	TOTAL	13,940.79	MEAN	38.2	MAX	1,630	MIN	0	AC-FT	27,650		

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1830	4.69	1,000	2-6	1245	3.81	521
1-19	0745	6.12	2,380	2-15	1345	3.62	362
1-21	1130	6.40	2,670	2-24	1545	5.23	1,510
1-26	0630	5.14	1,430	4-6	unknown	3.71	407

SAN JOAQUIN RIVER BASIN

11-2847. NORTH FORK TUOLUMNE RIVER NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'56", long 120°05'55", in NW¼SW¼ sec.22, T.3 N., R.17 E., Tuolumne County, Stanislaus National Forest, on right bank 0.6 mile upstream from small tributary, 1.5 miles east of Long Barn, and 3.8 miles upstream from Wrights Creek.

DRAINAGE AREA.--23.1 sq mi.

PERIOD OF RECORD.--August 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,650 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 30.7 cfs (22,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,670 cfs Jan. 21 (gage height, 7.61 ft), from rating curve extended as explained below; minimum daily 0.47 cfs Oct. 2.

Period of record: Maximum discharge, 1,670 cfs Jan. 21, 1969 (gage height, 7.61 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 9.8 ft; minimum daily, 0.2 cfs Sept. 18-25, 1962.

Flood of Dec. 23, 1955, reached a stage of 9.8 ft, from floodmarks (discharge, 2,560 cfs by slope-area measurement).

REMARKS.--Records excellent except those for periods of no gage-height record, which are fair. No storage or diversions above station. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	1.4	3.0	11	58	36	230	180	91	14	3.6	1.5
2	.47	3.7	3.0	10	53	36	212	177	81	13	3.5	1.5
3	.50	30	3.1	9.9	59	35	178	161	74	13	3.1	1.4
4	.55	7.8	3.3	13	80	34	167	148	67	12	2.9	1.3
5	.55	3.8	3.7	15	80	33	305	148	61	11	2.8	1.3
6	.57	2.9	4.4	18	81	33	234	163	57	11	2.8	1.4
7	.59	2.4	3.3	18	50	32	185	185	52	11	2.6	1.4
8	.61	2.1	2.9	16	45	31	173	203	47	10	2.6	2.1
9	.66	1.9	2.8	15	43	31	166	221	44	9.6	2.5	1.8
10	.68	1.8	7.2	24	42	31	171	224	43	9.3	2.4	1.7
11	.65	1.8	11	14	42	30	191	218	41	8.8	2.4	1.7
12	.90	6.6	7.0	17	48	29	211	223	38	8.3	2.3	1.7
13	3.4	4.0	7.2	155	45	28	207	213	35	8.1	2.2	1.6
14	4.3	3.0	7.5	153	44	29	189	207	34	8.7	2.1	1.6
15	1.9	4.6	18	79	53	30	165	188	34	7.8	2.0	1.6
16	1.4	4.0	16	54	52	33	161	175	36	7.2	2.0	1.6
17	1.2	3.6	11	42	46	38	167	177	34	6.6	2.0	1.8
18	1.0	4.5	10	72	45	46	180	179	32	6.4	1.9	1.7
19	.96	5.0	8.6	616	43	51	178	170	28	6.2	1.9	1.6
20	.90	3.9	6.8	807	41	54	194	154	27	6.0	1.9	1.5
21	.90	3.5	5.9	1,170	39	56	221	143	24	5.7	1.8	1.5
22	.90	3.2	7.2	223	37	55	243	138	23	5.4	1.8	1.5
23	.85	3.0	8.2	130	37	60	253	138	22	5.2	1.7	1.5
24	.82	3.4	16	95	40	66	207	138	21	5.0	1.6	1.4
25	.83	3.4	26	380	39	73	174	135	19	4.8	1.7	1.5
26	.83	3.0	19	450	38	82	160	125	19	4.7	1.6	1.6
27	.81	2.8	16	190	37	92	156	117	17	4.6	1.5	1.4
28	.76	4.2	15	130	36	110	161	108	17	4.4	1.6	1.4
29	.99	3.5	14	95	-----	137	172	102	16	4.3	1.5	1.4
30	2.7	2.8	13	76	-----	175	179	100	15	3.9	2.4	1.4
31	1.8	-----	12	65	-----	225	-----	97	-----	3.8	1.5	-----
TOTAL	34.48	131.6	292.1	5,162.9	1,353	1,831	5,790	5,055	1,149	239.8	68.2	46.4
MEAN	1.11	4.39	9.42	167	48.3	59.1	193	163	38.3	7.74	2.20	1.55
MAX	4.3	30	26	1,170	81	225	305	224	91	14	3.6	2.1
MIN	.47	1.4	2.8	9.9	36	28	156	97	15	3.8	1.5	1.3
AC-FT	68	261	579	10,240	2,680	3,630	11,480	10,030	2,280	476	135	92

CAL YR 1968 TOTAL 4,435.74 MEAN 12.1 MAX 113 MIN .27 AC-FT 8,800
WTR YR 1969 TOTAL 21,153.48 MEAN 58.0 MAX 1,170 MIN .47 AC-FT 41,960

PEAK DISCHARGE (BASE, 150 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1915	4.79	347	4- 5	1115	5.21	499
1-21	0900	7.61	1,670	4-23	0815	4.49	255
1-26	unknown	-	unknown	5- 9	1845	4.41	233

11-2875. DON PEDRO RESERVOIR NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°42'45", long 120°24'14", in NW¼SE¼SW¼ sec.35, T.2 S., R.14 E., Tuolumne County, 300 ft from left bank on upstream face of Don Pedro Dam on Tuolumne River, 1 mile downstream from Rogers Creek, and 5.5 miles upstream from La Grange.

DRAINAGE AREA.--1,530 sq mi.

PERIOD OF RECORD.--September 1923 to current year. 1923-24 (year-end contents only) and October 1924 to September 1930 monthend contents, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 292,400 acre-ft Jan. 26 (elevation, 606.2 ft); minimum, 60,200 acre-ft Jan. 2, 3 (elevation, 506.9 ft).

Period of record: Maximum contents, 292,400 acre-ft Jan. 26, 1969 (elevation, 606.2 ft); minimum, 29,200 acre-ft Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft Sept. 1, 2, 1934.

REMARKS.--Reservoir is formed by concrete gravity-type dam, completed Jan. 1, 1923; storage began Nov. 14, 1922. Total capacity, 290,400 acre-ft at elevation 605.55 ft (top of drum type spillway gates), of which 30,000 acre-ft below elevation 476 ft (mutually agreed-upon minimum) is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 4 miles downstream, where it is diverted into Turlock and Modesto Canals for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Figures given herein represent total contents. See schematic diagram of Tuolumne River basin.

COOPERATION.--Gage-height record furnished by Turlock and Modesto Irrigation Districts.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

476	30,000	510	64,200	550	135,800	590	242,400
480	33,000	520	78,100	560	159,900	600	272,900
490	41,900	530	94,100	570	185,600	607	295,000
500	52,200	540	113,500	580	213,400		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90.70	84.30	83.90	62.50	260.20	176.70	172.50	171.30	220.80	259.60	284.20	204.90
2	89.80	83.90	83.10	60.20	257.50	172.30	170.20	170.50	222.20	263.90	282.60	201.50
3	88.80	85.80	81.70	60.20	249.90	169.50	169.20	169.20	226.30	269.80	280.40	199.00
4	88.00	86.20	80.40	61.00	241.00	168.40	168.40	167.00	236.80	276.00	277.90	196.50
5	88.00	86.10	79.30	61.40	235.10	169.70	176.20	168.40	246.30	279.50	276.00	194.10
6	88.30	85.30	78.10	60.40	232.40	171.00	179.00	170.20	252.30	281.00	273.80	191.10
7	86.70	84.90	77.60	61.20	230.70	171.50	177.20	171.00	253.20	283.90	272.00	187.50
8	86.10	84.70	77.00	62.40	223.70	171.50	172.80	171.30	251.40	288.00	269.80	183.50
9	85.30	85.30	76.10	63.80	215.10	170.70	169.50	171.30	250.80	289.90	267.90	180.60
10	84.30	85.40	75.70	65.90	206.80	170.50	169.50	171.30	250.50	288.90	265.50	177.70
11	83.60	84.30	76.00	67.40	198.50	170.50	169.00	170.70	249.00	288.60	263.30	174.60
12	83.90	83.70	76.00	69.30	192.10	170.00	168.70	170.70	246.00	288.60	261.80	171.80
13	84.60	83.40	75.20	80.50	185.10	169.70	168.40	170.20	240.70	288.30	259.30	168.70
14	83.90	82.30	75.80	96.80	177.70	169.50	167.90	175.10	233.00	289.90	257.50	164.60
15	83.70	82.90	77.40	101.50	177.20	169.00	167.80	180.10	229.50	288.60	255.40	160.70
16	83.60	83.40	79.90	103.60	174.10	167.90	169.20	182.50	229.20	287.00	252.60	157.70
17	83.40	83.90	79.60	105.30	170.50	169.00	170.00	184.60	228.30	288.00	249.30	154.50
18	83.40	83.20	79.20	107.70	172.30	170.00	170.00	187.30	227.20	289.30	246.00	151.60
19	83.70	83.20	78.40	152.80	172.00	171.80	170.70	190.00	230.10	289.60	243.60	148.40
20	84.20	83.10	77.10	169.70	170.20	173.60	170.00	191.90	234.80	288.30	241.30	144.80
21	83.20	82.90	75.40	240.40	169.70	174.10	170.50	193.00	239.20	287.00	238.30	140.70
22	83.20	82.80	73.70	256.30	170.50	173.80	171.30	194.60	243.00	287.60	235.90	135.80
23	83.60	82.90	72.00	256.00	172.00	173.10	172.50	197.60	245.40	288.30	233.30	132.30
24	83.90	83.40	71.50	252.90	182.70	172.30	172.00	201.20	245.10	288.90	230.40	129.10
25	84.00	82.60	76.10	283.90	184.30	170.50	170.00	204.90	243.30	289.60	226.60	125.20
26	84.60	82.60	78.10	283.30	184.00	169.70	169.00	208.50	242.40	288.60	224.00	121.20
27	85.10	82.30	76.10	280.70	180.90	170.70	168.70	211.60	245.10	287.00	221.70	117.30
28	84.30	82.90	73.90	278.90	178.50	172.00	169.70	213.60	250.20	287.40	219.10	113.70
29	84.20	83.10	72.00	275.70	-----	174.60	171.30	216.20	254.50	287.40	216.80	109.90
30	84.50	83.60	69.00	271.30	-----	175.60	171.80	218.50	256.90	287.00	213.10	106.30
31	84.60	-----	65.80	266.70	-----	174.60	-----	219.90	-----	286.10	209.40	-----
MEAN	85.14	83.81	76.49	149.02	198.74	171.41	170.77	186.59	240.78	284.89	249.96	158.18
MAX	90.70	86.20	83.90	283.90	260.20	176.70	179.00	219.90	256.90	289.90	284.20	204.90
MIN	83.20	82.30	65.80	60.20	169.70	167.90	167.00	167.00	220.80	259.60	209.40	106.30
(a)	524.3	523.6	511.2	598.0	567.3	565.8	564.7	582.3	594.8	604.2	578.6	536.5
(b)	-6,800	-1,000	-17,800	+200,900	-88,200	-3,900	-2,800	+48,100	+37,000	+29,200	-76,700	-103,100

CAL YR 1968 b -4,900

WTR YR 1969 b +14,900

NOTE.--No elevation record; monthend contents interpolated for September only.

11-2880. TUOLUMNE RIVER ABOVE LA GRANGE DAM, NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°42'33", long 120°24'44", in NE $\frac{1}{4}$ sec.3, T.3 S., R.14 E., Tuolumne County, on left bank 0.5 mile downstream from Don Pedro Dam, 3.5 miles upstream from La Grange Dam, and 5 miles upstream from La Grange.

DRAINAGE AREA.--1,532 sq mi.

PERIOD OF RECORD.--August 1895 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at La Grange," 1895-1912, as "near La Grange" or "at La Grange Dam, near La Grange," 1913-17. August 1895 to September 1917 at La Grange Dam, 3.5 miles downstream, records equivalent if flow of Sierra and San Francisco Power Co.'s canal (abandoned in 1926) and Modesto and Turlock Canals are added to flow at La Grange Dam.

GAGE.--Water-stage recorder. Altitude of gage is 330 ft (from topographic map). Prior to Mar. 31, 1908, and Sept. 25 to Dec. 5, 1908, nonrecording gage at site 5 miles downstream below point of re-entrance of Sierra and San Francisco Power Co.'s canal, at different datum. Apr. 1 to Sept. 24, 1908, and Dec. 5, 1908, to Feb. 29, 1916, nonrecording gage at site 3.5 miles downstream at La Grange Dam, diversion point of Turlock and Modesto Canals, at different datum.

AVERAGE DISCHARGE (adjusted for Hetch Hetchy diversion to San Francisco).--73 years (1896-1969), 2,555 cfs (1,851,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 47,600 cfs Jan. 26 (gage height, 37.09 ft); minimum daily, 444 cfs Nov. 24.

Period of record: Maximum discharge, 61,000 cfs Dec. 8, 1950 (gage height, 43.8 ft); minimum daily, 2.1 cfs Dec. 27, 1922.

REMARKS.--Records excellent. Flow regulated by Don Pedro powerplant, Don Pedro Reservoir 0.5 mile upstream (see sta 11-2875), Hetch Hetchy Reservoir (see sta 11-2755), Cherry Lake (see sta 11-2772), and Lake Eleanor (see sta 11-2775). Tuolumne Canal (see sta 11-2975) diverts water from the Stanislaus River basin into the Tuolumne River basin for power, irrigation, and domestic supply in the vicinity of Sonora upstream from station. Diversion through Hetch Hetchy aqueduct to San Francisco began Oct. 19, 1934; an average of 288 cfs was diverted during 1969 water year. See schematic diagram of Tuolumne River basin.

COOPERATION.--Eight discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 843: 1917(M). WSP 1315-A: 1897-1916, 1923-26 (yearly summaries only). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,330	993	571	2,830	8,710	7,960	7,870	6,640	12,200	3,480	2,450	2,610
2	1,310	741	1,230	2,340	5,710	7,900	7,830	6,630	12,200	2,850	2,440	2,630
3	1,390	570	1,490	1,520	8,610	7,590	7,030	6,620	12,200	2,520	2,440	2,640
4	1,230	1,060	1,500	1,120	8,560	5,730	6,270	6,340	12,300	3,200	2,450	2,660
5	929	985	1,410	950	8,450	4,300	6,810	5,360	12,400	4,480	2,440	2,570
6	599	1,190	1,360	1,680	8,450	3,960	7,960	5,370	12,500	4,480	2,450	2,690
7	1,210	1,030	1,160	1,220	6,320	3,960	8,510	6,390	12,500	3,800	2,460	2,710
8	1,170	961	1,100	1,100	8,380	3,960	8,990	7,050	12,500	3,490	2,460	2,720
9	1,290	613	1,050	1,090	8,350	3,950	8,180	7,370	12,300	5,010	2,450	2,740
10	1,390	601	1,030	1,050	8,280	3,960	6,660	7,390	12,200	6,480	2,450	2,750
11	1,210	1,110	903	994	8,230	3,960	6,650	7,390	12,200	5,810	2,460	2,760
12	830	1,280	1,020	605	8,160	3,950	6,640	7,410	12,200	5,500	2,460	2,750
13	691	1,360	1,270	1,150	8,090	3,950	6,630	7,400	12,100	5,490	2,450	2,760
14	1,030	1,640	672	1,310	8,000	3,950	6,610	7,940	11,900	4,830	2,460	2,760
15	1,020	1,080	585	1,670	7,910	3,950	5,970	9,610	9,830	7,110	2,460	2,760
16	1,030	706	1,220	1,660	7,900	3,950	5,110	10,800	8,340	6,820	2,460	2,760
17	1,000	487	1,460	1,650	6,770	3,440	5,600	11,400	9,230	4,220	2,460	2,760
18	951	800	1,430	1,710	5,960	3,180	5,880	11,500	9,530	3,470	2,480	2,770
19	745	829	1,460	4,220	7,070	3,180	6,330	11,400	7,200	3,810	2,490	2,770
20	500	870	1,740	7,150	7,060	3,250	6,630	11,500	6,400	4,500	2,480	2,770
21	926	847	1,740	7,870	5,760	4,480	6,600	11,500	6,390	4,500	2,490	2,780
22	869	823	1,710	8,110	4,760	4,770	6,630	11,500	6,390	3,500	2,490	2,780
23	808	594	1,840	8,120	4,770	4,700	6,640	11,600	7,560	3,500	2,510	2,780
24	832	444	1,550	8,500	6,260	5,490	7,130	11,600	9,240	3,500	2,510	2,790
25	831	954	1,320	8,200	8,050	5,960	7,160	11,600	9,780	3,480	2,540	2,790
26	580	876	2,260	27,100	8,070	5,260	6,220	11,700	8,060	3,470	2,540	2,800
27	548	808	2,940	14,100	8,020	4,740	5,400	11,900	5,440	3,200	2,550	2,800
28	912	527	2,920	10,700	7,970	4,730	5,080	12,100	3,820	2,460	2,550	2,810
29	1,080	628	2,900	9,290	-----	4,970	5,370	12,100	3,820	2,450	2,560	2,820
30	920	564	2,880	8,720	-----	6,340	6,210	12,100	3,590	2,460	2,570	2,840
31	890	-----	2,860	8,180	-----	7,510	-----	12,100	-----	2,450	2,590	-----
TOTAL	30,051	25,971	48,581	155,909	208,630	148,980	200,600	291,310	286,320	126,320	77,050	82,330
MEAN	969	866	1,567	5,029	7,451	4,806	6,687	9,397	9,544	4,075	2,485	2,744
MAX	1,390	1,640	2,940	27,100	8,710	7,960	8,990	12,100	12,500	7,110	2,590	2,840
MIN	500	444	571	605	4,760	3,180	5,080	5,360	3,590	2,450	2,440	2,570
AC-FT	59,610	51,510	96,360	309,200	413,800	295,500	397,900	577,800	567,900	250,600	152,800	163,300

CAL YR 1968 TOTAL 549,112 MEAN 1,500 MAX 3,130 MIN 132 AC-FT 1,089,000
WTR YR 1969 TOTAL 1,682,052 MEAN 4,608 MAX 27,100 MIN 444 AC-FT 3,336,000

SAN JOAQUIN RIVER BASIN

711

11-2890. MODESTO CANAL NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°40'04", long 120°27'26", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.3 S., R.14 E., Stanislaus County, on right bank 0.5 mile northeast of La Grange, and 1 mile downstream from intake at La Grange Dam.

PERIOD OF RECORD.--April 1903 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. V-notch sharp-crested weir since Mar. 19, 1963. Datum of gage is 272.4 ft above mean sea level (levels by Modesto Irrigation District). Prior to July 1904, nonrecording gage at approximately present site at different datum. July 1904 to March 1920, nonrecording gage in concrete well 0.9 mile upstream and 460 ft below intake, set by water surface elevation to read same as previous gage. March 1920 to February 1924, nonrecording gage and February 1924 to March 1932, water-stage recorder, 0.9 mile upstream and 500 ft below intake at different datum.

AVERAGE DISCHARGE.--66 years, 398 cfs (288,400 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,820 cfs July 1, 1935; no flow at times.

REMARKS.--Records excellent. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts. See schematic diagram of Tuolumne River basin.

COOPERATION.--Six discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 1315-A: 1904-9 (monthly figures only).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	2.7	.52	1.7	.04	.05	131	1,030	1,000	1,280	925	1,130
2	293	2.7	.63	1.7	.04	.05	234	1,310	1,000	1,100	922	1,140
3	321	2.7	.88	1.6	.04	.05	316	1,320	1,000	998	917	1,140
4	273	2.6	.90	1.6	.04	.05	622	1,260	1,210	992	887	1,140
5	264	2.8	1.0	1.6	.04	.05	700	1,080	1,300	1,300	882	967
6	265	2.8	1.4	1.7	.06	.05	709	1,300	1,220	1,420	871	888
7	260	2.7	1.4	1.7	.05	.04	713	1,360	1,180	1,200	876	889
8	256	2.7	1.4	1.7	.05	.04	717	1,380	1,180	1,010	877	881
9	259	2.6	1.5	1.7	.05	.04	711	1,390	1,100	1,320	878	881
10	260	2.1	1.6	1.6	.05	.04	695	1,380	1,060	1,570	878	883
11	250	542	1.4	1.6	.05	.04	695	1,380	1,060	1,540	877	863
12	256	1,030	1.4	1.5	.05	.04	694	1,380	1,060	1,530	879	856
13	160	1,050	1.4	2.2	.05	.04	694	1,140	1,060	1,530	879	856
14	38	1,110	1.3	2.0	.05	.04	693	998	1,060	1,370	879	857
15	4.0	1,010	1.2	1.7	.07	.04	687	1,000	1,040	1,250	873	855
16	3.9	691	1.2	1.7	.05	.04	678	966	1,020	1,190	868	862
17	3.6	474	1.4	1.7	.05	.04	680	1,010	1,030	1,160	868	888
18	3.2	784	1.4	1.9	.10	.04	680	1,030	1,040	1,170	869	887
19	3.2	813	1.5	3.0	.06	.04	738	1,000	1,010	1,150	872	883
20	2.4	854	1.6	1.9	.05	.04	780	992	1,030	1,110	856	883
21	2.9	831	1.6	15	.20	.04	777	992	1,130	1,130	846	883
22	3.0	807	1.6	1.4	.05	.04	775	993	1,160	1,110	847	882
23	3.4	580	1.6	.34	.07	.04	798	995	1,180	1,100	850	883
24	3.1	431	1.6	.06	.49	.04	789	995	1,210	1,130	852	883
25	3.0	193	1.6	4.4	.05	.04	793	995	1,220	1,000	858	728
26	2.8	8.6	1.7	4.3	.07	.04	793	995	1,200	796	860	631
27	2.5	1.5	1.6	.09	.05	.04	794	997	1,140	796	943	588
28	2.7	1.1	1.6	.05	.06	.18	790	998	1,100	859	1,130	587
29	3.1	.6	1.6	.05	-----	.11	872	998	1,100	848	1,130	585
30	2.9	.6	1.7	.05	-----	.09	956	1,000	1,210	870	1,130	581
31	2.8	-----	1.7	.04	-----	.09	-----	1,000	-----	916	1,130	-----
TOTAL	3,500.5	11,238.8	42.93	61.58	2.08	1.61	20,704	34,664	33,310	35,745	28,209	25,860
MEAN	113	375	1.38	1.99	.074	.052	690	1,118	1,110	1,153	910	862
MAX	321	1,110	1.7	15	.49	.18	956	1,390	1,300	1,570	1,130	1,140
MIN	2.4	.60	.52	.04	.04	.04	131	966	1,000	796	846	581
AC-FT	6,940	22,290	85	122	4.1	3.2	41,070	68,760	66,070	70,900	55,950	51,290
CAL YR 1968	TOTAL 142,032.71		MEAN 388		MAX 1,220		MIN .05		AC-FT 281,700			
WTR YR 1969	TOTAL 193,339.50		MEAN 530		MAX 1,570		MIN .04		AC-FT 383,500			

SAN JOAQUIN RIVER BASIN

11-2895. TURLOCK CANAL NEAR LA GRANGE, CALIF.

LOCATION.--Lat 37°39'57", long 120°26'24", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.3 S., R.14 E., Stanislaus County, on right bank 2,400 ft downstream from intake at La Grange Dam, and 1.2 miles east of La Grange.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 265 ft (from topographic map). July 1, 1899 to Sept. 14, 1915, nonrecording gage at different sites and datums near canal intake. Sept. 15, 1915, to Apr. 15, 1924, nonrecording gage and Apr. 16, 1924, to winter of 1936-37, water-stage recorder, both at present site at datum 0.25 ft higher.

AVERAGE DISCHARGE.--71 years, 595 cfs (431,100 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 2,280 cfs June 12, 1949; no diversion for irrigation during some periods in some years. Prior to 1939, unmeasured small discharge during winter called zero.

REMARKS.--Records excellent. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mile above gage, passed through La Grange powerplant and returned to river. See schematic diagram of Tuolumne River basin.

COOPERATION.--Seven discharge measurements furnished by city and county of San Francisco.

REVISIONS (WATER YEARS).--WSP 1315-A: 1899-1908 (monthly figures only). WSP 1445: 1917-20, 1922.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,040	410	20	20	1.1	1.6	795	25	1,740	1,390	1,360	1,250
2	1,020	147	483	19	0	1.3	1,140	999	1,740	1,310	1,370	1,250
3	1,070	23	909	18	0	1.2	1,360	1,540	1,740	1,330	1,400	1,250
4	954	422	904	18	0	1.1	1,360	1,530	1,740	1,530	1,380	1,210
5	665	387	260	18	3.7	1.0	1,170	1,520	1,740	1,840	1,430	1,480
6	334	569	26	18	0	.95	738	1,540	1,740	1,830	1,430	1,670
7	951	448	26	17	0	8.4	725	1,560	1,740	1,710	1,430	1,710
8	911	392	26	17	0	11	760	1,540	1,740	1,670	1,440	1,730
9	1,030	24	26	17	0	11	756	1,680	1,560	1,830	1,440	1,740
10	1,130	585	25	18	1.2	11	755	1,760	1,410	1,990	1,440	1,750
11	959	387	24	14	1.2	11	757	1,760	1,410	1,940	1,440	1,790
12	574	254	24	16	1.2	11	757	1,760	1,400	1,910	1,450	1,780
13	531	306	24	16	1.2	9.7	759	1,760	1,400	1,910	1,450	1,780
14	992	534	23	18	1.2	7.6	760	1,770	1,420	1,870	1,450	1,780
15	1,020	66	22	17	2.0	7.4	754	1,770	1,430	2,010	1,460	1,780
16	1,030	15	22	16	2.0	7.4	742	1,760	1,440	2,020	1,470	1,730
17	999	13	22	15	1.8	7.1	1,010	1,760	1,450	1,740	1,480	1,620
18	948	16	22	14	2.0	7.4	1,270	1,760	1,460	1,510	1,490	1,600
19	742	16	21	14	2.0	7.4	1,270	1,760	1,440	1,600	1,500	1,560
20	498	16	21	13	1.8	7.3	1,280	1,760	1,430	1,860	1,490	1,560
21	923	16	21	39	1.3	6.0	1,410	1,760	1,430	1,760	1,540	1,560
22	866	16	20	6.8	1.3	6.2	1,650	1,760	1,430	1,810	1,540	1,560
23	410	14	20	75	1.5	6.4	1,950	1,760	1,460	1,850	1,550	1,560
24	243	13	20	14	2.0	6.4	1,940	1,760	1,440	1,840	1,550	1,560
25	232	761	20	12	1.7	6.4	1,710	1,760	1,430	1,860	1,570	1,580
26	20	867	19	13	1.8	325	832	1,760	1,430	1,900	1,570	792
27	18	407	19	7.3	1.5	491	31	1,760	1,420	1,840	1,370	307
28	259	23	20	4.8	1.6	485	28	1,760	1,410	1,360	1,240	307
29	478	20	19	3.7	-----	488	28	1,760	1,410	1,470	1,240	450
30	315	21	20	3.4	-----	496	26	1,760	1,390	1,380	1,240	764
31	310	-----	20	1.7	-----	499	-----	1,760	-----	1,370	1,240	-----
TOTAL	21,472	7,188	3,148	513.7	35.1	2,947.25	28,523	50,674	45,420	53,240	44,450	42,460
MEAN	693	240	102	16.6	1.25	95.1	951	1,635	1,514	1,717	1,434	1,415
MAX	1,130	867	909	75	3.7	499	1,950	1,770	1,740	2,020	1,570	1,790
MIN	18	13	19	1.7	0	.95	26	25	1,390	1,310	1,240	307
AC-FT	42,590	14,260	6,240	1,020	70	5,850	56,570	100,500	90,090	105,600	88,170	84,220
CAL YR 1968	TOTAL 260,129.6		MEAN 711		MAX 1,790		MIN 1.6		AC-FT 516,000			
WTR YR 1969	TOTAL 300,071.05		MEAN 822		MAX 2,020		MIN 0		AC-FT 595,200			

11-2900. TUOLUMNE RIVER AT MODESTO, CALIF.

LOCATION.--Lat 37°37'38", long 120°59'11", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.33, T.3 S., R.9 E., Stanislaus County, on left bank at bridge on Ninth Street in Modesto, and 0.2 mile downstream from Dry Creek.

DRAINAGE AREA.--1,884 sq mi.

PERIOD OF RECORD.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level, unadjusted (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 1,700 ft downstream at same datum, July 11, 1947, to Nov. 16, 1953, at site 1,000 ft downstream at same datum.

AVERAGE DISCHARGE.--30 years (1895-96, 1940-69), 1,481 cfs (1,073,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 32,600 cfs Jan. 27 (elevation, 65.42 ft): minimum daily, 175 cfs Nov. 25-27.

1895-96, 1940 to current year: Maximum discharge observed, 57,000 cfs Dec. 9, 1950 (elevation, 69.19 ft); minimum, 85 cfs Oct. 25, 1961.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (see sta 11-2890, 11-2895), there are diversions for irrigation of about 1,300 acres between station above LaGrange Dam and at Modesto. See REMARKS for sta 11-2880 for Tuolumne River above LaGrange Dam. Records of water temperatures for the water year 1969 are published in Part 2 of this report. See schematic diagram of Tuolumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	800	703	3,000	7,880	8,640	6,320	4,600	9,160	1,330	340	534
2	212	880	714	2,950	8,120	8,620	6,090	4,790	9,240	1,200	328	542
3	217	905	762	2,380	5,930	8,000	5,990	3,590	9,260	789	312	522
4	219	920	750	1,710	7,870	7,270	4,540	3,310	9,280	530	329	558
5	214	865	750	1,380	7,990	5,260	3,980	3,010	9,170	651	315	602
6	227	840	1,150	1,200	8,000	4,120	5,390	2,430	9,150	1,290	309	476
7	230	825	1,410	1,680	8,230	3,780	6,690	2,210	9,310	1,270	288	495
8	243	815	1,320	1,420	6,650	3,700	6,980	2,960	9,410	1,000	285	510
9	235	800	1,270	1,290	7,750	3,670	7,180	3,610	9,430	898	287	345
10	230	780	1,200	1,280	7,830	3,660	6,130	3,750	9,390	1,920	301	326
11	245	410	1,160	1,240	7,820	3,660	4,940	3,720	9,350	3,040	308	327
12	250	308	1,100	1,180	7,810	3,660	4,760	3,710	9,330	2,560	280	299
13	283	257	1,160	928	7,910	3,650	4,720	3,720	9,370	2,370	266	315
14	425	238	1,400	2,540	7,700	3,660	4,680	4,030	9,380	2,360	279	320
15	441	250	1,030	3,970	7,630	3,640	4,580	4,830	9,250	1,860	260	301
16	343	285	902	2,400	8,180	3,610	3,850	6,430	7,280	3,980	271	368
17	290	238	1,300	2,000	7,950	3,580	3,380	7,540	6,160	3,620	290	391
18	250	224	1,610	1,920	6,810	3,160	3,510	8,070	6,910	1,660	288	381
19	232	212	1,580	2,380	7,970	3,000	3,480	8,240	6,970	1,020	282	516
20	221	199	1,590	7,630	7,910	2,980	3,800	8,310	5,100	1,160	268	589
21	207	193	1,820	9,260	7,160	3,150	3,940	8,360	4,420	1,560	252	620
22	196	187	1,810	12,600	5,430	4,070	3,780	8,420	4,230	1,550	283	602
23	188	187	1,780	10,100	4,730	4,230	3,580	8,480	4,220	877	273	608
24	328	181	1,930	8,800	5,610	4,190	3,390	8,510	5,350	662	264	624
25	677	175	1,720	9,420	9,000	4,960	3,830	8,570	6,800	619	290	640
26	725	175	1,730	13,300	9,410	5,110	4,000	8,630	7,240	704	260	615
27	750	175	3,450	26,300	9,240	4,310	4,080	8,670	5,750	874	267	1,390
28	758	315	3,300	14,100	8,440	3,880	3,910	8,900	3,380	939	299	2,030
29	780	681	3,130	10,800	-----	3,930	3,750	9,040	2,060	477	397	2,140
30	800	725	3,100	9,230	-----	4,120	3,960	9,070	1,780	372	412	2,000
31	805	-----	3,040	8,400	-----	5,230	-----	9,130	-----	330	463	-----
TOTAL	11,441	14,045	49,671	176,788	212,960	138,500	139,210	188,640	217,130	43,472	9,346	19,986
MEAN	369	468	1,602	5,703	7,606	4,468	4,640	6,085	7,238	1,402	301	666
MAX	805	920	3,450	26,300	9,410	8,640	7,180	9,130	9,430	3,980	463	2,140
MIN	188	175	703	928	4,730	2,980	3,380	2,210	1,780	330	252	299
AC-FT	22,690	27,860	98,520	350,700	422,400	274,700	276,100	374,200	430,700	86,230	18,540	39,640
CAL YR 1968	TOTAL	226,723	MEAN	619	MAX	3,450	MIN	149	AC-FT	449,700		
WTR YR 1969	TOTAL	1,221,189	MEAN	3,346	MAX	26,300	MIN	175	AC-FT	2,422,000		

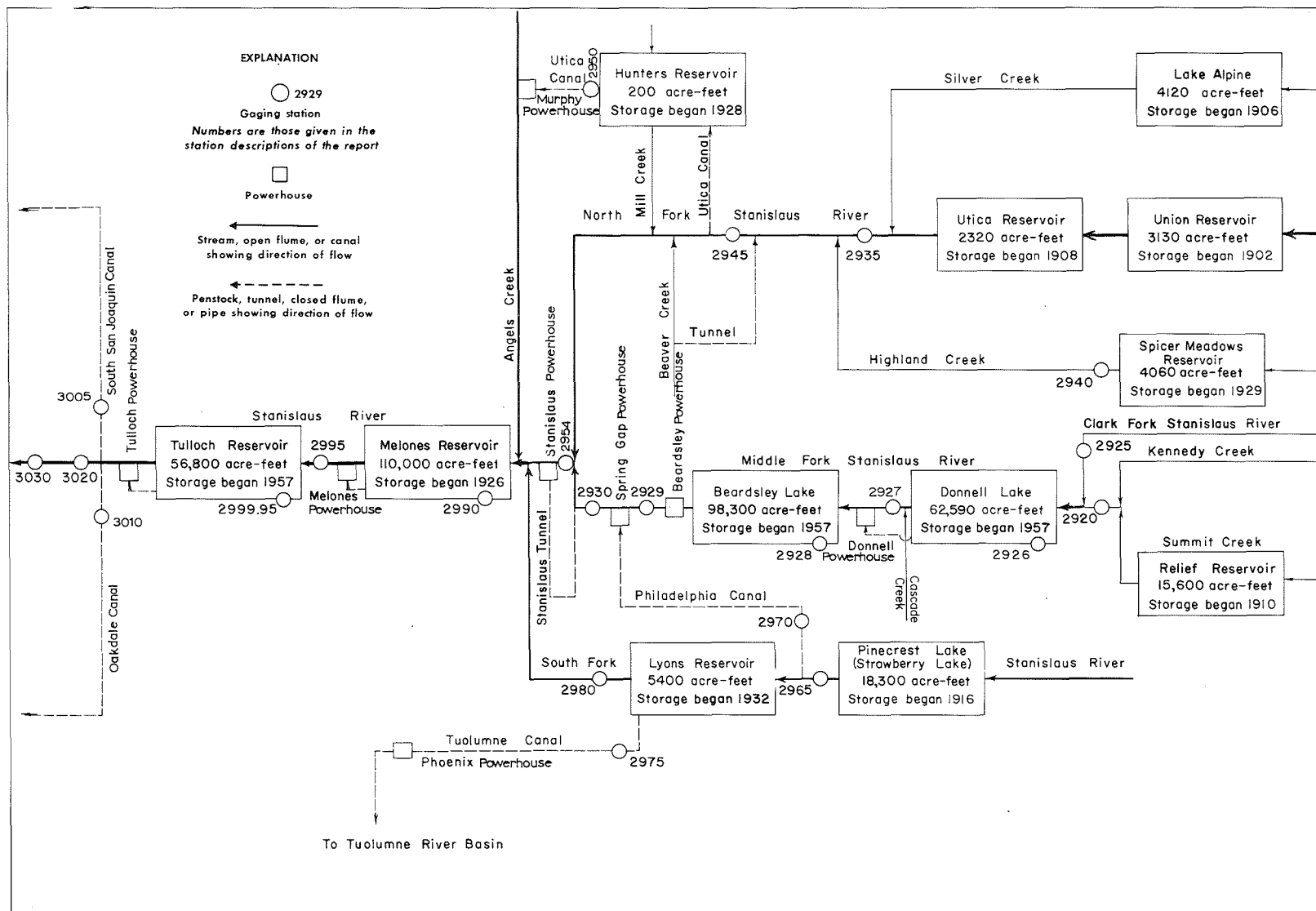


FIGURE 8.—Schematic diagram showing diversions and storage in Stanislaus River basin.

11-2920. MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°17'51", long 119°44'25", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.5 N., R.20 E., Tuolumne County, Stanislaus National Forest, on right bank at upper end of Kennedy Meadows, 1.3 miles upstream from Deadman Creek, 1.6 miles downstream from Relief Reservoir, and 5.8 miles southwest of Dardanelle.

DRAINAGE AREA.--47.5 sq mi.

PERIOD OF RECORD.--October 1938 to current year. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1962, published as "at Kennedy Meadows."

GAGE.--Water-stage recorder. Datum of gage is 6,320.1 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--31 years, 135 cfs (97,810 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 1,440 cfs June 2 (gage height, 6.40 ft); minimum daily, 12 cfs Oct. 4-11.

Period of record: Maximum discharge recorded, 1,700 cfs Nov. 20, 1950 (gage height, 6.66 ft); minimum daily recorded, 7.2 cfs Feb. 11, 1948.

REMARKS.--Records good. Flow regulated by Relief Reservoir 1.6 miles upstream (usable capacity, 15,600 acre-ft). Contents of Relief Reservoir were zero acre-ft on Sept. 30, 1968, and 701 acre-ft on Sept. 30, 1969. No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, 11 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1315-A: 1939(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	20	18	83	57	111	172	1,190	465	223	151
2	14	25	22	18	80	57	107	175	1,290	545	184	198
3	13	66	21	57	78	55	99	159	1,290	499	187	300
4	12	34	20	74	75	53	101	139	1,210	440	200	382
5	12	28	20	75	73	51	106	159	1,120	479	193	391
6	12	24	19	75	70	50	95	221	1,110	418	175	388
7	12	23	17	75	64	49	87	277	995	406	157	397
8	12	23	17	75	68	47	84	325	926	492	144	409
9	12	26	17	72	68	43	83	357	696	545	136	403
10	12	28	17	71	65	29	86	365	503	545	141	391
11	12	27	17	71	65	25	101	385	424	542	141	380
12	13	33	20	73	64	25	119	397	403	542	150	368
13	17	25	19	78	65	25	124	397	538	688	144	363
14	20	23	18	78	62	25	120	391	650	709	157	374
15	18	25	17	72	62	25	110	357	739	575	189	382
16	18	25	20	71	62	26	108	485	713	485	202	374
17	17	24	21	68	63	28	116	827	610	433	187	363
18	17	32	23	72	62	29	125	953	567	452	179	349
19	16	33	19	100	60	30	132	906	713	496	159	336
20	16	29	20	103	59	31	162	794	731	509	144	323
21	16	28	20	87	59	29	198	827	709	524	148	308
22	16	28	20	78	59	30	229	942	688	675	180	189
23	16	27	19	70	59	33	215	1,050	718	675	193	73
24	16	26	19	67	56	34	174	1,040	642	503	180	72
25	16	24	18	79	60	37	129	1,040	622	415	145	71
26	16	21	20	81	55	45	97	1,040	524	360	138	71
27	16	22	25	71	56	55	97	1,120	446	333	156	70
28	15	21	21	68	55	67	115	1,060	374	291	157	68
29	16	21	19	66	-----	78	141	1,000	325	313	154	68
30	18	21	19	74	-----	90	161	1,020	349	308	151	67
31	16	-----	18	83	-----	107	-----	1,040	-----	261	151	-----
TOTAL	466	807	602	2,220	1,807	1,365	3,732	19,420	21,815	14,923	5,145	8,079
MEAN	15.0	26.9	19.4	71.6	64.5	44.0	124	626	727	481	166	269
MAX	20	66	25	103	83	107	229	1,120	1,290	709	223	409
MIN	12	15	17	18	55	25	83	139	325	261	136	67
AC-FT	924	1,600	1,190	4,400	3,580	2,710	7,400	38,520	43,270	29,600	10,200	16,020
CAL YR 1968	TOTAL 36,718.00		MEAN 100		MAX 614		MIN 10		AC-FT 72,830			
WTR YR 1969	TOTAL 80,381		MEAN 220		MAX 1,290		MIN 12		AC-FT 159,400			

11-2925. CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°21'50", long 119°52'13", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.22, T.6 N., R.19 E., Tuolumne County, Stanislaus National Forest, on right bank 0.5 mile upstream from mouth, and 2.6 miles northwest of Dardanelle.

DRAINAGE AREA.--67.5 sq mi.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,507.3 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--19 years, 152 cfs (110,100 acre-ft per year); median of yearly mean discharges, 135 cfs (97,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,740 cfs June 2 (gage height, 8.25 ft); minimum daily, 20 cfs Oct. 3-9, 11.

Period of record: Maximum discharge, 4,350 cfs Nov. 20, 1950 (gage height, 11.88 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement of maximum flow; minimum, 11 cfs Apr. 3, 1958.

REMARKS.--Records excellent except those for the winter period, which are fair. No storage or diversion above station. See schematic diagram of Stanislaus River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	24	40	40	77	53	246	512	1,430	573	158	57
2	21	51	36	43	74	52	234	509	1,460	579	154	57
3	20	134	34	46	74	52	204	446	1,500	557	147	57
4	20	53	32	54	71	51	208	408	1,430	534	140	56
5	20	44	32	66	70	51	226	446	1,400	522	134	54
6	20	38	32	73	70	51	194	574	1,400	503	126	55
7	20	37	33	76	68	51	176	682	1,330	479	118	61
8	20	38	35	58	65	51	170	807	1,200	476	112	70
9	20	46	36	40	64	50	172	971	939	494	107	58
10	21	47	39	40	63	50	176	980	772	491	106	53
11	20	43	37	41	63	50	214	1,030	673	476	105	51
12	28	54	31	41	63	50	263	1,040	652	467	103	49
13	43	41	30	42	62	50	274	1,100	732	544	95	48
14	40	38	30	43	60	50	261	1,100	788	503	93	48
15	30	41	34	44	59	51	232	998	876	444	92	47
16	30	38	33	41	62	56	230	1,020	930	388	90	47
17	30	39	32	39	59	56	261	1,130	808	353	86	46
18	31	65	31	46	58	57	299	1,190	784	346	84	45
19	27	70	31	77	57	60	313	1,140	820	339	81	45
20	26	58	31	117	57	63	400	1,060	844	322	78	46
21	25	54	30	124	56	62	488	1,090	816	313	75	45
22	24	52	30	92	56	62	542	1,260	824	302	73	43
23	24	52	35	78	56	68	509	1,300	812	294	71	42
24	24	50	40	74	51	71	405	1,340	792	274	70	41
25	24	48	47	120	58	75	352	1,320	740	246	68	40
26	23	46	39	143	57	88	328	1,360	648	229	66	39
27	22	44	35	109	55	109	328	1,390	610	211	64	39
28	22	43	36	95	54	134	372	1,300	560	201	62	38
29	25	45	37	86	-----	162	438	1,320	538	196	60	39
30	30	42	38	83	-----	201	479	1,340	550	185	59	38
31	26	-----	39	78	-----	246	-----	1,400	-----	169	58	-----
TOTAL	777	1,475	1,075	2,149	1,739	2,333	8,994	31,563	27,658	12,010	2,935	1,454
MEAN	25.1	49.2	34.7	69.3	62.1	75.3	300	1,018	922	387	94.7	48.5
MAX	43	134	47	143	77	246	542	1,400	1,500	579	158	70
MIN	20	24	30	39	51	50	170	408	538	169	58	38
AC-FT	1,540	2,930	2,130	4,260	3,450	4,630	17,840	62,600	54,860	23,820	5,820	2,880

CAL YR 1968 TOTAL 36,881 MEAN 101 MAX 557 MIN 17 AC-FT 73,150
WTR YR 1969 TOTAL 94,162 MEAN 258 MAX 1,500 MIN 20 AC-FT 186,800

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-21	2200	5.64	609	6-16	0100	7.18	1,110
6-2	2300	8.25	1,740	7-13	2000	6.67	872

11-2926. DONNELL LAKE NEAR DARDANELLE, CALIF.

LOCATION.--Lat 38°19'46", long 119°57'37", in SE¼ sec.35, T.6 N., R.18 E., Tuolumne County, on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 miles downstream from Niagara Creek, and 6.9 miles west of Dardanelle.

DRAINAGE AREA.--230 sq mi.

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1962, published as Donnell's Reservoir near Dardanelle.

GAGE.--Water-stage recorder. Datum of gage is 4.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Current year: Maximum contents, 64,500 acre-ft July 13 (gage height, 4,916.3 ft); minimum, 4,950 acre-ft Mar. 21 (gage height, 4,736.0 ft).

Period of record: Maximum contents, 64,900 acre-ft May 8, 1963 (gage height, 4,917.3 ft); minimum since reservoir first filled, 4,800 acre-ft Apr. 19, 1965 (gage height, 4,735.3 ft).

REMARKS.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 62,590 acre-ft between gage heights 4,720.0 ft (minimum operating head) and 4,917.0 ft (top of spillway gates). Lake is for power and conservation storage. Water passes through a 7.2-mile tunnel to a powerplant and down the Middle Fork Stanislaus River to Beardsley Lake (see sta 11-2928). Records, including extremes, represent total contents at 2400 hours of which 2,150 acre-ft is below minimum operating head. See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,735	4,730	4,790	19,100
4,740	5,830	4,800	22,100
4,750	8,220	4,820	28,400
4,760	10,800	4,850	38,700
4,770	13,400	4,880	49,800
4,780	16,200	4,917.3	64,900

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49100	31300	23600	18500	26900	5380	8490	36000	59100	62800	63400	55000
2	48400	31400	23800	17900	26400	5810	9080	38200	59500	64200	63100	54600
3	47900	32600	24000	17500	25700	5810	9280	39900	59400	64000	62800	54500
4	46900	32100	24200	17900	25000	5830	9510	41400	59400	63900	62600	54600
5	47000	31400	24400	18300	24300	5830	10000	43600	59500	63900	62400	54700
6	47000	30700	24500	17800	23900	5850	10100	46800	59400	63900	62100	54800
7	46200	30000	24700	17300	23000	5740	9950	50800	59200	63900	61900	55200
8	45300	29300	24900	16800	22200	6100	9790	55700	58900	64200	61600	55800
9	44400	29500	25100	16200	21400	6480	9610	58300	58600	64100	61300	55900
10	43700	29700	25400	15600	20500	6480	9480	58100	58200	64200	61000	55900
11	42900	30000	25600	16100	19600	6080	9770	58100	58100	64200	60400	56000
12	42900	29400	25800	16400	18700	5900	10500	58100	58100	64200	60200	56000
13	43100	28800	25600	16100	17800	5900	11400	58200	58400	64500	60000	56000
14	42500	28100	25800	15900	16900	5560	12000	58100	58600	64300	59900	56000
15	41600	27300	26100	15600	16000	5180	12300	58000	58600	64100	59700	56100
16	40800	27500	26300	15300	15000	5120	12600	58200	59200	64100	59600	56200
17	40000	27700	25800	14900	14100	5030	13300	58400	59200	64100	59300	56200
18	39200	27300	25100	15400	13100	5050	14400	58400	59300	64100	59200	56300
19	39200	26800	24200	17700	12200	5100	15400	58200	60200	64100	58900	56200
20	39300	26200	23300	19500	11100	5010	17100	58200	61300	64200	58600	56400
21	38800	25700	22500	21300	10100	4950	19700	58300	61900	64100	58200	56200
22	38000	25000	21700	21800	9100	5430	22500	58400	63200	64200	58000	56000
23	37200	25300	20900	22000	8070	5940	25000	58700	63200	64000	57900	55500
24	36300	25600	20300	22100	7040	5560	26400	58700	63400	64000	57700	54900
25	35500	25000	20500	24400	6040	5270	27300	58600	63500	64000	57300	54400
26	35500	24300	19800	26300	5100	5250	27900	58700	63100	63900	57000	53700
27	35600	23700	19300	26500	5010	5380	28700	58900	62500	63900	56600	53000
28	34700	23900	19500	27300	5160	5580	29900	59000	62600	63900	56200	52400
29	33900	23100	19700	27800	-----	5850	31800	59000	62600	63900	55900	51900
30	33000	23400	19000	27600	-----	6570	33600	59000	62700	63900	55600	51300
31	32200	-----	18300	27200	-----	7680	-----	59100	-----	63700	55400	-----
MEAN	40906	27737	23216	19710	16051	5700	16562	54745	60363	64016	59477	55057
MAX	49100	32600	26300	27800	26900	7680	33600	59100	63500	64500	63400	56400
MIN	32200	23100	18300	14900	5010	4950	8490	36000	58100	62800	55400	51300
(a)	4,831.3	4,804.2	4,787.3	4,816.2	4,737.0	4,747.8	4,835.5	4,903.4	4,912.3	4,914.5	4,894.2	4,883.8
(b)	-17,800	-8,800	-5,100	+8,900	-22,040	+2,520	+25,520	+25,500	+3,600	+1,000	-8,300	-4,100
CAL YR 1968.....	b +2,000			MAX 64,300		MIN 9,610						
WTR YR 1969.....	b +1,300			MAX 64,500		MIN 4,950						

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

b Change in contents, in acre-feet.

11-2927. MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CALIF.

LOCATION.--Lat 38°14'49", long 120°01'51", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.5 N., R.18 E., Tuolumne County, on left bank 200 ft upstream from Donnell powerhouse, 800 ft downstream from Hells Half Acre Bridge, 1.1 miles upstream from Cow Creek, and 4.7 miles northwest of Pinecrest.

DRAINAGE AREA.--287 sq mi.

PERIOD OF RECORD.--February 1956 to current year. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre Bridge.

GAGE.--Water-stage recorder. Datum of gage is 3,418.31 ft above mean sea level (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

AVERAGE DISCHARGE.--13 years, 262 cfs (189,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,280 cfs May 9 (gage height, 10.92 ft); minimum daily, 22 cfs Nov. 1.

Period of record: Maximum discharge, 10,200 cfs Dec. 24, 1964 (gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks), from rating curve extended above 2,100 cfs on basis of computation of peak inflow to Beardsley Lake at 12.20 ft; minimum, 3.3 cfs Nov. 9, 10, 1957.

Maximum stage known since at least 1905, 23 ft Dec. 23, 1955, from floodmarks at present site (discharge, 26,600 cfs by slope-area measurement).

REMARKS.--Records good. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), by Donnell Lake (see sta 11-2926), and by diversion around station through Donnell powerhouse. See schematic diagram of Stanislaus River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	22	34	41	322	130	595	665	4,490	382	45	34
2	36	26	30	42	289	126	542	635	4,410	236	45	34
3	36	172	30	43	271	125	458	554	4,600	1,050	44	34
4	36	67	29	51	257	121	452	522	4,220	785	43	33
5	35	38	29	56	248	118	590	630	3,920	790	43	33
6	35	32	29	63	239	121	486	775	3,850	610	42	33
7	35	30	29	68	214	116	420	844	3,530	670	41	34
8	35	28	29	66	203	112	405	904	3,200	542	40	35
9	35	27	29	60	197	111	393	2,140	2,420	800	40	34
10	35	27	30	56	190	109	396	3,840	1,760	805	40	33
11	35	26	49	56	190	106	472	3,770	1,380	800	40	33
12	36	42	36	65	190	106	575	3,690	1,200	770	39	33
13	41	35	35	165	180	103	570	3,770	1,340	820	39	33
14	42	32	36	232	177	103	518	3,750	1,680	1,200	39	33
15	38	34	51	175	187	106	438	3,350	2,040	874	38	33
16	36	33	51	131	180	115	448	3,390	1,780	650	38	34
17	36	32	43	109	170	124	498	4,110	1,720	466	38	34
18	35	49	39	116	170	140	575	4,490	1,600	476	38	34
19	35	63	39	1,270	162	153	575	4,290	1,410	514	37	33
20	35	46	34	1,520	156	158	675	3,790	1,320	518	37	33
21	35	41	34	1,960	150	158	805	3,780	1,440	483	37	33
22	34	38	34	767	144	154	826	4,250	1,060	538	36	33
23	34	37	35	491	144	177	760	4,490	1,710	815	36	33
24	34	37	56	471	138	192	570	4,650	1,500	480	36	33
25	34	37	68	1,690	146	210	483	4,530	1,370	295	36	33
26	34	34	54	1,770	140	243	455	4,460	1,340	243	36	33
27	34	33	46	783	131	292	462	4,440	1,270	143	35	32
28	34	32	46	568	133	357	538	4,270	1,100	109	35	32
29	34	31	42	449	-----	417	625	4,160	934	39	35	32
30	36	32	41	402	-----	494	655	4,250	710	39	34	32
31	34	-----	41	351	-----	575	-----	4,270	-----	46	34	-----
TOTAL	1,100	1,213	1,208	14,087	5,318	5,672	16,260	97,459	64,304	16,988	1,196	996
MEAN	35.5	40.4	39.0	454	190	183	542	3,144	2,143	548	38.6	33.2
MAX	42	172	68	1,960	322	575	826	4,650	4,600	1,200	45	35
MIN	34	22	29	41	131	103	393	522	710	39	34	32
AC-FT	2,180	2,410	2,400	27,940	10,550	11,250	32,250	193,300	127,500	33,700	2,370	1,980
CAL YR 1968	TOTAL	38,425	MEAN	105	MAX	1,250	MIN	17	AC-FT	76,220		
WTR YR 1969	TOTAL	225,801	MEAN	619	MAX	4,650	MIN	22	AC-FT	447,900		

11-2928. BEARDSLEY LAKE NEAR STRAWBERRY, CALIF.

LOCATION.--Lat 38°12'17", long 120°04'31", in NW¼ sec.14, T.4 N., R.17 E., Tuolumne County, Stanislaus National Forest, in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 miles upstream from Spring Gap powerhouse, 3.9 miles west of Strawberry, and 4.7 miles west of Pinecrest.

DRAINAGE AREA.--309 sq mi.

PERIOD OF RECORD.--June 1957 to current year. Prior to October 1980, published as Lake Hartley near Strawberry.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Current year: Maximum contents, 98,300 acre-ft May 22 (gage height, 3,397.7 ft); minimum, 32,700 acre-ft Jan. 12 (gage height, 3,289.0 ft).

Period of record: Maximum contents, 98,700 acre-ft June 27, 1957 (gage height, 3,398.2 ft); minimum since reservoir first filled, 20,000 acre-ft Jan. 27, 28, 1962 (gage height, 3,261.3 ft).

REMARKS.--Reservoir is formed by rockfill, earth-core dam completed in 1957. Capacity, 98,500 acre-ft between gage heights 3,145.0 ft (tunnel invert) and 3,398.0 ft (top of spillway gates). No dead storage. Reservoir is used for power and conservation storage. Water passes through powerplant and down Middle Fork Stanislaus River to Melones Reservoir (see sta 11-2990). Records, including extremes, represent contents at 2400 hours. See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,261	19,900	3,350	66,400
3,290	33,100	3,370	79,200
3,320	48,800	3,398	98,500

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55,100	56,700	51,700	35,900	64,500	76,300	71,300	78,800	97,600	97,600	97,700	94,200
2	54,900	56,900	50,700	36,000	65,100	75,400	72,900	78,800	97,700	97,700	97,700	94,200
3	54,600	57,400	49,800	35,700	65,900	74,900	74,300	78,700	97,700	97,700	97,700	93,800
4	54,700	58,200	48,900	34,800	66,700	74,400	75,600	78,700	97,700	97,700	97,700	93,500
5	53,700	58,500	48,000	33,900	67,500	73,800	77,500	78,800	97,700	97,600	97,700	93,200
6	52,700	58,700	47,000	34,000	67,900	73,200	78,600	78,900	97,600	97,700	97,600	92,800
7	52,600	58,700	46,000	34,000	68,500	72,700	78,900	79,000	97,700	97,600	97,400	92,300
8	52,500	58,700	45,100	34,100	69,200	71,800	78,900	79,100	97,500	97,700	97,300	91,600
9	52,400	57,800	44,200	34,400	69,700	70,900	78,900	80,400	97,700	97,700	97,100	91,300
10	52,200	56,800	43,400	34,400	70,400	70,400	79,000	80,500	97,700	97,700	96,900	91,000
11	52,100	56,100	42,500	33,500	71,000	70,100	79,000	80,400	97,700	97,600	96,900	90,600
12	51,400	56,200	41,600	32,700	71,600	69,600	79,200	80,400	97,700	97,600	96,900	90,400
13	50,600	56,200	41,200	33,000	72,200	69,000	79,200	80,500	97,700	97,700	96,700	89,900
14	50,500	56,300	40,200	34,000	72,800	68,500	79,100	83,200	97,700	97,700	96,700	89,600
15	50,500	56,500	39,600	34,300	73,600	68,400	79,000	87,200	97,600	97,700	96,500	89,200
16	50,500	55,600	38,700	34,300	74,200	67,900	79,000	89,700	97,700	97,700	96,400	88,900
17	50,500	54,900	38,300	34,500	74,800	67,500	79,100	91,100	97,700	97,700	96,400	88,600
18	50,500	55,000	38,400	34,000	75,400	67,000	79,200	93,400	97,700	97,700	96,300	88,000
19	49,600	55,200	38,500	36,700	76,000	66,600	79,200	95,100	97,600	97,700	96,200	87,700
20	48,600	55,400	38,800	40,600	76,600	66,400	79,300	95,900	97,700	97,600	96,200	87,200
21	48,800	55,500	38,800	46,100	77,200	66,100	79,500	96,700	97,700	97,700	96,100	86,800
22	49,800	55,500	38,900	48,400	77,700	65,300	79,500	98,300	97,500	97,700	96,000	86,400
23	50,600	54,700	39,100	49,800	78,100	64,500	79,400	97,900	97,700	97,700	95,900	85,900
24	51,500	53,900	39,200	51,100	78,200	64,600	79,200	97,700	97,600	97,700	95,800	85,500
25	52,400	54,000	38,500	55,100	78,200	64,900	79,100	97,600	97,700	97,700	95,700	85,000
26	52,400	54,100	38,500	58,600	78,200	65,100	79,000	97,600	97,600	97,700	95,400	84,700
27	52,400	54,000	38,500	60,500	77,600	65,400	79,100	97,700	97,700	97,700	95,200	84,400
28	53,200	53,300	37,700	61,500	77,000	66,100	79,200	97,800	97,700	97,700	94,800	83,800
29	54,100	53,300	36,900	62,100	-----	67,100	78,900	97,700	97,700	97,700	94,700	83,400
30	55,100	52,500	36,900	63,100	-----	68,300	78,800	97,700	97,700	97,700	94,700	83,000
31	55,900	-----	36,900	63,900	-----	69,600	-----	97,700	-----	97,700	94,300	-----
(a)	3,332.6	3,326.6	3,297.5	3,345.9	3,366.7	3,355.2	3,369.5	3,396.8	3,396.8	3,396.9	3,392.1	3,375.7
(b)	+800	-3,400	+15,600	+27,000	+13,100	-7,400	+9,200	+18,900	0	0	-3,400	-11,300
MAX	55,900	58,700	51,700	63,900	78,200	76,300	79,500	98,300	97,700	97,700	97,700	94,200
MIN	48,600	52,500	36,900	32,700	64,500	64,500	71,300	78,700	97,500	97,600	94,300	83,000

CAL YR 1968 TOTAL b -8,100 MAX 97,800 MIN 26,600
WTR YR 1969 TOTAL b +27,900 MAX 98,300 MIN 32,700

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2929. MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CALIF.

LOCATION.--Lat 38°11'36", long 120°05'53", in NW¼ sec.22, T.4 N., R.17 E., Tuolumne County, on right bank 0.5 mile downstream from Beardsley powerhouse afterbay dam, 1.5 miles downstream from Beardsley Dam, and 5.7 miles west of Pinecrest.

DRAINAGE AREA.--316 sq mi.

PERIOD OF RECORD.--December 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,044.7 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--12 years, 620 cfs (449,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,630 cfs May 24 (gage height, 11.07 ft); minimum daily, 33 cfs Nov. 3.

Period of record: Maximum discharge, 6,630 cfs May 24, 1969 (gage height, 11.07 ft); minimum daily, 3.0 cfs Oct. 10, 11, 1958.

REMARKS.--Records good. No diversion above station. Flow regulated by Relief Reservoir (capacity, 15,600 acre-ft), Donnell Lake since April 1957 (see sta 11-2926), and by Beardsley Lake since January 1957 (see sta 11-2928). See schematic diagram for Stanislaus River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482	38	462	496	629	656	688	1,530	5,410	1,070	665	458
2	482	35	493	493	634	652	688	1,530	5,250	876	652	472
3	493	33	493	496	634	652	688	1,440	5,420	1,700	656	584
4	508	82	493	500	634	638	683	1,360	5,020	1,400	629	588
5	508	357	493	500	638	634	715	1,400	4,680	1,560	592	592
6	512	392	493	504	634	647	854	1,570	4,720	1,390	580	592
7	512	458	493	500	634	647	1,200	1,710	4,240	1,330	576	588
8	508	476	490	504	634	642	1,280	1,780	4,100	1,160	576	592
9	508	476	493	500	634	642	1,280	2,470	3,140	1,480	576	600
10	493	468	493	504	634	638	1,280	4,740	2,550	1,450	576	600
11	476	462	490	504	634	634	1,320	4,760	2,100	1,500	552	600
12	479	462	490	508	638	638	1,440	4,650	1,910	1,430	508	600
13	479	462	486	508	642	629	1,500	4,680	2,050	1,430	490	604
14	476	462	490	465	642	634	1,470	3,410	2,420	2,040	486	612
15	476	462	482	363	656	634	1,380	2,210	2,820	1,600	476	612
16	476	458	490	458	652	634	1,320	2,910	2,420	1,340	468	612
17	482	454	490	454	652	634	1,340	4,380	2,490	1,100	468	616
18	490	451	490	458	656	638	1,410	4,320	2,350	1,140	468	616
19	486	454	490	427	656	642	1,470	4,290	2,210	1,190	468	616
20	486	454	490	298	656	642	1,540	4,300	1,980	1,210	468	620
21	159	454	486	204	656	642	1,650	4,290	2,160	1,130	468	620
22	57	454	490	226	656	642	1,760	4,360	1,830	1,200	468	624
23	52	454	490	303	725	642	1,760	5,660	2,350	1,370	468	629
24	51	451	490	351	926	647	1,560	5,700	2,260	1,180	468	634
25	51	451	490	309	942	647	1,410	5,470	2,030	931	468	638
26	51	454	490	449	926	652	1,330	5,360	2,080	904	544	647
27	50	451	490	670	780	656	1,300	5,360	1,960	795	588	647
28	50	451	490	479	660	670	1,340	5,250	1,780	750	588	652
29	50	451	490	398	-----	670	1,640	5,060	1,610	710	552	656
30	50	448	496	516	-----	678	1,560	5,200	1,440	665	500	656
31	50	-----	500	638	-----	683	-----	5,220	-----	678	482	-----
TOTAL	10,483	11,915	15,186	13,983	19,094	20,036	38,856	116,370	86,780	37,709	16,524	18,177
MEAN	338	397	490	451	682	646	1,295	3,754	2,893	1,216	533	606
MAX	512	476	500	670	942	683	1,760	5,700	5,420	2,040	665	656
MIN	50	33	462	204	629	629	683	1,360	1,440	665	468	458
AC-FT	20,790	23,630	30,120	27,730	37,870	39,740	77,070	230,800	172,100	74,790	32,770	36,050
CAL YR 1968	TOTAL 153,176		MEAN 419	MAX 1,700	MIN 33	AC-FT 303,800						
WTR YR 1969	TOTAL 405,113		MEAN 1,110	MAX 5,700	MIN 33	AC-FT 803,500						

11-2935. NORTH FORK STANISLAUS RIVER BELOW SILVER CREEK, CALIF.

LOCATION.--Lat 38°26'22", long 120°00'53", in SE $\frac{1}{4}$ sec.20, T.7 N., R.18 E., Alpine County, Stanislaus National Forest, on right bank 100 ft downstream from Silver Creek, and 5.6 miles northeast of Big Meadow.

DRAINAGE AREA.--27.8 sq mi.

PERIOD OF RECORD.--October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,677.3 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--17 years, 75.7 cfs (54,840 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,280 cfs May 22 (gage height, 8.08 ft); minimum daily, 8.2 cfs Oct. 16.

Period of record: Maximum discharge, 2,780 cfs Dec. 24, 1964 (gage height, 11.16 ft, from floodmarks), from rating curve extended above 500 cfs; minimum daily, 0.3 cfs Oct. 10, 1958.

Flood of Nov. 20, 1950, reached a stage of 11.17 ft, from Pacific Gas and Electric Co. recorder chart (discharge, 2,790 cfs).

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Lake Alpine, Union, and Utica Reservoirs (combined capacity, 9,600 acre-ft). No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	49	15	21	50	35	242	480	790	134	19	58
2	34	71	16	20	45	30	211	410	780	134	28	58
3	34	148	16	20	43	32	157	305	780	130	26	68
4	34	70	16	24	41	31	149	286	690	117	25	68
5	34	55	16	26	47	31	184	426	640	104	31	66
6	34	44	15	29	40	30	141	705	605	94	34	69
7	34	44	15	31	37	29	112	760	531	85	34	68
8	34	52	15	30	37	29	104	835	450	77	34	66
9	34	52	15	27	37	28	110	915	317	69	34	66
10	34	51	17	24	37	29	118	880	262	88	34	65
11	34	50	22	24	38	29	164	1,030	233	86	34	64
12	35	82	21	26	44	29	223	845	236	58	34	64
13	38	60	19	29	42	29	240	840	305	70	34	64
14	38	54	20	32	41	28	205	860	418	71	34	63
15	23	39	22	30	40	28	150	770	440	63	35	63
16	8.2	23	19	26	35	31	155	800	378	56	35	63
17	23	25	16	24	32	33	210	925	314	47	34	63
18	38	77	14	23	36	35	252	925	335	43	34	63
19	38	39	15	66	36	41	260	820	406	38	42	63
20	38	27	16	143	34	43	326	755	302	37	47	64
21	38	22	17	123	34	44	445	800	280	35	46	63
22	60	20	20	75	33	44	465	1,000	254	35	46	63
23	60	20	22	52	37	48	370	1,000	254	38	48	63
24	60	18	24	45	39	50	224	940	206	33	50	62
25	60	20	26	78	40	56	167	895	192	28	50	62
26	60	18	27	146	38	73	160	980	164	23	53	62
27	60	17	27	132	32	92	200	975	152	21	56	60
28	60	16	27	126	33	122	278	790	139	19	56	60
29	60	14	26	82	-----	167	350	805	128	17	58	60
30	60	14	23	65	-----	210	480	800	129	15	58	59
31	56	-----	22	52	-----	238	-----	845	-----	13	58	-----
TOTAL	1,287.2	1,291	601	1,651	1,078	1,774	6,852	24,402	11,110	1,878	1,241	1,900
MEAN	41.5	43.0	19.4	53.3	38.5	57.2	228	787	370	60.6	40.0	63.3
MAX	60	148	27	146	50	238	480	1,030	790	134	58	69
MIN	8.2	14	14	20	32	28	104	286	128	13	19	58
AC-FT	2,550	2,560	1,190	3,270	2,140	3,520	13,590	48,400	22,040	3,730	2,460	3,770
CAL YR 1968	TOTAL 19,804.7	MEAN 54.1	MAX 312	MIN 5.4	AC-FT 39,280							
WTR YR 1969	TOTAL 55,065.2	MEAN 151	MAX 1,030	MIN 8.2	AC-FT 109,200							

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-21	2200	6.93	695	5-22	2030	8.08	1,280
4-30	2000	6.69	575	6-14	2000	6.97	715
5-10	2300	8.00	1,230	6-18	2400	6.82	640

NOTE.--No gage-height record Dec. 2 to Jan. 18.

SAN JOAQUIN RIVER BASIN

11-2940. HIGHLAND CREEK BELOW SPICER MEADOWS RESERVOIR, CALIF.

LOCATION.--Lat 38°23'34", long 119°59'50", in SW $\frac{1}{4}$ sec.3, T.6 N., R.18 E., Tuolumne County, Stanislaus National Forest, on right bank 500 ft downstream from Spicer Meadows Reservoir dam, 5.5 miles upstream from mouth, and 7 miles east of Big Meadow.

DRAINAGE AREA.--42.4 sq mi.

PERIOD OF RECORD.--October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,374.8 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--17 years, 122 cfs (88,390 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,880 cfs May 22 (gage height, 7.20 ft); minimum daily, 1.8 cfs Oct. 1, 11-14.

Period of record: Maximum discharge, 9,860 cfs Jan. 31, 1963 (gage height, 11.88 ft), from rating curve extended above 1,200 cfs; no flow Sept. 28 to Dec. 1, Dec. 4-6, 1964.

Flood of Nov. 20, 1950, reached a stage of 11.50 ft, from Pacific Gas and Electric Co. recorder chart (discharge, 8,800 cfs).

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Spicer Meadows Reservoir 500 ft upstream (capacity, 4,060 acre-ft). See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record and eight 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 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	6.1	52	51	78	55	432	654	1,110	312	39	4.3
2	2.0	5.8	44	55	70	60	372	602	1,110	318	35	4.2
3	2.0	7.2	45	58	63	63	262	494	1,060	294	34	4.2
4	2.0	7.0	45	62	70	62	264	450	1,010	274	30	4.2
5	2.0	5.7	43	69	70	60	321	650	992	264	32	4.2
6	2.0	5.7	42	76	63	54	230	860	955	246	27	4.2
7	2.0	5.7	41	80	63	52	184	920	865	226	29	4.2
8	2.0	5.9	42	77	70	50	177	1,050	730	214	30	3.6
9	2.0	6.4	40	64	70	47	187	1,140	578	216	30	3.6
10	2.0	6.4	49	61	70	46	200	1,120	470	222	30	3.6
11	1.8	6.1	59	66	72	46	282	1,150	410	216	31	3.5
12	1.8	6.1	49	64	73	46	393	1,080	410	198	31	3.7
13	1.8	6.1	48	84	71	44	402	1,140	562	210	30	3.6
14	1.8	6.1	50	86	70	42	342	1,180	652	200	30	3.8
15	30	6.3	61	83	64	42	256	1,030	682	180	30	3.8
16	13	6.3	48	69	58	43	268	1,080	670	156	30	3.9
17	5.5	6.4	37	60	57	45	360	1,210	550	139	30	3.8
18	6.0	6.5	33	72	57	49	425	1,240	590	132	29	3.6
19	5.1	6.9	37	391	57	52	425	1,120	590	127	17	3.6
20	4.8	7.4	41	598	57	54	550	1,040	546	122	7.8	3.6
21	4.6	11	41	424	57	52	694	1,050	498	114	9.0	3.4
22	5.3	38	48	213	57	50	726	1,310	478	110	12	2.9
23	5.3	72	60	146	57	80	622	1,360	464	110	8.2	5.3
24	5.3	71	74	131	63	91	405	1,270	426	96	6.8	7.2
25	5.3	69	72	330	63	106	315	1,200	402	83	6.8	7.2
26	5.3	55	68	507	63	139	298	1,300	360	72	6.9	7.2
27	5.2	56	64	238	51	182	336	1,310	339	66	6.9	7.0
28	5.2	53	55	164	57	236	470	1,110	303	58	5.2	7.0
29	8.3	48	50	110	-----	286	594	1,110	290	56	4.5	7.0
30	6.6	50	46	98	-----	366	626	1,090	296	52	4.4	9.1
31	6.4	-----	46	82	-----	432	-----	1,140	-----	44	4.4	-----
TOTAL	154.2	649.1	1,530	4,669	1,791	3,032	11,418	32,460	18,398	5,127	656.9	140.5
MEAN	4.97	21.6	49.4	151	64.0	97.8	381	1,047	613	165	21.2	4.68
MAX	30	72	74	598	78	432	726	1,360	1,110	318	39	9.1
MIN	1.8	5.7	33	51	51	42	177	450	290	44	4.4	2.9
AC-FT	306	1,290	3,030	9,260	3,550	6,010	22,650	64,380	36,490	10,170	1,300	279
CAL YR 1968	TOTAL	33,560.95	MEAN	91.7	MAX	514	MIN	.90	AC-FT	66,570		
WTR YR 1969	TOTAL	80,025.7	MEAN	219	MAX	1,360	MIN	1.8	AC-FT	158,700		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	0500	5.39	686	5-1	2100	5.59	775
1-26	0500	5.43	702	5-22	2100	7.20	1,880
3-31	2300	4.93	502	6-14	2230	6.00	980
4-21	2030	5.97	965				

NOTE.--No gage-height record Jan. 29 to Mar. 17.

11-2945, NORTH FORK STANISLAUS RIVER NEAR AVERY, CALIF.

LOCATION.--Lat 38°14'45", long 120°17'20", in SW¼NE¼ sec.35, T.5 N., R.15 E., Calaveras County, Stanislaus National Forest, on right bank 700 ft upstream from intake of Utica Canal, 3.3 miles upstream from Beaver Creek, and 5.1 miles northeast of Avery.

DRAINAGE AREA.--163 sq mi.

PERIOD OF RECORD.--July 1914 to September 1925, November 1928 to current year. Yearly discharge only for some years, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3,388.3 ft above mean sea level (river-profile survey). Prior to September 1922, nonrecording gage at same site at datum 0.05 ft lower.

AVERAGE DISCHARGE.--52 years, 417 cfs (302,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,600 cfs Jan. 26 (gage height, 8.99 ft); minimum daily, 28 cfs Oct. 18.

Period of record: Maximum discharge, 36,000 cfs Jan. 31, 1963 (gage height, 15.00 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 cfs Dec. 6, 7, 1929.

REMARKS.--Records good. Flow regulated at low and medium stages by Lake Alpine, Spicer Meadows, Union and Utica Reservoirs (combined capacity, 13,600 acre-ft). Diversion of a maximum of 10 cfs during summer from Beaver Creek into river above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, nine discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1215: 1938(M). WSP 1515: 1915(M), 1932(M), 1936(M), 1938, 1940(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	69	102	124	631	317	1,780	2,330	3,110	627	73	67
2	36	88	93	126	566	294	1,680	2,200	2,950	627	72	69
3	36	734	91	131	528	294	1,280	1,860	2,940	602	76	70
4	36	230	90	169	510	280	1,220	1,710	2,670	532	72	75
5	37	128	89	196	510	273	1,640	2,180	2,530	495	68	75
6	37	94	88	216	502	280	1,270	2,900	2,390	461	74	74
7	42	79	85	228	451	269	1,040	3,260	2,180	419	71	83
8	40	82	85	224	422	262	988	3,100	2,010	388	72	81
9	40	88	85	192	403	260	1,000	4,040	1,630	371	72	76
10	43	89	98	164	388	258	1,010	3,720	1,440	379	73	74
11	38	85	184	174	400	249	1,280	4,250	1,250	357	72	73
12	42	175	133	186	441	249	1,660	3,810	1,190	338	71	72
13	64	161	117	474	382	245	1,680	3,690	1,460	314	70	69
14	88	108	116	543	385	241	1,550	3,700	1,690	338	70	71
15	57	107	171	416	474	251	1,230	3,230	1,980	302	70	70
16	56	97	152	294	451	283	1,210	3,340	1,760	269	70	70
17	42	92	124	241	391	307	1,450	3,880	1,540	234	70	71
18	28	172	123	319	394	340	1,730	3,960	1,720	216	69	70
19	49	255	123	2,370	371	385	1,690	3,450	1,640	201	68	70
20	47	129	107	4,530	351	403	2,020	3,110	1,400	191	69	71
21	46	103	104	4,310	338	388	2,440	3,180	1,300	179	63	71
22	57	90	108	1,600	324	368	2,570	3,840	1,190	169	63	70
23	66	120	108	1,020	327	435	2,390	4,050	1,200	177	65	70
24	66	140	164	970	332	481	1,670	3,870	1,040	164	67	70
25	66	140	230	3,360	354	528	1,340	3,540	1,010	143	64	73
26	66	126	174	3,760	335	644	1,260	3,690	854	126	64	73
27	66	107	145	1,570	312	828	1,340	3,760	792	112	67	72
28	66	102	147	1,170	314	1,010	1,720	3,170	715	104	69	71
29	72	95	140	936	-----	1,180	2,100	3,090	644	94	70	71
30	93	94	127	818	-----	1,410	2,260	3,130	606	90	68	70
31	76	-----	126	679	-----	1,660	-----	3,220	-----	83	68	-----
TOTAL	1,634	4,179	3,829	31,510	11,587	14,672	47,498	102,260	48,831	9,102	2,150	2,162
MEAN	52.7	139	124	1,016	414	473	1,583	3,299	1,628	294	69.4	72.1
MAX	93	734	230	4,530	631	1,660	2,570	4,250	3,110	627	76	83
MIN	28	69	85	124	312	241	988	1,710	606	83	63	67
AC-FT	3,240	8,290	7,590	62,500	22,980	29,100	94,210	202,800	96,850	18,050	4,260	4,290

CAL YR 1968	TOTAL 100,790	MEAN 275	MAX 1,700	MIN 23	AC-FT 199,900
WTR YR 1969	TOTAL 279,414	MEAN 766	MAX 4,530	MIN 28	AC-FT 554,200

PEAK DISCHARGE (BASE, 2,000 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0915	8.79	6,160	5-11	2145	8.49	5,540
1-26	0515	8.99	6,600	5-17	2200	8.50	5,560
4-21	2300	7.11	3,250	5-22	2215	8.47	5,500
5- 2	0030	6.59	2,630	6-14	2245	6.31	2,330

SAN JOAQUIN RIVER BASIN

11-2954. STANISLAUS RIVER NEAR HATHAWAY PINES, CALIF.

LOCATION.--Lat 38°08'29", long 120°22'19", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.3 N., R.15 E., Calaveras County, on right bank 1,000 ft upstream from Stanislaus powerhouse, and 3.6 miles south of Hathaway Pines.

DRAINAGE AREA.--629 sq mi.

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,030.00 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES (River only).--Current year: Maximum discharge, 14,800 cfs Jan. 21 (gage height, 17.15 ft); minimum daily, 31 cfs Oct. 12.

Period of record: Maximum discharge, 14,800 cfs Jan. 21, 1969 (gage height, 17.15 ft); minimum daily, 19 cfs Aug. 17, 1968.

(Combined flow).--Current year: Maximum discharge, 15,400 cfs Jan. 21; minimum daily, 134 cfs Oct. 22. Period of record: Maximum discharge, 15,400 cfs Jan. 21, 1969; minimum daily, 134 cfs Oct. 22, 1968.

REMARKS.--Records excellent. Many diversions above station for hydro-electric powerplants. Small diversions for domestic water supply. Stanislaus tunnel diverts from left bank of Middle Fork Stanislaus River 13.7 miles upstream from station in SE $\frac{1}{4}$ sec.24, T.4 N., R.16 E., to Stanislaus powerplant 1,000 ft downstream from station. See schematic diagram of Stanislaus River basin. For records of combined discharge of river and tunnel, see following page.

COOPERATION.--Records of diversion to Stanislaus powerplant furnished by Pacific Gas and Electric Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	155	121	139	1,490	1,070	3,100	4,340	8,640	1,410	245	53
2	35	115	124	136	1,330	1,000	2,860	4,180	8,290	962	222	47
3	34	1,050	128	133	1,240	976	2,320	3,570	8,400	1,730	230	96
4	34	426	120	158	1,200	906	2,140	3,280	7,780	1,650	212	149
5	47	158	115	202	1,240	838	3,150	3,830	7,300	1,640	176	154
6	49	96	115	210	1,330	844	2,680	5,030	7,240	1,440	155	154
7	51	70	114	258	1,190	766	2,560	5,620	6,540	1,350	149	158
8	52	53	115	260	1,070	748	2,540	5,940	6,140	1,190	146	172
9	51	57	113	225	1,000	736	2,480	6,800	4,790	1,360	144	172
10	50	60	120	188	948	736	2,500	8,700	3,910	1,470	144	168
11	41	55	270	176	955	710	2,920	9,260	3,080	1,460	144	170
12	31	114	198	220	1,100	690	3,590	8,980	2,790	1,360	98	170
13	43	144	160	1,060	948	640	3,780	8,700	3,080	1,320	80	168
14	96	92	138	1,600	920	630	3,530	7,710	3,740	1,820	68	174
15	61	147	216	892	1,450	665	2,900	6,070	4,630	1,570	72	174
16	42	152	270	573	1,420	710	2,790	6,340	4,060	1,200	54	174
17	41	131	152	425	1,180	772	3,100	8,370	3,740	920	52	174
18	39	147	136	508	1,240	864	3,630	8,530	3,460	913	53	176
19	34	386	131	5,920	1,150	934	3,640	8,090	3,640	976	53	176
20	33	202	98	8,850	1,080	934	4,110	7,670	3,000	941	53	176
21	34	158	84	11,100	1,010	983	4,840	7,650	3,120	832	54	178
22	34	138	98	4,470	941	927	5,220	8,150	2,730	850	50	180
23	80	139	107	2,410	1,010	1,040	5,030	9,410	3,090	1,000	47	186
24	120	176	207	2,090	1,610	1,150	3,740	9,550	2,980	1,050	47	188
25	118	176	540	7,300	1,670	1,230	3,040	9,120	2,650	574	48	192
26	118	157	375	8,250	1,450	1,410	2,770	9,000	2,560	554	64	198
27	117	136	238	4,170	1,240	1,590	2,820	8,900	2,320	397	144	205
28	117	133	215	2,940	1,070	1,880	3,270	8,480	2,120	357	149	208
29	118	117	205	2,010	-----	2,200	4,140	8,180	1,850	321	150	210
30	146	99	166	1,740	-----	2,620	4,340	8,350	1,650	242	84	212
31	176	-----	147	1,600	-----	3,010	-----	8,400	-----	248	78	-----
TOTAL	2,076	5,239	5,336	70,213	33,482	34,209	99,530	226,200	129,320	33,107	3,465	5,012
MEAN	67.0	175	172	2,265	1,196	1,104	3,318	7,297	4,311	1,068	112	167
MAX	176	1,050	540	11,100	1,670	3,010	5,220	9,550	8,640	1,820	245	212
MIN	31	53	84	133	920	630	2,140	3,280	1,650	242	47	47
AC-FT	4,120	10,390	10,580	139,300	66,410	67,850	197,400	448,700	256,500	65,670	6,870	9,940
CAL YR 1968	TOTAL	121,472		MEAN	332	MAX	2,400	MIN	19	AC-FT	240,900	
WTR YR 1969	TOTAL	647,189		MEAN	1,773	MAX	11,100	MIN	31	AC-FT	1,284,000	

11-2954. STANISLAUS RIVER NEAR HATHAWAY PINES, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF STANISLAUS RIVER AND STANISLAUS POWERPLANT AT STANISLAUS, NEAR HATHAWAY PINES, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569	302	598	671	2,030	1,610	3,640	4,880	9,180	1,940	793	596
2	570	258	641	666	1,860	1,540	3,400	4,720	8,830	1,500	768	590
3	568	1,200	643	663	1,780	1,510	2,860	4,110	8,940	2,270	778	641
4	569	541	634	692	1,740	1,440	2,680	3,820	8,320	2,190	760	694
5	584	522	630	740	1,780	1,370	3,690	4,370	7,840	2,180	724	699
6	587	530	630	751	1,870	1,380	3,220	5,570	7,780	1,980	701	699
7	598	596	631	799	1,730	1,300	3,100	6,160	7,080	1,890	695	703
8	589	604	629	800	1,610	1,280	3,080	6,480	6,680	1,700	692	717
9	588	603	630	763	1,540	1,270	3,020	7,340	5,330	1,910	690	715
10	587	605	638	725	1,480	1,270	3,040	9,240	4,450	2,020	690	711
11	575	598	796	713	1,490	1,240	3,460	9,800	3,620	2,010	690	713
12	563	655	718	757	1,640	1,220	4,130	9,520	3,330	1,900	644	713
13	567	681	678	1,600	1,480	1,180	4,320	9,240	3,620	1,860	626	711
14	617	629	659	2,140	1,460	1,160	4,070	8,250	4,280	2,360	614	719
15	578	682	740	1,350	1,990	1,200	3,440	6,610	5,170	2,110	618	717
16	562	687	794	1,100	1,960	1,240	3,330	6,880	4,600	1,740	600	719
17	564	665	675	963	1,720	1,310	3,640	8,910	4,280	1,460	598	717
18	571	681	657	1,050	1,780	1,400	4,170	9,070	4,000	1,450	599	721
19	569	920	654	6,470	1,690	1,470	4,180	8,630	4,180	1,430	598	719
20	567	736	618	9,400	1,620	1,470	4,650	8,210	3,540	1,500	598	721
21	303	692	602	11,700	1,540	1,520	5,380	8,190	3,660	1,380	599	723
22	134	670	619	5,000	1,480	1,460	5,760	8,690	3,270	1,400	595	725
23	224	671	628	2,920	1,550	1,580	5,570	9,950	3,630	1,550	592	731
24	270	706	736	2,640	2,150	1,680	4,280	10,100	3,520	1,600	592	731
25	269	706	1,090	7,850	2,210	1,760	3,580	9,660	3,190	1,100	593	737
26	268	671	916	8,800	1,990	1,940	3,310	9,540	3,100	1,110	609	743
27	267	613	772	4,710	1,780	2,120	3,360	9,440	2,860	954	689	750
28	266	602	749	3,480	1,610	2,420	3,810	9,020	2,660	913	694	751
29	269	589	732	2,550	-----	2,740	4,680	8,720	2,380	873	695	753
30	297	571	700	2,280	-----	3,160	4,880	8,890	2,180	791	629	755
31	326	-----	684	2,140	-----	3,550	-----	8,940	-----	796	621	-----
TOTAL	14,425	19,186	21,521	86,883	48,560	50,790	115,730	242,950	145,500	49,867	20,384	21,334
MEAN	465	640	694	2,803	1,734	1,638	3,858	7,837	4,850	1,609	658	711
MAX	617	1,200	1,090	11,700	2,210	3,550	5,760	10,100	9,180	2,360	793	755
MIN	134	258	598	663	1,460	1,160	2,680	3,820	2,180	791	592	590
AC-FT	28,610	38,050	42,690	172,300	96,320	100,700	229,500	481,900	288,600	98,910	40,430	42,320
CAL YR 1968	TOTAL 283,908		MEAN 776		MAX 2,700		MIN 134		AC-FT 563,100			
WTR YR 1969	TOTAL 837,130		MEAN 2,294		MAX 11,700		MIN 134		AC-FT 1,660,000			

SAN JOAQUIN RIVER BASIN

11-2965. SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CALIF.

LOCATION.--Lat 38°11'51", long 120°00'27", in SW $\frac{1}{4}$ sec.16, T.4 N., R.18 E., Tuolumne County, Stanislaus National Forest, on right bank 0.3 mile downstream from bridge on State Highway 108 at Strawberry, 0.6 mile downstream from Herring Creek, and 1.2 miles downstream from Pinecrest Lake.

DRAINAGE AREA.--44.8 sq mi.

PERIOD OF RECORD.--October 1911 to January 1917, August 1938 to current year. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence", 1911-13.

GAGE.--Water-stage recorder. Datum of gage is 5,235.1 ft above mean sea level (river-profile survey). October 1911 to January 1917, nonrecording gage at site 1 mile downstream at different datum.

AVERAGE DISCHARGE.--36 years (1911-16, 1938-69), 128 cfs (92,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,500 cfs June 2 (gage height, 6.05 ft); minimum daily, 4.7 cfs Dec. 9.

Period of record: Maximum discharge, 3,900 cfs Nov. 21, 1950 (gage height, 9.25 ft), from rating curve extended above 1,100 cfs on basis of contracted-opening measurement of maximum flow at bridge 0.3 mile below station; minimum, 1.3 cfs Nov. 22, 23, 1946.

REMARKS.--Records good. Flow regulated at low and medium stages by Pinecrest Lake 1.2 miles upstream beginning in 1916 (capacity, 18,300 acre-ft). No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, 13 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1215: 1945(M). WSP 1515: 1916, 1943(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	89	5.7	6.8	36	50	181	217	1,250	497	59	64
2	107	95	5.7	6.8	39	50	108	206	1,260	511	62	64
3	107	167	5.3	7.1	38	50	84	161	1,290	490	62	64
4	107	110	5.0	7.9	38	50	77	144	1,160	440	62	64
5	100	103	5.3	8.4	38	49	96	189	1,080	414	62	64
6	105	132	5.0	8.4	41	50	78	293	1,070	395	63	64
7	110	152	5.0	35	36	50	67	704	982	371	63	66
8	108	177	5.0	47	42	79	64	871	826	380	62	66
9	108	206	4.7	44	46	116	64	992	659	383	62	64
10	107	208	6.0	37	46	114	64	909	467	359	60	64
11	107	199	6.0	33	46	113	81	904	380	347	63	64
12	107	210	5.7	37	46	113	107	919	405	330	63	63
13	115	201	5.7	52	45	113	114	997	536	322	62	63
14	110	189	5.7	51	45	111	103	1,010	691	342	62	63
15	108	181	6.8	46	45	110	87	928	781	293	62	63
16	108	179	6.4	45	45	111	87	933	712	246	62	64
17	108	173	6.0	51	44	110	108	1,030	570	193	62	64
18	107	181	6.4	62	44	110	130	1,100	696	206	62	64
19	105	183	6.0	91	44	113	135	1,030	772	204	63	64
20	105	165	6.0	123	43	79	173	933	588	193	63	64
21	103	125	6.8	149	47	55	210	952	604	175	64	64
22	101	52	6.4	92	51	55	228	1,070	635	161	63	63
23	100	50	6.8	78	51	57	212	1,180	671	175	63	63
24	103	44	10	70	51	63	152	1,180	596	143	63	63
25	103	42	8.8	99	52	73	123	1,150	592	110	62	63
26	103	21	7.9	116	51	94	114	1,200	518	84	62	63
27	101	6.8	7.1	70	50	132	118	1,260	487	70	62	63
28	101	5.7	7.5	52	50	161	146	1,160	443	63	63	64
29	103	6.0	7.1	44	-----	177	183	1,140	417	64	64	64
30	96	6.0	6.8	40	-----	195	201	1,150	450	60	63	64
31	90	-----	6.8	41	-----	254	-----	1,190	-----	57	63	-----
TOTAL	3,251	3,658.5	195.4	1,650.4	1,250	3,057	3,695	27,102	21,588	8,078	1,933	1,914
MEAN	105	122	6.30	53.2	44.6	98.6	123	874	720	261	62.4	63.8
MAX	115	210	10	149	52	254	228	1,260	1,290	511	64	66
MIN	90	5.7	4.7	6.8	36	49	64	144	380	57	59	63
AC-FT	6,450	7,260	388	3,270	2,480	6,060	7,330	53,760	42,820	16,020	3,830	3,800
CAL YR 1968	TOTAL	32,283.9	MEAN	88.2	MAX	508	MIN	4.7	AC-FT	64,040		
WTR YR 1969	TOTAL	77,372.3	MEAN	212	MAX	1,290	MIN	4.7	AC-FT	153,500		

11-2970. PHILADELPHIA CANAL NEAR STRAWBERRY, CALIF.

LOCATION.--Lat 38°10'39", long 120°02'46", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.30, T.4 N., R.18 E., Tuolumne County, Stanislaus National Forest, on right bank 250 ft downstream from diversion dam on South Fork Stanislaus River, and 2.8 miles southwest of Strawberry.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,960 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--30 years, 42.8 cfs (31,000 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 64 cfs in 1941, 1961-63, 1965; no flow at times in some years.

REMARKS.--Records excellent except those for periods of no gage-height record and winter periods, which are good. Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap powerplant of Pacific Gas and Electric Co.; tailrace empties into Middle Fork Stanislaus River above station at Sand Bar Flat. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, 10 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	60	1.1	1.5	46	48	56	60	60	62	59	60
2	31	60	1.3	1.5	43	49	54	59	60	62	60	60
3	25	55	1.2	1.3	42	48	56	58	60	62	60	60
4	25	52	3.0	4.5	47	54	58	57	58	60	60	60
5	25	56	6.7	3.9	47	54	58	59	60	60	60	60
6	25	59	1.3	4.9	46	48	54	57	62	60	60	60
7	25	59	.99	7.1	54	49	55	59	60	60	60	60
8	25	59	1.3	9.2	50	50	56	59	58	62	60	60
9	25	59	2.0	7.9	48	50	56	59	59	61	60	60
10	25	60	2.0	16	48	50	56	58	57	59	60	60
11	25	60	1.9	23	48	50	58	58	55	59	60	60
12	25	60	2.3	30	48	51	59	59	62	59	60	60
13	25	60	1.7	46	40	51	59	60	62	59	60	60
14	25	60	1.7	48	43	52	58	58	62	62	60	60
15	25	59	1.7	47	48	52	56	56	61	60	60	60
16	25	60	1.7	46	47	52	56	56	59	59	60	60
17	25	60	1.9	48	47	53	59	58	56	60	60	60
18	25	60	2.2	55	47		61	58	59	61	60	60
19	25	60	3.0	60	47		61	56	59	61	60	60
20	25	60	3.0	59	46		62	55	56	60	60	60
21	25	58	3.0	53	47	52	61	58	56	60	60	60
22	25	50	3.0	52	49	52	59	59	60	60	60	60
23	42	48	3.0	54	49	52	58	59	63	62	60	60
24	59	47	2.8	54	50	53	58	60	62	59	60	60
25	59	42	1.0	51	52	55	59	59	61	60	60	60
26	59	24	1.1	47	50	55	59	59	60	61	60	60
27	59	3.7	1.6	47	49	56	59	60	60	60	60	60
28	59	2.3	1.9	48	49	52	60	59	60	60	60	60
29	60	1.1	1.6	47	-----	56	61	61	60	60	60	60
30	60	1.1	1.5	47	-----	56	60	63	60	60	60	60
31	60	-----	1.5	47	-----	58	-----	61	-----	59	60	-----
TOTAL	1,088	1,455.2	63.99	1,066.8	1,327	1,618	1,742	1,817	1,787	1,869	1,859	1,800
MEAN	35.1	48.5	2.06	34.4	47.4	52.2	58.1	58.6	59.6	60.3	60.0	60.0
MAX	60	60	6.7	60	54	58	62	63	63	62	60	60
MIN	25	1.1	.99	1.3	40	48	54	55	55	59	59	60
AC-FT	2,160	2,890	127	2,120	2,630	3,210	3,460	3,600	3,540	3,710	3,690	3,570

CAL YR 1968 TOTAL 13,062.17 MEAN 35.7 MAX 63 MIN .21 AC-FT 25,910
WTR YR 1969 TOTAL 17,492.99 MEAN 47.9 MAX 63 MIN .99 AC-FT 34,700

NOTE.--No gage-height record Aug. 28 to Sept. 30.

SAN JOAQUIN RIVER BASIN

11-2975. TUOLUMNE CANAL NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'35", long 120°10'03", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., Tuolumne County, Stanislaus National Forest, on left bank 300 ft downstream from intake, 350 ft downstream from Lyons Reservoir on South Fork Stanislaus River, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,110.0 ft above mean sea level (river-profile survey). Prior to June 1938, at site 200 ft downstream at different datum.

AVERAGE DISCHARGE.--32 years, 25.4 cfs (18,400 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 56 cfs May 30, 1963; no flow at times in some years.

REMARKS.--Records excellent. Canal diverts from left bank of South Fork Stanislaus River into Tuolumne River basin for power and domestic supply in vicinity of Sonora. See schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, 10 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	15	25	30	33	38	37	37	44	42	38	40
2	34	22	25	30	28	38	36	37	44	41	38	40
3	35	22	25	30	30	38	36	38	44	45	39	40
4	34	14	25	30	38	37	36	39	44	45	38	40
5	34	14	25	30	38	37	37	40	44	45	38	40
6	35	18	25	30	38	37	36	39	43	45	38	40
7	35	23	25	30	38	37	36	45	39	46	38	40
8	35	25	25	30	38	37	36	44	43	46	38	40
9	35	41	25	30	37	39	36	44	43	45	38	40
10	31	41	25	32	38	38	36	44	45	45	38	38
11	30	41	36	37	39	39	36	44	44	46	41	38
12	30	19	40	37	39	37	36	44	44	47	42	37
13	30	11	38	34	34	44	36	44	48	44	41	36
14	30	14	39	31	33	46	36	44	45	43	40	36
15	24	16	39	31	31	46	36	44	48	44	40	36
16	21	36	39	35	25	44	36	44	44	44	40	34
17	22	40	39	37	33	38	37	44	42	44	40	34
18	22	30	38	36	38	38	36	45	39	45	40	34
19	22	25	38	29	38	39	35	49	43	45	40	34
20	23	18	39	25	38	37	36	51	41	45	40	34
21	22	25	39	25	38	40	36	51	43	45	41	34
22	22	21	39	24	38	37	36	51	44	45	41	33
23	23	26	39	24	38	37	36	52	44	45	40	32
24	22	26	33	25	38	37	36	51	42	45	40	32
25	23	25	32	26	38	37	36	52	45	44	40	29
26	23	25	30	25	38	37	36	45	45	40	40	27
27	23	25	31	29	38	37	36	44	45	38	40	27
28	15	25	30	35	38	37	37	44	46	38	40	26
29	15	25	29	38	-----	37	37	41	46	38	40	27
30	14	25	30	30	-----	37	37	43	47	36	40	27
31	15	-----	30	31	-----	37	-----	43	-----	38	40	-----
TOTAL	813	733	997	946	1,008	1,194	1,085	1,377	1,318	1,344	1,227	1,045
MEAN	26.2	24.4	32.2	30.5	36.0	38.5	36.2	44.4	43.9	43.4	39.6	34.8
MAX	35	41	40	38	39	46	37	52	48	47	42	40
MIN	14	11	25	24	25	37	35	37	39	36	38	26
AC-FT	1,610	1,450	1,980	1,880	2,000	2,370	2,150	2,730	2,610	2,670	2,430	2,070
CAL YR 1968	TOTAL 10,677		MEAN 29.2		MAX 52		MIN 11		AC-FT 21,180			
WTR YR 1969	TOTAL 13,087		MEAN 35.9		MAX 52		MIN 11		AC-FT 25,960			

11-2980. SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CALIF.

LOCATION.--Lat 38°05'33", long 120°10'02", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., Tuolumne County, Stanislaus National Forest, on left bank 600 ft downstream from Lyons Dam, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

DRAINAGE AREA.--68.9 sq mi.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 4,073.4 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--32 years, 88.2 cfs (63,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,580 cfs Jan. 21 (gage height, 6.14 ft); minimum daily, 1.9 cfs July 29, Sept. 13, 16-30.

Period of record: Maximum discharge, 4,900 cfs Nov. 21, 1950 (gage height, 9.3 ft), from rating curve extended above 1,100 cfs on basis of computation of maximum flow over Lyons Dam; no flow at times in 1937-39, 1952.

REMARKS.--Records good. Flow regulated by Lyons Reservoir 600 ft upstream (capacity, 5,400 acre-ft) and Pinecrest Lake (capacity, 18,300 acre-ft). Tuolumne Canal (see sta 11-2975) diverts at Lyons Dam; other diversions, see schematic diagram of Stanislaus River basin.

COOPERATION.--Gage-height record, 11 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1215: 1938(M). WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.6	2.6	2.4	63	13	412	188	1,290	412	2.1	2.1
2	2.4	2.8	2.6	2.4	55	9.4	280	190	1,290	407	2.1	2.4
3	2.4	79	2.6	2.4	50	9.8	249	143	1,340	404	2.1	2.1
4	2.4	48	2.4	2.4	35	6.9	199	110	900	367	2.1	2.1
5	2.4	37	2.4	2.4	34	6.6	352	113	1,080	320	2.1	2.1
6	2.4	33	2.4	2.4	34	8.0	303	193	1,140	284	2.1	2.1
7	2.4	62	2.4	2.4	22	7.3	231	529	1,050	256	2.1	2.1
8	2.4	68	2.4	2.4	18	7.3	197	841	885	256	2.1	2.1
9	2.4	107	2.6	2.4	15	45	173	1,020	571	280	2.1	2.1
10	2.4	94	2.6	3.6	15	62	158	956	385	269	2.1	2.1
11	2.4	93	2.4	10	18	57	172	910	339	220	2.1	2.1
12	2.4	146	2.6	5.9	43	60	205	920	262	229	2.1	2.1
13	2.4	137	2.6	113	39	53	215	1,000	337	218	2.1	1.9
14	2.4	119	2.4	177	41	53	195	1,050	595	251	2.1	2.1
15	2.4	120	2.6	69	81	58	156	962	756	224	2.1	2.1
16	2.4	80	2.4	38	78	65	58	925	668	143	2.1	1.9
17	2.4	71	2.4	23	54	80	161	1,020	583	68	2.1	1.9
18	2.4	81	2.4	35	48	96	226	1,130	520	80	2.1	1.9
19	2.4	103	2.4	511	39	107	165	1,090	770	98	2.1	1.9
20	2.1	91	2.4	623	31	109	190	946	643	86	2.1	1.9
21	2.1	66	2.4	1,220	26	77	226	941	452	72	2.1	1.9
22	2.1	19	2.4	611	23	72	258	1,050	490	55	2.1	1.9
23	2.1	2.6	2.4	296	25	86	273	1,200	673	63	2.1	1.9
24	2.1	2.6	2.8	229	28	103	207	1,210	526	47	2.1	1.9
25	2.1	2.6	37	729	22	128	146	1,180	475	25	2.1	1.9
26	2.1	2.4	34	885	19	156	116	1,190	457	6.2	2.1	1.9
27	2.1	2.1	9.8	415	13	209	104	1,320	410	2.6	2.1	1.9
28	9.4	2.1	5.0	262	12	278	116	1,240	354	2.1	2.1	1.9
29	2.6	2.4	2.8	161	-----	315	151	1,170	271	1.9	2.1	1.9
30	2.1	2.6	2.6	120	-----	354	175	1,200	287	2.4	2.1	1.9
31	2.1	-----	2.4	81	-----	412	-----	1,200	-----	2.1	2.1	-----
TOTAL	78.6	1,678.8	153.2	6,639.1	981	3,103.3	6,069	27,137	19,799	5,151.3	65.1	60.1
MEAN	2.54	56.0	4.94	214	35.0	100	202	875	660	166	2.10	2.00
MAX	9.4	146	37	1,220	81	412	412	1,320	1,340	412	2.1	2.4
MIN	2.1	2.1	2.4	2.4	12	6.6	58	110	262	1.9	2.1	1.9
AC-FT	156	3,330	304	13,170	1,950	6,160	12,040	53,830	39,270	10,220	129	119
CAL YR 1968	TOTAL 10,375.60		MEAN 28.3		MAX 467		MIN 1.7		AC-FT 20,580			
WTR YR 1969	TOTAL 70,915.5		MEAN 194		MAX 1,340		MIN 1.9		AC-FT 140,700			

SAN JOAQUIN RIVER BASIN

11-2990. MELONES RESERVOIR AT MELONES DAM, CALIF.

LOCATION.--Lat 37°57'12", long 120°30'49", in NW¼SE¼ sec.11, T.1 N., R.13 E., Tuolumne County, at gate tower near left bank at Melones Dam on Stanislaus River, 0.1 mile downstream from Bear Creek, and 7.5 miles southwest of Sonora.

DRAINAGE AREA.--904 sq mi.

PERIOD OF RECORD.--1926 (year-end content only, published in WSP 1315-A), June 1927 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Prior to Feb. 28, 1961, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 114,500 acre-ft July 4 (elevation, 736.0 ft); minimum, 4,790 acre-ft Oct. 26 (elevation, 621.4 ft).

Period of record: Maximum contents observed, 115,800 acre-ft May 27, 1951 (elevation, 736.7 ft); minimum observed, 3,220 acre-ft Dec. 7, 1957 (elevation, 613.5 ft).

REMARKS.--Reservoir is formed by concrete overflow dam; storage began Aug. 21, 1926; dam completed in December 1926. Capacity for power development 1 mile below dam is 106,100 acre-ft between elevations 628.0 (minimum operating level) and 735.0 ft (top of drum-type spillway gates) above mean sea level; usable capacity for irrigation, 110,000 acre-ft between elevation 610.0 (floor of outlet tunnel) and 735.0 ft above mean sea level. Figures given herein represent total contents, of which 2,630 acre-ft is not available for release. Released water flows down Stanislaus River to Tulloch Reservoir (see sta 11-2999.95). See schematic diagram of Stanislaus River basin.

COOPERATION.--Record of elevation furnished by Oakdale Irrigation District. Capacity table furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

610	2,630	635	8,750	660	21,500	700	59,100
615	3,500	640	10,700	665	25,000	710	72,200
620	4,480	645	12,900	670	28,900	720	86,900
625	5,650	650	15,400	680	37,600	730	103,500
630	7,070	655	18,300	690	47,600	736.7	115,800

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	CCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.80	8.22	40.60	74.50	86.30	43.60	24.10	76.10	102.80	114.10	101.20	46.00
2	10.80	8.64	42.10	74.20	82.30	41.70	25.70	78.60	102.80	113.70	99.60	44.00
3	10.80	11.00	42.80	74.20	78.10	39.80	26.20	79.90	105.10	113.90	98.20	42.30
4	10.80	13.10	43.60	74.40	74.10	37.40	25.90	80.20	105.10	114.10	96.50	40.70
5	10.80	14.10	44.30	74.60	69.80	34.50	29.20	80.60	104.70	113.90	94.60	39.20
6	10.80	14.20	45.00	74.90	68.50	31.60	32.00	84.70	104.70	113.40	92.80	37.90
7	10.90	14.10	45.80	75.20	65.80	28.40	33.30	89.00	104.00	113.20	91.20	36.50
8	11.00	14.10	46.60	75.40	63.10	25.20	34.10	95.50	103.30	113.40	89.30	35.10
9	11.00	14.20	47.40	75.20	59.90	22.30	34.50	97.00	103.50	113.70	87.60	33.60
10	11.00	14.40	48.90	73.80	56.40	19.70	34.70	97.80	104.00	113.90	85.90	32.40
11	10.90	14.50	50.60	72.30	53.00	17.60	35.30	98.20	103.00	113.70	84.20	30.80
12	10.90	14.90	52.30	70.90	50.60	17.20	37.50	97.80	101.80	113.70	82.40	29.50
13	11.00	15.40	53.60	75.80	47.60	15.90	40.00	97.80	101.40	113.70	80.60	27.90
14	11.20	15.90	55.20	81.40	44.80	15.60	41.80	97.20	102.80	113.20	78.70	26.80
15	11.10	17.00	57.10	82.60	46.00	15.00	42.80	96.50	104.70	113.90	76.80	25.40
16	10.90	18.50	59.10	82.40	46.80	14.80	42.90	97.00	104.90	113.50	74.80	24.20
17	10.70	20.10	59.60	82.00	45.70	14.90	43.40	97.80	104.40	112.80	72.80	22.90
18	10.40	21.80	60.10	82.00	45.30	15.20	45.50	98.00	103.80	112.80	70.50	21.80
19	10.20	23.90	60.60	97.80	44.40	15.60	47.40	97.70	103.80	112.60	69.00	20.50
20	10.10	25.80	61.00	105.50	43.00	16.20	49.80	97.50	103.10	112.60	66.80	19.20
21	9.72	27.30	61.20	109.70	41.10	16.30	54.20	97.50	102.60	112.20	65.00	18.00
22	8.64	28.90	61.70	101.60	38.80	15.40	59.80	97.80	101.90	112.10	63.10	16.80
23	7.98	30.30	62.00	97.70	37.80	14.90	65.40	98.70	102.10	111.90	61.20	15.60
24	6.53	31.70	62.70	96.80	43.20	14.80	68.30	98.40	102.10	112.10	59.40	14.80
25	4.87	33.20	66.30	105.80	46.10	15.00	68.90	98.20	103.10	111.30	57.40	14.50
26	4.79	34.40	68.90	105.50	46.80	15.40	68.60	99.70	106.20	110.40	55.60	13.90
27	5.32	35.80	70.40	100.70	45.30	15.60	68.20	100.90	109.70	109.30	53.90	13.30
28	5.88	37.00	72.10	98.20	44.10	16.00	68.50	102.10	112.40	107.60	52.30	12.70
29	6.44	38.20	73.30	96.70	-----	17.00	70.80	102.30	113.90	106.20	50.90	12.00
30	7.07	39.40	74.50	93.60	-----	18.80	73.20	102.60	114.10	104.60	49.60	11.50
31	7.74	-----	74.80	90.20	-----	21.20	-----	102.60	-----	103.00	47.80	-----
MEAN	9.39	21.67	56.91	86.31	54.10	21.37	46.40	94.70	104.73	111.95	74.51	25.99
MAX	11.20	39.40	74.80	109.70	86.30	43.60	73.20	102.60	114.10	114.10	101.20	46.00
MIN	4.79	8.22	40.60	70.90	37.80	14.80	24.10	76.10	101.40	103.00	47.80	11.50
(a)	632.1	681.9	711.8	722.1	686.7	659.6	710.7	729.5	735.8	729.7	690.2	641.9
(b)	-3,060	+31,660	+35,400	+15,400	-46,100	-22,900	+52,000	+29,400	+11,500	-11,100	-55,200	-36,300

CAL YR 1968 b +58,100

WTR YR 1969 b +700

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11-2999.95. TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CALIF.

LOCATION.--Lat 37°52'34", long 120°36'12", in SW $\frac{1}{4}$ sec.1, T.1 S., R.12 E., Tuolumne County, in center of dam on Stanislaus River, 1.9 miles upstream from Goodwin Dam, and 5.3 miles northeast of Knights Ferry.

DRAINAGE AREA.--980 sq mi.

PERIOD OF RECORD.--November 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

EXTREMES.--Current year: Maximum contents, 67,100 acre-ft June 16 (elevation, 510.1 ft); minimum, 15,700 acre-ft Apr. 1-4 (elevation, 443.2 ft).

Period of record: Maximum contents, 69,500 acre-ft Jan. 7, 1965 (elevation, 512.0 ft); minimum, 4,580 acre-ft Oct. 3, 1960 (elevation, 404.0 ft).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1957. Usable capacity, 56,840 acre-ft between elevations 431.0 ft (normal minimum water surface) and 511.0 ft (top of radial gates) above mean sea level. Dead storage, 11,560 acre-ft. Reservoir is used for conservation and power. Water passes down Stanislaus River, some first passing through powerplant at dam. Part of flow is diverted at Goodwin Dam to Oakdale Canal (see sta 11-3010) and South San Joaquin Canal (see sta 11-3005). Records, including extremes, represent total contents at 2400 hours. See schematic diagram for Stanislaus River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

404	4,580	460	23,600
411	8,020	475	33,100
420	8,200	490	45,300
430	11,100	512	69,500
445	16,400		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30,600	42,300	53,000	56,600	40,900	41,600	15,700	19,100	60,700	66,200	63,900	53,600
2	30,600	42,400	52,900	56,500	41,000	41,100	15,700	19,400	61,500	66,200	63,600	53,300
3	30,400	42,400	53,300	56,200	41,300	40,300	15,700	19,800	60,300	66,700	63,300	53,000
4	30,400	42,400	53,800	56,000	42,700	40,300	15,700	20,200	59,500	66,300	63,000	52,700
5	30,200	42,900	54,000	55,600	45,600	40,300	16,400	20,500	58,300	66,300	62,800	52,500
6	30,200	44,000	54,700	55,300	49,500	40,200	17,200	20,900	57,700	66,700	62,600	52,100
7	30,000	45,300	54,800	55,000	52,100	40,200	17,500	21,300	57,400	66,300	62,300	52,000
8	29,800	46,500	55,300	54,800	53,500	40,100	17,800	21,700	57,400	66,100	62,100	52,100
9	29,700	47,900	55,000	54,600	54,400	40,200	18,000	28,800	54,400	66,000	61,700	52,400
10	29,400	48,900	55,500	54,700	55,000	40,000	18,000	39,700	51,300	66,500	61,500	52,900
11	28,800	50,400	55,400	55,200	53,500	39,600	17,800	44,800	51,400	66,700	61,300	53,500
12	28,300	51,500	55,400	55,100	51,000	39,300	17,700	49,200	53,000	66,600	60,900	54,000
13	28,400	53,000	55,800	58,000	48,800	38,600	17,600	51,900	55,500	66,300	60,600	54,400
14	29,600	54,200	55,700	57,400	46,900	37,300	17,500	53,800	59,400	66,700	60,300	54,900
15	31,000	55,100	55,300	55,600	46,600	34,500	17,500	50,400	64,500	66,000	60,000	55,300
16	32,300	55,200	55,500	53,900	45,600	31,800	17,500	46,100	67,100	66,200	59,600	55,600
17	33,700	54,800	55,400	52,600	44,500	29,000	17,300	45,600	66,200	66,300	59,400	56,400
18	35,100	54,700	55,800	52,000	44,200	26,300	17,100	46,800	66,200	66,300	59,100	57,400
19	36,400	54,400	55,800	54,300	43,800	23,900	16,900	47,600	66,200	66,200	58,700	58,300
20	37,300	54,600	55,800	64,100	42,600	21,900	16,700	47,100	66,000	66,100	58,400	59,200
21	38,600	54,600	55,700	65,700	42,000	20,800	16,600	46,500	65,600	66,100	58,000	60,000
22	39,600	54,000	55,700	66,100	41,700	19,900	16,600	46,100	65,400	65,800	57,700	61,000
23	40,000	54,000	55,600	64,900	42,600	19,000	16,900	48,500	65,400	65,500	57,300	61,800
24	41,300	53,700	55,700	60,800	44,000	18,900	17,100	52,400	66,100	65,400	56,900	61,100
25	42,600	53,800	56,400	62,900	42,900	19,100	17,400	55,400	66,200	65,100	56,600	59,800
26	43,100	53,800	57,000	65,100	42,500	19,000	17,700	56,300	66,100	65,000	56,200	58,300
27	43,100	53,300	56,700	64,100	41,700	19,400	17,900	58,000	66,100	64,700	55,700	56,800
28	42,700	53,300	56,600	62,200	41,700	18,800	18,200	58,400	66,100	64,600	55,200	55,400
29	42,700	53,000	56,300	56,600	-----	17,700	18,400	58,000	66,200	64,400	54,900	54,200
30	42,700	53,000	56,000	50,700	-----	16,900	18,800	58,500	66,800	64,200	54,200	53,700
31	42,700	-----	56,000	44,400	-----	16,300	-----	59,100	-----	64,000	53,900	-----
(a)	487.1	497.8	500.6	489.0	485.9	444.7	450.6	503.4	509.9	507.6	498.7	498.5
(b)	+11,900	+10,300	+3,000	-11,600	-2,700	-25,400	+2,500	+40,300	+7,700	-2,800	-10,100	-200
MAX	43,100	55,200	57,000	66,100	55,000	41,800	18,800	59,100	67,100	66,700	63,900	61,800
MIN	28,300	42,300	52,900	44,400	40,900	16,300	15,700	19,100	51,300	64,000	63,900	52,000

CAL YR 1968 TOTAL b +8,200 MAX 66,800 MIN 28,300
 WTR YR 1969 TOTAL b +22,900 MAX 67,100 MIN 15,700

a Elevation, in feet, at end of month.
 b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3005. SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION (revised).--Lat 37°51'16", long 120°38'14", in Rancheria del Rio Estanislao Grant, Tuolumne County, on left bank 0.8 mile downstream from headgate at Goodwin Dam, and 3.0 miles northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 334.18 ft above mean sea level (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, nonrecording gage 100 ft downstream. Mar. 12, 1915, to July 1, 1921, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--55 years, 415 cfs (300,700 acre-ft per year).

EXTREMES.--Period of record: Maximum discharge, 1,330 cfs May 2, 1962; no flow at times each year except 1951, 1969.

REMARKS.--Records excellent. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram for Stanislaus River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	284	18	3.4	476	.30	.60	384	1,140	815	1,220	1,210	1,160
2	283	13	3.4	486	.20	.50	496	1,120	1,110	1,210	1,210	1,160
3	282	4.6	3.6	486	.10	.50	620	1,110	1,100	1,210	1,210	1,150
4	280	4.6	3.0	484	.10	.50	622	1,110	1,100	1,210	1,210	1,120
5	279	4.8	3.4	484	.20	.50	342	1,120	1,120	1,210	1,210	1,070
6	280	4.9	3.0	484	.60	.40	1.0	1,120	1,150	1,210	1,210	1,070
7	301	.40	3.2	235	.30	.30	2.0	1,120	1,150	1,210	1,210	1,010
8	309	.40	3.6	.70	.30	.20	3.8	1,120	1,150	1,210	1,210	948
9	309	.40	2.6	.60	.20	.10	3.8	1,110	1,160	1,210	1,210	886
10	386	.60	1.6	.70	.10	.20	4.0	1,110	1,140	1,210	1,200	683
11	535	.50	2.0	.70	.30	.10	152	1,130	1,140	1,210	1,200	690
12	528	.90	1.6	.70	.50	.20	574	1,150	1,140	1,220	1,200	697
13	369	.60	1.8	1.6	.40	.10	615	1,150	1,130	1,210	1,200	659
14	7.0	1.4	1.8	1.6	.40	.10	666	1,140	1,140	1,200	1,200	704
15	8.2	2.4	1.8	.40	.70	.10	706	1,120	1,140	1,200	1,190	710
16	8.8	1.8	.79	.20	.40	.10	725	1,110	1,170	1,200	1,190	708
17	6.7	2.0	431	.10	.40	.10	731	1,090	1,200	1,200	1,190	580
18	7.1	2.2	438	.20	1.0	.10	813	1,090	1,200	1,200	1,200	501
19	3.4	2.2	469	2.0	.90	.10	868	1,090	1,210	1,200	1,190	498
20	3.8	1.5	491	1.4	.80	.10	864	1,090	1,210	1,200	1,190	497
21	8.8	.30	490	2.8	.70	.20	892	1,090	1,210	1,110	1,190	498
22	12	.20	490	.70	.60	.10	904	1,080	1,210	1,220	1,190	410
23	16	.30	490	.30	2.6	.10	906	1,080	1,220	1,220	1,200	284
24	14	.40	494	.40	2.7	.10	907	1,080	1,220	1,220	1,200	287
25	10	.60	501	2.2	1.2	.10	910	1,090	1,220	1,220	1,200	285
26	16	.80	503	2.4	1.0	.10	913	1,090	1,210	1,220	1,200	288
27	11	1.2	500	.70	.90	.10	914	1,090	1,220	1,210	1,200	288
28	9.2	1.4	498	.70	.90	.10	1,010	1,100	1,220	1,200	1,200	288
29	13	4.0	498	.60	-----	14	1,090	1,110	1,220	1,210	1,180	289
30	5.3	4.4	497	.60	-----	43	1,120	1,100	1,230	1,210	1,160	289
31	5.3	-----	473	.40	-----	278	-----	1,080	-----	1,210	1,150	-----
TOTAL	4,590.6	80.80	7,381.8	3,157.70	18.80	340.80	18,758.6	34,330	34,855	37,400	37,110	19,747
MEAN	148	2.69	238	102	.67	11.0	625	1,107	1,162	1,206	1,197	658
MAX	535	18	503	486	2.7	278	1,120	1,150	1,230	1,220	1,210	1,160
MIN	3.4	.20	1.6	.10	.10	.10	1.0	1,080	815	1,110	1,150	284
AC-FT	9,110	160	14,640	6,260	37	676	37,210	68,090	69,130	74,180	73,610	39,170
CAL YR 1968	TOTAL	178,150.70	MEAN	487	MAX	1,220	MIN	0	AC-FT	353,400		
WTR YR 1969	TOTAL	197,771.10	MEAN	542	MAX	1,230	MIN	.10	AC-FT	392,300		

11-3010. OAKDALE CANAL NEAR KNIGHTS FERRY, CALIF.

LOCATION (revised).--Lat 37°51'32", Long 120°37'56", in SE¼ sec.10, T.1 S., R.12 E., Tuolumne County, on left bank 0.3 mile downstream from headgate at Goodwin Dam, and 3.4 miles northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Records for water years 1933-36 incomplete, monthly and yearly estimates published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Prior to Apr. 29, 1916, nonrecording gage at site 1,000 ft upstream at different datum. Apr. 29, 1916, to July 3, 1925, nonrecording gage and July 4, 1925, to Apr. 3, 1949, water-stage recorder at present site at datum 0.18 ft higher.

AVERAGE DISCHARGE.--55 years, 154 cfs (111,500 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 556 cfs July 8-11, 1967; no flow at times in each year.

REMARKS.--Records excellent. Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mile upstream for irrigation in Oakdale Irrigation District. See schematic diagram for Stanislaus River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	2.6	3.4	.06	.08	.32	290	474	521	535	538	507
2	324	2.3	2.6	.03	.06	.22	327	474	522	533	538	504
3	322	2.3	3.4	0	.06	.15	283	475	523	533	537	504
4	322	1.3	2.3	0	.06	.12	291	475	523	534	538	504
5	322	0	2.6	0	.08	.10	112	486	522	533	538	504
6	322	4.1	2.6	0	.32	.10	.15	506	522	533	539	504
7	324	3.1	2.6	0	.18	.10	.03	512	522	533	539	479
8	323	1.1	3.0	0	.12	.10	.50	513	522	533	540	450
9	322	1.2	2.6	0	.10	.10	.06	522	522	533	539	450
10	324	1.1	2.3	0	.10	.10	.03	531	522	533	538	450
11	326	1.1	3.0	0	.15	.08	24	531	522	534	537	450
12	321	1.1	2.3	0	.26	.12	94	530	522	533	539	450
13	211	1.2	2.3	.95	.18	.10	139	529	522	533	539	450
14	7.5	1.1	2.6	.50	.18	.08	253	521	522	534	539	450
15	7.0	1.2	2.3	.18	.51	.08	387	520	524	534	540	450
16	6.0	.98	2.6	.12	.32	.08	409	519	534	536	539	450
17	6.0	.98	2.3	.10	.22	.08	418	522	534	538	538	436
18	5.5	1.2	1.9	.10	.68	.03	435	522	534	538	538	418
19	3.8	1.2	1.7	1.6	.44	.01	435	522	534	537	539	407
20	4.2	1.1	1.7	1.8	.26	.04	435	521	535	538	538	407
21	6.0	.88	1.7	2.9	.18	.12	438	521	535	538	537	408
22	5.0	.68	1.7	.32	.12	.10	453	521	535	539	537	409
23	5.5	.88	1.7	.18	3.1	.08	464	521	535	538	538	409
24	6.0	.68	1.9	.28	2.0	.08	465	520	535	539	538	409
25	5.5	.68	2.1	1.5	.50	.08	465	522	535	539	538	407
26	5.5	.50	1.7	1.7	.44	.08	466	522	535	539	538	409
27	4.6	2.0	.18	.32	.26	.06	470	522	535	538	538	409
28	3.0	5.0	.15	.22	.32	.03	473	522	535	538	538	409
29	3.8	4.2	.12	.15	-----	.03	472	522	534	537	530	409
30	3.0	4.2	.10	.10	-----	31	473	521	535	538	529	409
31	2.1	-----	.08	.08	-----	131	-----	520	-----	539	518	-----
TOTAL	4,177.0	49.96	61.53	13.19	11.28	164.77	8,971.77	15,939	15,853	16,610	16,649	13,311
MEAN	135	1.67	1.98	.43	.40	5.32	299	514	528	536	537	444
MAX	326	5.0	3.4	2.9	3.1	131	473	531	535	539	540	507
MIN	2.1	0	.08	0	.06	.01	.03	474	521	533	518	407
AC-FT	8,280	99	122	26	22	327	17,800	31,610	31,440	32,950	33,020	26,400
CAL YR 1968	TOTAL	76,972.26	MEAN	210	MAX	539	MIN	0	AC-FT	152,700		
WTR YR 1969	TOTAL	91,811.50	MEAN	252	MAX	540	MIN	0	AC-FT	182,100		

SAN JOAQUIN RIVER BASIN

11-3020. STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CALIF.

LOCATION (revised).--Lat 37°51'06", long 120°38'13", Rancheria Del Rio Estanislao Grant, Calaveras County, on right bank 250 ft upstream from Owl Creek, 0.9 mile downstream from Goodwin Dam, and 2.9 miles northeast of Knights Ferry.

DRAINAGE AREA.--986 sq mi.

PERIOD OF RECORD.--February 1957 to current year. Records equivalent to those published as Stanislaus River at Knights Ferry, 1903-14, and as Stanislaus River near Knights Ferry, 1915-32, if adjusted for diversions in Stanislaus and San Joaquin Water Company's canal, and Oakdale and South San Joaquin canals.

GAGE.--Water-stage recorder. Datum of gage is 252.83 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 759 cfs (549,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 28,600 cfs Jan. 21 (gage height, 24.85 ft); minimum daily, 1.7 cfs Oct. 1-6, 8, 9.

Period of record: Maximum discharge, 40,200 cfs Dec. 24, 1964 (gage height, 28.85 ft, in gage well, 31.2 ft outside, from floodmarks), from rating curve extended above 14,000 cfs; minimum daily, 0.3 cfs Sept. 13, 14, Oct. 1, 1960.

Flood of Dec. 23, 1955, reached a stage of 37.7 ft, from floodmarks (discharge, 62,900 cfs, by computation of flow over Goodwin Dam).

REMARKS.--Records good. Flow regulated by reservoirs and powerplants at Donnell, Beardsley Lake, Melones, Tulloch, and several smaller reservoirs above station. South San Joaquin Canal (see sta 11-3005) and Oakdale Canal (see sta 11-3010) divert at Goodwin Dam 1.0 mile upstream. See schematic diagram for Stanislaus River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	47	77	409	6,360	4,670	2,760	2,240	8,260	874	8.4	7.7
2	1.7	47	90	426	4,500	4,520	2,570	2,290	8,170	398	8.1	7.4
3	1.7	54	107	436	4,290	4,350	2,470	2,300	8,120	194	8.1	7.4
4	1.7	57	71	431	3,620	3,870	2,470	2,330	8,210	1,170	8.1	7.4
5	1.7	63	78	431	2,990	3,930	2,950	2,340	7,950	808	8.1	7.2
6	1.7	78	71	431	2,930	3,860	3,510	2,340	7,540	422	8.1	7.2
7	1.8	80	72	703	2,860	3,750	3,540	2,370	7,000	662	8.1	7.0
8	1.7	76	78	982	3,120	3,640	3,560	2,390	6,150	378	8.1	5.9
9	1.7	86	70	1,110	3,190	3,500	3,570	2,550	5,740	206	8.1	5.9
10	1.8	77	76	1,530	3,370	3,510	3,700	3,000	4,570	206	8.1	5.4
11	2.0	86	83	1,360	4,510	3,210	3,600	6,860	2,690	290	8.1	5.0
12	2.2	80	72	1,630	5,220	2,870	3,070	7,050	1,690	445	8.1	5.0
13	2.4	86	74	2,060	4,900	2,370	2,970	7,490	912	440	8.1	5.0
14	5.7	77	80	3,040	4,770	2,590	2,800	7,900	515	545	8.1	5.0
15	8.4	86	71	2,610	4,740	3,360	2,630	8,150	510	879	8.1	5.0
16	6.8	77	82	2,430	4,630	3,290	2,590	8,260	2,220	245	8.1	5.0
17	11	83	80	2,300	4,500	3,240	2,570	8,280	3,650	25	8.1	4.8
18	44	90	71	2,140	4,670	3,150	2,450	8,260	3,140	20	8.1	4.2
19	51	90	70	3,800	4,590	3,070	2,390	8,260	2,950	9.2	8.1	3.9
20	50	86	76	7,400	4,600	2,980	2,380	8,170	2,940	8.9	8.1	3.9
21	55	77	76	23,500	4,150	2,930	2,330	8,060	2,630	7.9	8.1	3.9
22	48	66	76	14,300	3,860	2,890	2,300	8,280	2,430	8.6	8.1	3.9
23	44	90	76	7,230	4,100	2,840	2,290	8,310	2,190	8.6	8.4	194
24	46	83	76	6,590	4,880	2,410	2,310	8,210	1,860	8.6	8.4	798
25	48	90	78	9,650	5,010	2,230	2,340	8,130	1,140	8.6	8.6	903
26	47	82	83	16,500	4,850	2,440	2,350	8,210	460	8.6	8.6	1,130
27	47	72	82	11,300	4,770	2,440	2,370	8,120	59	8.4	8.6	1,120
28	43	88	82	8,170	4,670	3,190	2,300	8,260	35	8.4	8.6	1,100
29	50	78	80	7,810	-----	3,570	2,240	8,370	39	8.4	8.4	942
30	53	86	80	7,810	-----	3,460	2,240	8,260	97	8.4	8.1	617
31	47	-----	74	7,720	-----	3,080	-----	8,190	-----	8.4	7.9	-----
TOTAL	728.7	2,318	2,412	156,239	120,650	101,210	81,620	193,230	103,867	8,318.0	254.1	6,927.1
MEAN	23.5	77.3	77.8	5,040	4,309	3,265	2,721	6,233	3,462	268	8.20	231
MAX	55	90	107	23,500	6,360	4,670	3,700	8,370	8,260	1,170	8.6	1,130
MIN	1.7	47	70	409	2,860	2,230	2,240	2,240	35	7.9	7.9	3.9
AC-FT	1,450	4,600	4,780	309,900	239,300	200,700	161,900	383,300	206,000	16,500	504	13,740
CAL YR 1968	TOTAL	41,638.1	MEAN	114	MAX	1,370	MIN	1.7	AC-FT	82,590		
WTR YR 1969	TOTAL	777,773.9	MEAN	2,131	MAX	23,500	MIN	1.7	AC-FT	1,543,000		

11-3030. STANISLAUS RIVER AT RIPON, CALIF.

LOCATION.--Lat 37°43'47", long 121°06'34", in NW¼SE¼ sec.29, T.2 S., R.8 E., Stanislaus County, on left bank 15 ft downstream from railroad bridge, 1.1 miles southeast of Ripon, and 15 miles upstream from mouth.

DRAINAGE AREA.--1,075 sq mi.

PERIOD OF RECORD.--October 1940 to current year. April to September 1940 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 0.72 ft above mean sea level. October 1940 to Nov. 17, 1953, at site 100 ft upstream at same datum.

AVERAGE DISCHARGE.--29 years, 1,056 cfs (765,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 26,800 cfs Jan. 22 (gage height, 60.43 ft): minimum daily, 145 cfs Oct. 11.

Period of record: Maximum discharge, 62,500 cfs Dec. 24, 1955 (gage height, 63.25 ft); minimum, 40 cfs July 21, 1961.

Flood of Feb. 12, 1938, reached a stage of 64.4 ft, from floodmarks.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station (see REMARKS for sta 11-3020). South San Joaquin and Oakdale Canals (see sta 11-3005, 11-3010) divert at Goodwin Dam 34 miles upstream. Diversions for irrigation of 57,250 acres in vicinity of Oakdale area. See schematic diagram of Stanislaus River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	164	181	217	8,260	5,180	3,550	2,410	7,770	760	245	294
2	192	164	182	266	7,190	5,240	3,200	2,440	7,750	1,170	277	280
3	200	177	180	417	5,530	5,070	2,980	2,520	7,680	998	324	294
4	178	268	186	469	5,120	4,890	2,860	2,560	7,590	759	305	288
5	184	254	202	483	4,370	4,470	2,890	2,570	7,580	1,370	304	301
6	195	212	190	488	3,580	4,340	3,560	2,530	7,410	1,310	299	313
7	213	188	184	493	3,540	4,250	4,020	2,540	6,960	1,040	282	351
8	169	186	182	600	3,300	4,120	3,970	2,510	6,520	1,100	269	417
9	181	188	178	918	3,390	3,990	3,940	2,550	5,920	850	242	404
10	169	184	182	1,040	3,430	3,880	3,960	2,660	5,610	694	253	347
11	145	185	181	1,400	3,600	3,840	4,060	3,160	4,980	648	294	329
12	147	187	181	1,360	4,330	3,590	4,020	5,270	3,450	648	299	315
13	201	194	188	1,550	5,010	3,270	3,640	6,430	2,550	826	291	297
14	285	192	192	2,290	4,850	2,800	3,490	7,120	1,910	845	246	342
15	334	202	206	3,210	4,760	2,960	3,280	7,430	1,580	854	251	341
16	303	254	230	2,790	4,900	3,520	3,080	7,810	1,470	1,160	248	343
17	268	242	279	2,580	4,760	3,530	2,980	7,910	2,520	750	254	325
18	216	209	247	2,440	4,710	3,480	2,940	7,970	3,500	503	261	296
19	184	196	214	2,440	5,160	3,400	2,840	8,000	3,240	443	269	366
20	161	199	201	4,280	5,040	3,320	2,780	7,910	3,090	406	250	387
21	163	196	193	8,230	4,830	3,280	2,800	7,840	3,090	375	249	378
22	163	192	191	22,600	4,520	3,220	2,710	7,820	2,880	335	243	396
23	165	186	189	13,200	4,230	3,140	2,630	8,020	2,750	316	252	341
24	168	180	193	8,870	4,760	3,090	2,610	8,010	2,460	295	306	348
25	160	183	203	8,170	5,430	2,720	2,620	7,880	2,180	332	314	683
26	158	185	256	11,900	5,470	2,560	2,660	7,870	1,700	333	288	1,040
27	158	186	416	16,500	5,290	2,680	2,650	7,870	1,190	368	295	1,180
28	157	183	352	11,400	5,090	2,740	2,620	7,840	859	367	263	1,290
29	157	180	283	9,020	-----	3,450	2,520	7,890	798	313	283	1,360
30	158	183	253	8,360	-----	3,900	2,450	7,990	769	300	343	1,300
31	161	-----	229	8,260	-----	3,880	-----	7,870	-----	264	319	-----
TOTAL	5,841	5,899	6,724	156,241	134,450	113,800	94,310	181,200	117,756	20,732	8,618	14,946
MEAN	188	197	217	5,040	4,802	3,671	3,144	5,845	3,925	669	278	498
MAX	334	268	416	22,600	8,260	5,240	4,060	8,020	7,770	1,370	343	1,360
MIN	145	164	178	217	3,300	2,560	2,450	2,410	769	264	242	280
AC-FT	11,590	11,700	13,340	309,900	266,700	225,700	187,100	359,400	233,600	41,120	17,090	29,640
CAL YR 1968	TOTAL	93,560	MEAN	256	MAX	1,450	MIN	87	AC-FT	185,600		
WTR YR 1969	TOTAL	860,517	MEAN	2,358	MAX	22,600	MIN	145	AC-FT	1,707,000		

SAN JOAQUIN RIVER BASIN

11-3035. SAN JOAQUIN RIVER NEAR VERNALIS, CALIF.
(International Hydrological Decade Station)

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, San Joaquin County, on left bank 12 ft downstream from Durham Ferry highway bridge, 2.6 miles downstream from Stanislaus River, and 3.2 miles northeast of Vernalis.

DRAINAGE AREA.--13,540 sq mi.

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-water records only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. July 1922 to September 1946, at various sites on or within 100 ft of Durham Ferry bridge. Prior to Apr. 1, 1931, at different datum. Apr. 1, 1931, to Sept. 30, 1959, at datum 5.06 ft above mean sea level and 8.4 ft above datum of Corps of Engineers. Oct. 1, 1959, to Nov. 30, 1967, at site 120 ft upstream at present datum.

AVERAGE DISCHARGE.--41 years (1924, 1929-69), 4,590 cfs (3,325,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 52,600 cfs Jan. 27 (elevation, 34.55 ft); minimum daily, 1,010 cfs Oct. 2.

Period of record: Maximum discharge recorded, 79,000 cfs Dec. 9, 1950 (elevation, 32.81 ft, present datum), including flow through breaks in levee; minimum, 19 cfs Aug. 10, 1961.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation; low flows consist mainly of return flow from irrigated areas. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,040	1,840	1,700	4,320	31,000	47,600	25,500	16,900	33,500	11,200	2,370	2,700
2	1,010	1,900	1,690	4,200	29,900	46,200	25,300	16,900	33,500	10,100	2,410	2,700
3	1,060	2,020	1,700	4,160	28,700	44,200	24,700	16,800	33,600	9,450	2,460	2,680
4	1,110	2,100	1,740	3,690	27,000	41,800	24,100	16,100	33,600	8,500	2,450	2,710
5	1,180	2,100	1,750	3,230	26,900	39,300	23,400	15,900	33,600	8,260	2,340	2,790
6	1,260	2,020	1,800	2,880	26,900	36,400	23,200	16,400	33,600	8,660	2,250	2,880
7	1,240	1,980	2,070	2,780	27,000	34,000	24,300	16,700	33,600	8,540	2,220	2,980
8	1,190	1,940	2,240	2,990	27,300	32,200	25,400	16,900	33,800	8,110	2,210	3,250
9	1,130	1,870	2,190	2,950	28,100	31,000	26,600	17,200	34,100	7,650	2,210	3,300
10	1,120	1,830	2,140	3,000	30,000	30,400	27,400	17,400	34,500	6,860	2,230	3,260
11	1,120	1,780	2,080	3,200	31,500	30,000	27,000	17,200	35,000	6,910	2,280	3,250
12	1,040	1,620	2,080	3,320	31,900	29,900	26,000	17,800	34,900	6,930	2,170	3,210
13	1,270	1,390	2,040	3,340	32,400	29,800	25,100	19,600	34,000	6,430	2,140	3,120
14	1,630	1,330	2,140	3,580	32,900	29,200	24,400	21,300	32,600	6,080	2,090	3,150
15	1,970	1,410	2,320	6,180	32,800	28,400	23,700	23,000	31,200	5,620	2,040	3,160
16	2,000	1,440	2,120	7,700	32,800	28,100	22,600	25,100	29,700	5,700	1,990	3,070
17	1,820	1,500	2,070	7,560	32,900	27,900	21,500	27,200	27,300	6,640	2,110	3,090
18	1,630	1,500	2,420	7,650	32,900	27,300	20,600	29,000	26,200	5,910	2,280	3,090
19	1,490	1,470	2,610	7,770	32,900	26,700	20,200	30,300	26,200	4,350	2,320	3,000
20	1,330	1,440	2,580	9,350	34,200	26,300	19,900	30,900	25,600	3,750	2,320	3,200
21	1,180	1,400	2,590	14,000	35,200	26,000	19,900	31,200	24,100	3,790	2,320	3,260
22	1,120	1,380	2,730	23,100	35,300	26,000	19,700	31,300	22,900	3,830	2,330	3,300
23	1,150	1,350	2,740	29,600	34,200	26,400	19,100	31,500	21,700	3,630	2,320	3,270
24	1,210	1,310	2,750	27,200	33,600	26,800	18,400	31,900	20,800	3,140	2,420	3,200
25	1,290	1,280	2,840	26,300	34,800	27,100	17,900	32,200	20,500	2,940	2,580	3,240
26	1,560	1,290	2,760	29,100	38,800	27,200	17,700	32,400	20,600	2,820	2,500	3,480
27	1,660	1,290	3,060	41,700	44,000	27,100	17,700	32,400	20,000	2,950	2,440	3,590
28	1,720	1,290	4,180	39,000	45,600	26,500	17,700	32,500	17,900	3,020	2,470	4,190
29	1,770	1,410	4,460	36,800	-----	26,000	17,400	32,700	15,200	2,930	2,500	4,680
30	1,800	1,650	4,490	35,000	-----	25,800	17,100	33,000	12,800	2,670	2,620	4,850
31	1,810	-----	4,440	32,600	-----	25,500	-----	33,300	-----	2,520	2,670	-----
TOTAL	42,910	48,130	78,520	428,250	911,500	957,100	663,500	763,000	836,600	179,890	72,060	97,650
MEAN	1,384	1,604	2,533	13,810	32,550	30,870	22,120	24,610	27,890	5,803	2,325	3,255
MAX	2,000	2,100	4,490	41,700	45,600	47,600	27,400	33,300	35,000	11,200	2,670	4,850
MIN	1,010	1,280	1,690	2,780	26,900	25,500	17,100	15,900	12,800	2,520	1,990	2,680
AC-FT	85,110	95,460	155,700	849,400	1,808M	1,898M	1,316M	1,513M	1,659M	356,800	142,900	193,700
CAL YR 1968	TOTAL	588,463	MEAN	1,608	MAX	4,490	MIN	453	AC-FT	1,167,000		
WTR YR 1969	TOTAL	5,079,110	MEAN	13,920	MAX	47,600	MIN	1,010	AC-FT	10,070,000		

11-3060. SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CALIF.

LOCATION.--Lat 38°08'40", long 120°39'46", in NW $\frac{1}{4}$ sec.4, T.3 N., R.12 E., Calaveras County, on right bank 0.1 mile downstream from San Antonio Creek, and 3.7 miles south of San Andreas.

DRAINAGE AREA.--118 sq mi.

PERIOD OF RECORD.--April 1950 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map). Prior to Feb. 13, 1952, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--19 years, 81.6 cfs (59,120 acre-ft per year); median of yearly mean discharges, 49 cfs (35,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,930 cfs Jan. 21 (gage height, 9.48 ft); no flow Oct. 1-14.
Period of record: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 10.29 ft), from rating curve extended above 5,700 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

REMARKS.--Records good. Some small diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	7.3	9.3	66	368	1,000	254	139	37	18	5.1	3.0
2	0	7.8	15	55	328	639	246	134	37	17	4.8	3.1
3	0	38	12	48	284	527	268	129	36	16	4.4	4.9
4	0	31	10	46	255	424	226	128	34	16	4.1	5.6
5	0	11	8.8	44	378	349	537	121	36	15	4.0	8.1
6	0	7.0	7.8	44	1,190	312	735	117	32	15	3.9	6.6
7	0	5.1	7.5	42	629	280	455	113	30	15	4.1	4.3
8	0	4.3	7.2	40	414	249	360	110	30	15	4.0	5.7
9	0	3.9	7.0	38	323	242	304	107	31	14	3.7	5.6
10	0	3.7	12	35	271	289	271	103	33	14	4.0	4.2
11	0	3.5	55	35	270	229	258	99	33	13	4.4	3.6
12	0	9.7	39	46	527	242	254	94	34	13	4.5	3.3
13	0	13	24	2,010	360	243	245	93	31	12	3.9	3.0
14	0	7.1	61	1,090	326	214	232	88	29	12	3.5	3.1
15	3.0	19	159	342	1,250	201	216	83	27	11	3.5	5.0
16	4.1	22	257	193	945	194	205	79	29	11	3.5	5.0
17	3.8	12	77	140	576	194	199	75	47	10	3.2	5.0
18	3.6	13	47	318	929	195	198	72	32	9.9	3.2	5.4
19	3.2	10	43	2,530	800	197	192	69	27	9.5	3.2	4.5
20	3.1	10	37	3,760	602	218	186	66	25	9.2	2.9	3.6
21	3.1	8.1	26	6,290	470	387	185	64	24	8.6	2.8	3.6
22	3.1	7.9	21	1,970	376	256	185	62	23	8.3	2.6	3.5
23	3.0	7.5	22	821	785	238	201	59	22	7.1	2.6	3.2
24	3.1	7.6	59	678	1,570	233	202	56	21	6.6	2.8	3.1
25	3.2	8.8	666	2,640	1,070	233	181	53	21	6.3	2.9	3.0
26	3.2	9.0	530	3,000	795	236	167	51	21	5.3	2.9	2.9
27	4.1	7.8	231	1,260	565	242	158	46	20	8.4	3.1	2.9
28	5.2	7.1	201	1,050	764	250	152	48	20	5.9	3.1	2.9
29	4.6	7.1	155	704	-----	257	145	45	19	6.5	3.0	2.7
30	4.8	7.3	108	543	-----	267	142	43	19	5.8	3.0	2.7
31	6.0	-----	81	421	-----	269	-----	41	-----	5.5	2.8	-----
TOTAL	64.2	316.6	2,995.6	30,299	17,420	9,306	7,559	2,587	860	339.9	109.5	123.1
MEAN	2.07	10.6	96.6	977	622	300	252	83.5	28.7	11.0	3.53	4.10
MAX	6.0	38	666	6,290	1,570	1,000	735	139	47	18	5.1	8.1
MIN	0	3.5	7.0	35	255	194	142	41	19	5.3	2.6	2.7
AC-FT	127	628	5,940	60,100	34,550	18,460	14,990	5,130	1,710	674	217	244
CAL YR 1968	TOTAL	12,733.16	MEAN	34.8	MAX	666	MIN	0	AC-FT	25,260		
WTR YR 1969	TOTAL	71,979.90	MEAN	197	MAX	6,290	MIN	0	AC-FT	142,800		

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-25	1530	4.38	1,150	2-15	1815	5.85	2,150
1-13	1630	7.43	4,960	2-24	1530	5.99	2,290
1-21	0745	9.48	9,930	3- 1	0600	4.90	1,340
1-26	0515	8.45	6,880	4- 5	1615	4.49	1,050
2- 6	1230	5.87	2,170				

SAN JOAQUIN RIVER BASIN

11-3080, NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CALIF.

LOCATION.--Lat 38°13'17", long 120°41'54", in NW¼ sec.7, T.4 N., R.12 E., Calaveras County, on right bank 0.5 mile upstream from Chile Gulch, and 1.8 miles northwest of San Andreas.

DRAINAGE AREA.--85.2 sq mi.

PERIOD OF RECORD.--March 1950 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Feb. 14, 1952, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--19 years, 49.3 cfs (35,720 acre-ft per year); median of yearly mean discharges, 34 cfs (24,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,250 cfs Jan. 21 (gage height, 10.38 ft); no flow Oct. 1-29. Period of record: Maximum discharge, 6,200 cfs Dec. 23, 1955 (gage height, 12.52 ft), from rating curve extended above 3,900 cfs; no flow at times in most years.

REMARKS.--Records good. Small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	8.7	9.8	44	187	615	67	44	24	12	3.2	1.5
2	0	14	42	37	191	453	67	43	24	12	3.0	1.9
3	0	92	23	31	182	400	80	42	24	12	2.8	1.7
4	0	53	15	27	170	317	69	42	23	11	2.7	1.1
5	0	16	12	25	254	263	244	41	23	11	2.9	.69
6	0	8.4	10	23	561	240	337	41	23	11	3.0	.81
7	0	6.9	9.3	21	361	212	254	39	22	11	2.7	1.2
8	0	5.9	8.6	20	248	188	174	39	23	10	2.2	1.8
9	0	5.2	8.0	19	200	171	139	38	24	9.4	2.1	2.0
10	0	4.4	9.3	18	172	180	117	38	24	8.7	2.3	2.5
11	0	4.0	55	19	163	179	105	37	24	8.5	3.1	2.2
12	0	19	42	25	299	163	95	36	24	8.6	2.9	2.0
13	0	26	25	530	223	156	85	36	23	8.4	2.6	1.7
14	0	16	48	628	189	142	81	35	21	7.4	2.1	1.9
15	0	43	95	195	809	127	76	35	21	6.8	1.9	1.9
16	0	33	249	110	695	118	69	33	22	6.4	2.6	2.1
17	0	18	64	73	363	115	65	32	28	6.7	2.3	2.4
18	0	13	35	73	400	110	63	32	22	6.8	1.7	2.2
19	0	10	30	1,180	424	104	60	32	20	5.9	1.5	2.4
20	0	9.5	29	1,740	391	104	58	32	19	5.0	1.7	2.8
21	0	8.2	23	2,950	319	175	55	31	18	4.5	1.8	3.1
22	0	7.3	20	997	261	134	53	30	19	4.1	1.7	3.3
23	0	6.8	18	413	330	112	59	29	18	3.7	.92	2.9
24	0	7.8	28	318	929	103	68	28	16	3.8	1.1	3.0
25	0	9.4	374	1,210	739	.97	59	28	16	3.7	1.0	2.8
26	0	9.0	296	1,410	514	87	53	27	16	3.9	1.2	3.1
27	0	8.1	134	603	389	81	51	27	16	3.8	1.2	2.9
28	0	7.5	140	434	459	78	49	27	15	3.7	1.4	3.1
29	0	7.1	153	303	-----	75	46	26	16	3.3	1.3	3.0
30	5.5	7.0	83	245	-----	71	45	25	14	3.0	1.5	2.9
31	9.3	-----	56	196	-----	69	-----	24	-----	3.5	1.5	-----
TOTAL	14.8	484.2	2,144.0	13,917	10,422	5,439	2,843	1,049	622	219.6	63.92	66.90
MEAN	.48	16.1	69.2	449	372	175	94.8	33.8	20.7	7.08	2.06	2.23
MAX	9.3	92	374	2,950	929	615	337	44	28	12	3.2	3.3
MIN	0	4.0	8.0	18	163	69	45	24	14	3.0	.92	.69
AC-FT	29	960	4,250	27,600	20,670	10,790	5,640	2,080	1,230	436	127	133
CAL YR 1968	TOTAL	8,400.94	MEAN	23.0	MAX	374	MIN	0	AC-FT	16,660		
WTR YR 1969	TOTAL	37,285.42	MEAN	102	MAX	2,950	MIN	0	AC-FT	73,950		

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1945	8.04	2,190	2-15	2000	7.16	1,620
1-21	0215	10.38	4,250	2-24	1630	7.36	1,820
1-26	0800	8.72	2,690				

11-3087. NEW HOGAN RESERVOIR NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°09'01", long 120°48'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.4 N., R.11 E., Calaveras County, in control house at New Hogan Dam on the Calaveras River, 3.0 miles south of Valley Springs.

DRAINAGE AREA.--362 sq mi.

PERIOD OF RECORD.--December 1963 to current year.

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

EXTREMES.--Current year: Maximum contents, 215,600 acre-ft Jan. 21 (elevation, 685.30 ft); minimum, 139,800 acre-ft Nov. 1 (elevation, 660.39 ft).

Period of record: Maximum contents, 241,200 acre-ft Apr. 18, 1967 (elevation, 692.53 ft); minimum since initial season of normal operation, 9,360 acre-ft Oct. 27, 1964 (elevation, 516.81 ft).

REMARKS.--Reservoir is formed by an earthfill dam and four earthfill dikes. Storage began Dec. 20, 1963. Total capacity, 323,900 acre-ft between elevations 534.5 (invert of outlet valve) and 713.0 ft (top of spillway gates). Elevation of spillway crest is 679.5 ft. No dead storage. The reservoir is operated for flood control according to existing downstream channel conditions. Reservoir releases limited, insofar as possible, to amounts that will not cause flows greater than 6,000 cfs at Bellota. Records, including extremes, show contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

545	723	600	27,300
550	1,240	610	39,200
555	1,960	630	70,500
560	2,950	650	113,200
570	6,130	670	167,000
580	11,100	700	269,700
590	18,000		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142.7	139.8	141.5	155.9	160.3	185.9	169.1	199.1	198.5	190.6	178.8	166.2
2	142.5	139.9	141.4	156.1	159.2	185.1	170.0	199.2	198.3	190.3	178.5	165.8
3	142.2	140.5	141.5	156.3	158.8	183.6	170.8	199.4	198.2	190.0	178.1	165.5
4	142.0	140.6	141.6	156.5	159.8	181.4	171.7	199.5	197.9	189.7	177.7	165.2
5	141.9	140.7	141.6	156.7	161.8	178.4	174.7	199.7	197.7	189.3	177.2	164.9
6	141.7	140.7	141.6	156.7	167.8	175.5	178.6	199.8	197.3	189.2	176.9	164.6
7	141.5	140.7	141.7	156.9	170.7	172.4	181.1	199.9	197.0	188.9	176.5	164.3
8	141.2	140.6	141.7	157.1	170.9	169.1	182.8	200.0	196.8	188.5	176.1	164.0
9	141.0	140.6	141.7	157.2	169.9	165.9	184.2	200.2	196.6	188.2	175.7	163.8
10	140.9	140.6	141.9	157.3	168.7	162.7	185.5	200.3	196.5	187.9	175.4	163.5
11	140.8	140.8	142.0	157.5	167.9	160.4	186.5	200.4	196.3	187.5	175.1	163.2
12	140.8	140.8	142.2	157.7	168.3	159.5	187.6	200.5	196.1	187.1	174.6	162.9
13	140.7	140.8	142.3	164.8	167.8	158.9	188.8	200.5	195.9	186.7	174.1	162.7
14	140.7	140.9	143.0	171.2	167.0	158.2	189.6	200.4	195.7	186.3	173.6	162.5
15	140.6	141.1	143.8	173.1	171.9	157.3	190.6	200.4	195.5	185.9	173.2	162.2
16	140.6	141.2	145.0	174.1	175.4	156.3	191.3	200.4	195.3	185.6	172.7	162.0
17	140.6	141.2	145.4	174.8	176.1	155.9	192.1	200.2	195.1	185.1	172.3	161.8
18	140.5	141.3	145.7	176.1	178.9	155.7	192.7	200.2	194.8	184.6	171.9	161.6
19	140.5	141.4	145.9	186.3	180.0	156.0	193.4	200.0	194.5	184.2	171.5	161.3
20	140.4	141.4	146.1	197.9	178.7	157.2	194.1	200.0	194.1	183.8	171.0	161.2
21	140.4	141.4	146.2	215.6	176.8	159.0	194.7	199.9	193.8	183.4	170.6	160.9
22	140.3	141.4	146.3	212.2	174.2	160.2	195.3	199.8	193.5	182.9	170.2	160.7
23	140.2	141.4	146.4	202.2	174.2	161.2	195.9	199.8	193.1	182.4	169.7	160.4
24	140.2	141.4	146.7	191.6	178.7	162.1	196.6	199.7	192.8	181.9	169.4	160.2
25	140.1	141.4	148.9	193.2	180.9	163.1	197.0	199.6	192.4	181.5	168.9	160.0
26	140.1	141.5	151.7	195.0	181.1	163.9	197.6	199.5	192.1	181.1	168.5	159.8
27	140.0	141.5	152.9	187.8	181.2	164.8	197.9	199.3	191.7	180.8	168.1	159.6
28	139.9	141.5	153.9	179.6	184.4	165.6	198.4	199.1	191.4	180.3	167.7	159.4
29	139.9	141.5	154.7	170.5	-----	166.4	198.7	199.0	191.2	179.9	167.3	159.1
30	139.9	141.5	155.2	164.9	-----	167.4	198.9	198.9	190.9	179.6	166.9	158.9
31	139.8	-----	155.6	161.9	-----	168.2	-----	198.7	-----	179.2	166.5	-----
MAX	142.7	141.5	155.6	215.6	184.4	185.9	198.9	200.5	198.5	190.6	178.8	166.2
MIN	139.8	139.8	141.4	155.9	158.8	155.7	169.1	198.7	190.9	179.2	166.5	158.9
(a)	660.41	661.01	666.10	668.26	675.74	670.42	680.30	680.22	677.80	674.02	669.85	667.25
(b)	-3.0	+1.7	+14.1	+6.3	+22.5	-16.2	+30.7	-0.2	-7.8	-11.7	-12.7	-7.6
(c)	1,113	354	287	181	264	691	1,056	1,763	1,846	2,704	2,647	2,008
CAL YR 1968	b -41.5		MAX 214.5		MIN 139.8							
WTR YR 1969	b +16.1		MAX 215.6		MIN 139.8							

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3089, CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°08'53", long 120°49'26", in NE $\frac{1}{4}$ sec.1, T.3 N., R.10 E., Calaveras County, on right bank at county road bridge, 0.5 mile upstream from Cosgrove Creek, 0.8 mile downstream from New Hogan Dam, and 3.0 miles south of Valley Springs.

DRAINAGE AREA.--363 sq mi.

PERIOD OF RECORD.--January 1961 to current year. Published as "below Hogan Dam" 1961-63 and as "below New Hogan Dam" 1964.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 519.8 ft above mean sea level (levels by Corps of Engineers). Auxiliary nonrecording gage 300 ft downstream at different datum used May 1, 1962, to Jan. 26, 1963.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation from New Hogan Reservoir).--8 years, 244 cfs (176,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,830 cfs Jan. 25, 26 (gage height, 7.46 ft); minimum daily, 8.1 cfs Apr. 15-20.

Period of record: Maximum discharge, 7,830 cfs Jan. 25, 26, 1969 (gage height, 7.46 ft); no flow for many days 1961-65.

REMARKS.--Records good. Flow regulated by New Hogan Reservoir (see sta 11-3087). Some seepage of North Fork Stanislaus River water enters basin from diversion canals and reservoirs, normally not over 1.5 cfs. Small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	18	19	19	1,740	2,500	20	110	136	150	150	150
2	79	18	19	19	1,520	2,500	20	129	136	150	150	150
3	90	18	19	19	1,030	2,490	20	125	136	150	159	150
4	85	18	20	18	139	2,490	20	125	163	150	168	150
5	76	18	20	18	14	2,480	28	125	186	150	168	141
6	76	18	20	18	18	2,480	27	125	180	150	168	125
7	76	20	20	18	131	2,460	22	134	171	156	168	125
8	76	22	20	18	1,140	2,460	22	114	171	166	168	125
9	74	21	20	18	1,480	2,460	22	100	159	161	161	125
10	57	19	20	18	1,480	2,460	22	100	145	153	150	125
11	23	19	20	18	1,480	1,940	22	100	134	166	158	126
12	23	19	20	18	1,480	1,300	22	100	145	188	181	118
13	23	19	20	31	1,480	950	22	120	151	203	200	100
14	23	19	22	24	1,480	990	17	151	151	200	226	100
15	17	19	23	22	1,480	990	8.1	151	151	192	226	100
16	10	19	20	21	1,480	990	8.1	151	151	188	208	100
17	10	19	20	19	1,480	654	8.1	151	163	192	173	99
18	10	19	19	21	1,480	514	8.1	151	192	200	173	97
19	10	19	17	262	2,040	236	8.1	150	200	200	179	98
20	10	18	17	2,380	2,500	19	8.1	139	196	195	190	98
21	10	18	18	5,750	2,480	19	44	121	188	186	190	98
22	12	18	18	7,350	2,470	19	47	122	188	190	187	98
23	17	18	18	7,500	2,480	19	56	117	188	202	172	98
24	18	18	18	7,500	2,490	19	56	111	188	202	172	98
25	18	18	21	6,590	2,490	19	56	111	188	195	180	98
26	18	18	26	7,500	2,490	19	56	122	188	180	198	98
27	18	18	19	7,500	1,690	19	56	143	181	180	191	98
28	18	18	20	7,500	847	19	62	165	161	180	178	98
29	18	18	19	6,950	-----	19	92	160	148	172	159	105
30	18	18	19	4,400	-----	19	100	139	150	168	150	98
31	18	-----	19	2,670	-----	19	-----	134	-----	162	150	-----
TOTAL	1,088	559	610	74,209	42,509	33,572	979.6	3,996	4,985	5,477	5,451	3,389
MEAN	35.1	18.6	19.7	2,394	1,518	1,083	32.7	129	166	177	176	113
MAX	90	22	26	7,500	2,500	2,500	100	165	200	203	226	150
MIN	10	18	17	18	14	19	8.1	100	134	150	150	97
AC-FT	2,160	1,110	1,210	147,200	84,320	66,590	1,940	7,930	9,890	10,860	10,810	6,720
MEAN a	4.73	51.9	255	2,498	1,930	831	566	153	66.9	29.9	13.3	19.0
AC-FT a	291	3,090	15,670	153,600	107,200	51,080	33,690	9,430	3,980	1,840	819	1,130

CAL YR 1968	TOTAL	50,257	MEAN	137	MAX	1,980	MIN	10	AC-FT	99,680	MEAN a	101	AC-FT a	73,250
WTR YR 1969	TOTAL	176,824.6	MEAN	484	MAX	7,500	MIN	8.1	AC-FT	350,700	MEAN a	527	AC-FT a	381,800

a Adjusted for change in contents in and evaporation from New Hogan Reservoir.

11-3090. COSGROVE CREEK NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°08'10", long 120°50'06", in SE $\frac{1}{4}$ sec.35, T.4 N., R.10 E., Calaveras County, on right bank 0.4 mile upstream from mouth, and 2.7 miles south of Valley Springs.

DRAINAGE AREA.--21.1 sq mi.

PERIOD OF RECORD.--October 1929 to September 1969 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 547.8 ft above mean sea level. Prior to Mar. 17, 1930, nonrecording gage at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--40 years, 7.62 cfs (5,520 acre-ft per year); median of yearly mean discharges, 5.4 cfs (3,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,350 cfs Feb. 15 (gage height, 6.35 ft); no flow for several months.

Period of record: Maximum discharge, 3,240 cfs Dec. 23, 1955 (gage height, 8.96 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.05	14	22	160	4.9	2.0	.03	0	0	0
2	0	0	.06	12	20	61	5.4	2.0	.02	0	0	0
3	0	3.3	.05	11	16	51	6.4	2.0	.02	0	0	0
4	0	.83	.05	9.8	15	33	5.2	2.0	.01	0	0	0
5	0	.08	.05	8.8	97	24	95	1.9	0	0	0	0
6	0	.02	.05	8.4	142	20	89	1.4	0	0	0	0
7	0	.01	.05	8.0	43	16	24	1.2	0	0	0	0
8	0	0	.05	8.0	25	15	15	1.1	0	0	0	0
9	0	0	.05	7.2	20	21	11	.93	0	0	0	0
10	0	0	.14	6.9	16	28	8.0	.83	0	0	0	0
11	0	0	1.2	9.3	91	15	7.2	.83	0	0	0	0
12	0	.03	1.0	26	167	26	6.4	.68	0	0	0	0
13	0	.02	.68	277	41	23	6.4	.54	.01	0	0	0
14	0	.03	50	189	40	14	5.9	.54	.04	0	0	0
15	0	2.3	91	33	401	12	5.4	.54	.04	0	0	0
16	0	.93	31	19	104	10	5.2	.48	.03	0	0	0
17	0	.38	9.8	13	46	9.8	4.6	.34	.01	0	0	0
18	0	.22	5.9	58	251	9.3	4.4	.38	0	0	0	0
19	0	.14	6.2	249	142	8.0	4.2	.34	0	0	0	0
20	0	.08	6.2	251	65	24	4.0	.34	0	0	0	0
21	0	.06	4.6	273	40	51	3.8	.30	0	0	0	0
22	0	.05	3.4	142	30	15	3.6	.30	0	0	0	0
23	0	.05	2.8	51	217	11	5.2	.26	0	0	0	0
24	0	.06	5.9	83	169	8.8	5.6	.22	0	0	0	0
25	0	.06	79	341	91	7.5	3.8	.12	0	0	0	0
26	0	.05	221	199	103	6.9	3.4	.10	0	0	0	0
27	0	.05	48	72	42	6.4	3.0	.10	0	0	0	0
28	0	.05	57	138	162	6.2	2.2	.08	0	0	0	0
29	0	.05	33	51	-----	5.6	2.4	.06	0	0	0	0
30	0	.05	22	36	-----	5.4	2.2	.05	0	0	0	0
31	0	-----	17	27	-----	5.2	-----	.04	-----	0	0	-----
TOTAL	0	8.90	697.28	2,631.4	2,618	709.1	352.8	22.00	0.21	0	0	0
MEAN	0	.30	22.5	84.9	93.5	22.9	11.8	.71	.007	0	0	0
MAX	0	3.3	221	341	401	160	95	2.0	.04	0	0	0
MIN	0	0	.05	6.9	15	5.2	2.2	.04	0	0	0	0
AC-FT	0	18	1,380	5,220	5,190	1,410	700	44	.4	0	0	0
CAL YR 1968	TOTAL	1,769.06	MEAN	4.83	MAX	221	MIN	0	AC-FT	3,510		
WTR YR 1969	TOTAL	7,039.69	MEAN	19.3	MAX	401	MIN	0	AC-FT	13,960		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-26	0230	5.03	700	2-15	1700	6.35	1,350
1-13	1730	4.92	645	2-23	0900	5.38	790
1-19	0500	4.95	578	2-28	2000	4.98	591
1-25	0600	5.72	976				

SAN JOAQUIN RIVER BASIN

11-3120, BEAR CREEK NEAR LOCKEFORD, CALIF.

LOCATION.--Lat 38°09'10", long 121°08'17", in NW¼SE¼ sec.31, T.4 N., R.8 E., San Joaquin County, on right bank 15 ft downstream from county road bridge, and 0.8 mile southeast of Lockeford.

DRAINAGE AREA.--47.6 sq mi.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1926 to November 1930 at site 3 miles downstream; records not equivalent.

GAGE.--Water-stage recorder and low water concrete control. Datum of gage is 80.68 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--39 years, 11.8 cfs (8,550 acre-ft per year); median of yearly mean discharges, 8.2 cfs (5,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 760 cfs Jan. 25, Feb. 15 (gage height, 12.85 ft); minimum daily, 0.02 cfs Dec. 9.
Period of record: Maximum discharge, 2,930 cfs Apr. 3, 1958 (gage height, 15.13 ft); no flow for several months in most years.

REMARKS.--Records fair. No storage or diversion above station. Occasionally water is released from East Bay Municipal Utility District aqueduct into Bear Creek above station. Summer discharge influenced by return flows from irrigated areas.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	.06	.04	3.8	31	245	2.3	.05	.15	.40	.22	.43
2	1.2	.06	.04	2.8	25	99	2.0	.11	.08	.55	.20	.68
3	1.4	11	.04	2.1	19	72	2.0	.12	.07	.70	1.5	.23
4	.61	3.2	.03	1.7	16	46	2.3	.09	.08	.05	1.1	.22
5	.79	1.0	.03	1.4	45	32	49	.09	.09	.15	.76	.37
6	.82	.37	.03	1.2	210	25	170	1.2	.10	.25	.66	.44
7	.77	.14	.03	.99	107	20	45	.86	1.6	.31	.40	.49
8	.55	.07	.03	.84	45	17	21	.49	2.1	.13	.18	.44
9	.54	.06	.02	.74	28	14	13	.57	.69	.08	.10	1.2
10	1.7	.05	.03	.61	21	50	9.2	.05	.57	.18	.11	1.1
11	1.5	.05	.05	1.3	108	23	6.8	.09	.05	.96	.15	1.2
12	1.5	.05	.05	19	445	18	5.3	.06	.05	1.1	.14	.67
13	1.9	.04	.10	422	123	44	4.1	.09	.88	1.2	.20	.60
14	1.5	.05	32	283	63	21	3.6	.08	1.2	1.4	1.0	.70
15	.41	3.5	46	56	458	14	4.1	.09	.51	.69	.86	.59
16	.13	1.4	69	23	452	11	3.4	1.5	.28	.10	1.3	.31
17	.09	.55	10	13	117	9.4	2.4	.94	1.2	.08	.71	.28
18	.07	.26	4.6	55	320	8.1	2.1	1.3	1.4	.12	.89	.28
19	.06	.12	2.8	611	275	7.1	.39	1.0	.85	.21	.81	.32
20	.07	.08	2.0	376	128	6.9	.50	.60	1.2	.29	.26	.31
21	.06	.06	1.4	422	67	21	.58	.31	.13	.14	.07	1.8
22	.04	.05	1.1	216	45	15	.44	.05	.10	.39	.13	2.0
23	.16	.04	.67	87	323	9.1	.82	.05	.13	.89	.18	1.5
24	1.1	.04	2.1	115	325	6.6	.60	.05	.13	.83	.23	1.2
25	1.5	.04	72	585	303	5.5	2.6	.09	.11	.40	.69	.54
26	1.3	.04	210	562	226	5.0	5.6	.09	1.1	.39	.43	.54
27	.87	.04	40	185	95	4.8	3.5	.07	3.6	1.6	.61	.30
28	1.2	.03	29	167	83	4.4	2.6	1.4	2.7	.48	1.1	.08
29	.28	.04	27	105	-----	3.9	2.0	1.3	1.8	.10	.95	.07
30	.14	.04	9.8	59	-----	3.3	2.1	.47	1.2	.12	1.1	.08
31	.08	-----	5.6	44	-----	2.8	-----	.54	-----	.19	1.0	-----
TOTAL	24.14	22.53	565.59	4,422.48	4,503	863.9	369.33	13.80	24.15	14.48	18.04	18.97
MEAN	.78	.75	18.2	143	161	27.9	12.3	.45	.81	.47	.58	.63
MAX	1.9	11	210	611	458	245	170	1.5	3.6	1.6	1.5	2.0
MIN	.04	.03	.02	.61	16	2.8	.39	.05	.05	.05	.07	.07
AC-FT	48	45	1,120	8,770	8,930	1,710	733	27	48	29	36	38
CAL YR 1968	TOTAL	3,327.07	MEAN	9.09	MAX	486	MIN	0	AC-FT	6,600		
WTR YR 1969	TOTAL	10,860.41	MEAN	29.8	MAX	611	MIN	.02	AC-FT	21,540		

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-26	0845	8.65	367	2-12	0445	11.68	577
1-13	1915	12.51	701	2-15	2030	12.85	760
1-19	0945	12.64	723	2-18	1745	11.21	514
1-21	1330	11.13	504	2-23	1400	11.74	586
1-25	0945	12.85	760	2-25	0030	11.00	488
1-26	0915	12.71	735	3- 1	0815	9.14	308
1-28	1745	7.57	213	4- 6	0215	8.84	289
2- 6	1600	9.12	306				

11-3130. DELTA-MENDOTA CANAL AT TRACY PUMPING PLANT, NEAR TRACY, CALIF.

LOCATION.--Lat 37°47'49", long 121°35'03", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.1 S., R.4 E., Alameda County, at Tracy pumping plant at intake to canal, 6 miles southeast of Byron, and 10 miles northwest of Tracy.

PERIOD OF RECORD.--June 1951 to current year. Prior to October 1959, published as "near Tracy."

GAGE.--Water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--18 years, 1,717 cfs (1,244,000 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 4,935 cfs Aug. 11, 1969; no flow for many days in most years.

REMARKS.--Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy Pumping Plant where it is lifted 200 ft into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of the Central Valley project. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,950	3,200	863	2,570	3,090	3,120	1,750	1,410	1,880	1,930	4,150	3,240
2	3,950	3,190	861	2,520	3,390	3,420	1,820	2,170	1,880	1,930	4,140	3,190
3	3,950	3,190	859	2,540	2,870	2,910	1,820	2,180	1,880	1,960	4,140	2,730
4	3,940	3,230	677	2,580	2,870	2,920	1,750	2,180	1,940	1,960	4,220	2,380
5	4,420	3,240	679	2,580	2,870	2,900	1,750	2,180	1,870	1,950	4,910	2,400
6	4,890	3,130	213	2,640	2,870	2,890	1,740	2,240	1,940	1,880	4,920	2,280
7	3,910	2,050	249	2,870	2,860	2,880	1,750	2,920	1,970	1,040	4,930	2,080
8	4,410	2,050	250	2,880	3,050	3,080	1,720	2,950	1,970	1,160	4,930	1,990
9	4,410	3,110	214	2,870	3,370	3,380	1,690	3,010	1,680	1,330	4,930	1,730
10	4,410	3,110	180	2,870	2,870	2,870	1,690	3,120	1,540	2,260	4,930	1,730
11	4,420	3,050	180	3,070	2,880	2,870	1,770	3,120	1,740	2,730	4,940	1,730
12	4,440	2,720	179	3,380	2,890	2,860	2,350	3,130	1,800	2,970	4,930	1,730
13	4,910	2,770	180	2,860	2,890	2,870	2,340	2,830	1,840	2,900	4,930	1,740
14	4,430	2,960	216	2,860	2,890	2,860	2,450	2,030	1,850	2,460	4,930	1,740
15	4,410	2,650	216	2,860	3,110	3,050	2,440	2,070	1,840	2,450	4,920	1,740
16	4,400	2,910	215	2,830	3,420	3,230	2,440	2,000	1,840	2,440	4,920	1,800
17	4,410	2,910	212	2,840	2,900	1,310	2,580	1,890	1,840	2,350	4,920	1,950
18	4,030	3,020	212	3,040	2,900	1,280	2,610	1,900	1,840	2,350	4,910	2,090
19	3,150	3,050	321	3,360	2,900	1,290	2,600	1,900	1,820	2,350	4,690	2,090
20	4,140	2,780	390	2,860	2,890	1,390	2,600	1,830	2,000	2,350	4,730	2,040
21	3,140	935	888	2,870	2,890	1,390	2,350	1,770	2,000	2,420	4,480	2,040
22	2,890	936	2,520	2,870	3,400	1,310	1,890	1,820	1,960	3,190	3,620	2,040
23	1,470	1,080	1,980	2,880	3,400	145	1,890	1,880	1,930	3,130	3,920	2,000
24	1,610	1,080	2,040	2,870	2,890	510	1,620	1,950	1,930	3,460	3,900	2,290
25	2,710	1,080	2,820	3,090	2,890	783	1,190	1,950	1,980	3,560	3,910	2,660
26	3,400	1,170	2,820	3,410	2,890	1,890	1,190	1,950	1,970	4,240	3,840	2,730
27	3,790	1,180	2,810	2,890	2,900	1,990	1,170	1,960	2,000	4,310	3,670	2,860
28	3,250	1,110	3,010	2,910	2,910	1,750	1,180	1,860	1,990	4,250	3,570	2,800
29	3,440	1,110	2,880	2,900	-----	1,750	1,190	1,860	1,980	4,170	3,440	2,760
30	3,430	932	2,540	2,900	-----	1,750	1,250	1,870	1,990	4,170	3,060	2,730
31	3,240	-----	2,580	2,890	-----	1,750	-----	1,870	-----	4,130	2,910	-----
TOTAL	117,350	68,933	34,254	89,360	83,950	68,398	56,580	67,800	56,690	83,780	135,340	67,310
MEAN	3,785	2,298	1,105	2,883	2,998	2,206	1,886	2,187	1,890	2,703	4,366	2,244
MAX	4,910	3,240	3,010	3,410	3,420	3,420	2,610	3,130	2,000	4,310	4,940	3,240
MIN	1,470	932	179	2,520	2,860	145	1,170	1,410	1,540	1,040	2,910	1,730
AC-FT	232,800	136,700	67,940	177,200	166,500	135,700	112,200	134,500	112,400	166,200	268,400	133,500
CAL YR 1968	TOTAL	1,135,918	MEAN	3,104	MAX	4,934	MIN	60	AC-FT	2,253,000		
WTR YR 1969	TOTAL	929,745	MEAN	2,547	MAX	4,940	MIN	145	AC-FT	1,844,000		

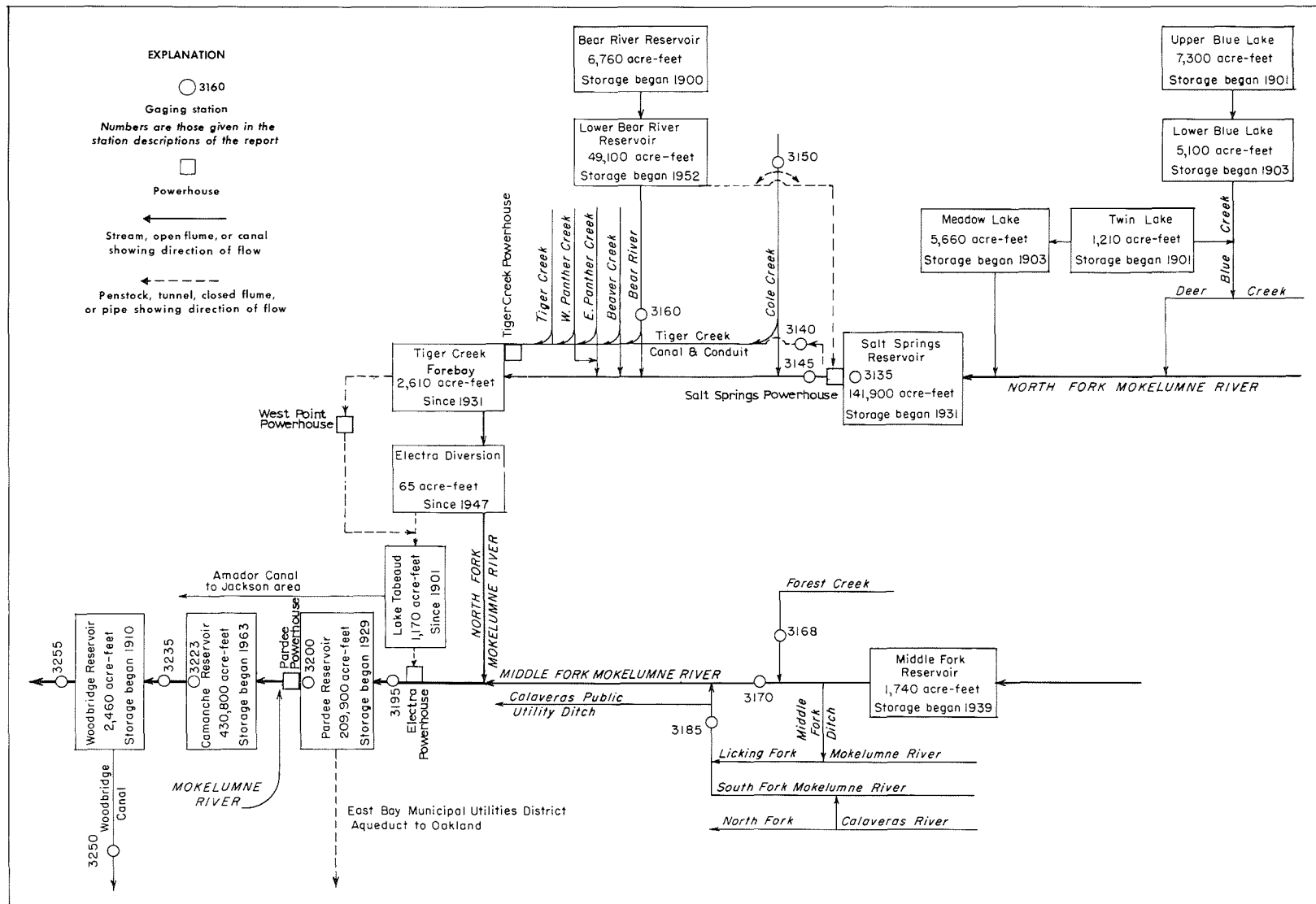


FIGURE 9.--Schematic diagram showing diversions and storage in Mokelumne River basin.

11-3135. SALT SPRINGS RESERVOIR NEAR WEST POINT, CALIF.

LOCATION.--Lat 38°30'00", long 120°12'55", in SE $\frac{1}{4}$ sec.33, T.8 N., R.16 E., Calaveras County, Eldorado National Forest, at right end of Salt Springs Dam on North Fork Mokelumne River, 2 miles upstream from Cole Creek, and 18 miles northeast of West Point.

DRAINAGE AREA.--169 sq mi.

PERIOD OF RECORD.--March 1931 to current year. Prior to October 1964, records published as usable contents.

GAGE.--Nonrecording gage read once daily. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES (at 1700).--Current year: Maximum contents observed, 141,900 acre-ft July 1-15 (elevation, 3,958.0 ft); minimum, 25,500 acre-ft Jan. 18 (elevation, 3,794.3 ft).

Period of record: Maximum contents observed, 141,900 acre-ft for several days in June or July each year 1948-54, 1956-58, 1960, 1962-63, 1965, 1967, 1969 (elevation, 3,958.0 ft); no contents at times in 1932-33, 1945, 1962.

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1931; storage began in March 1931. Capacity, 141,900 acre-ft between elevations 3,667.75 (outlet drain) and 3,958.0 ft (top of radial gates) above mean sea level. Storage of 1,860 acre-ft is available for release to river only. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (see sta 11-3140). Figures given herein represent total contents. See schematic diagram of Mokelumne River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,667.75	45	3,740.0	7,320
3,700.0	1,250	3,750.0	9,800
3,705.0	1,680	3,760.0	12,700
3,710.0	2,200	3,780.0	19,600
3,715.0	2,810	3,800.0	28,000
3,720.0	3,520	3,850.0	54,900
3,725.0	4,320	3,900.0	90,800
3,730.0	5,230	3,958.0	141,900
3,735.0	6,230		

CONTENTS, IN ACRE-FEET, AT 1700, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68,243	52,618	48,947	33,302	44,181	33,693	32,380	71,671	131,444	141,858	136,228	115,224
2	67,749	52,312	48,182	32,525	44,627	33,400	33,939	73,630	131,444	141,858	136,323	114,694
3	67,184	54,852	47,715	31,803	44,292	32,912	35,028	76,276	131,444	141,858	134,437	113,814
4	66,622	55,355	47,193	31,182	43,902	32,428	35,835	78,959	131,444	141,858	133,591	112,938
5	65,715	55,103	46,271	30,709	43,459	32,091	37,110	80,542	131,444	141,858	133,030	112,064
6	65,715	54,789	45,700	30,191	43,073	31,611	38,145	83,746	131,444	141,858	132,469	111,628
7	64,745	54,289	45,473	29,677	42,853	31,230	38,773	88,099	131,444	141,858	132,003	111,279
8	64,057	53,915	44,627	29,166	42,524	30,661	39,141	93,027	131,444	141,858	131,537	110,758
9	63,373	53,605	43,847	28,659	41,979	30,191	39,299	98,978	131,444	141,858	130,700	110,498
10	62,965	53,481	43,404	28,156	41,599	29,863	39,722	105,179	131,444	141,858	129,866	110,151
11	62,288	53,172	43,073	27,566	41,112	29,398	40,361	112,500	133,685	141,858	129,126	109,719
12	61,614	53,110	42,689	26,891	40,790	28,797	41,599	119,041	134,437	141,858	128,757	109,028
13	61,012	52,926	42,251	26,668	40,361	28,201	43,073	125,270	135,756	141,858	128,203	108,167
14	60,612	53,110	41,870	26,936	39,988	27,928	44,348	132,003	137,176	141,858	127,376	107,310
15	60,280	52,926	41,545	26,891	39,669	27,475	43,902	132,749	138,792	141,858	126,458	106,711
16	60,015	52,803	41,220	26,534	39,299	27,160	43,183	132,656	139,938	141,473	125,727	105,944
17	59,487	52,557	40,790	26,049	38,878	26,802	43,902	132,843	139,938	141,089	124,997	105,179
18	58,961	52,373	40,361	25,480	38,511	26,534	45,020	132,843	140,225	140,705	124,359	104,499
19	58,503	53,357	39,988	26,668	38,145	26,445	46,271	132,843	141,377	140,225	123,542	103,654
20	58,048	53,605	39,510	30,520	37,782	26,226	47,949	132,656	141,377	140,225	122,998	102,896
21	57,529	53,543	39,035	35,532	37,316	26,049	50,554	131,444	141,377	139,651	122,094	102,140
22	57,013	53,296	38,511	36,854	36,905	25,917	54,102	131,444	141,377	139,269	121,463	101,387
23	56,500	53,234	37,989	37,471	36,496	25,786	57,723	131,444	141,377	139,365	121,103	100,554
24	56,053	53,049	37,730	37,989	36,088	25,654	59,949	131,444	141,377	139,365	120,474	99,557
25	55,544	52,803	37,471	39,722	35,683	25,698	61,346	131,444	141,377	139,460	119,846	98,647
26	55,166	52,557	36,956	43,349	35,280	25,786	62,153	131,444	141,377	139,365	119,130	97,824
27	54,664	52,190	36,854	45,303	34,680	26,049	63,169	131,444	141,377	138,792	118,238	97,413
28	54,227	51,399	36,139	45,871	34,185	26,068	64,263	131,444	141,377	138,125	117,527	97,003
29	53,791	50,554	35,431	45,473	-----	27,475	66,412	131,444	141,377	137,555	116,728	96,104
30	53,419	49,777	34,680	45,020	-----	28,705	68,810	131,444	141,665	137,270	116,108	95,208
31	52,987	-----	33,939	44,571	-----	30,473	-----	131,444	-----	136,607	115,577	-----
MAX	68,243	55,355	48,947	45,871	44,627	33,693	68,810	132,843	141,665	141,858	136,323	115,224
MIN	52,987	49,777	33,939	25,480	34,185	25,654	32,380	71,671	131,444	136,607	115,577	95,208
(a)	3,847.0	3,841.7	3,812.5	3,832.7	3,813.0	3,805.3	3,870.8	3,947.0	3,957.8	3,952.5	3,929.5	3,905.5
(b)	-15,800	-3,200	-15,900	+10,700	-10,400	-3,700	+38,300	+62,600	+10,300	-5,100	-21,000	-20,400

CAL YR 1968 b -1,700
WTR YR 1969 b +26,400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet, rounded to Geological Survey standards.

SAN JOAQUIN RIVER BASIN

11-3140. TIGER CREEK POWERHOUSE CONDUIT BELOW SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'47", long 120°13'04", in SW $\frac{1}{4}$ sec.33, T.8 N., R.16 E., Amador County, Eldorado National Forest, on left bank 1,000 ft downstream from Salt Springs Dam and powerhouse.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,620 ft (from topographic map). Auxiliary nonrecording gages in stilling wells upstream and downstream from control.

AVERAGE DISCHARGE.--38 years, 333 cfs (241,300 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 577 cfs June 22, 1945; no flow at times in some years.

REMARKS.--Records excellent. Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs powerhouse to forebay of Tiger Creek powerhouse. Since December 1952, records include Bear River diversion to Salt Springs powerhouse. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record, two discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	517	472	550	520	330	510	498	486	548	549	550	550
2	502	105	550	524	448	510	499	487	554	549	550	550
3	511	174	550	529	480	512	497	488	553	549	549	550
4	508	514	552	535	477	512	497	30	550	549	550	549
5	294	536	550	536	478	512	494	0	550	550	551	549
6	208	550	549	536	483	510	495	0	550	550	550	543
7	550	547	544	536	491	508	495	0	550	550	550	550
8	552	542	545	536	490	512	499	0	550	550	550	506
9	553	541	545	535	493	519	494	0	550	549	551	552
10	408	541	542	535	499	527	498	0	549	550	550	550
11	547	541	535	532	507	528	499	0	550	550	550	551
12	539	542	545	529	506	525	501	0	550	549	549	550
13	539	545	541	517	504	528	493	0	550	549	550	551
14	520	538	517	509	506	523	493	0	550	550	550	550
15	430	539	536	527	506	522	493	0	550	551	550	550
16	411	533	538	536	506	522	492	0	549	550	549	550
17	426	533	542	535	506	521	492	237	550	550	548	550
18	498	532	545	523	506	521	492	547	550	550	502	549
19	490	533	545	396	504	521	492	551	550	550	550	549
20	493	430	545	352	502	523	492	551	550	550	550	550
21	489	549	547	351	508	525	492	551	550	550	550	550
22	485	547	545	349	507	526	494	550	550	549	551	550
23	485	542	541	351	506	522	494	550	549	542	551	549
24	482	549	524	349	506	514	492	550	549	550	551	544
25	477	552	523	352	506	516	488	550	550	549	551	549
26	472	552	521	337	505	516	484	550	550	549	550	549
27	472	552	523	346	505	513	484	550	550	549	550	497
28	474	550	524	351	507	501	484	549	550	549	550	493
29	472	549	523	439	-----	497	485	549	550	547	550	548
30	472	549	521	470	-----	498	486	549	549	550	550	547
31	471	-----	521	429	-----	498	-----	549	-----	550	549	-----
TOTAL	14,747	15,279	16,679	14,402	13,772	15,992	14,788	9,424	16,500	17,028	17,002	16,325
MEAN	476	509	538	465	492	516	493	304	550	549	548	544
MAX	553	552	552	536	508	528	501	551	554	551	551	552
MIN	208	105	517	337	330	497	484	0	548	542	502	493
AC-FT	29,250	30,310	33,080	28,570	27,320	31,720	29,330	18,690	32,730	33,770	33,720	32,380
CAL YR 1968	TOTAL 160,921.0		MEAN 440		MAX 553		MIN 5.4		AC-FT 319,200			
WTR YR 1969	TOTAL 181,938.00		MEAN 498		MAX 554		MIN 0		AC-FT 360,900			

11-3145. NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'37", long 120°13'12", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.7 N., R.16 E., Calaveras County, Stanislaus National Forest, on left bank 0.3 mile downstream from Salt Springs Dam, and 1.3 miles upstream from Cole Creek.

DRAINAGE AREA.--170 sq mi.

PERIOD OF RECORD.--September 1926 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

GAGE.--Water-stage recorder. Altitude of gage is 3,590 ft (from topographic map). Prior to Sept. 12, 1928, at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, at present site, at datum 2.0 ft higher.

AVERAGE DISCHARGE (combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit minus Bear River-Cole Creek diversion).--43 years, 468 cfs (339,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,780 cfs May 24 (gage height, 10.66 ft); minimum daily, 3.7 cfs Dec. 19.

Period of record: Maximum discharge, 16,000 cfs Nov. 21, 1950 (gage height, 17.20 ft), from rating curve extended above 3,900 cfs on basis of computations of flow over dam and discharge through powerhouse; minimum daily, 0.3 cfs Mar. 31, Apr. 1, 1931.

REMARKS.--Records good. Flow regulated by Salt Springs Reservoir 0.3 mile upstream since 1931 (see sta 11-3135). Diversion from Bear River and Cole Creek to Salt Springs powerhouse averaged 182 cfs during 1969 water year. Diversion above station through Tiger Creek powerhouse conduit (see sta 11-3140). See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record, six discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS.--WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	8.0	4.7	5.0	581	172	181	340	3,600	1,080	18	14
2	9.6	7.3	4.4	5.0	343	171	190	346	3,530	941	18	154
3	9.2	7.3	4.2	5.3	155	166	194	350	3,790	1,100	18	223
4	9.2	5.3	4.2	5.6	8.0	162	202	59	3,650	848	18	223
5	10	5.3	4.2	5.3	8.0	159	213	331	3,550	736	18	155
6	10	5.3	3.9	5.3	77	160	217	528	3,480	624	17	45
7	9.6	5.0	4.7	5.0	233	159	200	525	3,140	577	17	29
8	9.6	5.0	5.0	5.0	233	152	215	664	2,770	540	17	31
9	9.6	5.0	4.4	5.0	225	131	202	874	1,980	519	17	32
10	10	5.0	4.7	5.0	217	121	221	886	1,050	628	16	18
11	9.6	5.0	4.7	5.3	207	118	223	901	840	646	16	114
12	9.6	5.6	4.4	5.3	209	115	231	915	968	557	16	269
13	10	5.3	4.2	11	187	114	237	925	1,150	493	169	267
14	9.6	5.6	4.4	9.2	204	111	408	1,620	1,320	490	223	267
15	9.6	5.6	5.6	7.3	207	109	972	3,590	1,580	481	271	269
16	10	5.6	5.0	5.9	204	108	606	3,510	2,190	400	284	269
17	10	5.6	4.4	5.9	198	108	237	3,800	1,920	400	281	269
18	10	5.6	3.9	6.9	200	105	241	3,620	1,540	310	279	269
19	10	5.6	3.7	16	196	93	330	3,320	2,040	169	277	269
20	9.6	11	4.2	30	169	104	256	2,910	2,090	169	277	269
21	8.8	4.7	5.9	40	190	101	265	2,940	1,840	81	276	267
22	8.8	4.7	5.9	18	189	100	277	3,410	1,770	19	277	267
23	9.2	5.0	5.9	11	187	102	291	3,890	1,930	19	275	265
24	10	5.3	7.6	10	187	111	293	3,910	1,470	19	274	243
25	9.6	5.3	9.6	23	185	109	307	3,660	1,480	19	273	271
26	9.6	5.0	6.6	26	183	111	315	3,910	1,070	19	271	122
27	9.6	4.7	5.9	11	181	116	318	4,050	1,110	19	263	12
28	9.6	4.7	5.6	13	178	133	320	3,450	923	19	273	136
29	10	4.7	5.6	180	-----	149	324	3,260	728	18	172	271
30	9.6	4.4	5.3	317	-----	157	332	3,450	865	18	15	269
31	9.6	-----	5.3	386	-----	171	-----	3,670	-----	18	15	-----
TOTAL	298.8	167.5	158.1	1,189.3	5,541.0	3,998	8,818	69,614	59,364	11,976	4,651	5,578
MEAN	9.64	5.58	5.10	38.4	198	129	294	2,246	1,979	386	150	186
MAX	10	11	9.6	386	581	172	972	4,050	3,790	1,100	284	271
MIN	8.8	4.4	3.7	5.0	8.0	93	181	59	728	18	15	12
AC-FT	593	332	314	2,360	10,990	7,930	17,490	138,100	117,700	23,750	9,230	11,060
CAL YR 1968	TOTAL	6,306.0	MEAN	17.2	MAX	315	MIN	3.7	AC-FT	12,510		
WTR YR 1969	TOTAL	171,353.7	MEAN	469	MAX	4,050	MIN	3.7	AC-FT	339,900		

SAN JOAQUIN RIVER BASIN

11-3150. COLE CREEK NEAR SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°31'26", long 120°12'28", in SE $\frac{1}{4}$ sec.21, T.8 N., R.16 E., Amador County, Eldorado National Forest, on right bank 1.8 miles north of Salt Springs Dam, 3.4 miles upstream from mouth, and 6.3 miles southwest of Mokelumne Peak.

DRAINAGE AREA.--20.4 sq mi.

PERIOD OF RECORD.--July 1927 to November 1942, October 1943 to current year. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 1962, published as "near Mokelumne Peak."

GAGE.--Water-stage recorder. Altitude of gage is 5,970 ft (from topographic map).

AVERAGE DISCHARGE.--41 years, 63.5 cfs (46,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 960 cfs May 9 (gage height, 4.97 ft); minimum daily, 0.20 cfs Sept. 23-30.

Period of record: Maximum discharge, 6,140 cfs Dec. 23, 1964 (gage height, 10.21 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 9.69 ft; no flow for many days in some years.

REMARKS.--Records good except those for winter periods, which are fair. Occasional pumping for domestic use in summer home tract began in September 1961. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1515: 1928, 1930-31, 1938(M), 1944, 1947. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	1.6	18	22	44	25	218	325	520	122	1.8	.26
2	.30	80	20	22	41	21	184	280	559	116	1.5	.26
3	.28	357	21	22	39	22	112	208	543	103	1.3	.26
4	.28	54	21	24	37	19	110	188	460	93	1.2	.24
5	.28	32	22	28	36	18	134	318	476	84	1.1	.22
6	.28	21	19	30	36	18	94	474	415	77	.95	.26
7	.30	14	17	31	32	18	76	524	370	67	.84	.37
8	.26	19	16	30	29	18	73	559	282	63	.74	.48
9	.24	55	15	28	27	17	79	658	220	60	.71	.35
10	.24	36	16	25	27	17	84	640	186	57	.78	.30
11	.26	19	23	25	28	16	139	619	190	52	.78	.28
12	.39	101	21	25	27	16	196	559	214	48	.67	.26
13	1.0	44	20	30	34	17	188	575	304	40	.63	.26
14	1.1	22	16	33	25	19	149	544	386	37	.60	.26
15	.71	21	19	34	26	17	108	474	365	32	.56	.26
16	.56	23	18	22	26	21	117	530	371	27	.52	.24
17	.48	26	15	22	25	23	174	611	248	22	.52	.24
18	.41	173	11	21	26	24	214	587	258	18	.52	.22
19	.71	96	13	355	22	31	218	513	268	17	.48	.22
20	1.1	51	14	396	22	33	288	482	248	16	.45	.22
21	.89	38	16	199	21	29	373	506	214	16	.39	.22
22	.78	29	17	100	21	26	388	575	225	14	.37	.22
23	.74	34	18	69	23	41	326	611	210	11	.37	.20
24	.67	25	24	56	24	48	180	587	200	9.5	.35	.20
25	.60	27	29	211	25	48	131	527	166	8.0	.35	.20
26	.52	24	30	261	28	66	124	583	144	6.8	.33	.20
27	.48	21	29	110	27	93	150	587	139	5.1	.33	.20
28	.45	22	28	76	26	129	233	492	124	4.2	.30	.20
29	.60	21	26	61	-----	158	307	535	117	3.3	.28	.20
30	.95	16	24	52	-----	200	325	524	122	2.8	.28	.20
31	.78	-----	23	48	-----	235	-----	578	-----	2.3	.28	-----
TOTAL	16.94	1,502.6	619	2,468	804	1,483	5,492	15,773	8,544	1,234.0	20.28	7.50
MEAN	.55	50.1	20.0	79.6	28.7	47.8	183	509	285	39.8	.65	.25
MAX	1.1	357	30	396	44	235	388	658	559	122	1.8	.48
MIN	.24	1.6	11	21	21	16	73	188	117	2.3	.28	.20
AC-FT	34	2,980	1,230	4,900	1,590	2,940	10,890	31,290	16,950	2,450	40	15
CAL YR 1968	TOTAL 15,785.86		MEAN 43.1		MAX 731		MIN .18		AC-FT 31,310			
WTR YR 1969	TOTAL 37,964.32		MEAN 104		MAX 658		MIN .20		AC-FT 75,300			

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11- 3	0730	4.59	770	5- 9	1800	4.97	960
1-19	1930	4.35	658	5-23	1900	4.96	955
4-21	2200	4.10	555	6-14	1830	4.53	740

11-3160. BEAR RIVER NEAR SALT SPRINGS DAM, CALIF.

LOCATION.--Lat 38°29'37", long 120°17'18", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.2, T.7 N., R.15 E., Amador County, Eldorado National Forest, on right bank 200 ft upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 miles upstream from mouth, and 4 miles west of Salt Springs Dam.

DRAINAGE AREA.--48.0 sq mi.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder and broad-crested weir. Altitude of gage is 3,710 ft (from topographic map).

AVERAGE DISCHARGE.--18 years, 58.5 cfs (42,380 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 967 cfs May 24 (gage height, 3.51 ft); minimum daily, 3.0 cfs Nov. 10, 11.

Period of record: Maximum discharge, 11,000 cfs Dec. 24, 1964 (gage height, 10.11 ft in gage well, 11.8 ft, from flood profile), from rating curve extended above 560 cfs on basis of slope-area measurements of maximum flow; minimum daily, 1.0 cfs Aug. 23-28, 1961.

Flood in November 1950 reached a stage of 11.2 ft, from floodmarks (discharge, 10,000 cfs).

REMARKS.--Records good. Flow regulated by Bear River Reservoir since 1900 (capacity, 6,760 acre-ft) and Lower Bear River Reservoir 4 miles upstream since December 1952 (capacity, 49,100 acre-ft). Water diverted for power from Lower Bear River Reservoir through tunnel to Salt Springs powerhouse on North Fork Mokelumne River since December 1952. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Gage-height record, two discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.3	6.3	7.4	66	22	120	120	637	101	6.2	5.6
2	4.0	18	5.9	7.9	58	21	108	116	626	93	6.2	5.6
3	4.0	58	5.9	11	56	21	97	106	637	74	6.1	5.6
4	4.0	9.5	5.5	12	51	20	95	101	555	38	6.1	5.6
5	4.0	5.7	5.3	14	49	21	120	111	514	20	6.1	5.6
6	4.0	4.1	5.2	15	44	20	99	123	494	11	5.9	6.3
7	4.0	3.7	5.3	14	38	20	88	136	415	9.6	5.9	7.0
8	4.0	3.4	5.6	14	37	19	82	143	309	9.0	5.9	6.1
9	4.0	3.3	5.3	11	35	19	80	149	212	8.5	5.9	5.6
10	4.0	3.0	8.4	10	35	18	84	160	173	8.0	5.9	5.6
11	4.0	3.0	8.9	12	35	18	101	154	128	7.5	5.9	5.6
12	5.3	12	7.0	14	37	18	118	146	168	7.5	5.8	5.5
13	11	5.2	6.4	64	32	18	113	136	182	7.5	5.8	5.4
14	6.5	4.7	8.4	66	32	19	104	209	291	7.0	5.6	5.4
15	5.2	7.9	12	40	35	20	95	340	456	7.0	5.6	5.4
16	4.8	6.1	8.9	29	32	22	97	340	465	6.6	5.6	5.4
17	4.3	5.7	7.4	24	30	23	106	332	253	7.0	5.6	5.4
18	4.1	9.5	7.0	44	30	27	118	324	221	7.0	5.5	5.4
19	4.1	7.4	7.0	250	27	29	118	185	246	7.0	5.5	5.4
20	4.1	6.3	13	393	27	27	128	72	200	6.6	5.5	5.4
21	4.0	5.9	14	411	26	29	143	381	182	7.0	5.4	5.4
22	4.0	5.5	14	168	25	30	149	654	149	6.6	5.9	5.3
23	4.0	5.2	14	120	27	35	143	708	160	6.6	5.9	5.3
24	4.0	7.0	14	123	25	38	120	714	125	6.6	5.9	5.1
25	4.0	7.0	11	344	25	44	104	649	125	6.6	5.9	5.1
26	3.9	5.6	8.9	284	23	53	97	690	157	6.5	5.9	5.1
27	3.9	5.5	7.4	157	22	66	97	708	151	6.3	5.8	5.1
28	3.9	5.1	7.9	128	22	82	108	593	128	6.3	5.8	5.0
29	5.3	4.7	7.0	101	-----	97	118	576	95	6.2	5.8	5.0
30	6.5	5.3	7.0	86	-----	113	123	598	95	6.2	5.8	5.0
31	4.7	-----	7.4	74	-----	120	-----	637	-----	6.2	5.8	-----
TOTAL	141.6	237.6	257.3	3,048.3	981	1,129	3,273	10,411	8,549	513.9	180.5	164.3
MEAN	4.57	7.92	8.30	98.3	35.0	36.4	109	336	285	16.6	5.82	5.48
MAX	11	58	14	411	66	120	149	714	637	101	6.2	7.0
MIN	3.9	3.0	5.2	7.4	22	18	80	72	95	6.2	5.4	5.0
AC-FT	281	471	510	6,050	1,950	2,240	6,490	20,650	16,960	1,020	358	326
CAL YR 1968	TOTAL	4,462.6	MEAN	12.2	MAX	136	MIN	3.0	AC-FT	8,850		
WTR YR 1969	TOTAL	28,886.5	MEAN	79.1	MAX	714	MIN	3.0	AC-FT	57,300		

SAN JOAQUIN RIVER BASIN

11-3168. FOREST CREEK NEAR WILSEYVILLE, CALIF.

LOCATION.--Lat 38°24'12", long 120°26'45", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.6 N., R.14 E., Calaveras County, on left bank 1.0 mile downstream from Lion Creek, 1.8 miles upstream from mouth, and 4 miles northeast of Wilseyville.

DRAINAGE AREA.--20.8 sq mi.

PERIOD OF RECORD.--July 1960 to current year.

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

AVERAGE DISCHARGE.--9 years, 24.4 cfs (17,680 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,200 cfs Jan. 21 (gage height, 6.83 ft), from rating curve extended as explained below; minimum daily, 1.4 cfs Oct. 3.

Period of record: Maximum discharge, 1,770 cfs Dec. 24, 1964 (gage height, 7.68 ft), from rating curve extended above 500 cfs on basis of slope-area measurement at gage height 7.41 ft; minimum, 0.6 cfs Aug. 24, 25, 1961.

REMARKS.--Records good. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	4.0	7.2	13	88	70	134	114	34	15	7.6	5.0
2	2.5	7.4	6.1	13	80	64	137	110	35	15	7.4	4.8
3	1.4	39	6.5	13	73	56	133	102	36	15	7.1	4.5
4	1.7	11	6.3	13	66	48	124	97	34	14	7.0	4.4
5	2.8	7.4	6.0	13	69	47	173	97	33	14	7.4	4.6
6	2.8	6.2	6.3	13	79	49	146	100	31	14	6.7	4.4
7	2.8	5.5	6.2	13	70	46	131	103	31	13	6.8	5.0
8	2.7	5.1	6.3	13	60	44	123	106	31	13	7.8	5.9
9	2.7	4.9	6.3	12	57	43	116	110	30	13	7.5	5.1
10	2.7	4.7	7.3	12	54	43	116	109	30	13	7.7	4.9
11	2.6	4.6	15	13	60	42	121	105	30	12	7.7	4.8
12	3.0	12	9.5	15	71	42	124	100	29	12	7.0	4.5
13	5.3	7.2	9.2	81	67	41	124	94	27	11	6.8	4.4
14	6.9	6.4	11	87	61	41	122	87	26	11	6.3	4.4
15	4.4	8.2	21	50	143	42	112	78	25	11	6.2	4.4
16	3.8	7.0	21	38	125	44	110	72	25	11	6.2	4.2
17	3.5	6.4	11	31	95	47	113	70	25	10	6.0	4.3
18	3.4	7.2	11	41	86	52	121	63	24	9.7	5.5	4.3
19	3.3	6.8	10	241	81	54	120	55	22	9.9	5.7	4.4
20	3.3	6.5	9.1	526	70	56	123	51	22	9.7	6.1	4.4
21	3.3	6.1	8.0	833	63	59	128	48	21	9.6	5.9	4.1
22	3.2	5.8	9.9	299	58	59	134	47	20	9.4	5.5	4.1
23	3.2	5.9	9.4	173	58	63	151	46	20	9.5	5.4	3.9
24	3.0	7.3	18	149	87	66	150	45	19	8.7	5.6	3.8
25	3.1	7.3	35	397	80	71	132	43	18	8.8	5.6	3.7
26	3.1	6.4	23	570	72	77	122	42	17	8.5	5.4	3.8
27	3.1	6.1	17	244	59	86	114	40	16	8.5	5.4	3.7
28	3.1	5.7	20	174	64	96	110	39	16	8.3	5.5	3.8
29	3.8	5.7	18	133	-----	109	126	38	17	8.3	5.1	3.9
30	6.5	6.1	15	111	-----	121	118	37	16	8.2	5.2	3.9
31	4.3	-----	14	95	-----	130	-----	36	-----	7.7	5.1	-----
TOTAL	103.8	229.9	379.6	4,429	2,096	1,908	3,808	2,284	760	341.8	196.2	131.4
MEAN	3.35	7.66	12.2	143	74.9	61.5	127	73.7	25.3	11.0	6.33	4.38
MAX	6.9	39	35	833	143	130	173	114	36	15	7.8	5.9
MIN	1.4	4.0	6.0	12	54	41	110	36	16	7.7	5.1	3.7
AC-FT	206	456	753	8,780	4,160	3,780	7,550	4,530	1,510	678	389	261
CAL YR 1968	TOTAL	4,455.8	MEAN	12.2	MAX	100	MIN	1.4	AC-FT	8,840		
WTR YR 1969	TOTAL	16,667.7	MEAN	45.7	MAX	833	MIN	1.4	AC-FT	33,060		

PEAK DISCHARGE (BASE, 120 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2015	4.50	172	4- 5	1100	4.75	230
1-21	1200	6.83	1,200	4-23	1900	4.48	170
1-26	0700	6.51	1,010	4-29	2015	4.33	142
2-15	unknown	-	144				

11-3170, MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CALIF.

LOCATION.--Lat 38°23'23", long 120°31'32", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.6 N., R.13 E., Calaveras County, on right bank 200 ft downstream from highway bridge, 0.6 mile south of West Point, and 4.5 miles upstream from South Fork Mokelumne River.

DRAINAGE AREA.--68.4 sq mi.

PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for October 1911, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 2,450 ft (from topographic map). Prior to Oct. 6, 1926, nonrecording gage at site 1,200 ft upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--58 years, 60.5 cfs (43,830 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,090 cfs Jan. 21 (gage height, 7.49 ft); minimum daily, 4.4 cfs Oct. 4.

Period of record: Maximum discharge, 4,320 cfs Dec. 23, 1955 (gage height, 8.98 ft); no flow Aug. 23 to Sept. 14, 1931, Sept. 9, 1934.

REMARKS.--Records good. Flow slightly regulated by Middle Fork Reservoir (capacity, 1,740 acre-ft), 6 miles above station, since January 1940. Several small diversions above station. At times, water diverted 4 miles above station to South Fork Mokelumne River via Middle Fork ditch (capacity, 15 cfs) and Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	9.0	19	43	296	223	423	303	132	56	59	18
2	5.5	20	16	41	260	198	411	296	126	58	58	21
3	4.8	116	15	40	237	189	402	277	123	54	55	21
4	4.4	80	15	40	221	170	360	261	117	54	56	19
5	5.2	20	14	39	247	162	552	260	109	43	57	22
6	5.8	15	14	39	282	161	492	275	103	39	52	26
7	5.8	14	13	39	218	150	420	291	98	53	54	36
8	6.0	13	13	39	192	141	387	308	95	49	60	40
9	6.1	12	13	38	177	138	360	330	90	51	59	36
10	6.2	11	16	36	168	139	348	334	87	56	60	36
11	6.3	11	39	33	178	130	369	321	86	54	60	36
12	7.4	28	24	44	250	128	393	306	87	51	55	37
13	10	70	22	206	200	125	396	291	82	48	52	34
14	14	16	34	216	193	118	375	273	80	41	50	32
15	11	21	68	120	489	111	333	247	77	38	50	31
16	9.4	18	52	93	387	125	322	230	75	42	50	35
17	9.3	16	31	80	274	133	330	227	75	42	48	35
18	9.3	25	26	108	278	147	351	224	74	39	44	35
19	8.4	36	27	782	257	158	339	213	72	40	46	36
20	7.8	30	23	1,620	233	165	354	194	70	47	47	35
21	7.6	28	21	2,370	209	180	384	182	69	52	47	34
22	7.2	26	24	1,080	184	170	408	181	67	50	9.2	34
23	7.1	21	24	607	190	181	432	177	67	56	9.1	33
24	7.0	18	43	519	283	190	393	176	65	47	12	33
25	7.0	18	97	1,240	249	204	336	166	65	43	14	32
26	7.0	16	75	1,630	214	222	308	158	63	59	14	30
27	7.0	15	55	868	186	249	292	151	63	58	14	28
28	7.2	14	67	642	216	288	293	146	62	56	16	29
29	7.8	13	64	483	-----	327	306	139	63	51	19	29
30	12	13	51	396	-----	381	307	137	59	53	20	29
31	11	-----	46	320	-----	417	-----	134	-----	60	19	-----
TOTAL	236.0	713.0	1,060	13,856	6,768	5,820	11,176	7,203	2,501	1,540	1,265.3	932
MEAN	7.61	23.8	34.2	447	242	188	373	233	83.4	49.7	40.8	31.1
MAX	14	116	97	2,370	489	417	552	334	132	60	60	40
MIN	4.4	9.0	13	36	168	111	292	134	59	38	9.1	18
AC-FT	468	1,410	2,100	27,460	13,420	11,540	22,170	14,300	4,960	3,050	2,510	1,850
CAL YR 1968	TOTAL 11,894.3		MEAN 32.5		MAX 230		MIN 2.5		AC-FT 23,590			
WTR YR 1969	TOTAL 53,075.3		MEAN 145		MAX 2,370		MIN 4.4		AC-FT 105,300			

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1815	3.40	459	2-24	1415	3.25	405
1-21	1100	7.49	3,090	4-5	1345	4.32	748
1-26	0700	6.88	2,380	4-23	1345	3.48	474
2-15	1630	4.32	748				

SAN JOAQUIN RIVER BASIN

11-3185. SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CALIF.

LOCATION.--Lat 38°22'06", long 120°32'40", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.6 N., R.13 E., Calaveras County, on right bank 500 ft upstream from highway bridge, 2.4 miles southwest of West Point; and 2.5 miles upstream from mouth.

DRAINAGE AREA.--75.1 sq mi.

PERIOD OF RECORD.--October 1933 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,950 ft (from topographic map). October 1933 to Sept. 19, 1957, at site 1,100 ft downstream at different datum.

AVERAGE DISCHARGE.--36 years, 84.6 cfs (61,290 acre-ft per year); median of yearly mean discharges, 75 cfs (54,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,420 cfs Jan. 21 (gage height, 9.87 ft); minimum daily, 6.8 cfs Oct. 3.

Period of record: Maximum discharge, 6,920 cfs Dec. 23, 1955 (gage height, 14.8 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,800 cfs on basis of slope-area measurement of maximum flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

REMARKS.--Records good. Several small diversions above station for domestic use and for irrigation of about 100 acres. Diversions into South Fork Mokelumne River basin above station at times from North Fork Calaveras River and from Middle Fork Mokelumne River for use below station. See schematic diagram of Mokelumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	13	27	47	365	375	464	360	109	53	26	16
2	7.1	17	25	45	330	330	450	346	103	52	25	16
3	6.8	125	21	45	300	288	415	325	100	50	25	17
4	6.9	52	20	47	275	257	393	309	98	46	24	16
5	7.4	29	20	49	300	235	634	310	95	46	24	16
6	7.5	23	20	50	345	225	544	327	91	45	24	16
7	7.7	21	20	50	290	211	471	346	88	45	25	20
8	7.4	19	20	49	240	196	433	361	86	45	23	23
9	7.3	18	20	46	220	192	406	375	85	44	23	20
10	7.8	17	26	42	230	190	401	373	84	43	23	19
11	7.7	17	58	44	245	174	425	361	84	41	24	19
12	8.4	48	36	55	325	174	455	340	84	40	22	19
13	13	29	30	352	260	165	450	319	80	39	21	18
14	22	25	45	428	310	159	422	296	77	39	19	17
15	15	37	87	215	690	160	391	269	73	37	19	18
16	14	28	88	144	590	164	383	253	75	36	18	18
17	15	25	51	112	440	175	392	243	76	36	19	17
18	13	26	41	144	385	191	407	229	72	36	19	17
19	12	30	40	1,090	360	199	402	214	68	35	19	17
20	12	25	31	2,230	320	219	414	198	65	34	18	17
21	11	23	32	3,730	285	220	449	187	64	34	18	17
22	11	21	36	1,500	252	210	470	178	64	31	18	18
23	11	21	31	840	271	221	492	170	63	31	17	18
24	11	24	69	680	489	233	431	162	61	30	17	17
25	11	25	196	2,200	430	249	379	152	61	30	18	17
26	11	22	118	2,800	345	269	357	147	60	30	18	17
27	11	20	74	1,300	289	305	347	141	58	30	18	16
28	11	20	83	800	357	351	355	133	55	29	18	16
29	12	19	73	560	-----	391	364	126	55	27	17	16
30	20	19	58	420	-----	437	366	120	54	27	18	17
31	15	-----	51	390	-----	465	-----	114	-----	27	18	-----
TOTAL	340.0	838	1,547	20,504	9,538	7,630	12,762	7,784	2,288	1,168	635	525
MEAN	11.0	27.9	49.9	661	341	246	425	251	76.3	37.7	20.5	17.5
MAX	22	125	196	3,730	690	465	634	375	109	53	26	23
MIN	6.8	13	20	42	220	159	347	114	54	27	17	16
AC-FT	674	1,660	3,070	40,670	18,920	15,130	25,310	15,440	4,540	2,320	1,260	1,040
CAL YR 1968	TOTAL	14,539.9	MEAN	39.7	MAX	315	MIN	6.7	AC-FT	28,840		
WTR YR 1969	TOTAL	65,559.0	MEAN	180	MAX	3,730	MIN	6.8	AC-FT	130,000		

		PEAK DISCHARGE (BASE, 500 CFS)					
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1945	5.74	870	2-24	1315	5.42	710
1-21	1045	9.87	4,420	4- 5	0915	5.78	890
1-26	unknown	-	unknown	4-21	2145	4.98	517
2-15	unknown	6.18	1,130				

11-3195. MOKELUMNE RIVER NEAR MOKELUMNE HILL, CALIF.

LOCATION.--Lat 38°18'46", long 120°43'09", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.5 N., R.11 E., Calaveras County, on downstream side of bridge, 1.2 miles northwest of Mokelumne Hill, and 8 miles downstream from confluence of North and South Forks of Mokelumne River.

DRAINAGE AREA.--544 sq mi.

PERIOD OF RECORD.--January to June 1901, May 1903 to December 1904, October 1927 to current year. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

GAGE.--Water-stage recorder. Datum of gage is 589.88 ft above mean sea level (levels by California Division of Highways). Jan. 1 to June 30, 1901, and May 11, 1903, to Dec. 31, 1904, nonrecording gage at site 3 miles upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water-stage recorder at site 40 ft upstream at present datum.

AVERAGE DISCHARGE.--43 years (1903-4, 1927-69), 970 cfs (702,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,200 cfs Jan. 21 (gage height, 13.31 ft); minimum daily, 194 cfs Oct. 6.

Period of record: Maximum discharge, 33,700 cfs Dec. 3, 1950 (gage height, 18.5 ft); minimum observed, 5 cfs Aug. 13-15, 17, 18, 1904.

REMARKS.--Records excellent. Flow regulated by Salt Springs Reservoir beginning in 1931 (see sta 11-3135), several smaller reservoirs, and four powerplants. Diversion above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	519	601	753	2,070	2,000	2,680	2,320	6,740	1,960	667	604
2	483	244	700	641	1,910	1,820	2,680	2,460	6,030	1,910	735	627
3	515	842	636	619	1,740	1,670	2,510	2,240	6,700	1,960	743	641
4	554	905	573	669	1,520	1,590	2,240	1,830	6,370	1,850	606	863
5	344	809	662	733	1,630	1,570	3,100	1,420	5,850	1,610	640	896
6	194	682	550	664	1,870	1,520	2,810	2,040	6,050	1,540	639	661
7	469	585	655	773	1,690	1,520	2,350	2,280	5,440	1,260	680	751
8	604	636	550	745	1,730	1,350	2,410	2,550	4,860	1,340	673	640
9	611	617	682	636	1,580	1,460	2,400	3,150	3,680	1,260	619	669
10	523	645	666	731	1,510	1,340	2,100	3,180	2,980	1,310	646	591
11	548	689	767	748	1,530	1,410	2,290	3,190	2,070	1,440	668	596
12	494	828	654	746	1,830	1,290	2,500	3,070	2,320	1,360	659	707
13	638	606	695	1,240	1,700	1,300	2,530	3,020	2,540	1,300	673	737
14	639	770	778	2,010	1,660	1,170	2,440	2,890	2,850	1,220	724	885
15	489	708	830	1,350	2,760	1,290	2,940	5,700	3,280	1,180	898	965
16	485	618	806	1,170	2,560	1,210	2,900	5,470	4,070	1,130	882	872
17	495	545	706	904	2,090	1,230	2,220	5,990	3,720	1,120	892	809
18	425	738	663	1,030	2,010	1,360	2,400	6,500	3,050	1,150	934	893
19	583	708	575	3,610	1,940	1,330	2,400	6,180	3,300	1,040	972	851
20	506	551	635	7,330	1,840	1,440	2,470	5,210	3,480	823	881	892
21	596	674	558	13,500	1,730	1,480	2,640	5,180	3,490	841	912	896
22	634	698	653	5,740	1,600	1,460	2,760	6,070	2,960	781	912	832
23	494	600	691	3,160	1,710	1,400	2,850	7,000	3,400	702	947	778
24	508	617	660	2,500	2,160	1,520	2,600	7,190	2,710	721	881	932
25	512	680	1,040	5,640	2,160	1,570	2,240	6,800	2,880	610	848	931
26	512	669	1,030	9,000	1,940	1,590	2,140	6,840	2,250	751	892	826
27	510	569	860	4,520	1,670	1,740	2,050	7,260	2,040	705	953	763
28	556	676	811	3,320	1,700	1,980	2,240	6,590	1,990	610	873	202
29	570	582	843	2,470	-----	2,150	2,290	5,940	1,690	646	872	730
30	508	682	726	2,420	-----	2,330	2,390	6,200	1,720	670	801	794
31	551	-----	719	1,990	-----	2,560	-----	6,230	-----	637	690	-----
TOTAL	15,905	19,692	21,975	81,362	51,840	48,650	74,570	141,990	110,510	35,437	24,412	22,834
MEAN	513	656	709	2,625	1,851	1,569	2,486	4,580	3,684	1,143	787	761
MAX	639	905	1,040	13,500	2,760	2,560	3,100	7,260	6,740	1,960	972	965
MIN	194	244	550	619	1,510	1,170	2,050	1,420	1,690	610	606	202
AC-FT	31,550	39,060	43,590	161,400	102,800	96,500	147,900	281,600	219,200	70,290	48,420	45,290
CAL YR 1968	TOTAL 219,568		MEAN 600		MAX 1,720	MIN 97		AC-FT 435,500				
WTR YR 1969	TOTAL 649,177		MEAN 1,779		MAX 13,500	MIN 194		AC-FT 1,288,000				

SAN JOAQUIN RIVER BASIN

11-3200. PARDEE RESERVOIR NEAR VALLEY SPRINGS, CALIF.

LOCATION.--Lat 38°15'25", long 120°50'59", in N $\frac{1}{2}$ SW $\frac{1}{4}$ sec.26, T.5 N., R.10 E., Amador County, at Pardee Dam on the Mokelumne River, 4.5 miles north of Valley Springs.

DRAINAGE AREA.--578 sq mi.

PERIOD OF RECORD.--March 1929 to September 1930 (lake elevation only), October 1930 to September 1933, published in reports of the Geological Survey. October 1933 to September 1961 in files of East Bay Municipal Utility District. October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District). EXTREMES.--Current year: Maximum contents, 213,900 acre-ft Jan. 21 (elevation, 569.39 ft); minimum, 157,500 acre-ft May 1 (elevation, 542.01 ft).

Period of record: Maximum contents, 219,300 acre-ft Dec. 23, 1955 (elevation, 571.72 ft); minimum, 49,000 acre-ft Aug. 31, 1931 (elevation, 457.6 ft).

REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929; storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 (diversion tunnel invert) and 567.65 ft (spillway crest) above mean sea level. Dead storage, 15,800 acre-ft. Water is released from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District. Records including extremes represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

523	125,100
530	136,500
540	153,800
550	172,700
560	193,200
570	215,300
580	239,100

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179.1	182.8	189.3	196.5	192.8	181.8	174.0	157.5	184.6	210.7	197.1	195.1
2	178.8	182.9	189.5	196.2	192.8	175.0	173.8	158.4	185.3	210.3	196.7	194.4
3	178.6	184.2	189.5	195.8	192.5	173.5	173.4	157.7	190.7	210.7	197.3	193.7
4	178.5	185.0	189.4	195.6	191.8	173.5	174.0	157.6	192.2	210.2	196.8	193.5
5	178.5	185.5	189.3	195.5	191.4	173.0	173.7	158.1	192.6	210.5	196.3	193.3
6	178.1	185.7	189.2	195.2	191.5	173.9	174.2	157.9	193.4	210.6	195.8	192.7
7	177.9	185.8	190.0	195.1	191.1	174.6	173.1	157.7	194.2	210.5	195.3	193.5
8	178.2	186.0	190.6	195.0	191.5	173.6	170.7	157.7	195.3	210.5	194.9	192.8
9	178.6	186.6	190.7	194.6	191.8	173.0	168.9	157.6	195.4	210.4	194.4	192.3
10	178.7	187.3	190.9	194.3	191.8	173.4	169.2	158.3	197.5	210.4	194.8	191.5
11	178.8	188.1	191.2	193.7	191.8	174.2	170.1	157.7	199.1	210.6	194.4	190.8
12	179.3	188.7	191.3	193.0	191.9	174.7	169.8	157.7	201.2	210.5	193.9	190.3
13	180.0	188.8	191.4	193.9	191.7	174.3	169.7	158.1	202.3	210.4	193.4	189.9
14	180.3	189.3	192.5	196.0	191.3	173.8	168.5	157.8	202.0	210.4	193.1	190.9
15	180.4	189.3	193.8	196.5	192.1	173.4	167.1	159.2	202.5	210.2	193.0	190.9
16	180.4	189.2	194.2	196.7	190.8	173.4	164.0	159.5	202.3	210.0	193.0	191.0
17	180.4	188.9	194.4	196.3	189.5	173.8	163.7	160.5	202.3	209.8	193.8	190.9
18	180.2	189.0	194.6	196.4	189.7	174.4	164.7	162.4	202.0	209.7	193.8	191.1
19	180.8	189.0	194.5	201.8	190.1	174.4	163.7	163.8	204.0	209.4	193.9	191.1
20	181.3	188.8	194.6	208.8	190.2	173.6	164.1	163.5	204.7	208.6	193.8	192.2
21	181.4	188.7	195.2	213.9	189.9	172.8	164.2	163.3	204.0	207.8	193.9	193.4
22	181.7	188.7	195.9	210.5	189.4	173.3	162.3	164.6	205.3	207.0	193.8	193.5
23	181.7	188.6	195.7	206.2	189.5	174.0	160.1	167.5	207.6	206.0	193.9	193.4
24	181.6	188.4	195.3	200.7	190.6	174.5	158.7	170.5	208.0	205.0	194.7	193.7
25	181.6	188.4	195.9	201.4	191.5	173.9	158.3	172.8	207.7	203.8	194.6	193.9
26	182.0	188.4	196.6	208.1	192.0	173.2	157.9	175.0	208.5	203.0	194.5	194.0
27	182.4	188.2	196.7	206.4	191.9	172.9	158.2	178.0	207.9	202.0	194.5	194.9
28	182.4	188.9	196.8	202.6	187.8	173.0	157.9	179.8	208.6	200.8	194.4	195.0
29	182.7	188.7	196.9	196.8	-----	173.5	158.2	180.4	208.8	199.7	194.3	194.9
30	182.8	188.7	196.7	192.6	-----	174.4	158.2	181.4	209.8	198.6	194.1	195.0
31	182.8	-----	196.5	192.4	-----	173.5	-----	182.6	-----	197.5	194.7	-----
MAX	182.8	189.3	196.9	213.9	192.8	181.8	174.2	182.6	209.8	210.7	197.3	195.1
MIN	177.9	182.8	189.2	192.4	187.8	172.8	157.9	157.5	184.6	197.5	193.0	189.9
(a)	555.05	557.87	561.58	559.62	557.48	550.40	542.41	554.92	567.60	562.04	560.70	560.84
(b)	+3,300	+5,900	+7,800	-4,100	-4,600	-14,300	-15,300	+24,400	+27,200	-12,300	-2,800	+300
(c)	491	198	221	143	112	360	561	987	1,141	1,409	1,355	874
(d)	16,641	15,581	12,066	13,364	15,390	13,236	16,150	16,302	18,467	22,411	22,285	18,570
CAL YR 1968	b	+9,800	MAX 209.1	MIN 177.9								
WTR YR 1969	b	+15,500	MAX 213.9	MIN 157.5								

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

d Diversions, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

11-3223. CAMANCHE RESERVOIR NEAR CLEMENTS, CALIF.

LOCATION.--Lat 38°13'31", long 121°01'17", in SE $\frac{1}{4}$ sec.6, T.4 N., R.9 E., San Joaquin County, at Camanche Dam on the Mokelumne River, 4.3 miles northeast of Clements.

DRAINAGE AREA.--621 sq mi.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District).

EXTREMES.--Current year: Maximum contents, 393,900 acre-ft July 4 (elevation, 230.54 ft); minimum, 214,000 acre-ft Oct. 30 (elevation, 201.96 ft).

Period of record: Maximum contents, 425,700 acre-ft July 14, 1967 (elevation, 234.82 ft); minimum after initial season of operation, 68,700 acre-ft Sept. 5, 11, 18, 1966 (elevation, 164.97 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft between elevations 104.00 (invert of emergency valve release) and 235.50 ft (spillway crest) above mean sea level. Dead storage, 534 acre-ft. Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

120	4,970	170	82,600
130	13,600	190	156,200
140	25,000	220	320,900
150	38,900	235.5	430,900
160	57,100		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219.0	214.5	225.2	245.6	303.6	279.1	239.4	241.6	313.9	391.1	373.9	335.7
2	219.0	214.7	225.7	246.9	299.0	284.4	240.5	239.6	318.7	392.8	373.1	335.0
3	218.8	215.1	226.2	248.2	295.5	284.4	241.4	238.5	320.4	393.1	371.0	334.4
4	218.9	215.5	226.7	249.6	293.0	282.5	240.8	236.3	325.3	393.9	370.0	333.9
5	218.3	215.7	227.0	250.9	290.9	281.0	244.1	233.2	330.7	393.5	369.1	333.1
6	217.7	215.9	227.3	252.3	288.9	278.1	245.2	232.3	336.1	393.0	368.1	332.5
7	217.5	216.2	227.1	253.6	286.3	275.4	246.0	232.5	340.3	392.5	366.8	330.7
8	217.3	216.4	227.0	254.9	283.2	273.7	248.0	233.0	343.2	391.8	365.8	329.9
9	217.3	216.2	227.5	256.3	280.0	272.2	249.4	234.4	345.4	391.1	364.8	329.3
10	217.2	216.0	228.1	257.5	277.8	269.5	248.1	234.7	345.2	390.3	362.7	328.6
11	217.1	215.9	228.3	259.2	277.6	267.0	246.6	236.0	344.1	389.9	361.4	327.9
12	216.7	216.2	228.8	260.5	277.4	265.0	246.4	235.8	343.6	389.4	360.5	327.3
13	216.3	216.4	229.6	263.1	277.0	263.2	246.4	235.0	345.3	388.8	359.3	326.7
14	216.0	216.8	229.8	264.7	276.9	260.9	247.0	234.6	348.7	388.1	358.2	324.7
15	216.0	217.4	230.0	266.0	279.2	258.6	248.4	238.0	352.1	387.3	357.5	324.1
16	216.0	217.9	230.4	267.3	280.9	255.7	251.6	242.1	355.8	386.6	356.4	323.2
17	216.0	218.4	230.9	268.4	281.5	252.5	250.7	246.2	362.8	385.8	354.2	322.3
18	215.9	219.2	231.3	270.5	281.2	249.8	248.9	250.3	366.5	385.0	353.2	321.4
19	215.6	219.8	231.6	272.7	280.1	248.1	248.9	254.4	368.4	384.2	352.3	320.4
20	215.1	220.4	232.0	279.5	278.5	247.7	247.9	258.3	372.0	383.5	351.2	318.7
21	215.0	221.0	231.8	294.8	277.0	247.4	247.2	262.5	377.1	382.7	350.2	316.9
22	215.0	221.6	231.6	302.2	275.6	245.4	248.3	266.8	379.0	381.9	349.2	316.0
23	215.0	222.2	232.4	303.0	275.0	243.2	250.4	271.0	380.9	381.1	348.0	315.0
24	215.0	222.7	233.9	304.3	274.4	241.1	250.9	275.6	383.4	380.4	346.0	313.8
25	215.0	223.2	235.7	307.5	273.4	240.5	249.9	280.0	386.8	379.6	345.0	312.7
26	214.7	223.8	237.1	310.6	272.2	239.9	248.7	284.7	387.9	378.8	343.9	311.5
27	214.2	224.5	238.7	312.3	270.9	239.3	246.6	289.2	389.6	378.1	342.9	309.4
28	214.1	224.3	240.1	313.3	273.6	238.9	245.3	293.9	390.3	378.2	341.8	307.3
29	214.1	224.9	241.4	313.8	-----	238.2	243.4	298.9	390.9	376.5	340.8	306.1
30	214.0	225.5	242.8	312.3	-----	237.6	242.1	303.9	390.8	375.7	339.7	305.0
31	214.2	-----	244.1	308.1	-----	238.9	-----	308.9	-----	375.0	337.2	-----
MAX	219.0	225.5	244.1	313.8	303.6	284.4	251.6	308.9	390.9	393.9	373.9	335.7
MIN	214.0	214.5	225.2	245.6	270.9	237.6	239.4	232.3	313.9	375.0	337.2	305.0
(a)	202.01	204.11	207.46	218.03	212.49	206.54	207.11	218.15	230.11	227.91	222.44	217.55
(b)	-5,000	+11,300	+18,600	+64,000	-34,500	-34,700	+3,200	+66,800	+81,900	-15,800	-37,800	-32,200
(c)	1,821	748	721	720	946	1,520	2,224	3,685	4,467	6,265	5,787	3,906
CAL YR 1968	b	-50,800	MAX	315.5	MIN	214.0						
WTR YR 1969	b	+85,800	MAX	393.9	MIN	214.0						

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

11-3235. MOKELUMNE RIVER BELOW CAMANCHE DAM, CALIF.

LOCATION.--Lat 38°13'14", long 121°02'19", in NW¹/₄NW¹/₄ sec.7, T.4 N., R.9 E., San Joaquin County, on left bank 0.7 mile downstream from Murphy Creek, 1.0 mile downstream from Camanche Dam, and 3.4 miles northeast of Clements.

DRAINAGE AREA.--627 sq mi.

PERIOD OF RECORD.--October 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A and 1735. Prior to October 1961, published as "near Clements."

GAGE.--Water-stage recorder. Datum of gage is 82.91 ft above mean sea level. Oct. 28, 1904, to Apr. 18, 1926, nonrecording gage at bridge 3.3 miles downstream at datum 13.82 ft lower. Apr. 19, 1926, to Apr. 8, 1931, water-stage recorder, 75 ft downstream from bridge at datum 15.82 ft lower, Apr. 9, 1931, to Sept. 30, 1961, 700 ft upstream from bridge at datum 15.75 ft lower.

AVERAGE DISCHARGE.--24 years (1904-28), 1,111 cfs (804,300 acre-ft per year); 40 years (1929-69), 833 cfs (603,500 acre-ft per year), adjusted for change in contents and evaporation from Camanche Reservoir since 1963. Storage and diversion by East Bay Municipal Utility District began in March 1929.

EXTREMES.--Current year: Maximum discharge, 4,940 cfs Jan. 28 (gage height, 10.01 ft); minimum daily, 100 cfs Nov. 18.

Period of record: Maximum discharge, 28,800 cfs Nov. 21, 1950 (gage height, 24.40 ft, site and datum then in use); no flow July 9, Aug. 15, 20-23, 1924.

REMARKS.--Records good. Flow regulated by Camanche Reservoir 1 mile upstream beginning December 1963 (see sta 11-3223), Salt Springs Reservoir beginning March 1931 (see sta 11-3135), Pardee Reservoir beginning March 1929 (see sta 11-3200), several smaller reservoirs, and four powerplants. East Bay Municipal Utility District aqueducts are the largest of several diversions above the station. Maximum capacity is 511 cfs with Pardee Reservoir full. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report. See schematic diagram of Mokelumne River basin.

COOPERATION.--Eighteen discharge measurements and temperature record furnished by the East Bay Municipal Utility District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	121	104	104	3,870	2,580	2,040	2,930	2,740	840	1,020	1,070
2	281	121	104	104	3,850	2,590	2,040	2,920	2,740	840	1,020	1,020
3	271	125	104	104	3,340	2,590	2,040	2,920	2,740	1,210	1,020	979
4	258	121	104	104	2,820	2,590	2,040	2,920	2,600	1,230	1,020	977
5	259	120	171	104	2,830	2,590	2,060	2,720	2,490	1,240	1,020	977
6	258	119	184	104	2,850	2,570	2,060	2,230	2,490	1,230	1,020	976
7	250	119	106	104	2,820	2,570	2,270	2,030	2,500	1,220	1,020	984
8	240	121	106	104	2,810	2,590	2,500	1,990	2,510	1,190	1,030	985
9	241	122	106	104	2,800	2,590	2,480	2,270	2,240	1,190	1,030	1,000
10	241	121	107	104	2,420	2,590	2,480	2,470	1,790	1,190	1,030	998
11	242	121	106	105	1,990	2,280	2,480	2,710	1,410	1,190	1,030	986
12	241	119	106	106	1,990	2,060	2,480	2,960	1,000	1,190	1,050	978
13	240	101	106	179	1,960	2,310	2,480	3,200	833	1,190	1,100	980
14	240	123	116	135	1,970	2,570	2,570	3,170	833	1,190	1,050	973
15	230	102	115	112	2,170	2,570	2,710	3,170	833	1,190	1,040	973
16	222	101	106	108	2,590	2,570	2,720	3,200	840	1,190	1,040	973
17	212	101	103	174	2,590	2,570	2,730	3,190	840	1,200	1,040	973
18	221	100	143	243	2,630	2,280	2,730	3,190	840	1,190	1,050	966
19	219	104	165	306	2,600	2,040	2,730	3,190	833	1,190	1,050	966
20	219	104	104	616	2,590	2,040	2,740	3,180	833	1,190	1,050	966
21	216	104	104	2,020	2,580	2,040	2,780	3,040	840	1,190	1,050	966
22	210	104	104	3,530	2,570	2,020	2,930	2,970	833	1,190	1,050	959
23	216	104	104	4,720	2,630	2,020	2,950	2,980	826	1,190	1,060	1,040
24	225	104	105	4,590	2,610	2,020	2,930	2,970	826	1,190	1,060	1,120
25	225	104	112	4,310	2,600	2,020	2,930	2,970	833	1,190	1,060	1,120
26	223	104	114	4,300	2,600	2,020	2,930	2,980	833	1,050	1,060	1,120
27	223	104	106	4,460	2,570	2,020	2,930	2,790	833	1,020	1,060	1,120
28	225	104	106	4,920	2,570	2,040	2,930	2,720	833	1,020	1,060	1,120
29	225	103	105	4,900	-----	2,040	2,950	2,730	833	1,020	1,060	1,080
30	199	104	104	4,890	-----	2,040	2,930	2,740	840	1,020	1,070	1,080
31	121	-----	104	4,430	-----	2,040	-----	2,740	-----	1,020	1,070	-----
TOTAL	7,191	3,325	3,534	50,194	74,220	71,460	77,570	88,190	42,265	35,390	32,390	30,425
MEAN	232	111	114	1,619	2,651	2,305	2,586	2,845	1,409	1,142	1,045	1,014
MAX	298	125	184	4,920	3,870	2,590	2,950	3,200	2,740	1,240	1,100	1,120
MIN	121	100	103	104	1,960	2,020	2,040	1,990	826	840	1,020	959
AC-FT	14,260	6,600	7,010	99,560	147,200	141,700	153,900	174,900	83,830	70,200	64,240	60,350
MEAN a	180	313	428	2,672	2,047	1,766	2,677	3,991	2,860	987	524	539
AC-FT a	11,080	18,640	26,330	164,300	113,700	108,600	159,300	245,400	170,200	60,660	32,230	32,060

CAL YR 1968 TOTAL 128,442 MEAN 351 MAX 954 MIN 100 AC-FT 254,800 MEAN a 322 AC-FT a 233,800
WTR YR 1969 TOTAL 516,154 MEAN 1,414 MAX 4,920 MIN 100 AC-FT 1,024,000 MEAN a 1,578 AC-FT a 1,142,000

a Adjusted for change in contents and evaporation from Camanche Reservoir.

11-3250. WOODBRIDGE CANAL AT WOODBRIDGE, CALIF.

LOCATION.--Lat 38°09'07", long 121°18'00", in SE $\frac{1}{4}$ sec.34, T.4 N., R.6 E., San Joaquin County, on right bank at Woodbridge at point of diversion from Woodbridge Reservoir.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder and gate-opening recorder. Datum of gage is 32.18 ft above mean sea level (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--43 years, 136 cfs (98,530 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 482 cfs July 8, 1953; no flow at times in each year.

REMARKS.--Records good. Discharge computed from records of gate openings and effective head as shown by recorder. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram of Mokelumne River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	0	0	0	0	0	0	290	321	362	373	274
2	154	0	0	0	0	0	15	301	311	379	363	241
3	151	0	0	0	0	0	15	293	311	371	361	225
4	150	0	0	0	0	0	10	292	309	370	355	232
5	150	0	0	0	0	0	5.0	309	313	371	352	236
6	146	0	0	0	0	0	5.0	306	314	370	351	232
7	144	0	0	0	0	0	5.0	301	306	367	348	229
8	143	0	0	0	0	0	12	300	300	367	343	233
9	138	0	0	0	0	0	26	298	298	366	342	242
10	123	0	0	0	0	0	26	294	306	367	341	237
11	116	0	0	0	0	0	22	298	307	362	344	230
12	111	0	0	0	0	0	48	300	325	359	346	225
13	111	0	0	0	0	0	41	325	337	351	344	227
14	106	0	0	0	0	0	65	332	336	359	339	222
15	97	0	0	0	0	0	92	317	331	368	331	219
16	86	0	0	0	0	0	116	316	329	367	332	217
17	86	0	0	0	0	0	154	310	338	361	328	220
18	88	0	0	0	0	0	178	305	336	351	333	220
19	103	0	0	0	0	0	181	304	338	350	335	206
20	103	0	0	0	0	0	185	298	339	353	321	195
21	115	0	0	0	0	0	212	297	332	364	317	195
22	126	0	0	0	0	0	244	297	334	371	311	198
23	124	0	0	0	0	0	243	297	341	367	299	202
24	122	0	0	0	0	0	243	299	341	365	297	209
25	119	0	0	0	0	0	247	295	344	362	296	213
26	120	0	0	0	0	0	253	302	347	366	304	219
27	119	0	0	0	0	0	252	294	350	357	313	208
28	119	0	0	0	0	0	265	305	355	356	309	200
29	109	0	0	0	-----	0	284	309	345	366	315	197
30	75	0	0	0	-----	0	279	317	345	368	307	199
31	25	-----	0	0	-----	0	-----	316	-----	375	287	-----
TOTAL	3,637	0	0	0	0	0	3,723.0	9,417	9,839	11,288	10,237	6,602
MEAN	117	0	0	0	0	0	124	304	328	364	330	220
MAX	158	0	0	0	0	0	284	332	355	379	373	274
MIN	25	0	0	0	0	0	0	290	298	350	287	195
AC-FT	7,210	0	0	0	0	0	7,380	18,680	19,520	22,390	20,300	13,090
CAL YR 1968	TOTAL 54,526.00		MEAN 149		MAX 344		MIN 0		AC-FT 108,200			
WTR YR 1969	TOTAL 54,743.00		MEAN 150		MAX 379		MIN 0		AC-FT 108,600			

SAN JOAQUIN RIVER BASIN

11-3255. MOKELUMNE RIVER AT WOODBRIDGE, CALIF.

LOCATION.--Lat 38°09'31", long 121°18'09", in NW¼NE¼ sec.34, T.4 N., R.6 E., San Joaquin County, on right bank at Woodbridge, 0.3 mile downstream from county highway bridge, and 0.4 mile downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 sq mi.

PERIOD OF RECORD.--May 1924 to current year (low-water records only 1924-25).

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft above mean sea level (levels by East Bay Municipal Utility District). May 1924 to July 1928, 0.3 mile upstream and 100 ft downstream from bridge at datum 4 ft higher; July 1928 to March 1931, 0.2 mile upstream and 400 ft downstream from bridge at same datum; March 1931 to July 25, 1968, 125 ft downstream at same datum.

AVERAGE DISCHARGE.--40 years (1929-69), since start of diversion through East Bay Municipal Utility District aqueduct, 623 cfs (451,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,660 cfs Jan. 31 (gage height, 22.72 ft); minimum daily, 38 cfs Oct. 10, 11.

Period of record: Maximum discharge, 27,000 cfs Nov. 22, 1950 (gage height, 29.58 ft), from rating curve extended above 6,200 cfs on basis of contracted-opening measurement of maximum flow; minimum daily, 1.4 cfs Sept. 19, 20, 22, 1927.

REMARKS.--Records good. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam; between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (see sta 11-3250). Nearest diversion is 0.4 mile upstream. See schematic diagram of Mokelumne River basin. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Three discharge measurements furnished by East Bay Municipal Utility District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	272	61	69	4,360	2,360	1,840	2,320	2,090	282	548	570
2	41	136	60	68	3,940	2,360	1,660	2,300	2,100	270	466	628
3	40	140	60	53	3,840	2,360	1,790	2,300	2,090	321	477	554
4	40	108	60	64	3,470	2,350	1,820	2,290	2,090	566	464	533
5	40	99	64	65	2,970	2,350	1,870	2,260	1,930	622	449	536
6	40	95	118	72	2,860	2,350	1,900	2,050	1,900	641	450	537
7	41	93	135	74	2,840	2,350	1,900	1,690	1,900	668	460	572
8	41	92	80	71	2,800	2,350	2,180	1,620	1,920	649	459	586
9	40	92	67	68	2,780	2,350	2,280	1,610	1,910	644	459	567
10	38	91	73	56	2,760	2,360	2,260	1,900	1,530	636	463	566
11	38	88	72	71	2,250	2,350	2,270	1,950	1,180	612	456	574
12	39	91	64	74	1,950	1,980	2,250	2,090	805	601	456	572
13	57	84	63	101	1,860	1,880	2,230	2,320	471	610	488	562
14	107	68	83	154	1,830	2,230	2,190	2,400	417	607	509	572
15	101	107	86	108	1,860	2,330	2,300	2,420	414	586	463	604
16	95	79	76	82	2,100	2,360	2,370	2,410	414	585	464	590
17	89	68	67	54	2,290	2,360	2,350	2,440	407	580	481	585
18	83	70	59	137	2,330	2,360	2,330	2,450	401	585	478	593
19	77	68	105	232	2,350	2,000	2,300	2,460	387	580	481	638
20	72	68	120	263	2,320	1,890	2,280	2,450	377	590	488	625
21	67	67	69	806	2,300	1,890	2,230	2,440	379	570	495	630
22	52	67	66	2,100	2,290	1,870	2,300	2,440	375	566	508	622
23	44	67	64	3,110	2,310	1,860	2,370	2,430	365	570	516	604
24	44	69	69	3,730	2,350	1,860	2,390	2,340	366	577	526	724
25	46	65	72	4,160	2,350	1,860	2,370	2,310	354	588	532	765
26	48	60	83	4,180	2,350	1,860	2,370	2,310	349	609	527	749
27	50	62	80	4,160	2,340	1,860	2,370	2,310	340	609	505	744
28	50	63	69	4,240	2,350	1,860	2,350	2,300	327	610	515	766
29	58	61	67	4,560	-----	1,870	2,330	2,300	319	590	501	765
30	106	62	66	4,620	-----	1,870	2,350	2,140	322	572	523	727
31	574	-----	68	4,640	-----	1,700	-----	2,090	-----	561	551	-----
TOTAL	2,299	2,652	2,346	42,242	72,400	65,640	65,800	69,140	28,229	17,657	15,158	18,660
MEAN	74.2	88.4	75.7	1,363	2,586	2,117	2,193	2,230	941	570	489	622
MAX	574	272	135	4,640	4,360	2,360	2,390	2,460	2,100	668	551	766
MIN	38	60	59	53	1,830	1,700	1,660	1,610	319	270	449	533
AC-FT	4,560	5,260	4,650	83,790	143,600	130,200	130,500	137,100	55,990	35,020	30,070	37,010
CAL YR 1968	TOTAL	42,600	MEAN	116	MAX	860	MIN	29	AC-FT	84,500		
WTR YR 1969	TOTAL	402,223	MEAN	1,102	MAX	4,640	MIN	38	AC-FT	797,800		

11-3263. DRY CREEK ABOVE SUTTER CREEK, NEAR IONE, CALIF.

LOCATION.--Lat 38°24'54", long 120°54'18", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.7 N., R.10 E., Amador County, on right bank .
1,000 ft downstream from bridge on State Highway 104, and 4.6 miles northeast of Ione.

DRAINAGE AREA.--70.9 sq mi.

PERIOD OF RECORD.--February 1960 to current year. Prior to October 1961, published as "near Ione."

GAGE.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 39.6 cfs (28,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,610 cfs Jan. 21 (gage height, 9.24 ft); no flow for many days.
Period of record: Maximum discharge, 7,300 cfs Jan. 6, 1965 (gage height, 11.30 ft), from rating curve
extended above 1,800 cfs on basis of slope-area measurement of maximum flow; no flow for many days in each
year.

REMARKS.--No known regulation or diversion above station.

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

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1963(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	8.6	26	183	669	47	33	7.2	2.9	0	0
2	0	0	13	23	165	464	50	32	7.1	2.5	0	0
3	0	6.0	7.6	20	142	349	66	31	7.3	2.3	0	0
4	0	14	6.0	18	125	267	50	32	7.3	2.3	0	0
5	0	4.3	5.3	16	253	211	409	30	7.7	2.4	0	0
6	0	3.0	4.9	15	610	180	396	27	7.3	2.4	0	0
7	0	2.4	4.7	13	419	153	235	26	7.0	2.5	0	0
8	0	2.2	5.3	13	264	133	168	25	8.1	2.5	0	0
9	0	2.1	4.9	12	201	130	133	24	9.7	2.4	0	0
10	0	2.2	7.9	11	161	127	112	23	10	2.2	0	0
11	0	2.3	34	16	241	104	97	22	11	2.0	0	0
12	0	10	22	25	580	112	87	21	11	1.7	0	0
13	0	8.9	14	633	334	105	79	21	9.7	1.4	0	0
14	0	5.7	57	723	284	89	73	21	8.3	1.3	0	0
15	0	8.9	82	220	675	81	67	20	7.5	1.1	0	0
16	0	8.0	111	123	556	75	61	19	6.9	1.0	0	0
17	0	6.1	44	87	347	73	57	17	6.6	.70	0	0
18	0	5.9	28	115	379	68	54	16	6.2	.40	0	0
19	0	6.0	23	1,260	386	64	51	16	5.5	0	0	0
20	0	5.3	20	1,480	366	74	47	15	5.4	0	0	0
21	0	4.8	15	2,400	288	155	45	14	5.9	0	0	0
22	0	4.4	13	1,000	231	98	42	14	5.5	0	0	0
23	0	4.3	12	436	437	86	66	13	5.0	0	0	0
24	0	4.6	22	386	813	78	61	12	4.5	0	0	0
25	0	5.0	138	1,230	850	72	48	12	4.1	0	0	.20
26	0	4.5	156	1,130	780	66	43	12	3.9	0	0	.30
27	0	4.2	79	587	481	61	40	11	3.9	0	0	.20
28	0	4.1	60	506	501	58	37	9.5	3.7	0	0	.10
29	0	3.9	49	362	-----	54	35	9.1	3.5	0	0	.20
30	0	4.2	38	280	-----	52	33	8.3	3.3	0	0	.30
31	0	-----	31	212	-----	49	-----	7.8	-----	0	0	-----
TOTAL	0	147.3	1,116.2	13,376	11,052	4,357	2,789	593.7	200.1	34.00	0	1.30
MEAN	0	4.91	36.0	431	395	141	93.0	19.2	6.67	1.10	0	.043
MAX	0	14	156	2,400	850	669	409	33	11	2.9	0	.30
MIN	0	0	4.7	11	125	49	33	7.8	3.3	0	0	0
AC-FT	0	292	2,210	26,530	21,920	8,640	5,530	1,180	397	67	0	2.6
CAL YR 1968	TOTAL	8,420.50		MEAN 23.0		MAX 391	MIN 0	AC-FT 16,700				
WTR YR 1969	TOTAL	33,666.60		MEAN 92.2		MAX 2,400	MIN 0	AC-FT 66,780				

SAN JOAQUIN RIVER BASIN

11-3270. SUTTER CREEK NEAR SUTTER CREEK, CALIF.

LOCATION.--Lat 38°23'45", long 120°46'49", in SE $\frac{1}{4}$ sec.5, T.6 N., R.11 E., Amador County, on left bank 1.3 miles east of town of Sutter Creek.

DRAINAGE AREA.--48.1 sq mi.

PERIOD OF RECORD.--October 1935 to December 1941, March 1960 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 1,220 ft (from topographic map). Prior to Oct. 29, 1937, nonrecording gage 15 ft downstream at datum 4.00 ft lower. Oct. 29, 1937, to Dec. 7, 1938, nonrecording gage at present site at datum 4.00 ft lower.

AVERAGE DISCHARGE.--15 years (1935-41, 1960-69), 32.1 cfs (23,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,140 cfs Jan. 21 (gage height, 4.91 ft); no flow Oct. 1-17.
Period of record: Maximum discharge, 5,770 cfs Jan. 31, 1963 (gage height, 6.27 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 4.77 ft; no flow at times in each year except 1938 and 1941.

REMARKS.--Small diversion above station for irrigation.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.3	7.4	26	132	319	63	37	16	8.4	1.9	.70
2	0	4.8	9.2	22	126	258	62	36	16	8.0	1.8	.60
3	0	41	7.9	20	117	227	75	36	15	7.7	1.7	.50
4	0	18	7.6	18	109	189	63	36	15	7.4	1.6	.50
5	0	7.3	7.0	17	164	162	171	35	15	7.3	1.7	.40
6	0	4.9	6.6	16	275	146	172	33	15	7.4	1.5	.40
7	0	4.0	6.2	15	213	133	138	32	14	7.3	1.4	.70
8	0	3.5	6.3	14	160	120	113	31	15	6.8	1.3	1.3
9	0	3.3	6.1	13	134	115	98	30	16	6.7	1.2	1.6
10	0	3.1	7.5	13	119	117	89	29	17	5.8	1.2	1.3
11	0	3.1	28	14	131	105	82	28	17	5.5	1.5	1.1
12	0	11	17	21	251	102	77	27	18	5.3	1.2	.90
13	0	8.8	12	187	171	97	74	26	16	5.0	1.1	.80
14	0	6.7	29	245	157	90	70	26	15	5.0	1.0	.70
15	0	12	49	98	412	86	67	25	14	4.8	1.0	.80
16	0	11	70	64	337	82	62	25	14	4.6	1.0	1.0
17	0	7.6	30	46	225	80	58	25	14	4.4	1.0	1.1
18	.30	6.5	20	61	223	79	56	24	13	4.2	.70	1.3
19	1.2	6.3	17	623	218	76	53	24	13	3.8	.90	1.4
20	1.5	5.9	16	754	213	82	50	23	13	3.2	.90	1.4
21	1.5	5.2	13	1,630	187	119	48	22	12	3.0	1.0	1.6
22	1.6	4.9	11	624	160	91	47	22	12	3.0	.80	1.5
23	1.6	4.5	11	260	182	83	68	21	12	3.0	.70	1.4
24	1.3	5.7	34	212	362	79	67	20	11	2.9	.70	1.3
25	1.3	7.2	116	509	419	75	54	20	11	2.9	.80	1.2
26	1.3	6.5	83	518	318	72	49	19	11	2.9	.80	1.0
27	1.4	5.9	52	300	245	70	45	20	11	2.7	.70	.90
28	1.5	5.6	52	241	264	69	41	19	10	2.6	.80	.70
29	2.2	5.4	53	182	-----	66	40	18	10	2.4	.90	.70
30	3.7	5.3	36	156	-----	66	39	18	9.2	2.3	.90	.80
31	3.9	-----	29	132	-----	64	-----	17	-----	2.2	.80	-----
TOTAL	24.30	228.3	849.8	7,051	6,024	3,519	2,191	804	410.2	148.5	34.50	29.60
MEAN	.78	7.61	27.4	227	215	114	73.0	25.9	13.7	4.79	1.11	.99
MAX	3.9	41	116	1,630	419	319	172	37	18	8.4	1.9	1.6
MIN	0	3.1	6.1	13	109	64	39	17	9.2	2.2	.70	.40
AC-FT	48	453	1,690	13,990	11,950	6,980	4,350	1,590	814	295	68	59
CAL YR 1968	TOTAL	5,711.40	MEAN	15.6	MAX	193	MIN	0	AC-FT	11,330		
WTR YR 1969	TOTAL	21,314.20	MEAN	58.4	MAX	1,630	MIN	0	AC-FT	42,280		

SAN JOAQUIN RIVER BASIN

761

11-3295. DRY CREEK NEAR GALT, CALIF.

LOCATION.--Lat 38°14'44", long 121°13'03", in NE $\frac{1}{4}$ sec.32, T.5 N., R.7 E., San Joaquin County, on left bank of main channel 35 ft downstream from county road bridge, 2 miles downstream from Coyote Creek, and 4 miles east of Galt.

DRAINAGE AREA.--329 sq mi.

PERIOD OF RECORD.--October 1926 to September 1933, October 1944 to current year. Monthly figures only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 52.83 ft above mean sea level (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 miles downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, at site across channel at datum 3.00 ft higher. Oct. 1, 1945, to June 15, 1966, across channel at same datum.

AVERAGE DISCHARGE.--32 years, 113 cfs (81,870 acre-ft per year); median of yearly mean discharges, 67 cfs (48,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,670 cfs Jan. 22 (gage height, 14.27 ft); no flow for many days. Period of record: Maximum discharge, 24,000 cfs Apr. 3, 1958 (gage height, 15.28 ft); no flow for several days in each year.

REMARKS.--Records fair except those for June 7 to Sept. 30, which are poor. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft and total number of acres irrigated, approximately 500.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	71	677	2,080	131	101	17	9.6	5.1	5.0
2	0	0	0	58	656	1,550	127	91	12	8.4	4.5	3.7
3	0	0	0	48	603	1,160	239	79	10	8.3	2.6	4.9
4	0	0	0	38	569	868	238	79	6.0	7.0	2.5	5.4
5	0	5.5	0	35	747	731	684	76	30	6.5	1.2	7.8
6	0	1.0	0	30	1,540	671	1,660	76	23	6.7	2.3	9.2
7	0	0	0	28	1,410	626	822	73	21	6.1	1.0	6.6
8	0	0	0	26	864	587	604	69	16	7.0	1.7	3.3
9	0	0	0	23	699	559	515	64	9.9	8.1	1.9	4.4
10	0	0	0	21	627	645	468	61	6.6	7.3	.43	4.0
11	0	0	0	25	729	559	432	58	12	7.0	1.4	4.4
12	0	0	26	99	2,010	538	401	50	10	7.0	2.2	4.9
13	0	0	19	942	1,190	572	300	49	9.5	6.7	2.0	3.3
14	0	0	73	2,370	810	497	245	50	8.9	6.5	1.6	4.7
15	0	0	156	681	1,740	406	202	51	8.9	5.8	.79	3.5
16	0	0	400	457	2,300	375	172	46	8.3	7.6	2.3	.02
17	0	0	161	420	1,250	351	156	42	7.7	7.5	3.6	2.8
18	0	0	77	422	1,530	284	146	40	6.7	5.5	4.2	6.0
19	0	0	53	2,350	1,500	260	136	38	7.1	3.6	5.1	7.4
20	0	0	43	2,210	1,250	248	126	36	7.3	1.8	4.3	6.9
21	0	0	37	5,610	958	456	117	31	4.7	3.4	3.9	6.4
22	0	0	28	4,810	776	353	117	33	6.6	3.8	2.7	5.1
23	0	0	22	1,770	1,680	284	141	31	6.9	5.4	3.3	3.5
24	0	0	26	1,290	2,030	250	252	29	7.2	4.3	4.6	3.6
25	0	0	183	3,910	2,590	226	178	29	7.6	3.4	4.7	1.7
26	0	0	533	3,900	2,520	200	141	29	6.9	1.7	5.3	.39
27	0	0	303	2,330	1,730	182	128	29	7.8	4.7	6.1	.70
28	0	0	171	1,610	1,240	172	117	30	8.5	5.3	5.9	.58
29	0	0	156	1,330	-----	156	113	30	9.1	4.8	5.4	0
30	0	0	115	954	-----	144	110	29	9.2	4.2	6.6	0
31	0	-----	88	776	-----	138	-----	27	-----	5.2	6.3	-----
TOTAL	0	6.5	2,670	38,644	36,225	16,128	9,218	1,556	312.4	180.2	105.52	120.19
MEAN	0	.22	86.1	1,247	1,294	520	307	50.2	10.4	5.81	3.40	4.01
MAX	0	5.5	533	5,610	2,590	2,080	1,660	101	30	9.6	6.6	9.2
MIN	0	0	0	21	569	138	110	27	4.7	1.7	.43	0
AC-FT	0	13	5,300	76,650	71,850	31,990	18,280	3,090	620	357	209	238
CAL YR 1968	TOTAL	22,324.05	MEAN	61.0	MAX	1,510	MIN	0	AC-FT	44,280		
WTR YR 1969	TOTAL	105,165.81	MEAN	288	MAX	5,610	MIN	0	AC-FT	208,600		

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	0330	13.34	2,810	2-16	0200	13.16	2,630
1-19	1845	13.51	3,020	2-18	1945	11.86	1,890
1-22	0215	14.27	7,670	2-23	1745	12.69	2,280
1-25	1445	14.10	5,800	2-25	0700	13.20	2,670
1-26	1400	14.03	5,170	2-26	0830	13.17	2,640
2- 6	2000	12.27	2,060	3- 1	1245	12.01	1,940
2-12	1315	12.71	2,300	4- 6	0015	12.43	2,140

SAN JOAQUIN RIVER BASIN

11-3330. CAMP CREEK NEAR SOMERSET, CALIF.

LOCATION.--Lat 38°39'26", long 120°39'46", in SW $\frac{1}{4}$ sec.4, T.9 N., R.12 E., El Dorado County, on right bank 0.2 mile upstream from mouth, 1.3 miles northeast of Somerset, and 5.6 miles south of Camino.

DRAINAGE AREA.--62.6 sq mi.

PERIOD OF RECORD.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,820 ft (from topographic map). Feb. 1 to May 31, 1924, nonrecording gage at site 0.2 mile upstream at different datum.

AVERAGE DISCHARGE.--15 years (1954-69), 77.8 cfs (56,370 acre-ft per year), adjusted for storage, diversion, and evaporation from Jenkinson Lake.

EXTREMES.--Current year: Maximum discharge, 2,840 cfs Jan. 21 (gage height, 9.42 ft); minimum daily, 2.5 cfs Oct. 1.

Period of record: Maximum discharge, 6,040 cfs Dec. 23, 1964 (gage height, 12.50 ft); minimum, 0.5 cfs Aug. 1-3, 1961.

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Water is released from Jenkinson Lake through Camino conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American River basins. Some water is released from Jenkinson Lake down Camp Creek for irrigation downstream from station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	6.0	6.9	9.1	333	235	531	325	112	26	9.7	6.1
2	2.6	7.4	9.4	8.0	288	208	522	320	102	25	9.4	6.0
3	2.6	39	6.1	7.4	260	210	483	303	93	24	9.1	6.0
4	2.7	14	5.2	7.2	243	182	424	280	83	23	9.1	5.9
5	2.7	5.6	4.7	6.7	265	166	573	267	75	22	8.8	5.9
6	2.7	4.1	4.4	6.3	295	164	546	280	66	22	8.7	5.8
7	2.8	3.5	4.2	5.9	249	157	454	306	56	21	8.6	5.8
8	2.8	3.3	4.2	5.8	212	150	416	336	47	20	8.5	6.6
9	2.8	3.2	4.1	5.5	191	148	392	364	37	19	8.3	6.6
10	2.8	3.2	5.3	5.1	180	147	363	372	29	19	8.3	6.3
11	2.8	3.2	15	6.4	194	135	374	354	25	18	8.6	6.0
12	3.2	12	8.6	11	265	136	402	350	25	17	8.3	5.9
13	4.3	6.9	6.0	82	247	135	414	328	19	16	8.1	5.8
14	9.8	5.0	13	103	247	126	422	310	15	16	7.8	5.7
15	8.2	7.0	22	42	354	125	392	284	14	16	7.6	5.7
16	6.0	6.3	26	25	379	129	359	262	22	15	7.4	5.6
17	5.0	4.8	12	18	315	141	347	257	20	15	7.3	5.7
18	4.6	4.8	8.1	19	307	156	371	261	19	14	7.2	5.8
19	4.4	5.0	8.1	428	285	173	374	254	21	13	7.2	5.8
20	4.2	4.4	6.4	1,390	272	192	377	230	18	13	7.1	5.9
21	4.3	4.1	5.2	2,020	259	217	397	203	14	13	7.0	5.9
22	4.2	3.8	5.0	858	231	207	431	190	11	12	6.7	5.9
23	4.2	3.7	5.0	314	246	214	485	183	8.9	12	6.6	5.8
24	4.2	4.7	9.0	88	263	229	460	179	7.3	12	6.6	5.6
25	4.1	6.3	29	307	259	245	378	169	6.9	12	6.6	5.6
26	4.1	5.4	25	900	257	259	328	156	6.6	12	6.6	5.5
27	4.1	4.6	15	450	213	281	300	147	6.5	11	6.5	5.4
28	4.2	4.2	17	372	219	319	294	136	6.5	11	6.4	5.4
29	4.5	3.9	22	495	-----	370	309	125	6.1	11	6.4	5.4
30	7.3	4.0	14	431	-----	441	320	122	6.1	10	6.3	5.3
31	6.8	-----	11	357	-----	512	-----	120	-----	9.9	6.3	-----
TOTAL	131.5	193.4	336.9	8,783.4	7,328	6,509	12,238	7,773	977.9	499.9	237.1	174.7
MEAN	4.24	6.45	10.9	283	262	210	408	251	32.6	16.1	7.65	5.82
MAX	9.8	39	29	2,020	379	512	573	372	112	26	9.7	6.6
MIN	2.5	3.2	4.1	5.1	180	125	294	120	6.1	9.9	6.3	5.3
AC-FT	261	384	668	17,420	14,530	12,910	24,270	15,420	1,940	992	470	347
(a)	-1,504	+475	+1,706	+15,830	-90	+298	-65	-130	-632	-3,944	-3,991	-2,856
(b)	1,362	641	307	284	194	228	338	1,895	3,419	4,066	3,995	2,635
(c)	99	20	0	5	5	72	125	245	208	335	332	210
MEAN d	3.55	25.5	43.6	545	264	220	415	283	83.0	23.6	13.1	5.65
AC-FT d	218	1,520	2,680	33,540	14,640	13,510	24,670	17,430	4,940	1,450	806	336

CAL YR 1968 TOTAL 6,562.0 MEAN 17.9 MAX 169 MIN 2.5 AC-FT 13,020 MEAN d 45.0 AC-FT d 32,660
WTR YR 1969 TOTAL 45,182.8 MEAN 124 MAX 2,020 MIN 2.5 AC-FT 89,620 MEAN d 160 AC-FT d 115,700

a Change in contents, in acre-feet, in Jenkinson Lake, furnished by Bureau of Reclamation.

b Diversion, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

c Evaporation, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

d Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

11-3335. NORTH FORK COSUMNES RIVER NEAR EL DORADO, CALIF.

LOCATION.--Lat 38°35'20", long 120°50'38", in SW $\frac{1}{4}$ sec.35, T.9 N., R.10 E., El Dorado County, on downstream side of left abutment of county road bridge, 0.8 mile north of Nashville, 2.6 miles upstream from mouth, and 6 miles south of El Dorado.

DRAINAGE AREA.--205 sq mi.

PERIOD OF RECORD.--August 1911 to December 1941, October 1948 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 840 ft (from topographic map). Prior to October 1933, nonrecording gage at site 1.5 miles upstream at different datum. October 1933 to December 1941, water-stage recorder at site 1,000 ft upstream at different datum.

AVERAGE DISCHARGE.--51 years, 201 cfs (145,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,100 cfs Jan. 21 (gage height, 11.75 ft); minimum daily, 5.5 cfs Oct. 1.

Period of record: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 14.8 ft), from rating curve extended above 7,500 cfs on basis of slope-area measurement of maximum flow; no flow for part of 1924, 1926, 1931, 1933-34.

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see REMARKS for sta 11-3330, Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	58	30	66	805	1,160	1,120	760	316	73	26	13
2	8.0	66	43	60	677	831	1,110	740	293	77	23	14
3	10	173	35	56	554	808	1,060	702	278	73	21	13
4	13	140	31	54	478	627	865	646	255	72	20	15
5	13	52	28	54	695	520	1,410	614	242	68	18	17
6	15	34	27	55	1,120	478	1,450	646	228	64	19	16
7	17	26	27	56	808	443	1,160	706	212	62	18	17
8	18	23	28	56	546	410	994	780	192	59	18	19
9	20	20	28	56	449	392	885	855	174	56	17	23
10	21	19	33	55	402	401	810	900	164	53	18	21
11	22	19	102	56	436	365	820	855	150	51	19	20
12	26	44	77	101	1,020	353	885	835	154	48	19	18
13	28	58	52	809	690	362	928	790	138	50	19	16
14	38	39	80	1,270	568	326	934	750	131	52	19	15
15	35	42	118	418	1,130	323	855	682	125	45	18	15
16	25	47	205	243	1,350	323	780	622	147	44	19	15
17	22	37	93	184	963	329	755	598	143	41	18	15
18	21	33	67	179	939	353	800	606	133	38	17	15
19	21	41	63	2,260	881	374	815	586	126	36	17	16
20	25	45	57	4,630	789	398	830	546	118	35	16	16
21	27	35	40	6,950	703	538	875	502	111	33	16	16
22	30	28	38	3,350	586	443	976	478	104	32	17	16
23	33	24	48	1,590	702	437	1,100	446	96	31	15	17
24	34	26	56	1,090	942	449	1,050	444	89	33	14	16
25	36	36	236	2,230	1,010	470	865	426	82	36	14	14
26	36	35	221	3,720	996	494	755	408	81	34	15	14
27	38	29	117	1,960	763	542	690	389	76	32	20	13
28	41	25	104	1,480	811	622	678	365	73	30	15	13
29	47	23	117	1,310	-----	730	710	338	70	28	15	13
30	58	24	87	1,090	-----	885	745	329	66	24	14	13
31	65	-----	73	848	-----	1,060	-----	323	-----	26	14	-----
TOTAL	848.5	1,301	2,361	36,336	21,813	16,246	27,710	18,667	4,567	1,436	548	474
MEAN	27.4	43.4	76.2	1,172	779	524	924	602	152	46.3	17.7	15.8
MAX	65	173	236	6,950	1,350	1,160	1,450	900	316	77	26	23
MIN	5.5	19	27	54	402	323	678	323	66	24	14	13
AC-FT	1,680	2,580	4,680	72,070	43,270	32,220	54,960	37,030	9,060	2,850	1,090	940
CAL YR 1968	TOTAL	33,225.0	MEAN	90.8	MAX	1,050	MIN	1.8	AC-FT	65,900		
WTR YR 1969	TOTAL	132,307.5	MEAN	362	MAX	6,950	MIN	5.5	AC-FT	262,400		

PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	0130	7.31	2,290	1-26	0615	9.58	5,150
1-21	1330	11.75	9,100	4- 5	1745	6.89	2,030

SAN JOAQUIN RIVER BASIN

11-3342. MIDDLE FORK COSUMNES RIVER NEAR SOMERSET, CALIF.

LOCATION.--Lat 38°37'29", long 120°42'02", in NW¹₄NW¹₄ sec.19, T.9 N., R.12 E., El Dorado County, on left bank 1,000 ft downstream from county road bridge, 0.2 mile downstream from Perry Creek, and 1.8 miles southwest of Somerset.

DRAINAGE AREA.--107 sq mi.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,647.95 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 151 cfs (109,400 acre-ft per year); median of yearly mean discharges, 102 cfs (73,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,240 cfs Jan. 21 (gage height, 15.80 ft, from floodmarks); minimum daily, 6.6 cfs Oct. 4, 5.

Period of record: Maximum discharge, 11,800 cfs Feb. 1, 1963 (gage heights, 16.20 ft in gage well, 18.4 ft, from floodmarks), from rating curve extended above 2,500 cfs on basis of computation of maximum flow over dam; minimum, 1.7 cfs probably Sept. 11, 1961.

Flood of Dec. 23, 1955, reached a stage of 18.1 ft, from floodmarks (discharge, 11,600 cfs).

REMARKS.--Records good. No storage above station. Small diversion above station into South Fork Cosumnes River basin through Garabaldi ditch for irrigation and industrial use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	14	37	59	595	448	890	698	419	88	28	17
2	6.8	17	34	56	532	396	862	672	396	84	27	16
3	6.7	173	31	56	496	399	810	620	385	79	26	16
4	6.6	88	30	58	466	349	734	582	371	76	25	16
5	6.6	39	29	61	538	317	940	606	346	72	24	16
6	6.7	30	30	67	610	307	862	655	323	69	24	16
7	6.8	26	30	73	472	292	774	714	299	65	24	17
8	6.9	24	30	77	430	275	694	758	270	62	24	22
9	6.8	22	30	75	399	287	652	830	246	60	23	20
10	6.8	22	40	70	377	275	606	830	233	56	23	18
11	6.8	22	85	77	396	263	662	834	222	53	24	17
12	7.9	47	49	105	529	263	754	786	216	51	23	16
13	12	38	48	426	430	252	770	758	200	48	22	16
14	25	32	80	670	416	248	734	714	194	47	22	16
15	20	39	125	400	627	248	672	655	192	45	21	16
16	14	35	92	298	610	250	641	620	241	44	21	15
17	12	32	66	242	490	263	652	641	200	42	21	15
18	11	34	62	261	493	275	694	638	188	41	21	15
19	11	45	57	1,900	460	284	706	602	175	40	21	15
20	10	38	50	3,550	439	338	746	554	163	38	20	15
21	10	34	43	5,500	399	357	810	529	154	38	21	15
22	10	32	40	4,000	374	320	890	532	144	36	19	15
23	9.5	31	56	1,420	419	328	935	535	139	36	19	15
24	9.5	36	103	1,000	490	349	802	532	130	35	20	15
25	9.5	38	194	2,290	466	374	686	508	123	34	19	15
26	9.2	33	128	3,370	457	416	627	487	115	34	19	15
27	9.5	31	89	1,950	416	481	606	472	111	33	18	15
28	9.5	31	89	1,320	475	571	624	448	104	32	18	15
29	11	30	79	890	-----	669	666	433	98	31	18	15
30	16	31	68	750	-----	798	683	433	94	30	18	15
31	19	-----	64	644	-----	886	-----	427	-----	28	18	-----
TOTAL	319.9	1,144	1,988	31,715	13,301	11,578	22,184	19,103	6,491	1,527	671	480
MEAN	10.3	38.1	64.1	1,023	475	373	739	616	216	49.3	21.6	16.0
MAX	25	173	194	5,500	627	886	940	834	419	88	28	22
MIN	6.6	14	29	56	374	248	606	427	94	28	18	15
AC-FT	635	2,270	3,940	62,910	26,380	22,960	44,000	37,890	12,870	3,030	1,330	952
CAL YR 1968	TOTAL	29,838.9	MEAN	81.5	MAX	676	MIN	6.6	AC-FT	59,180		
WTR YR 1969	TOTAL	110,501.9	MEAN	303	MAX	5,500	MIN	6.6	AC-FT	219,200		

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2300	7.85	1,080	2-15	2100	7.25	830
1-21	unknown	15.80	8,240	4- 5	1500	8.00	1,180
1-26	0700	12.00	4,720				

11-3343. SOUTH FORK COSUMNES RIVER NEAR RIVER PINES, CALIF.

LOCATION.--Lat 38°33'25", long 120°47'32", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.8 N., R.11 E., Amador County, on left bank 2.4 miles upstream from mouth, and 2.7 miles west of River Pines.

DRAINAGE AREA.--64.3 sq mi.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,220 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 44.9 cfs (32,530 acre-ft per year); median of yearly mean discharges, 23 cfs (16,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,810 cfs Jan. 21 (gage height, 7.09 ft); no flow Oct. 1-14.
Period of record: Maximum discharge, 5,540 cfs Feb. 1, 1963 (gage height, 10.90 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement at gage height 9.90 ft; no flow at times in most years.

REMARKS.--Records good. Amount of water imported from Middle Fork Cosumnes River through Garabaldi ditch has been negligible because of leakage in the ditch.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.2	7.3	25	191	471	143	62	23	11	2.0	.53
2	0	2.4	9.5	22	175	356	138	60	20	10	1.8	.52
3	0	19	8.2	20	156	331	150	59	21	10	1.8	.43
4	0	18	7.6	19	146	279	128	58	21	9.9	1.6	.43
5	0	13	7.1	18	272	247	355	55	20	9.4	1.4	.41
6	0	8.5	6.7	17	484	227	309	51	20	9.4	1.3	.42
7	0	5.8	6.4	17	300	209	240	49	19	9.1	1.3	.44
8	0	4.4	6.7	16	222	191	204	47	20	8.6	1.2	.79
9	0	3.4	6.2	15	191	180	181	45	20	8.1	1.2	1.3
10	0	2.9	7.5	15	173	177	165	43	21	7.7	1.1	.82
11	0	2.5	26	16	216	160	153	42	21	7.3	1.3	.83
12	0	7.4	18	25	465	157	144	40	22	6.8	1.3	.67
13	0	9.8	14	420	303	149	135	39	20	6.1	.97	.65
14	0	7.9	34	431	278	138	130	38	18	6.1	.89	.80
15	1.6	12	68	162	682	132	121	37	17	5.9	.77	.66
16	1.4	12	81	100	570	129	111	36	17	5.6	.67	.75
17	1.2	8.9	32	72	391	133	103	34	18	5.4	.66	.80
18	1.0	8.1	22	82	378	139	99	34	17	5.0	.63	.82
19	.84	14	19	952	362	141	93	32	16	4.5	.67	.91
20	.69	7.4	16	1,370	326	156	87	31	15	4.2	.66	.93
21	.62	6.7	12	2,110	283	220	82	31	15	4.0	.72	1.0
22	.56	6.2	13	1,020	242	170	79	30	15	3.6	.66	1.0
23	.62	5.9	12	456	274	158	106	29	14	3.4	.64	.97
24	.62	6.6	24	390	548	154	109	28	14	3.3	.57	.84
25	.65	8.4	144	861	455	151	92	27	13	3.0	.62	.90
26	.62	7.6	104	1,060	414	148	81	26	13	3.0	.67	.86
27	.62	6.8	53	595	327	148	73	26	13	2.8	.62	.81
28	.72	6.3	47	428	422	151	71	26	13	2.7	.61	.75
29	1.1	5.9	46	298	-----	151	68	25	13	2.5	.61	.82
30	2.0	6.1	35	239	-----	151	65	23	12	2.3	.57	.71
31	2.3	-----	29	195	-----	149	-----	23	-----	2.0	.60	-----
TOTAL	17.16	236.1	922.2	11,466	9,246	5,853	4,015	1,186	521	182.7	30.11	22.57
MEAN	.55	7.87	29.7	370	330	189	134	38.3	17.4	5.89	.97	.75
MAX	2.3	19	144	2,110	682	471	355	62	23	11	2.0	1.3
MIN	0	2.2	6.2	15	146	129	65	23	12	2.0	.57	.41
AC-FT	34	468	1,830	22,740	18,340	11,610	7,960	2,350	1,030	362	60	45
CAL YR 1968	TOTAL	8,198.34	MEAN	22.4	MAX	331	MIN	0	AC-FT	16,260		
WTR YR 1969	TOTAL	33,697.84	MEAN	92.3	MAX	2,110	MIN	0	AC-FT	66,840		

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1800	4.13	1,020	2-15	1530	4.12	1,010
1-21	0300	7.09	2,810	2-24	1300	4.13	1,020
1-26	0515	5.15	1,700	2-28	1530	3.59	705
2-6	1215	3.60	710	4-5	1445	3.52	670
2-12	0615	3.46	640				

SAN JOAQUIN RIVER BASIN

11-3350. COSUMNES RIVER AT MICHIGAN BAR, CALIF.

LOCATION.--Lat 38°30'01", long 121°02'39", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.36, T.8 N., R.8 E., Sacramento County, on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 miles southwest of Latrobe, and 12 miles downstream from confluence of North and Middle Fork Cosumnes River.

DRAINAGE AREA.--536 sq mi.

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 168.09 ft above mean sea level. Prior to July 10, 1930, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--62 years, 482 cfs (349,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 22,500 cfs Jan. 21 (gage height, 10.88 ft); minimum daily, 7.6 cfs Oct. 1.

Period of record: Maximum discharge, 42,000 cfs Dec. 23, 1955 (gage height, 14.59 ft); no flow at times in many years.

Flood in March 1907 reached a stage of 16.3 ft (discharge unknown).

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see REMARKS for sta 11-3330). Numerous small diversions above station for irrigation and domestic use. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	31	68	218	1,990	3,640	2,150	1,630	746	164	49	27
2	8.2	31	86	198	1,800	2,440	2,140	1,600	730	164	46	27
3	8.2	183	90	184	1,560	2,280	2,120	1,510	698	155	44	26
4	7.9	456	71	174	1,420	1,830	1,800	1,420	669	152	43	25
5	7.9	164	68	171	2,040	1,560	3,600	1,350	627	141	42	27
6	8.5	93	62	171	3,660	1,420	3,470	1,410	585	139	41	29
7	8.8	66	59	174	2,440	1,300	2,570	1,510	544	136	40	29
8	9.1	50	64	177	1,760	1,180	2,140	1,630	490	128	39	30
9	9.1	49	62	177	1,520	1,200	1,900	1,770	448	126	39	33
10	9.4	43	84	171	1,360	1,290	1,740	1,820	425	118	38	38
11	10	42	222	222	1,620	1,080	1,730	1,800	390	115	38	32
12	11	53	240	326	3,160	1,020	1,830	1,740	400	107	36	30
13	12	126	144	3,280	2,090	1,070	1,940	1,650	370	102	36	29
14	14	102	285	4,430	1,930	941	1,910	1,580	345	97	34	28
15	26	93	400	1,590	3,160	878	1,790	1,440	335	93	32	26
16	36	105	697	1,120	3,220	860	1,650	1,330	370	93	31	26
17	26	90	322	754	2,320	878	1,590	1,290	390	86	30	26
18	22	82	226	873	2,460	896	1,670	1,300	345	82	31	26
19	19	79	190	7,070	2,410	923	1,720	1,270	330	73	31	25
20	18	102	180	13,200	2,180	970	1,730	1,160	310	70	31	26
21	17	86	136	18,800	1,880	1,480	1,820	1,070	298	68	30	26
22	16	73	110	10,200	1,590	1,150	2,020	1,030	278	64	30	26
23	16	68	128	4,420	2,350	1,090	2,280	1,030	258	62	30	26
24	16	66	184	3,660	2,960	1,100	2,220	1,020	246	64	30	26
25	16	73	692	7,540	3,040	1,130	1,800	980	216	62	30	24
26	15	88	903	11,700	2,980	1,180	1,600	923	215	57	29	23
27	14	75	460	5,890	2,220	1,240	1,480	887	204	56	29	23
28	14	68	355	4,500	2,390	1,400	1,450	851	194	57	32	23
29	15	62	370	3,400	-----	1,560	1,530	797	180	54	30	23
30	16	62	298	2,730	-----	1,800	1,590	779	171	51	28	22
31	19	-----	246	2,180	-----	2,090	-----	754	-----	50	27	-----
TOTAL	452.7	2,761	7,502	109,700	63,510	42,876	58,980	40,331	11,807	2,986	1,076	807
MEAN	14.6	92.0	242	3,539	2,268	1,383	1,966	1,301	394	96.3	34.7	26.9
MAX	36	456	903	18,800	3,660	3,640	3,600	1,820	746	164	49	38
MIN	7.6	31	59	171	1,360	860	1,450	754	171	50	27	22
AC-FT	898	5,480	14,880	217,600	126,000	85,040	117,000	80,000	23,420	5,920	2,130	1,600
CAL YR 1968	TOTAL	89,120.5	MEAN	243	MAX	3,290	MIN	7.0	AC-FT	176,800		
WTR YR 1969	TOTAL	342,788.7	MEAN	939	MAX	18,800	MIN	7.6	AC-FT	679,900		

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	0300	7.54	7,060	2-15	2000	6.50	4,080
1-21	1500	10.88	22,500	2-24	1900	6.62	4,370
1-26	0700	9.72	16,700	3- 1	0900	6.61	4,350
2- 6	1400	6.78	4,790	4- 5	1830	7.24	6,100
2-12	1000	6.37	3,770				

11-3357. DEER CREEK NEAR SLOUGHHOUSE, CALIF.

LOCATION.--Lat 38°33'06", long 121°06'30", in NW¼NW¼ sec.16, T.8 N., R.8 E., Sacramento County, on right bank 0.2 mile upstream from bridge on Scott Road, 0.4 mile upstream from Little Deer Creek, and 5.9 miles north-east of Sloughhouse.

DRAINAGE AREA.--46.0 sq mi.

PERIOD OF RECORD.--November 1959 to September 1966, October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 25.6 cfs (18,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,740 cfs Jan. 20 (gage height, 11.12 ft); no flow for several months.

Period of record: Maximum discharge, 6,560 cfs Oct. 13, 1962 (gage height, 12.86 ft, from floodmarks), from rating curve extended above 2,200 cfs; no flow for several months in each year.

REMARKS.--No known regulation or diversion above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.7	23	76	573	23	13	1.5	0	0	0
2	0	0	3.2	22	68	190	23	13	1.2	0	0	0
3	0	3.4	3.0	22	60	167	34	12	1.1	0	0	0
4	0	24	2.8	21	57	113	25	13	1.3	0	0	0
5	0	7.5	2.8	20	145	89	322	13	1.3	0	0	0
6	0	3.5	2.8	19	737	77	176	11	1.2	0	0	0
7	0	2.2	2.8	19	185	67	78	9.9	1.2	0	0	0
8	0	1.6	3.2	18	114	60	57	9.9	1.4	0	0	0
9	0	1.2	3.2	15	107	73	47	9.2	1.5	0	0	0
10	0	1.0	4.2	15	89	117	41	8.7	2.2	0	0	0
11	0	1.0	48	83	230	65	36	8.1	2.9	0	0	0
12	0	1.5	22	112	251	63	33	7.6	3.4	0	0	0
13	0	4.8	12	1,460	45	67	30	7.6	3.2	0	0	0
14	0	4.1	93	597	51	54	29	7.3	2.6	0	0	0
15	0	5.1	105	115	187	49	27	7.3	2.1	0	0	0
16	0	11	84	70	71	46	25	7.3	1.9	0	0	0
17	0	5.1	31	51	31	47	23	6.7	1.6	0	0	0
18	0	4.2	21	204	149	44	22	6.2	1.2	0	0	0
19	0	5.1	17	1,360	182	40	21	6.2	1.1	0	0	0
20	0	6.1	18	2,160	144	39	20	5.7	1.1	0	0	0
21	0	3.9	15	875	113	69	19	5.2	.90	0	0	0
22	0	3.0	13	595	91	44	19	6.2	.60	0	0	0
23	0	2.6	12	138	530	38	34	5.4	.50	0	0	0
24	0	2.6	37	240	501	34	33	5.5	.40	0	0	0
25	0	2.5	226	902	671	32	22	6.0	.20	0	0	0
26	0	3.0	107	793	469	31	20	5.3	0	0	0	0
27	0	2.6	46	174	167	29	18	4.9	0	0	0	0
28	0	2.2	44	199	357	29	16	4.7	0	0	0	0
29	0	2.2	40	123	-----	27	15	4.3	0	0	0	0
30	0	2.6	29	106	-----	25	14	3.1	0	0	0	0
31	0	-----	25	88	-----	24	-----	2.1	-----	0	0	-----
TOTAL	0	119.6	1,075.7	10,639	5,878	2,422	1,302	235.4	37.60	0	0	0
MEAN	0	3.99	34.7	343	210	78.1	43.4	7.59	1.25	0	0	0
MAX	0	24	226	2,160	737	573	322	13	3.4	0	0	0
MIN	0	0	2.7	15	31	24	14	2.1	0	0	0	0
AC-FT	0	237	2,130	21,100	11,660	4,800	2,580	467	75	0	0	0
CAL YR 1968	TOTAL	5,085.50	MEAN 13.9	MAX 654	MIN 0	AC-FT 10,090						
WTR YR 1969	TOTAL	21,709.30	MEAN 59.5	MAX 2,160	MIN 0	AC-FT 43,060						

SAN JOAQUIN RIVER BASIN

11-3360. COSUMNES RIVER AT MCCONNELL, CALIF.

LOCATION.--Lat 38°21'29", long 121°20'34", in sec.20, T.6 N., R.6 E., Sacramento County, on downstream side of bridge on U.S. Highway 99, 0.2 mile south of McConnell, 1 mile downstream from Deer Creek, and 7 miles north of Galt.

DRAINAGE AREA.--724 sq mi.

PERIOD OF RECORD.--October 1941 to current year. Monthly figures only for some periods, published in WSP 1315-A. Gage heights only during high-water periods 1931-40, in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers.

AVERAGE DISCHARGE.--28 years, 553 cfs (400,600 acre-ft per year); median of yearly mean discharges, 410 cfs (297,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20,700 cfs Jan. 22 (gage height, 44.96 ft); maximum gage height, 45.96 ft, Jan. 22 (prior to levee break upstream); no flow for many days.

1943 to current year: Maximum discharge, 54,000 cfs Dec. 23, 1955 (gage height, 46.26 ft), from rating curve extended above 36,000 cfs; no flow for parts of each year.

Flood of Feb. 23, 24, 1936, reached a stage of 45.94 ft (discharge unknown).

REMARKS.--Records good. Diversions for irrigation of 2,100 acres between stations at Michigan Bar and at McConnell.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	33	240	1,800	6,010	2,170	1,540	691	139	0	0
2	0	0	38	211	1,710	4,420	2,170	1,530	669	132	.20	0
3	0	143	51	190	1,370	3,160	2,240	1,470	634	130	.40	0
4	0	296	51	175	1,200	2,420	1,900	1,360	611	122	2.0	0
5	0	233	43	165	1,570	1,800	2,550	1,270	574	113	.20	0
6	0	110	40	161	4,080	1,520	5,340	1,290	546	104	.05	0
7	0	66	37	159	4,940	1,350	3,420	1,400	511	89	0	0
8	0	46	35	159	2,220	1,200	2,480	1,550	473	93	0	0
9	0	34	36	161	1,540	1,080	2,120	1,700	428	88	0	0
10	0	28	36	158	1,380	1,380	1,890	1,820	396	84	0	0
11	0	24	79	158	1,300	1,120	1,760	1,800	379	78	0	0
12	0	22	222	439	4,790	955	1,820	1,750	358	68	0	0
13	0	33	168	1,950	3,390	1,040	1,950	1,660	356	74	0	0
14	0	87	183	7,140	1,840	905	1,970	1,570	327	64	0	0
15	0	66	285	3,370	3,170	817	1,860	1,420	318	59	0	0
16	0	61	702	1,410	4,600	776	1,680	1,290	308	58	0	0
17	0	69	570	916	2,780	780	1,580	1,230	362	51	0	0
18	0	58	305	702	2,580	805	1,610	1,240	321	46	0	0
19	0	50	214	4,010	2,950	823	1,690	1,200	301	39	0	0
20	0	52	186	12,600	2,700	840	1,680	1,110	282	34	0	0
21	0	64	163	17,900	2,080	1,310	1,750	1,010	267	31	0	0
22	0	52	122	18,300	1,620	1,150	1,950	959	253	28	0	0
23	0	45	106	7,900	2,330	995	2,150	941	239	27	0	0
24	0	40	132	4,670	4,180	976	2,450	934	226	25	0	0
25	0	38	300	6,980	5,450	995	1,940	912	209	23	0	0
26	0	46	1,370	12,200	6,410	1,030	1,630	865	193	20	0	0
27	0	52	796	10,600	3,860	1,100	1,450	821	179	13	0	0
28	0	43	441	5,920	2,560	1,230	1,380	782	173	8.0	0	0
29	0	38	405	4,490	-----	1,410	1,430	738	162	20	0	0
30	0	36	373	3,010	-----	1,640	1,510	714	146	1.0	0	0
31	0	-----	290	2,290	-----	1,970	-----	701	-----	13	0	-----
TOTAL	0	1,932	7,812	128,734	80,400	47,007	61,520	38,577	10,892	1,874.0	2.85	0
MEAN	0	64.4	252	4,153	2,871	1,516	2,051	1,244	363	60.5	.092	0
MAX	0	296	1,370	18,300	6,410	6,010	5,340	1,820	691	139	2.0	0
MIN	0	0	33	158	1,200	776	1,380	701	146	1.0	0	0
AC-FT	0	3,830	15,490	255,300	159,500	93,240	122,000	76,520	21,600	3,720	5.7	0
CAL YR 1968	TOTAL	62,479.50	MEAN	225	MAX	4,310	MIN	0	AC-FT	163,600		
WTR YR 1969	TOTAL	378,750.85	MEAN	1,038	MAX	18,300	MIN	0	AC-FT	751,200		

PEAK DISCHARGE (BASE, 3,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-14	1530	42.76	8,220	2-16	0615	39.52	5,150
1-22	0600	44.96	20,700	2-26	1130	40.70	6,980
1-26	2300	43.35	14,900	3- 1	1615	40.79	7,120
2- 7	0115	40.13	6,120	4- 6	0430	40.28	6,330
2-12	1930	40.22	6,250				

11-3365.8. MORRISON CREEK NEAR SACRAMENTO, CALIF.

LOCATION.--Lat 38°29'55", long 121°27'06", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.32, T.8 N., R.5 E., Sacramento County, on right bank 750 ft upstream from Florin Road, 1.6 miles upstream from Elder Creek, and 2 miles south of Sacramento city limits.

DRAINAGE AREA.--48.6 sq mi.

PERIOD OF RECORD.--July 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7.60 ft above mean sea level. Prior to June 29, 1960, water-stage recorder at site 650 ft downstream at datum 1.55 ft higher. June 29, 1960, to Sept. 12, 1965, at site 475 ft upstream at datum 2.71 ft higher.

AVERAGE DISCHARGE.--10 years, 18.0 cfs (13,040 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,610 cfs Jan. 26 (gage height, 8.53 ft.; minimum daily, 1.7 cfs Oct. 27.

Period of record: Maximum discharge, 1,610 cfs Jan. 26, 1969 (gage height, 8.53 ft); no flow at times in 1960, 1962, 1965.

REMARKS.--Records fair. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	3.5	5.8	6.2	29	436	9.1	5.9	3.7	7.5	9.2	4.5
2	9.4	15	5.9	7.9	24	150	9.4	7.1	5.6	7.9	6.3	6.2
3	7.8	151	5.5	7.8	21	97	9.6	6.6	6.4	8.0	5.3	6.5
4	9.8	40	5.7	7.4	20	54	7.2	6.0	7.1	5.5	6.9	6.1
5	6.8	12	5.6	7.0	127	37	60	7.8	6.9	5.3	7.5	5.7
6	5.0	8.6	5.6	6.7	383	27	39	7.6	7.1	5.6	7.5	4.7
7	8.7	7.5	3.9	6.7	175	22	16	6.8	4.5	8.8	8.7	4.5
8	7.2	6.9	4.7	6.9	65	17	12	6.2	2.7	8.7	8.5	5.9
9	7.8	4.9	6.2	8.3	95	14	11	5.6	5.2	8.2	5.7	8.7
10	7.2	4.3	25	11	66	16	9.5	4.8	5.1	8.6	4.6	8.3
11	5.3	5.6	11	40	370	16	9.3	4.4	5.7	8.5	6.3	7.3
12	16	7.6	8.3	56	618	31	7.8	5.3	7.0	5.4	7.3	8.4
13	5.1	6.6	22	513	154	28	6.9	5.7	7.0	4.5	8.4	5.8
14	7.5	18	102	293	100	18	7.9	6.4	5.0	6.9	8.6	5.2
15	5.3	18	72	74	212	12	8.2	6.8	4.5	8.7	9.2	5.7
16	4.9	8.7	35	40	160	10	7.9	7.4	8.3	8.0	6.0	6.5
17	4.1	4.9	15	29	78	14	8.2	5.1	17	9.0	3.9	7.5
18	4.0	16	9.7	85	203	14	8.6	4.3	11	9.5	6.9	8.1
19	2.9	13	7.9	625	130	13	7.0	5.5	9.4	6.4	8.3	8.8
20	2.5	9.5	7.6	1,110	74	30	6.3	5.9	8.8	5.4	7.9	6.8
21	4.5	7.6	5.0	725	50	22	6.9	6.2	6.1	7.6	8.0	4.9
22	6.1	6.4	4.8	505	34	14	6.6	6.2	5.1	8.8	8.6	6.5
23	6.0	4.4	6.4	226	190	10	26	5.8	7.5	8.0	5.8	8.0
24	4.9	5.2	28	235	293	11	11	4.4	9.3	7.4	4.9	7.3
25	5.4	5.7	52	612	439	11	7.0	3.6	8.9	8.5	6.9	6.3
26	2.2	6.5	37	946	479	11	5.1	4.7	7.9	5.9	7.8	7.0
27	1.7	6.3	17	170	140	10	4.8	5.1	8.3	5.2	8.0	6.2
28	3.5	4.7	12	78	305	10	5.7	5.2	5.6	7.6	8.4	4.9
29	6.1	5.0	9.0	53	-----	7.6	6.0	5.6	4.6	8.0	7.4	6.3
30	4.7	5.8	9.6	43	-----	6.4	6.1	4.0	6.2	8.1	5.1	9.1
31	4.2	-----	9.5	35	-----	7.4	-----	3.7	-----	7.3	4.3	-----
TOTAL	185.1	419.2	554.7	6,568.9	5,034	1,176.4	346.1	175.7	207.5	228.8	218.2	197.7
MEAN	5.97	14.0	17.9	212	180	37.9	11.5	5.67	6.92	7.38	7.04	6.59
MAX	16	151	102	1,110	618	436	60	7.8	17	9.5	9.2	9.1
MIN	1.7	3.5	3.9	6.2	20	6.4	4.8	3.6	2.7	4.5	3.9	4.5
AC-FT	367	631	1,100	13,030	9,980	2,330	686	349	412	454	433	392
CAL YR 1968	TOTAL	3,841.00	MEAN	10.5	MAX	219	MIN	.66	AC-FT	7,620		
WTR YR 1969	TOTAL	15,312.3	MEAN	42.0	MAX	1,110	MIN	1.7	AC-FT	30,370		

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11- 3	0545	4.11	330	1-26	0230	8.53	1,610
1-13	0215	5.50	610	2- 6	1700	4.85	542
1-18	1745	4.08	324	2-12	0445	6.34	942
1-20	0015	8.05	1,420	2-25	1845	6.02	846
1-25	1315	6.17	781	3- 1	0045	5.52	710

SAN JOAQUIN RIVER BASIN

11-3370. CONTRA COSTA CANAL NEAR OAKLEY, CALIF.

LOCATION.--Lat 37°59'44", long 121°42'03", in NE $\frac{1}{4}$ sec.25, T.2 N., R.2 E., Contra Costa County, at pumping plant No. 1, 0.7 mile east of Oakley and 2.6 miles northwest of Knightsen.

PERIOD OF RECORD.--February 1950 to current year.

GAGE.--Recording flow meters on pumps. Prior to Jan. 1, 1953, water-stage recorder at site 3.2 miles downstream at datum 121.72 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--19 years, 85.2 cfs (61,730 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 245 cfs June 26, 1968; minimum daily, 8.0 cfs Jan. 12, 1952.

REMARKS.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumping plants lifts the water 115 ft into the canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley project.

COOPERATION.--Records of daily discharge furnished by Bureau of Reclamation and reviewed by Geological Survey.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	137	116	63	62	55	70	92	121	117	171	152
2	155	132	114	59	65	60	75	95	118	119	168	162
3	166	126	109	63	62	54	72	95	121	131	171	157
4	161	124	108	59	59	71	75	91	119	133	174	157
5	156	128	101	59	56	59	58	106	125	135	179	153
6	154	129	94	58	52	60	67	104	118	134	182	158
7	158	125	96	58	72	51	68	106	111	141	162	96
8	157	114	79	58	66	52	75	106	111	151	170	155
9	159	112	98	56	64	54	87	97	98	155	172	156
10	164	113	102	62	61	60	82	103	98	154	161	157
11	155	111	114	62	54	54	93	109	110	154	169	158
12	147	116	114	64	51	54	57	87	114	153	170	159
13	147	116	129	59	64	53	64	91	107	155	177	154
14	141	122	95	60	70	52	84	84	110	163	182	155
15	138	119	89	59	58	51	88	113	109	168	191	150
16	139	110	87	60	61	47	97	131	109	168	189	153
17	139	110	86	60	60	56	59	129	108	170	185	143
18	141	108	86	57	55	51	62	130	125	172	204	128
19	146	107	86	52	64	49	53	118	114	170	209	126
20	146	109	69	53	65	51	70	108	110	167	209	129
21	152	111	66	56	60	47	53	112	111	169	206	124
22	147	103	56	57	62	48	66	123	103	168	193	123
23	146	99	55	58	60	45	68	119	110	169	190	125
24	150	105	66	67	57	50	63	121	112	158	189	130
25	153	105	61	48	54	51	69	108	115	159	152	129
26	149	106	76	71	56	49	80	103	118	152	171	124
27	151	106	81	76	52	48	74	109	120	150	158	122
28	146	104	84	69	56	55	92	114	112	150	153	119
29	131	106	79	60	-----	55	93	113	114	159	158	121
30	136	115	74	61	-----	51	90	118	116	159	153	118
31	137	-----	65	68	-----	62	-----	120	-----	161	153	-----
TOTAL	4,634	3,428	2,725	1,872	1,678	1,655	2,210	3,360	3,367	4,764	5,471	4,173
MEAN	149	114	87.9	60.4	59.9	53.4	73.7	108	113	154	176	140
MAX	167	137	129	76	72	71	97	131	125	172	209	162
MIN	131	99	55	48	51	45	53	84	98	117	152	96
AC-FT	9,190	6,800	5,410	3,710	3,330	3,280	4,380	6,660	6,720	9,450	10,850	8,320
CAL YR 1968	TOTAL 51,009		MEAN 139	MAX 245	MIN 25	ACFT 101,200						
KAT YR 1969	TOTAL 39,377		MEAN 108	MAX 209	MIN 45	ACFT 78,100						

11-3375. MARSH CREEK NEAR BYRON, CALIF.

LOCATION.--Lat 37°52'24", long 121°43'34", in Los Meganos Grant, Contra Costa County, on right bank 40 ft downstream from highway bridge on Marsh Creek road, 1.2 miles upstream from Marsh Creek Dam, and 5.0 miles west of Byron.

DRAINAGE AREA.--42.6 sq mi.

PERIOD OF RECORD.--February 1953 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 177.87 ft above mean sea level.

AVERAGE DISCHARGE.--16 years, 8.42 cfs (6,100 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,660 cfs Jan. 26 (gage height, 8.01 ft); no flow for several months.

Period of record: Maximum discharge, 3,880 cfs Jan. 31, 1963 (gage height, 11.62 ft), from rating curve extended above 880 cfs on basis of slope-area measurement at gage height 10.90 ft; maximum gage height, 12.98 ft Dec. 23, 1955; no flow for several months in each year.

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

REVISIONS (WATER YEARS).--WSP 1635: 1955. WSP 1930: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.82	50	221	13	5.8	.71	0	0	0
2	0	0	0	.66	46	132	13	5.3	.59	0	0	0
3	0	0	0	.45	43	105	16	5.1	.76	0	0	0
4	0	0	0	.26	38	85	13	5.3	.80	0	0	0
5	0	0	0	.05	108	72	19	4.8	.79	0	0	0
6	0	0	0	0	346	63	27	4.2	.91	0	0	0
7	0	0	0	0	112	57	17	4.1	.97	0	0	0
8	0	0	0	0	75	51	15	4.0	.84	0	0	0
9	0	0	0	0	57	46	14	3.9	1.3	0	0	0
10	0	0	0	0	46	42	14	3.6	1.3	0	0	0
11	0	0	0	0	132	37	12	3.2	1.1	0	0	0
12	0	0	0	0	108	39	12	2.5	1.3	0	0	0
13	0	0	0	6.8	67	37	10	2.6	.83	0	0	0
14	0	0	0	9.8	63	31	11	2.7	.83	0	0	0
15	0	0	0	5.4	187	29	10	2.7	.66	0	0	0
16	0	0	0	4.1	95	27	9.7	2.4	.55	0	0	0
17	0	0	0	3.4	78	26	9.5	2.3	.47	0	0	0
18	0	0	0	13	119	24	9.3	1.8	.32	0	0	0
19	0	0	0	236	78	22	8.4	2.0	.26	0	0	0
20	0	0	0	330	64	26	7.8	2.2	.30	0	0	0
21	0	0	0	234	56	29	7.5	2.0	.35	0	0	0
22	0	0	0	101	58	21	7.1	2.1	.28	0	0	0
23	0	0	0	50	127	18	9.1	1.6	.14	0	0	0
24	0	0	0	69	138	17	8.4	1.9	.03	0	0	0
25	0	0	0	303	132	16	7.2	1.9	0	0	0	0
26	0	0	0	534	115	15	6.5	1.8	0	0	0	0
27	0	0	0	144	90	15	6.3	1.6	0	0	0	0
28	0	0	0	176	260	14	6.0	1.2	0	0	0	0
29	0	0	0	89	-----	14	5.6	1.4	0	0	0	0
30	0	0	0	100	-----	14	5.6	1.2	0	0	0	0
31	0	-----	.61	59	-----	13	-----	.91	-----	0	0	-----
TOTAL	0	0	0.61	2,469.74	2,888	1,358	330.0	88.11	16.39	0	0	0
MEAN	0	0	.020	79.7	103	43.8	11.0	2.84	.55	0	0	0
MAX	0	0	.61	534	346	221	27	5.8	1.3	0	0	0
MIN	0	0	0	0	38	13	5.6	.91	0	0	0	0
AC-FT	0	0	1.2	4,900	5,730	2,690	655	175	33	0	0	0
CAL YR 1968	TOTAL	490.60	MEAN	1.34	MAX	68	MIN	0	AC-FT	973		
WTR YR 1969	TOTAL	7,150.85	MEAN	19.6	MAX	534	MIN	0	AC-FT	14,180		

PEAK DISCHARGE (BASE, 140 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	0400	5.37	424	2-15	0630	4.79	258
1-26	0445	8.01	1,660	2-18	0130	4.34	165
2-6	0530	5.86	614	2-23	0530	5.04	322
2-11	1700	4.98	305	2-28	1300	5.94	646

SACRAMENTO RIVER BASIN

11-3413.6. LAKE SISKIYOU NEAR MT SHASTA, CALIF.

LOCATION.--Lat 41°16'46", long 122°19'43", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.29, T.40 N., R.4 W., Siskiyou County, on left bank abutment of Box Canyon Dam on Sacramento River, 2.5 miles southwest of town of Mt Shasta.

DRAINAGE AREA.--127 sq mi.

PERIOD OF RECORD.--February 1969 to current year.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (levels by Siskiyou County).

EXTREMES.--Maximum contents observed during period February to September 1969, 26,500 acre-ft May 31 (elevation, 3,182.0 ft).

REMARKS.--Reservoir is formed by earthfill and gravity-type concrete dam. Storage began in February 1969. Usable capacity, 25,510 acre-ft between elevations 3,047.5 ft (invert of tunnel) and 3,181.0 ft (elevation of spillway). Dead storage, 600 acre-ft. Record of contents furnished by Siskiyou County.

MONTHEND ELEVATION AND CONTENTS, AT ABOUT 0800, FEBRUARY TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Feb. 28, 1969.....	3,053	750	-
Mar. 31.....	3,083	3,070	+2,320
Apr. 30.....	3,116	7,760	+4,690
May 31.....	3,182	26,500	+18,740
June 30.....	3,175	23,600	-2,900
July 31.....	3,177	24,400	+800
Aug. 31.....	3,170	21,700	-2,700
Sept. 30.....	3,121	8,670	-13,030

11-3414. SACRAMENTO RIVER NEAR MT SHASTA, CALIF.

LOCATION.--Lat 41°15'56", long 122°18'32", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.40 N., R.4 W., Siskiyou County, on left bank 200 ft upstream from Stink Creek, 0.3 mile upstream from Southern Pacific Railroad bridge, and 3.3 miles south of Mt Shasta.

DRAINAGE AREA.--134 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to July 1, 1966, water-stage recorder at site 500 ft upstream at datum 4.26 ft higher.

AVERAGE DISCHARGE.--10 years, 241 cfs (174,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,490 cfs June 3 (gage height, 4.85 ft); minimum daily, 26 cfs Dec. 19.

Period of record: Maximum discharge, 12,200 cfs Dec. 22, 1964 (gage height, 12.6 ft, from floodmarks, present site and datum), from slope-area measurement of maximum flow; minimum, 26 cfs Dec. 19, 1968 (from regulation).

REMARKS.--Records good. Flow regulated by Box Canyon Dam, 2 miles upstream, beginning December 1968 (capacity, 26,000 acre-ft). See schematic diagram of Pit and McCloud River basins. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	68	85	101	207	179	754	123	764	40	53	41
2	49	92	81	75	185	176	731	319	754	94	39	41
3	49	86	80	55	173	170	749	662	921	137	39	653
4	49	76	81	151	168	168	732	652	1,140	136	39	1,170
5	50	75	82	130	168	168	773	519	1,160	135	39	802
6	51	73	79	81	168	171	740	648	1,080	134	39	152
7	50	72	87	124	159	173	722	932	1,080	106	43	152
8	50	70	101	151	155	172	703	942	631	40	43	696
9	51	72	111	131	179	171	690	904	333	40	42	1,020
10	52	70	614	109	283	167	680	915	333	40	42	951
11	76	115	264	151	743	165	680	955	333	40	42	919
12	122	151	162	141	704	167	693	962	329	39	42	631
13	85	97	139	107	650	166	703	965	333	39	43	69
14	72	88	136	113	606	170	693	557	333	39	43	68
15	68	85	318	321	530	179	694	433	333	143	43	551
16	65	88	174	160	470	200	695	934	333	72	43	839
17	63	94	141	120	350	273	707	1,110	329	72	43	498
18	60	114	86	137	294	314	722	1,150	329	72	43	70
19	62	109	26	136	270	318	734	1,050	238	72	43	70
20	64	96	28	331	252	317	749	885	168	72	43	70
21	61	90	75	645	235	318	755	877	166	72	42	70
22	60	89	105	574	218	350	788	941	166	72	43	70
23	61	86	101	464	210	404	809	1,020	95	70	43	70
24	62	90	118	368	204	430	777	1,110	43	68	43	69
25	62	92	116	310	200	442	770	1,050	43	66	43	69
26	63	87	94	539	188	478	759	1,020	43	66	43	69
27	62	85	99	489	182	562	762	947	42	66	42	69
28	61	82	95	402	182	619	772	790	39	66	42	68
29	75	84	112	328	-----	680	555	767	39	66	42	68
30	81	86	90	263	-----	710	122	834	39	66	42	68
31	71	-----	81	228	-----	730	-----	824	-----	66	42	-----
TOTAL	1,955	2,662	3,961	7,435	8,333	9,707	21,213	25,797	11,969	2,306	1,313	10,153
MEAN	63.1	88.7	128	240	298	313	707	832	399	74.4	42.4	338
MAX	122	151	614	645	743	730	809	1,150	1,160	143	53	1,170
MIN	48	68	26	55	155	165	122	123	39	39	39	41
AC-FT	3,880	5,280	7,860	14,750	16,530	19,250	42,080	51,170	23,740	4,570	2,600	20,140

CAL YR 1968 TOTAL 64,524 MEAN 176 MAX 1,030 MIN 26 AC-FT 128,000
WTR YR 1969 TOTAL 106,804 MEAN 293 MAX 1,170 MIN 26 AC-FT 211,800

PEAK DISCHARGE (BASE, 1,500 CFS).--No peak above base.

11-3420. SACRAMENTO RIVER AT DELTA, CALIF.

LOCATION.--Lat 40°56'23", long 122°24'58", in NW $\frac{1}{4}$ sec.35, T.36 N., R.5 W., Shasta County, on Bureau of Reclamation property, on left bank 0.2 mile downstream from Dog Creek, 0.6 mile southeast of Delta, and 2.8 miles south of Lamoline.

DRAINAGE AREA.--425 sq mi.

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--25 years, 1,152 cfs (834,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 14,200 cfs Feb. 11 (gage height, 12.38 ft); minimum daily, 182 cfs Oct. 1-3.

Period of record: Maximum discharge, 38,800 cfs Dec. 22, 1964 (gage height, 20.10 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement at gage heights, 19.50 ft in gage well, 20.0 ft, from floodmarks; minimum, 141 cfs Sept. 3-5, 1950.

REMARKS.--Records excellent. Some regulation from Box Canyon Dam near the town of Mount Shasta. Some minor diversions for irrigation above station. See schematic diagram of Pit and McCloud River basins. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	251	338	530	1,560	1,650	4,360	2,210	1,920	392	275	205
2	182	422	324	550	1,380	1,570	4,060	2,140	1,830	388	251	202
3	182	388	310	625	1,280	1,460	3,770	2,490	1,800	460	248	313
4	185	324	303	907	1,240	1,380	3,340	2,370	2,270	456	245	1,230
5	185	300	303	1,260	1,250	1,380	5,150	2,390	2,140	448	242	1,200
6	188	282	300	1,380	1,290	1,410	4,370	2,700	2,060	444	242	359
7	185	272	303	1,370	1,170	1,390	3,740	3,600	1,980	436	242	334
8	185	263	465	1,240	1,320	1,350	3,440	3,770	1,670	359	242	526
9	185	260	520	1,090	2,990	1,290	3,270	3,980	1,120	338	242	1,170
10	188	254	5,010	956	3,600	1,220	3,170	4,140	1,090	331	239	1,160
11	311	400	2,530	1,010	11,300	1,170	3,270	4,360	1,070	324	233	1,130
12	840	702	1,250	2,160	8,110	1,160	3,580	4,140	1,030	320	233	1,090
13	404	392	935	5,480	4,930	1,150	3,500	3,950	1,000	317	233	311
14	310	348	942	2,900	3,820	1,170	3,170	3,310	991	314	230	242
15	282	352	5,060	2,110	3,530	1,260	2,990	2,450	956	310	230	425
16	257	348	2,430	1,580	3,240	1,440	3,000	3,170	914	423	227	1,060
17	242	362	1,410	1,290	2,820	1,890	3,190	3,530	888	328	227	992
18	233	480	1,070	1,190	2,720	2,270	3,280	3,580	876	324	227	275
19	227	485	774	1,860	2,550	2,200	3,200	3,190	882	320	227	266
20	227	408	645	6,230	2,300	2,100	3,310	2,720	684	317	224	257
21	227	362	595	8,910	2,070	2,030	3,550	2,660	645	310	221	257
22	221	342	625	4,990	1,890	2,220	3,870	2,760	620	306	218	251
23	218	328	660	3,480	1,940	2,540	4,140	2,870	595	306	215	248
24	221	348	660	2,670	1,840	2,540	3,420	2,960	480	306	215	245
25	218	366	756	2,490	1,790	2,540	2,990	2,810	460	296	215	242
26	218	334	738	7,000	1,620	2,700	2,790	2,700	456	292	212	239
27	215	320	655	4,090	1,510	3,190	2,780	2,520	444	286	210	236
28	215	306	660	3,020	1,720	3,770	2,980	2,100	432	282	210	236
29	289	306	610	2,400	-----	4,090	3,070	2,030	420	278	210	236
30	314	359	580	2,030	-----	4,270	2,270	2,140	408	278	210	239
31	266	-----	540	1,730	-----	4,570	-----	2,080	-----	278	208	-----
TOTAL	7,802	10,664	32,301	78,528	76,780	64,370	103,020	91,820	32,131	10,567	7,103	15,176
MEAN	252	355	1,042	2,533	2,742	2,076	3,434	2,962	1,071	341	229	506
MAX	840	702	5,060	8,910	11,300	4,570	5,150	4,360	2,270	460	275	1,230
MIN	182	251	300	530	1,170	1,150	2,270	2,030	408	278	208	202
AC-FT	15,480	21,150	64,070	155,800	152,300	127,700	204,300	182,100	63,730	20,960	14,090	30,100

CAL YR 1968	TOTAL 293,965	MEAN 803	MAX 7,710	MIN 178	AC-FT 583,100
WTR YR 1969	TOTAL 530,262	MEAN 1,453	MAX 11,300	MIN 182	AC-FT 1,052,000

PEAK DISCHARGE (BASE, 8,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1300	10.87	8,500	1-26	0500	10.39	8,820
12-15	1200	10.17	8,280	2-11	1600	12.38	14,200
1-20	2400	11.68	12,200				

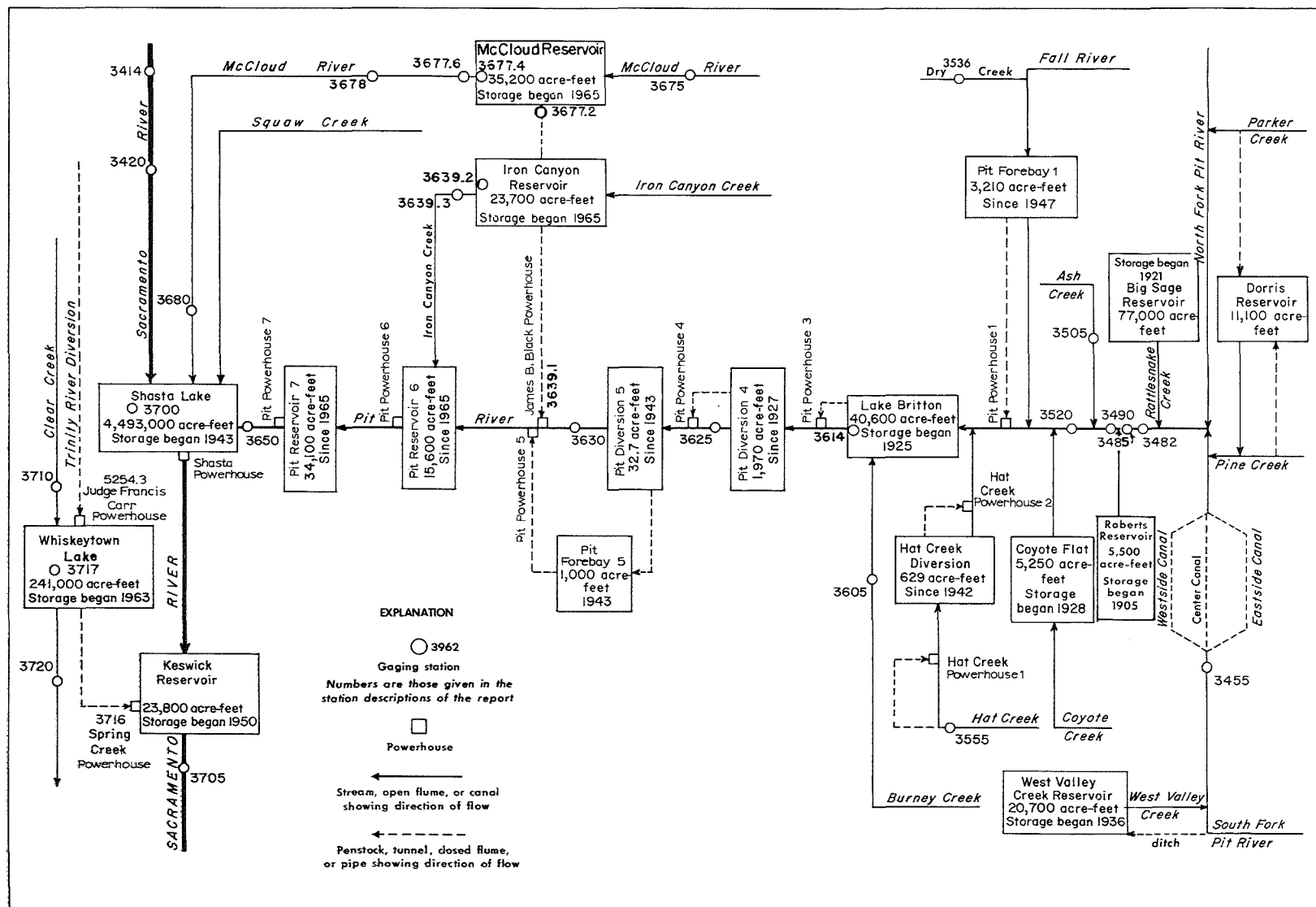


FIGURE 10.—Schematic diagram showing diversions and storage in Pit and McCloud river basins.

SACRAMENTO RIVER BASIN

11-3455. SOUTH FORK PIT RIVER NEAR LIKELY, CALIF.

LOCATION.--Lat 41°13'51", long 120°26'10", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.11, T.39 N., R.13 E., Modoc County, on left bank 400 ft downstream from highway bridge, 1.4 miles downstream from West Valley Creek, and 3.5 miles east of Likely.

DRAINAGE AREA.--247 sq mi.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 4,508 ft above mean sea level. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

AVERAGE DISCHARGE.--41 years, 73.9 cfs (53,540 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 740 cfs May 12 (gage height, 4.79 ft); minimum daily, 3.5 cfs Mar. 11, 12.

Period of record: Maximum discharge, 1,520 cfs Apr. 27, 1932 (gage height, 5.55 ft); minimum, 0.2 cfs Feb. 3, 1941.

REMARKS.--Records excellent except those for the winter period, which are fair. Flow regulated by West Valley Creek Reservoir beginning in May 1937 (usable capacity, 21,000 acre-ft). Diversions for irrigation of about 3,800 acres above station. See schematic diagram of Pit and McCloud River basins. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1932, 1938(M), 1952(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	15	10	16	45	16	103	369	248	83	139	164
2	62	16	10	17	39	14	98	354	232	79	145	142
3	62	23	10	25	33	12	87	357	219	67	161	116
4	62	25	11	37	27	10	78	348	219	75	150	103
5	61	20	13	32	20	8.6	90	351	219	77	111	93
6	61	17	14	27	18	7.0	96	369	217	83	92	93
7	66	18	17	24	18	5.8	103	408	202	73	108	93
8	66	18	18	30	18	4.4	90	478	198	70	137	92
9	65	30	25	29	19	3.8	81	565	237	70	139	93
10	66	24	48	28	37	3.6	77	628	223	73	132	92
11	69	7.4	28	27	58	3.5	79	664	241	63	124	89
12	43	15	26	25	61	3.5	88	719	212	53	118	89
13	28	12	23	52	41	3.7	90	698	196	47	126	92
14	27	13	20	49	34	5.0	94	691	194	49	137	92
15	27	13	22	34	33	12	88	664	184	50	162	90
16	25	14	20	25	32	19	88	616	174	42	184	90
17	24	20	18	21	28	25	110	565	168	34	184	90
18	25	49	18	26	29	30	163	530	164	52	180	92
19	25	55	17	34	29	35	184	515	184	70	176	94
20	24	36	16	190	23	41	223	483	186	70	176	96
21	25	27	15	184	22	43	269	449	176	73	174	94
22	27	33	14	97	22	67	322	422	152	72	172	90
23	25	40	13	73	19	76	369	397	145	70	170	75
24	25	32	12	71	18	62	375	381	154	83	170	52
25	27	24	14	77	17	65	357	366	136	98	170	53
26	25	13	20	138	17	78	345	351	136	134	168	52
27	24	11	20	67	16	87	339	324	124	134	170	50
28	21	10	19	66	15	94	339	299	106	134	170	47
29	13	10	18	61	-----	99	348	274	94	130	170	46
30	16	10	17	56	-----	102	360	266	90	130	168	46
31	15	-----	16	50	-----	106	-----	257	-----	127	166	-----
TOTAL	1,194	650.4	562	1,688	788	1,141.9	5,533	14,158	5,430	2,465	4,749	2,600
MEAN	38.5	21.7	18.1	54.5	28.1	36.8	184	457	181	79.5	153	86.7
MAX	69	55	48	190	61	106	375	719	248	134	184	164
MIN	13	7.4	10	16	15	3.5	77	257	90	34	92	46
AC-FT	2,370	1,290	1,110	3,350	1,560	2,260	10,970	28,080	10,770	4,890	9,420	5,160
CAL YR 1968	TOTAL 22,372.3		MEAN 61.1	MAX 166		MIN 7.4	AC-FT 44,380					
WTR YR 1969	TOTAL 40,959.3		MEAN 112	MAX 719		MIN 3.5	AC-FT 81,240					

11-3482. PIT RIVER NEAR ALTURAS, CALIF.

LOCATION.--Lat 41°29'00", long 120°37'46", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.42 N., R.12 E., Modoc County, on left bank 500 ft downstream from Noble Creek, and 4.7 miles west of Alturas.

DRAINAGE AREA.--1,080 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,330 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,530 cfs Jan. 21 (gage height, 11.69 ft); minimum daily, 34 cfs Oct. 28.

Period of record: Maximum discharge, 3,070 cfs Jan. 29, 1967 (gage height, 12.91 ft), from rating curve extended above 1,700 cfs; minimum daily, 4.1 cfs Oct. 20, 21, 1966.

REMARKS.--Records good. Flow regulated by many small reservoirs (total capacity, 144,000 acre-ft). Diversions for irrigation of 23,000 acres above station. See schematic diagram of Pit and McCloud River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	35	72	74	279	170	1,250	732	289	158	91	124
2	50	36	68	83	230	161	1,260	722	248	140	126	143
3	50	38	65	132	215	159	1,150	710	266	124	131	140
4	44	39	63	247	275	148	955	720	248	93	143	148
5	42	39	65	283	186	161	792	708	256	78	143	143
6	44	41	72	226	167	176	785	657	298	89	143	124
7	46	50	75	180	159	159	732	624	258	138	138	105
8	76	49	74	140	155	151	638	543	245	148	131	103
9	57	57	166	84	165	146	578	662	358	110	121	89
10	60	59	115	83	365	123	573	696	472	108	85	87
11	59	62	106	75	346	146	523	761	559	117	85	83
12	59	106	86	88	1,240	153	588	837	540	95	89	85
13	62	106	74	373	1,100	142	636	914	436	79	89	93
14	83	85	83	668	849	138	629	938	372	87	87	99
15	72	77	83	256	602	134	614	974	382	58	81	103
16	65	72	82	146	549	157	543	953	356	51	81	97
17	59	86	80	115	474	220	514	912	314	64	74	93
18	53	148	72	90	384	529	595	873	316	53	72	93
19	47	222	65	94	321	468	679	852	324	56	81	93
20	45	142	60	651	264	419	686	828	336	56	83	91
21	44	119	55	2,250	230	304	725	778	346	56	85	99
22	41	106	50	2,230	205	550	758	689	332	69	97	140
23	38	113	49	1,610	199	881	777	612	285	64	97	124
24	36	113	60	1,120	180	751	797	603	273	67	95	124
25	36	106	92	694	159	744	847	566	268	58	91	136
26	47	100	104	1,110	180	842	878	502	253	58	78	119
27	36	88	92	1,180	161	924	866	482	229	76	79	101
28	34	77	83	836	174	950	837	458	221	91	93	95
29	42	75	74	545	-----	962	818	336	203	97	101	74
30	53	72	74	413	-----	1,020	751	229	178	99	99	52
31	38	-----	72	323	-----	1,130	-----	350	-----	97	103	-----
TOTAL	1,567	2,518	2,431	16,399	10,313	13,118	22,774	21,221	9,461	2,734	3,092	3,200
MEAN	50.5	83.9	78.4	529	368	423	759	685	315	88.2	99.7	107
MAX	83	222	166	2,250	1,240	1,130	1,260	974	559	158	143	148
MIN	34	35	49	74	155	123	514	229	178	51	72	52
AC-FT	3,110	4,990	4,820	32,530	20,460	26,020	45,170	42,090	18,770	5,420	6,130	6,350
CAL YR 1968	TOTAL	39,280		MEAN	107	MAX	1,320	MIN	22	AC-FT	77,910	
WTR YR 1969	TOTAL	108,828		MEAN	298	MAX	2,250	MIN	34	AC-FT	215,900	

SACRAMENTO RIVER BASIN

11-3485. PIT RIVER NEAR CANBY, CALIF.

LOCATION.--Lat 41°24'22", long 120°55'36", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.41 N., R.9 E., Modoc County, on right bank at lower end of Warm Spring Valley, 4 miles southwest of Canby.

DRAINAGE AREA.--1,431 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--January 1904 to December 1905, May 1929 to current year (1929-31 incomplete).

GAGE.--Water-stage recorder. Datum of gage is 4,266 ft above mean sea level. January 1904, to December 1905, nonrecording gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft upstream at different datum.

AVERAGE DISCHARGE.--39 years (1905, 1931-69), 233 cfs (168,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,640 cfs Jan. 22 (gage height, 7.91 ft); minimum daily, 2.8 cfs July 27.

Period of record: Maximum discharge observed, 13,000 cfs Mar. 8, 1904 (gage height, 15.0 ft, site and datum then in use); minimum, 0.1 cfs Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

REMARKS.--Records good. Flow regulated by many small reservoirs (total capacity now, about 144,000 acre-ft). Diversions for irrigation of about 39,000 acres above station. See schematic diagram of Pit and McCloud River basins. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	63	92	98	604	307	2,080	899	328	174	30	32
2	31	54	92	99	578	295	2,050	868	301	135	30	31
3	43	52	92	125	494	273	1,900	851	212	107	26	38
4	61	55	90	233	402	267	1,680	845	250	93	21	42
5	63	54	101	386	362	273	1,430	834	212	89	18	87
6	51	54	107	430	351	281	1,230	804	176	86	18	158
7	46	55	101	348	326	272	1,160	745	176	81	19	152
8	45	88	98	272	318	253	1,070	697	162	80	28	118
9	51	83	98	156	388	244	947	539	194	80	31	127
10	73	103	258	169	629	223	859	557	183	75	36	93
11	68	84	188	142	1,310	199	824	694	328	72	76	69
12	67	95	164	126	1,900	211	774	762	746	86	180	70
13	71	140	127	652	1,940	204	823	956	753	87	109	75
14	84	138	122	976	1,670	189	849	1,070	572	69	83	120
15	113	114	132	984	1,270	188	832	1,000	488	54	71	134
16	130	107	130	488	1,060	198	796	986	425	45	81	122
17	96	99	129	278	942	257	731	975	400	37	73	107
18	74	121	148	201	819	464	749	935	353	42	66	99
19	68	208	80	179	680	753	811	915	362	70	64	98
20	61	286	105	752	563	715	862	859	365	70	62	96
21	58	213	92	2,540	449	623	874	759	384	67	58	95
22	54	204	101	3,390	386	572	904	801	388	57	57	113
23	53	178	72	2,670	351	880	949	685	398	43	57	125
24	51	150	79	2,170	331	1,200	1,020	625	319	29	57	126
25	56	150	93	1,650	298	1,150	1,040	605	289	11	63	120
26	54	139	117	1,790	282	1,180	1,030	575	267	4.0	68	134
27	51	128	124	1,320	292	1,380	1,030	559	252	2.8	67	132
28	55	116	114	1,280	280	1,590	1,010	531	233	7.3	62	116
29	48	98	101	1,120	-----	1,710	980	498	187	11	59	106
30	51	98	101	837	-----	1,770	957	238	177	13	58	96
31	60	-----	95	767	-----	1,920	-----	257	-----	22	53	-----
TOTAL	1,919	3,527	3,543	26,628	19,275	20,041	32,251	22,924	9,880	1,899.1	1,781	3,031
MEAN	61.9	118	114	859	688	646	1,075	739	329	61.3	57.5	101
MAX	130	286	258	3,390	1,940	1,920	2,080	1,070	753	174	180	158
MIN	31	52	72	98	280	188	731	238	162	2.8	18	31
AC-FT	3,810	7,000	7,030	52,820	38,230	39,750	63,970	45,470	19,600	3,770	3,530	6,010
CAL YR 1968	TOTAL	53,118.0	MEAN	145	MAX	2,220	MIN	7.8	AC-FT	105,400		
WTR YR 1969	TOTAL	146,699.1	MEAN	402	MAX	3,390	MIN	2.8	AC-FT	291,000		

11-3490, PIT RIVER NEAR LOOKOUT, CALIF.

LOCATION.--Lat 41°19'27", long 121°07'36", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.40 N., R.7 E., Modoc County, on right bank 0.2 mile downstream from unnamed tributary, and 8.2 miles north of Lookout.

DRAINAGE AREA.--1,585 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--January 1929 to September 1931, August 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,160 ft (from topographic map). January 1929 to September 1931, at site approximately 2.5 miles downstream at different datum.

AVERAGE DISCHARGE.--13 years, 247 cfs (179,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,260 cfs Apr. 1 (gage height, 15.06 ft from floodmarks in gage well); minimum daily, 15 cfs July 28.

Period of record: Maximum discharge, 8,170 cfs Oct. 14, 1962 (gage height, 19.39 ft from floodmarks in gage well); no flow Aug. 29, 1931.

REMARKS.--Records good except those for period Jan. 21 to Apr. 4, which are fair. Flow regulated by many small reservoirs. Diversions for irrigation of 41,000 acres above station. See schematic diagram of Pit and McCloud River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	67	111	120	750	384	3,180	1,000	304	195	44	43
2	38	66	86	125	650	382	2,830	947	327	164	45	34
3	37	57	88	144	570	369	2,390	926	251	146	36	43
4	50	58	92	215	500	351	2,140	917	247	112	28	48
5	66	61	105	470	440	354	1,950	893	240	103	23	55
6	63	59	100	410	405	362	1,720	866	212	106	25	118
7	53	59	121	315	375	354	1,580	800	184	94	27	170
8	48	68	118	240	360	332	1,440	746	184	95	36	145
9	48	94	116	190	480	321	1,280	608	204	96	47	113
10	58	88	200	170	1,050	296	1,140	581	230	92	44	136
11	77	107	290	159	1,850	272	1,070	662	225	85	49	78
12	70	108	244	186	2,380	276	1,010	761	534	85	136	65
13	72	129	192	1,100	2,180	272	1,010	866	722	108	163	74
14	75	156	154	1,610	2,160	260	1,050	1,040	590	93	105	90
15	100	138	159	1,540	1,650	267	1,010	1,030	485	72	80	136
16	122	122	170	806	1,360	296	965	971	418	61	71	135
17	113	116	138	424	1,190	387	896	971	395	57	83	117
18	87	122	122	299	1,040	470	947	923	369	47	69	107
19	73	155	110	263	860	690	938	902	354	77	69	104
20	68	257	81	1,170	698	1,040	986	866	354	83	69	102
21	64	227	90	2,610	575	930	1,000	761	371	72	63	99
22	61	186	91	3,210	488	780	1,020	764	373	62	62	103
23	58	209	93	3,180	447	960	1,070	716	376	52	64	131
24	57	161	91	2,800	418	1,300	1,200	602	345	41	71	128
25	54	167	105	2,050	393	1,690	1,310	590	300	34	79	129
26	63	152	122	2,080	367	1,500	1,210	572	280	22	85	128
27	56	148	156	1,600	373	1,700	1,160	536	261	18	76	143
28	55	135	156	1,480	367	1,920	1,130	527	249	15	66	131
29	57	120	142	1,280	-----	2,180	1,080	498	227	19	65	115
30	54	113	121	1,080	-----	2,560	1,060	338	187	22	66	108
31	57	-----	120	900	-----	2,350	-----	254	-----	27	59	-----
TOTAL	1,988	3,712	4,084	32,226	24,376	26,105	40,772	23,434	9,798	2,355	2,005	3,128
MEAN	64.1	124	132	1,040	371	842	1,359	756	327	76.0	64.7	104
MAX	122	257	290	3,210	2,390	2,850	3,180	1,040	722	195	163	170
MIN	34	57	81	120	360	260	896	254	184	15	23	34
AC-FT	3,940	7,360	8,100	63,920	48,350	51,780	80,870	46,480	19,430	4,670	3,980	6,200
CAL YR 1968	TOTAL	73,004	MEAN	199	MAX	4,170	MIN	12	AC-FT	144,800		
WTR YR 1969	TOTAL	173,933	MEAN	477	MAX	3,210	MIN	15	AC-FT	345,100		

NOTE.--No gage-height record Jan. 21 to Feb. 10, Mar. 18 to Apr. 4.

SACRAMENTO RIVER BASIN

11-3505. ASH CREEK AT ADIN, CALIF.

LOCATION.--Lat 41°11'54", long 120°56'32", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T. 39 N., R. 9 E., Modoc County, on left bank 300 ft upstream from highway bridge at Adin, and 0.4 mile upstream from Butte Creek.

DRAINAGE AREA.--258 sq mi.

PERIOD OF RECORD.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to current year. Records of daily discharge for Oct. 19-31, 1928, are in error and should not be used.

GAGE.--Water-stage recorder. Altitude of gage is 4,190 ft (estimated on basis of bench mark 300 ft downstream). Prior to Sept. 12, 1957, water-stage recorder or nonrecording gage at sites within 1 mile of present site, at different datums.

AVERAGE DISCHARGE.--17 years (1904-5, 1928-32, 1957-69), 69.4 cfs (50,280 acre-ft per year); median of yearly mean discharges, 51 cfs (36,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,080 cfs Jan. 21 (gage height, 12.30 ft); minimum daily, 5.6 cfs Sept. 5.
Period of record: Maximum discharge, 2,880 cfs Oct. 13, 1962 (gage height, 14.40 ft); no flow for part of Aug. 26, 1962.

REMARKS.--Small diversions above station for irrigation. See schematic diagram of Pit and McCloud River basins.

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

REVISIONS (WATER YEARS).--WRD Calif. 1966: 1958(M), 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	29	37	40	132	89	1,260	224	31	24	24	9.1
2	20	30	36	41	121	87	1,010	200	29	22	36	7.0
3	19	31	34	68	113	87	762	200	27	21	44	7.0
4	20	33	31	110	107	84	627	187	26	19	27	7.0
5	19	29	38	102	105	86	600	177	51	19	21	5.6
6	19	28	40	83	101	89	588	179	29	21	22	7.0
7	22	28	41	74	90	83	540	192	25	22	21	8.6
8	22	28	45	59	92	78	443	185	26	22	20	9.1
9	26	29	46	40	110	80	389	184	38	22	20	10
10	25	29	59	44	214	74	366	181	46	26	20	12
11	23	29	59	45	610	70	366	181	48	28	20	13
12	25	45	47	47	480	72	385	173	31	25	20	13
13	25	33	40	394	257	72	381	166	28	23	20	16
14	24	31	43	224	202	77	373	160	41	22	19	16
15	23	31	64	126	184	94	324	145	43	22	19	16
16	22	33	72	87	173	135	291	129	34	21	19	17
17	22	33	52	76	162	265	282	111	25	21	22	18
18	22	45	46	53	157	362	408	105	28	23	23	19
19	22	37	40	134	151	259	358	98	42	24	23	20
20	24	32	33	1,330	132	224	360	92	55	26	16	21
21	25	32	27	1,630	118	292	360	83	45	27	17	20
22	26	33	31	640	110	463	360	77	35	25	19	19
23	26	35	39	301	106	514	391	64	29	25	17	19
24	26	39	45	181	96	517	426	59	28	25	16	20
25	26	43	44	217	93	590	406	56	27	21	17	28
26	25	38	42	779	90	758	318	49	28	14	16	23
27	31	35	41	292	86	888	247	47	29	20	18	22
28	28	34	41	192	87	1,050	224	41	33	23	15	22
29	29	35	41	181	-----	1,140	238	33	29	23	11	22
30	32	36	41	168	-----	1,260	226	34	27	27	11	22
31	29	-----	41	147	-----	1,370	-----	33	-----	24	11	-----
TOTAL	748	1,003	1,336	7,905	4,479	11,309	13,309	3,845	1,013	707	624	468.4
MEAN	24.1	33.4	43.1	255	160	365	444	124	33.8	22.8	20.1	15.6
MAX	32	45	72	1,630	610	1,370	1,260	224	55	28	44	28
MIN	19	28	27	40	86	70	224	33	25	14	11	5.6
AC-FT	1,480	1,990	2,650	15,680	8,880	22,430	26,400	7,630	2,010	1,400	1,240	929
CAL YR 1968	TOTAL	19,075.7	MEAN	52.1	MAX	920	MIN	9.1	AC-FT	37,840		
WTR YR 1969	TOTAL	46,746.4	MEAN	128	MAX	1,630	MIN	5.6	AC-FT	92,720		

11-3520. PIT RIVER NEAR BIEBER, CALIF.

LOCATION.--Lat 41°00'55", long 121°09'13", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.37 N., R.7 E., Modoc County, on right bank 2.2 miles upstream from Spring Gulch, and 7.4 miles south of Bieber.

DRAINAGE AREA.--2,475 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--January 1904 to September 1908, December 1913 to August 1914, September 1921 to September 1926, November 1928 to September 1931, October 1951 to current year. Yearly figures only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 4,080.4 ft above mean sea level. Prior to November 1928, a nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--31 years (1903-8, 1921-26, 1928-31, 1951-69), 502 cfs (363,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,300 cfs Jan. 23 (gage height, 8.80 ft); minimum daily, 0.36 cfs Sept. 1, 2.

Period of record: Maximum discharge, 33,800 cfs Mar. 19, 1907 (gage height, 16.7 ft), from rating curve extended above 15,000 cfs; no flow at times in 1923-24, 1926, 1929-31, 1955, 1961-63, 1967.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by many small reservoirs (total capacity now, 204,000 acre-ft). Diversions for irrigation of 33,000 acres between stations near Canby and near Bieber. See schematic diagram of Pit and McCloud River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	63	182	238	1,380	540	4,900	1,520	264	284	2.7	.36
2	5.8	65	166	212	1,200	570	5,040	1,460	225	185	2.7	.36
3	12	72	156	199	1,050	600	4,850	1,360	58	168	2.5	.42
4	12	65	146	231	920	570	4,230	1,300	26	152	2.2	.56
5	9.2	75	151	326	770	545	3,610	1,300	27	134	2.2	.56
6	10	75	225	510	700	525	3,260	1,230	34	111	2.0	.49
7	5.8	77	182	658	615	570	2,970	1,130	34	108	1.8	.70
8	3.8	74	193	700	550	540	2,720	1,040	17	100	1.6	1.5
9	6.9	72	202	450	490	525	2,460	994	24	94	1.3	1.1
10	4.6	87	222	375	700	510	2,220	900	44	90	1.2	.92
11	32	108	350	330	1,750	490	2,000	851	32	86	1.0	1.1
12	40	171	495	400	2,750	475	1,880	879	36	84	.92	5.2
13	62	168	362	510	3,500	470	1,820	949	146	86	.77	5.5
14	75	163	309	1,200	3,700	490	1,800	1,000	406	89	.63	4.5
15	76	202	278	1,800	3,350	486	1,810	1,120	490	82	.63	3.8
16	65	199	270	1,850	2,800	550	1,740	1,150	530	68	.70	4.5
17	60	179	265	1,650	2,300	788	1,620	1,110	635	50	.92	5.5
18	84	209	265	1,250	1,880	1,380	1,620	1,080	550	26	1.1	4.8
19	106	222	240	720	1,620	1,970	1,640	1,030	478	16	.92	4.2
20	79	212	215	1,350	1,380	2,270	1,640	994	462	17	.77	4.8
21	69	302	188	2,900	1,100	2,210	1,640	970	510	24	.63	5.5
22	77	312	212	4,350	960	2,200	1,620	830	462	29	.63	138
23	89	260	199	5,580	820	2,480	1,620	767	414	26	.70	166
24	77	288	222	5,900	760	2,930	1,790	736	378	20	.77	124
25	69	288	163	4,900	700	3,250	2,010	724	323	12	.77	122
26	66	244	171	3,800	650	3,540	2,080	706	338	8.4	.70	132
27	65	228	196	3,100	610	3,700	1,930	646	270	7.2	.70	98
28	78	212	218	2,650	570	3,880	1,780	610	171	5.8	.70	65
29	104	199	309	2,300	-----	4,150	1,630	585	188	4.2	.63	59
30	84	188	260	2,000	-----	4,420	1,550	555	267	3.8	.49	42
31	68	-----	228	1,720	-----	4,590	-----	418	-----	3.5	.42	-----
TOTAL	1,704.6	5,079	7,240	54,159	39,575	52,214	71,480	29,944	7,839	2,173.9	35.70	1,002.37
MEAN	55.0	169	234	1,747	1,413	1,684	2,383	966	261	70.1	1.15	33.4
MAX	106	312	495	5,900	3,700	4,590	5,040	1,520	635	284	2.7	166
MIN	3.8	63	146	199	490	470	1,550	418	17	3.5	.42	.36
AC-FT	3,380	10,070	14,360	107,400	78,500	103,600	141,800	59,390	15,550	4,310	71	1,990
CAL YR 1968	TOTAL 107,688.62		MEAN 294		MAX 6,920		MIN .25		AC-FT 213,600			
WTR YR 1969	TOTAL 272,446.57		MEAN 746		MAX 5,900		MIN .36		AC-FT 540,400			

NOTE.--No gage-height record Jan. 24 to Mar. 13, July 3-17.

SACRAMENTO RIVER BASIN

11-3536. DRY CREEK NEAR DANA, CALIF.

LOCATION.--Lat 41°08'21", long 121°38'24", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.38 N., R.3 E., Shasta County, at culvert on State Highway 89, 4.5 miles northwest of Dana.

DRAINAGE AREA.--6.46 sq mi.

PERIOD OF RECORD.--July 1962 to September 1966 (annual maximum), October 1966 to current year.

GAGE.--Water-stage recorder with recording rain-gage attachment, and crest-stage gage. Altitude of gage is 4,040 ft (from topographic map). Prior to Oct. 1, 1966, crest-stage gages at same site and datum.

EXTREMES.--Current year: Maximum discharge, 60 cfs Apr. 22 (gage height, 3.64 ft); no flow for several months.
Period of record: Maximum discharge, 702 cfs Dec. 22, 1964 (gage height, 10.69 ft), from rating curve extended above 120 cfs on basis of computation of flow through culvert at gage heights 5.02 and 10.69 ft; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.50	7.8	4.5	40	34	5.7	1.5	.32	0
2	0	0	0	.50	6.9	4.3	37	31	5.4	1.3	.32	0
3	0	0	0	.50	6.6	4.2	31	29	5.1	1.2	.32	0
4	0	0	0	.40	6.6	3.9	29	26	4.9	1.2	.26	0
5	0	0	0	.40	6.0	3.9	41	27	4.8	1.1	.26	0
6	0	0	0	.40	5.6	3.6	33	29	4.5	1.1	.26	0
7	0	0	0	.44	5.2	3.5	29	31	4.2	1.0	.26	0
8	0	0	0	.44	5.2	3.3	28	34	4.3	.96	.21	0
9	0	0	0	.50	7.6	3.3	28	37	4.6	.82	.21	0
10	0	0	5.3	.50	8.4	3.2	29	37	4.3	.76	.21	0
11	0	0	4.8	.50	16	3.1	31	36	4.8	.70	.21	0
12	0	0	2.6	1.4	16	2.9	35	35	4.2	.70	.21	0
13	0	0	2.0	11	12	2.7	35	32	3.8	.70	.21	0
14	0	0	1.9	8.2	11	2.6	32	29	3.6	.63	.18	0
15	0	0	2.2	6.9	10	2.5	31	24	3.5	.56	.16	0
16	0	0	1.8	5.2	9.8	2.7	33	20	3.3	.56	.14	0
17	0	0	1.5	4.3	8.7	3.2	40	18	3.2	.50	.14	0
18	0	0	1.3	3.9	7.8	3.6	47	16	3.0	.50	.12	0
19	0	0	1.2	4.9	7.3	4.0	44	15	3.1	.44	.10	0
20	0	0	1.1	12	6.9	4.2	44	13	2.7	.44	.10	0
21	0	0	1.0	33	6.4	4.5	48	12	2.6	.44	.08	0
22	0	0	.90	20	5.9	4.7	53	11	2.4	.44	.06	0
23	0	0	.90	14	5.9	5.1	53	10	2.4	.44	.04	0
24	0	0	.80	11	5.6	5.4	42	9.3	2.3	.44	.03	0
25	0	0	.80	9.8	5.6	6.2	37	8.7	2.0	.38	.02	0
26	0	0	.70	18	5.1	8.7	34	8.0	2.0	.38	.02	0
27	0	0	.70	14	4.8	11	33	7.5	1.9	.32	.01	0
28	0	0	.60	12	4.8	15	34	6.9	1.8	.32	0	0
29	0	0	.60	9.8	-----	21	37	6.6	1.7	.32	0	0
30	0	0	.60	9.5	-----	28	35	6.4	1.6	.32	0	0
31	0	-----	.50	9.3	-----	38	-----	5.9	-----	.32	0	-----
TOTAL	0	0	33.80	223.28	215.5	216.8	1,103	645.3	103.7	20.79	4.46	0
MEAN	0	0	1.09	7.20	7.70	6.99	36.8	20.8	3.46	.67	.14	0
MAX	0	0	5.3	33	16	38	53	37	5.7	1.5	.32	0
MIN	0	0	0	.40	4.8	2.5	28	5.9	1.6	.32	0	0
AC-FT	0	0	67	443	427	430	2,190	1,280	206	41	8.9	0
(a)	2.54	2.71	0	10.25	0	1.15	2.00	.15	1.42	0	0	0

CAL YR 1968 TOTAL 1,253.17 MEAN 3.42 MAX 27 MIN 0 AC-FT 2,490
WTR YR 1969 TOTAL 2,566.63 MEAN 7.03 MAX 53 MIN 0 AC-FT 5,090

a Precipitation, in inches (Some precipitation falling as snow may not be included).

11-3555. HAT CREEK NEAR HAT CREEK, CALIF.

LOCATION.--Lat 40°41'12", long 121°25'25", in SE $\frac{1}{4}$ sec.28, T.33 N., R.5 E., Shasta County, on right bank 0.8 mile northeast of Old Station Post Office, and 8 miles southeast of Hat Creek Post Office.

DRAINAGE AREA.--162 sq mi; hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--July 1926 to September 1929, April 1930 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map). July 1926 to April 1928 at site 0.5 mile upstream at different datum. May 1928 to July 1965 at site 80 ft upstream at datum 2.76 ft higher.

AVERAGE DISCHARGE.--42 years, 134 cfs (97,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 388 cfs May 25 (gage height, 4.27 ft); minimum daily, 122 cfs Oct. 1-10.

Period of record: Maximum discharge, 3,320 cfs Dec. 11, 1937 (gage height, 7.75 ft in gage well, affected by drawdown, site and datum then in use), from rating curve extended above 610 cfs on basis of slope-area measurement of maximum flow; minimum, 67 cfs Sept. 7, 1934.

REMARKS.--Records excellent. Diversions for irrigations of 260 acres above station. See schematic diagram of Pit and McCloud River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	132	134	130	147	136	154	170	308	195	146	142
2	122	136	128	131	144	136	153	168	306	195	145	141
3	122	138	130	131	142	135	150	170	311	192	145	141
4	122	135	131	132	144	135	149	162	322	189	145	140
5	122	132	134	132	144	135	154	162	326	191	145	141
6	122	132	131	132	141	134	149	175	315	189	144	141
7	122	132	132	132	141	134	148	189	296	185	144	141
8	122	131	134	131	142	133	147	205	298	181	144	146
9	122	132	134	128	141	135	143	224	288	180	142	149
10	122	131	170	131	145	133	147	240	276	177	144	149
11	126	132	146	133	147	134	149	256	286	176	144	148
12	142	165	136	132	145	134	153	261	278	175	140	149
13	140	141	139	134	141	132	152	245	280	173	141	150
14	132	136	132	134	142	132	152	251	280	173	141	150
15	128	136	134	132	142	133	149	235	274	171	142	150
16	126	136	131	132	141	133	149	245	267	168	142	150
17	126	135	132	132	140	134	154	267	256	170	142	150
18	125	144	132	133	140	133	160	290	261	170	141	147
19	125	142	132	141	139	132	159	290	269	167	147	144
20	126	138	129	171	139	133	162	273	263	164	148	142
21	128	136	126	211	138	132	168	274	254	165	148	142
22	129	136	126	182	137	133	176	280	249	165	147	145
23	129	135	127	165	139	133	184	294	245	162	146	147
24	129	136	126	159	136	133	171	313	237	158	146	146
25	129	134	127	161	136	134	165	335	222	155	147	145
26	129	132	126	175	135	135	161	335	211	153	146	144
27	128	133	126	164	136	137	160	313	204	152	145	145
28	127	131	127	158	137	139	162	290	196	150	145	144
29	130	134	128	145	-----	141	171	292	193	149	142	144
30	134	133	128	147	-----	145	172	313	195	149	141	142
31	132	-----	129	142	-----	153	-----	315	-----	148	142	-----
TOTAL	3,940	4,076	4,097	4,493	3,941	4,191	4,728	7,832	7,966	5,287	4,467	4,355
MEAN	127	136	132	145	141	135	158	253	266	171	144	145
MAX	142	165	170	211	147	153	184	335	326	195	148	150
MIN	122	131	126	128	135	132	147	162	193	148	140	140
AC-FT	7,810	8,030	8,130	8,910	7,820	8,310	9,380	15,530	15,800	10,490	8,860	8,640
CAL YR 1968	TOTAL 50,779		MEAN 139		MAX 206		MIN 113		AC-FT 100,700			
WTR YR 1969	TOTAL 59,373		MEAN 163		MAX 335		MIN 122		AC-FT 117,800			

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-12	0400	3.40	214	4-23	0600	3.24	191
12-10	1000	3.43	219	4-30	0500	3.16	180
1-21	0700	3.50	230	5-26	2200	4.27	388
1-26	0400	3.17	181	6-14	2300	3.92	308

SACRAMENTO RIVER BASIN

11-3605. BURNEY CREEK NEAR BURNEY, CALIF.

LOCATION.--Lat 40°52'16", long 121°40'57", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.35 N., R.3 E., Shasta County, on right bank 300 ft upstream from road bridge, 0.8 mile southwest of Burney, and 4.5 miles upstream from Goose Creek.

DRAINAGE AREA.--88.8 sq mi.

PERIOD OF RECORD.--August 1911 to August 1913 (published as "at Burney"), March 1921 to September 1922, April 1958 to September 1964, October 1965 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 3,180 ft (from topographic map). August 1911 to August 1913 and March 1921 to September 1922, nonrecording gage or water-stage recorder at different site and datum.

AVERAGE DISCHARGE.--13 years (1911-13, 1921-22, 1958-64, 1965-69), 58.9 cfs (42,870 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,510 cfs Jan. 21 (gage height, 11.01 ft); minimum daily, 11 cfs Oct. 2.

Period of record: Maximum discharge, 1,510 cfs Jan. 21, 1969 (gage height, 11.01 ft); maximum gage height, 11.62 ft Jan. 31, 1963; minimum, 3.4 cfs Aug. 4, 1961.

REMARKS.--Small diversions upstream for irrigation. Slight regulation probably caused by logging operations.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	20	23	30	208	99	336	316	118	40	23	16
2	11	24	21	28	184	94	306	296	110	37	24	16
3	12	34	20	30	170	91	250	288	108	36	23	16
4	14	33	20	30	159	86	218	256	105	35	23	16
5	16	26	20	30	147	81	338	260	102	34	21	16
6	18	21	20	28	134	81	288	285	97	33	21	16
7	20	20	20	30	120	79	230	318	92	33	20	16
8	19	19	27	32	129	100	210	328	94	34	20	16
9	19	18	26	32	278	92	210	346	107	34	20	16
10	18	17	405	30	256	76	204	363	108	33	19	16
11	27	27	190	32	405	62	214	366	104	31	19	16
12	47	62	94	120	371	58	242	371	102	31	18	16
13	68	27	71	699	288	60	250	363	96	30	17	16
14	43	21	63	350	242	64	228	336	85	28	17	16
15	36	22	132	206	230	99	210	290	78	28	17	16
16	25	21	76	165	212	75	214	264	72	28	16	16
17	20	22	60	165	181	70	238	258	68	28	16	16
18	20	34	51	145	166	86	360	258	66	28	16	17
19	20	30	46	246	154	96	313	242	63	27	17	17
20	20	26	45	1,010	141	97	316	214	62	27	17	18
21	20	23	45	1,290	131	99	340	200	60	27	17	18
22	18	23	44	819	121	99	373	198	59	26	17	18
23	18	25	44	541	116	100	449	196	57	25	17	18
24	17	33	44	446	112	102	336	198	51	24	16	18
25	17	34	43	495	107	102	288	192	47	23	17	18
26	16	27	34	783	105	110	262	190	45	23	17	17
27	16	23	32	554	100	118	260	181	43	22	17	17
28	16	21	32	438	99	156	268	159	43	23	17	16
29	30	21	32	371	-----	166	303	145	41	23	17	16
30	37	23	31	268	-----	172	303	136	40	23	17	16
31	24	-----	30	244	-----	256	-----	132	-----	23	17	-----
TOTAL	715	777	1,841	9,687	5,066	3,126	8,357	7,945	2,323	897	570	496
MEAN	23.1	25.9	59.4	312	181	101	279	256	77.4	28.9	18.4	16.5
MAX	68	62	405	1,290	405	256	449	371	118	40	24	18
MIN	11	17	20	28	99	58	204	132	40	22	16	16
AC-FT	1,420	1,540	3,650	19,210	10,050	6,200	16,580	15,760	4,610	1,780	1,130	984
CAL YR 1968	TOTAL	21,546.1	MEAN	58.9	MAX	687	MIN	8.2	AC-FT	42,740		
WTR YR 1969	TOTAL	41,800	MEAN	115	MAX	1,290	MIN	11	AC-FT	82,910		

11-3625, PIT RIVER BELOW PIT NO. 4 DAM, CALIF.

LOCATION.--Lat 40°58'25", long 121°46'42", in SW $\frac{1}{4}$ sec.17, T.36 N., R.2 E., Shasta County, Shasta National Forest, on right bank 0.6 mile downstream from Ruling Creek, 1.3 miles downstream from Pit No. 4 Dam, and 2.7 miles downstream from Pit No. 3 powerhouse.

DRAINAGE AREA.--4,647 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--May 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Pecks Bridge" April to October 1922, and as "at Lindsay Flat" November 1922 to June 1927.

GAGE.--Water-stage recorder. Altitude of gage is 2,358 ft (from river-profile map). Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 miles upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 miles upstream at different datum.

AVERAGE DISCHARGE.--59 years (1910-69), 2,749 cfs (1,992,000 acre-ft per year), including diversion to Pit No. 4 powerhouse. Period 1910-22 extrapolated on basis of records for Pit River at Big Bend.

EXTREMES.--Current year: Maximum discharge, 13,200 cfs Jan. 22 (gage height, 13.46 ft); minimum daily, 24 cfs Feb. 8.

Period of record: Maximum discharge, 30,200 cfs Dec. 12, 1937 (gage height, 17.90 ft), from rating curve extended above 12,000 cfs on basis of velocity-area studies of maximum flow; minimum daily, 234 cfs Sept. 13, 1953. Minimum daily discharge since diversion to Pit No. 4 powerplant in 1955, 24 cfs Feb. 8, 1969.

REMARKS.--Flow regulated by many small reservoirs and powerplants (total usable reservoir capacity, 253,000 acre-ft). Many diversions above station; diversion to Pit No. 4 powerplant began June 9, 1955. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	111	79	51	998	52	5,350	1,220	194	154	156	156
2	119	81	77	51	518	51	5,450	1,110	168	156	156	156
3	107	69	58	54	479	51	5,420	868	168	149	156	156
4	107	69	45	54	314	51	5,420	938	152	159	156	156
5	104	77	46	52	199	58	3,940	834	173	161	154	156
6	107	79	54	51	204	50	3,680	726	161	159	149	156
7	111	84	55	54	26	51	3,270	720	161	159	156	159
8	115	82	55	52	24	51	2,850	714	176	156	156	159
9	109	86	69	52	34	52	2,400	665	178	159	156	156
10	115	87	104	51	665	52	2,150	801	178	156	154	156
11	117	76	76	49	1,900	52	1,860	708	178	159	159	156
12	119	76	71	56	3,020	52	1,660	691	168	156	156	156
13	115	76	63	91	3,640	51	1,550	827	171	161	154	156
14	111	76	62	69	3,970	51	1,530	1,060	166	156	156	159
15	104	77	71	49	3,510	51	1,590	763	161	159	154	152
16	104	76	59	29	3,320	51	1,510	960	156	154	154	159
17	98	73	54	479	2,490	52	1,460	875	164	159	154	156
18	96	74	55	462	2,140	159	1,540	685	161	159	154	161
19	93	74	52	154	1,780	990	1,540	587	159	154	159	154
20	100	82	50	1,510	1,420	1,500	1,460	606	154	152	154	154
21	96	81	46	7,090	882	1,440	1,480	441	147	156	156	159
22	102	81	47	7,830	1,140	1,390	1,500	247	156	154	156	156
23	113	79	45	6,620	582	1,420	1,530	232	161	156	156	154
24	123	77	47	6,390	186	1,750	1,710	191	156	156	156	159
25	111	71	47	5,290	123	2,200	1,860	210	159	156	159	159
26	406	76	46	6,040	79	2,620	1,940	164	159	159	159	161
27	496	76	50	5,150	210	2,930	1,840	152	161	159	159	161
28	518	82	52	3,810	46	3,220	1,570	166	156	159	154	161
29	500	76	50	2,820	-----	3,740	1,360	171	156	159	156	161
30	720	74	47	2,120	-----	4,020	1,320	168	156	156	156	161
31	782	-----	50	1,560	-----	4,450	-----	161	-----	156	156	-----
TOTAL	6,154	2,358	1,782	58,190	33,899	32,708	71,740	18,661	4,914	4,863	4,826	4,721
MEAN	199	78.6	57.5	1,877	1,211	1,055	2,391	602	164	157	156	157
MAX	782	111	104	7,830	3,970	4,450	5,450	1,220	194	161	159	161
MIN	93	69	45	29	24	50	1,320	152	147	149	149	152
AC-FT	12,210	4,680	3,530	115,400	67,240	64,880	142,300	37,010	9,750	9,650	9,570	9,360
MEAN a	2,402	2,598	2,638	5,097	4,989	4,692	6,280	4,388	2,860	2,729	1,987	2,284
AC-FT a	147,700	154,600	162,200	313,400	277,100	288,500	373,700	269,700	170,200	167,800	122,200	135,900
CAL YR 1968	TOTAL 108,741		MEAN 297		MAX 9,100	MIN 45	AC-FT 215,700	MEAN a 2,743	AC-FT a 1,991,000			
WTR YR 1969	TOTAL 244,816		MEAN 671		MAX 7,830	MIN 24	AC-FT 485,600	MEAN a 3,568	AC-FT a 2,583,000			

a Adjusted for diversion to Pit No. 4 powerhouse.

SACRAMENTO RIVER BASIN

11-3630. PIT RIVER AT BIG BEND, CALIF.

LOCATION.--Lat 41°01'10", long 121°54'36", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.37 N., R.1 E., Shasta County, on left bank at Big Bend, 0.4-mile downstream from Nelson Creek, and 1.5 miles upstream from Kosk Creek.

DRAINAGE AREA.--4,710 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

GAGE.--Water-stage recorder. Datum of gage is 1,674.47 ft above mean sea level. Prior to Dec. 28, 1912, nonrecording gage and Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site at datum 7.69 ft higher.

AVERAGE DISCHARGE.--33 years (1910-43, prior to diversion to Pit No. 5 powerplant), 2,931 cfs (2,122,000 acre-ft per year). 26 years (1943-69), 543 cfs (393,100 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 16,000 cfs Jan. 22 (gage height, 13.95 ft); minimum daily, 58 cfs Dec. 6.

Period of record: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage height, 16.88 ft), from rating curve extended above 13,000 cfs on basis of velocity-area studies; minimum daily, 34 cfs Mar. 29, 1955.

REMARKS.--Flow regulated by many reservoirs and powerplants (total usable reservoir capacity, about 253,000 acre-ft). Many diversions above station; diversion to Pit No. 5 powerhouse began May, 1, 1944. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	109	102	77	1,770	696	6,440	2,180	225	153	131	115
2	122	116	62	77	1,330	673	6,440	2,000	223	155	128	123
3	117	107	60	77	1,120	646	6,420	1,980	218	152	125	122
4	122	105	59	84	917	633	5,870	1,900	210	150	128	121
5	121	106	60	88	700	557	5,350	1,770	200	149	131	125
6	120	99	58	91	784	285	4,890	1,630	198	142	129	115
7	116	101	59	89	546	621	4,440	1,670	192	150	132	120
8	123	97	65	86	549	608	3,940	1,680	198	150	132	125
9	120	96	72	83	821	429	3,440	1,650	202	145	127	122
10	121	94	370	82	1,330	456	3,170	1,800	198	145	129	122
11	262	112	935	89	3,040	231	2,890	1,720	204	145	129	122
12	761	112	909	129	4,300	165	2,700	1,680	194	139	128	123
13	784	102	893	650	4,440	165	2,560	1,590	192	141	127	123
14	546	101	784	300	5,060	177	2,520	1,720	183	144	127	119
15	136	105	770	188	4,590	167	2,560	1,620	181	142	127	121
16	131	102	573	494	4,440	170	2,510	1,810	181	138	120	120
17	123	103	111	961	3,500	212	2,460	1,740	181	139	116	119
18	119	111	97	1,060	3,010	449	2,590	1,530	179	139	121	120
19	117	105	93	867	2,610	1,600	2,570	1,370	177	132	127	120
20	117	101	86	2,330	2,240	2,120	2,500	1,230	177	131	127	121
21	117	101	85	9,300	1,630	2,180	2,550	1,160	172	129	125	120
22	122	102	84	9,530	1,850	2,150	2,600	929	170	139	126	117
23	116	101	83	7,840	1,350	2,160	2,720	837	163	138	125	119
24	117	105	82	7,320	911	2,500	2,830	810	163	135	122	121
25	114	105	81	6,370	714	3,070	2,900	810	163	132	126	120
26	123	101	81	7,180	691	3,390	2,960	501	163	135	126	120
27	120	101	79	6,340	865	3,850	2,860	416	163	129	123	122
28	116	99	80	4,810	691	4,270	2,600	355	158	132	125	122
29	123	94	80	3,750	-----	4,830	2,360	257	153	135	122	122
30	122	105	79	2,950	-----	5,120	2,310	240	153	132	122	122
31	123	-----	78	2,340	-----	5,600	-----	231	-----	134	121	-----
TOTAL	5,610	3,098	7,110	75,632	55,799	50,180	102,950	40,816	5,534	4,351	3,904	3,623
MEAN	181	103	229	2,440	1,993	1,619	3,432	1,317	184	140	126	121
MAX	784	116	935	9,530	5,060	5,600	6,440	2,180	225	155	132	125
MIN	114	94	58	77	546	165	2,310	231	153	129	116	115
AC-FT	11,130	6,140	14,100	150,000	110,700	99,530	204,200	80,960	10,980	8,630	7,740	7,190
CAL YR 1968	TOTAL 155,497			MEAN 425		MAX 11,300	MIN 51	AC-FT 308,400				
WTR YR 1969	TOTAL 358,607			MEAN 982		MAX 9,530	MIN 58	AC-FT 711,300				

11-3639.1. JAMES B. BLACK POWERPLANT NEAR BIG BEND, CALIF.

LOCATION.--Lat 40°59'12", long 121°58'35", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.9, T.36 N., R.1 W., Shasta County, at powerplant on right bank of Pit River, 5.8 miles downstream from Big Bend.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Recorded output from powerplant turbines.

EXTREMES.--Period of record: Maximum daily discharge, 2,420 cfs July 15, 1966; no flow for several days each year.

REMARKS.--Water is diverted from McCloud Reservoir (see sta 11-3677.4) at SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., to Iron Canyon Reservoir (see sta 11-3639.2) and then into the penstock for James B. Black powerplant. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,140	922	661	644	1,360	1,290	1,310	1,780	1,530	537	907	0
2	1,150	444	752	1,050	1,660	1,250	1,140	1,670	1,560	801	113	882
3	862	316	786	783	1,540	908	1,120	1,650	1,560	1,310	212	1,390
4	1,040	603	608	240	1,090	994	1,710	1,230	1,590	246	761	1,300
5	245	913	631	59	1,460	1,200	1,460	1,810	1,480	0	1,020	1,300
6	3.0	740	839	730	1,460	1,180	1,130	1,560	1,570	0	1,320	188
7	1,040	834	687	615	1,250	1,440	1,670	1,500	1,540	218	1,360	439
8	990	677	523	728	1,740	1,520	1,730	1,600	1,420	212	1,130	1,160
9	143	23	938	668	1,500	1,370	1,520	1,560	1,600	231	239	1,270
10	711	393	495	995	1,610	1,100	1,490	1,560	1,460	513	98	1,430
11	791	687	1,080	595	1,610	1,090	1,580	1,560	1,570	1,010	986	1,620
12	562	854	1,060	250	1,670	1,430	1,430	1,520	1,320	1,030	1,250	1,960
13	535	963	1,340	755	1,770	1,380	1,530	1,590	1,350	679	1,420	1,990
14	820	980	1,160	883	1,640	1,120	1,600	1,510	1,390	1,200	1,280	2,020
15	578	1,090	990	1,030	1,420	1,240	918	1,550	1,230	1,400	1,440	2,040
16	628	219	1,340	763	1,510	1,100	1,640	1,540	1,440	1,240	659	1,600
17	770	39	1,030	820	1,540	1,090	1,420	1,520	1,510	1,370	78	1,270
18	661	1,150	1,070	729	1,520	1,150	1,680	1,390	1,240	1,720	797	517
19	816	887	1,250	502	1,690	974	1,580	1,560	1,460	968	1,300	0
20	370	831	1,030	1,020	1,510	1,390	1,600	1,530	943	1,050	1,460	0
21	757	830	1,080	1,990	1,460	1,200	1,640	1,500	1,360	1,080	903	0
22	1,050	738	795	2,050	1,470	1,090	1,540	1,620	1,070	1,210	509	0
23	763	414	823	2,060	1,430	804	1,720	1,620	1,080	733	0	41
24	860	134	881	2,070	1,470	1,240	1,570	1,390	1,140	413	411	2.0
25	710	607	960	2,060	1,400	1,140	1,600	1,360	1,140	461	746	0
26	52	921	1,090	1,910	1,490	1,440	1,700	1,590	1,180	0	894	0
27	3.0	1,170	1,350	1,470	1,380	1,020	1,510	1,600	1,310	0	985	0
28	713	610	1,180	1,910	1,350	1,000	1,620	1,540	384	930	1,100	0
29	902	455	1,010	2,030	-----	1,520	1,420	1,500	634	1,250	613	0
30	1,080	403	1,290	1,510	-----	1,400	1,570	1,610	853	1,400	11	330
31	1,070	-----	819	1,560	-----	1,300	-----	1,460	-----	1,100	0	-----
TOTAL	21,815.0	19,847	29,548	34,479	42,000	37,370	45,148	47,980	38,914	24,312	24,002	22,749.0
MEAN	704	662	953	1,112	1,500	1,205	1,505	1,548	1,297	784	774	758
MAX	1,150	1,170	1,350	2,070	1,770	1,520	1,730	1,810	1,600	1,720	1,460	2,040
MIN	3.0	23	495	59	1,090	804	918	1,230	384	0	0	0
AC-FT	43,270	39,370	58,610	68,390	83,310	74,120	89,550	95,170	77,190	48,220	47,610	45,120
CAL YR 1968	TOTAL 324,695.10		MEAN 887		MAX 2,150		MIN 0		AC-FT 644,000			
WTR YR 1969	TOTAL 388,164.00		MEAN 1,063		MAX 2,070		MIN 0		AC-FT 769,900			

SACRAMENTO RIVER BASIN

11-3639.3. IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CALIF.

LOCATION.--Lat 41°02'00", long 121°59'08", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.37 N., R.1 W., Shasta County, on left bank 0.3 mile downstream from Iron Canyon Dam, and 4.1 miles west of Big Bend.

DRAINAGE AREA.--11.6 sq mi.

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control. Datum of gage is 2,461.52 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Current year: Maximum discharge recorded, 361 cfs Jan. 24 (gage height, 3.03 ft), from rating curve extended above 40 cfs result of sluicing at dam; minimum daily, 2.2 cfs Sept. 16, 17.
Period of record: Maximum discharge, 39 cfs Mar. 16, 1967 (gage height, 1.84 ft); no flow July 15-18, 1967.

REMARKS.--Flow is regulated by Iron Canyon Dam (see sta 11-3639.2). There is inter-basin diversion from McCloud Reservoir (see sta 11-3677.9) to Iron Canyon Reservoir (see sta 11-3639.2), and then into a tunnel to James B. Black powerplant on the Pit River (see sta 11-3639.1). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	5.2	3.2	3.2	3.5	2.9	4.1	4.7	4.7	4.3	4.3	4.3
2	3.0	5.7	3.2	3.2	3.3	2.8	4.1	4.1	4.7	4.7	4.3	4.7
3	2.9	5.7	3.1	3.2	3.2	2.9	4.1	4.3	4.3	4.7	4.7	4.3
4	4.0	5.2	2.6	3.3	3.2	3.0	4.1	4.1	4.3	5.0	4.1	4.7
5	6.4	4.1	3.0	3.5	3.3	3.1	5.2	3.7	4.7	5.0	3.5	5.0
6	7.0	3.8	3.0	3.7	3.2	3.1	4.1	3.2	5.0	5.4	3.4	4.7
7	5.2	3.5	3.0	3.7	3.2	3.0	4.1	3.3	4.7	5.4	4.3	4.7
8	2.9	3.4	3.1	3.7	3.5	2.9	3.9	3.3	5.9	5.9	4.2	4.3
9	2.7	3.3	3.2	3.7	4.1	2.7	4.1	4.7	6.3	5.9	4.1	3.6
10	2.7	3.2	6.4	3.7	4.1	3.0	3.5	6.3	5.9	5.9	4.2	3.3
11	3.5	3.8	3.6	3.7	6.4	3.4	4.3	6.3	5.4	5.9	4.3	3.2
12	5.2	3.3	3.3	4.6	5.2	3.4	6.8	6.3	5.0	5.9	4.3	3.9
13	4.6	3.2	3.2	7.7	4.1	3.3	6.3	6.8	4.7	5.9	4.2	5.9
14	4.1	3.2	3.3	5.7	3.8	3.3	6.3	7.9	5.0	4.7	4.1	5.4
15	4.6	3.2	5.2	4.6	3.9	3.2	5.9	6.8	5.4	3.6	4.0	4.1
16	5.2	3.2	3.6	4.6	4.0	3.3	5.4	6.3	5.4	3.3	4.0	2.2
17	4.6	3.2	3.3	4.1	3.7	4.0	5.9	6.3	5.0	3.2	4.1	2.2
18	4.1	3.3	3.2	4.1	3.6	4.1	5.9	7.3	5.4	3.1	4.2	3.4
19	3.6	3.2	3.2	4.1	3.3	3.8	5.4	5.4	4.7	4.1	4.1	4.0
20	3.5	3.2	3.4	8.4	3.3	3.8	5.0	4.7	5.0	4.2	4.0	4.3
21	3.5	3.2	3.4	11	3.3	3.7	5.0	4.3	5.0	4.2	4.0	4.7
22	3.5	3.1	3.5	7.7	3.0	3.7	5.4	4.3	5.0	4.1	4.1	3.8
23	3.4	3.1	3.5	5.7	3.0	3.8	6.8	4.3	4.7	4.1	4.1	3.1
24	3.1	3.2	3.5	19	2.9	3.8	6.8	4.7	3.9	4.2	4.2	3.3
25	3.4	3.2	3.6	4.6	2.9	3.6	4.7	5.0	4.1	4.3	4.3	3.4
26	4.1	3.2	3.5	5.7	2.8	3.3	4.7	5.4	4.2	4.3	4.3	3.5
27	4.6	3.1	3.4	4.6	2.7	3.5	4.3	4.7	4.1	4.7	4.3	3.5
28	4.6	3.0	3.3	4.1	2.9	3.7	4.3	4.3	4.3	4.7	4.3	3.7
29	5.2	3.1	3.2	3.8	-----	3.9	4.3	4.3	4.7	4.7	4.3	3.7
30	5.2	3.1	3.2	3.6	-----	3.9	4.7	4.3	4.3	4.3	4.2	3.8
31	5.2	-----	3.1	3.5	-----	4.0	-----	4.7	-----	4.3	4.3	-----
TOTAL	128.9	107.2	106.3	159.8	99.4	105.9	149.5	156.1	145.8	144.0	128.8	118.7
MEAN	4.16	3.57	3.43	5.15	3.55	3.42	4.98	5.04	4.86	4.65	4.15	3.96
MAX	7.0	5.7	6.4	19	6.4	4.1	6.8	7.9	6.3	5.9	4.7	5.9
MIN	2.7	3.0	2.6	3.2	2.7	2.7	3.5	3.2	3.9	3.1	3.4	2.2
AC-FT	256	213	211	317	197	210	297	310	289	286	255	235
CAL YR 1968	TOTAL	1,447.8	MEAN	3.96	MAX	7.9	MIN	2.5	AC-FT	2,870		
WTR YR 1969	TOTAL	1,550.4	MEAN	4.25	MAX	19	MIN	2.2	AC-FT	3,080		

11-3650. PIT RIVER NEAR MONTGOMERY CREEK, CALIF.

LOCATION.--Lat 40°50'36", long 122°00'58", in SE $\frac{1}{4}$ sec.31, T.35 N., R.1 W., Shasta County, in Shasta National Forest, on right bank 0.5 mile upstream from Potem Creek, 1.9 miles downstream from Pit No. 7 dam and powerhouse, and 5.0 miles west of town of Montgomery Creek.

DRAINAGE AREA.--4,951 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1944 to current year (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 1,036 ft above mean sea level (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 1.9 miles upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 2.7 miles upstream at different datum.

EXTREMES.--Current year: Maximum discharge, 39,100 cfs Jan. 21 (gage height, 29.33 ft); minimum daily, 482 cfs Aug. 2.

Period of record: Maximum discharge, 39,100 cfs Jan. 21, 1969 (gage height, 29.33 ft); minimum daily, 42 cfs July 22, 1967.

REMARKS.--Flow regulated by many reservoirs and powerplants (total usable reservoir capacity, 337,000 acre-ft). Many diversions above station for irrigation. Diversion from McCloud River to Pit River began December 1965 (see sta 11-3677.2). See schematic diagram of Pit and McCloud River basins. Records represent flow through Pit No. 7 powerplant plus spill from Pit No. 7 Reservoir. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

REVISIONS (WATER YEAR).--1967 report: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,720	3,600	2,520	3,090	8,420	7,000	13,300	9,880	5,570	4,090	4,050	1,050
2	3,800	4,380	3,540	4,630	8,340	7,900	13,000	9,310	6,830	5,510	482	4,080
3	2,960	4,320	3,270	3,350	8,320	5,840	12,700	8,920	5,580	6,180	1,500	4,600
4	4,130	2,490	3,650	2,580	8,000	7,680	12,800	8,440	6,340	1,680	3,370	4,850
5	2,620	4,010	3,970	3,940	6,760	7,120	13,700	8,790	4,070	3,740	3,840	5,380
6	3,430	3,690	3,090	2,610	7,360	5,120	12,000	8,830	5,990	2,150	4,850	505
7	4,400	3,830	3,350	5,220	7,370	6,360	11,800	8,800	3,830	3,640	4,970	1,520
8	3,350	3,590	2,260	4,430	7,190	7,370	11,100	8,800	4,220	3,430	4,090	4,680
9	2,650	1,640	3,480	4,510	9,360	7,160	10,400	8,790	5,760	5,310	530	4,130
10	3,030	2,680	6,960	4,490	10,200	6,340	10,000	8,790	4,750	4,640	2,080	4,070
11	2,840	3,810	8,230	4,480	14,400	5,490	9,950	8,790	6,640	5,920	4,370	4,980
12	4,450	3,570	4,220	5,890	15,000	7,140	9,780	8,700	5,910	3,530	4,020	5,910
13	4,150	4,230	6,690	11,800	13,300	5,880	9,590	8,590	4,850	1,970	5,300	6,280
14	4,100	4,460	5,790	8,900	12,800	5,230	9,670	8,560	5,100	4,360	4,720	1,110
15	3,650	4,780	6,490	8,220	12,700	6,190	9,550	8,410	3,470	3,560	5,320	4,570
16	3,330	2,930	6,460	5,050	12,700	7,050	9,610	8,400	5,510	4,040	2,240	5,090
17	4,000	3,920	4,100	7,180	11,200	6,250	9,560	8,410	5,380	5,510	941	4,350
18	3,330	3,400	3,670	7,120	10,600	6,950	10,000	8,280	7,000	5,200	3,310	3,380
19	3,720	3,440	5,100	8,090	10,100	6,990	9,850	8,280	4,800	3,420	4,760	2,720
20	2,860	3,580	4,620	13,000	9,540	8,420	10,000	8,280	4,070	2,790	5,780	2,400
21	3,810	5,140	4,540	29,400	8,590	8,460	10,000	8,250	5,100	4,080	3,810	1,940
22	3,610	3,670	4,090	21,900	8,530	8,120	10,300	8,160	3,930	5,440	3,760	1,880
23	2,780	3,630	3,910	16,000	8,360	8,030	10,600	6,760	4,860	3,800	1,110	2,750
24	3,090	1,800	5,250	15,100	8,110	8,730	11,000	7,020	4,930	2,520	522	2,330
25	3,020	3,250	4,710	14,400	8,110	8,900	10,600	5,650	5,400	3,430	2,850	4,320
26	3,220	3,740	3,720	16,400	8,000	9,860	10,100	7,360	5,800	1,560	4,960	2,460
27	2,650	4,500	4,440	14,000	7,920	9,730	9,890	7,120	5,580	1,360	4,470	1,210
28	3,710	4,060	3,930	12,400	6,840	10,500	10,200	6,580	2,130	3,550	5,180	3,560
29	3,560	3,890	3,380	11,000	-----	11,700	10,200	6,580	2,540	5,180	4,290	3,150
30	4,410	3,310	4,990	9,680	-----	11,800	10,000	6,140	4,870	5,050	1,490	3,400
31	1,880	-----	4,720	9,100	-----	12,600	-----	6,600	-----	5,320	1,070	-----
TOTAL	106,260	109,340	139,140	287,960	268,120	241,910	321,250	250,270	150,810	121,960	104,035	102,655
MEAN	3,428	3,645	4,488	9,289	9,576	7,804	10,710	8,073	5,027	3,934	3,356	3,422
MAX	4,450	5,140	8,230	29,400	15,000	12,600	13,700	9,880	7,000	6,180	5,780	6,280
MIN	1,880	1,640	2,260	2,580	6,760	5,120	9,550	5,650	2,130	1,360	482	505
AC-FT	210,800	216,900	276,000	571,200	531,800	479,800	637,200	496,400	299,100	241,900	206,400	203,600
CAL YR 1968	TOTAL 1,663,282		MEAN 4,544		MAX 22,800		MIN 403		AC-FT 3,299,000			
WTR YR 1969	TOTAL 2,203,710		MEAN 6,038		MAX 29,400		MIN 482		AC-FT 4,371,000			

SACRAMENTO RIVER BASIN

11-3675. McCloud River near McCloud, Calif.

LOCATION.--Lat 41°11'18", long 122°03'52", in NE $\frac{1}{4}$ sec. 34, T. 39 N., R. 2 W., Siskiyou County, on right bank 0.4 mile downstream from Angel Creek, and 6 miles southeast of McCloud.

DRAINAGE AREA.--358 sq mi.

PERIOD OF RECORD.--April 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,711.2 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--38 years, 912 cfs (660,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,290 cfs Jan. 21 (gage height, 4.08 ft); minimum daily, 737 cfs Dec. 2-8.

Period of record: Maximum discharge, 11,800 cfs Dec. 21, 1955 (gage heights, 9.42 ft in gage well, 10.7 ft, from floodmarks), from rating curve extended above 4,500 cfs on basis of slope-area measurement of maximum flow; minimum, 524 cfs Nov. 23, 24, 1932.

REMARKS.--Two small diversions above station for irrigation, and one 22-inch pipe line for town of McCloud and millpond. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	758	751	744	765	1,070	915	1,370	1,620	1,470	1,060	966	907
2	758	758	737	758	1,030	900	1,370	1,590	1,450	1,060	966	907
3	758	758	737	758	1,000	893	1,310	1,580	1,440	1,050	966	907
4	758	758	737	758	988	886	1,270	1,520	1,430	1,050	959	900
5	758	758	737	758	981	886	1,620	1,550	1,420	1,040	959	900
6	758	751	737	758	966	886	1,560	1,630	1,380	1,040	951	900
7	758	751	737	758	936	878	1,440	1,730	1,350	1,030	951	900
8	751	751	737	758	929	871	1,420	1,800	1,310	1,030	951	900
9	751	751	751	758	988	871	1,400	1,910	1,300	1,030	959	893
10	758	751	1,280	758	1,100	864	1,370	1,960	1,270	1,030	951	893
11	779	758	1,330	765	1,570	857	1,410	2,060	1,280	1,020	944	893
12	807	800	1,010	765	1,650	850	1,460	2,190	1,260	1,020	944	893
13	786	786	922	779	1,380	850	1,460	2,160	1,240	1,020	944	893
14	786	772	893	821	1,260	850	1,450	2,250	1,220	1,020	936	893
15	772	765	973	821	1,200	850	1,420	2,080	1,200	1,010	936	893
16	765	758	936	807	1,150	864	1,420	1,940	1,180	1,010	936	886
17	758	758	886	786	1,100	886	1,450	1,910	1,170	1,000	929	886
18	758	772	850	786	1,070	951	1,530	1,910	1,150	1,000	929	886
19	758	779	835	828	1,050	973	1,520	1,830	1,150	996	929	886
20	758	765	814	1,440	1,030	951	1,560	1,740	1,140	996	929	886
21	751	758	800	3,130	1,000	944	1,620	1,710	1,120	988	922	886
22	751	758	800	2,310	988	951	1,710	1,700	1,110	988	922	878
23	751	751	793	1,640	981	966	1,870	1,710	1,100	988	922	878
24	751	758	800	1,390	973	981	1,700	1,740	1,090	988	922	878
25	751	758	800	1,290	959	988	1,580	1,700	1,090	981	922	871
26	751	751	793	1,980	944	1,010	1,520	1,690	1,090	981	915	871
27	751	751	786	1,640	929	1,050	1,520	1,650	1,090	973	915	871
28	751	744	786	1,400	936	1,100	1,560	1,550	1,080	973	915	871
29	758	744	779	1,260	-----	1,150	1,640	1,520	1,070	973	915	871
30	751	744	772	1,180	-----	1,200	1,620	1,510	1,060	966	915	864
31	751	-----	765	1,110	-----	1,300	-----	1,490	-----	966	907	-----
TOTAL	23,561	22,768	26,057	34,515	30,158	29,372	45,150	54,930	36,710	31,277	29,027	26,641
MEAN	760	759	841	1,113	1,077	947	1,505	1,772	1,224	1,009	936	888
MAX	807	800	1,330	3,130	1,650	1,300	1,870	2,250	1,470	1,060	966	907
MIN	751	744	737	758	929	850	1,270	1,490	1,060	966	907	864
AC-FT	46,730	45,160	51,680	68,460	59,820	58,260	89,550	109,000	72,810	62,040	57,570	52,840
CAL YR 1968	TOTAL 328,778.00		MEAN 898		MAX 1,620		MIN 737		AC-FT 652,100			
WTR YR 1969	TOTAL 390,166		MEAN 1,069		MAX 3,130		MIN 737		AC-FT 773,900			

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	2200	2.73	1,820	4-5	1700	2.64	1,740
1-21	1300	4.08	3,290	4-23	1200	2.93	1,910
1-26	1000	3.09	2,170	5-14	1100	3.29	2,290
2-11	2200	2.77	1,860				

11-3677.2. McCloud-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CALIF.

LOCATION.--Lat 41°08'06", long 122°04'26", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., Shasta County, Shasta National Forest, on left bank of McCloud Reservoir, 8.8 miles southeast of McCloud.

RECORDS AVAILABLE.--December 1965 to current year.

GAGE.--None. Water-stage recorders on McCloud Reservoir and Iron Canyon Reservoir used to compute record.

EXTREMES.--Period of record: Maximum daily discharge, 1,890 cfs May 20-22, June 1-3, 10, 1967; no flow for several days in 1965-68.

REMARKS.--Water is diverted from McCloud Reservoir (see sta 11-3677.4) to Iron Canyon Reservoir (see sta 11-3639.2) and thence into James B. Black powerplant (see sta 11-3639.1) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	800	790	673	936	1,540	1,390	1,340	1,600	1,610	1,050	963	709
2	841	738	693	936	1,560	1,350	1,310	1,620	1,610	1,030	878	742
3	836	676	713	918	1,550	1,260	1,290	1,630	1,610	1,070	830	815
4	857	673	693	798	1,480	1,210	1,370	1,580	1,610	988	841	864
5	857	719	691	671	1,470	1,210	1,400	1,620	1,600	897	877	909
6	761	726	719	696	1,460	1,210	1,370	1,620	1,610	821	926	848
7	645	738	719	691	1,420	1,250	1,430	1,610	1,610	655	965	817
8	713	732	693	709	1,460	1,290	1,480	1,610	1,590	751	979	857
9	755	619	734	707	1,460	1,290	1,490	1,610	1,600	726	909	899
10	662	601	773	763	1,470	1,240	1,500	1,610	1,580	730	847	949
11	707	631	884	745	1,490	1,210	1,510	1,610	1,590	787	873	1,010
12	696	682	929	671	1,510	1,240	1,500	1,610	1,550	832	916	1,090
13	682	732	987	685	1,560	1,260	1,510	1,620	1,530	837	970	1,170
14	709	765	1,010	726	1,570	1,230	1,540	1,610	1,520	885	996	1,250
15	696	808	1,010	779	1,540	1,220	1,530	1,620	1,490	942	1,040	1,330
16	693	719	1,060	787	1,530	1,200	1,550	1,620	1,490	976	998	1,360
17	709	614	1,060	802	1,530	1,170	1,540	1,610	1,500	1,020	906	1,330
18	707	709	1,060	800	1,520	1,140	1,580	1,590	1,470	1,080	916	1,210
19	722	740	1,080	771	1,540	1,090	1,590	1,600	1,470	1,070	950	1,050
20	678	753	1,060	836	1,530	1,180	1,610	1,600	1,400	1,070	1,020	921
21	696	767	1,060	1,100	1,510	1,180	1,620	1,600	1,400	1,070	985	813
22	749	765	1,020	1,260	1,490	1,160	1,600	1,610	1,360	1,090	952	724
23	751	709	985	1,320	1,480	1,090	1,610	1,630	1,320	1,060	861	655
24	765	621	968	1,390	1,470	1,130	1,600	1,600	1,300	996	787	593
25	753	631	965	1,460	1,450	1,130	1,630	1,580	1,290	955	777	545
26	648	685	977	1,500	1,450	1,180	1,600	1,600	1,280	870	781	507
27	548	759	1,020	1,490	1,430	1,140	1,590	1,610	1,290	798	808	476
28	593	736	1,040	1,540	1,410	1,130	1,600	1,610	1,410	828	836	456
29	650	698	1,020	1,610	-----	1,230	1,630	1,610	1,120	877	870	443
30	722	659	1,060	1,590	-----	1,290	1,610	1,610	1,100	931	847	473
31	769	-----	1,010	1,580	-----	1,310	-----	1,600	-----	952	771	-----
TOTAL	22,370	21,195	28,366	31,267	41,880	37,610	45,530	49,860	43,910	28,644	27,875	25,815
MEAN	722	707	915	1,009	1,496	1,213	1,518	1,608	1,464	924	899	861
MAX	857	808	1,080	1,610	1,570	1,390	1,630	1,630	1,610	1,090	1,040	1,360
MIN	548	601	673	671	1,410	1,090	1,290	1,580	1,100	655	771	443
AC-FT	44,370	42,040	56,260	62,020	83,070	74,600	90,310	98,900	87,090	56,810	55,290	51,200
CAL YR 1968	TOTAL	334,806		MEAN	915	MAX	1,620	MIN	509	AC-FT	664,100	
WTR YR 1969	TOTAL	404,322		MEAN	1,108	MAX	1,630	MIN	443	AC-FT	802,000	

SACRAMENTO RIVER BASIN

11-3677.6. MCCLOUD RIVER BELOW MCCLOUD DAM, NEAR MCCLOUD, CALIF.

LOCATION.--Lat 41°07'44", long 122°04'08", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.27, T.38 N., R.2 W., Shasta County, Shasta National Forest, on left bank 0.1 mile downstream from Lizard Creek, 0.6 mile downstream from McCloud Dam, and 9 miles southeast of McCloud.

DRAINAGE AREA.--404 sq mi.

PERIOD OF RECORD.--April 1966 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 2,401.76 ft above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by McCloud Reservoir (see sta 11-3677.4) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (see sta 11-3639.2) in Pit River basin. This station records fishwater release. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	185	185	132	53	38	46	-	247	172	189	191
2	187	185	185	132	59	36	44	394	228	172	189	199
3	187	185	185	138	68	36	43	368	196	172	189	199
4	187	185	241	138	60	36	44	344	184	172	189	199
5	187	185	192	138	58	36	58	361	169	172	189	199
6	187	185	192	125	56	36	67	-	160	172	191	199
7	185	185	192	125	52	36	67	-	147	172	191	199
8	185	185	192	125	51	36	67	-	130	172	191	199
9	185	185	192	125	53	36	67	-	130	172	191	199
10	185	185	130	125	53	36	67	-	132	174	191	199
11	187	187	58	102	115	36	68	-	134	174	191	202
12	187	187	75	102	85	75	69	-	132	176	191	202
13	187	187	115	102	75	108	70	-	142	176	191	202
14	187	187	129	102	69	108	70	-	149	176	191	202
15	187	187	138	102	67	106	72	-	144	179	189	202
16	187	185	90	73	64	104	73	-	153	179	189	199
17	187	185	55	53	62	104	76	-	160	179	189	199
18	187	187	70	65	58	72	82	-	155	189	191	196
19	187	187	99	67	56	47	89	-	153	194	194	202
20	187	187	116	111	52	46	104	-	162	194	194	205
21	185	187	116	123	50	45	365	-	164	189	194	205
22	185	185	116	93	48	46	-	-	162	184	191	205
23	185	185	116	-	46	46	-	-	167	184	191	205
24	185	185	116	-	44	45	-	-	167	184	191	205
25	185	185	116	86	42	45	-	-	167	186	191	202
26	185	185	127	-	41	44	365	-	164	189	191	202
27	185	185	134	-	39	45	365	-	164	189	191	202
28	185	185	134	279	39	46	-	333	164	189	191	205
29	185	185	134	85	-----	47	-	256	162	189	191	205
30	185	185	134	40	-----	47	-	261	169	189	191	207
31	185	-----	132	46	-----	47	-----	258	-----	189	191	-----
TOTAL	5,767	5,568	4,206	-	1,615	1,671	-	-	4,857	5,599	5,914	6,036
MEAN	186	186	136	-	57.7	53.9	-	-	162	181	191	201
MAX	187	187	241	-	115	108	-	-	247	194	194	207
MIN	185	185	55	-	39	36	-	-	130	172	189	191
AC-FT	11,440	11,040	8,340	-	3,200	3,310	-	-	9,630	11,110	11,730	11,970

11-3678. McCloud River at Ah-Di-Na, near McCloud, Calif.

LOCATION.--Lat 41°06'39", long 122°05'42", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.33, T.38 N., R.2 W., Shasta County, Shasta National Forest, on right bank at Ah-Di-Na, 1.8 miles downstream from Squirrel Creek, 3.9 miles downstream from McCloud Dam, and 9.6 miles south of McCloud.

DRAINAGE AREA.--427 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 4,210 cfs Jan. 20 (gage height, 6.21 ft); minimum daily, 107 cfs Mar. 11.

Period of record: Maximum discharge, 9,660 cfs Dec. 22, 1964 (gage height, 9.43 ft, in gage well, from floodmarks), from rating curve extended above 2,500 cfs; minimum daily, 86 cfs Oct. 1-26, 1964.

Maximum discharge since construction of McCloud Dam in 1965, 4,210 cfs Jan. 20, 1969 (gage height, 6.21 ft); minimum daily, 107 cfs Mar. 11, 1969.

Flood of Dec. 21, 1955, reached a stage of 12.5 ft (discharge, 16,800 cfs, from rating curve extended above 3,000 cfs).

REMARKS.--Flow regulated by McCloud Reservoir 3.9 miles upstream (see sta 11-3677.4) since November 1965. Diversion to Iron Canyon Reservoir (see sta 11-3639.2) through McCloud River diversion tunnel (see sta 11-3677.2) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	200	202	159	295	140	445	686	329	199	206	201
2	202	209	200	159	248	133	419	586	304	198	205	204
3	202	206	200	162	362	129	382	590	270	197	205	207
4	202	205	280	167	282	125	333	538	253	197	205	210
5	202	203	205	174	240	124	510	543	237	196	204	210
6	202	202	205	177	229	124	484	702	224	196	204	207
7	202	202	206	182	218	117	395	835	208	196	204	207
8	201	200	209	187	214	114	343	969	191	196	204	207
9	200	200	216	185	295	113	317	1,090	188	197	198	207
10	200	200	618	181	388	110	301	1,260	188	197	198	207
11	235	215	358	174	889	107	308	1,370	189	197	198	207
12	255	226	205	172	808	135	341	1,550	184	198	198	210
13	223	211	203	453	533	169	351	1,430	189	198	198	213
14	218	207	207	400	410	168	327	1,420	195	198	198	210
15	213	205	388	292	362	171	298	1,270	189	199	198	207
16	209	205	289	219	322	177	292	1,060	195	199	195	204
17	206	205	172	160	286	195	310	1,080	199	199	195	204
18	205	214	156	157	259	225	341	975	196	207	198	201
19	203	214	165	192	254	201	344	915	192	213	201	207
20	203	211	175	2,220	218	190	369	776	199	212	201	210
21	202	207	165	2,350	201	179	635	693	202	206	201	207
22	202	205	162	942	189	182	900	648	198	201	198	207
23	200	203	160	1,340	183	197	1,270	717	200	201	198	207
24	200	208	159	864	174	205	876	706	201	200	201	210
25	200	205	159	425	161	208	693	684	199	202	201	207
26	200	204	162	2,100	150	219	571	644	197	204	201	204
27	200	202	171	1,460	142	254	553	561	196	204	201	204
28	199	202	168	964	148	316	644	454	194	204	201	207
29	205	202	164	565	-----	368	665	351	193	205	201	207
30	203	202	162	438	-----	398	676	351	197	206	201	210
31	200	-----	159	352	-----	444	-----	343	-----	206	201	-----
TOTAL	6,396	6,180	6,650	17,972	8,460	5,937	14,693	25,797	6,296	6,228	6,218	6,210
MEAN	206	206	215	580	302	192	490	832	210	201	201	207
MAX	255	226	618	2,350	889	444	1,270	1,550	329	213	206	213
MIN	199	200	156	157	142	107	292	343	184	196	195	201
AC-FT	12,690	12,260	13,190	35,650	16,780	11,780	29,140	51,170	12,490	12,350	12,330	12,320
MEAN a	900	909	1,118	1,820	1,645	1,338	2,239	2,441	1,544	1,192	1,096	1,032
AC-FT a	55,360	54,100	68,750	112,000	91,350	82,280	133,200	150,100	91,890	73,270	67,420	61,420
CAL YR 1968	TOTAL 73,580	MEAN 201	MAX 738	MIN 141	AC-FT 145,900	MEAN a 1,123	AC-FT a 813,200					
WTR YR 1969	TOTAL 117,037	MEAN 321	MAX 2,350	MIN 107	AC-FT 232,100	MEAN a 1,438	AC-FT a 1,041,000					

a Adjusted for diversion to Iron Canyon Reservoir and change in contents in McCloud Reservoir.

SACRAMENTO RIVER BASIN

11-3680, MCCLLOUD RIVER ABOVE SHASTA LAKE, CALIF.

LOCATION.--Lat 40°57'30", long 122°13'07", in NW¼ sec.28, T.36 N., R.3 W., Shasta County, on right bank just upstream from Shasta Lake, 0.2 mile downstream from Big Bollibokka Creek, and 11.3 miles east of Lamoine.

DRAINAGE AREA.--604 sq mi.

PERIOD OF RECORD.--October 1945 to current year. Published as "above Shasta Reservoir" prior to 1950.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--20 years (1945-65, prior to regulation by McCloud Reservoir and diversion to Pit River basin), 1,699 cfs (1,230,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20,700 cfs Jan. 21 (gage height, 22.30 ft); minimum daily, 255 cfs Oct. 7, 8.

Period of record: Maximum discharge 45,200 cfs Dec. 22, 1955 (gage height, 28.20 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 255 cfs Oct. 7, 8, 1968.

REMARKS.--Records excellent. Flow partially regulated by McCloud Reservoir (see sta 11-3677.4) since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (see sta 11-3639.2) began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	282	328	432	1,190	1,090	2,080	1,480	650	376	311	286
2	258	341	319	432	1,060	1,030	1,960	1,400	621	372	307	286
3	258	332	315	462	959	946	1,880	1,330	576	367	307	286
4	258	324	372	570	906	873	1,650	1,200	549	363	303	286
5	258	311	319	739	892	847	2,780	1,230	538	363	303	286
6	258	299	315	859	919	834	2,610	1,340	517	358	303	290
7	255	294	315	886	847	821	2,150	1,550	497	358	303	294
8	255	290	358	840	899	789	1,880	1,640	487	354	303	290
9	258	290	372	758	2,310	764	1,720	1,860	477	358	299	286
10	258	282	2,460	685	2,640	721	1,600	1,960	477	354	294	286
11	442	337	1,720	697	5,790	679	1,570	2,080	477	350	294	286
12	615	432	814	1,040	5,880	673	1,650	2,070	462	376	294	290
13	386	345	626	4,020	3,410	709	1,630	2,110	447	381	294	294
14	345	332	626	2,870	2,480	709	1,510	2,220	452	376	294	290
15	328	332	2,570	1,810	2,310	721	1,400	1,840	442	367	290	286
16	307	332	1,820	1,290	2,260	789	1,350	1,620	437	354	290	286
17	294	341	987	994	2,030	966	1,370	1,500	442	341	290	286
18	286	386	733	886	1,810	1,280	1,420	1,580	442	332	290	290
19	282	376	615	1,280	1,630	1,280	1,370	1,430	447	337	294	294
20	282	354	554	11,900	1,460	1,200	1,370	1,190	428	332	294	299
21	282	341	492	13,100	1,310	1,110	1,530	1,100	428	328	294	299
22	282	328	467	5,240	1,190	1,150	1,970	1,140	413	319	290	294
23	278	319	467	3,780	1,160	1,270	2,500	1,070	413	315	290	294
24	274	345	477	2,830	1,110	1,290	2,180	1,090	409	319	286	294
25	270	337	587	2,000	1,080	1,280	1,820	1,080	399	315	286	290
26	274	324	576	5,930	1,020	1,320	1,590	1,050	395	315	286	286
27	274	315	543	4,090	959	1,490	1,520	1,000	390	315	286	286
28	274	311	549	2,700	1,070	1,730	1,540	814	386	311	286	286
29	311	315	512	1,980	-----	1,900	1,640	703	376	315	290	290
30	307	332	472	1,600	-----	1,960	1,570	691	376	311	286	290
31	286	-----	442	1,350	-----	2,110	-----	673	-----	311	286	-----
TOTAL	9,257	9,879	22,122	78,050	50,581	34,331	52,810	43,041	13,850	10,643	9,123	8,686
MEAN	299	329	714	2,518	1,806	1,107	1,760	1,388	462	343	294	290
MAX	615	432	2,570	13,100	5,880	2,110	2,780	2,220	650	381	311	299
MIN	255	282	315	432	847	673	1,350	673	376	311	286	286
AC-FT	18,360	19,590	43,880	154,800	100,300	68,090	104,700	85,370	27,470	21,110	18,100	17,230
CAL YR 1968	TOTAL 189,302		MEAN 517		MAX 4,190	MIN 255	AC-FT 375,500					
WTR YR 1969	TOTAL 342,373		MEAN 938		MAX 13,100	MIN 255	AC-FT 679,100					

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CALIF.

- 11-3614. LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.37 N., R.3 E., Shasta County, Shasta National Forest, at control house on right bank 200 ft upstream from dam on Pit River, 1.1 miles downstream from Clark Creek, 1.3 miles northwest of Burney Falls, and 9 miles north of Burney. Drainage area, 4,606 sq mi. Period of record, October 1965 to current year. Gage is a remote telemark read once daily. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Current year: Maximum contents, 13,900 acre-ft Jan. 21 (elevation, 2,756.60 ft); minimum, 1,990 acre-ft Jan. 2, 3 (elevation, 2,746.05 ft). Period of record: Maximum contents, 14,600 acre-ft Feb. 24, 1968 (elevation, 2,757.10 ft); minimum, 719 acre-ft Feb. 1, 1968 (elevation, 2,744.75 ft).
Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Maximum storage, 40,600 acre-ft. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram of Pit and McCloud River basins.
- 11-3677.4. McCLOUD RESERVOIR NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.38 N., R.2 W., Shasta County, Shasta National Forest, on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 miles southeast of McCloud. Drainage area, 403 sq mi. Period of record, October 1965 to current year. Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Current year: Maximum contents, 35,500 acre-ft May 14 (elevation, 2,680.48 ft); minimum, 17,900 acre-ft Mar. 18 (elevation, 2,639.40 ft). Period of record: Maximum contents, 35,500 acre-ft May 14, 1969 (elevation, 2,680.48 ft); minimum since storage pool first filled, 15,700 acre-ft Jan. 22, 1967 (elevation, 2,632.60 ft).
Reservoir is formed by a rockfill dam completed in 1965. Capacity, 36,500 acre-ft between elevations 2,571.30 (invert of sluice pipe) and 2,682.50 ft (top of radial gates). No dead storage. Water is diverted from McCloud Reservoir through a diversion tunnel to Iron Canyon Reservoir and thence into the Pit River. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram of Pit and McCloud River basins.
- 11-3639.2. IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.21, T.37 N., R.1 W., Shasta County, Shasta National Forest, in control house on left bank 500 ft upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 miles northwest of Big Bend. Drainage area, 11.5 sq mi. Period of record, December 1965 to current year. Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Current year: Maximum contents, 22,700 acre-ft Sept. 30 (elevation, 2,661.88 ft); minimum, 3,110 acre-ft Feb. 20 (elevation, 2,592.22 ft). Period of record: Maximum contents, 22,800 acre-ft July 24, 1968 (elevation, 2,662.07 ft); minimum since initial operation of reservoir, 2,860 acre-ft May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966 (elevation, 2,590.00 ft).
Reservoir is formed by a rockfill dam completed in 1965. Capacity is 24,200 acre-ft between elevations 2,525.00 (invert of sluice pipe) and 2,665.00 ft (crest of spillway). No dead storage. Water is diverted from McCloud Reservoir through a tunnel to Iron Canyon Reservoir and thence into the Pit River via a powerplant. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project. See schematic diagram of Pit and McCloud River basins.

MONTH-END ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
LAKE BRITTON				McCLOUD RESERVOIR			IRON CANYON RESERVOIR		
Sept. 30.....	2,753.00	9,560	-	2,651.90	22,500	-	2,633.50	11,600	-
Oct. 31.....	2,751.85	8,230	-1,330	2,647.50	20,800	-1,700	2,628.20	10,100	-1,500
Nov. 30.....	2,746.39	2,340	-5,890	2,647.00	20,600	-200	2,632.80	11,400	+1,300
Dec. 31.....	2,746.44	2,390	+50	2,645.00	19,900	-700	2,612.00	6,170	-5,230
CAL YR 1968.....	-	-	-1,290	-	-	+3,200	-	-	-370
Jan. 31.....	2,753.70	10,400	+8,010	2,677.90	34,200	+14,300	2,596.40	3,620	-2,550
Feb. 28.....	2,752.80	9,330	-1,070	2,659.70	25,700	-8,500	2,594.90	3,430	-190
Mar. 31.....	2,755.45	12,500	+3,170	2,649.80	21,600	-4,100	2,593.70	3,280	-150
Apr. 30.....	2,753.67	10,400	-2,100	2,680.30	35,400	+13,800	2,596.10	3,580	+300
May 31.....	2,751.80	8,170	-2,230	2,680.30	35,400	0	2,596.60	3,650	+70
June 30.....	2,753.25	9,860	+1,690	2,664.30	27,700	-7,700	2,624.90	9,180	+5,530
July 31.....	2,749.80	5,930	-3,930	2,673.10	31,800	+4,100	2,643.50	14,900	+5,720
Aug. 31.....	2,754.50	11,300	+5,370	2,672.70	31,600	-200	2,653.30	18,800	+3,900
Sept. 30.....	2,751.30	7,600	-3,700	2,668.30	29,500	-2,100	2,661.00	22,300	+3,500
WTR YR 1968-69...	-	-	-1,960	-	-	+7,000	-	-	+10,700

11-3700. SHASTA LAKE NEAR REDDING, CALIF.

LOCATION.--Lat 40°43'08", long 122°25'12", in NW $\frac{1}{4}$ sec.15, T.33 N., R.5 W., Shasta County, in Shasta Dam on Sacramento River near right bank, 2 miles downstream from Squaw Creek, and 9.5 miles north of Redding.

DRAINAGE AREA.--6,421 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--November 1942 to current year. Prior to 1950, published as Shasta Reservoir near Redding.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum.

EXTREMES.--Current year: Maximum contents, 4,517,900 acre-ft May 15 (elevation, 1,065.85 ft); minimum, 2,450,500 acre-ft Dec. 9 (elevation, 981.76 ft).

Period of record: Maximum contents, 4,550,300 acre-ft May 19, 1967 (elevation, 1,066.94 ft); minimum since reservoir first filled, 2,144,900 acre-ft Nov. 22, 1961 (elevation, 965.54 ft).

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,400 acre-ft between elevations 737.75 (bottom of lowest set of river outlets) and 1,067.0 ft (top of flashboard gates on drum-type spillway gates) above mean sea level. Dead storage, 115,700 acre-ft. Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. Gates increased elevation to 1,067.0 ft, total capacity, 4,552,100 acre-ft. All water passes down the Sacramento River, most of which is through powerplant at dam. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN THOUSANDS OF ACRE-FEET)

960	2,046.8	1,010	3,051.8
970	2,226.1	1,020	3,286.9
980	2,416.0	1,030	3,533.5
990	2,616.6	1,050	4,063.1
1,000	2,828.5	1,067	4,552.1

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,662	2,513	2,469	2,738	3,198	3,205	3,704	4,401	4,484	4,264	3,969	3,632
2	2,656	2,516	2,467	2,747	3,196	3,216	3,741	4,408	4,482	4,257	3,953	3,623
3	2,648	2,518	2,464	2,755	3,199	3,220	3,774	4,415	4,478	4,255	3,938	3,617
4	2,645	2,516	2,461	2,764	3,200	3,224	3,807	4,422	4,476	4,244	3,926	3,617
5	2,638	2,515	2,460	2,779	3,201	3,228	3,852	4,428	4,471	4,233	3,917	3,618
6	2,633	2,514	2,456	2,791	3,204	3,231	3,888	4,435	4,468	4,216	3,907	3,611
7	2,629	2,513	2,454	2,808	3,208	3,239	3,920	4,444	4,461	4,203	3,900	3,604
8	2,623	2,512	2,451	2,821	3,216	3,251	3,949	4,454	4,453	4,191	3,891	3,602
9	2,616	2,507	2,450	2,832	3,259	3,261	3,974	4,465	4,449	4,185	3,876	3,602
10	2,610	2,503	2,492	2,844	3,289	3,269	3,997	4,478	4,442	4,176	3,862	3,602
11	2,608	2,504	2,512	2,861	3,354	3,275	4,021	4,491	4,439	4,171	3,853	3,603
12	2,610	2,503	2,522	2,919	3,383	3,289	4,046	4,503	4,434	4,161	3,844	3,605
13	2,607	2,503	2,535	3,031	3,373	3,295	4,070	4,511	4,428	4,148	3,837	3,608
14	2,604	2,503	2,549	3,081	3,357	3,302	4,093	4,515	4,421	4,138	3,830	3,603
15	2,601	2,503	2,592	3,112	3,349	3,311	4,113	4,518	4,411	4,129	3,824	3,602
16	2,595	2,499	2,617	3,132	3,331	3,323	4,134	4,517	4,406	4,120	3,811	3,603
17	2,591	2,497	2,626	3,152	3,307	3,339	4,155	4,516	4,398	4,117	3,795	3,601
18	2,586	2,496	2,631	3,170	3,276	3,356	4,177	4,514	4,395	4,112	3,784	3,598
19	2,581	2,494	2,637	3,196	3,241	3,372	4,198	4,514	4,388	4,100	3,776	3,594
20	2,575	2,492	2,640	3,320	3,209	3,392	4,221	4,510	4,378	4,085	3,771	3,588
21	2,570	2,492	2,645	3,448	3,190	3,412	4,244	4,506	4,370	4,074	3,761	3,581
22	2,565	2,490	2,650	3,455	3,182	3,429	4,266	4,503	4,359	4,068	3,751	3,573
23	2,559	2,488	2,657	3,430	3,176	3,448	4,293	4,501	4,350	4,060	3,736	3,566
24	2,553	2,483	2,670	3,394	3,171	3,468	4,313	4,502	4,342	4,047	3,720	3,560
25	2,546	2,480	2,682	3,350	3,176	3,489	4,332	4,499	4,332	4,037	3,708	3,557
26	2,541	2,478	2,691	3,335	3,181	3,512	4,347	4,498	4,324	4,022	3,700	3,551
27	2,533	2,477	2,702	3,301	3,186	3,536	4,360	4,498	4,317	4,008	3,692	3,542
28	2,528	2,475	2,712	3,254	3,197	3,564	4,375	4,495	4,300	3,998	3,685	3,538
29	2,525	2,475	2,718	3,238	-----	3,597	4,386	4,491	4,285	3,991	3,676	3,533
30	2,522	2,473	2,726	3,223	-----	3,630	4,394	4,488	4,275	3,984	3,662	3,528
31	2,515	-----	2,732	3,206	-----	3,667	-----	4,487	-----	3,978	3,646	-----
MAX	2,662	2,518	2,732	3,455	3,383	3,667	4,394	4,518	4,484	4,264	3,969	3,632
MIN	2,515	2,473	2,450	2,738	3,171	3,205	3,704	4,401	4,275	3,978	3,646	3,528
(a)	985.01	982.89	995.53	1,016.61	1,016.25	1,035.20	1,061.62	1,064.80	1,057.53	1,046.91	1,034.40	1,029.78
(b)	-154.7	-42.2	+259.5	+473.5	-8.6	+469.3	+727.1	+93.1	-211.4	-297.3	-332.2	-118.0
(c)	5,240	2,040	1,460	1,380	1,190	5,010	7,100	13,890	12,010	18,160	16,660	11,030
CAL YR 1968	b -435.4		MAX 3,908.7		MIN 2,450.5							
WTR YR 1969	b +858.1		MAX 4,517.9		MIN 2,450.5							

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

797

11-3705, SACRAMENTO RIVER AT KESWICK, CALIF.

LOCATION.--Lat 40°36'04", long 122°26'36", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.28, T.32 N., R.5 W., Shasta County, on right bank 0.4 mile upstream from Middle Creek, 0.8 mile downstream from Keswick Dam, 1.6 miles downstream from Keswick, and 10 miles downstream from Shasta Dam.

DRAINAGE AREA.--6,468 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 479.81 ft above mean sea level. Prior to Oct. 1, 1939, at site 1.5 miles upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 miles upstream at datum 15.2 ft higher. Since Aug. 20, 1960, auxiliary water-stage recorder at city of Redding pumping plant 2.1 miles downstream.

AVERAGE DISCHARGE.--31 years, 8,408 cfs (6,092,000 acre-ft per year), adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

EXTREMES.--Current year: Maximum discharge, 56,000 cfs Jan. 21 (gage height, 27.92 ft); minimum daily, 3,060 cfs Jan. 8, 10.

Period of record: Maximum discharge, 186,000 cfs Feb. 23, 1940 (gage height, 47.2 ft, site and datum then in use), from rating curve extended above 75,000 cfs on basis of peak discharge at Kennet plus 4,000 cfs estimated inflow; minimum observed, 2,730 cfs Aug. 22, 1939. Maximum discharge since regulation by Shasta Lake in 1944, 78,800 cfs Feb. 21, 1958 (gage height, 31.55 ft); minimum, 154 cfs May 15, 1948.

REMARKS.--Records good. Flow regulated by Shasta Lake beginning Dec. 30, 1943 (see sta 11-3700). Diurnal fluctuations from Shasta powerplant re-regulated by Keswick Reservoir (capacity, 4,170 acre-ft between normal operation elevations 579.0 and 586.0 ft) and powerplant. No diversion for irrigation between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (see sta 11-3717) at lat 40°37'03", long 122°31'31", through a tunnel to Spring Creek powerplant (see sta 11-3716) and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Eleven discharge measurements furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,730	6,680	6,620	3,970	19,000	14,600	6,030	11,800	14,500	14,300	12,500	12,000
2	7,870	6,820	6,620	3,590	14,900	12,100	6,030	11,900	14,500	12,400	12,500	12,000
3	7,320	6,880	6,640	3,170	13,000	12,000	5,200	11,900	14,400	12,400	12,500	11,300
4	7,270	6,880	6,640	3,160	13,000	12,000	5,220	11,800	14,500	12,400	12,600	10,400
5	7,190	6,890	6,640	3,120	13,000	11,000	6,130	11,800	14,500	12,400	12,600	9,360
6	7,190	6,940	6,630	3,100	13,100	9,840	6,160	11,800	14,500	12,400	12,200	9,110
7	7,190	7,010	6,640	3,080	13,000	8,150	6,140	11,800	14,500	12,400	12,200	9,100
8	7,210	7,010	6,660	3,060	13,300	8,160	6,150	11,700	14,500	12,400	12,200	9,090
9	7,190	7,100	6,640	3,070	16,500	8,160	6,200	11,700	14,500	12,300	12,200	9,080
10	7,210	7,110	6,930	3,060	17,400	8,080	6,190	11,700	14,500	12,300	12,200	9,070
11	7,410	7,110	6,660	3,200	31,700	7,020	6,260	11,700	14,400	12,300	12,200	9,070
12	7,450	7,170	5,630	4,550	41,400	6,490	6,250	12,200	14,400	12,300	12,200	9,070
13	7,450	7,200	5,620	5,880	41,700	6,470	6,310	13,200	14,400	12,400	12,200	9,070
14	7,430	7,200	5,730	5,400	41,700	6,400	6,310	14,400	14,400	12,400	12,200	9,070
15	7,430	6,750	5,790	6,190	41,600	5,950	6,300	11,800	14,400	12,400	12,200	9,070
16	7,430	6,670	5,670	6,160	41,700	5,930	5,510	17,100	14,400	12,300	12,200	9,070
17	7,450	6,640	5,630	6,150	41,500	5,170	6,410	17,100	14,300	12,300	12,200	9,070
18	7,450	6,630	5,160	6,130	41,700	5,940	6,460	17,100	14,300	12,300	12,100	9,060
19	7,430	6,640	5,120	6,250	41,700	5,990	6,460	17,000	14,300	12,300	12,100	9,070
20	7,430	6,750	5,100	9,270	39,600	6,010	6,520	17,100	14,300	12,300	12,100	9,060
21	7,430	6,670	5,120	32,800	28,200	5,990	6,750	17,000	14,300	12,400	12,100	9,060
22	7,430	6,660	5,120	52,600	21,100	5,980	7,380	16,500	14,300	12,400	12,100	9,060
23	7,430	6,630	5,120	52,600	21,000	5,990	9,110	15,900	14,300	12,400	12,100	9,060
24	7,430	6,640	5,190	52,600	20,200	5,980	9,700	15,900	14,400	12,400	12,100	9,060
25	7,450	6,630	5,270	52,600	16,100	6,010	9,700	15,900	14,300	12,400	12,100	9,060
26	7,430	6,640	5,240	52,600	14,700	6,010	10,800	15,800	14,300	12,400	12,100	9,070
27	7,430	6,640	4,670	52,600	14,700	6,010	10,900	15,800	14,300	12,400	12,000	9,070
28	7,450	6,640	4,830	52,400	15,100	6,020	10,900	15,800	14,300	12,500	12,000	9,060
29	7,430	6,630	4,620	31,700	-----	6,030	10,800	15,800	14,300	12,500	12,000	9,070
30	7,430	6,670	4,530	27,000	-----	6,010	11,800	15,200	13,900	12,500	12,000	9,060
31	7,430	-----	4,520	26,200	-----	6,020	-----	14,500	-----	12,500	12,000	-----
TOTAL	231,050	204,530	177,000	577,260	701,600	231,510	220,080	440,700	431,200	385,800	378,000	281,820
MEAN	7,453	6,613	5,710	18,620	25,060	7,468	7,336	14,220	14,370	12,450	12,190	9,394
MAX	8,730	7,200	6,930	52,600	41,700	14,600	11,800	17,100	14,500	14,300	12,600	12,000
MIN	7,190	6,630	4,520	3,060	13,000	5,170	5,200	11,700	13,900	12,300	12,000	9,060
AC-FT	458,300	405,700	351,100	1,145,000	1,392,000	459,200	436,500	874,100	855,300	765,200	749,800	559,000
MEAN a	4,269	4,801	8,728	24,490	23,100	14,270	18,810	14,140	7,158	4,947	4,235	4,447
AC-FT a	262,500	285,700	536,700	1,506,000	1,283,000	877,500	1,119,000	869,300	425,900	304,200	260,400	264,600

CAL YR 1968 TOTAL 3,511,990 MEAN 9,596 MAX 52,500 MIN 4,520 AC-FT 6,966,000 MEAN a 7,073 AC-FT a5,135,000
WTR YR 1969 TOTAL 4,260,550 MEAN 11,670 MAX 52,600 MIN 3,060 AC-FT 8,451,000 MEAN a 11,040 AC-FT a7,995,000

a Adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

SACRAMENTO RIVER BASIN

11-3710. CLEAR CREEK AT FRENCH GULCH, CALIF.

LOCATION.--Lat 40°41'42", long 122°38'08", (unsurveyed), Shasta County, on right bank 1,200 ft downstream from French Gulch, 0.3 mile south of town of French Gulch, and 15 miles northwest of Redding.

DRAINAGE AREA.--115 sq mi.

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,320.60 ft above mean sea level. Prior to Dec. 28, 1959, water-stage recorder at datum 3.00 ft higher.

AVERAGE DISCHARGE.--19 years, 212 cfs (153,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,310 cfs Feb. 11 (gage height, 9.41 ft); minimum daily, 9.4 cfs Oct. 1.

Period of record: Maximum discharge, 7,600 cfs Dec. 22, 1964 (gage height, 13.70 ft); minimum, 3.9 cfs Sept. 6-8, 1955.

REMARKS.--Records excellent. No large diversion above station. See schematic diagram of Pit and McCloud River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	24	37	107	387	757	970	438	128	61	22	13
2	9.5	36	35	116	346	641	890	412	123	58	21	12
3	9.9	43	33	153	317	568	804	394	120	56	19	12
4	11	32	33	251	305	521	714	373	118	55	19	12
5	11	30	31	365	311	508	873	363	115	53	19	12
6	12	28	31	413	333	518	820	377	113	51	20	12
7	12	27	33	406	306	500	727	393	110	48	20	12
8	12	25	62	357	362	469	681	399	111	46	20	13
9	12	24	64	299	723	441	663	397	117	45	18	13
10	12	24	484	250	870	410	645	389	122	45	16	13
11	15	26	309	260	2,620	381	658	377	119	43	16	13
12	34	38	157	943	2,270	367	717	364	111	41	16	13
13	29	31	119	1,940	1,390	348	713	348	101	40	16	13
14	23	31	168	1,110	1,030	341	649	325	99	39	16	13
15	24	37	1,150	684	977	352	600	294	97	38	15	13
16	22	38	559	497	886	397	581	272	88	38	16	14
17	20	41	296	392	788	455	598	257	84	36	15	15
18	19	57	201	342	765	536	609	246	83	35	15	16
19	18	60	156	498	740	537	581	235	99	33	15	19
20	19	45	126	1,670	684	532	576	220	99	33	15	20
21	19	37	106	2,500	619	521	589	208	86	30	14	24
22	19	34	100	1,560	567	553	629	196	80	29	14	23
23	19	32	99	1,020	580	616	672	187	77	29	13	21
24	18	34	159	755	586	627	592	180	75	29	14	21
25	19	41	194	637	566	623	518	174	73	27	14	20
26	19	35	176	1,080	522	647	475	176	71	27	13	19
27	18	34	148	900	499	749	463	174	69	26	13	18
28	19	32	147	723	716	868	477	159	69	25	13	18
29	23	31	136	590	-----	972	503	149	66	25	13	18
30	31	36	123	497	-----	1,030	465	141	63	22	13	19
31	25	-----	114	424	-----	1,050	-----	135	-----	22	13	-----
TOTAL	562.8	1,043	5,586	21,739	21,065	17,835	19,452	8,752	2,886	1,185	496	474
MEAN	18.2	34.8	180	701	752	575	648	282	96.2	38.2	16.0	15.8
MAX	34	60	1,150	2,500	2,620	1,050	970	438	128	61	22	24
MIN	9.4	24	31	107	305	341	463	135	63	22	13	12
AC-FT	1,120	2,070	11,080	43,120	41,780	35,380	38,580	17,360	5,720	2,350	984	940

CAL YR 1968 TOTAL 101,075.8 MEAN 276 MAX 2,620 MIN 9.4 AC-FT 200,500
WTR YR 1969 TOTAL 101,075.8 MEAN 277 MAX 2,620 MIN 9.4 AC-FT 200,500

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-15	1215	7.86	1,910	1-21	0145	9.02	2,920
1-13	0900	8.24	2,210	2-11	1700	9.41	3,310

11-5254.3, JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CALIF.

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, at powerplant 1.6 miles downstream from Mill Creek, and 3.8 miles south of French Gulch.

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Recorded powerplant output.

EXTREMES.--Period of record: Maximum daily discharge, 3,866 cfs for many days in June 1969; 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 11-3717). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, not rounded to Geological Survey standards.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	752	719	934	625	274	301	290	378	3,740	3,410	2,720	2,830
2	748	851	932	542	284	300	296	326	3,740	2,700	2,730	2,790
3	695	759	987	509	247	296	302	511	3,750	2,710	2,910	2,760
4	758	739	1,050	394	246	289	304	274	3,770	2,870	2,810	2,760
5	713	728	1,020	379	247	315	274	345	3,800	2,870	2,770	2,760
6	705	718	1,040	328	279	319	225	356	3,800	2,870	2,770	2,760
7	707	718	1,290	301	337	322	225	379	3,780	2,870	2,780	2,760
8	716	712	1,240	301	346	309	222	369	3,820	2,970	2,780	2,760
9	699	720	1,270	299	261	310	223	338	3,850	2,830	2,670	2,760
10	741	702	1,360	347	267	292	223	530	3,850	2,830	2,770	2,750
11	753	706	1,160	363	275	307	227	435	3,830	3,050	2,800	2,760
12	697	709	814	361	481	314	226	330	3,840	2,890	2,820	2,600
13	736	699	915	381	483	240	158	382	3,840	2,830	2,820	2,740
14	768	787	711	355	486	243	209	382	3,860	2,820	2,820	2,710
15	739	797	890	367	479	285	209	630	3,870	2,890	2,820	2,730
16	715	712	930	399	365	225	262	382	3,860	2,860	2,830	2,770
17	693	715	843	393	290	209	213	1,170	3,780	2,880	2,810	2,790
18	665	760	524	338	296	465	421	1,170	3,630	2,840	2,770	2,780
19	682	764	491	337	271	209	407	1,790	3,600	2,640	2,760	2,740
20	687	645	486	340	267	192	416	1,670	3,740	2,760	2,800	2,750
21	750	998	474	705	273	211	373	1,660	3,500	2,820	2,800	2,730
22	780	990	536	422	264	259	370	1,940	3,440	2,850	2,800	2,720
23	725	930	628	619	261	249	416	2,390	3,440	2,810	2,780	2,730
24	678	988	613	287	271	312	373	3,340	3,440	2,800	2,780	2,740
25	767	938	697	232	292	272	371	3,340	3,440	2,800	2,790	2,730
26	620	948	623	229	283	291	374	2,950	3,440	2,790	2,780	2,650
27	684	962	576	350	281	354	404	3,620	3,440	2,560	2,780	2,770
28	711	944	565	352	282	257	376	3,700	3,440	2,560	2,780	2,770
29	726	1,010	592	288	-----	239	391	3,670	3,440	2,700	2,770	2,770
30	719	1,010	602	309	-----	239	423	3,680	3,100	2,740	2,780	2,770
31	716	-----	582	271	-----	235	-----	3,720	-----	2,730	2,770	-----
TOTAL	22,245	24,378	25,375	11,723	8,688	8,660	9,203	46,157	109,870	87,550	86,370	82,440
MEAN	718	813	819	378	310	279	307	1,489	3,662	2,824	2,786	2,748
MAX	780	1,010	1,360	705	486	465	423	3,720	3,870	3,410	2,910	2,830
MIN	620	645	474	229	246	192	158	274	3,100	2,560	2,670	2,600
AC-FT	44,120	48,350	50,330	23,250	17,230	17,180	18,250	91,550	217,900	173,700	171,300	163,500
CAL YR 1968	TOTAL 635,288		MEAN 1,736		MAX 3,598		MIN 285		AC-FT 1,260,000			
WTR YR 1969	TOTAL 522,659		MEAN 1,432		MAX 3,870		MIN 158		AC-FT 1,037,000			

SACRAMENTO RIVER BASIN

11-3716. SPRING CREEK POWERPLANT AT KESWICK, CALIF.

LOCATION.--Lat 40°37'41", long 122°27'59", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.32 N., R.5 W., Shasta County, at powerplant on Spring Creek, 0.4 mile northwest of Keswick, and 4.9 miles northwest of Redding.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Discharge computed from powerplant output.

EXTREMES.--Period of record: Maximum daily discharge, 4,276 cfs Jan. 22, 1969; minimum daily, 10 cfs Dec. 15, 1963.

REMARKS.--Water is released from Whiskeytown Lake (see sta 11-3717) at lat 40°37'03", long 122°31'31", through a tunnel to powerplant and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, and rounded to Geological Survey standards.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	595	1,590	998	1,140	1,030	277	2,000	411	4,040	3,540	2,900	2,870
2	709	1,660	1,010	843	979	274	2,060	687	4,040	3,010	2,540	3,090
3	688	1,770	989	876	920	281	667	552	4,050	2,940	2,240	3,530
4	684	1,820	1,000	763	514	269	664	1,250	4,050	3,050	2,390	3,520
5	792	1,820	997	751	635	283	956	667	4,050	2,960	2,830	3,400
6	687	1,830	1,020	898	1,110	280	669	822	4,050	2,750	2,780	3,400
7	693	1,940	1,230	1,020	1,140	414	575	825	4,050	2,760	2,740	3,410
8	681	1,950	1,260	1,010	1,190	1,080	639	682	4,050	2,890	2,740	3,410
9	665	1,950	1,260	958	1,550	993	370	750	4,050	3,070	3,490	3,420
10	684	1,950	1,540	970	1,950	1,010	264	1,230	4,050	2,930	2,800	3,420
11	795	1,960	1,440	1,020	2,480	979	560	1,100	4,140	2,810	2,800	3,350
12	681	1,960	1,990	439	2,660	1,010	988	531	4,060	3,020	2,810	3,630
13	680	1,740	2,300	698	2,900	978	1,030	366	4,060	3,070	2,820	3,670
14	801	937	1,810	3,200	2,890	930	1,050	372	4,060	3,070	3,040	3,680
15	796	972	3,150	3,360	2,790	655	522	389	4,110	3,050	3,040	3,810
16	803	926	2,880	3,180	2,300	644	451	390	4,020	3,070	2,840	2,850
17	1,070	860	1,350	2,820	2,850	770	677	1,460	4,050	3,070	2,820	2,840
18	897	841	574	1,500	2,730	836	638	1,470	4,060	3,050	2,850	2,840
19	895	919	430	1,110	3,080	915	647	2,020	3,920	3,070	2,850	2,880
20	888	846	589	1,260	3,850	1,090	1,070	2,020	3,500	2,590	2,950	2,880
21	899	1,020	686	4,140	1,910	1,090	1,180	2,050	3,620	2,310	2,920	2,860
22	821	994	568	4,280	1,410	1,060	816	2,380	3,900	2,940	2,920	2,890
23	771	996	1,220	4,160	1,630	1,060	856	2,470	3,780	3,020	2,790	2,840
24	683	987	1,260	4,210	1,680	999	1,090	3,690	3,650	2,960	2,910	2,850
25	697	1,000	1,350	2,110	1,660	1,140	987	3,890	3,370	2,970	2,920	2,840
26	750	1,010	925	1,150	1,670	1,150	1,050	3,640	3,270	2,970	2,920	2,900
27	681	986	860	2,680	1,260	1,160	1,210	4,040	3,520	2,960	2,800	2,890
28	710	1,010	706	2,690	294	1,480	1,230	4,050	3,520	2,970	2,800	2,840
29	716	1,010	899	1,170	-----	1,410	722	4,060	3,530	2,980	2,800	2,850
30	709	1,010	700	1,490	-----	1,740	441	4,050	3,360	2,920	2,800	2,850
31	714	-----	1,000	1,610	-----	2,010	-----	4,050	-----	2,940	2,800	-----
TOTAL	23,335	40,264	37,991	57,506	51,062	28,267	26,079	56,364	115,980	91,710	87,650	94,510
MEAN	753	1,342	1,226	1,855	1,824	912	869	1,818	3,866	2,958	2,827	3,150
MAX	1,070	1,960	3,150	4,280	3,850	2,010	2,060	4,060	4,140	3,540	3,490	3,810
MIN	595	841	430	439	294	269	264	366	3,270	2,310	2,240	2,840
AC-FT	46,280	79,860	75,350	114,100	101,300	56,070	51,730	111,800	230,000	181,900	173,900	187,500
CAL YR 1968	TOTAL 748,031		MEAN 2,044	MAX 3,987	MIN 430	AC-FT 1,484,000						
WTR YR 1969	TOTAL 710,718		MEAN 1,947	MAX 4,280	MIN 264	AC-FT 1,410,000						

11-3717. WHISKEYTOWN LAKE NEAR IGO, CALIF.

LOCATION.--Lat 40°37'03", long 122°31'31", (unsurveyed), Shasta County, at outlet works to Spring Creek power-plant on Clear Creek, 1.8 miles downstream from Whiskey Creek, and 7.8 miles northeast of Igo.

DRAINAGE AREA.--200 sq mi.

PERIOD OF RECORD.--May 1963 to current year. Prior to October 1964 published as Whiskeytown Reservoir near Igo.

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

EXTREMES.--Current year: Maximum contents, 239,700 acre-ft Aug. 8 (elevation, 1,209.55 ft); minimum, 178,700 acre-ft Feb. 3 (elevation, 1,188.97 ft).

Period of record: Maximum contents, 245,200 acre-ft Dec. 23, 1964 (elevation, 1,211.27 ft); minimum since reservoir was first filled, 178,700 acre-ft Feb. 3, 1969 (elevation, 1,188.97 ft).

REMARKS.--Reservoir is formed by earth- and rockfill dam. Storage began in May 1963. Capacity, 241,100 acre-ft between elevations 1,100.00 (minimum operating level) and 1,210.00 ft (crest of spillway). No dead storage. Transbasin water enters the reservoir through Judge Francis Carr powerplant (see sta 11-5254.3) and is released through Spring Creek Tunnel to Spring Creek powerplant (see sta 11-3716) and Keswick Reservoir. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

1,015	714	1,080	15,100
1,020	994	1,100	27,500
1,030	1,800	1,120	46,700
1,040	3,060	1,140	74,000
1,050	4,900	1,180	155,300
1,060	7,420	1,220	274,400

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211.4	207.2	180.8	179.8	179.1	188.4	201.7	226.8	237.7	237.4	236.1	239.0
2	211.4	206.2	180.6	179.8	178.9	191.1	201.0	227.3	237.7	237.2	236.6	238.6
3	211.5	204.4	180.6	179.8	178.7	193.3	202.4	228.2	237.7	237.1	238.0	237.4
4	211.6	202.4	180.6	180.2	179.4	195.2	203.9	227.5	237.7	237.0	239.0	236.1
5	211.5	200.3	180.7	180.9	180.1	197.0	205.4	227.9	237.7	237.1	239.0	235.1
6	211.6	198.1	180.7	181.1	180.0	198.9	206.8	228.2	237.7	237.6	239.2	234.1
7	211.5	195.7	180.9	181.0	179.7	200.3	208.2	228.5	237.6	238.1	239.4	233.1
8	211.6	193.3	181.0	180.8	180.9	200.4	209.3	229.1	237.5	238.5	239.7	232.1
9	211.6	190.9	181.2	180.3	182.9	200.5	211.1	229.6	237.6	238.3	238.3	231.1
10	211.6	188.6	184.1	179.9	183.6	200.3	212.8	229.5	237.6	238.4	238.4	230.1
11	211.9	186.3	184.5	180.2	190.7	200.2	214.0	229.5	237.6	239.0	238.5	229.1
12	212.2	183.9	182.7	187.2	194.4	200.3	214.5	230.3	237.6	238.9	238.7	227.3
13	212.4	181.9	180.7	194.9	194.4	199.9	214.8	231.6	237.6	238.7	238.8	225.7
14	212.4	182.0	179.5	193.4	194.0	199.6	215.0	232.8	237.5	238.4	238.6	224.0
15	212.3	181.3	180.8	190.0	194.0	200.0	216.0	234.2	237.4	238.2	238.3	222.1
16	212.1	181.6	178.8	186.4	193.6	200.4	217.3	235.2	237.4	238.1	238.5	222.2
17	211.3	181.5	178.9	183.1	191.7	200.8	218.1	235.6	237.3	237.9	238.6	222.2
18	210.8	181.5	179.4	182.3	199.8	201.6	219.4	235.9	236.8	237.7	238.6	222.5
19	210.3	181.4	179.9	183.1	187.0	201.8	220.6	236.4	236.6	237.2	238.6	222.5
20	209.8	181.2	180.0	190.0	182.4	201.6	220.9	236.7	237.3	237.6	238.5	222.5
21	209.4	181.2	179.8	192.6	181.4	201.5	221.0	236.8	237.5	238.8	238.5	222.4
22	209.3	181.3	180.3	190.2	181.2	201.5	222.0	236.8	236.9	239.0	238.5	222.4
23	209.1	181.1	180.2	186.8	180.8	201.6	223.5	237.3	236.6	238.7	238.6	222.4
24	209.1	181.2	180.0	181.9	180.8	202.0	223.8	237.7	236.5	238.5	238.5	222.5
25	209.3	181.1	179.7	180.9	180.6	202.1	224.0	237.5	236.8	238.4	238.3	222.5
26	209.0	181.0	179.8	183.5	180.0	202.2	224.0	237.1	237.4	238.2	238.3	222.2
27	208.9	180.9	180.0	182.3	180.6	202.7	223.8	237.1	237.4	237.7	238.4	222.2
28	208.8	180.5	180.6	180.3	184.8	202.6	223.6	237.4	237.5	237.1	238.4	222.3
29	209.0	180.9	180.6	180.8	-----	203.0	224.3	237.4	237.6	236.7	238.6	222.4
30	209.0	180.9	180.8	180.3	-----	202.9	225.6	237.5	237.4	236.5	238.7	222.4
31	208.9	-----	180.4	179.2	-----	202.3	-----	237.6	-----	236.3	238.8	-----
MAX	212.4	207.2	184.5	194.9	194.4	203.0	225.6	237.7	237.7	239.0	239.7	239.0
MIN	208.8	180.8	178.8	179.2	178.7	188.4	201.0	226.8	236.5	236.3	236.1	222.1
(a)	1,199.59	1,189.78	1,189.59	1,189.15	1,191.19	1,197.35	1,205.09	1,208.91	1,208.84	1,208.50	1,209.28	1,204.05
(b)	-2.2	-28.0	-0.5	-1.2	+5.6	+17.5	+23.3	+12.0	-0.2	-1.1	+2.5	-16.4
(c)	610	180	60	70	70	550	800	1,570	1,500	2,210	2,170	1,360
CAL YR 1968	b -19.9		MAX 237.7	MIN 179.4								
WTR YR 1969	b +11.3		MAX 239.7	MIN 178.7								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-3720. CLEAR CREEK NEAR IGO, CALIF.

LOCATION.--Lat 40°30'48", long 122°31'23", (unsurveyed), Shasta County, on left bank at highway bridge on Redding-Igo road 1.0 mile northeast of Igo, 8.3 miles southwest of Redding, and 10.4 miles upstream from mouth.

DRAINAGE AREA.--228 sq mi.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 672 ft above mean sea level.

AVERAGE DISCHARGE.--29 years, 425 cfs (308,200 acre-ft per year), adjusted for storage and diversions.

EXTREMES.--Current year: Maximum discharge, 3,580 cfs Jan. 13 (gage height, 6.64 ft); minimum daily, 51 cfs Oct. 2, July 17, 18, 21, Aug. 2.

Period of record: Maximum discharge, 24,500 cfs Dec. 21, 1955 (gage height, 13.75 ft); minimum, 8.6 cfs Sept. 4, 6, 7, 1950. Maximum discharge since construction of Whiskeytown Dam in 1963, 9,940 cfs Dec. 22, 1964 (gage height, 9.23 ft); minimum daily, 37 cfs for many days in August and September 1966.

REMARKS.--Records good. Flow regulated by Whiskeytown Lake since May 1963 (see sta 11-3717). Transbasin diversion from Trinity River through Judge Francis Carr powerplant to Whiskeytown Lake began in April 1963 (see sta 11-5254.3). Diversions from Whiskeytown Lake to Spring Creek powerplant (see sta 11-3716) began in December 1963. See schematic diagram of Pit and McCloud River basins. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	53	102	121	172	784	125	84	57	54	52	55
2	51	83	100	130	168	426	136	83	58	54	51	55
3	52	74	98	149	161	315	130	81	58	54	52	53
4	52	80	98	168	161	260	124	80	58	54	54	53
5	52	58	98	154	190	231	175	79	61	54	54	53
6	52	55	98	137	271	209	161	78	60	54	54	53
7	52	54	102	122	256	191	141	77	58	54	52	54
8	52	54	108	108	575	175	132	76	58	54	52	53
9	52	53	109	98	1,750	165	128	75	58	54	52	53
10	52	53	324	91	703	151	122	73	57	54	52	53
11	56	57	142	277	1,250	142	119	73	57	54	53	53
12	58	57	114	1,950	809	152	119	73	57	54	52	53
13	53	54	119	1,950	447	134	114	72	57	53	52	53
14	53	61	208	448	512	128	111	72	56	53	53	53
15	52	65	256	265	747	125	107	71	56	52	53	53
16	52	62	160	199	474	125	106	70	56	52	53	53
17	52	59	128	169	361	193	106	69	56	51	53	55
18	52	61	117	264	323	172	104	66	56	51	53	55
19	52	59	113	877	273	157	101	65	56	52	53	55
20	52	57	108	1,200	240	157	98	64	56	52	53	56
21	52	56	105	1,150	216	154	97	64	56	51	53	56
22	52	66	108	527	201	142	97	62	56	52	53	55
23	52	98	126	327	230	135	122	62	56	52	53	55
24	52	100	328	253	319	130	104	62	55	52	53	55
25	52	98	279	227	330	130	95	61	55	53	54	55
26	52	98	199	298	281	128	90	62	55	53	53	55
27	52	97	184	229	287	130	88	62	55	52	54	55
28	52	96	320	201	870	130	88	61	55	52	55	55
29	55	100	202	182	-----	132	86	59	55	52	53	55
30	54	102	163	169	-----	130	85	59	54	52	53	55
31	53	-----	150	156	-----	130	-----	57	-----	52	53	-----
TOTAL	1,629	2,120	4,866	12,596	12,577	5,863	3,411	2,152	1,698	1,637	1,640	1,625
MEAN	52.5	70.7	157	406	449	189	114	69.4	56.6	52.8	52.9	54.2
MAX	58	102	328	1,950	1,750	784	175	84	61	54	55	56
MIN	51	53	98	91	161	125	85	57	54	51	51	53
AC-FT	3,230	4,200	9,650	24,980	24,950	11,630	6,770	4,270	3,370	3,250	3,250	3,220
MEAN a	61.6	133	556	1,864	2,063	1,115	1,080	619	282	205	171	204
AC-FT a	3,790	7,890	34,210	114,590	114,600	68,550	64,250	38,050	16,760	12,600	10,510	12,120
CAL YR 1968 TOTAL	32,553	MEAN 88.9	MAX 967	MIN 50	AC-FT 64,570	MEAN a 370	AC-FT a 268,900					
WTR YR 1969 TOTAL	51,814	MEAN 142	MAX 1,950	MIN 51	AC-FT 102,800	MEAN a 688	AC-FT a 497,900					

a Adjusted for change in contents and evaporation from Whiskeytown Lake, diversions from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant.

NOTE.--No gage-height record June 2 to July 7.

SACRAMENTO RIVER BASIN

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11-3720.6. CHURN CREEK BELOW NEWTOWN CREEK, NEAR REDDING, CALIF.

LOCATION.--Lat 40°38'17", long 122°22'02", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.7, T.32 N., R.4 W., Shasta County, on left bank 100 ft downstream from Newtown Creek, 0.1 mile upstream from Oasis Road bridge, and 4.2 miles north of Redding.

DRAINAGE AREA.--11.9 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,770 cfs Jan. 12 (gage height, 7.09 ft); no flow for several months.

Period of record: Maximum discharge, 1,770 cfs Jan. 12, 1969 (gage height, 7.09 ft); no flow for several months in each year.

Flood of Dec. 22, 1964, reached a stage of 7.68 ft from floodmarks on right bank (discharge, 4,000 cfs, from station above Newtown Creek adjusted for intervening drainage area).

REMARKS.--Records good. Small diversion above station for domestic supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB.	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.46	8.0	46	57	301	9.0	7.0	.27	.01	0	0
2	0	7.2	5.6	57	54	160	11	6.3	.25	0	0	0
3	0	4.0	4.0	64	51	102	13	6.3	.25	0	0	0
4	0	5.3	2.9	59	52	72	10	6.0	.30	0	0	0
5	0	2.4	2.4	47	91	58	59	5.6	.37	0	0	0
6	0	1.6	2.1	37	212	47	43	4.8	.33	0	0	0
7	0	1.3	2.3	31	154	40	32	4.5	.37	0	0	0
8	0	1.0	5.6	26	177	34	26	4.5	.41	0	0	0
9	0	.84	5.6	23	667	30	23	4.2	.84	0	0	0
10	0	.72	256	21	260	27	21	3.8	1.2	0	0	0
11	0	1.2	45	114	425	24	18	3.1	1.4	0	0	0
12	0	3.6	21	1,060	315	30	16	3.1	1.3	0	0	0
13	0	1.7	23	978	140	23	15	3.1	.77	0	0	0
14	.03	2.0	154	222	182	21	14	2.8	.60	0	0	0
15	.18	7.5	123	104	349	19	12	2.6	.37	0	0	0
16	.13	7.0	50	62	176	17	11	2.3	.20	0	0	0
17	.09	4.2	29	44	113	25	10	2.1	.15	0	0	0
18	.07	4.8	20	56	88	23	9.6	1.9	.16	0	0	0
19	.06	4.5	16	168	65	20	9.0	1.7	.27	0	0	0
20	.06	2.8	14	426	50	19	8.5	1.5	.27	0	0	0
21	.06	2.2	12	760	42	19	8.0	1.3	.25	0	0	0
22	.07	1.8	10	264	38	17	7.5	1.2	.16	0	0	0
23	.08	1.7	21	127	57	15	36	1.1	.09	0	0	0
24	.07	2.2	171	86	128	14	24	1.1	.05	0	0	0
25	.05	2.0	194	82	111	13	15	1.0	.04	0	0	0
26	.07	1.7	109	152	83	12	12	1.0	.02	0	0	0
27	.07	1.5	143	91	97	12	10	1.3	.04	0	0	0
28	.07	1.3	245	69	443	12	9.0	.96	.06	0	0	0
29	.41	1.5	118	53	-----	10	8.0	.66	.01	0	0	0
30	1.3	6.0	71	52	-----	10	7.5	.60	.01	0	0	0
31	.66	-----	51	47	-----	9.6	-----	.41	-----	0	0	-----
TOTAL	3.53	86.02	1,934.5	5,428	4,677	1,235.6	507.1	87.83	10.81	0.01	0	0
MEAN	.11	2.87	62.4	175	167	39.9	16.9	2.83	.36	.0003	0	0
MAX	1.3	7.5	256	1,060	667	301	59	7.0	1.4	.01	0	0
MIN	0	.46	2.1	21	38	9.6	7.5	.41	.01	0	0	0
AC-FT	7.0	171	3,840	10,770	9,280	2,450	1,010	174	21	.02	0	0
CAL YR 1968	TOTAL	6,939.66	MEAN	19.0	MAX	360	MIN	0	AC-FT	13,760		
WTR YR 1969	TOTAL	13,970.40	MEAN	38.3	MAX	1,060	MIN	0	AC-FT	27,710		

PEAK DISCHARGE (BASE, 360 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1330	6.47	1,280	2-11	2030	5.68	820
1-12	2100	7.09	1,770	2-15	0530	5.03	542
1-21	1830	6.70	1,460	2-28	1700	5.44	706
2- 9	0200	6.68	1,440				

SACRAMENTO RIVER BASIN

11-3722. SOUTH COW CREEK NEAR MILLVILLE, CALIF.

LOCATION.--Lat 40°32'56", long 122°05'29", in NW¹NE¹ sec.16, T.31 N., R.2 W., Shasta County, on left bank 2.5 miles upstream from Old Cow Creek, and 4.4 miles east of Millville.

DRAINAGE AREA.--77.3 sq mi.

PERIOD OF RECORD.--October 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Aug. 9, 1957, at site 1.0 mile downstream at different datum.

AVERAGE DISCHARGE.--13 years, 107 cfs (77,520 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,730 cfs Jan. 19 (gage height, 8.02 ft); minimum daily, 11 cfs Oct. 3.

Period of record: Maximum discharge, 5,720 cfs May 18, 1957 (gage height, 9.23 ft, site and datum then in use), from rating curve extended above 800 cfs by comparison with rating curve at present site; minimum, 0.3 cfs Aug. 30, 1960.

Flood of December 1955 reached a stage of 12.5 ft, from floodmarks, previous site and datum (discharge, unknown).

REMARKS.--Records excellent except those for period Oct. 1 to Nov. 7, which are fair. Diversions above station of up to 35 cfs for irrigation of about 1,050 acres. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1931: 1964(M), 1965(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	58	128	290	454	304	256	166	50	32	22
2	19	43	46	166	248	438	276	247	155	49	32	19
3	11	60	40	169	220	355	269	239	149	51	32	20
4	15	46	38	161	210	257	226	217	141	49	28	18
5	21	36	37	151	487	222	665	225	135	47	28	24
6	22	32	38	145	518	200	520	245	130	51	27	24
7	19	30	36	140	302	180	321	275	123	46	28	23
8	19	28	47	134	267	165	279	299	121	36	26	22
9	17	28	62	120	657	161	253	315	130	46	28	24
10	18	27	1,160	108	578	150	231	332	126	45	28	24
11	26	29	361	1,210	1,190	137	224	354	130	44	27	23
12	34	107	181	3,190	940	129	240	351	115	40	24	22
13	61	48	179	2,430	498	121	234	342	106	42	29	19
14	57	45	625	813	739	115	225	313	98	42	28	15
15	37	67	680	465	822	113	207	280	97	37	26	23
16	29	110	282	330	514	116	202	264	84	36	29	24
17	27	71	168	257	376	132	215	264	82	37	25	24
18	26	131	128	359	373	142	288	273	84	34	26	25
19	25	89	107	1,610	305	140	254	255	89	31	34	26
20	25	59	88	2,140	297	140	255	240	81	31	28	26
21	25	48	76	2,150	266	137	270	228	77	39	26	27
22	25	44	71	1,030	230	133	292	228	73	35	22	26
23	25	44	85	624	374	136	349	230	64	36	20	25
24	24	56	1,000	481	470	136	286	232	66	36	24	25
25	25	69	1,430	714	429	140	249	221	63	34	24	24
26	25	52	438	986	457	147	227	219	60	33	21	23
27	26	45	328	631	412	158	218	211	64	35	22	21
28	26	41	548	488	820	177	221	193	59	33	22	21
29	41	38	270	389	-----	201	239	181	56	33	22	26
30	51	50	177	348	-----	226	246	178	53	30	21	23
31	29	-----	137	300	-----	272	-----	165	-----	28	23	-----
TOTAL	851	1,599	8,921	22,367	13,289	5,730	8,285	7,872	2,977	1,216	812	688
MEAN	27.5	53.3	288	722	475	185	276	254	99.2	39.2	26.2	22.9
MAX	61	131	1,430	3,190	1,190	454	665	354	166	51	34	27
MIN	11	26	36	108	210	113	202	165	53	28	20	15
AC-FT	1,690	3,170	17,690	44,360	26,360	11,370	16,430	15,610	5,900	2,410	1,610	1,360
CAL YR 1968	TOTAL 41,961.7		MEAN 115		MAX 1,450		MIN 8.0		AC-FT 83,230			
WTR YR 1969	TOTAL 74,607		MEAN 204		MAX 3,190		MIN 11		AC-FT 148,000			

PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1045	5.91	2,230	1-12	2215	7.92	4,590
12-15	1245	5.63	2,000	1-19	1915	8.02	4,730
12-25	1100	6.89	3,250	2-11	2200	6.11	2,430

SACRAMENTO RIVER BASIN

805

11-3740. COW CREEK NEAR MILLVILLE, CALIF.

LOCATION.--Lat 40°30'19", long 122°13'56", in NE¼NW¼ sec.32, T.31 N., R.3 W., Shasta County, on right bank 2.9 miles upstream from mouth, 4.2 miles southwest of Millville, and 4.3 miles downstream from Little Cow Creek.

DRAINAGE AREA.--425 sq mi.

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 408.3 ft above mean sea level.

AVERAGE DISCHARGE.--20 years, 662 cfs (479,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 33,800 cfs Jan. 12 (gage height, 17.57 ft); minimum daily, 31 cfs Oct. 4.

Period of record: Maximum discharge, 45,200 cfs Dec. 27, 1951 (gage height, 21.55 ft); minimum daily, 0.80 cfs Aug. 13, 1966.

Flood of 1937 or 1940 reached a stage of 23.8 ft, from floodmarks. Probable backwater effect from high flows on the Sacramento River.

REMARKS.--Records good except those for period Jan. 1 to Feb. 8, which are fair. Numerous small diversions above station for irrigation. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	136	341	1,070	1,600	4,390	1,180	1,000	514	151	63	43
2	39	234	370	1,160	1,400	3,060	1,090	974	491	142	64	35
3	37	533	253	1,280	1,300	2,590	1,100	949	463	138	68	37
4	31	349	215	1,330	1,200	1,840	950	875	458	133	63	39
5	33	237	198	1,230	3,900	1,550	2,590	866	442	129	54	45
6	37	184	190	1,070	4,100	1,380	3,000	937	423	121	58	44
7	39	158	179	945	2,430	1,190	1,630	1,050	406	122	60	46
8	33	141	248	821	1,900	1,080	1,310	1,110	392	98	57	47
9	32	135	322	700	5,110	980	1,160	1,150	427	100	58	44
10	36	131	6,110	632	4,880	910	1,060	1,210	433	104	58	39
11	43	131	2,230	6,830	6,990	834	1,000	1,240	448	111	58	39
12	112	524	980	18,900	7,170	789	1,020	1,230	411	107	45	45
13	349	268	672	20,000	3,190	736	1,030	1,210	373	111	51	46
14	328	207	5,240	5,700	4,710	696	976	1,120	342	106	53	47
15	237	511	4,820	2,680	6,930	684	898	998	320	92	47	46
16	152	646	2,120	2,000	4,630	680	861	927	283	90	50	49
17	126	450	1,040	1,770	2,700	804	871	888	266	91	52	49
18	111	634	711	1,940	2,430	952	1,130	894	264	90	48	54
19	103	592	557	8,320	1,920	847	1,030	848	276	81	54	64
20	102	345	446	9,880	1,740	792	1,020	789	261	75	59	67
21	101	259	365	9,790	1,600	754	1,060	744	234	84	45	71
22	97	231	329	5,860	1,380	722	1,130	724	216	84	43	64
23	88	222	420	3,240	2,160	713	1,460	712	208	79	39	57
24	86	248	5,100	2,450	3,520	690	1,420	714	197	89	46	55
25	87	359	7,840	3,300	3,560	700	1,110	692	189	85	52	62
26	86	265	4,400	4,900	2,780	709	972	690	182	85	36	58
27	87	218	2,340	3,380	2,410	735	915	666	179	81	36	55
28	86	196	6,030	2,800	6,550	776	904	610	175	78	41	56
29	130	184	3,550	2,050	-----	826	952	562	169	73	45	65
30	318	222	1,960	1,990	-----	887	975	546	158	68	48	62
31	176	-----	1,350	1,670	-----	1,010	-----	526	-----	66	46	-----
TOTAL	3,358	8,950	60,926	129,688	94,260	35,306	35,804	27,451	9,600	3,064	1,597	1,530
MEAN	108	298	1,965	4,183	3,366	1,139	1,193	886	320	98.8	51.5	51.0
MAX	349	646	7,840	20,000	7,170	4,390	3,000	1,240	514	151	68	71
MIN	31	131	179	632	1,200	680	861	526	158	66	36	35
AC-FT	6,660	17,750	120,800	257,200	187,000	70,030	71,020	54,450	19,040	6,080	3,170	3,030

CAL YR 1968 TOTAL 246,238.7 MEAN 673 MAX 9,320 MIN 9.2 AC-FT 488,400
WTR YR 1969 TOTAL 411,534 MEAN 1,127 MAX 20,000 MIN 31 AC-FT 816,300

PEAK DISCHARGE (BASE, 10,000 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1245	10.29	10,600	2-12	0145	11.97	14,200
1-12	about 2200	17.57	33,800	2-15	0030	11.49	12,900
1-19	2200	13.12	17,700				

NOTE.--No gage-height record Jan. 9-13.

SACRAMENTO RIVER BASIN

11-3744. MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CALIF.

LOCATION.--Lat 40°23'25", long 122°31'15", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.3, T.29 N., R.6 W., Shasta County, on left bank 0.4 mile upstream from North Fork Cottonwood Creek and 7.8 miles southeast of Ono.

DRAINAGE AREA.--249 sq mi.

PERIOD OF RECORD.--October 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 241 cfs (174,600 acre-ft per year); median of yearly mean discharges, 180 cfs (130,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,630 cfs Jan. 13 (gage height, 12.19 ft); minimum daily, 5.7 cfs Oct. 1.

Period of record: Maximum discharge, 13,500 cfs Dec. 22, 1964 (gage height, 19.08 ft, from floodmarks in gage well), from rating curve extended above 7,800 cfs on basis of slope-area measurement of maximum flow; minimum daily, 1.2 cfs Aug. 28, 1964.

REMARKS.--Records fair. No regulation or diversion above station. Records of water temperatures and suspended-sediment loads at or near this gaging station for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	16	52	312	728	1,700	1,470	488	167	69	21	10
2	5.9	28	47	638	657	1,290	1,250	450	161	65	20	9.9
3	5.8	76	42	905	586	1,030	1,050	428	157	59	18	9.4
4	5.9	38	40	1,230	559	877	891	395	157	57	17	9.3
5	6.3	24	39	1,210	834	820	905	384	155	54	17	9.6
6	6.5	23	41	1,100	1,270	838	835	414	152	52	18	9.8
7	6.5	21	43	950	956	784	742	468	142	50	17	10
8	6.4	21	90	772	1,160	727	709	483	136	48	16	10
9	6.3	23	99	595	1,920	679	709	502	141	45	16	9.8
10	6.6	25	1,060	492	1,480	635	697	509	148	45	15	9.7
11	7.8	26	700	846	2,200	585	727	477	142	42	15	9.8
12	11	38	303	3,380	2,380	578	860	472	134	41	13	9.7
13	16	50	231	4,570	1,670	535	802	437	125	40	14	9.7
14	17	42	502	2,280	1,810	518	706	401	120	38	14	9.3
15	16	65	930	1,280	2,130	673	635	344	133	34	14	9.4
16	13	71	640	828	1,480	905	612	323	119	34	13	9.7
17	12	66	342	615	1,270	1,020	664	314	110	33	13	9.9
18	11	87	253	550	1,240	1,200	736	315	107	32	13	12
19	9.5	162	215	1,130	1,110	1,700	670	290	121	31	13	13
20	9.4	96	180	3,100	966	1,150	664	262	134	30	13	15
21	9.2	69	157	4,620	798	1,300	694	246	113	29	12	15
22	9.0	55	148	2,840	708	1,060	784	236	103	28	11	14
23	8.8	48	213	1,720	753	1,140	778	231	97	28	12	13
24	8.8	43	567	1,280	1,680	1,130	627	228	95	27	12	12
25	8.6	51	605	1,120	1,350	1,070	527	216	90	27	12	11
26	8.1	55	500	1,740	1,020	1,100	478	204	87	26	12	11
27	8.2	47	420	1,480	1,070	1,270	472	205	83	26	11	11
28	8.7	43	730	1,180	2,000	1,480	508	187	79	25	10	11
29	11	42	448	927	-----	1,610	567	175	76	23	11	12
30	14	49	344	840	-----	1,640	523	174	72	22	11	12
31	17	-----	307	720	-----	1,620	-----	174	-----	22	11	-----
TOTAL	296.0	1,500	10,288	45,250	35,785	32,164	22,292	10,432	3,656	1,182	435	327.0
MEAN	9.55	50.0	332	1,460	1,278	1,038	743	337	122	38.1	14.0	10.9
MAX	17	162	1,060	4,620	2,380	1,700	1,470	509	167	69	21	15
MIN	5.7	16	39	312	559	518	472	174	72	22	10	9.3
AC-FT	587	2,980	20,410	89,750	70,980	63,800	44,220	20,690	7,250	2,340	863	649
CAL YR 1968	TOTAL	82,123.5	MEAN	224	MAX	4,130	MIN	5.2	AC-FT	162,900		
WTR YR 1969	TOTAL	163,607.0	MEAN	448	MAX	4,620	MIN	5.7	AC-FT	324,500		

PEAK DISCHARGE (BASE, 1,800 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1515	9.39	2,390	2- 8	2345	9.46	2,450
12-24	1430	8.50	1,800	2-11	1900	9.88	2,840
1-13	0630	12.19	5,630	2-24	0545	9.87	2,830
1-21	1015	11.79	5,090	2-28	2400	9.74	2,700
2- 5	2100	9.26	2,280				

11-3757. NORTH FORK COTTONWOOD CREEK NEAR IGO, CALIF.

LOCATION.--Lat 40°26'32", long 122°32'57"; in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.30 N., R.6 W., Shasta County, near right bank on downstream side of bridge on Gas Point road, 1.2 miles downstream from Huling Creek, 4.4 miles south of Igo, and 4.5 miles upstream from Middle Fork.

DRAINAGE AREA.--88.7 sq mi.

PERIOD OF RECORD.--October 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 169 cfs (122,400 acre-ft per year); median of yearly mean discharges, 130 cfs (94,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,400 cfs Jan. 13 (gage height, 36.32 ft); minimum daily, 1.3 cfs Oct. 1, 2.

Period of record: Maximum discharge, 11,000 cfs Dec. 22, 1964 (gage height, 39.45 ft in gage well, 41.7 ft, from floodmarks), from rating curve extended above 4,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.80 cfs July 23-25, 1968.

Flood of Dec. 21, 1955, reached a peak discharge of 14,300 cfs by slope-area measurement at site 1.2 miles upstream (above Huling Creek) adjusted for intervening drainage area.

REMARKS.--Some storage for irrigation above station in Rainbow Lake (capacity, 4,800 acre-ft). Some flow diverted upstream to Clear Creek basin by Happy Valley Irrigation Canal.

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

REVISIONS (WATER YEARS).--WRD Calif. 1966: 1960(M), 1961(M), 1963(M), 1964(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	12	33	120	331	1,030	593	305	149	34	9.9	8.7
2	1.3	91	34	209	276	749	614	290	136	31	9.1	6.8
3	1.5	103	32	222	258	602	567	275	116	33	7.7	9.1
4	1.5	54	32	244	630	545	523	262	69	31	8.4	9.2
5	2.3	24	30	241	418	497	567	252	61	31	7.0	8.6
6	2.8	20	23	233	931	474	509	243	57	29	7.6	8.8
7	2.9	23	23	214	1,460	439	461	267	57	28	8.1	10
8	2.5	24	41	182	1,000	403	437	272	57	27	6.5	11
9	2.2	27	32	154	1,700	374	426	268	62	25	5.8	11
10	3.1	26	515	137	1,670	339	418	270	74	19	8.6	11
11	5.4	27	155	844	1,320	319	431	255	89	19	7.2	11
12	12	25	100	2,680	868	333	468	245	76	19	8.7	11
13	10	20	141	2,840	868	295	445	236	64	19	7.7	10
14	8.0	29	286	828	1,390	285	421	234	64	18	8.3	10
15	8.2	57	444	472	1,320	261	410	210	60	18	7.2	11
16	7.4	41	232	445	907	244	390	199	55	17	8.4	11
17	7.3	33	152	395	811	412	394	191	52	17	8.1	11
18	7.2	35	121	398	814	369	378	183	53	16	7.3	12
19	6.6	37	104	719	707	341	372	175	57	16	7.1	13
20	8.2	36	81	1,380	621	388	371	169	57	15	12	13
21	7.8	34	63	1,780	565	436	379	163	53	15	13	14
22	8.9	32	58	1,040	518	426	405	152	50	13	13	13
23	6.5	30	145	828	531	452	441	144	47	13	11	13
24	5.6	31	886	681	906	465	387	152	45	13	11	11
25	5.3	34	416	642	546	470	357	154	42	13	10	11
26	5.9	34	251	749	483	483	340	162	39	13	10	11
27	6.4	34	278	544	574	517	326	152	38	12	10	10
28	6.8	33	678	455	1,300	562	320	148	37	12	10	6.5
29	9.0	33	233	384	-----	588	313	156	34	11	10	8.8
30	15	33	147	340	-----	610	310	161	34	10	10	9.3
31	13	-----	114	294	-----	619	-----	149	-----	10	10	-----
TOTAL	191.9	1,072	5,880	20,694	23,723	14,327	12,773	6,494	1,884	597	278.7	314.8
MEAN	6.19	35.7	190	668	847	462	426	209	62.8	19.3	8.99	10.5
MAX	15	103	886	2,840	1,700	1,030	614	305	149	34	13	14
MIN	1.3	12	23	120	258	244	310	144	34	10	5.8	6.5
AC-FT	381	2,130	11,660	41,050	47,050	28,420	25,340	12,880	3,740	1,180	553	624
CAL YR 1968	TOTAL	36,923.00	MEAN	101	MAX	1,810	MIN	.80	AC-FT	73,240		
WTR YR 1969	TOTAL	88,229.4	MEAN	242	MAX	2,840	MIN	1.3	AC-FT	175,000		

11-3758.2. SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°18'59", long 122°26'52", in SE $\frac{1}{4}$ sec.32, T.29 N., R.5 W., Tehama County, on right bank 15 ft downstream from highway bridge, 0.7 mile upstream from Dry Fork, and 10.3 miles southwest of Cottonwood.

DRAINAGE AREA.--217 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 525 ft (from topographic map). October 1962 to Dec. 22, 1964, at site 85 ft upstream at different datum.

AVERAGE DISCHARGE.--7 years, 206 cfs (149,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,320 cfs Jan. 13 (gage height, 6.89 ft); no flow for many days.
Period of record: Maximum discharge, 13,400 cfs Dec. 22, 1964 (gage height, 13.6 ft, from floodmarks), from slope-area measurement of maximum flow; no flow for many days in each year.

REMARKS.--Small diversion above station. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	14	59	123	508	947	1,150	521	289	67	13	2.1
2	0	19	55	241	453	674	980	486	282	65	12	1.9
3	0	33	50	309	399	609	809	459	276	61	11	1.7
4	0	48	45	442	394	531	692	430	279	58	9.5	1.5
5	0	26	41	508	668	491	723	407	281	56	9.0	1.5
6	0	18	37	515	1,050	471	686	433	273	55	8.7	1.5
7	0	15	38	490	543	436	609	523	255	54	8.8	1.5
8	0	11	47	448	515	408	567	588	232	52	8.7	1.4
9	0	8.5	65	391	1,020	386	552	657	216	50	8.4	1.5
10	0	7.0	599	342	863	368	544	702	211	49	7.5	1.6
11	0	6.6	489	439	1,490	341	571	682	200	47	6.3	1.6
12	0	5.8	217	2,790	1,400	339	684	702	188	45	5.6	1.4
13	.10	27	114	4,450	1,010	320	682	666	179	46	5.3	1.4
14	2.5	26	177	1,920	919	303	621	604	172	46	6.1	1.6
15	10	40	394	1,020	1,230	307	563	518	162	44	6.0	1.6
16	9.4	28	309	670	755	349	535	486	169	42	5.6	1.6
17	7.9	20	136	559	626	400	570	497	160	39	4.8	1.6
18	6.3	106	82	526	615	484	646	514	153	37	4.2	2.7
19	4.8	260	66	986	549	475	616	474	240	34	4.3	3.7
20	4.8	190	58	3,220	510	487	611	420	202	31	4.9	6.5
21	4.3	140	45	4,200	471	617	655	385	172	27	4.5	6.9
22	4.3	109	44	2,340	475	544	777	377	142	25	4.6	6.7
23	4.2	87	52	1,510	598	586	821	392	119	23	4.0	7.2
24	3.9	79	343	1,130	1,350	615	671	404	112	22	3.8	6.7
25	3.4	72	470	1,020	726	624	566	377	97	22	3.6	5.1
26	3.1	71	342	1,910	621	661	502	343	88	21	3.8	4.0
27	3.2	62	242	1,350	708	779	482	321	84	20	3.4	3.8
28	3.4	59	504	977	1,640	1,050	505	290	78	18	3.3	3.5
29	5.2	56	298	725	-----	1,230	573	271	75	15	3.2	3.4
30	6.5	56	194	646	-----	1,300	549	285	71	15	3.1	3.6
31	9.3	-----	139	555	-----	1,290	-----	294	-----	14	3.0	-----
TOTAL	96.60	1,699.9	5,751	36,752	22,106	18,422	19,512	14,508	5,457	1,200	190.0	90.8
MEAN	3.12	56.7	186	1,186	790	594	650	468	182	38.7	6.13	3.03
MAX	10	260	599	4,450	1,640	1,300	1,150	702	289	67	13	7.2
MIN	0	5.8	37	123	394	303	482	271	71	14	3.0	1.4
AC-FT	192	3,370	11,410	72,900	43,850	36,540	38,700	28,780	10,820	2,380	377	180
CAL YR 1968	TOTAL	63,160.70	MEAN	173	MAX	3,380	MIN	0	AC-FT	125,300		
WTR YR 1969	TOTAL	125,785.30	MEAN	345	MAX	4,450	MIN	0	AC-FT	249,500		

11-3760. COTTONWOOD CREEK NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°23'10", long 122°14'12", in NE $\frac{1}{4}$ sec.7, T.29 N., R.3 W., Tehama County, on right bank 2 miles east of Cottonwood, and 2.4 miles upstream from mouth.

DRAINAGE AREA.--922 sq mi.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 364.0 ft above mean sea level (levels by Corps of Engineers). Prior to July 26, 1963, at site 250 ft upstream at datum 3.59 ft higher. Sept. 21, 1967, to Jan. 14, 1968, auxiliary gage at a site a few hundred feet downstream at datum 2.35 ft higher.

AVERAGE DISCHARGE.--29 years, 827 cfs (599,200 acre-ft per year); median of yearly mean discharges, 640 cfs (464,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 23,500 cfs Jan. 13 (gage height, 15.48 ft); minimum daily, 40 cfs Oct. 25.

Period of record: Maximum discharge, 60,000 cfs Dec. 22, 1964 (gage height, 19.64 ft); minimum, 15 cfs for several days in September 1945.

REMARKS.--Records good. Small diversions for irrigation above station. At times during irrigation season, Cottonwood Creek receives water above station from Sacramento River by way of Anderson-Cottonwood Canal. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	45	131	1,200	2,220	7,560	3,700	1,650	690	226	91	81
2	52	52	129	1,740	2,030	4,530	3,210	1,550	668	217	93	81
3	49	173	121	2,400	1,800	3,760	2,880	1,440	638	196	88	83
4	46	236	117	2,980	1,700	2,940	2,490	1,360	592	196	83	83
5	47	141	114	3,080	2,810	2,580	2,460	1,300	578	196	86	76
6	48	117	112	2,760	8,210	2,450	2,530	1,310	548	188	86	79
7	60	105	114	2,310	3,890	2,340	2,190	1,450	518	184	83	83
8	45	105	141	1,900	3,170	2,230	2,130	1,520	497	177	79	88
9	46	105	225	1,490	7,590	2,130	2,100	1,630	490	173	76	91
10	44	105	3,100	1,220	5,550	2,020	2,110	1,720	504	166	76	93
11	61	102	2,240	2,750	8,020	1,860	2,150	1,700	525	155	74	88
12	90	102	975	14,300	8,390	1,850	2,380	1,690	532	151	67	79
13	53	107	709	18,400	5,310	1,730	2,430	1,610	504	142	65	83
14	61	119	1,490	8,350	5,560	1,620	2,280	1,500	455	139	74	79
15	58	152	2,570	4,560	9,670	1,570	2,130	1,310	436	132	67	91
16	81	194	2,080	2,920	5,750	1,590	1,990	1,190	410	129	67	98
17	119	169	1,040	2,200	4,190	1,880	2,030	1,160	384	126	74	86
18	122	166	775	1,960	4,140	2,230	2,190	1,180	367	123	74	83
19	134	250	649	4,840	3,560	2,200	2,150	1,120	410	126	76	83
20	119	246	565	11,500	3,170	2,170	2,080	1,030	448	120	71	91
21	52	194	490	14,400	2,810	2,820	2,120	956	390	117	67	96
22	43	166	450	8,800	2,590	2,610	2,330	924	361	115	71	98
23	41	147	388	5,090	3,020	2,600	2,460	892	327	115	71	86
24	41	139	2,710	3,430	7,910	2,620	2,240	900	305	112	76	79
25	40	131	4,380	2,840	5,490	2,590	1,930	870	294	106	71	74
26	41	136	2,810	6,310	3,710	2,640	1,740	832	278	101	81	74
27	44	131	1,900	4,820	3,350	2,880	1,690	795	268	98	76	81
28	49	124	5,790	3,400	10,700	3,400	1,690	742	259	96	81	83
29	119	119	2,780	2,710	-----	3,860	1,780	705	254	96	86	83
30	56	126	1,630	2,640	-----	4,060	1,740	698	240	93	81	91
31	48	-----	1,350	2,300	-----	4,030	-----	698	-----	93	83	-----
TOTAL	1,957	4,204	42,075	149,600	136,310	85,350	67,330	37,432	13,170	4,404	2,394	2,544
MEAN	63.1	140	1,357	4,826	4,868	2,753	2,244	1,207	439	142	77.2	84.8
MAX	134	250	5,790	18,400	10,700	7,560	3,700	1,720	690	226	93	98
MIN	40	45	112	1,200	1,700	1,570	1,690	698	240	93	65	74
AC-FT	3,880	8,340	83,460	296,700	270,400	169,300	133,500	74,250	26,120	8,740	4,750	5,050
CAL YR 1968	TOTAL 264,049		MEAN 721		MAX 13,200		MIN 40		AC-FT 523,700			
WTR YR 1969	TOTAL 546,770		MEAN 1,498		MAX 18,400		MIN 40		AC-FT 1,085,000			

PEAK DISCHARGE (BASE, 7,100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-28	0700	10.91	7,130	2-6	0230	13.34	14,600
1-13	1300	15.48	23,500	2-15	0330	13.15	13,900
1-21	1300	14.18	17,700	2-24	0930	13.20	14,100
1-26	0600	11.04	7,460	2-28	0600	12.76	12,600

SACRAMENTO RIVER BASIN

11-3765.5. BATTLE CREEK BELOW COLEMAN FISH HATCHERY NEAR COTTONWOOD, CALIF.

LOCATION.--Lat 40°23'54", long 122°0'43", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.1, T.29 N., R.3 W., Shasta County, U.S. Fish and Wildlife Service land, on right bank 3.7 miles downstream from Spring Branch, 5.7 miles upstream from mouth, and 7.0 miles east of Cottonwood.

DRAINAGE AREA.--358 sq mi.

PERIOD OF RECORD.--October 1961 to current year. October 1940 to September 1961 at site 0.6 mile upstream published as "near Cottonwood"; low flow records not equivalent owing to Coleman Fish Hatchery diversion.

GAGE.--Water-stage recorder. Altitude of gage is 415 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 482 cfs (349,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,100 cfs Jan. 20 (gage height, 13.54 ft); minimum daily, 239 cfs Oct. 10.

Period of record: Maximum discharge, 12,800 cfs Feb. 6, 1942 (gage height, 11.85 ft, site and datum then in use); minimum since 1961, 52 cfs Aug. 8, 1962.

Maximum stage known, 15.8 ft Dec. 11, 1937, from floodmarks at former site and datum (discharge, 35,000 cfs, by slope-area measurement).

REMARKS.--Records excellent. Flow regulated by four small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts 50 to 90 cfs which is returned above the station. Ten cfs diverted above station for irrigation. Maximum flows considered equivalent to former station Battle Creek near Cottonwood. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244	277	347	450	1,020	1,150	995	905	882	434	320	296
2	242	287	337	434	951	1,150	940	896	869	429	317	293
3	241	385	319	433	884	1,240	893	890	864	428	317	292
4	240	364	315	428	858	875	823	822	863	425	317	292
5	241	315	316	429	1,400	797	1,200	834	863	424	312	292
6	241	294	320	423	1,270	763	1,180	925	826	423	312	291
7	240	280	310	417	963	735	975	1,020	779	412	315	288
8	242	277	314	414	894	701	906	1,060	744	406	313	293
9	241	273	345	399	1,200	689	871	1,140	754	408	312	291
10	239	269	2,750	394	1,140	668	831	1,190	742	406	309	291
11	246	270	1,020	689	1,800	651	825	1,250	756	400	308	293
12	270	444	586	2,810	2,080	636	859	1,270	737	398	308	291
13	352	353	512	3,940	1,250	618	862	1,210	710	394	306	293
14	342	321	1,440	1,650	1,310	609	842	1,160	683	396	304	298
15	298	366	1,720	1,130	1,800	602	809	1,040	664	391	306	298
16	277	385	873	895	1,280	604	792	1,020	653	385	303	289
17	271	333	597	771	1,070	634	802	1,040	642	376	301	286
18	267	524	504	918	1,070	651	962	1,080	630	373	299	287
19	262	481	462	3,500	990	641	911	1,060	654	369	303	297
20	256	369	430	6,260	964	630	907	992	614	370	301	303
21	253	342	399	6,310	932	651	948	971	638	371	299	302
22	257	337	391	3,100	859	634	979	988	590	368	299	299
23	252	337	450	1,880	1,140	635	1,060	1,020	551	363	298	299
24	253	334	3,340	1,500	1,060	639	961	1,030	535	369	298	298
25	247	397	2,270	2,210	916	648	858	988	517	362	298	299
26	245	356	862	3,380	875	659	816	1,000	500	355	297	298
27	241	333	630	1,930	846	679	788	923	482	349	297	297
28	252	322	757	1,510	1,410	714	798	881	476	342	297	296
29	268	312	631	1,250	-----	757	864	862	465	335	298	296
30	377	323	523	1,170	-----	800	915	881	447	326	295	296
31	298	-----	475	1,040	-----	900	-----	885	-----	328	294	-----
TOTAL	8,195	10,260	24,545	52,064	32,232	22,760	27,172	31,233	20,130	11,915	9,453	8,834
MEAN	264	342	792	1,679	1,151	734	906	1,008	671	384	305	294
MAX	377	524	3,340	6,310	2,080	1,240	1,200	1,270	882	434	320	303
MIN	239	269	310	394	846	602	788	822	447	326	294	286
AC-FT	16,250	20,350	48,680	103,300	63,930	45,140	53,890	61,950	39,930	23,630	18,750	17,520
CAL YR 1968	TOTAL 169,501		MEAN 463		MAX 3,450		MIN 220		AC-FT 336,200			
WTR YR 1969	TOTAL 258,793		MEAN 709		MAX 6,310		MIN 239		AC-FT 513,300			

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1045	9.35	5,480	1-20	0015	13.54	12,100
12-15	1415	8.14	3,980	1-26	0545	8.21	4,440
12-24	2115	9.62	5,840	2-12	0100	7.20	3,190
1-12	2345	9.29	5,450				

11-3771. SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°17'19", long 122°11'08", in SW¼SE¼ sec.10, T.28 N., R.3 W., Tehama County, on left bank 2.7 miles upstream from Bend Bridge, and 8.1 miles northeast of Red Bluff.

DRAINAGE AREA.--8,904 sq mi, excluding Goose Lake basin.

PERIOD OF RECORD.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to current year. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894-96, as "at Jellys Ferry" 1895-1902, and as "near Red Bluff" 1903-68.

GAGE.--Water-stage recorder. Altitude of gage is 310 ft (from topographic map). Prior to January 1902, non-recording gage at site 6.1 miles upstream at different datum. January 1902 to December 1919, nonrecording gage at several sites about 10 miles downstream at different datum. December 1919 to September 1968, water-stage recorder at site 10.1 miles downstream at different datum.

AVERAGE DISCHARGE.--78 years, 11,540 cfs (8,355,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 91,700 cfs Jan. 22 (gage height, 25.35 ft); minimum daily, 6,380 cfs Jan. 10.

Period of record: Maximum discharge, 291,000 cfs Feb. 28, 1940 (gage height, 38.9 ft, site and datum then in use), from rating curve extended above 170,000 cfs on basis of velocity-area studies; minimum (1892-1969), 2,000 cfs Mar. 29, 1944.

REVISIONS.--The maximum discharge for the water year 1965 has been revised to 156,000 cfs Dec. 22, 1964 (gage height, 28.15 ft), superseding figure published in WRD Calif. 1965.

REMARKS.--Records excellent except those for period Dec. 23 to Feb. 14, which are good. Flow regulated by Shasta Lake since Dec. 30, 1943 (see sta 11-3700). Diversions, in addition to those on tributaries, for irrigation of 22,000 acres between stations at Keswick and above Bend Bridge. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (see sta 11-5254.3) started in April 1963. Records of chemical analyses, water temperatures, and suspended-sediment loads at or near this gaging station for the water year 1969 are published in Part 2 of this report.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for high-water year 1965, superseding figures published in WRD Calif. 1965 are given below:

Dec. 22, 1964..... 101,000
Dec. 23, 1964..... 98,000

MONTH	CFS-DAYS	MAXIMUM	MINIMUM	MEAN	RUNOFF IN ACRE-FEET
December 1964	806,710	101,000	-	-	-
CAL YR 1964	-	101,000	4,140	10,500	7,626,000
WTR YR 1965	-	101,000	4,140	13,300	9,629,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968-TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,320	7,670	7,730	8,620	29,100	41,400	12,500	14,200	15,700	14,200	12,100	12,000
2	8,410	7,710	7,820	8,670	24,700	26,900	11,900	14,100	15,700	13,300	12,100	12,000
3	8,100	8,290	7,620	9,170	20,700	26,100	11,300	14,000	15,600	12,700	12,100	11,700
4	7,710	8,090	7,560	9,510	19,800	21,300	10,500	13,800	15,500	12,700	12,100	10,900
5	7,420	7,820	7,550	9,320	26,100	19,600	13,000	13,700	15,400	12,700	12,000	10,000
6	7,440	7,710	7,510	8,580	36,100	17,100	15,000	13,700	15,400	12,700	12,100	9,430
7	7,400	7,740	7,490	8,000	25,200	15,400	12,300	14,100	15,300	12,600	12,000	9,430
8	7,350	7,690	7,650	7,350	22,200	14,300	11,500	14,300	15,300	12,600	12,100	9,430
9	7,350	7,730	7,830	6,750	37,900	13,900	11,200	14,500	15,400	12,600	12,100	9,430
10	7,350	7,760	20,100	6,380	33,800	13,600	10,900	14,700	15,500	12,500	12,100	9,390
11	7,530	7,780	16,300	13,000	49,800	12,500	10,800	14,800	15,500	12,500	12,100	9,380
12	8,050	8,410	9,740	59,800	71,600	11,800	11,000	14,900	15,400	12,500	12,100	9,380
13	8,350	8,250	8,540	80,000	55,000	11,200	11,100	15,800	15,300	12,500	12,100	9,390
14	8,420	8,160	19,300	32,400	55,800	10,900	10,800	16,600	15,200	12,500	12,100	9,390
15	8,180	8,160	19,000	18,300	73,500	10,400	10,600	14,300	15,100	12,500	12,000	9,390
16	8,010	8,290	14,700	14,300	59,800	10,100	9,830	17,900	15,000	12,400	12,100	9,390
17	8,000	7,980	9,780	11,800	53,300	9,810	10,100	18,900	14,900	12,300	12,100	9,390
18	7,960	8,240	8,410	11,400	52,600	10,900	10,800	18,700	14,900	12,300	12,000	9,450
19	7,980	8,480	7,730	27,300	51,000	10,700	10,600	18,700	15,000	12,300	12,000	9,480
20	7,980	8,010	7,420	48,900	49,800	10,600	10,500	18,400	15,000	12,300	12,100	9,470
21	7,940	7,820	7,190	58,900	41,000	11,200	10,500	18,300	14,900	12,300	12,000	9,480
22	7,920	7,640	7,110	81,100	30,200	10,900	11,200	18,100	14,800	12,300	12,000	9,470
23	7,830	7,640	7,280	66,900	31,000	10,800	12,900	17,300	14,800	12,400	12,000	9,410
24	7,820	7,650	23,400	62,800	38,800	10,800	14,000	17,300	14,700	12,300	12,000	9,410
25	7,800	7,830	34,600	63,900	35,200	10,800	13,100	17,200	14,700	12,300	12,000	9,410
26	7,800	7,710	19,800	71,500	27,800	10,800	13,200	17,200	14,700	12,300	12,000	9,390
27	7,800	7,620	12,800	66,000	24,900	11,000	13,400	17,100	14,700	12,300	12,000	9,410
28	7,820	7,550	25,500	62,800	42,900	11,500	13,300	16,900	14,600	12,200	12,000	9,430
29	8,160	7,550	17,400	49,700	-----	11,900	13,400	16,800	14,600	12,200	12,000	9,450
30	8,560	7,650	11,600	36,600	-----	12,200	14,000	16,700	14,500	12,200	12,000	9,430
31	8,200	-----	9,740	35,200	-----	12,400	-----	15,700	-----	12,200	12,000	-----
TOTAL	245,960	236,630	386,200	1,055,000	1,119,600	442,810	355,230	498,700	453,100	387,700	373,500	292,110
MEAN	7,934	7,888	12,460	34,030	39,990	14,280	11,840	16,090	15,100	12,510	12,050	9,737
MAX	9,320	8,480	34,600	81,100	73,500	41,400	15,000	18,900	15,700	14,200	12,100	12,000
MIN	7,350	7,550	7,110	6,380	19,800	9,810	9,830	13,700	14,500	12,200	12,000	9,380
AC-FT	487,900	469,400	766,000	2,092M	2,221M	878,300	704,600	989,200	898,700	769,000	740,800	579,400
CAL YR 1968	TOTAL 4,455,100	MEAN 12,170	MAX 61,900	MIN 7,110	AC-FT 8,837,000							
WTR YR 1969	TOTAL 5,846,490	MEAN 16,020	MAX 81,100	MIN 6,380	AC-FT 11,600,000							

NOTE.--No gage-height record Jan. 12-23.

SACRAMENTO RIVER BASIN

11-3788. RED BANK CREEK NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°05'25", long 122°24'45", in SE $\frac{1}{4}$ sec.22, T.26 N., R.5 W., Tehama County, on road bridge near left bank 0.1 mile downstream from unnamed tributary, 1.8 miles southeast of town of Red Bank, and about 13 miles west of Red Bluff.

DRAINAGE AREA.--93.5 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 470 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 44.2 cfs (32,020 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,160 cfs Feb. 24 (gage height, 9.92 ft); no flow for several months.
Period of record: Maximum discharge, 9,730 cfs Jan. 5, 1965 (gage height, 10.06 ft); no flow for several months in each year.

REMARKS.--Some small storage ponds and possibly some diversions for irrigation upstream.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	85	125	726	64	18	.80	0	0	0
2	0	0	0	104	107	456	62	16	.70	0	0	0
3	0	0	0	117	89	338	63	15	.50	0	0	0
4	0	0	0	112	77	255	53	14	.50	0	0	0
5	0	0	0	90	1,030	212	57	13	.60	0	0	0
6	0	0	0	69	1,260	180	53	11	.70	0	0	0
7	0	0	0	54	305	157	47	11	.70	0	0	0
8	0	0	0	44	287	142	43	10	.90	0	0	0
9	0	0	0	37	682	128	41	10	1.7	0	0	0
10	0	0	63	33	335	116	38	9.6	2.7	0	0	0
11	0	0	21	329	1,770	104	36	9.0	3.4	0	0	0
12	0	0	7.4	3,200	581	104	37	8.4	2.7	0	0	0
13	0	0	5.3	1,850	299	88	36	7.6	1.9	0	0	0
14	0	0	41	405	550	80	34	8.1	1.3	0	0	0
15	0	0	327	185	788	75	32	7.3	.90	0	0	0
16	0	0	90	114	315	70	30	6.6	.40	0	0	0
17	0	0	39	77	236	97	30	5.8	.20	0	0	0
18	0	0	31	169	261	81	31	5.2	.10	0	0	0
19	0	0	29	1,660	201	67	29	4.7	.10	0	0	0
20	0	0	27	1,720	170	78	29	4.0	4.6	0	0	0
21	0	0	28	1,190	140	271	28	3.6	3.1	0	0	0
22	0	0	32	458	85	121	29	3.3	1.7	0	0	0
23	0	0	39	281	173	92	31	3.0	.90	0	0	0
24	0	0	1,000	196	1,630	80	28	2.9	.50	0	0	0
25	0	0	684	189	410	74	24	2.9	.30	0	0	0
26	0	0	288	958	310	70	22	2.9	.10	0	0	0
27	0	0	247	280	678	69	21	2.7	0	0	0	0
28	0	0	632	208	1,720	70	20	2.4	0	0	0	0
29	0	0	226	169	-----	71	19	1.7	0	0	0	0
30	0	0	135	175	-----	70	19	1.3	0	0	0	0
31	0	-----	97	141	-----	68	-----	1.0	-----	0	0	-----
TOTAL	0	0	4,088.7	14,699	14,614	4,610	1,086	222.0	32.00	0	0	0
MEAN	0	0	132	474	522	149	36.2	7.16	1.07	0	0	0
MAX	0	0	1,000	3,200	1,770	726	64	18	4.6	0	0	0
MIN	0	0	0	33	77	67	19	1.0	0	0	0	0
AC-FT	0	0	8,110	29,160	28,990	9,140	2,150	440	63	0	0	0
CAL YR 1968	TOTAL	12,762.00	MEAN	34.9	MAX	1,000	MIN	0	AC-FT	25,310		
WTR YR 1969	TOTAL	39,351.70	MEAN	108	MAX	3,200	MIN	0	AC-FT	78,050		

11-3790. ANTELOPE CREEK NEAR RED BLUFF, CALIF.

LOCATION.--Lat 40°12'14", long 122°07'02", in Rio De Los Berrendos Grant, Tehama County, on right bank 1.8 miles upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 miles east of Red Bluff, and 9.7 miles upstream from mouth.

DRAINAGE AREA.--123 sq mi.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to Sept. 18, 1954, at site 0.6 mile downstream at different datum. Sept. 18, 1954, to July 9, 1969, at datum 2.00 ft higher.

AVERAGE DISCHARGE.--29 years, 146 cfs (105,800 acre-ft per year); median of yearly mean discharges, 130 cfs (94,180 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,430 cfs Jan. 21 (gage height, 13.25 ft); minimum daily, 35 cfs Oct. 1-6, 8-10.

Period of record: Maximum discharge, 11,500 cfs Feb. 22, 1956 (gage height, 12.43 ft); maximum gage height, 13.96 ft Oct. 12, 1962; minimum discharge, 8.2 cfs Oct. 27, 1961.

Flood of December 1937 reached a stage of about 22 ft, from floodmarks, at former site and datum.

REMARKS.--Records good: No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	46	85	140	345	695	249	261	193	68	43	40
2	35	48	78	128	308	473	242	258	183	67	45	40
3	35	119	70	121	269	420	236	258	175	66	45	40
4	35	103	66	117	248	326	208	243	170	65	43	40
5	35	62	63	117	539	278	551	234	164	64	43	40
6	35	53	60	115	751	250	496	263	155	63	45	40
7	36	49	58	110	426	226	375	312	145	62	45	40
8	35	47	64	105	353	208	308	342	136	61	45	41
9	35	46	68	98	1,000	195	274	375	141	60	45	40
10	35	45	2,190	92	659	184	249	419	141	58	45	40
11	37	46	547	260	1,220	171	233	455	142	56	43	39
12	52	254	226	1,910	1,330	161	235	458	131	56	44	40
13	61	87	166	4,150	741	153	235	444	121	54	43	40
14	71	72	895	1,220	671	145	228	419	115	54	43	40
15	50	161	1,190	566	1,330	140	217	351	109	54	43	40
16	44	145	500	364	760	137	205	330	102	52	42	40
17	43	91	257	272	539	154	204	327	98	51	43	40
18	41	219	176	269	471	155	246	340	96	48	42	40
19	41	155	144	2,010	408	155	235	332	102	48	43	42
20	41	99	117	2,990	416	157	233	299	94	46	42	42
21	41	79	98	4,240	411	192	246	285	92	46	41	43
22	40	70	89	1,760	360	174	272	286	88	45	41	42
23	40	67	379	995	641	166	344	288	83	46	41	41
24	40	80	2,040	710	480	163	317	285	80	49	40	41
25	39	101	1,290	1,260	424	162	268	262	77	47	41	41
26	39	84	502	1,950	335	162	244	260	76	45	41	40
27	39	74	291	1,050	298	167	227	241	74	45	41	40
28	39	67	336	761	888	177	220	219	72	45	41	40
29	52	63	276	562	-----	186	233	205	70	45	41	40
30	74	84	195	461	-----	196	256	202	69	45	41	40
31	51	-----	160	372	-----	225	-----	201	-----	43	40	-----
TOTAL	1,326	2,716	12,676	29,275	16,621	6,753	8,086	9,454	3,494	1,654	1,321	1,212
MEAN	42.8	90.5	409	944	594	218	270	305	116	53.4	42.6	40.4
MAX	74	254	2,190	4,240	1,330	695	551	458	193	68	45	43
MIN	35	45	58	92	248	137	204	201	69	43	40	39
AC-FT	2,630	5,390	25,140	58,070	32,970	13,390	16,040	18,750	6,930	3,280	2,620	2,400
CAL YR 1968	TOTAL 53,047		MEAN 145		MAX 2,190		MIN 32		AC-FT 105,200			
WTR YR 1969	TOTAL 94,588		MEAN 259		MAX 4,240		MIN 35		AC-FT 187,600			

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1215	10.56	4,710	1-21	1115	13.25	9,430
12-15	1415	9.52	3,490	1-26	0415	9.12	3,100
12-24	1115	9.42	3,390	2-15	1145	8.20	2,400
1-13	0715	11.94	6,750				

SACRAMENTO RIVER BASIN

11-3795. ELDER CREEK NEAR PASKENTA, CALIF.

LOCATION.--Lat 40°01'29", long 122°30'31", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.14, T.25 N., R.6 W., Tehama County, on left bank 2.5 miles downstream from South Fork Elder Creek, 8.2 miles northwest of Fournoy, and 10 miles north of Paskenta.

DRAINAGE AREA.--92.9 sq mi.

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft above mean sea level. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft downstream at datum 5.13 ft lower.

AVERAGE DISCHARGE.--21 years, 98.6 cfs (71,440 acre-ft per year); median of yearly mean discharges, 80 cfs (58,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,850 cfs Jan. 13 (gage height, 8.38 ft), from rating curve extended above 1,700 cfs on basis of a step-backwater computation; minimum daily, 1.4 cfs Oct. 1. Period of record: Maximum discharge, 11,700 cfs Feb. 24, 1958 (gage height, 13.90 ft, site and datum then in use), from rating curve extended above 3,500 cfs on basis of slope-area measurements at gage heights 10.97 and 13.90 ft; no flow at times in some years.

REMARKS.--Records excellent except those for periods of no gage-height record, which are fair. No regulation or large diversion above station. Records of suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	5.7	10	98	243	800	464	234	62	20	6.6	3.3
2	1.6	25	9.4	90	216	480	405	216	59	19	5.7	3.3
3	1.5	17	9.0	105	197	365	345	204	55	18	5.5	3.3
4	1.7	11	8.8	116	187	320	302	185	53	17	5.3	3.2
5	1.9	8.9	8.8	126	497	285	308	186	50	16	5.2	3.2
6	2.1	8.2	8.8	115	597	255	282	224	48	16	5.3	3.3
7	1.8	7.7	9.3	107	314	238	243	273	46	15	5.2	3.3
8	1.6	7.2	17	98	328	222	229	292	45	15	5.1	3.5
9	1.7	7.0	15	87	729	214	231	314	49	14	5.0	3.4
10	1.8	6.8	542	170	502	196	229	318	51	14	4.7	3.4
11	2.1	6.9	115	430	1,500	182	259	302	52	13	4.6	3.2
12	3.9	8.0	51	1,700	865	180	322	285	46	13	4.3	3.2
13	5.3	7.9	48	2,000	560	163	292	259	41	13	4.2	3.2
14	5.7	9.9	134	656	680	157	261	216	38	12	4.2	3.3
15	5.6	21	822	377	1,140	163	234	178	35	12	4.2	3.5
16	4.9	20	138	272	560	182	231	173	31	11	4.0	3.6
17	4.2	15	67	210	380	289	267	178	30	11	3.8	3.7
18	3.7	25	46	273	330	298	299	172	31	10	3.9	3.9
19	3.3	24	37	1,370	290	261	278	151	41	10	4.1	4.4
20	3.3	16	30	2,340	270	295	291	133	47	9.6	4.3	4.7
21	3.3	14	25	1,830	255	495	334	124	39	9.2	4.1	5.0
22	3.2	12	26	884	250	353	393	120	33	9.0	3.8	4.6
23	3.0	11	84	540	380	349	370	119	29	9.0	3.7	4.3
24	2.9	10	195	411	1,160	329	281	113	27	9.0	3.9	4.2
25	2.9	11	471	499	470	320	227	103	26	8.7	3.9	3.8
26	2.8	9.9	306	1,100	310	341	203	96	25	8.6	3.8	3.7
27	2.8	9.4	155	542	450	413	202	90	24	8.3	3.8	3.5
28	2.9	9.1	355	413	1,350	489	233	80	23	8.0	3.6	3.7
29	4.9	9.2	170	339	-----	543	264	74	22	7.6	3.7	3.7
30	6.5	10	132	306	-----	554	245	71	21	7.5	3.5	3.7
31	6.3	-----	106	265	-----	538	-----	67	-----	7.1	3.4	-----
TOTAL	100.6	363.8	4,151.1	17,869	15,010	10,269	8,524	5,550	1,179	370.6	136.4	110.1
MEAN	3.25	12.1	134	576	536	331	284	179	39.3	12.0	4.40	3.67
MAX	6.5	25	822	2,340	1,500	800	464	318	62	20	6.6	5.0
MIN	1.4	5.7	8.8	87	187	157	202	67	21	7.1	3.4	3.2
AC-FT	200	722	8,230	35,440	29,770	20,370	16,910	11,010	2,340	735	271	218
CAL YR 1968	TOTAL	25,096.8	MEAN	68.6	MAX	1,130	MIN	1.1	AC-FT	49,780		
WTR YR 1969	TOTAL	63,633.6	MEAN	174	MAX	2,340	MIN	1.4	AC-FT	126,200		

PEAK DISCHARGE (BASE, 1,200 CFS)						NOTE.--No gage-height record	
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1045	5.88	1,720	1-26	0015	7.31	2,830
12-15	1015	6.88	2,480	2- 5	2330	6.18	1,960
1-13	unknown	8.38	3,850	2-11	1645	6.28	2,030
1-19	2015	8.37	3,840	2-28	unknown	6.45	2,140

Dec. 28 to Jan. 13.

SACRAMENTO RIVER BASIN

815

11-3805. ELDER CREEK AT GERBER, CALIF.

LOCATION.--Lat 40°03'05", long 122°09'53", in Saucos Grant, Tehama County, on right bank 1.0 mile west of Gerber, and 3.5 miles upstream from mouth.

DRAINAGE AREA.--136 sq mi.

PERIOD OF RECORD.--October 1949 to September 1969 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 232.14 ft above mean sea level (from Bureau of Reclamation bench mark). Prior to Oct. 1, 1961, at site about 150 ft upstream at datum 4.32 ft higher.

AVERAGE DISCHARGE.--20 years, 105 cfs (76,070 acre-ft per year); median of yearly mean discharges, 84 cfs (60,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,380 cfs Jan. 19 (gage height, 11.32 ft in gage well, 12.2 ft, from floodmarks); no flow for many days.

Period of record: Maximum discharge, 14,100 cfs Jan. 5, 1965 (gage height, 14.90 ft); no flow at times in each year.

REMARKS.--Records good.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	97	263	1,220	485	231	65	8.6	.71	0
2		0	0	97	229	588	438	213	62	8.6	2.1	0
3		0	0	102	209	485	384	204	55	8.0	.18	0
4		0	0	125	198	390	315	186	55	7.5	0	0
5		0	0	158	536	350	310	172	52	8.0	0	0
6		0	0	155	1,600	326	285	195	45	7.5	0	0
7		0	0	137	390	299	258	249	45	8.0	.34	.16
8		0	.50	110	272	276	231	280	41	7.0	.71	0
9		0	3.0	92	1,090	258	222	315	43	7.5	.20	0
10		0	239	77	658	241	222	340	62	7.0	.38	0
11		0	177	299	2,330	237	226	340	79	7.0	.12	0
12		0	75	2,660	1,520	213	295	325	41	6.5	.17	0
13		0	53	3,310	652	198	295	305	30	6.5	.48	0
14		0	128	888	841	188	267	267	28	5.6	.11	0
15		0	581	440	1,600	184	237	213	24	5.6	.15	0
16		0	221	308	652	194	222	186	23	4.6	.19	0
17		0	107	241	480	258	236	186	22	4.1	.33	0
18		0	87	241	490	304	276	186	20	3.5	.05	0
19		7.1	80	1,440	405	276	267	168	28	3.8	0	0
20		6.1	62	3,600	345	268	276	142	38	3.8	.04	0
21		2.0	38	2,770	299	686	305	129	36	3.0	.68	0
22		.95	31	1,150	268	344	384	121	30	2.1	.40	0
23		.55	51	613	425	305	414	116	24	1.6	0	0
24		.48	1,030	455	1,620	280	315	112	23	1.0	0	0
25		.24	745	435	529	267	249	104	19	1.0	0	0
26		.04	308	1,310	380	276	208	97	17	1.3	0	0
27		0	161	626	485	330	190	94	13	.71	0	0
28		0	619	460	1,740	438	204	83	11	.80	0	0
29		0	250	365	-----	568	249	76	11	.62	0	0
30		0	146	350	-----	457	236	72	9.9	1.1	0	0
31		-----	110	294	-----	438	-----	65	-----	.80	0	-----
TOTAL	0	17.46	5,302.50	23,405	20,506	11,142	8,501	5,772	1,051.9	142.73	7.34	.16
MEAN	0	.58	171	755	732	359	283	186	35.1	4.60	.24	.005
MAX	0	7.1	1,030	3,600	2,330	1,220	485	340	79	8.6	2.1	.16
MIN	0	0	0	77	198	184	190	65	9.9	.62	0	0
AC-FT	0	35	10,520	46,420	40,670	22,100	16,860	11,450	2,090	283	15	.3

CAL YR 1968 TOTAL 26,711.92 MEAN 73.0 MAX 1,400 MIN 0 AC-FT 52,980
WAT YR 1969 TOTAL 75,848.09 MEAN 208 MAX 3,600 MIN 0 AC-FT 150,400

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-15	1500	8.08	2,170	2- 9	0900	8.42	2,200
12-24	1200	8.32	2,430	2-11	2000	10.62	5,210
1-13	0100	10.60	5,180	2-15	0300	8.84	2,680
1-19	2400	11.32	6,380	2-24	0900	10.91	5,680
1-28	0500	8.96	2,900	2-28	0230	8.99	2,870
2- 6	0300	10.27	4,680				

SACRAMENTO RIVER BASIN

11-3815. MILL CREEK NEAR LOS MOLINOS, CALIF.

LOCATION.--Lat 40°03'17", long 122°01'23", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.25 N., R.1 W., Tehama County, on right bank 4.5 miles northeast of Los Molinos, and 5.5 miles upstream from mouth.

DRAINAGE AREA.--131 sq mi.

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 385 ft (from topographic map). Prior to September 1913, nonrecording gage at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--41 years (1928-69), 296 cfs (214,500 acre-ft per year); median of yearly mean discharges, 255 cfs (184,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,400 cfs Jan. 21 (gage height, 13.14 ft); minimum daily, 95 cfs Oct. 1-5, 8-10.

1928 to current year: Maximum discharge, 36,400 cfs (revised) Dec. 11, 1937 (gage height, 23.4 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of step-backwater computation and slope-area measurement of maximum flow; minimum, 49 cfs Dec. 13, 1932.

REVISIONS.--The maximum discharge for the water year 1968 has been revised to 36,400 cfs Dec. 11, 1937 (gage height, 23.4 ft, from floodmarks), from rating curve extended as explained above, superseding figure published in WSP 861, 1315-A, 1735.

REMARKS.--Records good. No storage or large diversion above station. Records of chemical analyses near this station for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	120	175	224	487	708	696	675	692	296	164	124
2	95	152	164	221	441	532	633	667	664	296	161	123
3	95	275	154	224	399	485	543	663	675	291	159	123
4	95	216	152	242	374	419	472	599	700	286	155	123
5	95	162	150	260	627	380	938	627	702	283	152	123
6	97	145	147	264	847	356	686	731	661	273	152	123
7	97	136	144	257	523	331	550	897	594	271	150	121
8	95	130	150	245	467	309	496	950	548	265	148	122
9	95	150	162	227	919	294	484	1,070	509	265	147	121
10	95	156	2,270	212	683	279	456	1,130	481	263	146	121
11	99	142	856	302	1,230	263	471	1,150	514	259	144	120
12	222	494	428	2,010	1,340	254	524	1,170	512	252	142	121
13	277	227	348	4,400	777	245	514	1,070	523	246	140	120
14	243	194	928	1,310	714	234	498	966	504	242	139	120
15	159	257	1,140	639	1,530	231	470	799	488	240	138	119
16	137	215	600	438	810	234	467	784	491	234	137	119
17	130	180	340	346	603	252	493	818	470	228	137	119
18	124	424	298	357	543	267	615	878	453	221	136	119
19	120	326	264	2,240	493	277	595	827	450	217	135	122
20	117	233	233	4,570	504	284	615	746	425	213	135	121
21	115	200	212	6,880	481	324	675	724	457	208	133	122
22	112	180	203	2,360	432	298	753	752	410	203	133	121
23	112	180	460	1,300	668	311	789	799	392	202	130	121
24	110	215	1,730	914	540	320	651	817	376	200	130	120
25	107	215	1,220	1,620	490	324	551	763	359	194	130	121
26	107	186	548	2,910	416	338	510	767	334	189	130	119
27	107	172	354	1,530	396	372	498	683	327	185	129	119
28	107	162	354	1,030	1,050	432	507	647	311	179	128	119
29	118	154	312	745	-----	493	615	633	301	174	128	119
30	166	183	260	615	-----	525	687	689	294	171	127	117
31	128	-----	236	511	-----	644	-----	717	-----	167	125	-----
TOTAL	3,871	6,181	14,992	39,403	18,784	11,015	17,452	25,208	14,617	7,213	4,340	3,622
MEAN	125	206	484	1,271	671	355	582	813	487	233	140	121
MAX	277	494	2,270	6,880	1,530	708	938	1,170	702	296	164	124
MIN	95	120	144	212	374	231	456	599	294	167	125	117
AC-FT	7,680	12,260	29,740	78,150	37,260	21,850	34,620	50,000	28,990	14,310	8,610	7,180
CAL YR 1968	TOTAL 105,565		MEAN 288		MAX 2,440		MIN 95		AC-FT 209,400			
WTR YR 1969	TOTAL 166,698		MEAN 457		MAX 6,880		MIN 95		AC-FT 330,600			

PEAK DISCHARGE (BASE, 2,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	0945	8.36	4,980	1-21	1000	13.14	12,400
12-15	1300	6.73	2,840	1-26	0315	8.08	4,160
12-24	1445	6.54	2,640	2-15	1045	6.96	2,960
1-13	0615	9.85	6,520				

SACRAMENTO RIVER BASIN

817

11-3819.9. THOMES CREEK TRIBUTARY AT PASKENTA, CALIF.

LOCATION.--Lat 39°52'15", long 122°33'22", in NW¼NE¼ sec.8, T.23 N., R.6 W., Tehama County, on left bank at culvert on county road, 1.0 mile southwest of Paskenta.

DRAINAGE AREA.--0.64 sq mi.

PERIOD OF RECORD.--Water years 1961-67 (annual maximum), October 1967 to current year.

GAGE.--Water-stage recorder with tipping-bucket rain-gage attachment and crest-stage gages. Altitude of gage is 825 ft (from topographic map). Prior to Aug. 7, 1967, crest-stage gages only, at same site and datum.

EXTREMES.--Current year: Maximum discharge, 104 cfs Feb. 11 (gage height, 7.78 ft); no flow for several months. Period of record: Maximum discharge, 107 cfs Jan. 5, 1965 (gage height, 7.99 ft), from rating curve extended above 43 cfs on basis of computation of flow through culvert at 114 cfs; no flow for several months each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND; WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.10	.95	1.9	.16	0	0	0	0	0
2	0	0	0	.06	.76	3.2	.29	0	0	0	0	0
3	0	0	0	.04	.70	1.5	.20	0	0	0	0	0
4	0	0	0	.03	.82	.95	.28	0	0	0	0	0
5	0	0	0	.02	12	.88	.40	0	0	0	0	0
6	0	0	0	.02	5.7	.76	.40	0	0	0	0	0
7	0	0	0	.02	1.1	.76	.16	0	0	0	0	0
8	0	0	0	.01	1.4	.70	.07	0	0	0	0	0
9	0	0	0	.01	6.7	.76	.07	0	0	0	0	0
10	0	0	.61	.01	1.8	.65	.04	0	0	0	0	0
11	0	0	0	9.4	21	.60	.04	0	0	0	0	0
12	0	0	0	18	3.6	.60	.03	0	0	0	0	0
13	0	0	.39	11	1.9	.45	.02	0	0	0	0	0
14	0	0	.24	.75	12	.40	.03	0	0	0	0	0
15	0	0	3.9	.45	6.9	.40	.02	0	0	0	0	0
16	0	0	.07	.36	1.9	.40	0	0	0	0	0	0
17	0	0	0	.28	1.7	1.0	0	0	0	0	0	0
18	0	0	0	.20	2.0	.55	0	0	0	0	0	0
19	0	0	0	1.0	1.4	.50	0	0	0	0	0	0
20	0	0	0	7.4	.88	1.2	0	0	0	0	0	0
21	0	0	0	10	.76	5.7	0	0	0	0	0	0
22	0	0	0	1.0	1.4	.65	0	0	0	0	0	0
23	0	0	1.3	.70	3.4	.40	.01	0	0	0	0	0
24	0	0	18	.65	12	.28	0	0	0	0	0	0
25	0	0	12	7.1	.76	.28	0	0	0	0	0	0
26	0	0	.70	3.7	.60	.24	0	0	0	0	0	0
27	0	0	.76	.95	8.7	.24	0	0	0	0	0	0
28	0	0	4.8	.95	8.9	.24	0	0	0	0	0	0
29	0	0	.40	1.2	-----	.20	0	0	0	0	0	0
30	0	0	.20	1.8	-----	.16	0	0	0	0	0	0
31	0	-----	.11	1.0	-----	.16	-----	0	-----	0	0	-----
TOTAL	0	0	43.48	78.21	121.73	26.71	2.22	0	0	0	0	0
MEAN	0	0	1.40	2.52	4.35	.86	.074	0	0	0	0	0
MAX	0	0	18	18	21	5.7	.40	0	0	0	0	0
MIN	0	0	0	.01	.60	.16	0	0	0	0	0	0
AC-FT	0	0	86	155	241	53	4.4	0	0	0	0	0
(a)	.7	2.5	6.9	7.9	8.8	1.9	1.1	0	.2	0	0	0
CAL YR 1968	TOTAL 118.18			MEAN .32	MAX 18	MIN 0	AC-FT 234					
WTR YR 1969	TOTAL 272.35			MEAN .75	MAX 21	MIN 0	AC-FT 540					

a Precipitation, in inches.

SACRAMENTO RIVER BASIN

11-3820. THOMES CREEK AT PASKENTA, CALIF.

LOCATION.--Lat 39°52'57", long 122°33'03", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.23 N., R.6 W., Tehama County, on left bank 0.2 mile upstream from Digger Creek, and 0.3 mile upstream from highway bridge at Paskenta.

DRAINAGE AREA.--194 sq mi.

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to 1943, published as Thomas Creek at Paskenta.

GAGE.--Water-stage recorder. Datum of gage is 731.1 ft above mean sea level. Prior to Oct. 1, 1930, nonrecording gage at site 0.3 mile downstream at different datum. Oct. 1, 1930, to Dec. 28, 1938, water-stage recorder at site 1,300 ft upstream and Dec. 29, 1938, to June 20, 1942, at site 1,000 ft upstream at different datum. June 21, 1942, to Sept. 30, 1959, at present site at datum 1.75 ft higher.

AVERAGE DISCHARGE.--49 years, 279 cfs (202,100 acre-ft per year); median of yearly mean discharges, 235 cfs (170,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,300 cfs Jan. 20 (gage height, 9.80 ft); minimum daily, 3.8 cfs Oct. 1, 2.

Period of record: Maximum discharge, 37,800 cfs Dec. 22, 1964 (gage height, 15.32 ft, in gage well, 16.4 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in many years.

REMARKS.--Records fair. No storage or large diversions above station. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	16	60	130	690	540	2,070	1,880	484	80	21	9.6
2	3.8	68	52	134	630	512	1,820	1,160	458	78	20	9.6
3	4.0	90	48	192	519	434	1,360	930	428	71	19	9.0
4	3.8	57	47	498	477	404	1,180	620	410	69	18	8.3
5	4.0	50	47	690	630	416	1,420	640	399	65	16	8.3
6	4.0	48	51	760	750	440	1,060	1,090	372	63	16	8.3
7	4.0	45	51	730	596	410	760	2,150	335	62	15	8.3
8	4.6	43	85	670	491	404	750	2,370	290	58	15	8.3
9	3.8	42	94	533	980	404	830	2,840	260	54	14	8.3
10	4.0	45	1,530	452	940	366	840	3,100	246	52	14	8.3
11	4.6	44	548	732	1,690	350	1,640	2,280	232	49	13	7.7
12	6.5	66	214	3,260	1,320	345	2,440	2,470	232	46	13	7.7
13	21	59	167	4,130	1,000	325	1,910	1,670	229	42	13	7.7
14	24	55	205	1,900	1,060	325	1,320	1,300	220	44	13	7.7
15	19	62	653	1,170	1,170	360	1,040	1,030	208	43	13	7.7
16	16	58	275	990	1,030	477	1,180	1,000	220	42	13	7.1
17	14	60	180	960	940	760	2,090	1,080	208	40	13	7.1
18	13	222	145	1,110	900	910	2,520	1,050	205	38	13	7.7
19	11	205	145	3,180	780	810	2,420	870	235	36	13	7.7
20	10	134	137	7,320	690	930	2,700	740	217	35	13	8.3
21	9.6	92	127	6,160	564	1,160	3,340	730	180	33	12	8.3
22	9.0	74	127	2,900	519	1,050	3,840	760	157	31	12	8.3
23	8.3	64	130	1,740	540	1,420	3,640	790	145	30	12	8.3
24	7.1	56	406	1,460	931	1,550	2,590	760	132	28	11	8.3
25	7.1	60	513	1,820	556	1,670	1,700	650	112	28	11	8.3
26	6.5	57	394	3,050	477	2,000	1,300	580	111	26	11	8.3
27	6.5	52	255	1,470	580	2,540	1,410	540	104	26	11	7.7
28	5.9	50	458	1,110	780	3,060	2,140	491	96	24	11	7.7
29	7.1	49	275	950	-----	3,140	2,680	491	91	24	10	8.3
30	11	58	188	950	-----	2,900	2,370	540	85	23	10	7.7
31	20	-----	148	780	-----	2,680	-----	512	-----	22	9.6	-----
TOTAL	277.0	2,081	7,755	51,931	22,230	33,092	56,360	37,114	7,101	1,362	418.6	243.9
MEAN	8.94	69.4	250	1,675	794	1,067	1,879	1,197	237	43.9	13.5	8.13
MAX	24	222	1,530	7,320	1,690	3,140	3,840	3,100	484	80	21	9.6
MIN	3.8	16	47	130	477	325	750	491	85	22	9.6	7.1
AC-FT	549	4,130	15,380	103,000	44,090	65,640	111,800	73,610	14,080	2,700	830	484
CAL YR 1968	TOTAL 100,145.5	MEAN 274	MAX 4,510	MIN 3.5	AC-FT 198,600							
WTR YR 1969	TOTAL 219,965.5	MEAN 603	MAX 7,320	MIN 3.8	AC-FT 436,300							

		PEAK DISCHARGE (BASE, 1,800 CFS)					
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1400	7.78	3,960	3-29	0030	7.70	3,800
1-13	1100	8.40	5,300	4-12	0300	7.15	2,680
1-20	0230	9.80	9,300	4-22	2300	7.90	4,200
1-26	0800	7.53	4,120	4-29	0330	7.34	3,060
2-11	1800	7.00	2,500	5-10	0030	7.62	3,640
2-24	0530	6.70	2,300				

11-3825.5. DEER CREEK BELOW SLATE CREEK, NEAR DEER CREEK MEADOWS, CALIF.

LOCATION.--Lat 40°14'02", long 121°27'50", in NE $\frac{1}{4}$ sec.1, T.27 N., R.4 E., Tehama County, Lassen National Forest, on right bank 0.4 mile downstream from Slate Creek, 3.2 miles southwest of Deer Creek Meadows, and 15 miles southwest of Chester.

DRAINAGE AREA.--69.4 sq mi.

PERIOD OF RECORD.--August 1961 to current year.

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

AVERAGE DISCHARGE.--8 years, 132 cfs (95,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,670 cfs Jan. 21 (gage height, 7.13 ft); minimum daily, 47 cfs Oct. 1, 3, 4, 8-10.

Period of record: Maximum discharge, 7,900 cfs Dec. 22, 1964 (gage height, 11.06 ft in gage well, 11.95 ft, from floodmarks), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 9.06 ft; minimum, 37 cfs Nov. 17, 1961, Sept. 17, 1962.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	52	60	63	244	116	406	515	269	132	95	73
2	48	89	56	63	216	114	363	497	260	132	94	71
3	47	94	55	63	198	112	317	475	253	128	93	71
4	47	75	54	64	186	110	305	435	248	126	92	71
5	48	60	56	64	184	109	385	467	242	125	91	71
6	48	55	56	65	174	108	318	538	233	124	91	70
7	48	54	55	66	159	106	286	585	223	121	90	70
8	47	52	60	66	152	103	287	611	222	120	90	71
9	47	55	65	64	172	103	286	640	233	120	89	70
10	47	52	324	64	185	100	292	654	216	117	88	69
11	62	81	203	69	221	99	335	660	221	115	87	69
12	119	166	121	91	214	97	362	654	203	113	86	69
13	116	74	103	205	189	96	348	628	195	112	85	67
14	88	64	94	200	180	95	336	575	215	111	86	67
15	66	63	107	146	174	98	330	513	203	110	85	66
16	58	68	102	119	162	102	355	483	187	109	85	67
17	55	68	88	108	154	109	393	474	180	109	84	67
18	52	135	82	103	150	114	490	469	191	108	83	67
19	51	94	78	466	146	113	466	446	206	107	83	68
20	51	73	69	1,550	142	116	491	414	186	106	82	68
21	50	66	67	1,920	136	116	543	397	180	105	81	68
22	50	66	68	866	131	126	575	388	167	104	80	66
23	50	64	65	550	133	145	567	384	162	104	80	66
24	49	68	71	418	128	153	458	375	157	103	79	64
25	49	67	72	475	128	162	403	360	152	101	79	64
26	49	64	69	1,060	123	180	383	349	149	100	79	64
27	48	62	68	635	118	210	380	331	145	99	78	63
28	48	59	66	466	121	247	411	305	142	98	77	63
29	65	58	65	366	-----	274	491	289	139	97	77	63
30	72	60	64	309	-----	310	525	285	136	96	75	62
31	55	-----	63	264	-----	394	-----	277	-----	95	74	-----
TOTAL	1,777	2,158	2,626	11,028	4,620	4,437	11,887	14,473	5,915	3,447	2,618	2,025
MEAN	57.3	71.9	84.7	356	165	143	396	467	197	111	84.5	67.5
MAX	119	166	324	1,920	244	394	575	660	269	132	95	73
MIN	47	52	54	63	118	95	286	277	136	95	74	62
AC-FT	3,520	4,280	5,210	21,870	9,160	8,800	23,580	28,710	11,730	6,840	5,190	4,020
CAL YR 1968	TOTAL 38,340		MEAN 105		MAX 795		MIN 47		AC-FT 76,050			
WTR YR 1969	TOTAL 67,011		MEAN 184		MAX 1,920		MIN 47		AC-FT 132,900			

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-12	0045	3.69	313	4-5	0630	3.98	422
12-10	1430	4.14	490	4-21	2030	4.45	645
1-21	0200	7.13	2,670	4-29	2100	4.34	640
1-26	0515	5.67	1,400	5-11	2215	4.58	710
3-31	1915	4.11	475				

SACRAMENTO RIVER BASIN

11-3835. DEER CREEK NEAR VINA, CALIF.

LOCATION.--Lat 40°00'51", long 121°56'50", in NW¼NE¼ sec.23, T.25 N., R.1 W., Tehama County, on left bank 0.5 mile upstream from concrete diversion dam, and 7.9 miles northeast of Vina.

DRAINAGE AREA.--208 sq mi.

PERIOD OF RECORD.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 479.5 ft above mean sea level (river-profile survey). Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mile downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

AVERAGE DISCHARGE.--51 years, 310 cfs (224,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,000 cfs Jan. 21 (gage height, 13.28 ft); minimum daily, 85 cfs Oct. 1.
Period of record: Maximum discharge, 23,800 cfs Dec. 10, 1937 (gage height, 19.2 ft, present datum, from floodmarks), from rating curve extended above 9,200 cfs on basis of velocity-area studies; minimum, 43 cfs Dec. 13, 1932.

REMARKS.--Records good. No storage or large diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	102	142	232	790	946	958	904	463	200	137	117
2	86	116	137	230	675	773	880	874	445	196	137	117
3	86	185	129	239	604	670	773	862	428	191	135	117
4	86	183	126	265	554	576	696	773	414	187	134	117
5	86	130	123	286	778	529	1,300	784	404	185	134	117
6	87	117	123	280	994	494	1,040	886	388	185	134	117
7	87	110	123	268	670	463	880	1,010	370	181	134	117
8	86	106	124	253	683	435	795	1,040	358	179	134	117
9	86	106	132	230	1,370	407	768	1,100	379	179	134	117
10	86	108	2,200	214	1,070	382	707	1,160	367	175	132	116
11	89	110	909	312	1,800	358	729	1,190	365	173	132	116
12	149	364	394	2,400	1,980	340	806	1,170	343	169	132	116
13	218	189	319	6,420	1,240	319	773	1,120	313	167	130	114
14	177	156	1,050	2,040	1,110	304	751	1,040	304	165	129	114
15	135	173	1,770	1,010	2,340	301	685	904	343	165	129	112
16	112	158	760	690	1,350	307	690	850	298	163	128	112
17	104	147	421	537	1,010	331	724	834	278	160	128	114
18	99	290	316	540	874	352	856	839	275	158	126	114
19	98	289	265	2,280	762	358	844	806	361	156	124	117
20	97	185	225	6,920	740	376	862	740	280	153	124	116
21	96	154	196	9,970	665	428	934	702	280	153	124	117
22	96	142	185	4,100	590	404	1,020	680	258	147	123	112
23	96	139	310	2,330	790	428	1,130	675	246	153	123	111
24	94	163	1,600	1,610	729	449	940	660	239	151	122	111
25	94	171	1,350	2,120	665	452	800	630	232	147	122	110
26	93	153	656	4,590	568	474	740	608	227	146	122	110
27	93	140	421	2,540	541	525	707	586	223	144	122	110
28	93	134	388	1,810	1,300	604	712	533	216	142	122	110
29	102	130	331	1,290	-----	690	828	502	211	139	122	110
30	129	149	280	1,040	-----	740	922	491	205	137	120	110
31	112	-----	250	868	-----	880	-----	477	-----	137	120	-----
TOTAL	3,237	4,799	15,755	57,914	27,242	15,095	25,250	25,430	9,513	5,083	3,969	3,425
MEAN	104	160	508	1,868	973	487	842	820	317	164	128	114
MAX	218	364	2,200	9,970	2,340	946	1,300	1,190	463	200	137	117
MIN	85	102	123	214	541	301	685	477	205	137	120	110
AC-FT	6,420	9,520	31,250	114,900	54,030	29,940	50,080	50,440	18,870	10,080	7,870	6,790
CAL YR 1968	TOTAL 106,988		MEAN 292		MAX 2,410		MIN 84		AC-FT 212,200			
WTR YR 1969	TOTAL 196,712		MEAN 539		MAX 9,970		MIN 85		AC-FT 390,200			

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1230	7.73	4,140	1-21	0800	13.28	15,000
12-15	1400	7.64	4,030	1-26	0400	9.16	6,180
12-24	1430	6.36	2,580	2-15	1030	7.37	3,700
1-13	0600	11.08	9,820				

11-3840. BIG CHICO CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, Butte County, on right bank 1.8 miles upstream from golf clubhouse in Bidwell Park, 2.6 miles upstream from Lindo Channel, and 7 miles northeast of Chico.

DRAINAGE AREA.--72.2 sq mi.

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1952, published as Chico Creek near Chico.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft (from topographic map). Prior to Oct. 1, 1955, at site 0.6 mile downstream at different datum.

AVERAGE DISCHARGE.--39 years, 143 cfs (103,600 acre-ft per year); median of yearly mean discharges, 118 cfs (85,490 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,740 cfs Jan., 21 (gage height, 13.69 ft); minimum daily, 21 cfs Oct. 1-5, 7-10.

Period of record: Maximum discharge, 9,580 cfs Jan. 5, 1965 (gage height, 15.36 ft); minimum, 10 cfs Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

REMARKS.--Records good. No storage or large diversion above station. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1964(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	34	48	135	359	795	299	142	52	38	29	26
2	21	53	47	123	324	587	284	140	51	36	29	25
3	21	91	45	121	296	492	278	134	54	31	29	26
4	21	72	43	135	280	416	248	133	52	35	29	30
5	21	53	42	160	385	374	601	125	52	35	29	25
6	22	46	41	162	495	346	614	119	52	36	29	25
7	21	41	39	149	390	317	504	121	52	39	29	25
8	21	39	41	134	356	287	430	121	52	36	29	25
9	21	37	44	118	1,270	260	370	121	55	36	29	25
10	21	38	778	104	1,170	233	317	121	60	39	29	28
11	23	37	422	173	1,650	208	284	119	64	32	29	25
12	64	102	180	1,690	2,120	190	265	118	59	34	28	25
13	63	63	126	5,670	1,240	175	250	113	54	34	28	25
14	57	51	400	2,210	909	163	238	107	52	35	28	25
15	41	56	1,030	975	2,030	156	218	103	48	35	27	25
16	33	54	574	575	1,470	159	198	94	51	34	26	25
17	30	52	271	409	965	170	188	89	46	34	27	25
18	28	78	174	353	730	193	188	86	46	33	27	25
19	28	90	133	1,480	579	205	180	82	50	32	27	25
20	28	66	106	4,390	506	213	174	79	46	32	27	25
21	27	54	87	6,140	435	257	174	77	46	32	26	26
22	26	46	76	2,810	383	243	174	72	43	32	26	25
23	26	42	97	1,420	480	240	235	69	44	33	26	25
24	26	47	769	925	485	238	225	68	43	33	26	25
25	26	50	1,140	1,270	422	235	192	62	46	32	26	25
26	26	47	603	2,260	362	230	176	62	37	31	26	25
27	26	43	334	1,380	326	235	162	64	38	31	26	25
28	26	41	282	913	690	254	152	62	38	30	26	25
29	34	40	234	630	-----	272	146	60	43	30	26	25
30	53	51	188	507	-----	281	152	60	39	30	26	25
31	38	-----	157	400	-----	299	-----	56	-----	30	26	-----
TOTAL	940	1,614	8,551	37,921	21,107	8,723	7,916	2,979	1,465	1,040	850	761
MEAN	30.3	53.8	276	1,223	754	281	264	96.1	48.8	33.5	27.4	25.4
MAX	64	102	1,140	6,140	2,120	795	614	142	64	39	29	30
MIN	21	34	39	104	280	156	146	56	37	30	26	25
AC-FT	1,860	3,200	16,960	75,220	41,870	17,300	15,700	5,910	2,910	2,060	1,690	1,510
CAL YR 1968	TOTAL 44,361		MEAN 121		MAX 1,400	MIN 20		AC-FT 87,990				
WTR YR 1969	TOTAL 93,867		MEAN 257		MAX 6,140	MIN 21		AC-FT 186,200				

PEAK DISCHARGE (BASE, 1,600 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1630	6.34	1,700	1-21	0615	13.69	7,740
12-15	1530	6.91	2,100	1-26	0430	7.77	2,920
12-24	2100	6.22	1,610	2-12	0745	7.36	2,590
1-13	0745	13.08	7,170	2-15	1000	7.56	2,750

SACRAMENTO RIVER BASIN

11-3843.5. MUD CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°47'02", long 121°53'06", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.22 N., R.1 E., Butte County, on left bank 0.1 mile upstream from bridge on State Highway 99E, and 5 miles northwest of Chico.

DRAINAGE AREA.--47.4 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

EXTREMES.--Water year 1968: Maximum discharge, 5,950 cfs Jan. 29 (gage height, 10.28 ft); no flow for several months.

Water year 1969: Maximum discharge, 10,400 cfs Jan. 13, (gage height, 12.94 ft in gage well, 12.0 ft, from floodmarks); no flow for several months each year.

Period of record: Maximum discharge, 10,400 cfs Jan. 13, 1969 (gage height, 12.94 ft in gage well, 12.0 ft, from floodmarks); no flow for several months each year.

Flood of Dec. 22, 1964, reached a stage of 13.23 ft (discharge, 9,880 cfs); maximum stage recorded since reconstruction of the channel, 13.55 ft Jan. 15, 1965 (backwater from debris).

REMARKS.--No storage or diversion above station. During periods of flood flows on Big Chico Creek, flood waters are diverted at Mud Creek diversion dam in sec.18, T.22 N., R.2 E., to Lindo channel and Mud Creek, however, most of the water is diverted to Mud Creek.

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

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	60	.80	96	24	18	2.9	0	0	0	0
2		0	6.9		271	22	17	3.0	0	0	.30	0
3		0	225	.60	135	20	15	2.4	0	0	0	0
4		0	49	.60	89	19	14	2.5	0	0	0	.10
5		0	42	.60	65	18	13	2.1	0	0	0	.10
6		.0	12	.70	50	17	12	2.0	0	0	.10	0
7		0	30	.80	41	18	11	1.9	.10	0	.30	0
8		0	18	1.0	35	25	10	1.6	.10	.10	.30	0
9		0	7.3	3.3	31	20	9.0	1.8	0	.10	.60	0
10		0	3.9	686	30	18	8.4	1.3	0	.20	.60	0
11		0	2.6	69	27	17	7.7	1.3	0	0	.10	0
12		0	1.6	35	23	26	7.4	1.4	0	0	.30	0
13		0	1.1	51	20	138	6.5	1.5	0	0	.60	0
14		0	1.2	756	18	122	6.0	3.2	0	0	.40	0
15		0	1.0	604	16	74	5.7	2.0	.10	0	.30	0
16		0	.60	136	35	485	5.5	1.3	0	0	.10	0
17		0	.70	67	507	173	5.2	1.0	0	0	.20	0
18		0	1.3	40	146	102	4.9	.80	0	0	0	0
19		3.6	1.4	26	436	73	4.8	1.0	0	0	.10	0
20		.20	1.2	18	513	57	4.6	1.3	0	0	.40	0
21		0	.80	13	426	47	4.3	1.1	0	0	.60	0
22		0	.60	9.6	198	40	4.0	1.4	0	0	.70	0
23		0	.60	7.0	123	35	4.2	1.6	0	0	.50	0
24		0	.60	5.4	82	31	4.4	1.0	0	0	.50	0
25		0	.70	4.4	60	29	4.3	.80	0	0	.90	0
26		0	.70	3.6	46	26	3.7	.60	0	.10	.20	0
27		0	.60	2.6	38	24	3.3	.30	0	.10	.40	0
28		0	.70	2.4	31	22	3.0	.10	0	.10	0	0
29		34	.60	2,060	27	20	3.0	0	0	.20	0	0
30		36	.60	726	-----	19	3.0	0	0	.10	0	0
31		-----	.80	159	-----	18	-----	0	-----	0	0	-----
TOTAL	0	73.80	474.10	5,490.10	3,615	1,779	222.9	43.20	.30	1.00	8.50	.20
MEAN	0	2.46	15.3	177	125	57.4	7.43	1.39	.010	.032	.27	.006
MAX	0	36	225	2,060	513	485	18	3.2	.10	.20	.90	.10
MIN	0	0	.60	.60	16	17	3.0	0	0	0	0	0
AC-FT	0	146	940	10,890	7,170	3,530	442	86	.6	2.0	17	.4

CAL YR 1967 TOTAL 20,669.1 MEAN 56.6 MAX 2,330 MIN 0 AC-FT 41,000
WTR YR 1968 TOTAL 11,708.1 MEAN 32.0 MAX 2,060 MIN 0 AC-FT 23,220

11-3843.5. MUD CREEK NEAR CHICO, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	10	42	352	299	32	12	1.4	0	0	0
2	0	.10	7.2	36	344	220	32	11	1.5	0	0	0
3	0	8.6	5.8	32	330	182	38	11	1.4	0	0	0
4	0	4.3	5.1	27	318	141	35	11	1.2	0	0	0
5	0	1.6	4.8	24	599	114	108	9.4	1.2	0	0	0
6	0	.50	4.4	22	600	96	120	8.5	1.2	0	0	0
7	0	.10	4.5	20	393	82	95	8.1	1.4	2.8	0	0
8	0	0	8.9	18	417	69	81	7.6	1.8	9.6	0	0
9	0	0	17	16	856	59	72	7.6	3.4	.40	0	.10
10	0	0	484	15	502	50	64	7.0	3.8	0	0	0
11	0	0	75	147	814	45	56	6.6	6.1	0	0	.20
12	0	2.5	31	1,900	877	42	51	6.0	4.6	0	0	.20
13	0	3.1	44	6,270	487	40	46	6.0	2.8	0	0	0
14	0	4.6	886	1,070	638	36	43	6.1	2.2	0	0	0
15	0	25	514	515	1,210	34	39	6.0	1.7	0	0	0
16	0	6.8	139	421	502	33	35	5.5	1.0	0	0	0
17	0	4.1	64	363	376	34	32	5.2	.50	0	0	0
18	0	37	45	452	336	32	30	4.9	.70	0	0	0
19	0	17	37	902	292	31	26	4.8	.90	0	0	0
20	0	7.1	30	1,500	286	35	24	4.5	1.1	0	0	0
21	0	4.6	23	5,470	252	65	22	4.4	.90	0	0	0
22	0	3.4	20	1,130	215	45	21	4.2	.40	0	0	0
23	0	2.9	157	596	327	39	35	4.1	.20	0	0	0
24	0	3.4	1,070	495	355	37	26	3.9	0	0	0	0
25	0	5.5	544	667	234	35	20	3.6	0	0	0	0
26	0	4.0	180	723	196	34	18	3.4	0	0	0	0
27	0	3.4	95	485	183	34	16	3.4	0	0	0	0
28	0	2.8	237	429	446	34	14	3.1	0	0	0	0
29	0	3.5	132	391	-----	34	13	2.4	0	0	0	0
30	0	28	75	421	-----	34	12	2.0	0	0	0	0
31	0	-----	55	363	-----	34	-----	1.7	-----	0	0	-----
TOTAL	0	183.90	5,004.7	24,962	12,737	2,099	1,254	185.0	41.40	12.80	0	0.50
MEAN	0	6.13	161	805	455	67.7	41.9	5.97	1.38	.41	0	.017
MAX	0	37	1,070	6,270	1,210	299	120	12	6.1	9.6	0	.20
MIN	0	0	4.4	15	183	31	12	1.7	0	0	0	0
AC-FT	0	365	9,930	49,510	25,260	4,160	2,490	367	82	25	0	1.0
CAL YR 1968	TOTAL	16,348.80	MEAN	44.7	MAX	2,060	MIN	0	AC-FT	32,430		
WTR YR 1969	TOTAL	46,482.30	MEAN	127	MAX	6,270	MIN	0	AC-FT	92,200		

SACRAMENTO RIVER BASIN

11-3846. LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CALIF.

LOCATION.--Lat 39°17'48", long 122°32'22", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.28, T.17 N., R.6 W., Colusa County, on left bank 1.1 miles upstream from county bridge on Lodioga-Stonyford road, 1.4 miles downstream from Frenzel Creek, and 2.8 miles southwest of Lodioga.

DRAINAGE AREA.--45.6 sq mi.

PERIOD OF RECORD.--September 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,790 cfs Jan. 21 (gage height, 8.30 ft); minimum daily, 0.84 cfs Sept. 13.

Period of record: Maximum discharge, 2,300 cfs Jan. 21, 1967 (gage height, 9.15 ft), from rating curve extended above 1,400 cfs; minimum daily, 0.39 cfs Sept. 27, 1968.

REMARKS.--Records good. No known storage or diversions above station. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	2.2	4.8	49	177	325	154	67	21	8.2	2.4	.98
2	.87	7.2	4.5	54	155	288	151	64	20	7.7	2.3	.94
3	.95	5.4	4.1	57	138	254	134	62	19	7.2	2.2	.90
4	1.0	3.9	4.0	77	130	225	122	60	19	7.0	2.2	.89
5	1.1	3.5	4.0	88	168	212	136	58	18	6.7	2.2	.89
6	1.2	3.0	4.0	82	264	199	120	58	18	6.6	2.2	.88
7	1.2	3.0	4.2	72	200	176	110	58	18	6.4	2.3	.91
8	1.0	2.8	7.4	64	206	154	104	59	18	5.9	2.3	.99
9	1.0	2.7	6.7	55	725	157	100	59	19	5.5	2.2	1.0
10	1.0	2.6	234	48	516	174	94	59	20	5.2	2.0	.99
11	1.1	2.6	55	365	872	161	91	60	20	4.9	1.8	.92
12	2.2	3.2	21	809	692	160	91	58	19	4.7	1.7	.88
13	2.5	3.0	25	1,270	449	149	89	55	17	4.4	1.6	.84
14	2.2	3.8	73	498	415	142	87	52	17	4.1	1.5	.86
15	2.1	6.9	428	247	667	141	83	49	15	4.0	1.5	.94
16	1.8	6.9	106	162	489	145	79	46	15	3.8	1.4	1.0
17	1.7	6.2	52	115	385	201	79	44	13	3.4	1.4	1.0
18	1.7	8.2	36	165	323	207	80	41	14	3.2	1.4	1.0
19	1.6	7.0	29	682	276	184	78	39	15	3.0	1.4	1.1
20	1.5	5.4	23	1,070	233	186	79	37	14	2.9	1.4	1.2
21	1.5	4.7	20	1,380	201	203	81	35	13	2.8	1.3	1.2
22	1.5	4.2	19	766	178	182	83	34	12	2.5	1.2	1.2
23	1.5	4.0	41	466	184	174	99	32	11	2.5	1.1	1.1
24	1.5	4.2	239	340	234	167	89	30	11	2.5	1.1	1.0
25	1.5	4.6	328	406	221	157	81	29	10	2.5	1.1	1.0
26	1.5	4.2	137	883	184	151	76	29	10	2.6	1.2	.97
27	1.6	4.0	81	516	198	153	72	28	10	2.5	1.2	.96
28	1.6	3.8	92	380	427	161	70	27	9.7	2.6	1.2	.94
29	1.8	3.9	80	289	-----	166	70	25	9.3	2.6	1.2	.94
30	2.7	5.3	63	232	-----	169	68	23	8.7	2.6	1.1	.99
31	2.4	-----	52	191	-----	167	-----	22	-----	2.5	1.0	-----
TOTAL	47.69	132.4	2,277.7	11,878	9,307	5,690	2,850	1,399	453.7	133.0	50.1	29.41
MEAN	1.54	4.41	73.5	383	332	184	95.0	45.1	15.1	4.29	1.62	.98
MAX	2.7	8.2	428	1,380	872	325	154	67	21	8.2	2.4	1.2
MIN	.87	2.2	4.0	48	130	141	68	22	8.7	2.5	1.0	.84
AC-FT	95	263	4,520	23,560	18,460	11,290	5,650	2,770	900	264	99	58
CAL YR 1968	TOTAL 14,759.15		MEAN 40.3		MAX 624	MIN .39	AC-FT 29,270					
WTR YR 1969	TOTAL 34,248.00		MEAN 93.8		MAX 1,380	MIN .84	AC-FT 67,930					

PEAK DISCHARGE (BASE, 370 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1100	6.24	766	1-26	0230	7.46	1,370
12-15	1045	7.35	1,260	2- 9	0645	6.44	896
12-24	1615	5.51	488	2-11	0945	6.97	1,130
12-25	0945	5.71	558	2-15	0800	6.39	876
1-13	0845	8.30	1,780	2-28	0515	5.34	482
1-21	0615	8.30	1,790				

11-3865. GRINDSTONE CREEK NEAR ELK CREEK, CALIF.

LOCATION.--Lat 39°40'38", long 122°31'51", on line between secs. 15 and 16, T.21 N., R.6 W., Glenn County, on right bank .600 ft upstream from highway bridge, 4.5 miles north of Elk Creek.

DRAINAGE AREA.--172 sq mi.

PERIOD OF RECORD.--October 1935 to November 1937, October 1939 to April 1940, October 1965 to current year. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map). October 1935 to November 1937, at site 0.2 mile downstream at different datum. October 1939 to April 1940, at site 600 ft downstream at different datum.

AVERAGE DISCHARGE.--6 years (1936-37, 1966-69), 154 cfs (111,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,360 cfs Jan. 21 (gage height, 13.07 ft); minimum daily, 0.20 cfs Oct. 10, 12.

Period of record: Maximum discharge, 13,000 cfs Feb. 27, 1940 (gage height, 7.55 ft, site and datum then in use), from rating curve extended above 2,400 cfs on basis of slope-area measurement of maximum flow; no flow at times in many years.

Flood of Dec. 22, 1964, reached a stage of 9.38 ft, from floodmarks, at site 600 ft downstream at different datum (discharge, 22,200 cfs by slope-area measurement).

REMARKS.--No known diversions above station.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	5.0	20	102	440	500	1,120	450	138	28	.20	1.5
2	1.5	38	24	106	382	470	958	420	116	26	.20	1.5
3	1.5	22	22	160	346	420	748	400	121	24	.20	1.5
4	1.5	9.4	20	328	328	373	621	355	132	22	.20	2.0
5	1.5	7.0	18	430	410	382	654	355	126	22	.20	2.0
6	1.5	7.0	24	440	470	382	566	410	116	20	.20	2.6
7	1.5	6.0	22	420	364	382	490	430	106	20	.20	2.6
8	1.0	5.0	36	373	382	364	470	440	93	18	.20	2.6
9	.60	4.2	33	278	944	328	470	460	89	17	.40	2.6
10	.20	4.2	566	224	874	278	480	480	85	18	.40	2.6
11	.40	4.2	262	480	1,940	238	544	450	81	18	.20	2.6
12	.20	14	143	2,260	1,680	217	643	470	76	17	2.6	2.6
13	.60	9.4	110	2,890	1,090	198	577	430	65	17	3.4	2.6
14	12	9.4	126	1,320	944	191	500	382	61	15	3.4	2.0
15	11	12	442	790	1,140	210	450	310	55	15	3.4	2.0
16	8.2	9.4	224	566	874	302	430	294	55	15	2.6	2.6
17	7.0	9.4	143	420	720	500	480	294	49	14	2.0	2.6
18	3.4	118	110	400	665	599	566	302	49	12	2.0	2.6
19	2.6	49	106	2,140	610	555	533	278	68	9.4	2.0	3.4
20	2.6	24	93	5,010	544	599	522	246	55	11	2.6	3.4
21	2.6	24	85	5,550	480	665	610	230	49	11	2.6	3.4
22	2.6	22	81	2,550	420	621	698	224	43	9.4	2.6	2.6
23	2.6	20	97	1,420	460	687	687	224	41	9.4	2.6	2.0
24	2.0	22	224	1,090	621	698	544	230	41	8.2	2.6	2.0
25	2.6	22	262	1,440	490	687	440	210	38	8.2	2.6	1.5
26	1.5	22	160	2,880	420	776	391	191	36	8.2	2.6	1.5
27	1.5	20	126	1,470	450	986	400	191	36	8.2	2.0	1.5
28	1.5	20	148	1,090	643	1,200	430	154	33	7.0	2.6	1.5
29	2.0	18	132	804	-----	1,420	490	148	31	6.0	2.6	1.5
30	2.6	22	121	632	-----	1,420	470	148	28	3.4	2.6	1.5
31	6.0	-----	106	511	-----	1,270	-----	143	-----	2.0	2.0	-----
TOTAL	86.90	578.6	4,086	38,574	19,131	17,918	16,982	9,749	2,112	439.4	54.00	66.9
MEAN	2.80	19.3	132	1,244	683	578	566	314	70.4	14.2	1.74	2.23
MAX	12	118	566	5,550	1,940	1,420	1,120	480	138	28	3.4	3.4
MIN	.20	4.2	18	102	328	191	391	143	28	2.0	.20	1.5
AC-FT	172	1,150	8,100	76,510	37,950	35,540	33,680	19,340	4,190	872	107	133

CAL YR 1968 TOTAL 41,860.90 MEAN 114 MAX 2,160 MIN .20 AC-FT 83,030
WTR YR 1969 TOTAL 109,777.80 MEAN 301 MAX 5,550 MIN .20 AC-FT 217,700

11-3870. STONY CREEK NEAR FRUTO, CALIF.

LOCATION.--Lat 39°40'18", long 122°31'01", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.21 N., R.6 W., Glenn County, on right bank 0.3 mile downstream from Grindstone Creek, and 6.5 miles northwest of Fruto.

DRAINAGE AREA.--598 sq mi.

PERIOD OF RECORD.--January 1901 to October 1912, October 1960 to current year.

GAGE.--Water-stage recorder and two crest-stage gages. Altitude of gage is 600 ft (from topographic map). Prior to Oct. 6, 1912, nonrecording gage at site 1.0 mile downstream at different datum.

AVERAGE DISCHARGE (unadjusted).--20 years, 667 cfs (483,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 13,600 cfs Jan. 21 (gage height, 11.73 ft); minimum daily, 0.32 cfs Oct. 12, 13.

Period of record: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage heights, 15.94 ft in gage well, 16.1 ft, from floodmarks); no flow July 5-13, Oct. 25, 26, 1901.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow regulated by Stony Gorge Reservoir 6.9 miles upstream since 1928 and by East Park Reservoir since 1910 (combined usable capacity, 100,700 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	6.0	30	140	2,050	2,930	2,160	870	450	460	576	390
2	224	38	25	158	1,690	2,510	1,990	883	425	455	559	355
3	221	74	19	208	1,090	2,230	1,850	876	402	450	554	350
4	218	30	17	476	805	1,810	1,470	838	379	440	480	348
5	214	27	16	678	2,190	1,640	1,490	838	361	440	392	343
6	214	25	25	768	4,320	1,120	1,590	876	343	440	392	220
7	208	26	23	744	2,610	537	1,500	968	325	435	370	330
8	106	7.7	58	651	1,860	470	1,410	1,020	305	420	355	334
9	2.4	5.4	58	462	3,740	475	1,360	1,080	297	388	340	338
10	.90	6.0	683	250	3,650	715	1,320	1,130	286	384	330	343
11	.50	6.0	380	899	5,190	460	1,270	1,130	280	384	320	348
12	.32	18	158	7,150	5,100	537	1,380	1,170	273	374	340	338
13	.32	15	119	9,070	3,820	818	1,370	1,090	268	374	330	334
14	2.1	13	218	4,900	3,890	922	1,280	1,000	260	370	300	330
15	2.1	35	973	2,780	5,140	935	1,230	902	252	374	360	313
16	1.6	26	331	1,790	3,770	994	1,180	850	260	348	310	285
17	1.9	25	145	999	3,300	1,270	1,230	818	345	313	305	289
18	1.0	142	102	762	2,750	1,590	1,300	812	360	297	305	273
19	.60	107	98	5,950	2,500	1,520	1,260	751	380	265	320	242
20	.60	53	78	10,300	2,250	1,650	1,280	703	405	265	310	220
21	.60	35	64	11,200	1,930	2,460	1,390	661	430	261	300	220
22	.70	26	60	6,970	1,760	2,100	1,490	637	415	261	250	217
23	.80	24	130	5,060	2,000	1,950	1,540	625	406	261	260	217
24	.90	22	837	4,120	3,900	1,820	1,360	614	402	273	260	214
25	1.1	28	988	4,520	2,450	1,760	1,210	581	406	297	265	214
26	1.2	24	425	8,150	2,070	1,840	1,080	554	420	297	270	220
27	1.4	20	227	6,050	2,270	2,080	1,040	559	425	293	280	224
28	1.6	18	407	4,520	4,080	2,200	1,070	570	465	534	280	220
29	2.4	17	250	3,340	-----	2,360	1,020	510	460	425	300	220
30	3.7	28	178	2,910	-----	2,460	850	480	455	450	380	220
31	6.0	-----	147	2,360	-----	2,400	-----	465	-----	576	380	-----
TOTAL	1,669.74	927.1	7,269	108,335	82,175	48,563	40,970	24,861	10,940	11,604	10,773	8,509
MEAN	53.9	30.9	234	3,495	2,935	1,567	1,366	802	365	374	348	284
MAX	230	142	988	11,200	5,190	2,930	2,160	1,170	465	576	576	390
MIN	.32	5.4	16	140	805	460	850	465	252	261	250	214
AC-FT	3,310	1,840	14,420	214,900	163,000	96,320	81,260	49,310	21,700	23,020	21,370	16,880
CAL YR 1968	TOTAL	157,111.44	MEAN	429	MAX	7,850	MIN	.32	AC-FT	311,600		
WTR YR 1969	TOTAL	356,595.84	MEAN	977	MAX	11,200	MIN	.32	AC-FT	707,300		

11-3878, NORTH FORK STONY CREEK NEAR NEWVILLE, CALIF.

LOCATION.--Lat 39°47'05", long 122°28'34", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.22 N., R.5 W., Glenn County, on right bank 150 ft downstream from Bedford Creek, and 2.7 miles east of Newville.

DRAINAGE AREA.--67.1 sq mi.

PERIOD OF RECORD.--May 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 531.43 ft above mean sea level.

AVERAGE DISCHARGE.--6 years, 40.6 cfs (29,410 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,720 cfs Feb. 11 (gage height, 6.73 ft); no flow for many days.

Period of record: Maximum discharge, 12,500 cfs Jan. 5, 1965 (gage height, 11.48 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurements at gage heights 7.3 and 11.48 ft; no flow at times in each year.

Flood of Apr. 7, 1963, reached a stage of 7.3 ft, from floodmarks (discharge, 4,600 cfs by slope-area measurement).

REMARKS.--Records good. No regulation above station. Probably a few small diversions above the station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.01	.12	35	87	268	78	17	3.9	.98	.07	.01
2	0	.02	.12	32	72	254	75	17	3.5	.84	.07	.01
3	0	.02	.12	34	65	195	66	15	3.3	.77	.07	.01
4	0	.02	.12	54	63	158	58	15	3.5	.77	.07	0
5	0	.02	.12	58	745	144	72	13	3.7	.70	.07	0
6	0	.02	.12	48	485	134	70	12	3.5	.63	.07	.01
7	0	.03	.12	39	172	120	56	11	3.5	.63	.07	0
8	0	.03	.20	33	183	106	52	11	3.5	.56	.07	0
9	0	.03	.27	26	503	99	49	12	4.3	.56	.07	0
10	0	.03	123	22	280	87	47	12	5.4	.49	.07	0
11	0	.03	23	309	1,360	78	44	11	6.3	.49	.04	0
12	0	.04	10	1,160	505	75	46	11	6.0	.49	.02	0
13	0	.04	9.7	1,290	268	66	42	11	4.1	.49	.02	.01
14	.01	.09	88	249	753	60	41	12	3.3	.42	.02	.01
15	.01	.16	421	136	710	58	38	12	2.8	.42	.04	.01
16	0	.12	66	94	308	61	36	12	2.0	.35	.04	.01
17	0	.12	31	73	251	92	36	12	1.8	.28	.04	.02
18	0	.12	25	283	254	78	36	12	2.0	.21	.04	.02
19	0	.12	22	1,240	206	69	33	12	2.2	.21	.04	.04
20	0	.09	18	997	178	95	31	12	2.7	.14	.04	.04
21	0	.09	17	903	152	400	31	12	2.8	.07	.02	.04
22	0	.09	17	295	140	140	30	11	2.1	.07	.02	.02
23	0	.09	57	182	281	114	35	9.6	1.8	.07	.02	.02
24	0	.09	949	144	923	97	28	8.8	1.5	.04	.02	.04
25	0	.09	593	280	224	90	26	8.0	1.4	.04	.04	.02
26	0	.09	157	491	178	89	23	7.3	1.3	.04	.02	.01
27	0	.09	94	180	470	94	21	7.0	1.3	.04	.02	.02
28	0	.09	205	142	751	97	20	6.0	1.3	.04	.02	.02
29	0	.09	92	116	-----	97	19	4.8	1.1	.07	.02	.02
30	.01	.12	58	150	-----	96	18	3.9	1.0	.07	.02	.02
31	.01	-----	43	101	-----	89	-----	3.5	-----	.07	.01	-----
TOTAL	0.04	2.09	3,120.01	9,196	10,567	3,700	1,257	333.9	86.9	11.05	1.27	0.43
MEAN	.001	.070	101	297	377	119	41.9	10.8	2.90	.36	.041	.014
MAX	.01	.16	949	1,290	1,360	400	78	17	6.3	.98	.07	.04
MIN	0	.01	.12	22	63	58	18	3.5	1.0	.04	.01	0
AC-FT	.08	4.2	6,190	18,240	20,960	7,340	2,490	662	172	22	2.5	.9
CAL YR 1968	TOTAL	11,818.75	MEAN	32.3	MAX	1,090	MIN	0	AC-FT	23,440		
WTR YR 1969	TOTAL	28,275.69	MEAN	77.5	MAX	1,360	MIN	0	AC-FT	56,080		

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-15	1100	5.38	2,050	2-5	2300	6.37	3,240
12-24	0730	5.67	2,370	2-11	1700	6.73	3,720
12-25	1530	4.40	1,130	2-14	2230	4.92	1,680
1-13	0230	5.88	2,670	2-15	0730	4.78	1,550
1-18	2030	4.50	1,300	2-24	0600	6.71	3,690
1-19	2130	6.20	3,040	2-28	0430	4.83	1,600
1-21	0930	5.22	1,970	3-21	0600	4.22	1,080
1-26	0030	4.94	1,700				

SACRAMENTO RIVER BASIN

11-3879.9. SOUTH DIVERSION CANAL NEAR ORLAND, CALIF.

LOCATION.--Lat 39°48'36", long 122°19'45", in NE¼ sec.32, T.23 N., R.4 W., Tehama County, on left bank 0.4 mile downstream from Black Butte Dam, and 8.2 miles northwest of Orland.

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1961, published as an adjustment to Stony Creek at Black Butte damsite near Orland.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 372.64 ft above mean sea level. Prior to Oct. 23, 1956, at site 0.5 mile upstream at different datum, Oct. 23, 1956, to Sept. 30, 1960, at present site and datum. Oct. 1, 1960, to Sept. 30, 1961, at datum 1.00 ft lower.

AVERAGE DISCHARGE.--14 years, 107 cfs (77,520 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 320 cfs May 8, 1969; no flow at times in most years.

REMARKS.--Records good. Canal diverts from Black Butte Reservoir at right end of Black Butte Dam; water is used for irrigation. A pump with a capacity of 6 cfs diverts water at times above station and is included in the canal record. Total diverted during the water year 1969 was 992 acre-ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	5.7	.20	.80	.60	.20	4.6	144	265	248	270	200
2	164	7.0	.20	.80	.60	.30	.70	173	253	249	282	189
3	130	7.6	.10	.60	.60	.10	.50	194	263	228	272	190
4	112	7.7	.20	.40	.80	.20	.40	202	264	265	280	205
5	98	7.7	.30	.40	2.1	.60	.40	218	252	282	260	249
6	92	7.7	.30	.40	1.0	.40	.40	261	225	289	236	260
7	73	8.0	.30	.40	.80	.40	.40	302	228	269	234	247
8	68	7.0	.30	.70	.80	.60	.40	320	239	258	212	247
9	75	4.2	.40	.70	1.1	.60	.40	312	234	259	225	196
10	89	3.6	.60	.70	.80	.70	6.1	308	214	244	224	201
11	109	3.5	.40	.80	1.9	.70	8.4	278	204	238	239	182
12	100	3.5	.40	.80	1.3	.80	8.4	255	212	229	260	161
13	70	3.5	.60	.80	.70	.80	10	246	188	198	269	160
14	50	3.5	.80	.70	1.0	.80	31	205	183	209	264	178
15	39	3.5	1.1	.70	1.1	.80	31	240	193	217	243	184
16	17	3.5	.40	.70	.20	.80	56	254	200	236	230	194
17	17	3.5	.40	.80	.10	.80	64	238	221	248	210	183
18	20	3.5	.40	.80	.60	.80	64	237	233	257	180	195
19	11	3.5	.60	.80	.20	.80	64	225	221	270	195	176
20	7.0	3.5	.60	.90	.10	.80	64	246	220	276	199	152
21	30	3.5	.30	.60	.10	1.3	182	265	235	276	211	158
22	74	3.3	.30	.40	.10	.70	271	277	248	266	220	177
23	79	3.2	1.1	.40	.60	.70	310	280	252	262	220	164
24	80	3.0	1.7	.40	1.3	.60	299	250	256	233	220	145
25	90	2.2	1.0	.40	.10	7.8	270	240	261	226	221	151
26	96	.30	3.2	.40	.10	14	244	227	234	243	229	170
27	103	.30	.60	.30	.70	10	238	226	204	206	232	194
28	104	.40	.70	.50	1.3	10	168	241	237	200	187	204
29	36	.40	.40	.70	-----	10	139	228	232	215	163	186
30	3.4	.20	.70	.40	-----	10	130	246	238	239	159	168
31	7.8	-----	.70	.60	-----	10	-----	252	-----	248	187	-----
TOTAL	2,230.2	118.00	19.30	18.80	20.70	87.10	2,666.10	7,590	6,909	7,583	7,033	5,666
MEAN	71.9	3.93	.62	.61	.74	2.81	88.9	245	230	245	227	189
MAX	186	8.0	3.2	.90	2.1	14	310	320	265	289	282	260
MIN	3.4	.20	.10	.30	.10	.10	.40	144	183	198	159	145
AC-FT	4,420	234	38	37	41	173	5,290	15,050	13,700	15,040	13,950	11,240
CAL YR 1968	TOTAL	39,728.60	MEAN	109	MAX	285	MIN	0	AC-FT	78,800		
WTR YR 1969	TOTAL	39,941.20	MEAN	109	MAX	320	MIN	.10	AC-FT	79,220		

11-3879.95. BLACK BUTTE RESERVOIR NEAR ORLAND, CALIF.

LOCATION.--Lat 39°48'50", long 122°20'12", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.29, T.23 N., R.4 W., Tehama County, in control tower in right abutment of main dam on Stony Creek, 8 miles northwest of Orland.

DRAINAGE AREA.--740 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

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

EXTREMES.--Current year: Maximum contents, 137,376 acre-ft May 14 (elevation, 468.26 ft); minimum, 17,631 acre-ft Nov. 17 (elevation, 422.33 ft).

Period of record: Maximum contents, 149,700 acre-ft June 8, 9, 1967 (elevation, 471.19 ft); minimum since initial season of operation, 9,420 acre-ft Oct. 27, 1964 (elevation, 413.83 ft).

REMARKS.--Reservoir is formed by seven earthfill dams; storage began Oct. 28, 1963. Usable capacity, 150,000 acre-ft between elevations 414.6 (minimum operating level) and 473.5 ft (spillway crest) above mean sea level. Additional storage of 10,000 acre-ft is not available for release. South Diversion Canal (see sta 11-3879.9) diverts at right end of dam. Water is released down Stony Creek for irrigation. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Record of contents furnished by Corps of Engineers, not rounded to Geological Survey standards.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

413.0	8,810	450.0	73,700
415.0	10,300	460.0	105,900
420.0	15,000	470.0	144,600
430.0	28,800	480.0	191,300
440.0	48,100		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24888	18465	18051	41432	23172	36226	87404	135703	126745	96934	63535	31702
2	24735	18478	18038	41777	21389	33339	91562	135825	125734	96161	62796	31038
3	24674	18465	18026	42205	19871	29342	92291	135825	124766	95191	62114	30605
4	24704	18440	17976	43090	19368	26057	98287	135784	123687	94293	61283	30090
5	24796	18364	17976	44554	24066	25993	101096	135540	122881	93301	60226	29545
6	24888	18314	17964	46175	32818	26805	104055	135499	121735	92282	59236	28704
7	24857	18226	17951	47676	34391	26342	106849	135459	120709	91302	58206	28123
8	24796	18163	17964	49116	33899	25632	109321	135499	119612	90262	57188	27679
9	24475	18088	18088	50085	37267	24719	111785	135621	118558	89165	56132	27516
10	24021	17988	19433	50676	40307	24369	114057	135987	117509	88106	55065	27418
11	23543	17926	20450	52385	50130	23305	116390	136313	116538	87086	53688	27386
12	23055	17827	20847	65087	57932	22602	118746	136722	115424	86167	52923	27386
13	22660	17704	21166	84062	59439	22587	121126	136967	114352	85221	51803	27418
14	22414	17766	21855	85914	61932	22893	122498	137376	113359	84280	50585	27451
15	22140	17741	24628	82228	68244	23320	123610	137294	112187	83313	49475	27435
16	21997	17692	25789	76418	69847	23871	124650	137049	110949	82104	48337	27402
17	21869	17631	26278	69621	68467	25088	125695	136844	109970	80933	47216	27353
18	21699	17704	26549	63854	66201	27500	126901	136517	108889	79709	46175	27272
19	21558	17852	26708	67659	62796	30261	127917	136191	107920	78433	45169	27159
20	21459	17902	26885	78494	58632	33303	129097	135662	106991	77137	44091	27094
21	21305	17902	27030	85820	53702	38907	130045	135175	106102	75731	43007	26982
22	20986	17877	27159	81210	48604	43401	131116	134526	105182	74426	41777	26789
23	20696	17840	27484	70359	44070	47413	132274	133840	104125	73014	40607	26565
24	20396	17852	31772	58256	45254	51411	133075	133276	103145	71765	39495	26389
25	20045	17902	35330	49813	41960	55307	133639	132514	102100	70530	38362	26183
26	19658	17976	36981	48848	37419	59211	134042	131874	101200	69366	37284	25978
27	19250	18013	37899	44364	34263	63482	134324	131077	100338	68021	36169	25742
28	18797	18063	39358	45617	37343	68160	134769	130362	99515	67024	35127	25398
29	18720	18088	40247	36057	-----	73073	135215	129452	98594	66037	34172	25135
30	18694	18063	40787	28454	-----	78101	135459	128585	97846	64926	33375	24919
31	18592	-----	41169	25073	-----	83002	-----	127604	-----	64201	32533	-----
MEAN	22141	18010	26059	56657	44742	38549	119577	134579	111889	81175	48305	27529
MAX	24888	18478	41169	85914	69847	83002	135459	137376	126745	96934	63535	31702
MIN	18592	17631	17951	25073	19368	22587	87404	127604	97846	64201	32533	24919
(a)	423.10	422.68	436.73	427.69	434.78	453.09	467.79	465.82	457.67	446.63	432.17	427.59
(b)	-6,512	-529	23,106	-16,096	12,270	45,659	52,457	-7,855	-29,758	-33,645	-31,668	-7,614
(c)	632	191	152	154	164	557	1,372	2,918	2,504	2,892	2,195	1,150
CAL YR 1968	b 14,412		MAX 109,200		MIN 17,631							
WTR YR 1969	b -185		MAX 137,376		MIN 17,631							

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-3880. STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CALIF.

LOCATION.--Lat 39°49'07", long 122°19'26", in SW¼ sec.28, T.23 N., R.4 W., Tehama County, on left bank 200 ft downstream from road bridge, 0.6 mile downstream from Black Butte Dam, and 8.1 miles northwest of Orland.

DRAINAGE AREA.--741 sq mi.

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1962, published as Stony Creek at Black Butte damsite, near Orland.

GAGE.--Water-stage recorder and grouted rock control. Datum of gage is 366.02 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mile upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, nonrecording gage at bridge 200 ft upstream at datum 4.04 ft higher.

AVERAGE DISCHARGE.--14 years, 620 cfs (449,200 acre-ft per year), adjusted for diversion to South Diversion Canal since 1956 and for change in contents and evaporation from Black Butte Reservoir since 1964.

EXTREMES.--Current year: Maximum discharge, 10,100 cfs Jan. 21 (gage height, 8.90 ft); no flow Nov. 25-28, Dec. 27, 28.

Period of record: Maximum discharge, 36,300 cfs Feb. 24, 1958 (gage height, 11.82 ft, site and datum then in use), from rating curve extended above 7,500 cfs on basis of slope-area measurement of maximum flow; no flow Dec. 8-10, 31, 1956, Jan. 1-10, 1957, Oct. 19 to Nov. 7, Nov. 13-15, 1962. Maximum discharge since regulation by Black Butte Reservoir in 1964, 19,400 cfs Dec. 25, 1965 (gage height, 10.41 ft); no flow at times in each year.

REMARKS.--Records excellent. Many diversions above station for irrigation. Flow regulated by Black Butte Reservoir (see sta 11-3879.95), East Park Reservoir (usable capacity, 50,800 acre-ft), and Stony Gorge Reservoir (usable capacity, 50,100 acre-ft). Prior to October 1956, figures of daily discharge included water diverted to South Diversion Canal, which diverts 0.6 mile above station. Records of combined monthly discharge include a small diversion that bypasses the station at times for irrigation. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	43	29	48	2,760	4,480	99	568	579	578	576	586
2	117	42	30	48	2,460	4,460	32	567	599	580	576	461
3	101	41	30	48	2,020	4,410	33	577	612	599	574	344
4	84	41	30	48	1,220	3,830	50	579	608	594	573	325
5	73	39	27	48	1,000	2,140	81	586	480	589	588	320
6	76	39	27	49	1,560	1,330	97	601	600	591	608	323
7	109	39	27	47	2,260	1,200	98	605	597	600	608	331
8	116	40	27	46	2,480	1,190	100	601	594	608	605	291
9	106	44	27	46	2,500	1,180	101	611	590	613	608	229
10	120	42	27	47	2,500	1,170	99	605	583	608	601	181
11	119	41	27	48	2,820	1,180	95	600	578	591	577	164
12	116	41	28	48	3,480	1,060	95	597	587	571	571	159
13	101	41	28	2,240	4,020	990	123	609	581	560	576	155
14	80	41	28	5,070	4,210	1,010	522	514	568	573	589	143
15	76	41	30	5,050	4,540	1,010	547	622	570	585	601	134
16	57	41	29	4,990	4,540	1,010	550	618	582	589	605	117
17	38	41	30	4,670	4,540	1,020	569	605	589	588	615	109
18	48	41	30	3,990	4,540	744	587	599	597	586	616	111
19	50	41	29	3,800	4,510	495	591	597	597	580	609	107
20	47	41	29	5,960	4,440	503	591	595	595	582	615	105
21	42	41	29	8,930	4,420	364	589	581	592	586	606	104
22	57	41	29	10,000	4,410	196	608	583	588	590	597	113
23	63	41	30	9,910	4,430	194	610	589	589	588	602	128
24	57	14	31	9,520	4,470	142	601	596	589	588	583	140
25	67	0	31	7,810	4,500	105	566	597	586	599	573	142
26	71	0	18	7,860	4,450	104	547	592	578	599	573	131
27	80	0	0	7,950	4,430	98	566	588	573	615	576	125
28	86	0	0	3,490	4,480	98	580	589	578	615	592	133
29	30	9.0	16	7,280	-----	100	585	604	574	606	600	136
30	16	27	47	6,120	-----	101	580	610	575	592	600	127
31	44	-----	48	3,700	-----	103	-----	579	-----	585	589	-----
TOTAL	2,376	993.0	848	118,911	97,990	36,017	10,892	18,364	17,508	18,328	18,382	5,974
MEAN	76.6	33.1	27.4	3,836	3,500	1,162	363	592	584	591	593	199
MAX	129	44	48	10,000	4,540	4,480	610	622	612	615	616	586
MIN	16	0	0	46	1,000	98	32	514	480	560	571	104
AC-FT	4,710	1,970	1,680	235,900	194,400	71,440	21,600	36,420	34,730	36,350	36,460	11,850
MEAN a	52.8	31.4	406	3,578	3,725	1,916	1,357	757	356	336	340	279
AC-FT a	3,250	1,870	24,980	220,000	206,900	117,800	80,720	46,530	21,180	20,640	20,940	16,630

CAL YR 1968 TOTAL 117,772.90 MEAN 322 MAX 9,870 MIN 0 AC-FT 233,600 MEAN a 465 AC-FT a 337,700
WTR YR 1969 TOTAL 346,583.00 MEAN 950 MAX 10,000 MIN 0 AC-FT 687,400 MEAN a 1,079 AC-FT a 781,400

a Adjusted for diversion to South Diversion Canal, and change in contents and evaporation from Black Butte Reservoir.

11-3885. STONY CREEK NEAR HAMILTON CITY, CALIF.

LOCATION.--Lat 39°43'25", long 122°02'47", in Capay Grant, Glenn County, on right bank 2.3 miles southwest of Hamilton City, 6 miles upstream from mouth, and 8 miles east of Orland.

DRAINAGE AREA.--777 sq mi.

PERIOD OF RECORD.--October 1940 to current year. Records for water year 1941 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 151.18 ft above mean sea level (levels by Bureau of Reclamation). Prior to February 1946, at site 3 miles upstream at different datum.

AVERAGE DISCHARGE (unadjusted).--29 years, 431 cfs (312,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,100 cfs Jan. 22 (gage height, 12.14 ft); no flow for several days.

Period of record: Maximum discharge, 39,900 cfs Feb. 25, 1958 (gage height, 18.31 ft); no flow at times in most years.

REMARKS.--Records fair. Flow regulated by East Park Reservoir since 1910 (usable capacity, 50,600 acre-ft), by Stony Gorge Reservoir since 1928 (usable capacity, 50,100 acre-ft), and by Black Butte Reservoir, 18.6 miles upstream, since October 1963 (see sta 11-3879.95). Diversions for irrigation of about 20,000 acres, maximum potential, above station in the Bureau of Reclamation Orland project.

COOPERATION.--Eight discharge measurements and several gage readings furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	0	0	24	2,360	4,550	123	480	473	438	487	438
2	.89	0	0	27	2,230	4,520	119	480	473	436	459	398
3	.17	0	0	28	2,090	4,460	111	473	473	436	466	284
4	1.1	1.1	0	27	1,570	3,890	111	466	501	455	417	246
5	1.5	4.0	0	27	1,360	1,970	113	459	316	470	374	230
6	3.8	4.8	0	27	1,730	1,210	119	452	417	470	386	228
7	7.2	3.6	0	26	2,240	1,060	119	452	473	464	400	225
8	3.2	2.6	0	27	2,460	1,030	119	459	459	459	410	218
9	.52	1.3	0	23	2,480	1,010	119	480	501	487	415	160
10	.02	1.2	0	23	2,520	977	119	473	536	487	435	112
11	0	1.1	0	24	3,220	977	119	487	543	459	480	81
12	0	.82	0	57	3,850	928	119	473	529	487	510	55
13	9.8	.70	0	1,170	4,280	816	119	452	571	508	480	62
14	21	1.5	0	4,860	4,960	823	234	454	487	473	466	67
15	18	9.2	0	4,700	5,130	816	438	424	466	466	459	46
16	18	6.8	0	4,700	4,950	809	445	522	431	459	445	49
17	15	4.0	0	4,780	4,910	837	445	473	404	445	410	49
18	9.6	6.5	0	3,990	4,840	753	445	459	404	473	417	36
19	8.8	6.5	0	4,020	4,750	571	452	438	438	480	473	43
20	9.6	4.3	0	4,910	4,670	571	452	431	438	473	431	46
21	6.8	3.0	0	8,430	4,540	564	445	452	438	487	438	49
22	3.4	2.6	0	9,930	4,520	296	478	431	452	487	452	40
23	3.8	2.6	0	9,460	4,490	178	501	445	452	494	473	23
24	4.0	2.4	15	9,230	4,460	150	508	452	431	445	473	22
25	1.7	1.1	47	7,350	4,250	136	508	466	424	459	480	29
26	.64	.52	37	7,260	4,280	130	494	466	445	466	505	30
27	.40	.40	23	7,350	4,680	126	487	494	410	473	518	29
28	.10	.30	15	4,030	4,800	126	480	473	398	494	520	28
29	0	.15	10	5,700	-----	123	473	508	431	487	465	29
30	0	0	7.6	6,260	-----	123	473	487	438	487	445	26
31	0	-----	17	3,130	-----	123	-----	515	-----	508	438	-----
TOTAL	152.24	73.09	171.6	111,600	102,620	34,653	9,287	14,476	13,652	14,612	14,027	3,378
MEAN	4.91	2.44	5.54	3,600	3,665	1,118	310	467	455	471	452	113
MAX	21	9.2	47	9,930	5,130	4,550	508	522	571	508	520	438
MIN	0	0	0	23	1,360	123	111	424	316	436	374	22
AC-FT	302	145	340	221,400	203,500	68,730	18,420	28,710	27,080	28,980	27,820	6,700
CAL YR 1968	TOTAL	83,726.35	MEAN	229	MAX	9,020	MIN	0	AC-FT	166,100		
WTR YR 1969	TOTAL	318,701.93	MEAN	873	MAX	9,930	MIN	0	AC-FT	632,100		

SACRAMENTO RIVER BASIN

11-3890. SACRAMENTO RIVER AT BUTTE CITY, CALIF.

LOCATION.--Lat 39°27'28", long 121°59'35", in SE¼NE¼ sec.32, T.19 N., R.1 W., Glenn County, on left bank 100 ft upstream from highway bridge, 0.5 mile south of Butte City, and at mile 115.8 upstream from Sacramento.

DRAINAGE AREA.--12,096 sq mi.

PERIOD OF RECORD.--April 1921 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is set to datum of Corps of Engineers which is 2.92 ft below mean sea level. Prior to December 1930, at site 0.5 mile upstream at same datum.

AVERAGE DISCHARGE.--31 years (1938-69), 12,690 cfs (9,194,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 120,000 cfs Jan. 14 (gage height, 93.30 ft); minimum daily, 7,120 cfs Oct. 7.
Period of record: Maximum discharge (1940 to current year), 170,000 cfs Feb. 7, 1942 (gage height, 96.87 ft); minimum discharge recorded, 1,050 cfs July 15, 25, 26, 1931 (gage height, 67.49 ft).

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, unmeasured over-bank flow during extreme floods, diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,330	8,300	8,560	14,200	47,000	64,500	18,300	15,000	15,900	12,500	9,790	10,700
2	8,880	7,930	8,540	12,600	40,100	58,300	18,000	15,100	15,700	12,600	9,820	10,800
3	8,160	7,940	8,540	12,200	34,500	43,200	17,200	15,000	15,600	11,500	9,780	10,600
4	7,760	8,700	8,380	12,400	29,700	38,200	16,000	14,600	15,400	11,100	9,770	10,200
5	7,420	8,610	8,270	12,700	30,500	32,600	15,300	14,300	15,200	11,000	9,680	9,600
6	7,190	8,280	8,260	12,600	46,400	29,200	19,600	14,300	15,000	10,900	9,670	8,880
7	7,120	8,090	8,240	11,900	52,700	26,400	19,700	14,800	15,000	10,800	9,670	8,390
8	7,180	8,080	8,320	11,200	38,400	24,000	16,900	15,500	14,800	10,700	9,740	8,410
9	7,270	8,040	8,570	10,300	36,900	22,600	15,700	15,900	14,700	10,500	9,790	8,370
10	7,200	8,130	12,300	9,480	50,400	21,700	15,000	16,400	14,900	10,400	9,770	8,380
11	7,290	8,170	31,900	9,010	49,600	20,900	14,400	16,800	14,900	10,400	9,830	8,430
12	7,670	8,330	20,400	24,200	75,000	19,600	14,300	16,900	15,000	10,300	9,840	8,380
13	8,400	9,330	13,200	71,900	92,000	18,500	14,500	17,100	14,900	10,300	9,840	8,450
14	8,740	8,910	17,400	114,000	83,000	17,700	14,300	17,600	14,700	10,200	9,850	8,500
15	8,660	9,150	27,600	79,200	81,000	17,100	13,800	17,900	14,500	10,200	9,810	8,590
16	8,410	9,370	32,500	41,500	99,000	16,400	13,100	15,600	14,300	10,100	9,890	8,640
17	8,170	9,160	20,800	30,600	80,000	16,300	12,100	18,500	14,000	10,000	9,900	8,720
18	8,100	8,940	14,300	25,800	73,000	16,300	12,300	19,200	13,900	9,940	9,970	8,790
19	8,040	10,400	12,000	31,200	66,300	16,800	13,000	19,300	13,900	9,850	9,980	8,830
20	8,040	9,830	10,700	60,500	63,500	16,400	12,500	19,200	14,000	9,860	9,990	8,930
21	8,030	9,030	9,810	96,800	62,100	17,300	12,400	18,800	13,900	9,890	10,000	8,990
22	7,810	8,660	9,200	111,000	54,200	18,500	12,700	18,700	13,800	9,820	10,000	9,010
23	7,830	8,420	9,290	108,000	45,700	16,700	13,900	18,400	13,700	9,800	10,100	8,910
24	7,720	8,350	17,800	92,400	48,900	16,200	15,500	18,000	13,500	9,910	10,100	8,930
25	7,670	8,440	46,100	82,000	57,300	15,900	15,300	17,900	13,300	9,770	10,300	8,900
26	7,580	8,620	49,700	85,000	49,800	15,800	14,300	17,700	13,200	9,830	10,400	8,940
27	7,600	8,470	29,300	95,200	40,900	15,800	14,100	17,600	13,200	9,890	10,300	8,980
28	7,570	8,330	21,000	86,400	44,400	16,300	14,100	17,300	13,000	9,910	10,400	8,970
29	7,770	8,270	32,500	74,600	-----	16,900	14,200	17,000	12,900	9,800	10,600	8,960
30	8,170	8,320	22,900	68,500	-----	17,600	14,600	16,900	12,900	9,740	10,600	9,040
31	8,560	-----	16,700	53,700	-----	18,000	-----	16,700	-----	9,720	10,700	-----
TOTAL	245,340	258,600	553,080	1,561,111	1,572,311	721,700	447,100	524,000	429,700	321,230	309,880	270,220
MEAN	7,914	8,620	17,840	50,360	56,150	23,280	14,900	16,900	14,320	10,360	9,996	9,007
MAX	9,330	10,400	49,700	114,000	99,000	64,500	19,700	19,300	15,900	12,600	10,700	10,800
MIN	7,120	7,930	8,240	9,010	29,700	15,800	12,100	14,300	12,900	9,720	9,670	8,370
AC-FT	486,600	512,900	1,097M	3,096M	3,119M	1,431M	886,800	1,039M	852,300	637,200	614,600	536,000
CAL YR 1968	TOTAL 4,666,390		MEAN 12,750		MAX 68,500		MIN 6,390		AC-FT 9,256,000			
WTR YR 1969	TOTAL 7,214,240		MEAN 19,770		MAX 114,000		MIN 7,120		AC-FT 14,310,000			

11-3895. SACRAMENTO RIVER AT COLUSA, CALIF.

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, on right bank just downstream from highway bridge at Colusa, and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.--12,110 sq mi.

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.95 ft below mean sea level. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

AVERAGE DISCHARGE.--29 years (1940-69), 11,010 cfs (7,975,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 42,700 cfs Jan. 23 (gage height, 65.66 ft); minimum daily, 7,070 cfs Oct. 8.

Period of record: Maximum discharge (1940 to current year), 49,000 cfs Feb. 8, 1942 (gage height, 69.20 ft); minimum discharge recorded, 820 cfs July 25, 26, 1931 (gage height, 34.79 ft).

REMARKS.--Records excellent. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,250	8,160	8,000	14,800	34,700	36,100	17,400	14,200	15,500	12,200	9,330	10,300
2	8,970	7,900	8,100	12,900	33,200	37,100	17,600	14,600	15,100	11,900	9,370	10,400
3	8,480	7,560	8,100	11,900	31,500	34,400	17,100	14,400	14,900	11,600	9,350	10,400
4	7,840	8,070	7,900	11,800	28,900	32,900	16,400	14,300	14,700	10,800	9,370	10,200
5	7,600	8,320	7,800	11,800	26,800	31,000	15,400	13,900	14,500	10,600	9,360	9,690
6	7,250	8,090	7,800	12,000	31,800	28,900	16,800	13,700	14,300	10,600	9,340	9,100
7	7,170	7,840	7,800	11,500	35,400	25,800	19,800	13,900	14,200	10,500	9,300	8,490
8	7,070	7,770	7,900	10,900	33,100	23,300	18,100	14,500	14,100	10,400	9,340	8,400
9	7,200	7,750	8,100	10,200	31,300	21,400	16,400	14,900	14,000	10,300	9,390	8,390
10	7,170	7,750	9,000	9,520	33,700	20,200	15,600	15,300	14,000	10,100	9,390	8,400
11	7,210	7,840	17,900	8,960	34,800	19,300	15,000	15,800	14,200	10,100	9,440	8,380
12	7,380	7,880	24,200	12,500	36,000	18,300	14,600	16,100	14,200	10,000	9,470	8,400
13	7,960	8,580	15,700	32,500	39,900	17,200	14,700	16,200	14,300	10,000	9,430	8,420
14	8,440	8,680	12,900	40,400	39,500	16,400	14,700	16,500	14,200	9,930	9,450	8,490
15	8,530	8,710	22,100	40,800	38,300	15,900	14,300	16,900	14,000	9,880	9,410	8,550
16	8,320	8,900	26,400	34,900	40,400	15,400	13,800	16,200	13,900	9,790	9,490	8,620
17	8,110	8,620	25,500	30,500	40,300	15,100	13,100	16,200	13,700	9,750	9,490	8,690
18	7,990	9,580	16,700	26,500	38,300	15,200	12,400	17,800	13,400	9,600	9,560	8,730
19	7,920	9,290	12,800	25,000	37,500	15,400	13,000	18,300	13,400	9,510	9,560	8,780
20	7,890	8,530	11,000	33,800	37,100	15,400	12,900	18,400	13,400	9,540	9,570	8,860
21	7,870	8,160	10,000	39,700	36,800	15,500	12,500	18,100	13,300	9,520	9,570	8,880
22	7,690	8,110	9,340	42,200	36,100	17,200	12,500	17,900	13,300	9,510	9,580	8,900
23	7,700	8,240	8,970	42,500	34,100	16,400	13,100	17,700	13,200	9,500	9,630	8,840
24	7,590	8,040	11,700	41,400	34,100	15,600	14,400	17,300	13,000	9,490	9,670	8,790
25	7,560	7,930	26,900	40,000	35,300	15,300	15,200	17,200	12,800	9,430	9,740	8,740
26	7,470	8,040	34,500	39,700	35,300	15,200	14,500	17,000	12,700	9,370	9,810	8,730
27	7,450	8,000	31,000	40,800	33,200	15,100	13,900	16,800	12,600	9,490	9,860	8,730
28	7,420	7,800	22,200	40,900	32,500	15,400	13,800	16,600	12,500	9,480	9,940	8,750
29	7,490	7,700	24,800	39,500	-----	15,900	13,700	16,400	12,400	9,390	10,100	8,730
30	7,740	7,800	26,100	38,800	-----	16,500	13,900	16,100	12,300	9,310	10,200	8,780
31	8,210	-----	18,600	36,600	-----	17,000	-----	16,000	-----	9,310	10,300	-----
TOTAL	241,940	245,640	489,810	845,280	979,900	629,800	446,600	499,200	412,100	310,900	296,810	267,560
MEAN	7,805	8,188	15,800	27,270	35,000	20,320	14,890	16,100	13,740	10,030	9,575	8,919
MAX	9,250	9,580	34,500	42,500	40,400	37,100	19,800	18,400	15,500	12,200	10,300	10,400
MIN	7,070	7,560	7,800	8,960	26,800	15,100	12,400	13,700	12,300	9,310	9,300	8,380
AC-FT	479,900	487,200	971,500	1,677M	1,944M	1,249M	885,800	990,100	817,400	616,700	588,700	530,700
CAL YR 1968	TOTAL 4,217,440		MEAN 11,520		MAX 38,900		MIN 5,940		AC-FT 8,365,000			
WTR YR 1969	TOTAL 5,665,540		MEAN 15,520		MAX 42,500		MIN 7,070		AC-FT 11,240,000			

SACRAMENTO RIVER BASIN

11-3897, BUTTE CREEK AT BUTTE MEADOWS, CALIF.

LOCATION.--Lat 40°04'06", long 121°34'25", in NW¼ sec.31, T.26 N., R.4 E., Tehama County, on right bank 1.0 mile downstream from small tributary, 1.5 miles southwest of Butte Meadows, and 15 miles northeast of Forest Ranch.

DRAINAGE AREA.--44.4 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,260 ft (from topographic map).

AVERAGE DISCHARGE.--9 years. 130 cfs (94,180 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,580 cfs Jan. 21 (gage height, 6.19 ft); minimum daily, 52 cfs Oct. 1-4, 6, 7.

Period of record: Maximum discharge, 4,290 cfs Dec. 22, 1964 (gage height, 7.64 ft); minimum, 46 cfs Sept. 4, 1961.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	60	63	68	301	127	271	447	347	107	75	68
2	52	70	60	68	269	123	263	445	335	102	75	68
3	52	76	60	69	248	119	245	443	326	100	73	67
4	52	68	60	70	234	116	237	407	315	98	73	68
5	53	62	60	68	228	115	345	443	305	96	73	66
6	52	61	60	68	217	113	273	548	285	94	73	65
7	52	60	60	69	204	111	245	610	260	92	73	66
8	53	59	63	68	200	108	240	645	244	92	73	66
9	54	62	68	68	216	107	232	704	239	90	73	65
10	54	60	291	67	215	105	229	776	219	89	71	65
11	69	78	147	76	283	101	247	795	231	87	71	65
12	117	113	101	183	249	100	267	757	211	87	71	65
13	90	71	90	231	217	98	268	735	208	85	71	65
14	79	67	89	148	209	98	264	654	202	85	71	65
15	66	66	117	125	204	99	256	583	202	83	70	65
16	62	65	99	110	185	101	264	573	187	83	70	65
17	60	66	86	100	177	105	294	588	175	81	70	65
18	59	89	81	106	173	108	344	597	181	81	70	65
19	58	77	79	412	167	104	349	573	172	81	70	66
20	58	69	76	1,500	162	104	376	530	158	79	70	66
21	57	66	75	1,970	155	106	416	513	147	79	69	64
22	57	66	72	1,010	147	108	475	508	142	78	69	63
23	57	64	74	642	149	113	518	512	137	79	68	63
24	56	68	77	484	145	115	422	496	132	78	68	63
25	56	65	80	768	143	121	376	480	127	76	68	63
26	56	64	75	1,250	135	130	352	462	122	76	68	63
27	56	63	73	767	130	143	341	424	120	75	69	63
28	56	62	73	577	133	157	355	384	115	75	69	63
29	75	62	70	448	-----	174	413	372	111	76	69	63
30	74	63	70	379	-----	204	446	380	109	76	68	63
31	62	-----	68	329	-----	251	-----	368	-----	75	68	-----
TOTAL	1,906	2,042	2,617	12,298	5,495	3,784	9,623	16,752	6,064	2,635	2,189	1,947
MEAN	61.5	68.1	84.4	397	196	122	321	540	202	85.0	70.6	64.9
MAX	117	113	291	1,970	301	251	518	795	347	107	75	68
MIN	52	59	60	67	130	98	229	368	109	75	68	63
AC-FT	3,780	4,050	5,190	24,390	10,900	7,510	19,090	33,230	12,030	5,230	4,340	3,860
CAL YR 1968	TOTAL 37,871		MEAN 103		MAX 540		MIN 52		AC-FT 75,120			
WTR YR 1969	TOTAL 67,352		MEAN 185		MAX 1,970		MIN 52		AC-FT 133,600			

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1315	3.34	477	4-5	0645	3.26	410
1-21	0615	6.19	2,580	4-23	0345	3.56	554
1-26	0315	5.30	1,770	5-10	2100	4.12	883

11-3899.5. LITTLE BUTTE CREEK NEAR MAGALIA, CALIF.

LOCATION.--Lat 39°48'38", long 121°35'00", in NW¼NE¼ sec.36, T.23 N., R.3 E., Butte County, on left bank 1,000 ft downstream from Magalia Dam, and 0.4 mile northwest of Magalia.

DRAINAGE AREA.--11.4 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,080 cfs Jan. 21 (gage height, 6.55 ft); minimum daily, 0.26 cfs Sept. 2.

REMARKS.--Records fair. Flow regulated by storage in Paradise Reservoir (capacity, 6,430 acre-ft) and Magalia Reservoir (capacity, 3,540 acre-ft). No diversions above reservoirs.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.58	.55	2.2	113	136	20	12	.53	.53	.43	.40
2	.53	1.6	.48	1.8	105	93	20	11	.53	.53	.43	.26
3	.53	.96	.43	1.4	94	84	32	12	.53	.57	.43	.38
4	.57	.70	.43	1.2	92	74	24	13	.48	.60	.43	.38
5	.58	.64	.43	.99	118	69	86	7.7	.48	.62	.43	.38
6	.58	.63	.43	.84	168	67	76	4.2	.38	.61	.47	.38
7	.58	.63	.41	.77	156	64	49	2.8	.43	.53	.43	.38
8	.58	.63	.43	.78	141	63	39	3.6	.38	.51	.43	.38
9	.58	.63	.73	.68	331	59	34	2.8	.43	.53	.38	.37
10	.55	.63	3.8	.68	280	55	30	1.7	.58	.56	.38	.38
11	.71	1.2	1.0	9.1	263	51	26	1.2	.67	.57	.38	.36
12	1.6	.73	.73	.42	290	48	25	1.3	.63	.57	.41	.38
13	.68	.47	1.2	628	182	47	24	3.0	.66	.57	.43	.37
14	.62	.47	2.0	269	158	43	24	4.7	.69	.58	.43	.34
15	.59	.75	2.4	131	399	41	23	4.0	.68	.58	.46	.38
16	.58	.55	1.1	97	248	40	20	2.4	.68	.57	.43	.43
17	.59	.48	.92	85	172	43	18	1.6	.68	.53	.48	.42
18	.63	.75	.78	87	146	43	18	1.4	.63	.55	.39	.41
19	.63	.53	.78	259	126	40	16	2.2	.63	.57	.42	.38
20	.63	.48	.74	511	122	41	14	1.4	.61	.58	.39	.32
21	.63	.44	.75	859	116	59	13	.73	.63	.61	.42	.34
22	.63	.43	.78	348	110	47	12	.63	.63	.63	.46	.37
23	.63	.43	1.1	192	127	39	35	.63	.64	.54	.38	.39
24	.63	.59	4.9	150	132	36	38	.63	.48	.53	.43	.35
25	.63	.48	3.2	224	108	31	26	.58	.48	.49	.44	.36
26	.62	.44	7.4	362	80	28	20	.53	.46	.50	.43	.38
27	.60	.43	6.8	214	75	27	16	.58	.43	.50	.40	.38
28	.58	.43	9.5	180	144	26	14	.58	.46	.46	.39	.43
29	.84	.47	7.5	154	-----	24	13	.53	.46	.45	.35	.43
30	.63	.53	4.7	145	-----	24	12	.53	.51	.47	.38	.43
31	.58	-----	3.1	116	-----	23	-----	.58	-----	.41	.39	-----
TOTAL	19.87	18.71	69.50	5,073.44	4,596	1,565	817	100.53	16.49	16.85	12.93	11.34
MEAN	.64	.62	2.24	164	164	50.5	27.2	3.24	.55	.54	.42	.38
MAX	1.6	1.6	9.5	859	399	136	86	13	.69	.63	.48	.43
MIN	.53	.43	.41	.68	75	23	12	.53	.38	.41	.35	.26
AC-FT	39	37	138	10,060	9,120	3,100	1,620	199	33	33	26	22
CAL YR 1968	TOTAL -		MEAN -		MAX -	MIN -		AC-FT -				
WTR YR 1969	TOTAL 12,317.66		MEAN 33.7		MAX 859	MIN .26		AC-FT 24,430				

11-3900. BUTTE CREEK NEAR CHICO, CALIF.

LOCATION.--Lat 39°43'34", long 121°42'28", in NW¹/₄NW¹/₄ sec.36, T.22 N., R.2 E., Butte County, on right bank 0.7 mile downstream from Little Butte Creek, and 7.5 miles east of Chico.

DRAINAGE AREA.--147 sq mi.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 320 ft (from topographic map). Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mile upstream at different datum.

AVERAGE DISCHARGE (unadjusted).--39 years, 400 cfs (289,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,900 cfs Jan. 21 (gage height, 12.44 ft); minimum daily, 78 cfs Oct. 24.

Period of record: Maximum discharge, 21,200 cfs Dec. 22, 1964 (gage height, 14.12 ft), from rating curve extended above 8,900 cfs on basis of slope-area measurement at gage height 13.35 ft; minimum, 10 cfs Nov. 29, 1952.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir (capacity, 3,540 acre-ft) and since 1957 by Paradise Reservoir (capacity, 6,430 acre-ft). Diversions above station for irrigation and domestic use of about 4,200 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	96	179	313	1,090	1,330	1,020	961	571	263	178	161
2	143	185	173	300	995	1,070	975	923	543	260	177	158
3	143	300	164	296	908	960	949	929	527	257	175	161
4	145	257	161	307	849	844	850	843	516	254	179	160
5	146	201	159	334	1,060	767	1,550	860	498	252	174	159
6	146	176	157	346	1,190	725	1,380	988	486	248	175	157
7	133	155	154	346	971	685	1,120	1,090	460	241	174	157
8	145	145	163	323	902	647	987	1,120	440	226	173	161
9	143	143	173	312	2,130	613	919	1,170	443	221	173	161
10	143	141	1,360	290	1,900	581	849	1,260	429	216	172	159
11	152	141	891	464	2,470	544	849	1,290	447	210	172	160
12	323	323	456	2,050	3,260	519	903	1,250	414	207	171	160
13	309	237	367	6,520	2,280	497	869	1,200	403	203	169	166
14	225	199	716	2,700	2,020	479	838	1,130	398	204	168	169
15	140	216	1,200	1,490	3,240	477	791	996	387	206	170	170
16	123	197	798	1,140	2,300	489	774	964	392	201	170	172
17	141	185	476	938	1,730	515	802	952	360	195	170	172
18	146	228	382	873	1,460	542	893	957	350	189	170	172
19	154	289	340	2,320	1,240	556	880	933	365	192	169	173
20	131	233	304	6,360	1,130	561	906	858	345	191	168	175
21	116	203	277	10,400	995	635	969	816	330	188	167	177
22	83	186	267	4,910	900	605	1,050	804	316	189	165	175
23	81	180	302	2,880	1,050	610	1,280	795	307	193	165	171
24	78	187	1,070	2,190	1,050	614	1,090	783	302	196	164	160
25	79	191	1,360	2,760	973	617	938	746	293	189	164	183
26	119	182	755	4,560	862	633	860	742	289	187	165	174
27	114	172	498	2,610	784	679	821	699	280	183	165	155
28	103	165	483	2,010	1,240	734	823	645	280	181	165	133
29	97	163	438	1,600	-----	791	908	609	280	179	164	120
30	158	183	377	1,400	-----	881	968	601	271	179	163	127
31	105	-----	340	1,180	-----	994	-----	595	-----	179	163	-----
TOTAL	4,407	5,859	14,940	64,522	40,979	21,194	28,811	28,509	11,722	6,479	5,257	4,858
MEAN	142	195	482	2,081	1,464	684	960	920	391	209	170	162
MAX	323	323	1,360	10,400	3,260	1,330	1,550	1,290	571	263	179	183
MIN	78	96	154	290	784	477	774	595	271	179	163	120
AC-FT	8,740	11,620	29,630	128,000	81,280	42,040	57,150	56,550	23,250	12,850	10,430	9,640
MEAN a	47.8	66.2	87.2	107	123	119	124	119	116	88.3	74.6	79.0
AC-FT a	2,940	3,940	5,360	6,590	6,850	7,310	7,390	7,340	6,920	5,430	4,590	4,700
CAL YR 1968	TOTAL 126,595			MEAN 346	MAX 2,570	MIN 78	AC-FT 251,100			MEAN a 81.5	AC-FT a 59,150	
WTR YR 1969	TOTAL 237,537			MEAN 651	MAX 10,400	MIN 78	AC-FT 471,100			MEAN a 95.8	AC-FT a 69,350	

PEAK DISCHARGE (BASE, 2,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1000	9.72	8,900	2-12	0145	5.97	4,110
1-21	0700	12.44	12,900	2-15	1100	5.79	3,910
1-26	0515	8.16	6,310				

a Toadtown Canal diversion, in acre-feet, from West Branch Feather River furnished by Pacific Gas and Electric Co.

11-3905. SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CALIF.

LOCATION.--Lat 39°00'36", long 121°49'25", in NW¼NE¼ sec.2, T.13 N., R.1 E., Colusa County, on right bank 1,200 ft downstream from Wilkins Slough, 5.8 miles southeast of Grimes, and at mile 62.9 upstream from Sacramento.

DRAINAGE AREA.--12,940 sq mi.

PERIOD OF RECORD.--August 1931 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.00 ft below mean sea level.

AVERAGE DISCHARGE.--31 years (1938-69), 9,708 cfs (7,033,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 29,000 cfs Jan. 15 (gage height, 48.81 ft); maximum gage height, 49.53 ft Jan. 23 (backwater from Feather River and Sutter bypass); minimum daily, 7,550 cfs Oct. 10. Period of record: Maximum discharge (1938-69), 29,000 cfs Jan. 15, 1969 (gage height, 48.81 ft); maximum gage height, 52.75 ft Mar. 1, 1940; minimum discharge, 100 cfs Aug. 1, 1931 (gage height, 14.20 ft).

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,000	8,470	8,160	16,800	25,800	26,200	18,200	12,500	15,300	11,600	8,450	10,100
2	9,700	8,290	8,250	14,200	25,600	26,600	18,500	13,100	14,900	11,400	8,530	10,300
3	9,250	7,960	8,270	12,700	25,300	26,000	18,000	13,100	14,500	11,300	8,510	10,400
4	8,600	8,050	8,210	12,400	24,900	25,500	17,200	13,200	14,200	10,400	8,550	10,300
5	8,220	8,500	8,080	12,400	24,400	25,200	15,800	13,000	14,100	9,950	8,540	10,000
6	7,900	8,430	7,970	12,500	25,400	24,900	16,000	12,800	13,900	9,820	8,540	9,570
7	7,730	8,200	7,950	12,100	26,300	24,200	19,400	12,700	13,700	9,770	8,500	8,960
8	7,570	8,060	7,960	11,500	25,900	23,400	18,900	13,200	13,600	9,670	8,560	8,700
9	7,560	8,020	8,040	10,800	25,500	22,200	16,900	13,900	13,500	9,490	8,610	8,730
10	7,550	8,010	8,300	10,100	25,900	21,100	16,000	14,500	13,500	9,310	8,630	8,790
11	7,560	7,990	15,000	9,510	26,200	20,200	15,400	15,000	13,600	9,210	8,680	8,840
12	7,670	7,980	23,700	10,300	26,200	19,300	14,800	15,400	13,700	9,110	8,700	8,870
13	8,010	8,200	19,000	23,600	27,100	18,200	14,800	15,700	13,800	9,090	8,700	8,880
14	8,590	8,700	13,600	28,200	27,400	17,400	14,700	16,000	13,700	9,000	8,700	8,980
15	8,860	8,660	19,000	28,500	26,900	16,800	14,300	16,200	13,600	8,880	8,670	9,040
16	8,770	8,820	24,200	26,700	27,200	16,300	13,900	15,900	13,400	8,800	8,770	9,160
17	8,550	8,970	25,300	25,100	27,400	15,800	13,300	14,900	13,300	8,750	8,770	9,260
18	8,350	8,800	20,000	24,100	26,700	15,800	12,300	16,800	12,900	8,750	8,770	9,350
19	8,260	9,000	14,700	23,700	26,600	15,900	12,500	17,600	12,800	8,610	8,860	9,390
20	8,210	9,930	12,200	25,900	26,600	16,000	12,600	17,900	12,900	8,600	8,870	9,420
21	8,200	9,450	11,000	27,200	26,500	16,000	11,900	17,700	12,800	8,650	8,870	9,420
22	8,120	8,900	10,100	27,800	26,400	17,300	11,500	17,400	12,800	8,630	8,900	9,410
23	8,010	8,570	9,570	27,800	25,900	17,200	11,800	17,100	12,500	8,550	8,950	9,340
24	7,970	8,360	10,500	27,700	25,800	16,100	12,900	16,900	12,300	8,460	9,000	9,220
25	7,900	8,290	20,200	27,400	26,000	15,900	14,100	16,800	12,200	8,490	9,080	9,090
26	7,840	8,370	26,800	27,200	26,200	15,800	13,700	16,700	12,100	8,390	9,190	9,000
27	7,770	8,420	26,700	27,200	25,600	15,900	12,800	16,500	11,900	8,500	9,340	8,970
28	7,730	8,310	24,300	27,400	25,400	16,000	12,500	16,300	11,900	8,610	9,470	9,000
29	7,700	8,180	23,300	27,300	-----	16,500	12,300	16,100	11,800	8,530	9,710	9,000
30	7,870	8,120	25,500	27,000	-----	17,000	12,300	15,900	11,700	8,450	9,860	8,990
31	8,240	-----	21,600	26,500	-----	17,700	-----	15,800	-----	8,450	9,990	-----
TOTAL	254,260	254,010	477,460	651,610	731,100	598,400	439,300	476,600	396,900	285,220	275,330	278,480
MEAN	8,202	8,167	15,400	21,020	26,110	19,300	14,640	15,370	13,230	9,201	8,862	9,283
MAX	10,000	9,930	26,800	28,500	27,400	26,600	19,400	17,900	15,300	11,600	9,990	10,400
MIN	7,550	7,960	7,950	9,510	24,400	15,800	11,500	12,500	11,700	8,390	8,450	8,700
AC-FT	504,300	503,800	947,000	1,292M	1,450M	1,187M	871,300	945,300	787,200	565,700	546,100	552,400
CAL YR 1968	TOTAL 4,071,540		MEAN 11,120		MAX 28,200		MIN 5,000		AC-FT 8,076,000			
WTR YR 1969	TOTAL 5,118,670		MEAN 14,020		MAX 28,500		MIN 7,550		AC-FT 10,150,000			

SACRAMENTO RIVER BASIN

11-3906.55. SOUTH FORK WILLOW CREEK NEAR FRUTO, CALIF.

LOCATION.--Lat 39°32'28", long 122°23'19", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.20 N., R.5 W., Glenn County, on right bank 150 ft downstream from county road bridge, and 4.5 miles southeast of Fruto.

DRAINAGE AREA.--38.9 sq mi.

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 375 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 3.92 cfs (2,840 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,600 cfs Feb. 5 (gage height, 9.30 ft), from rating curve extended above 130 cfs on basis of slope-area measurement of maximum flow; no flow for several months.

Period of record: Maximum discharge, 1,920 cfs Jan. 5, 1965 (gage height, 9.94 ft), from rating curve extended above 130 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	6.0	107	8.6	2.4	.10	0	0	0
2	0	0	0	0	5.0	90	9.0	2.2	.10	0	0	0
3	0	0	0	0	4.2	69	8.6	2.0	.08	0	0	0
4	0	0	0	0	4.4	54	7.9	1.8	.08	0	0	0
5	0	0	0	0	313	46	9.0	1.6	.08	0	0	0
6	0	0	0	0	272	40	9.6	1.4	.05	0	0	0
7	0	0	0	0	52	36	7.6	1.3	.05	0	0	0
8	0	0	0	0	35	32	6.9	1.2	.08	0	0	0
9	0	0	0	0	38	30	6.6	1.1	.14	0	0	0
10	0	0	0	0	28	30	6.0	1.1	.23	0	0	0
11	0	0	0	0	119	24	5.6	1.1	.28	0	0	0
12	0	0	0	26	85	28	5.4	1.0	.14	0	0	0
13	0	0	0	108	47	26	5.2	1.0	.08	0	0	0
14	0	0	0	18	175	24	5.4	.91	.05	0	0	0
15	0	0	0	5.2	379	18	5.0	.82	.04	0	0	0
16	0	0	0	2.5	100	16	4.6	.82	.02	0	0	0
17	0	0	0	1.4	71	18	4.6	.73	.01	0	0	0
18	0	0	0	33	63	15	4.4	.73	.01	0	0	0
19	0	0	0	99	47	14	4.2	.73	0	0	0	0
20	0	0	0	69	38	20	4.0	.82	0	0	0	0
21	0	0	0	106	33	50	3.9	.73	0	0	0	0
22	0	0	0	33	30	20	3.9	.73	0	0	0	0
23	0	0	0	16	53	14	4.0	.73	0	0	0	0
24	0	0	31	11	324	13	3.5	.64	0	0	0	0
25	0	0	54	12	80	12	3.2	.64	0	0	0	0
26	0	0	11	71	58	12	3.2	.56	0	0	0	0
27	0	0	.91	20	167	11	3.0	.48	0	0	0	0
28	0	0	3.2	14	307	11	2.8	.41	0	0	0	0
29	0	0	1.9	10	-----	10	2.5	.28	0	0	0	0
30	0	0	.28	11	-----	10	2.5	.18	0	0	0	0
31	0	-----	.03	7.6	-----	9.6	-----	.14	-----	0	0	-----
TOTAL	0	0	102.32	673.7	2,933.6	909.6	160.7	30.28	1.62	0	0	0
MEAN	0	0	3.30	21.7	105	29.3	5.36	.98	.054	0	0	0
MAX	0	0	54	108	379	107	9.6	2.4	.28	0	0	0
MIN	0	0	.0	0	4.2	9.6	2.5	.14	0	0	0	0
AC-FT	0	0	203	1,340	5,820	1,800	319	60	3.2	0	0	0
CAL YR 1968	TOTAL	1,023.46	MEAN	2.80	MAX	233	MIN	0	AC-FT	2,030		
WTR YR 1969	TOTAL	4,811.82	MEAN	13.2	MAX	379	MIN	0	AC-FT	9,540		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-25	1500	4.61	125	2-11	2100	5.82	335
1-13	0900	5.21	214	2-14	2400	7.25	738
1-18	2230	5.41	252	2-15	0800	8.25	1,110
1-21	1030	5.33	236	2-24	0630	9.29	1,600
1-28	0300	5.33	236	2-27	2330	8.14	1,070
2- 5	2400	9.30	1,600				

11-3908.6. WALKER CREEK AT ARTOIS, CALIF.

LOCATION.--Lat 39°37'32", long 122°11'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.34, T.21 N., R.3 W., Glenn County, on left bank 500 ft upstream from county road bridge, and 0.3 mile north of Artois.

DRAINAGE AREA.--60.4 sq mi.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 158.4 ft above mean sea level (levels by Corps of Engineers).

EXTREMES.--Current year: Maximum discharge, 2,490 cfs Feb. 12 (gage height, 9.23 ft), from rating curve extended above 1,100 cfs; no flow for several days.

Period of record: Maximum discharge, 2,490 cfs Feb. 12, 1969 (gage height, 9.23 ft), from rating curve extended above 1,100 cfs; no flow at times each year.

REMARKS.--Records good. Several small storage ponds above station for diversions for irrigation above station.

REVISIONS.--The figures of peak discharge for water years 1966-68 have been revised as shown in the following table. They supersede figures published in WRD Calif. 1966-68.

REVISED PEAK DISCHARGE.--1966: Nov. 18 (0200) 780 cfs (6.72 ft); Jan. 5 (1515) 387 cfs (5.74 ft); Feb. 1 (1615) 664 cfs (6.46 ft); Feb. 4 (0415) 1,580 cfs (8.12 ft).
1967: Dec. 2 (2315) 1,700 cfs (8.28 ft); Dec. 5 (0600) 990 cfs (7.14 ft); Jan. 24 (1115) 2,330 cfs (9.06 ft); Jan. 26 (1700) 1,040 cfs (7.25 ft); Jan. 30 (2015) 2,470 cfs (9.21 ft).
1968: Jan. 29 (2345) 1,720 cfs (8.32 ft); Feb. 2 (1030) 564 cfs (6.21 ft); Feb. 17 (1015) 1,170 cfs (7.46 ft); Feb. 19 (2045) 1,350 cfs (7.76 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	1.1	.01	19	26	253	7.2	6.5	6.4	13	7.7	7.7
2	5.8	1.1	0	14	21	79	4.9	5.1	9.9	8.4	10	18
3	4.0	1.5	0	11	17	85	4.1	6.5	16	8.8	8.6	15
4	14	2.4	0	9.2	15	44	3.7	9.5	10	5.9	7.7	5.4
5	8.4	1.3	0	7.7	278	32	3.7	8.4	9.6	1.2	5.8	2.4
6	4.3	.77	0	6.7	938	26	4.0	3.3	9.9	1.6	11	1.8
7	8.9	.49	0	5.8	163	20	3.9	4.1	13	1.7	11	6.3
8	3.0	.35	0	4.9	72	16	3.2	6.9	12	5.2	8.1	6.5
9	1.7	.24	0	4.0	71	14	2.8	9.6	16	4.1	6.9	8.1
10	1.1	.20	.03	3.3	79	12	2.5	9.1	11	3.9	5.0	4.3
11	1.1	.11	.12	3.3	423	10	2.2	12	9.1	3.8	5.0	3.6
12	2.5	.06	.29	111	909	8.8	2.0	14	9.3	12	2.9	12
13	9.1	.02	.60	1,090	144	8.3	1.6	6.4	11	6.3	5.9	16
14	5.1	.04	4.8	328	150	7.6	1.4	5.8	14	6.5	8.0	5.1
15	6.6	1.0	18	137	1,190	6.9	1.5	7.1	11	5.5	13	6.1
16	3.9	3.2	27	46	250	6.3	4.0	3.7	6.6	1.0	9.6	14
17	7.5	2.0	16	35	84	7.1	5.3	6.0	7.8	3.2	4.2	17
18	3.1	2.1	8.2	30	163	9.1	3.0	11	5.2	6.0	4.4	9.6
19	1.3	2.3	5.0	524	121	7.4	2.9	5.9	9.3	4.5	5.6	2.2
20	1.1	2.2	3.5	472	69	6.8	4.3	7.0	9.9	2.0	13	.62
21	.85	1.3	2.5	558	44	82	2.5	11	5.2	2.7	6.0	5.5
22	.52	.81	1.9	314	33	44	2.5	7.5	7.6	4.4	2.5	5.3
23	.29	.58	2.6	100	118	18	4.2	7.8	4.8	4.6	2.4	6.8
24	1.1	.42	306	40	453	11	8.6	6.9	2.6	16	3.8	4.0
25	1.4	.31	270	47	169	7.5	15	9.6	4.8	7.1	2.8	6.0
26	.98	.24	139	349	57	6.0	20	10	7.1	8.1	6.2	8.5
27	2.8	.18	54	137	42	5.6	15	10	7.1	8.8	3.5	7.9
28	3.6	.10	73	48	1,020	8.3	9.5	6.6	6.0	9.0	2.2	8.8
29	2.5	.06	83	33	-----	9.3	5.0	4.1	9.3	5.6	9.6	11
30	2.5	.05	41	40	-----	8.8	8.2	6.6	9.9	2.8	8.2	16
31	2.2	-----	26	35	-----	7.3	-----	4.8	-----	3.5	8.1	-----
TOTAL	116.64	26.53	1,082.55	4,562.9	7,119	867.1	158.7	232.8	271.4	177.2	208.7	241.52
MEAN	3.76	.88	34.9	147	254	28.0	5.29	7.51	9.05	5.72	6.73	8.05
MAX	14	3.2	306	1,090	1,190	253	20	14	16	16	13	18
MIN	.29	.02	0	3.3	15	5.6	1.4	3.3	2.6	1.0	2.2	.62
AC-FT	231	53	2,150	9,050	14,120	1,720	315	462	538	351	414	479

CAL YR 1968 TOTAL 5,641.05 MEAN 15.4 MAX 572 MIN 0 AC-FT 11,190
WTR YR 1969 TOTAL 15,065.04 MEAN 41.3 MAX 1,190 MIN 0 AC-FT 29,880

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-24	1615	6.77	805	2-12	0145	9.23	2,490
12-25	2100	5.49	322	2-15	0330	8.72	2,040
1-13	0400	8.55	1,900	2-18	1715	5.42	301
1-19	1700	6.96	900	2-23	1330	5.15	244
1-21	1500	7.04	940	2-24	1145	7.57	1,230
1-26	0915	6.31	604	2-28	0500	8.60	1,940
2- 5	1115	6.34	616	3-21	1515	4.91	198
2- 6	0400	8.81	2,110				

SACRAMENTO RIVER BASIN

11-3906.72, STONE CORRAL CREEK NEAR SITES, CALIF.

LOCATION.--Lat 39°17'18", long 122°18'00", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.34, T.17 N., R.4 W., Colusa County, on left bank at road bridge 2.4 miles southeast of Sites.

DRAINAGE AREA.--38.2 sq mi.

PERIOD OF RECORD.--March 1958 to September 1964, October 1965 to current year.

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

AVERAGE DISCHARGE.--10 years, 5.11 cfs (3,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,230 cfs Mar. 9 (gage height, 13.53 ft), from rating curve extended as explained below; no flow for several months.

Period of record: Maximum discharge, 2,640 cfs Jan. 29, 1968 (gage height, 14.52 ft), from rating curve extended above 1,200 cfs on basis of slope-conveyance study at gage height 13.0 ft; no flow for several months each year.

Flood of Apr. 2, 1958, reached a stage of 14.93 ft (discharge, 2,500 cfs); flood of Dec. 22, 1964, reached a stage of 13.0 ft from floodmarks (discharge, 1,940 cfs from slope-conveyance study).

REMARKS.--No known diversion or regulation above station.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	1.0	15	100	13	4.9	0	0	0	0
2	0	0	0	.70	13	109	14	5.1	0	0	0	0
3	0	0	0	.50	12	73	13	5.2	0	0	0	0
4	0	0	0	.30	12	55	12	4.8	0	0	0	0
5	0	0	0	.20	319	47	12	4.9	0	0	0	0
6	0	0	0	.20	339	47	11	4.7	0	0	0	0
7	0	0	0	.10	48	41	9.8	4.7	0	0	0	0
8	0	0	0	.10	36	37	9.0	4.4	0	0	0	0
9	0	0	0	.10	130	368	8.3	4.6	0	0	0	0
10	0	0	0	0	63	233	7.9	4.7	.10	0	0	0
11	0	0	0	.50	242	64	6.7	4.5	.20	0	0	0
12	0	0	0	24	122	56	6.3	4.1	.10	0	0	0
13	0	0	.10	207	58	49	5.7	3.8	0	0	0	0
14	0	0	0	23	419	43	5.7	3.5	0	0	0	0
15	0	0	.10	7.5	602	40	5.3	3.3	0	0	0	0
16	0	0	0	4.5	118	37	4.9	2.6	0	0	0	0
17	0	0	0	3.2	86	36	4.9	2.1	0	0	0	0
18	0	0	0	73	80	30	4.9	1.8	0	0	0	0
19	0	0	0	153	62	28	4.8	1.3	0	0	0	0
20	0	0	0	74	49	40	4.8	.90	0	0	0	0
21	0	0	0	348	41	51	4.9	.80	0	0	0	0
22	0	0	0	75	37	28	5.0	.50	0	0	0	0
23	0	0	0	42	53	23	5.7	.50	0	0	0	0
24	0	0	28	23	226	21	6.3	.30	0	0	0	0
25	0	0	33	39	77	20	5.1	.30	0	0	0	0
26	0	0	14	193	47	19	5.1	.20	0	0	0	0
27	0	0	3.6	38	265	18	5.1	.20	0	0	0	0
28	0	0	8.7	25	371	18	5.0	.20	0	0	0	0
29	0	0	5.7	20	-----	17	4.8	.10	0	0	0	0
30	0	0	2.5	29	-----	16	5.2	0	0	0	0	0
31	0	-----	1.4	17	-----	15	-----	0	-----	0	0	-----
TOTAL	0	0	97.10	1,421.90	3,942	1,779	216.2	79.00	0.40	0	0	0
MEAN	0	0	3.13	45.9	141	57.4	7.21	2.55	.013	0	0	0
MAX	0	0	33	348	602	368	14	5.2	.20	0	0	0
MIN	0	0	0	0	12	15	4.8	0	0	0	0	0
AC-FT	0	0	193	2,820	7,820	3,530	429	157	.8	0	0	0
CAL YR 1968	TOTAL	2,551.00	MEAN	6.97	MAX	982	MIN	0	AC-FT	5,060		
WTR YR 1969	TOTAL	7,535.60	MEAN	20.6	MAX	602	MIN	0	AC-FT	14,950		

11-3910. SACRAMENTO RIVER AT KNIGHTS LANDING, CALIF.

LOCATION.--Lat 38°48'11", long 121°42'55", in NE¼ sec.14, T.11 N., R.2 E., Sutter County, on left bank just upstream from Southern Pacific Railroad bridge at Knights Landing, 13.1 miles upstream from Feather River, and at mile 34.0 upstream from Sacramento.

DRAINAGE AREA.--14,550 sq mi.

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.93 ft below mean sea level. April 1921 to Dec. 9, 1930, in fender pier of railroad bridge at same datum. Water-stage recorder for station at Verona was used as auxiliary gage for this station January 1941 to June 1945. Since Aug. 16, 1945, auxiliary water-stage recorder 6.0 miles downstream from base gage.

AVERAGE DISCHARGE.--29 years (1940-69), 10,450 cfs (7,571,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 30,600 cfs Jan. 24 (gage height, 39.17 ft); minimum daily, 7,830 cfs Oct. 10.

Period of record: Maximum discharge (1940-69), 30,600 cfs Jan. 24, 1969 (gage height, 39.17 ft); maximum gage height, 41.83 ft Feb. 8, 1942 (backwater from Feather River and Sutter bypass); minimum discharge recorded, 250 cfs July 23, 1931 (gage height, 7.80 ft).

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,100	9,380	9,140	19,100	27,200	26,200	18,200	12,300	15,000	12,200	8,770	11,400
2	10,300	9,280	9,270	16,100	26,900	26,900	18,600	13,100	14,300	12,100	8,830	11,600
3	9,980	9,070	9,310	14,800	26,400	26,800	18,400	13,400	14,200	11,800	8,820	11,700
4	9,330	8,820	9,300	14,100	26,000	26,400	16,800	13,500	14,400	11,400	8,890	11,800
5	8,690	9,330	9,130	13,900	25,500	26,000	15,300	13,600	14,300	10,400	8,930	11,600
6	8,380	9,690	9,010	13,800	24,900	25,700	15,700	13,100	14,200	10,300	8,880	10,900
7	8,070	9,660	8,940	13,600	26,700	25,100	18,800	12,600	13,900	10,100	8,840	10,500
8	7,970	9,450	8,960	13,200	26,800	24,400	19,500	12,500	14,000	10,000	8,820	10,100
9	7,870	9,400	9,160	12,400	25,800	23,700	17,500	13,000	14,100	9,840	8,850	9,990
10	7,830	9,220	9,590	11,800	25,200	22,300	16,400	13,600	13,900	9,590	8,820	10,000
11	7,850	9,030	12,800	10,900	26,200	21,300	15,800	14,500	14,200	9,470	8,570	10,100
12	7,960	9,140	23,800	10,200	26,300	20,600	15,400	15,100	14,600	9,530	8,870	10,100
13	8,060	9,090	21,900	20,900	26,900	19,300	15,200	15,500	15,000	9,460	9,070	9,960
14	8,630	9,570	16,100	28,100	26,200	18,200	15,100	15,600	15,100	9,510	9,060	10,000
15	9,260	9,930	17,600	29,000	26,800	17,300	14,800	15,100	15,000	9,550	9,100	10,000
16	9,410	10,100	24,700	28,300	26,500	16,800	14,400	15,500	14,900	9,460	9,090	10,100
17	9,160	10,400	26,500	26,800	27,500	16,200	13,700	14,600	14,500	9,300	9,490	10,200
18	9,020	10,300	23,600	25,800	28,100	15,900	12,800	16,200	13,900	9,180	9,380	10,300
19	8,720	10,100	17,900	25,000	27,900	15,900	12,500	17,100	13,700	8,900	9,280	10,200
20	8,760	11,100	15,200	25,300	27,600	16,100	12,700	17,500	13,600	8,890	9,500	10,100
21	8,810	11,200	13,400	27,700	27,300	15,900	12,300	17,400	13,500	8,970	9,600	9,990
22	8,770	10,600	12,000	29,000	27,100	16,800	11,700	17,300	13,400	8,970	9,600	9,810
23	8,630	9,950	11,100	29,800	26,700	17,400	11,900	17,200	13,400	8,870	9,640	9,720
24	8,570	9,640	10,800	30,000	26,700	16,400	12,700	17,300	13,000	8,750	9,680	9,630
25	8,410	9,510	17,800	29,200	26,700	16,300	13,900	16,700	12,200	8,640	9,880	9,390
26	8,440	9,690	28,000	28,400	26,300	16,100	13,800	16,600	11,700	8,510	10,100	9,170
27	8,320	9,680	29,100	28,900	26,600	16,100	12,800	16,500	12,400	8,640	10,300	9,140
28	8,250	9,410	26,600	28,600	26,400	16,200	12,900	16,100	12,600	8,900	10,400	9,220
29	8,260	9,290	24,100	27,800	-----	16,400	12,900	15,900	12,400	8,860	10,700	9,330
30	8,420	9,150	27,200	27,700	-----	17,100	12,300	15,700	12,400	8,690	11,000	9,360
31	8,790	-----	24,600	27,800	-----	18,000	-----	15,300	-----	8,580	11,200	-----
TOTAL	269,020	290,180	516,610	688,000	745,200	613,800	444,800	469,400	413,800	297,360	291,960	305,410
MEAN	8,678	9,673	16,660	22,190	26,610	19,800	14,830	15,140	13,790	9,592	9,418	10,180
MAX	10,300	11,200	29,100	30,000	28,100	26,900	19,500	17,500	15,100	12,200	11,200	11,800
MIN	7,830	8,820	8,940	10,200	24,900	15,900	11,700	12,300	11,700	8,510	8,570	9,140
AC-FT	533,600	575,600	1,025M	1,365M	1,478M	1,217M	882,200	931,000	820,800	589,800	579,100	605,800
CAL YR 1968	TOTAL 4,385,140		MEAN 11,980		MAX 29,100		MIN 5,420		AC-FT 8,698,000			
WTR YR 1969	TOTAL 5,345,540		MEAN 14,650		MAX 30,000		MIN 7,830		AC-FT 10,600,000			

SACRAMENTO RIVER BASIN

11-3914. LITTLE LAST CHANCE CREEK NEAR CHILCOOT, CALIF.

LOCATION.--Lat 39°53'36", long 120°11'17", in NE¼ sec.33, T.24 N., R.16 E., Plumas County, Plumas National Forest, in valve house at toe of Frenchman Dam, 7.1 miles northwest of Chilcoot.

DRAINAGE AREA.--81.1 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder and concrete V-notch weir. Datum of release gage is 5,480.00 ft (levels by California Department of Water Resources). October 1958 to September 1967, at site 1.9 miles downstream at different datum.

AVERAGE DISCHARGE (unadjusted).--11 years, 25.2 cfs (18,260 acre-ft per year).

EXTREMES.--Water year 1968: Maximum discharge, 120 cfs May 31; minimum daily, 2.0 cfs for several months. Water year 1969: Maximum discharge, 421 cfs Apr. 23; minimum daily, 1.9 cfs for several days in October.

Period of record: Maximum discharge, 784 cfs Feb. 8, 1960 (gage height, 5.56 ft, previous site and datum), from rating curve extended above 310 cfs; no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961.

REMARKS.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961 (usable capacity, 53,580 acre-ft). Records since October 1967 are combined flow of release from Frenchman Dam and flow over spillway.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	2.0	2.0	2.0	2.0	2.0	2.0	72	118	14	80	15
2	3.4	2.0	2.0	2.0	2.0	2.0	2.0	67	116	14	80	15
3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	53	115	12	80	15
4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	38	114	11	80	15
5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	32	100	11	91	15
6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	32	50	11	98	15
7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	32	50	11	98	15
8	2.0	2.0	2.0	2.0	2.0	2.0	2.7	32	44	11	98	15
9	2.0	2.0	2.0	2.0	2.0	2.0	5.2	32	25	11	74	15
10	2.0	2.0	2.0	2.0	2.0	2.0	8.7	38	25	11	59	15
11	2.0	2.0	2.0	2.0	2.0	2.0	13	49	25	11	59	15
12	2.0	2.0	2.0	2.0	2.0	2.0	18	49	25	11	54	15
13	2.0	2.0	2.0	2.0	2.0	2.0	20	49	35	11	45	15
14	2.0	2.0	2.0	2.0	2.0	2.0	24	49	40	11	45	15
15	2.0	2.0	2.0	2.0	2.0	2.0	27	49	40	24	42	15
16	2.0	2.0	2.0	2.0	2.0	2.0	33	49	40	32	35	5.9
17	2.0	2.0	2.0	2.0	2.0	2.0	35	49	40	36	35	2.0
18	2.0	2.0	2.0	2.0	2.0	2.0	33	49	40	39	35	2.0
19	2.0	2.0	2.0	2.0	2.0	2.0	52	49	56	46	35	2.0
20	2.0	2.0	2.0	2.0	2.0	2.0	57	49	65	49	27	2.0
21	2.0	2.0	2.0	2.0	2.0	2.0	53	49	65	50	15	2.0
22	2.0	2.0	2.0	2.0	2.0	2.0	49	49	65	44	15	2.0
23	2.0	2.0	2.0	2.0	2.0	2.0	69	49	65	45	15	2.0
24	2.0	2.0	2.0	2.0	2.0	2.0	75	58	65	48	15	2.0
25	2.0	2.0	2.0	2.0	2.0	2.0	93	63	65	48	15	2.0
26	2.0	2.0	2.0	2.0	2.0	2.0	107	63	65	48	15	2.0
27	2.0	2.0	2.0	2.0	2.0	2.0	107	58	50	48	15	2.0
28	2.0	2.0	2.0	2.0	2.0	2.0	107	55	43	53	15	2.0
29	2.0	2.0	2.0	2.0	2.0	2.0	107	77	14	60	15	2.0
30	2.0	2.0	2.0	2.0	-----	2.0	97	93	14	74	15	2.0
31	2.0	-----	2.0	2.0	-----	2.0	-----	110	-----	80	15	-----
TOTAL	66.8	60.0	62.0	62.0	58.0	62.0	1,206.6	1,642	1,674	985	1,415	258.9
MEAN	2.15	2.00	2.00	2.00	2.00	2.00	40.2	53.0	55.8	31.8	45.6	8.63
MAX	5.4	2.0	2.0	2.0	2.0	2.0	107	110	118	80	98	15
MIN	2.0	2.0	2.0	2.0	2.0	2.0	2.0	32	14	11	15	2.0
AC-FT	133	119	123	123	115	123	2,390	3,260	3,320	1,950	2,810	514

CAL YR 1967 TOTAL 20,666.1 MEAN 56.6 MAX 524 MIN 2.0 ACFT 40,990
WAT YR 1968 TOTAL 7,552.3 MEAN 20.6 MAX 118 MIN 2.0 ACFT 14,980

11-3914. LITTLE LAST CHANCE CREEK NEAR CHILCOOT, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.0	2.0	2.0	2.2	2.1	81	282	82	36	64	31
2	2.0	2.0	2.0	2.0	2.2	2.0	81	276	77	29	64	31
3	2.0	2.0	2.0	2.0	2.2	2.0	81	270	112	20	64	31
4	2.0	2.0	2.0	2.0	2.5	2.0	82	265	124	20	64	31
5	2.0	2.0	2.0	2.0	2.3	2.0	82	251	114	20	55	24
6	2.0	2.0	2.0	2.0	2.5	2.0	85	247	135	20	39	20
7	2.0	2.0	2.0	2.0	2.5	2.0	103	252	143	20	53	20
8	2.0	2.0	2.0	2.0	2.5	2.0	71	260	131	20	69	20
9	2.0	2.0	2.0	2.0	2.3	2.0	90	271	111	13	69	20
10	2.0	2.0	2.0	2.0	2.3	2.0	138	283	91	10	69	20
11	2.0	2.0	2.0	2.0	2.2	2.0	188	297	60	10	77	20
12	2.0	2.0	2.0	2.0	2.0	2.0	237	306	35	10	89	20
13	2.0	2.0	2.0	2.0	2.2	2.0	282	312	24	10	89	20
14	2.0	2.0	2.0	2.0	2.2	2.0	302	300	21	10	89	20
15	2.0	2.0	2.0	2.0	2.2	22	296	283	22	10	102	20
16	2.0	2.0	2.0	2.0	2.2	46	285	265	30	16	114	9.9
17	2.0	2.0	2.0	2.0	2.2	66	282	249	37	20	132	4.9
18	2.0	2.0	2.0	2.0	2.2	80	305	235	23	20	132	4.9
19	2.0	2.0	2.0	2.0	2.2	80	308	222	24	20	132	4.9
20	2.0	2.0	2.0	2.0	2.2	80	317	206	14	20	132	4.9
21	9.1	2.0	2.0	2.0	2.2	80	332	193	6.5	30	132	5.0
22	14	2.0	2.0	2.0	2.2	80	363	178	7.2	49	132	5.0
23	8.8	2.0	2.0	2.0	2.2	80	394	166	8.0	55	132	5.0
24	1.9	2.0	2.0	2.0	2.3	80	401	157	8.0	55	132	5.0
25	1.9	2.0	2.0	2.0	2.3	80	369	145	8.0	55	110	5.0
26	1.9	2.0	2.0	2.0	2.3	80	335	134	7.2	55	80	5.0
27	1.9	2.0	2.0	2.0	2.3	80	302	125	6.5	55	44	5.1
28	1.9	2.0	2.0	2.0	2.3	80	279	119	5.2	55	36	5.1
29	1.9	2.0	2.0	2.0	-----	80	276	108	8.5	58	31	5.1
30	1.9	2.0	2.0	2.0	-----	80	279	98	37	64	31	5.1
31	1.9	-----	2.0	2.0	-----	80	-----	90	-----	64	31	-----
TOTAL	87.1	60.0	62.0	62.0	63.4	1,282.1	7,026	6,845	1,512.1	949	2,589	427.9
MEAN	2.81	2.00	2.00	2.00	2.26	41.4	234	221	50.4	30.6	83.5	14.3
MAX	14	2.0	2.0	2.0	2.5	80	401	312	143	64	132	31
MIN	1.9	2.0	2.0	2.0	2.0	2.0	71	90	5.2	10	31	4.9
AC-FT	173	119	123	123	126	2,540	13,940	13,580	3,000	1,880	5,140	849
CAL YR 1968	TOTAL	7,572.6	MEAN	20.7	MAX	118	MIN	1.9	ACFT	15,020		
WAT YR 1969	TOTAL	20,965.6	MEAN	57.4	MAX	401	MIN	1.9	ACFT	41,590		

SACRAMENTO RIVER BASIN

11-3921, MIDDLE FORK FEATHER RIVER NEAR PORTOLA, CALIF.

LOCATION.--Lat 39°49'13", long 120°26'26", in SW¼NW¼ sec.29, T.23 N., R.14 E., Plumas County, on right bank 0.8 mile downstream from Big Grizzly Creek and 1.6 miles northeast of Portola.

DRAINAGE AREA.--590 sq mi.

PERIOD OF RECORD.--October 1968 to current year. November 1955 to September 1968 in bulletins of California Department of Water Resources.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 7,640 cfs Jan. 21 (gage height, 10.18 ft); minimum daily, 3.1 cfs Sept. 11, 12.

REMARKS.--Flow partly regulated by Frenchman Lake (see sta 11-3913.7) and Lake Davis (see sta 11-3914.9).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	23	44	99	977	194	4,430	1,010	390	124	28	19
2	9.2	25	40	88	857	216	3,320	1,030	383	132	26	8.6
3	7.2	32	34	78	783	223	2,270	1,080	372	128	25	5.5
4	5.6	36	31	74	656	223	1,730	1,180	348	118	23	4.6
5	5.6	40	32	70	453	238	1,480	1,160	331	110	23	5.6
6	6.7	40	34	68	373	233	1,600	1,050	306	106	22	6.9
7	8.6	37	37	62	346	241	1,530	928	299	100	21	6.7
8	10	34	45	59	335	252	1,160	911	315	99	24	6.2
9	11	35	49	59	293	247	996	951	356	94	20	4.5
10	12	36	54	54	298	251	908	1,010	374	94	19	3.4
11	12	35	61	49	332	243	852	1,080	405	101	20	3.1
12	19	46	53	59	479	244	927	1,120	439	95	20	3.1
13	16	44	66	110	785	248	1,010	1,130	439	91	19	6.6
14	18	47	70	468	944	269	1,100	1,160	415	89	17	6.9
15	20	59	71	1,270	741	277	1,170	1,160	384	90	17	5.6
16	20	53	56	976	572	271	1,090	1,140	351	89	17	5.1
17	19	50	90	674	582	282	1,090	1,090	336	88	19	5.3
18	18	48	89	429	540	347	1,260	1,000	345	85	17	5.7
19	17	47	86	489	497	509	1,270	922	352	83	16	5.8
20	18	53	80	2,670	432	679	1,260	864	354	82	17	6.2
21	22	57	76	6,850	381	878	1,210	823	348	80	20	6.1
22	19	53	55	5,940	358	1,050	1,040	786	336	80	21	6.0
23	18	49	43	3,520	293	1,410	1,180	739	331	82	26	5.9
24	19	48	49	1,910	264	1,870	1,590	672	324	83	28	6.2
25	19	51	72	997	200	2,340	1,770	623	296	82	69	6.6
26	20	49	58	1,820	163	2,660	1,640	584	263	80	34	7.6
27	24	44	49	2,530	184	2,920	1,370	563	228	77	34	8.1
28	22	42	54	2,760	194	3,210	1,160	535	197	75	35	8.1
29	23	42	67	1,670	-----	3,410	1,050	508	166	58	30	8.3
30	23	42	90	1,470	-----	3,690	1,010	477	133	31	28	7.6
31	22	-----	104	1,190	-----	4,250	-----	423	-----	30	22	-----
TOTAL	490.9	1,297	1,839	38,562	13,312	33,375	43,473	27,709	9,916	2,756	757	194.9
MEAN	15.8	43.2	59.3	1,244	475	1,077	1,449	894	331	88.9	24.4	6.50
MAX	24	59	104	6,850	977	4,250	4,430	1,180	439	132	69	19
MIN	5.6	23	31	49	163	194	852	423	133	30	16	3.1
AC-FT	974	2,570	3,650	76,490	26,400	66,200	86,230	54,960	19,670	5,470	1,500	387
CAL YR 1968	TOTAL	3,626.9	MEAN	9.9	MAX	104	MIN	0	ACFT	7,190		
WAT YR 1969	TOTAL	173,681.8	MEAN	476	MAX	6,850	MIN	3.1	ACFT	344,500		

11-3925. MIDDLE FORK FEATHER RIVER NEAR CLIO, CALIF.

LOCATION.--Lat 39°45'14", long.120°35'42", in SE $\frac{1}{4}$ sec.23, T.22 N., R.12 E., Plumas County, on left bank 0.6 mile upstream from Frazier Creek, 1.0 mile northwest of Clio, and 2.2 miles southeast of Blairsdon.

DRAINAGE AREA.--686 sq mi.

PERIOD OF RECORD.--October 1925 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,380 ft (from topographic map). Prior to July 29, 1953, at site 0.5 mile downstream at different datum.

AVERAGE DISCHARGE.--44 years, 286 cfs (207,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,000 cfs Jan. 21 (gage height, 14.74 ft); minimum daily, 21 cfs Oct. 1-3, 5-7.

Period of record: Maximum discharge, 14,500 cfs Feb. 1, 1963 (gage height, 16.19 ft); minimum, 4.3 cfs Sept. 5, 1934.

REMARKS.--Records good. Diversions for irrigation of about 40,000 acres above station, of which 14,500 acres receive supplemental water of about 7,000 acre-ft annually from Little Truckee River. Flow partly regulated by Lake Davis (total usable capacity, 84,000 acre-ft) beginning in November 1966 (see sta 11-3914.9) and by Frenchman Lake (total usable capacity, 53,600 acre-ft) beginning in November 1961 (see sta 11-3913.7). Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	46	85	158	1,280	278	4,880	1,290	600	190	70	48
2	21	67	83	146	1,070	280	3,670	1,300	580	196	68	46
3	21	120	75	139	936	293	2,700	1,320	576	188	66	39
4	22	72	73	135	783	294	2,170	1,380	564	181	65	36
5	21	65	70	131	624	294	2,110	1,360	548	170	62	35
6	21	65	73	127	542	300	1,960	1,300	512	163	62	35
7	21	63	75	126	479	293	1,880	1,240	488	153	61	36
8	23	60	83	123	415	293	1,560	1,240	498	145	61	37
9	25	59	91	115	415	306	1,380	1,320	560	145	60	36
10	26	59	180	111	426	298	1,300	1,380	533	140	60	35
11	33	72	170	137	482	293	1,260	1,460	580	147	58	33
12	114	210	118	269	605	293	1,340	1,500	612	142	51	33
13	60	95	114	1,320	846	288	1,430	1,500	608	137	51	32
14	47	91	146	765	1,060	301	1,450	1,450	628	134	49	33
15	43	107	202	1,430	950	306	1,450	1,400	596	131	48	36
16	43	104	149	1,210	735	319	1,380	1,380	533	130	48	36
17	43	96	148	892	675	370	1,360	1,350	508	128	48	35
18	42	106	153	636	667	473	1,620	1,300	564	126	47	35
19	41	101	149	1,640	616	616	1,590	1,200	536	122	47	37
20	40	95	133	4,990	532	807	1,600	1,120	512	121	45	38
21	40	101	118	9,990	458	1,000	1,590	1,070	491	119	46	38
22	43	101	113	7,890	415	1,190	1,480	1,040	470	116	47	38
23	40	95	104	4,580	395	1,550	1,630	1,010	455	116	48	37
24	39	105	193	2,830	359	1,910	1,870	965	449	116	50	36
25	40	98	199	2,040	328	2,330	1,980	880	419	115	52	37
26	40	96	163	3,590	280	2,690	1,840	830	383	114	78	37
27	42	89	135	3,010	266	2,980	1,610	800	350	112	56	38
28	45	84	128	3,210	283	3,290	1,400	750	315	111	57	38
29	49	83	128	2,240	-----	3,570	1,330	710	275	108	56	38
30	50	85	144	1,870	-----	3,940	1,300	692	226	81	53	38
31	45	-----	159	1,570	-----	4,670	-----	652	-----	72	53	-----
TOTAL	1,201	2,690	3,954	57,420	16,922	36,115	54,120	36,189	14,969	4,169	1,723	1,106
MEAN	38.7	89.7	128	1,852	604	1,165	1,804	1,167	499	134	55.6	36.9
MAX	114	210	202	9,990	1,280	4,670	4,880	1,500	628	196	78	48
MIN	21	46	70	111	266	278	1,260	652	226	72	45	32
AC-FT	2,380	5,340	7,840	113,900	33,560	71,630	107,300	71,780	29,690	8,270	3,420	2,190
CAL YR 1968	TOTAL	68,512	MEAN	187	MAX	4,190	MIN	14	AC-FT	135,900		
WTR YR 1969	TOTAL	230,578	MEAN	632	MAX	9,990	MIN	21	AC-FT	457,400		

11-3945, MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CALIF.

LOCATION.--Lat 39°42'30", long 121°16'10", in NW¼NE¼ sec.2, T.21 N., R.6 E., Butte County, Plumas National Forest, on left bank 400 ft downstream from bridge on Milsap Bar Road, 500 ft downstream from Little North Fork, 4.5 miles southeast of Merrimac, and 20 miles northeast of Oroville.

DRAINAGE AREA.--1,062 sq mi.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (from topographic map). Prior to Jan. 21, 1965, on right bank at same site and datum.

AVERAGE DISCHARGE.--18 years, 1,425 cfs (1,032,000 acre-ft per year); median of yearly mean discharges, 1,190 cfs (862,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 30,300 cfs Jan. 21 (gage height, 17.85 ft); minimum daily, 140 cfs Oct. 1, 8-10.

Period of record: Maximum discharge, 86,200 cfs Dec. 22, 1964 (gage height, 26.5 ft, from floodmarks, present site), from rating curve extended above 19,000 cfs on basis of slope-area measurement of maximum flow; minimum, 92 cfs Jan. 2, 1960.

Flood of Dec. 10, 1937, reached a stage of 19.4 ft, from floodmarks (discharge, 46,100 cfs).

REMARKS.--Records good. Diversions above station for irrigation of about 1,000 acres between stations near Clio and near Merrimac. Flow partly regulated by Antelope Lake (see sta 11-4011.2) beginning in 1963, Lake Davis (see sta 11-3914.9) beginning in 1967, and Frenchman Lake (see sta 11-3913.7) beginning in 1961. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1960. WRD Calif. 1968: 1956(M), 1963(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	245	410	632	3,570	1,460	8,670	5,040	3,960	913	345	242
2	144	444	375	626	3,110	1,400	7,640	4,910	3,710	863	339	240
3	144	979	360	620	2,730	1,400	6,100	4,850	3,670	845	331	233
4	144	787	350	644	2,510	1,350	5,060	4,540	3,640	814	320	217
5	144	470	345	680	2,400	1,320	5,550	4,660	3,470	790	311	202
6	144	420	345	698	2,190	1,320	5,060	5,370	3,280	760	305	195
7	144	330	335	710	1,940	1,260	4,590	5,960	2,910	736	298	196
8	140	307	345	717	1,810	1,250	4,070	6,280	2,690	701	294	201
9	140	285	374	674	2,080	1,270	3,760	6,970	2,700	717	294	198
10	140	281	1,540	632	2,240	1,220	3,610	7,210	2,440	675	289	195
11	165	301	1,690	766	2,590	1,200	3,780	7,280	2,410	656	284	197
12	746	1,330	944	1,170	3,060	1,180	4,230	7,440	2,390	645	281	197
13	658	727	745	5,020	2,730	1,160	4,660	7,250	2,360	628	278	192
14	475	510	857	5,150	2,890	1,160	4,490	6,770	2,410	604	272	189
15	340	490	1,460	3,340	3,180	1,180	4,140	6,120	2,440	585	265	189
16	269	465	1,400	2,920	2,730	1,240	4,010	6,010	2,220	564	264	193
17	249	445	928	2,210	2,410	1,380	4,080	6,160	2,040	550	264	193
18	229	632	787	1,860	2,320	1,620	4,990	6,400	2,070	531	260	192
19	217	780	731	7,310	2,140	1,720	4,950	6,000	2,060	521	253	197
20	213	602	644	19,000	2,010	1,950	5,100	5,600	1,850	505	249	197
21	205	520	554	26,700	1,810	2,130	5,530	5,300	1,750	490	248	203
22	201	485	536	15,800	1,680	2,300	6,150	5,500	1,600	478	245	204
23	198	470	620	9,940	1,700	2,730	6,550	5,800	1,550	475	243	198
24	193	480	913	7,050	1,640	3,190	5,790	5,700	1,490	474	241	197
25	189	480	1,450	8,150	1,540	3,620	5,400	5,400	1,400	466	241	196
26	185	445	1,080	15,200	1,430	4,200	4,970	5,000	1,300	451	243	197
27	185	420	850	9,120	1,330	4,660	4,550	4,600	1,210	439	290	194
28	185	395	787	7,710	1,480	5,530	4,360	4,300	1,130	421	260	189
29	261	370	724	5,860	-----	6,230	4,850	4,050	1,060	421	255	189
30	425	405	668	4,800	-----	7,050	5,210	4,160	992	405	257	191
31	298	-----	644	3,980	-----	8,150	-----	4,190	-----	369	249	-----
TOTAL	7,510	15,300	23,791	169,689	63,250	76,830	151,900	174,820	68,202	18,492	8,568	6,013
MEAN	242	510	767	5,474	2,259	2,478	5,063	5,639	2,273	597	276	200
MAX	746	1,330	1,690	26,700	3,570	8,150	8,670	7,440	3,960	913	345	242
MIN	140	245	335	620	1,330	1,160	3,610	4,050	992	369	241	189
AC-FT	14,900	30,350	47,190	336,600	125,500	152,400	301,300	346,800	135,300	36,680	16,990	11,930
CAL YR 1968	TOTAL 351,245			MEAN 960	MAX 8,920	MIN 134	AC-FT 696,700					
WTR YR 1969	TOTAL 784,365			MEAN 2,149	MAX 26,700	MIN 140	AC-FT 1,556,000					

PEAK DISCHARGE (BASE, 7,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2000	11.51	8,080	4- 1	0200	11.94	9,290
1-21	1730	17.85	30,300	5-13	0100	11.26	7,750
1-26	0800	15.47	19,900				

11-3946.2. FALL RIVER NEAR FEATHER FALLS, CALIF.

LOCATION.--Lat 39°40'00", long 121°08'01", in NW $\frac{1}{4}$ sec.19, T.21 N., R.8 E., Plumas County, on right bank 0.5 mile downstream from Coyote Creek, and 8 miles northeast of Feather Falls.

DRAINAGE AREA.--9.89 sq mi.

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,000 ft (from topographic map).

AVERAGE DISCHARGE.--6 years (1963-69), 42.8 cfs (31,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,100 cfs Jan. 20 (gage height, 6.01 ft), from rating curve extended above 170 cfs on basis of slope-area measurement at gage height 10.0 ft; minimum daily, 1.7 cfs Oct. 1-10.
Period of record: Maximum discharge, 3,770 cfs Dec. 22, 1964 (gage height, 10.00 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of maximum flow; minimum daily, 1.7 cfs on several days in 1966, 1968, 1969.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	3.3	8.8	13	102	29	147	172	101	16	5.6	2.2
2	1.7	13	8.1	13	85	28	138	170	91	15	5.6	2.2
3	1.7	26	7.7	13	74	27	116	165	85	15	5.3	2.2
4	1.7	16	7.4	14	66	26	107	152	77	14	5.0	2.2
5	1.7	10	7.4	14	64	26	140	167	70	14	5.0	2.2
6	1.7	8.1	7.4	14	58	25	118	200	62	14	4.7	2.1
7	1.7	6.7	7.4	16	53	25	104	226	56	13	4.7	2.1
8	1.7	6.3	8.1	17	49	24	95	246	51	13	4.7	2.1
9	1.7	6.0	9.9	17	56	24	91	262	49	12	4.4	2.1
10	1.7	5.8	47	17	58	24	96	272	44	12	4.2	2.1
11	3.4	7.8	40	19	63	24	108	275	45	11	4.2	2.1
12	27	31	29	26	57	23	126	278	40	11	3.9	2.1
13	8.5	14	25	113	51	23	133	268	37	11	3.9	2.1
14	6.7	12	25	141	50	22	126	244	35	10	3.7	2.1
15	5.5	11	37	88	51	23	120	226	33	9.8	3.7	2.1
16	4.5	9.9	31	68	45	24	120	220	31	9.5	3.7	2.1
17	4.0	9.9	25	57	42	26	129	226	28	9.5	3.4	2.1
18	3.5	23	23	58	41	28	150	228	29	8.8	3.4	2.1
19	3.3	21	21	374	40	28	154	220	28	8.5	3.4	2.2
20	3.2	18	19	878	38	28	161	204	25	8.2	3.4	2.2
21	3.2	15	18	889	36	29	178	194	23	7.9	3.4	2.2
22	3.2	13	17	460	35	31	196	192	22	7.6	3.2	2.2
23	3.0	12	17	275	35	34	202	192	21	7.3	3.2	2.1
24	3.0	12	19	214	34	36	167	180	20	7.0	2.9	2.1
25	3.0	11	19	399	33	40	143	167	20	7.0	2.9	2.0
26	3.0	10	17	625	31	45	129	156	20	7.0	2.7	2.0
27	3.0	9.5	16	335	30	53	123	141	18	6.7	2.7	2.0
28	2.8	9.2	16	240	30	63	131	128	18	6.4	2.5	2.0
29	4.4	8.8	14	180	-----	78	161	120	17	6.1	2.5	2.0
30	5.5	9.2	14	143	-----	98	174	116	16	5.8	2.3	2.0
31	4.0	-----	13	120	-----	128	-----	112	-----	5.8	2.3	-----
TOTAL	124.7	368.5	574.2	5,850	1,407	1,142	4,083	6,119	1,212	309.9	116.5	63.3
MEAN	4.02	12.3	18.5	189	50.3	36.8	136	197	40.4	10.0	3.76	2.11
MAX	27	31	47	889	102	128	202	278	101	16	5.6	2.2
MIN	1.7	3.3	7.4	13	30	22	91	112	16	5.8	2.3	2.0
AC-FT	247	731	1,140	11,600	2,790	2,270	8,100	12,140	2,400	615	231	126
CAL YR 1968	TOTAL 10,493.5		MEAN 28.7		MAX 369		MIN 1.7		AC-FT 20,810			
WTR YR 1969	TOTAL 21,370.1		MEAN 58.5		MAX 889		MIN 1.7		AC-FT 42,390			

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1730	3.53	228	4-23	1000-	3.36	212
1-20	2100	6.01	1,100		1200		
1-26	0330	5.76	984	5-12	1900	3.78	305
4- 5	0900	3.10	161				

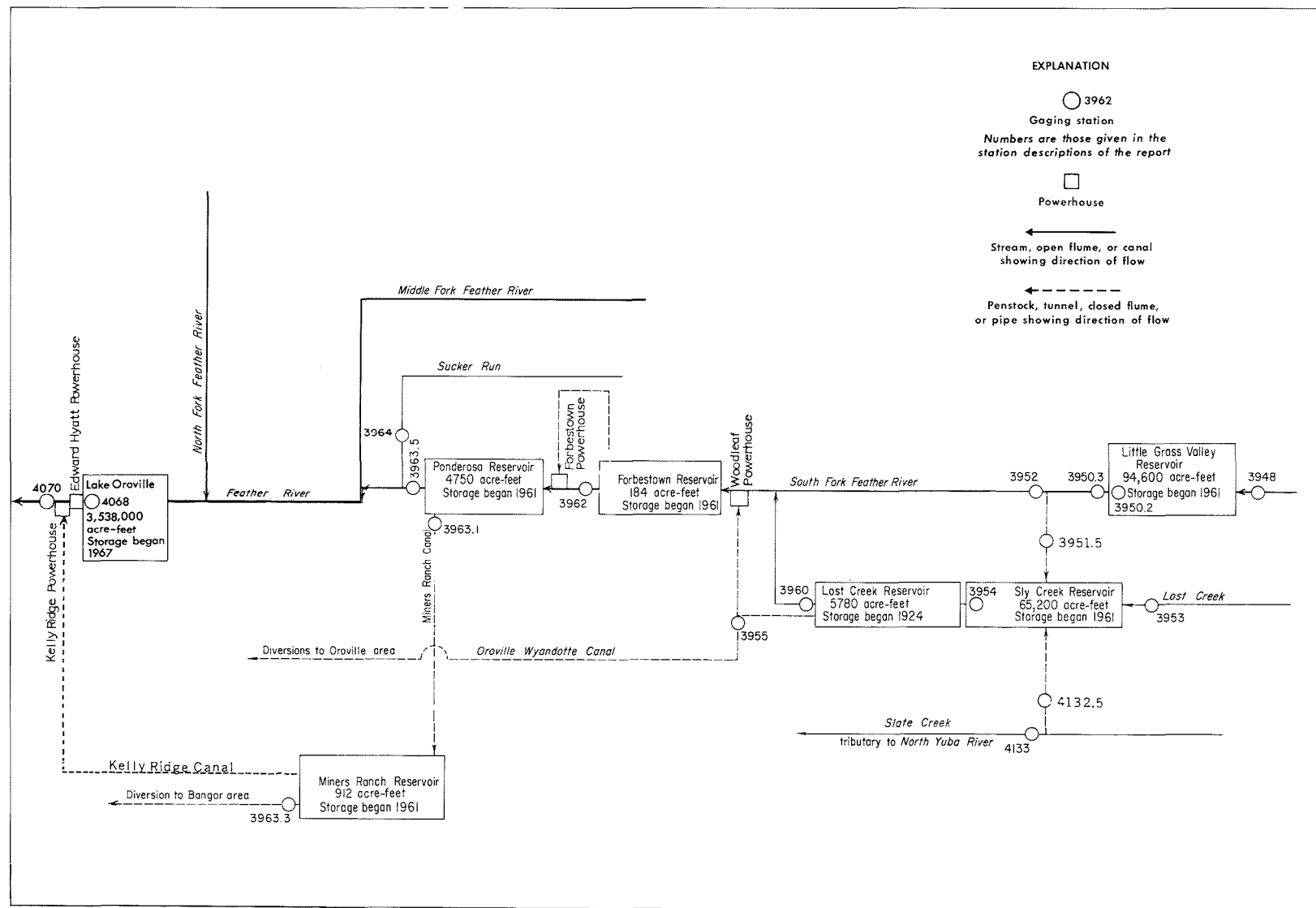


FIGURE 11.--Schematic diagram showing diversions and storage in South Fork Feather River basin.

11-3948. SOUTH FORK FEATHER RIVER ABOVE LITTLE GRASS VALLEY RESERVOIR, CALIF.

LOCATION.--Lat 39°45'07", long 120°57'26", in NW¼SE¼ sec.22, T.22 N., R.9 E., Plumas County, Plumas National Forest, on right bank 0.5 mile downstream from unnamed tributary, 4.5 miles upstream from Little Grass Valley Dam, and 5 miles north of LaPorte.

DRAINAGE AREA.--8.09 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 29.9 cfs (21,660 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 795 cfs Jan. 21 (gage height, 4.30 ft); minimum daily, 0.08 cfs Aug. 24, 25.

Period of record: Maximum discharge, 4,160 cfs Jan. 31, 1963 (gage height, 7.12 ft), from rating curve extended above 140 cfs on basis of slope-area measurement at gage height 5.47 ft; minimum daily, 0.06 cfs Sept. 9-13, 29, 1968.

REVISIONS.--The maximum discharge for the water year 1966 has been revised to 161 cfs May 10, 1966 (gage height, 3.07 ft), superseding figure published in WRD Calif. 1966.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	1.6	5.4	5.4	57	15	81	122	202	14	.73	.15
2	.15	8.7	4.9	5.4	48	15	77	117	195	14	.73	.20
3	.15	23	4.1	5.4	42	15	66	109	198	13	.63	.25
4	.15	12	4.5	5.9	37	14	59	97	188	11	.55	.25
5	.15	8.0	4.5	5.9	34	14	59	112	182	11	.47	.25
6	.15	5.9	4.1	5.9	31	14	51	142	154	9.9	.47	.25
7	.15	4.9	4.1	6.4	29	14	46	179	133	8.6	.41	.25
8	.15	4.1	4.5	6.4	27	14	44	205	117	9.2	.41	.25
9	.15	3.7	4.9	6.4	27	13	44	237	107	8.6	.35	.25
10	.15	3.4	28	6.4	28	12	44	252	87	8.0	.35	.25
11	.38	6.2	18	12	29	12	51	260	95	7.4	.35	.25
12	12	27	11	14	27	12	62	267	95	6.4	.35	.25
13	7.4	12	11	30	24	11	70	252	92	5.9	.35	.25
14	5.4	8.6	18	60	24	11	68	226	95	5.4	.30	.30
15	3.7	8.0	21	29	23	11	62	205	95	5.4	.30	.30
16	2.8	7.4	18	22	22	12	62	208	83	4.5	.25	.30
17	2.2	6.9	9.2	19	21	13	68	230	72	3.7	.20	.30
18	1.8	20	8.6	21	21	14	85	248	74	3.4	.20	.30
19	1.4	18	8.0	193	20	13	87	237	64	3.0	.15	.35
20	1.1	14	7.5	533	19	14	97	216	53	2.8	.15	.35
21	.95	11	7.0	565	18	14	117	216	44	2.5	.11	.25
22	.95	9.9	6.5	246	18	14	151	230	40	2.2	.11	.25
23	.83	9.2	6.5	148	18	15	160	244	36	2.2	.11	.20
24	.73	8.6	7.0	109	17	16	122	237	30	2.0	.08	.25
25	.63	8.0	9.0	197	16	17	102	222	27	1.8	.08	.20
26	.63	6.9	7.0	369	15	19	90	216	23	1.6	.11	.20
27	.63	6.4	5.9	195	15	23	81	208	21	1.4	.11	.20
28	.63	5.9	6.4	128	15	28	87	188	18	1.4	.11	.25
29	2.1	5.4	5.9	95	-----	36	109	188	17	1.2	.11	.30
30	4.0	5.4	5.4	77	-----	48	125	205	16	1.1	.11	.30
31	2.2	-----	5.4	60	-----	72	-----	216	-----	.83	.15	-----
TOTAL	53.92	280.1	271.3	3,181.5	722	565	2,427	6,291	2,653	173.43	8.89	7.70
MEAN	1.74	9.34	8.75	103	25.8	18.2	80.9	203	88.4	5.59	.29	.26
MAX	12	27	28	565	57	72	160	267	202	14	.73	.35
MIN	.11	1.6	4.1	5.4	15	11	44	97	16	.83	.08	.15
AC-FT	107	556	538	6,310	1,430	1,120	4,810	12,480	5,260	344	18	15
CAL YR 1968	TOTAL	7,329.14	MEAN	20.0	MAX	209	MIN	.06	AC-FT	14,540		
WTR YR 1969	TOTAL	16,634.84	MEAN	45.6	MAX	565	MIN	.08	AC-FT	33,000		

PEAK DISCHARGE (BASE, 140 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0130	4.30	795	5-12	2100	3.35	296
1-26	0400	3.89	550	5-23	1830	3.34	287
4-22	2300	3.00	166				

11-3950.2. LITTLE GRASS VALLEY RESERVOIR NEAR LAPORTE, CALIF.

LOCATION.--Lat 39°43'25", long 121°01'10", in W $\frac{1}{2}$ sec.31, T.22 N., R.9 E., Plumas County, Plumas National Forest, on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 miles northwest of LaPorte.

DRAINAGE AREA.--25.8 sq mi.

PERIOD OF RECORD.--October 1961 to current year. Month-end elevation and contents only October 1961 to October 1962.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

EXTREMES.--Current year: Maximum contents, 92,700 acre-ft June 15, 16 (elevation, 5,045.8 ft); minimum, 48,800 acre-ft Oct. 25-28 (elevation, 5,013.8 ft).

Period of record: Maximum contents, 96,100 acre-ft Apr. 29, 1965 (elevation, 5,047.9 ft); minimum since reservoir first filled, 48,800 acre-ft Oct. 25-28, 1968 (elevation, 5,013.8 ft).

REMARKS.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 acre-ft between elevations 4,876 (invert of release valve) and 5,047 ft (top of spillway gates), all of which is usable. Water is released down South Fork Feather River for power development and irrigation downstream. Records, including extremes, represent contents at 2400 hours. See schematic diagram of South Fork Feather River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,000	34,600
5,010	44,400
5,020	55,900
5,030	68,900
5,040	83,500
5,048	96,300

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49,200	48,900	51,200	54,700	76,500	75,700	67,200	76,500	87,000	92,000	90,400	77,100
2	49,200	49,100	51,300	54,800	76,300	75,700	67,300	76,600	87,100	92,000	90,100	76,600
3	49,200	49,400	51,300	54,800	76,200	75,600	67,300	76,600	87,100	92,200	89,600	76,200
4	49,200	49,500	51,300	55,000	76,000	75,600	67,300	76,600	87,900	92,200	89,200	75,700
5	49,100	49,500	51,300	55,000	76,200	75,300	67,500	76,600	88,700	92,200	88,700	75,500
6	49,100	49,500	51,300	55,000	76,200	75,300	67,500	76,800	89,300	92,200	88,200	75,500
7	49,100	49,600	51,400	55,100	76,000	75,000	67,500	77,100	89,800	92,200	87,700	75,300
8	49,100	49,600	51,400	55,100	75,900	74,600	67,300	77,200	90,300	92,400	87,400	75,300
9	49,000	49,600	51,500	55,100	76,000	74,400	67,200	77,500	90,600	92,400	87,000	75,300
10	49,000	49,600	52,000	55,200	75,900	73,900	67,100	77,600	90,900	92,400	86,500	75,300
11	49,100	49,800	52,100	55,400	76,000	73,400	67,100	77,800	91,400	92,400	86,000	75,300
12	49,400	50,000	52,200	55,700	76,000	73,000	67,100	77,900	91,900	92,400	85,500	75,200
13	49,000	50,200	52,400	56,500	75,900	72,700	67,100	77,900	92,200	92,400	85,200	75,200
14	48,900	50,200	52,700	57,100	76,000	72,200	67,100	77,800	92,500	92,400	84,700	75,200
15	48,900	50,300	53,000	57,400	76,200	71,800	67,300	77,600	92,700	92,400	84,300	75,000
16	48,900	50,300	53,100	57,600	76,000	71,400	67,800	77,600	92,700	92,400	83,800	75,000
17	48,900	50,400	53,100	57,800	75,900	71,100	68,400	77,600	92,500	92,400	83,300	75,000
18	48,900	50,500	53,200	58,400	75,700	70,900	68,900	77,600	92,500	92,200	83,000	74,900
19	48,900	50,600	53,400	60,800	75,700	70,300	69,600	78,100	92,500	92,200	82,600	74,900
20	48,900	50,700	53,400	66,800	75,700	69,900	70,300	79,000	92,400	92,200	82,200	74,900
21	48,900	50,700	53,500	72,700	75,600	69,600	71,200	79,800	92,200	92,200	81,700	74,900
22	48,900	50,800	53,600	74,900	75,600	69,200	72,100	80,700	91,900	92,200	81,300	74,900
23	48,900	50,800	53,800	75,000	75,700	68,800	73,300	81,600	91,700	92,200	80,900	74,700
24	48,900	51,000	54,000	76,600	75,700	68,500	74,100	82,500	91,700	92,200	80,400	74,700
25	48,800	51,100	54,400	77,900	75,900	68,100	74,700	83,200	91,700	92,000	80,000	74,700
26	48,800	51,100	54,400	79,000	75,700	67,800	75,200	83,800	91,900	92,000	79,500	74,700
27	48,800	51,100	54,500	78,400	75,700	67,600	75,600	84,400	91,900	92,000	79,100	74,700
28	48,800	51,100	54,600	77,600	75,900	67,300	75,900	85,100	91,900	92,000	78,700	74,600
29	48,900	51,100	54,600	77,200	-----	67,100	76,200	85,500	92,000	91,900	78,200	74,600
30	48,900	51,200	54,700	76,900	-----	67,100	76,300	86,000	92,000	91,400	77,900	74,600
31	48,900	-----	54,700	76,600	-----	67,100	-----	86,500	-----	91,100	77,500	-----
MAX	49,400	51,200	54,700	79,000	76,500	75,700	76,300	86,500	92,700	92,400	90,400	77,100
MIN	48,800	48,900	51,200	54,700	75,600	67,100	67,100	76,500	87,000	91,100	77,500	74,600
(a)	5,013.9	5,015.9	5,019.0	5,035.3	5,034.8	5,028.6	5,035.1	5,041.9	5,045.4	5,044.8	5,035.9	5,033.9
(b)	-300	+2,300	+3,500	+21,900	-700	-8,800	+9,200	+10,200	+5,500	-900	-13,600	-2,900
CAL YR 1968	b	-1,700	MAX 92,700	MIN 48,800								
WTR YR 1969	b	+25,400	MAX 92,700	MIN 48,800								

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-3950.3. SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CALIF.

LOCATION.--Lat 39°43'26", long 121°01'16", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.31, T.22 N., R.9 E., Plumas County, Plumas National Forest, on left bank 0.1 mile downstream from Little Grass Valley Dam, 0.7 mile downstream from Ice Creek, and 3.5 miles northwest of LaPorte.

DRAINAGE AREA.--25.9 sq mi.

PERIOD OF RECORD.--October 1927 to September 1933 (published as "near LaPorte"), October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,809.0 ft above mean sea level. Prior to Oct. 1, 1960, at site 0.4 mile upstream at different datum. Oct. 1, 1960, to Oct. 30, 1962, at present site and datum. Nov. 1, 1962, to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mile upstream at datum 4,850.00 ft above mean sea level.

AVERAGE DISCHARGE (adjusted for change in contents in Little Grass Valley Reservoir).--15 years, 89.7 cfs (64,990 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,190 cfs Jan. 26 (gage height, 11.39 ft); minimum daily, 5.5 cfs Nov. 7-9.

Period of record: Maximum discharge, 4,250 cfs Feb. 1, 1963; minimum, 0.2 cfs Oct. 28-31, Nov. 2, 1961.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (see sta 11-3950.2) beginning in October 1961. No diversion above station. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	8.0	5.9	5.9	291	103	240	300	268	10	214	216
2	9.3	7.1	5.9	5.9	250	89	240	315	414	10	214	216
3	8.9	8.3	5.9	5.9	204	83	240	330	370	10	214	216
4	8.6	7.1	5.7	5.9	172	73	240	327	16	10	214	216
5	8.6	5.9	5.7	5.9	191	62	240	321	15	10	216	129
6	8.6	5.7	5.7	5.9	193	63	240	342	14	10	216	9.6
7	8.6	5.5	5.7	5.9	160	186	240	418	13	10	216	9.6
8	8.6	5.5	5.7	5.9	132	235	240	522	13	10	214	9.6
9	8.6	5.5	5.9	5.9	145	228	240	600	11	10	214	9.6
10	8.6	5.7	7.4	5.9	140	228	240	675	11	9.6	214	9.6
11	8.9	5.9	7.1	5.9	148	228	240	725	11	9.3	212	9.6
12	122	6.8	6.2	5.9	158	228	240	765	11	9.3	214	9.6
13	195	5.9	6.2	10	132	228	240	765	11	9.3	214	9.6
14	85	5.9	6.2	11	124	228	240	755	11	9.3	212	9.6
15	6.5	5.7	6.2	8.3	168	230	109	715	100	9.3	212	9.6
16	6.5	5.7	6.2	7.7	160	228	7.4	675	175	9.3	212	9.6
17	6.5	6.2	5.9	7.4	124	228	7.7	680	177	9.3	212	9.6
18	6.5	7.4	5.9	8.0	99	228	8.6	700	177	9.3	212	9.6
19	6.5	6.8	5.9	26	92	230	8.6	498	177	9.3	214	9.6
20	6.5	6.5	5.7	44	88	230	8.9	214	175	9.3	214	9.6
21	6.5	6.2	5.7	34	85	230	10	186	175	9.3	214	9.6
22	6.5	5.9	5.7	13	76	232	11	195	175	9.3	214	9.6
23	8.0	5.9	5.7	77	91	232	11	208	140	9.3	214	9.6
24	10	6.2	5.7	241	102	235	8.9	220	63	9.3	214	9.6
25	10	5.9	5.7	510	114	235	8.3	225	18	9.3	214	9.6
26	10	5.9	5.7	1,090	101	235	19	238	10	9.6	216	9.6
27	10	5.7	5.7	1,100	85	235	69	248	10	9.6	216	9.6
28	10	5.9	5.7	828	104	238	124	252	10	9.6	216	9.6
29	10	5.9	5.7	595	-----	238	189	255	10	98	216	9.6
30	10	5.9	5.7	462	-----	238	262	255	10	216	214	9.6
31	10	-----	5.9	327	-----	238	-----	260	-----	216	214	-----
TOTAL	638.6	186.5	183.9	5,470.2	3,929	6,222	4,222.4	13,184	2,791	797.9	6,636	1,233.0
MEAN	20.6	6.22	5.93	176	140	201	141	425	93.0	25.7	214	41.1
MAX	195	8.3	7.4	1,100	291	238	262	765	414	216	216	216
MIN	6.5	5.5	5.7	5.9	76	62	7.4	186	10	9.3	212	9.6
AC-FT	1,270	370	365	10,850	7,790	12,340	8,380	26,150	5,540	1,580	13,160	2,450
MEAN a	15.8	44.9	62.8	533	132	57.6	29.6	591	186	11.1	-7.15	-7.56
AC-FT a	970	2,670	3,860	32,750	7,090	3,540	17,580	36,350	11,040	680	-440	-450

CAL YR 1968 TOTAL 28,555.9 MEAN 78.0 MAX 506 MIN 4.1 AC-FT 56,640 MEAN a 76.0 AC-FT a 55,040
WTR YR 1969 TOTAL 45,494.5 MEAN 125 MAX 1,100 MIN 5.5 AC-FT 90,240 MEAN a 160 AC-FT a 115,600

a Adjusted for change in contents in Little Grass Valley Reservoir.

NOTE.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net runoff may appear. Records of evaporation from Little Grass Valley Reservoir are not available.

SACRAMENTO RIVER BASIN

11-3952. SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°38'51", long 121°07'04", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.30, T.21 N., R.8 E., Plumas County, Plumas National Forest, on right bank 0.1 mile downstream from diversion dam, 3.1 miles upstream from Rock Creek, and 5.8 miles north of Strawberry Valley.

DRAINAGE AREA.--37.7 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and since Nov. 7, 1962, concrete control. Datum of gage is 3,535.02 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District).

AVERAGE DISCHARGE (adjusted for diversion to South Fork Tunnel).--9 years, 143 cfs (103,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,450 cfs Jan. 26 (gage height, 8.93 ft); minimum daily, 7.2 cfs Sept. 9-15.

Period of record: Maximum discharge, 6,330 cfs Jan. 31, 1963 (gage height, 13.21 ft), from rating curve extended above 500 cfs on basis of computation of maximum flow over diversion dam; minimum daily, 0.3 cfs Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (see sta 11-3950.2). South Fork Diversion Tunnel (maximum capacity about 600 cfs) 500 ft upstream, diverts to Sly Creek Reservoir (see sta 11-3954); diversion began in November 1961. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	10	9.6	9.6	335	8.8	475	12	14	11	9.2	10
2	12	10	9.6	9.6	256	8.8	445	12	14	11	9.2	10
3	12	10	9.6	9.6	200	8.8	394	11	46	11	9.2	10
4	12	10	9.6	9.6	159	8.8	373	11	12	11	9.6	9.6
5	12	10	9.6	9.6	170	8.8	439	12	12	11	9.6	9.2
6	12	9.6	9.2	9.6	167	8.4	400	12	11	11	9.6	8.0
7	12	9.6	9.2	9.6	123	8.4	370	27	11	11	9.6	7.6
8	12	9.6	9.6	9.6	89	8.8	362	107	11	11	9.2	7.6
9	12	9.6	9.2	9.6	110	8.8	358	209	11	11	9.6	7.2
10	12	9.6	9.6	9.6	108	8.8	362	312	11	11	9.6	7.2
11	12	9.6	9.6	9.6	114	8.8	385	379	11	11	9.6	7.2
12	12	10	9.6	10	134	9.2	418	433	11	11	9.6	7.2
13	12	9.6	9.6	11	98	9.2	427	442	12	11	10	7.2
14	12	9.6	9.6	11	152	9.2	406	430	12	11	10	7.2
15	11	9.6	10	10	254	9.2	280	305	12	9.4	10	7.2
16	11	9.6	10	10	243	9.2	144	284	12	8.4	10	12
17	11	9.6	9.6	9.6	107	9.2	68	272	13	8.4	10	8.8
18	10	9.6	10	9.6	8.8	9.6	11	305	13	8.4	10	10
19	9.6	9.6	10	84	8.8	9.6	11	189	13	8.4	10	8.8
20	9.6	9.6	10	894	8.8	9.6	11	15	13	8.4	10	8.8
21	9.6	9.6	10	1,050	8.8	9.6	11	15	13	8.4	10	8.8
22	9.6	9.6	10	211	8.4	9.6	12	14	13	8.4	10	8.8
23	9.6	9.6	10	11	8.4	9.2	12	14	13	8.4	10	8.8
24	9.6	9.6	10	14	8.8	9.2	12	14	13	8.4	10	9.2
25	9.6	9.6	10	512	8.8	125	12	14	12	8.4	10	9.2
26	9.6	9.6	10	1,940	8.8	292	12	14	11	8.4	10	8.8
27	9.6	9.6	9.6	1,440	8.4	308	11	14	11	8.4	10	8.8
28	9.6	9.6	9.6	1,090	8.8	338	11	14	11	8.4	10	8.8
29	10	9.6	10	778	-----	362	11	14	11	8.8	10	8.8
30	10	9.6	10	594	-----	400	11	14	11	9.2	10	8.8
31	10	-----	10	431	-----	454	-----	14	-----	9.2	10	-----
TOTAL	337.0	290.4	302.0	9,225.8	2,914.6	2,496.6	6,254	3,934	394	299.8	303.6	259.6
MEAN	10.9	9.68	9.74	298	104	80.5	208	127	13.1	9.67	9.79	8.65
MAX	12	10	10	1,940	335	454	475	442	46	11	10	12
MIN	9.6	9.6	9.2	9.6	8.4	8.4	11	11	11	8.4	9.2	7.2
AC-FT	668	576	599	18,300	5,780	4,950	12,400	7,800	781	595	602	515
MEAN a	27.6	23.9	35.5	462	226	262	308	546	122	33.8	200	47.1
AC-FT a	1,700	1,420	2,180	28,380	12,540	16,130	18,320	33,570	7,230	2,080	12,270	2,800
(b)	1,030	842	1,580	10,080	6,760	11,180	5,920	25,770	6,450	1,490	11,870	2,280

CAL YR 1968 TOTAL 4,302.30 MEAN 11.8 MAX 29 MIN .70 AC-FT 8,530 MEAN a 114 AC-FT a 82,770
WTR YR 1969 TOTAL 27,011.4 MEAN 74.0 MAX 1,940 MIN 7.2 AC-FT 53,580 MEAN a 191 AC-FT a 138,600

a Adjusted for diversion to South Fork Tunnel.

b Diversion, in acre-feet, from South Fork Feather River to South Fork Diversion Tunnel.

11-3953. LOST CREEK ABOVE SLY CREEK RESERVOIR, CALIF.

LOCATION.--Lat 39°37'05", long 121°05'19", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.20 N., R.8 E., Plumas County, Plumas National Forest, on left bank 0.4 mile upstream from French Creek, and 3.8 miles north of Strawberry Valley.

DRAINAGE AREA.--14.1 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 55.8 cfs (40,430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,380 cfs Jan. 26 (gage height, 6.35 ft), from rating curve extended as explained below; minimum daily, 5.1 cfs Oct. 1-10.

Period of record: Maximum discharge, 5,640 cfs Dec. 22, 1964 (gage height, 8.48 ft from floodmarks in gage well, 9.66 ft from outside floodmarks), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 5.97 and 7.87 ft; minimum, 3.2 cfs Oct. 7-10, 1961.

REMARKS.--Records fair. No regulation or diversion above station. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	8.0	12	18	143	51	220	217	110	27	13	9.5
2	5.1	24	11	18	122	48	210	210	105	26	13	9.5
3	5.1	54	10	18	110	46	175	203	95	24	12	9.5
4	5.1	27	10	19	102	44	150	200	89	24	12	9.5
5	5.1	17	10	21	100	44	195	210	81	23	12	9.1
6	5.1	14	10	22	91	43	175	245	75	22	12	9.1
7	5.1	12	10	24	81	42	150	280	69	22	12	9.1
8	5.1	11	11	25	77	41	133	300	65	21	12	9.1
9	5.1	11	12	25	84	41	132	315	63	21	12	8.7
10	5.1	9.8	84	24	86	40	131	330	60	21	12	8.7
11	6.8	13	68	29	98	39	150	345	61	20	12	8.7
12	38	48	38	39	92	39	175	340	57	19	12	8.3
13	17	21	30	257	81	38	195	315	53	19	12	8.3
14	14	17	32	217	78	38	175	290	50	19	12	8.3
15	12	17	76	110	82	38	155	262	48	19	11	8.3
16	9.8	16	52	78	74	39	150	240	46	18	11	8.3
17	9.1	17	38	64	69	43	170	240	44	17	11	8.7
18	8.3	38	31	66	68	49	210	248	45	17	11	8.7
19	8.0	29	28	593	65	49	205	230	43	17	11	8.7
20	7.6	22	27	1,600	64	49	215	210	38	17	11	8.7
21	7.6	19	29	1,770	60	51	233	200	38	16	10	9.1
22	7.6	17	27	777	58	52	252	192	35	16	9.8	9.1
23	7.3	16	26	379	61	57	248	190	35	16	9.8	9.1
24	7.3	17	51	253	58	60	200	180	33	16	9.8	8.7
25	6.9	14	49	698	55	65	182	165	32	16	9.8	8.7
26	6.9	14	35	1,250	51	72	170	157	31	16	9.8	8.7
27	6.9	13	25	519	48	81	160	150	31	15	9.8	8.3
28	6.9	12	24	336	54	98	170	145	29	14	9.8	8.3
29	10	12	22	240	-----	120	200	138	28	14	9.8	8.3
30	11	13	21	193	-----	139	215	132	27	14	9.8	8.3
31	8.7	-----	19	160	-----	170	-----	123	-----	14	9.8	-----
TOTAL	268.7	572.8	928	9,842	2,212	1,826	5,501	7,002	1,616	580	344.0	263.4
MEAN	8.67	19.1	29.9	317	79.0	58.9	183	226	53.9	18.7	11.1	8.78
MAX	38	54	84	1,770	143	170	252	345	110	27	13	9.5
MIN	5.1	8.0	10	18	48	38	131	123	27	14	9.8	8.3
AC-FT	533	1,140	1,840	19,520	4,390	3,620	10,910	13,890	3,210	1,150	682	522
CAL YR 1968	TOTAL 14,502.7		MEAN 39.6		MAX 572	MIN 4.9		AC-FT 28,770				
WTR YR 1969	TOTAL 30,955.9		MEAN 84.8		MAX 1,770	MIN 5.1		AC-FT 61,400				

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1830	3.80	430	1-26	0330	6.35	2,380
1-21	0200	6.21	2,210				

NOTE.--No gage-height record Apr. 1 to June 3.

SACRAMENTO RIVER BASIN

11-3954. SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°35'01", long 121°06'45", in NW¼NW¼ sec.20, T.20 N., R.8 E., Butte County, on right bank 100 ft upstream from dam on Lost Creek, 1.4 miles northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 sq mi.

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Nonrecording gage read once daily. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum.

EXTREMES.--Current year: Maximum contents, 60,500 acre-ft June 23, 24, 26 (elevation, 3,522.4 ft); minimum, 20,200 acre-ft Apr. 17, 21, 22 (elevation, 3,432.1 ft).
Period of record: Maximum contents, 65,500 acre-ft June 2-5, 11, 12, 1962, Apr. 7, 1963 (elevation, 3,531.5 ft); minimum, 8,430 acre-ft Jan. 28, 29, 1966 (elevation, 3,385.5 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,200 acre-ft between elevations 3,285 (invert of outlet) and 3,531 ft (top of spillway gate) all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork Diversion Tunnel and from North Yuba River basin through Slate Creek Tunnel. Records, including extremes, show contents at time nonrecording gage was read. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Reservoir nonrecording gage readings furnished by Oroville-Wyandotte Irrigation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

3,420	16,600
3,450	26,300
3,480	38,500
3,510	53,400
3,532	66,200

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.50	34.60	31.70	32.30	57.10	51.40	28.50	22.30	56.80	59.80	52.10	52.40
2	42.80	34.70	31.70	31.90	57.10	50.50	27.90	24.20	56.80	59.70	52.10	52.40
3	42.20	35.30	30.90	31.50	57.10	49.70	27.40	26.10	58.70	59.40	52.40	52.50
4	42.00	35.90	30.90	31.10	57.10	48.80	26.70	28.00	59.10	59.20	52.40	52.50
5	41.30	36.40	30.80	31.00	57.10	48.00	26.00	29.80	59.10	59.30	52.30	52.40
6	41.10	36.30	30.50	30.60	56.80	47.10	25.20	32.10	59.50	59.40	52.20	51.80
7	40.90	36.30	30.30	30.00	56.80	45.90	24.50	34.10	60.00	59.10	52.20	51.60
8	40.30	36.30	30.10	29.50	56.80	44.60	23.70	36.50	60.40	58.70	52.10	51.30
9	39.90	35.30	30.00	29.20	56.80	43.40	23.00	39.00	59.40	58.40	52.10	50.80
10	39.20	34.20	29.90	28.70	56.80	41.90	22.20	41.90	59.20	58.00	52.10	50.40
11	38.70	34.30	31.10	28.30	55.10	41.80	21.50	43.80	59.50	57.50	52.00	49.80
12	38.60	34.50	31.80	28.70	55.10	41.80	21.70	46.30	58.80	57.20	51.90	49.40
13	39.10	34.70	31.70	29.30	54.60	41.70	21.70	48.80	58.40	56.90	52.20	48.80
14	39.40	34.30	32.00	31.50	55.10	41.10	21.40	51.10	58.40	56.70	52.10	48.90
15	39.10	34.50	32.30	32.30	54.70	40.50	20.90	52.00	59.00	56.40	52.10	48.70
16	38.60	34.00	33.50	33.40	54.60	39.90	20.60	52.80	59.60	55.90	52.30	48.00
17	37.60	34.00	33.60	33.60	53.70	39.30	20.20	53.70	59.50	55.60	52.50	47.20
18	37.60	33.80	33.70	33.70	53.70	38.80	20.30	54.40	59.40	55.30	52.40	46.50
19	37.30	34.00	33.80	35.20	53.60	38.20	20.30	55.30	59.00	55.20	52.30	45.70
20	37.20	33.70	33.70	40.40	53.20	37.60	20.30	55.60	59.50	55.20	52.20	44.90
21	37.00	33.80	33.10	47.90	53.00	37.00	20.20	55.90	59.50	55.00	52.20	44.20
22	36.40	32.20	32.90	52.00	52.80	36.40	20.20	56.10	60.00	54.60	52.20	43.50
23	35.90	33.80	32.50	54.40	52.70	35.90	20.30	56.20	60.50	54.20	52.10	42.80
24	35.40	33.90	32.50	55.90	52.60	35.30	21.30	56.40	60.50	53.90	52.30	42.00
25	34.90	33.30	32.70	57.10	52.50	34.70	21.40	56.60	60.30	53.60	52.30	41.20
26	34.60	33.00	32.90	58.60	52.40	33.40	21.50	56.70	60.50	53.00	52.30	40.30
27	34.30	32.70	33.50	58.10	52.30	32.20	21.10	56.80	60.40	52.90	52.40	39.60
28	34.20	32.30	33.60	57.70	52.20	31.40	21.10	56.80	60.30	52.60	52.10	38.70
29	34.20	32.10	33.60	57.50	-----	30.60	21.40	56.70	60.40	52.30	52.00	38.20
30	34.60	31.80	33.70	57.40	-----	29.80	21.70	56.80	60.40	52.00	52.00	37.20
31	34.60	-----	32.80	57.20	-----	29.00	-----	56.80	-----	52.00	51.90	-----
MAX	43.50	36.40	33.80	58.60	57.10	51.40	28.50	56.80	60.50	59.80	52.50	52.50
MIN	34.20	31.80	29.90	28.30	52.20	29.00	20.20	22.30	56.80	52.00	51.90	37.20
(a)	3,471.0	3,464.3	3,466.7	3,516.7	-	3,457.2	3,436.8	3,516.0	3,522.3	3,507.3	3,507.1	3,477.0
(b)	-9.1	-2.8	+1.0	+24.4	-5.0	-23.2	-7.3	+35.1	+3.6	-8.4	-0.1	-14.7
CAL YR 1968	b +19.9		MAX 54.0	MIN 8.7								
WTR YR 1969	b -6.5		MAX 60.5	MIN 20.2								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

11-3955. OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CALIF.

LOCATION.--Lat 39°33'15", long 121°11'31", in NE $\frac{1}{4}$ sec.33, T.20 N., R.7 E., Butte County, in concrete valve house at head of canal, 2.5 miles north of Clipper Mills.

PERIOD OF RECORD.--October 1927 to September 1941 (published as Forbestown Ditch), October 1954 to current year. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, nonrecording gages and Oct. 1, 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 miles upstream in abandoned portion of canal 0.3 mile downstream from Lost Creek Dam.

AVERAGE DISCHARGE.--30 years, 18.2 cfs (13,190 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 43 cfs Aug. 9 to Sept. 9, 1937; no flow at times in many years.

REMARKS.--Records good. Water is discharged to canal through valve in Woodleaf penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	16	6.0	.55	0	.75	1.0	.49	.55	19	21	24
2	23	15	5.7	.49	0	.75	1.0	.49	.55	19	23	23
3	24	15	5.7	.49	0	.75	1.1	.49	6.4	18	22	23
4	24	14	6.0	.55	0	.75	1.1	.55	12	19	21	23
5	25	13	6.4	.49	0	.75	1.1	.55	13	19	21	20
6	24	12	5.8	.49	0	.75	1.1	.55	13	19	21	17
7	24	12	5.7	.49	0	.75	1.1	.55	12	18	22	17
8	23	13	5.7	.49	0	.75	1.1	.55	11	18	24	16
9	23	12	5.7	.43	0	.82	1.1	.55	10	19	25	16
10	23	12	6.0	.43	0	.82	1.0	.55	15	18	25	16
11	23	12	6.0	.49	.69	.82	1.0	.55	18	18	24	16
12	17	12	6.0	.49	.78	.82	.97	.55	21	19	23	16
13	9.3	12	3.7	.49	.97	.82	.97	.55	22	19	23	16
14	9.0	12	.75	.43	.97	.82	.97	.55	23	18	24	17
15	7.2	12	.75	.43	.89	.82	.89	.55	23	18	23	16
16	5.1	12	.68	.43	.89	.82	.89	.55	20	18	24	15
17	4.7	12	.62	.43	.82	.89	.82	.55	20	19	24	15
18	4.7	12	.62	.43	.82	.89	.69	.55	17	19	22	15
19	5.5	12	.62	.49	.82	.97	.62	.55	17	19	23	14
20	6.0	12	.62	.49	.89	.97	.55	.55	18	19	23	14
21	5.2	12	.62	.44	.89	1.0	.55	.55	18	18	23	14
22	4.6	8.2	.55	.05	.89	1.0	.55	.55	19	19	23	13
23	4.4	6.0	.62	.05	.89	1.0	.55	.55	18	20	24	12
24	4.3	5.8	.55	.05	.89	1.0	.55	.55	18	20	24	12
25	4.0	6.0	.62	.05	.82	1.0	.55	.55	19	22	23	12
26	3.2	6.3	.62	.05	.82	1.0	.49	.55	19	23	22	12
27	3.1	6.0	.55	.05	.82	1.0	.49	.55	18	22	23	12
28	11	6.3	.55	.05	.75	1.0	.49	.55	20	21	22	12
29	16	5.4	.55	.01	-----	1.0	.49	.55	19	21	23	17
30	15	5.4	.55	.01	-----	1.0	.49	.55	18	21	24	18
31	16	-----	.55	.01	-----	1.0	-----	.55	-----	21	24	-----
TOTAL	414.3	321.4	85.39	10.32	15.31	27.28	24.27	16.87	478.50	600	713	483
MEAN	13.4	10.7	2.75	.33	.55	.88	.81	.54	16.0	19.4	23.0	16.1
MAX	25	16	6.4	.55	.97	1.0	1.1	.55	23	23	25	24
MIN	3.1	5.4	.55	.01	0	.75	.49	.49	.55	18	21	12
AC-FT	822	637	169	20	30	54	48	33	949	1,190	1,410	958
CAL YR 1968	TOTAL 4,041.81		MEAN 11.0		MAX 29		MIN .20		AC-FT 8,020			
WTR YR 1969	TOTAL 3,189.64		MEAN 8.74		MAX 25		MIN 0		AC-FT 6,330			

SACRAMENTO RIVER BASIN

11-3960. LOST CREEK NEAR CLIPPER MILLS, CALIF.

LOCATION.--Lat 39°34'25", long 121°08'26", in SW $\frac{1}{4}$ sec.24, T.20 N., R.7 E., Butte County, Plumas National Forest, on left bank 0.3 mile downstream from Lost Creek Reservoir, and 2.8 miles north of Clipper Mills.

DRAINAGE AREA.--30.0 sq mi.

PERIOD OF RECORD.--October 1927 to September 1941, October 1948 to current year. Records for Woodleaf powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Water-stage recorder. Altitude of gage is 3,170 ft (from topographic map).

AVERAGE DISCHARGE.--27 years (1927-41, 1948-61, prior to regulation by Sly Creek Reservoir), 73.0 cfs (52,850 acre-ft per year). 7 years (1962-69), 31.9 cfs (23,110 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 2,400 cfs Jan. 26 (gage height, 5.38 ft); minimum daily, 0.05 cfs Nov. 7-10.

Period of record: Maximum discharge, 5,000 cfs Dec. 22, 1955 (gage height, 6.90 ft); no flow at times in some years.

REMARKS.--Records fair. Flow regulated by Sly Creek Reservoir (see sta 11-3954) 1.5 miles upstream, and Lost Creek Reservoir 0.3 mile upstream, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork Diversion Tunnel from South Fork Feather River and through Slate Creek Tunnel from North Yuba River basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (see sta 11-3955) diverts from Woodleaf penstock for irrigation and domestic use. Records represent seepage, release, or spill from Lost Creek Dam to Lost Creek. See schematic diagram of South Fork Feather River basin.

REVISIONS.--WRD Calif. 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	.11	.14	.20	54	1.9	216	.66	.10	21	9.5	7.0
2	.44	.34	.11	.18	20	191	210	.56	.10	20	9.5	7.0
3	.45	.44	.10	.20	3.4	135	198	.44	.10	20	9.2	7.0
4	.45	.14	.08	.20	2.8	.47	183	.41	.08	18	8.9	7.0
5	.44	.07	.07	.20	2.8	.47	231	.38	.08	18	8.9	7.0
6	.44	.06	.06	.20	2.7	.47	216	.35	.08	18	8.6	7.0
7	.44	.05	.06	.20	2.6	.47	192	.32	.08	17	8.6	7.0
8	.44	.05	.08	.20	2.6	.50	178	.26	.10	17	8.9	6.7
9	.44	.05	.09	.18	3.7	112	178	.26	.10	17	8.9	6.7
10	.44	.05	.96	.18	3.3	231	172	.26	.10	17	8.9	6.7
11	.50	.15	.47	.50	4.7	234	96	.24	.12	16	8.9	6.4
12	.68	.38	.22	1.2	41	219	1.5	.24	.91	16	8.6	6.4
13	.28	.11	.19	6.2	4.0	207	1.4	.24	13	15	8.6	6.4
14	.30	.10	.58	3.2	3.6	207	1.3	.24	22	14	8.6	6.4
15	.28	.18	1.4	1.6	5.2	207	1.3	.24	21	14	8.6	6.4
16	.23	.13	.48	1.0	4.3	207	1.1	.22	17	14	8.6	6.2
17	.26	.14	.24	.75	3.6	216	1.2	.22	29	13	8.6	6.0
18	.26	.24	.18	.75	3.2	204	1.0	.22	29	13	8.3	6.0
19	.26	.16	.14	4.5	2.7	204	1.0	.20	27	13	8.3	6.0
20	.26	1.8	.12	24	2.5	204	1.3	.18	26	12	8.0	6.0
21	.26	.08	.11	211	2.2	204	31	.18	26	12	8.0	6.0
22	.26	.07	.10	35	2.1	201	1.2	.18	26	12	8.0	6.0
23	.24	.06	.11	4.0	2.0	207	1.3	.18	25	11	8.0	5.8
24	.24	.14	1.1	2.6	2.0	207	1.2	.16	24	11	8.0	5.6
25	.24	.11	1.5	37	1.9	195	1.0	.16	24	11	8.0	5.6
26	.24	.03	.58	1,930	1.8	207	1.1	.16	24	11	7.7	5.6
27	.24	.07	.41	891	1.7	213	.75	.14	24	11	7.7	5.6
28	.22	.06	.35	451	2.0	210	.75	.14	24	11	7.4	5.6
29	.26	.06	.29	219	-----	216	.70	.12	24	10	7.2	5.6
30	.16	.12	.24	72	-----	219	.66	.10	24	9.8	7.0	5.6
31	.12	-----	.22	76	-----	222	-----	.10	-----	9.8	7.0	-----
TOTAL	10.26	5.65	10.78	3,974.24	188.4	5,083.28	2,120.76	7.76	430.95	442.6	259.0	188.3
MEAN	.33	.19	.35	123	6.73	164	70.7	.25	14.4	14.3	8.35	6.28
MAX	.68	1.8	1.5	1,930	54	234	231	.66	.29	.21	9.5	7.0
MIN	.12	.05	.06	.18	1.7	.47	.66	.10	.08	9.8	7.0	5.6
AC-FT	20	11	21	7,880	374	10,080	4,210	15	855	878	514	373
(a)	11,600	9,370	11,280	22,450	27,710	31,490	29,880	32,240	20,870	11,580	12,220	18,480
CAL YR 1968	TOTAL	2,804.19	MEAN	7.66	MAX	465	MIN	0	AC-FT	5,560		
WTR YR 1969	TOTAL	12,721.98	MEAN	34.9	MAX	1,930	MIN	.05	AC-FT	25,230		

a Diversion, in acre-feet, to Woodleaf powerplant; furnished by Oroville-Wyandotte Irrigation District.

11-3962. SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CALIF.

LOCATION.--Lat 39°33'05", long 121°12'30", in NE $\frac{1}{4}$ sec.32, T.20 N., R.7 E., Butte County, Plumas National Forest, on right bank 500' ft downstream from Forbestown Dam, 0.4 mile upstream from Oroleve Creek, and 4.0 miles northeast of Forbestown.

DRAINAGE AREA.--87.5 sq mi.

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Water-stage recorder. Altitude of gage is 1,690 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 75.0 cfs (54,340 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,450 cfs Jan. 26 (gage height, 12.59 ft); minimum daily, 4.9 cfs Jan. 18.
Period of record: Maximum discharge, 7,510 cfs Jan. 31, 1963 (gage height, 13.85 ft in gage well, 15.3 ft, from floodmarks); minimum daily, 0.6 cfs Apr. 4, 1963.

REMARKS.--Records fair. Flow regulated by Little Grass Valley Reservoir (see sta 11-3950.2), Sly Creek Reservoir (see sta 11-3954) and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek Tunnel (see sta 11-4132.5) to Sly Creek Reservoir. Oroville-Wyandotte Canal (see sta 11-3955) diverts above station. Tunnel 600 ft above station diverts most flow through Forbestown powerplant except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram of South Fork Feather River basin.

REVISIONS.--WRD Calif. 1968: 1967 diversions.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.2	5.2	5.6	314	110	606	16	14	14	14	14
2	11	5.2	5.2	5.6	208	250	594	13	14	14	14	14
3	11	5.2	5.2	5.6	127	196	552	9.4	14	14	14	14
4	11	5.2	5.1	5.6	157	26	510	12	14	14	14	14
5	11	5.2	5.1	5.6	182	14	649	5.8	14	14	14	14
6	11	5.2	5.1	5.6	202	11	579	10	14	14	14	14
7	11	5.2	5.1	5.6	164	15	564	14	14	14	14	14
8	11	5.2	5.1	5.6	130	13	490	94	14	14	14	14
9	11	5.2	5.2	5.6	181	80	490	198	14	14	14	14
10	11	5.2	5.4	5.6	182	181	455	272	14	14	14	14
11	11	5.4	5.2	5.8	232	177	417	314	14	14	14	13
12	11	5.4	5.2	5.8	210	174	326	324	14	14	14	14
13	11	5.2	5.4	257	238	167	336	332	14	14	14	14
14	11	5.2	5.6	113	126	163	326	344	14	14	14	14
15	11	5.2	5.8	7.6	388	163	266	244	14	14	14	14
16	11	5.2	5.6	12	344	161	97	235	14	14	14	14
17	11	5.1	5.6	5.1	224	179	121	216	14	14	14	14
18	11	5.2	5.6	4.9	44	178	35	228	14	14	14	14
19	11	5.2	5.6	84	290	175	49	177	14	14	14	14
20	11	5.1	5.6	1,690	99	175	40	14	14	14	14	14
21	11	5.2	5.6	2,290	87	196	76	14	14	14	14	14
22	11	5.2	5.6	962	79	186	31	14	14	14	14	14
23	11	5.2	5.6	229	84	185	76	14	14	14	14	14
24	11	5.2	5.8	172	93	188	79	14	14	14	14	14
25	11	5.2	5.8	770	90	243	62	14	14	14	14	14
26	11	5.2	5.6	4,000	73	425	50	14	14	14	14	14
27	11	5.2	5.6	2,350	58	482	34	14	14	14	14	14
28	11	5.2	5.6	1,520	111	508	22	14	14	14	14	14
29	11	5.2	5.6	935	-----	513	23	14	14	15	14	14
30	11	5.2	5.6	636	-----	555	18	14	14	15	14	14
31	11	-----	5.6	356	-----	606	-----	14	-----	15	14	-----
TOTAL	341	159.2	168.9	16,461.2	4,717	6,695	7,973	3,226.2	420	437	434	419
MEAN	11.0	5.31	5.45	531	168	216	266	104	14.0	14.1	14.0	14.0
MAX	11	8.2	5.8	4,000	388	606	649	344	14	15	14	14
MIN	11	5.1	5.1	4.9	44	11	18	5.8	14	14	14	13
AC-FT	676	316	335	32,650	9,360	13,280	15,810	6,400	833	867	861	831
(a)	11,800	9,930	13,760	31,310	34,870	39,080	37,680	37,620	23,270	12,520	12,600	18,470
CAL YR 1968	TOTAL	4,133.6	MEAN	11.3	MAX	376	MIN	5.1	AC-FT	8,200		
WTR YR 1969	TOTAL	41,451.5	MEAN	114	MAX	4,000	MIN	4.9	AC-FT	82,220		

a Diversion, in acre-feet, to Forbestown powerplant; furnished by Oroville-Wyandotte Irrigation District.

SACRAMENTO RIVER BASIN

11-3963.1. MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CALIF.

LOCATION.--Lat 39°33'00", long 121°18'20", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.33, T.20 N., R.6 E., Butte County, on right bank 800 ft downstream from Ponderosa Dam and 3 miles northwest of Forbestown.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 975 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 218 cfs (157,900 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 277 cfs July 22, 1965; no flow at times in most years.

REMARKS.--Records excellent. Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	110	222	238	150	176	253	246	258	246	239	238
2	250	235	210	239	149	176	253	256	257	251	239	239
3	252	235	239	239	149	175	252	256	257	254	238	240
4	252	235	228	226	150	175	252	256	256	254	238	240
5	251	235	102	192	150	175	252	256	256	252	238	240
6	248	236	209	236	150	175	252	256	256	246	238	238
7	248	233	224	238	150	174	252	256	256	246	239	236
8	247	222	187	118	149	175	252	256	254	248	240	239
9	248	223	208	236	149	175	252	254	254	248	239	238
10	248	204	238	236	149	176	252	254	256	251	236	240
11	248	200	236	236	149	134	253	253	257	251	238	239
12	240	197	224	244	148	152	251	252	258	248	239	238
13	236	219	234	244	148	246	251	252	257	247	240	238
14	235	193	213	236	147	252	252	252	254	248	240	235
15	235	201	213	229	148	252	253	252	236	248	239	235
16	236	218	239	236	147	252	253	252	230	248	239	236
17	236	192	239	240	147	250	254	253	250	248	238	235
18	236	206	235	239	147	168	256	253	254	244	236	235
19	238	218	211	240	147	99	256	253	247	246	238	236
20	248	233	232	233	147	251	254	252	238	245	239	236
21	235	224	233	223	165	248	254	256	238	246	241	238
22	236	233	234	195	175	248	253	258	236	248	241	238
23	236	232	228	177	175	248	252	258	236	247	240	238
24	238	207	218	163	175	248	251	258	240	247	238	238
25	238	228	239	152	175	247	250	258	244	250	238	238
26	238	220	234	152	175	247	250	258	248	250	240	239
27	238	240	216	152	175	247	250	258	250	248	239	239
28	81	238	236	152	176	246	248	257	250	246	241	239
29	0	223	226	151	-----	246	247	256	245	246	241	239
30	0	239	227	150	-----	246	240	256	241	247	239	240
31	0	-----	236	150	-----	246	-----	257	-----	248	238	-----
TOTAL	6,620	6,529	6,870	6,392	4,361	6,525	7,550	7,900	7,469	7,692	7,406	7,137
MEAN	214	218	222	206	156	210	252	255	249	248	239	238
MAX	252	240	239	244	176	252	256	258	258	254	241	240
MIN	0	110	102	118	147	99	240	246	230	244	236	235
AC-FT	13,130	12,950	13,630	12,680	8,650	12,940	14,980	15,670	14,810	15,260	14,690	14,160
(a)	12,070	13,110	14,030	13,150	8,670	12,760	14,600	14,110	13,060	12,670	12,670	12,300

CAL YR 1968	TOTAL 88,742.00	MEAN 242	MAX 266	MIN 0	AC-FT 176,000
WTR YR 1969	TOTAL 82,451.00	MEAN 226	MAX 258	MIN 0	AC-FT 163,500

a Diversion, in acre-feet, to Kelly Ridge powerplant; furnished by Oroville-Wyandotte Irrigation District.

11-3963.3. BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°30'17", long 121°27'17", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.18, T.19 N., R.5 E., Butte County, on left bank 400 ft downstream from outlet at Miners Ranch Dam and 5 miles east of Oroville.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 815 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 15.0 cfs (10,870 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 65 cfs Aug. 17-20, 1963; no flow for several days in 1965 and 1969.

REMARKS.--Records excellent. Flow regulated by Miners Ranch Reservoir (capacity, 912 acre-ft). Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	0	3.5	2.0	1.8	2.4	2.9	14	27	28	32	29
2	30	0	3.5	2.0	1.7	2.4	2.6	14	26	27	31	30
3	30	0	3.5	2.0	1.5	2.4	2.6	16	26	27	31	30
4	30	0	3.5	1.8	1.5	2.4	2.6	18	27	27	31	30
5	30	0	3.5	1.8	1.5	2.4	2.6	18	29	27	31	30
6	30	0	3.5	1.8	1.7	2.2	2.6	18	31	27	31	30
7	30	0	3.3	1.8	1.8	2.2	2.6	18	31	27	31	30
8	30	0	3.5	1.8	1.8	2.2	2.6	18	31	28	31	30
9	30	0	3.5	1.8	1.8	2.2	2.6	18	31	29	31	30
10	27	0	3.5	1.8	2.0	2.2	2.6	18	30	29	31	30
11	27	0	3.5	1.8	2.0	2.4	2.6	18	30	29	31	30
12	27	0	3.5	1.8	2.2	2.4	2.4	21	30	29	31	30
13	27	0	3.3	2.0	2.2	2.4	2.4	24	28	30	31	30
14	27	0	3.3	1.4	2.2	2.4	2.4	24	26	30	31	30
15	13	0	3.1	1.2	2.2	2.4	2.6	24	26	30	31	30
16	0	0	3.1	1.4	2.2	2.6	2.6	24	26	30	31	30
17	0	0	2.9	1.2	2.2	2.6	2.6	24	26	30	31	30
18	0	2.0	2.9	1.4	2.2	2.6	2.6	24	25	30	30	30
19	0	3.5	2.4	1.5	2.2	2.9	2.6	24	25	30	30	30
20	0	3.5	2.2	1.7	2.2	2.9	2.6	24	26	30	30	30
21	0	3.5	2.2	1.8	2.2	2.9	2.6	24	25	31	30	30
22	0	3.5	2.2	1.5	2.2	2.9	9.2	24	25	31	30	30
23	0	3.5	2.2	1.4	2.2	2.9	14	24	25	31	30	30
24	0	3.5	2.2	1.4	2.2	2.9	14	24	25	31	30	30
25	0	3.5	2.0	1.7	2.2	2.6	14	24	26	31	30	30
26	0	3.5	2.0	1.8	2.2	2.6	14	24	27	31	30	30
27	0	3.5	2.0	1.8	2.2	2.6	14	24	27	31	30	30
28	0	3.5	2.0	1.8	2.2	2.6	14	24	27	31	30	30
29	0	3.5	2.0	1.8	-----	2.9	14	25	28	32	30	30
30	0	3.5	2.2	1.8	-----	2.9	14	25	28	32	29	31
31	0	-----	2.0	1.8	-----	2.9	-----	25	-----	32	29	-----
TOTAL	418	44.0	88.0	52.6	56.5	79.3	175.5	668	820	918	946	900
MEAN	13.5	1.47	2.84	1.70	2.02	2.56	5.85	21.5	27.3	29.6	30.5	30.0
MAX	30	3.5	3.5	2.0	2.2	2.9	14	25	31	32	32	31
MIN	0	0	2.0	1.2	1.5	2.2	2.4	14	25	27	29	29
AC-FT	829	87	175	104	112	157	348	1,320	1,630	1,820	1,880	1,790

CAL YR 1968 TOTAL 5,197.9 MEAN 14.2 MAX 30 MIN 0 ACFT 10,310
WAT YR 1969 TOTAL 5,165.9 MEAN 14.2 MAX 32 MIN 0 ACFT 10,250

SACRAMENTO RIVER BASIN

11-3963.5. SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CALIF.

LOCATION.--Lat 39°32'52", long 121°18'11", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.20 N., R.6 E., Butte County, at entrance to Miners Ranch Canal on the left end of Ponderosa Dam, 2,800 ft upstream from Sucker Run, and 2.6 miles northwest of Forbestown.

DRAINAGE AREA.--108 sq mi.

PERIOD OF RECORD.--July 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Oct. 1, 1967, at site 1,800 ft downstream at different datum.

AVERAGE DISCHARGE (adjusted for diversion to Miners Ranch Canal).--7 years, 462 cfs (334,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,760 cfs Jan. 26 (elevation, 960.30 ft), from rating curve extended above 2,500 cfs on basis of computation of flow over dam at gage height, 965.0 ft; no flow for several months.

Period of record: Maximum discharge, 11,000 cfs Dec. 22, 1964 (gage height, 11.52 ft in gage well, 12.7 ft, outside from floodmarks, site and datum then in use); no flow for several months in 1968 and 1969.

REMARKS.--Records good. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek tunnel. Miners Ranch Canal (see sta 11-3963.1) diverts at Ponderosa Dam for power development and irrigation; diversion began in October 1962. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	0	0	0	116	910	808	1,250	449	340	0	0	0	
2	0	0	0	226	766	865	1,230	416	335	0	0	0	
3	0	0	0	244	678	895	1,200	410	345	0	0	0	
4	0	0	0	120	704	645	1,140	410	350	0	0	0	
5	0	0	0	95	752	632	1,330	405	325	0	0	0	
6	0	0	0	146	808	619	1,280	383	325	0	0	0	
7	0	0	0	197	752	612	1,180	405	320	0	0	0	
8	0	0	0	323	717	593	1,140	422	320	0	0	0	
9	0	0	0	208	836	626	1,110	520	325	0	0	0	
10	0	0	0	217	858	787	1,100	532	40	0	0	0	
11	0	0	0	191	932	815	1,070	704	310	0	0	0	
12	0	0	0	201	1,150	794	932	794	310	0	0	0	
13	0	0	0	1,050	1,020	690	925	843	315	0	0	0	
14	0	0	0	945	940	684	918	822	45	0	0	0	
15	0	0	0	547	1,370	678	850	724	0	0	0	0	
16	0	0	8.2	492	1,290	671	484	664	0	0	0	97	
17	0	0	89	326	1,020	690	593	645	294	0	0	165	
18	0	0	113	147	752	787	496	664	335	0	0	165	
19	0	0	100	679	704	880	502	658	314	0	0	168	
20	0	0	107	3,340	738	690	508	416	8.3	0	0	169	
21	0	0	108	4,630	697	724	520	394	0	0	0	171	
22	0	0	107	2,510	658	704	490	361	0	0	0	169	
23	0	0	106	1,140	684	697	520	361	0	0	0	170	
24	0	0	102	897	697	697	544	361	0	0	0	162	
25	0	0	125	1,580	704	752	526	361	0	0	0	170	
26	0	0	109	5,590	678	1,030	520	350	0	0	0	179	
27	0	0	101	3,810	658	1,040	496	350	0	0	0	176	
28	0	0	109	2,580	773	1,110	472	361	0	0	0	171	
29	0	0	104	1,810	-----	1,120	472	345	0	0	0	171	
30	0	0	104	664	-----	1,150	466	340	0	0	0	178	
31	0	-----	109	1,040	-----	1,210	-----	340	-----	0	0	-----	
TOTAL	0	0	1,601.2	36,061	23,246	24,695	24,264	15,210	4,956.3	0	0	2,481	
MEAN	0	0	51.7	1,163	830	797	809	491	165	0	0	82.7	
MAX	0	0	125	5,590	1,370	1,210	1,330	843	350	0	0	179	
MIN	0	0	0	95	658	593	466	340	0	0	0	0	
AC-FT	0	0	3,180	71,530	46,110	48,980	48,130	30,170	9,830	0	0	4,920	
MEAN a	214	218	273	1,369	986	1,007	1,061	745	414	248	239	321	
AC-FT a	13,130	12,950	16,810	84,170	54,760	61,920	63,110	45,840	24,640	15,250	14,690	19,080	
CAL YR 1968 TOTAL	31,587.3	MEAN	86.5	MAX	962	MIN	0	AC-FT	62,650	MEAN a	329	AC-FT a	238,700
WTR YR 1969 TOTAL	132,514.5	MEAN	363	MAX	5,590	MIN	0	AC-FT	262,800	MEAN a	589	AC-FT a	426,400

a Adjusted for diversion to Miners Ranch Canal.

11-3964. SUCKER RUN NEAR FORBESTOWN, CALIF.

LOCATION.--Lat 39°33'12", long 121°18'04", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.20 N., R.6 E., Butte County, Plumas National Forest, on left bank at upstream side of road bridge, 0.7 mile upstream from confluence with South Fork Feather River, and 2.8 miles northwest of Forbestown.

DRAINAGE AREA.--18.7 sq mi.

PERIOD OF RECORD.--June 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,280 cfs Jan. 21 (gage height, 5.97 ft), from rating curve extended above 600 cfs on basis of computation of flow over rock control at gage height 7.4 ft; minimum daily, 2.3 cfs Oct. 1-4.

Period of record: Maximum discharge, 1,320 cfs (revised) Jan. 21, 1967 (gage height, 6.03 ft), from rating curve extended above 600 cfs on basis of computation of flow over rock control at gage height 7.4 ft; minimum daily, 0.40 cfs Oct. 7, 1966.

Flood of Dec. 22, 1964, reached a stage of 7.4 ft, from floodmarks, discharge, 2,190 cfs (revised) from rating curve extended above 600 cfs on basis of computation of maximum flow over rock control.

REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supercede figures published in the WRD Calif. reports indicated.

WRD Calif. report	Water year	Date	Discharge (cfs)	Gage height (feet)
1966	1966	Jan. 4, 1966	372	3.97
1967	1967	Jan. 21, 1967	1,320	6.03
1968	1968	Feb. 19, 1968	369	3.83

REMARKS.--Records good for flows above 15 cfs, poor below. Undetermined amount of water diverted above station at times for use at lumber mill in Feather Falls. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	5.1	9.2	16	71	127	56	32	16	10	5.6	3.9
2	2.3	7.7	8.4	15	65	109	56	31	16	10	5.2	4.0
3	2.3	11	7.6	14	60	100	59	31	16	9.8	4.9	4.0
4	2.3	7.5	7.4	14	57	89	53	30	16	9.7	4.8	4.0
5	2.6	6.5	7.3	14	68	82	89	28	16	9.4	4.8	4.1
6	2.7	6.2	7.3	14	83	77	72	28	16	9.2	4.7	4.0
7	2.7	6.1	7.2	14	70	72	61	27	16	9.2	4.4	4.0
8	2.6	6.0	7.5	13	66	70	56	26	16	9.2	4.4	4.0
9	2.6	6.0	7.5	12	123	64	53	25	16	9.1	4.3	4.0
10	2.5	6.0	36	12	101	60	50	25	16	9.0	4.2	4.0
11	2.9	6.3	23	29	151	57	49	24	18	8.6	4.1	3.9
12	8.2	25	10	88	245	57	49	23	18	8.6	4.1	4.0
13	5.8	11	8.9	435	138	55	48	23	17	8.6	4.1	4.1
14	5.5	9.9	29	155	126	52	47	24	16	8.5	4.1	4.1
15	5.4	12	81	82	260	52	44	24	15	8.2	4.1	4.1
16	5.0	11	40	60	185	53	42	23	15	8.0	4.1	4.1
17	4.9	9.9	19	50	136	60	41	22	14	7.8	4.0	4.2
18	4.9	13	15	52	119	59	41	22	15	7.5	4.1	4.2
19	4.8	8.7	13	247	102	55	40	21	14	7.4	4.1	4.2
20	4.8	7.7	12	607	97	56	38	20	13	7.2	4.1	4.2
21	4.7	7.4	11	830	87	76	37	20	12	6.9	4.1	4.2
22	4.6	7.2	11	368	80	63	36	19	12	6.8	4.0	4.3
23	4.7	7.1	13	158	84	60	57	18	13	6.9	3.9	4.2
24	4.7	7.8	67	126	95	58	57	16	13	6.6	3.8	4.3
25	4.8	7.8	90	261	92	58	45	17	12	6.7	4.0	4.3
26	4.7	7.3	47	434	84	57	40	17	13	6.3	4.0	4.3
27	4.7	7.2	28	178	79	58	37	17	12	6.2	4.2	4.3
28	4.7	7.2	27	128	143	58	35	17	11	6.1	4.2	4.3
29	5.2	7.1	26	97	-----	58	34	16	11	6.3	4.2	4.3
30	5.6	8.5	20	84	-----	58	33	15	10	6.2	4.1	4.3
31	5.1	-----	17	72	-----	58	-----	15	-----	6.0	4.0	-----
TOTAL	130.6	257.2	713.3	4,679	3,067	2,068	1,455	696	434	246.0	132.7	123.9
MEAN	4.21	8.57	23.0	151	110	66.7	48.5	22.5	14.5	7.94	4.28	4.13
MAX	8.2	25	90	830	260	127	89	32	18	10	5.6	4.3
MIN	2.3	5.1	7.2	12	57	52	33	15	10	6.0	3.8	3.9
AC-FT	259	510	1,410	9,280	6,080	4,100	2,890	1,380	861	488	263	246
CAL YR 1968	TOTAL	5,723.3	MEAN	15.6	MAX	150	MIN	1.8	AC-FT	11,350		
WTR YR 1969	TOTAL	14,002.7	MEAN	38.4	MAX	830	MIN	2.3	AC-FT	27,770		

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1100	4.67	670	2-12	0500	3.84	368
1-21	1145	5.97	1,280	2-15	1130	3.75	339
1-26	0400	5.42	995				

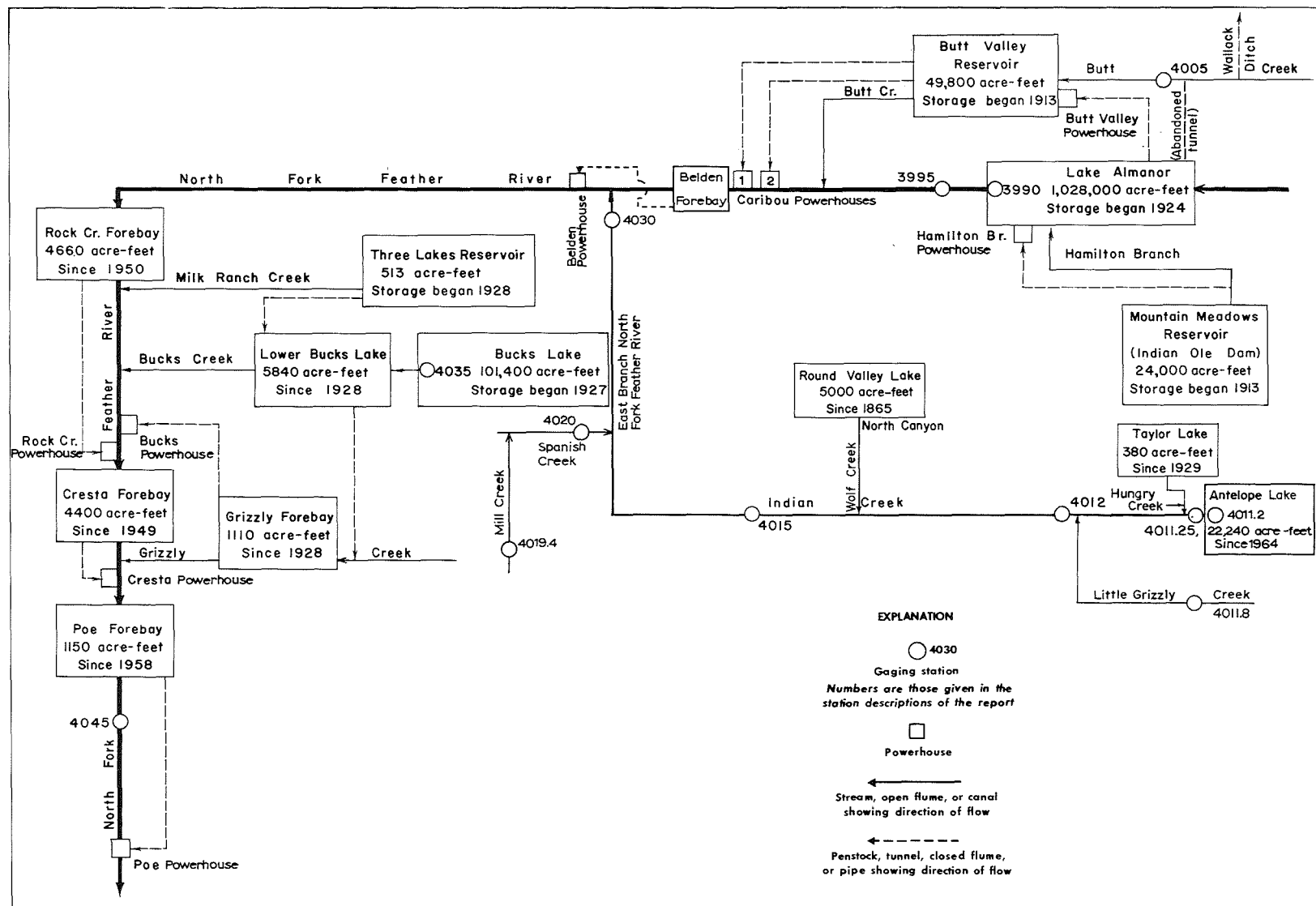


FIGURE 12.--Schematic diagram showing diversions and storage in North Fork Feather River basin.

11-3990. LAKE ALMANOR AT PRATTVILLE, CALIF.

LOCATION.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11, T.27 N., R.7 E., Plumas County, Plumas National Forest, at outlet tower to No. 2 tunnel on North Fork Feather River at Prattville, 4.7 miles northwest of Lake Almanor Dam, and 5.6 miles northwest of Canyon Dam.

DRAINAGE AREA.--491 sq mi.

PERIOD OF RECORD.--July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-64. Prior to October 1964, records published as usable contents.

GAGE.--Nonrecording gage monitored once daily. Datum of gage is 10.23 ft below mean sea level (levels by Pacific Gas and Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 miles southeast at same datum.

EXTREMES (at 2400).--Current year: Maximum contents observed, 1,051,800 acre-ft July 13 (gage height, 4,490.59 ft); minimum observed, 530,200 acre-ft Jan. 12, 13 (gage height, 4,468.26 ft).
Period of record: Maximum contents, 1,051,800 acre-ft July 13, 1969 (gage height, 4,490.59 ft); minimum, 5,230 acre-ft Feb. 5, 1918 (gage height, 4,416.1 ft).

REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Capacity, 1,036,000 acre-ft between gage heights 4,490 (upper storage limit) and 4,422 ft (bottom of lowest outlet) of which 8,950 acre-ft is not available for release. Water is diverted by tunnel and penstock to Butt Valley Reservoir and powerhouse for use in Caribou powerplants; some water also released down North Fork Feather River (see sta 11-3995). Figures given herein represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS.--WSP 1931: Drainage area.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,422	8,950	4,432	34,200	4,450	220,800	4,475	672,700
4,424	10,100	4,434	49,500	4,455	294,500	4,480	787,300
4,426	11,300	4,437	74,200	4,460	376,700	4,485	908,500
4,428	13,500	4,440	101,900	4,465	467,000	4,490	1,036,000
4,430	21,200	4,445	156,400	4,470	565,500		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	598.2	584.0	590.2	559.2	590.9	638.1	615.2	747.6	945.6	1,040	1,023	939.3
2	595.9	585.2	588.3	556.1	591.5	637.0	620.6	753.1	949.9	1,041	1,021	936.5
3	593.8	587.3	586.2	552.8	592.5	636.8	625.1	758.9	954.4	1,043	1,019	933.0
4	591.5	588.1	584.0	550.0	595.9	636.1	629.8	763.6	958.8	1,045	1,016	930.0
5	589.3	584.8	581.9	546.4	599.1	641.8	635.1	769.0	963.3	1,046	1,014	926.7
6	590.4	589.3	580.0	543.9	603.1	638.8	639.4	774.8	967.7	1,049	1,011	923.4
7	588.5	589.4	577.9	541.3	604.8	635.5	642.7	781.6	972.0	1,050	1,009	920.4
8	585.6	583.8	579.0	538.1	607.1	632.7	646.0	788.7	977.6	1,050	1,006	917.2
9	582.9	590.2	578.1	535.0	610.1	630.7	649.2	796.5	982.3	1,050	1,004	913.9
10	580.6	580.6	583.1	532.0	612.4	627.2	652.5	804.8	985.9	1,049	1,002	910.9
11	581.2	594.4	584.8	531.4	615.8	624.4	655.8	813.7	990.5	1,049	999.0	907.5
12	583.1	595.5	584.2	530.2	618.0	621.9	659.6	822.3	993.8	1,050	996.7	904.0
13	583.3	594.6	585.0	530.2	620.6	618.9	663.1	830.7	997.7	1,052	994.6	900.8
14	582.7	593.8	587.3	532.6	623.8	616.3	666.9	838.9	1,001	1,051	992.0	897.0
15	584.4	592.5	591.9	534.0	627.9	613.5	670.2	845.9	1,005	1,050	989.5	893.6
16	584.6	591.7	592.5	538.7	629.4	610.5	674.2	853.6	1,008	1,050	987.1	889.9
17	582.9	591.3	590.4	537.7	631.8	607.9	678.9	860.9	1,010	1,049	984.3	886.2
18	581.0	591.5	589.0	537.5	632.9	605.2	683.2	868.2	1,013	1,048	981.8	882.5
19	581.0	591.9	587.3	541.1	633.5	602.4	687.9	875.1	1,017	1,047	978.9	878.8
20	581.9	592.3	584.4	549.0	634.2	600.1	692.6	881.7	1,019	1,047	975.6	876.3
21	582.9	592.1	581.5	560.0	634.0	597.6	697.8	887.9	1,022	1,046	972.5	872.9
22	583.7	590.4	580.0	565.3	633.5	594.6	703.2	894.6	1,024	1,044	970.0	869.7
23	584.8	591.5	579.2	566.5	634.2	592.3	710.4	900.8	1,026	1,043	966.4	866.3
24	583.7	593.3	575.2	571.5	635.3	591.3	714.3	906.7	1,028	1,041	963.8	862.9
25	584.6	593.2	577.7	576.5	636.3	592.1	718.2	912.9	1,030	1,039	961.3	859.7
26	585.4	591.3	574.4	584.8	636.4	594.4	722.3	917.7	1,031	1,037	958.2	856.8
27	586.2	589.0	572.3	588.5	636.8	596.3	726.4	922.7	1,033	1,035	954.9	853.3
28	586.0	589.8	570.3	589.4	636.1	598.6	731.0	927.5	1,035	1,032	951.6	854.1
29	585.8	588.3	569.4	589.8	-----	601.8	736.3	932.0	1,036	1,030	949.1	851.0
30	584.2	589.0	568.2	590.2	-----	605.4	742.0	936.5	1,036	1,028	945.8	848.5
31	584.6	-----	561.6	590.2	-----	609.9	-----	941.3	-----	1,025	942.8	-----
MAX	598.2	595.5	592.5	590.2	638.1	641.8	742.0	941.3	1,036	1,052	1,023	939.3
MIN	580.6	584.0	561.6	530.2	590.9	591.3	615.2	747.6	945.6	1,025	942.8	848.5
(a)	4,470.92	4,471.13	4,469.81	4,471.19	4,473.43	4,472.12	4,478.06	4,486.31	4,490.00	4,489.57	4,486.37	4,482.56
(b)	-15,700	+4,400	-27,400	+28,600	+47,900	-28,200	+132,100	+199,300	+95,000	-11,300	-82,200	-94,300

CAL YR 1968 b -145,000

WTR YR 1969 b +248,200

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11-3995. NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CALIF.

LOCATION.--Lat 40°10'10", long 121°05'29", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.27 N., R.8 E., Plumas County, Plumas National Forest, on left bank 0.5 mile downstream from Almanor Dam, 4.5 miles southeast of Prattville, and 9 miles upstream from Butt Creek.

DRAINAGE AREA.--493 sq mi.

PERIOD OF RECORD.--June 1905 to current year (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

GAGE.--Water-stage recorder and broad-crested weir. Altitude of gage is 4,380 ft (from topographic map). Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within half a mile of present site at various datums.

AVERAGE DISCHARGE (adjusted for diversion and leakage).--64 years, 896 cfs (649,200 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 81 cfs Mar. 22-24; minimum daily, 30 cfs Oct. 15, 17, 21-23. Extremes do not include diversions through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.

Period of record: Maximum discharge, 10,000 cfs Mar. 19, 1907, before construction of dam (gage height, 16.2 ft at former site), from rating curve extended above 3,700 cfs; no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

REMARKS.--Records good. Flow regulated by Lake Almanor 0.5 mile upstream (see sta 11-3990) and Mountain Meadows Reservoir since 1924 (capacity, 24,000 acre-ft). Water diverted for power from Lake Almanor through old Almanor-Butt Creek tunnel to Butt Creek until Dec. 30, 1958. Diversion through new tunnel and Butt Valley powerhouse began Dec. 31, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record, seven discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries). WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	40	40	38	39	42	41	59	38	35	39	37
2	32	40	40	38	39	42	41	39	36	35	39	37
3	32	40	40	38	39	42	42	40	34	35	39	37
4	32	40	40	38	39	42	42	39	34	35	39	37
5	32	40	40	38	40	42	45	37	34	35	39	36
6	32	41	40	38	40	42	45	36	34	35	39	36
7	32	41	40	38	40	42	46	36	34	35	35	36
8	31	41	40	38	40	42	46	36	34	35	39	36
9	31	42	40	38	41	42	47	36	34	35	38	36
10	31	42	41	38	41	42	48	35	34	35	38	36
11	31	42	40	38	42	41	49	36	35	35	38	36
12	31	42	40	38	42	41	50	36	35	35	38	36
13	31	41	40	39	42	41	50	37	35	35	38	36
14	31	41	40	38	42	41	50	37	35	35	38	36
15	30	41	41	38	42	41	50	37	35	34	38	36
16	31	41	40	38	42	41	51	37	35	34	38	35
17	30	40	40	38	42	41	52	38	35	34	38	35
18	31	40	40	38	42	41	52	38	35	34	38	35
19	31	41	40	39	42	40	53	38	35	34	38	35
20	31	40	40	42	40	40	53	38	35	34	38	35
21	30	41	40	44	40	47	54	38	35	34	38	35
22	30	40	40	41	40	81	54	39	35	34	37	35
23	30	40	39	40	41	81	55	39	35	34	37	34
24	46	40	39	40	41	81	56	39	35	34	37	34
25	48	40	39	40	41	55	56	39	35	34	37	34
26	40	40	39	42	41	36	56	40	35	34	37	34
27	40	40	39	40	41	37	58	38	35	34	37	34
28	40	41	38	40	42	37	58	38	35	34	37	34
29	40	41	38	40	-----	38	58	38	35	33	37	34
30	41	40	38	40	-----	38	59	38	35	37	37	34
31	40	-----	38	40	-----	40	-----	38	-----	39	37	-----
TOTAL	1,050	1,219	1,229	1,213	1,143	1,399	1,517	1,189	1,046	1,075	1,176	1,061
MEAN	33.9	40.6	39.6	39.1	40.8	45.1	50.6	38.4	34.9	34.7	37.9	35.4
MAX	48	42	41	44	42	81	59	59	38	39	39	37
MIN	30	40	38	38	39	36	41	35	34	33	37	34
AC-FT	2,080	2,420	2,440	2,410	2,270	2,770	3,010	2,360	2,070	2,130	2,330	2,100
MEAN a	850	648	1,356	1,011	354	1,610	59.3	48.8	47.2	981	2,007	2,228
AC-FT a	52,270	38,590	83,380	62,160	19,640	98,970	3,530	3,000	2,810	60,350	123,400	132,600

CAL YR 1968	TOTAL 13,269	MEAN 36.3	MAX 52	MIN 30	AC-FT 26,320	MEAN a 1,018	AC-FT a 739,100
WTR YR 1969	TOTAL 14,317	MEAN 39.2	MAX 81	MIN 30	AC-FT 28,400	MEAN a 940	AC-FT a 680,700

a Adjusted for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.

11-4005. BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CALIF.

LOCATION.--Lat 40°11'12", long 121°11'11", in NW¼ sec. 22, T. 27 N., R. 7 E., Plumas County, on right bank 400 ft downstream from outlet of old tunnel from Lake Almanor to Butt Creek, and 2.2 miles southwest of Prattville.

DRAINAGE AREA.--69.3 sq mi.

PERIOD OF RECORD.--October 1936 to September 1959, October 1964 to current year. Published as "below Tunnel No. 1" 1938-40. Records for water years 1937-38 published in WSP 1515.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,400 ft (from topographic map). Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower.

AVERAGE DISCHARGE (natural flow of Butt Creek adjusted for leakage from Almanor-Butt Creek tunnel No. 1).--33 years (including records for sta 11-4000, Butt Creek above Almanor-Butt Creek tunnel, near Prattville for water years 1960-64), 80.0 cfs (57,960 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,190 cfs Jan. 20 (gage height, 3.20 ft); minimum daily, 41 cfs Oct. 1.
Period of record: Maximum discharge, 3,830 cfs Dec. 23, 1964 (gage height, 5.87 ft), from rating curve extended above 1,400 cfs; minimum daily, 30 cfs Dec. 1, 2, 1936.

REMARKS.--Records good. No regulation above station. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 was 6,890 acre-ft during the water year 1969. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record, six discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; one discharge measurement made and records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS.--WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	48	52	53	128	74	231	369	221	82	59	52
2	42	56	46	55	116	72	204	357	211	80	59	52
3	43	60	48	53	119	72	180	333	201	80	59	52
4	42	56	48	53	121	72	177	313	195	80	59	52
5	43	50	52	53	105	72	217	340	186	78	59	52
6	43	49	49	52	103	72	183	390	177	80	59	52
7	43	48	49	53	97	74	165	415	165	78	59	52
8	42	48	52	52	92	74	165	446	162	76	59	52
9	42	48	55	50	99	70	168	488	174	76	59	52
10	42	48	136	61	110	74	171	511	154	74	59	52
11	48	53	99	52	141	76	195	521	165	72	57	52
12	70	103	71	55	131	72	217	516	148	70	57	50
13	66	58	65	65	116	68	214	502	140	70	57	50
14	58	53	65	90	107	64	214	446	137	68	55	50
15	52	53	61	83	105	66	211	402	140	66	55	50
16	49	56	68	71	103	66	227	390	129	66	55	50
17	48	53	63	63	97	70	254	394	124	66	55	52
18	46	79	61	65	92	76	305	390	143	66	53	52
19	46	66	58	110	89	78	302	369	143	68	53	52
20	45	58	55	522	87	78	321	344	122	66	53	52
21	45	55	55	738	84	76	369	333	114	66	53	52
22	45	53	55	322	87	82	411	329	107	66	53	50
23	45	53	53	243	84	93	411	336	105	66	53	50
24	45	56	55	210	82	95	317	325	102	64	53	50
25	45	55	56	204	82	100	279	309	98	62	53	50
26	45	52	55	512	82	107	272	290	98	61	53	50
27	45	50	56	291	82	114	279	276	93	61	53	50
28	45	50	58	217	82	135	313	251	91	61	53	52
29	52	50	56	194	-----	156	369	241	89	61	53	52
30	60	52	55	171	-----	180	377	241	84	59	53	52
31	50	-----	53	154	-----	224	-----	234	-----	59	52	-----
TOTAL	1,473	1,669	1,860	4,967	2,823	2,802	7,718	11,401	4,218	2,148	1,722	1,538
MEAN	47.5	55.6	60.0	160	101	90.4	257	368	141	69.3	55.5	51.3
MAX	70	103	136	738	141	224	411	521	221	82	59	52
MIN	41	48	46	50	82	64	165	234	84	59	52	50
AC-FT	2,920	3,310	3,690	9,850	5,600	5,560	15,310	22,610	8,370	4,260	3,420	3,050
CAL YR 1968	TOTAL 28,384		MEAN 77.6		MAX 377		MIN 38		AC-FT 56,300			
WTR YR 1969	TOTAL 44,339		MEAN 121		MAX 738		MIN 41		AC-FT 87,950			

SACRAMENTO RIVER BASIN

11-4011.25. INDIAN CREEK NEAR BOULDER CREEK GUARD STATION, NEAR TAYLORSVILLE, CALIF.

LOCATION.--Lat 40°10'42", long 120°36'35", in SE¼ sec.22, T.27 N., R.12 E., Plumas County, on left bank 150 ft downstream from control house at Antelope Dam, 1.0 mile upstream from Cold Stream, 2.2 miles south of Boulder Creek guard station, 12.1 miles northeast of Genesee, and 17.1 miles northeast of Taylorsville. Prior to October 1968, at site 0.9 mile downstream.

DRAINAGE AREA.--68.6 sq mi.

PERIOD OF RECORD.--October 1965 to current year. June 1961 to September 1965 in reports of California Department of Water Resources.

GAGE --Water-stage recorder and concrete control. Altitude of gage is 4,930 ft (from topographic map). October 1965 to September 1968, at site 0.9 mile downstream at different datum.

EXTREMES.--Water year 1968: Maximum discharge, 215 cfs Feb. 24 (gage height, 5.01 ft); minimum daily, 7.5 cfs Sept. 3.

Water year 1969: Maximum discharge, 547 cfs May 11, 12; minimum daily, 8.8 cfs Oct. 4.

Period of record: Maximum discharge, 828 cfs May 24, 1967 (gage height, 6.31 ft, previous site and datum); minimum daily, 3.7 cfs Sept. 14-18, 1966.

REMARKS.--Flow regulated since Nov. 25, 1963 by Antelope Lake (capacity, 22,500 acre-ft) and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram of North Fork Feather River basin. Records since October 1968 are combined flow of release from Antelope Dam and flow over spillway.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	11	12	12	23	143	134	95	25	14	9.8	9.5
2	13	11	12	12	25	133	128	97	23	10	9.8	9.5
3	12	11	12	12	28	126	118	97	22	10	9.8	7.5
4	11	11	12	12	28	122	111	95	21	10	9.8	9.5
5	11	11	13	12	28	123	108	92	21	10	9.8	9.5
6	11	11	12	12	27	116	102	85	23	10	9.8	9.3
7	11	11	12	12	27	107	97	78	24	10	9.8	9.2
8	11	11	12	12	26	103	94	72	23	10	9.8	9.2
9	11	11	12	12	27	95	96	67	22	10	9.8	9.2
10	11	11	12	13	29	86	105	62	21	10	9.8	9.2
11	11	11	12	13	30	79	120	60	21	10	9.8	9.2
12	11	11	12	13	31	76	132	57	20	9.4	9.8	9.2
13	11	11	12	13	32	79	128	54	20	10	9.8	9.2
14	11	11	13	13	32	75	123	52	19	10	9.8	9.2
15	11	11	12	13	33	71	123	49	19	10	9.8	9.2
16	11	11	12	13	33	75	121	46	19	10	10	9.2
17	11	11	12	13	34	75	111	43	19	10	9.5	9.2
18	11	12	12	13	38	69	99	41	19	10	9.5	9.2
19	11	12	12	13	46	63	94	40	19	10	9.7	9.2
20	11	12	12	13	71	59	89	39	19	10	9.6	9.2
21	11	12	12	13	118	59	83	37	19	10	9.6	9.2
22	11	11	12	13	151	59	77	49	19	10	9.6	9.2
23	11	11	12	13	183	58	74	55	19	10	9.5	9.2
24	11	11	12	13	208	60	74	51	19	10	9.5	9.3
25	11	11	12	13	191	68	75	45	19	10	9.5	9.5
26	11	12	12	13	176	74	78	41	19	10	9.5	9.5
27	11	12	12	13	166	72	83	37	19	9.9	9.5	9.5
28	11	12	12	13	158	73	84	34	19	9.8	9.5	9.5
29	11	12	12	14	151	81	84	30	19	9.8	9.5	9.5
30	11	12	12	18	-----	101	89	28	19	9.8	9.5	9.5
31	11	-----	12	21	-----	121	-----	27	-----	9.8	9.5	-----
TOTAL	346	339	374	408	2,150	2,701	3,034	1,755	609	312.5	300.0	277.5
MEAN	11.2	11.3	12.1	13.2	74.1	87.1	101	56.6	20.3	10.1	9.68	9.25
MAX	13	12	13	21	208	143	134	97	25	14	10	9.5
MIN	11	11	12	12	23	58	74	27	19	9.4	9.5	7.5
AC-FT	686	672	742	809	4,260	5,360	6,020	3,480	1,210	620	595	550
CAL YR 1967: TOTAL	26,765			MEAN 73.3	MAX 783	MIN 11	AC-FT 53,090					
WAT YR 1968: TOTAL	12,606.0			MEAN 34.4	MAX 208	MIN 7.5	AC-FT 25,000					

11-4011.25. INDIAN CREEK NEAR BOULDER CREEK GUARD STATION, NEAR TAYLORSVILLE, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	10	10	94	50	317	384	160	42	10	10
2	10	10	10	10	77	49	313	380	147	38	10	10
3	10	10	10	10	63	47	278	369	137	37	10	10
4	8.8	10	10	10	63	44	261	355	130	35	10	10
5	10	10	10	10	69	44	275	334	130	33	10	10
6	10	10	10	10	73	44	256	358	120	33	10	10
7	10	10	10	10	67	42	232	409	109	31	10	10
8	10	10	10	10	61	42	225	451	113	30	10	10
9	10	10	10	10	59	44	227	482	137	30	10	10
10	10	10	10	10	54	42	232	519	132	35	10	10
11	10	10	10	10	54	44	251	539	147	34	10	10
12	10	10	10	10	56	42	286	543	162	31	10	10
13	10	10	10	10	56	42	313	523	142	28	10	10
14	10	10	10	10	56	41	301	482	128	26	10	10
15	10	10	10	10	57	41	256	432	119	24	10	10
16	10	10	10	10	57	44	262	409	108	22	10	10
17	10	10	10	10	54	46	268	402	103	20	10	10
18	10	10	10	10	52	49	320	395	110	17	10	10
19	10	10	10	10	49	50	337	387	103	16	10	10
20	10	10	10	10	47	52	354	362	92	15	10	10
21	10	10	10	10	47	47	386	337	83	14	10	10
22	10	10	10	10	42	49	433	324	75	14	10	10
23	10	10	10	15	50	52	463	310	69	12	10	10
24	10	10	10	34	56	57	436	300	65	12	10	10
25	10	10	10	54	61	61	369	284	59	12	10	10
26	10	10	10	121	56	69	324	264	56	11	10	10
27	10	10	10	165	49	79	300	246	52	11	10	10
28	10	10	10	152	50	94	293	222	50	10	10	10
29	10	10	10	114	-----	123	324	201	47	10	10	10
30	10	10	10	119	-----	155	380	187	46	10	10	10
31	10	-----	10	85	-----	217	-----	173	-----	10	10	-----
TOTAL	308.8	300	310	1,079	1,629	1,902	9,272	11,363	3,131	703	310	300
MEAN	9.96	10.0	10.0	34.8	58.2	61.4	309	367	104	22.7	10.0	10.0
MAX	10	10	10	165	94	217	463	543	162	42	10	10
MIN	8.8	10	10	10	42	41	225	173	46	10	10	10
AC-FT	613	595	615	2,140	3,230	3,770	18,390	22,540	6,210	1,390	615	595
CAL YR 1968	TOTAL 12,465.8		MEAN 34.1		MAX 208	MIN 7.5	ACFT 24,730					
WAT YR 1969	TOTAL 30,607.8		MEAN 83.9		MAX 543	MIN 8.8	ACFT 60,710					

SACRAMENTO RIVER BASIN

11-4011.8. LITTLE GRIZZLY CREEK NEAR GENESEE, CALIF.

LOCATION.--Lat 40°00'50", long 120°45'11", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.21, T.25 N., R.11 E., Plumas County, Plumas National Forest, on right bank 2.5 miles upstream from Indian Creek and 2 miles south of Genesee.

DRAINAGE AREA.--29.6 sq mi.

PERIOD OF RECORD.--August 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,180 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 57.1 cfs (41,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,320 cfs Jan. 21 (gage height, 5.53 ft); minimum daily, 4.9 cfs Oct. 3, 4.

Period of record: Maximum discharge, 1,600 cfs Dec. 23, 1964 (gage height, 5.90 ft), from rating curve extended above 500 cfs on basis of slope-area measurement of maximum flow; minimum daily, 3.5 cfs Sept. 10, 11, 30, 1966.

REMARKS.--Records good. Records of water temperatures for the water year 1969 are published in Part 2 of this report. See schematic diagram of North Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.9	8.1	9.9	53	21	180	208	228	35	12	7.7
2	5.0	7.4	7.2	10	47	20	154	201	210	33	11	7.7
3	4.9	15	7.8	10	42	20	123	190	201	32	11	7.6
4	4.9	10	8.2	11	40	20	110	176	197	30	11	7.6
5	5.0	7.7	8.0	11	40	20	120	194	188	29	11	7.6
6	5.0	7.0	7.6	12	36	20	108	243	170	28	11	7.6
7	5.1	6.6	7.5	13	33	20	94	311	152	27	10	7.6
8	5.2	6.5	7.8	14	32	20	87	391	154	26	10	7.7
9	5.3	6.9	8.1	13	31	20	85	488	143	25	10	7.5
10	5.2	6.6	22	13	32	19	88	512	124	24	9.9	7.6
11	5.8	8.1	22	14	36	19	101	540	124	23	9.8	7.6
12	11	29	15	20	40	19	124	576	112	21	9.6	7.5
13	9.9	12	13	119	38	19	139	556	107	21	9.4	7.4
14	8.4	9.3	12	88	36	18	129	492	102	20	9.3	7.4
15	6.9	8.8	22	47	35	19	116	426	96	19	9.1	7.4
16	6.2	8.3	21	32	32	22	116	412	92	19	9.0	7.5
17	6.0	8.1	15	25	30	25	128	444	85	18	8.8	7.4
18	5.9	18	13	22	29	30	154	460	98	17	8.7	7.4
19	5.8	15	11	167	28	31	156	430	91	17	8.6	7.6
20	5.7	12	9.3	810	26	32	176	384	77	16	8.5	7.6
21	5.7	10	8.6	805	25	31	218	363	70	16	8.3	7.8
22	5.6	10	11	255	25	31	282	370	64	15	8.2	7.6
23	5.6	10	11	136	24	36	282	391	60	15	8.0	7.4
24	5.6	9.9	14	99	23	40	208	391	55	15	8.1	7.3
25	5.5	9.6	16	134	23	42	172	356	51	14	8.1	7.3
26	5.5	8.7	14	416	22	47	152	325	48	14	8.1	7.3
27	5.5	8.3	12	186	21	58	143	291	45	13	8.0	7.2
28	5.5	8.0	12	138	22	73	152	258	43	13	8.0	7.2
29	5.8	7.8	11	88	-----	92	194	240	40	13	8.0	7.2
30	6.8	8.0	10	74	-----	121	215	249	37	12	8.0	7.2
31	6.1	-----	10	61	-----	172	-----	246	-----	12	7.8	-----
TOTAL	185.4	298.5	375.2	3,852.9	901	1,177	4,506	11,114	3,264	632	286.3	224.5
MEAN	5.98	9.95	12.1	124	32.2	38.0	150	359	109	20.4	9.24	7.48
MAX	11	29	22	810	53	172	282	576	228	35	12	7.8
MIN	4.9	5.9	7.2	9.9	21	18	85	176	37	12	7.8	7.2
AC-FT	368	592	744	7,640	1,790	2,330	8,940	22,040	6,470	1,250	568	445
CAL YR 1968	TOTAL	10,653.2	MEAN	29.1	MAX	264	MIN	4.7	AC-FT	21,130		
WTR YR 1969	TOTAL	26,816.8	MEAN	73.5	MAX	810	MIN	4.9	AC-FT	53,190		

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0015	5.52	1,310	4-22	2015	3.60	335
1-26	0500	4.27	588	5-12	1815	4.39	645

11-4012. INDIAN CREEK NEAR TAYLORSVILLE, CALIF.

LOCATION.--Lat 40°02'53", long 120°49'01", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.12, T.25 N., R.10 E., Plumas County, on right bank 0.3 mile upstream from Montgomery Creek and 2.3 miles southeast of Taylorsville.

DRAINAGE AREA.--526 sq mi.

PERIOD OF RECORD.--May 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,580 ft (from topographic map). Prior to Oct. 22, 1963, at site 1.0 mile downstream at different datum.

AVERAGE DISCHARGE.--12 years, 368 cfs (266,600 acre-ft per year).

EXTREMES.--Water year 1968: Maximum discharge, 2,900 cfs Feb. 23 (gage height, 10.24 ft); minimum daily, 30 cfs Sept. 6-8, 13.

Water year 1969: Maximum discharge, 10,000 cfs Jan. 21 (gage height, 13.73 ft); minimum daily, 33 cfs Oct. 4.

Period of record: Maximum discharge, 30,200 cfs Feb. 1, 1963 (gage height, 10.65 ft, site and datum then in use), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 10.3 and 10.65 ft; minimum daily, 13 cfs Aug. 2-4, 1961.

Flood of Dec. 23, 1955, reached a stage of 11.5 ft, from floodmarks, site and datum then in use (discharge, unknown).

REMARKS.--Flow partly regulated by Antelope Lake (see sta 11-4011.2) and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram of North Fork Feather River basin.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	55	58	73	78	97	945	694	381	159	60	41	33
2	73	59	67	73	91	836	678	379	153	55	40	33
3	112	59	80	60	105	772	632	390	147	52	39	32
4	91	59	91	67	108	728	581	404	141	50	39	32
5	82	62	128	69	112	749	559	400	136	49	36	31
6	75	63	87	66	113	651	533	370	150	49	35	30
7	69	63	112	67	120	591	502	346	153	48	35	30
8	66	62	83	70	124	565	482	332	146	48	35	30
9	64	62	82	69	142	561	475	318	137	276	35	31
10	63	61	82	102	170	495	494	313	122	47	35	31
11	61	61	80	71	175	441	538	307	111	46	37	31
12	59	61	81	73	194	411	570	285	104	45	36	31
13	60	61	61	75	236	405	546	278	101	45	34	30
14	59	69	56	87	238	415	512	266	98	49	35	31
15	58	67	70	357	199	415	508	252	94	48	35	32
16	58	65	77	278	177	459	516	236	90	48	36	32
17	58	64	78	205	193	458	507	225	85	47	38	32
18	58	67	79	159	299	465	461	228	78	46	38	32
19	58	97	79	138	475	438	424	239	77	43	42	33
20	58	90	76	119	1,310	428	400	255	77	42	44	34
21	58	83	74	107	1,940	456	374	244	75	41	47	35
22	59	76	78	97	1,990	465	351	247	72	40	45	35
23	59	71	75	91	2,340	435	336	263	71	39	43	35
24	58	69	74	87	2,150	433	333	246	69	39	41	34
25	57	68	75	85	1,540	471	332	233	67	55	39	34
26	57	65	75	82	1,350	543	333	225	64	43	38	34
27	58	65	78	76	1,230	482	340	221	63	41	37	33
28	58	69	79	76	1,150	489	339	217	62	39	37	33
29	59	74	79	77	1,020	559	354	204	62	37	35	33
30	58	75	72	58	-----	661	373	178	61	38	34	32
31	58	-----	74	102	-----	704	-----	169	-----	39	34	-----
TOTAL	1,976	2,025	2,455	3,221	19,388	16,926	14,077	8,651	3,025	1,644	1,175	969
MEAN	63.7	67.5	79.2	104	669	546	469	279	101	53.0	37.9	32.3
MAX	112	97	128	357	2,340	945	694	404	159	276	47	35
MIN	55	58	56	58	91	405	332	169	61	37	34	30
AC-FT	3,920	4,020	4,870	6,390	38,460	33,570	27,920	17,160	6,000	3,260	2,330	1,920
CAL YR 1967	TOTAL 217,087		MEAN 595		MAX 4,940		MIN 53		AC-FT 430,600			
WAT YR 1968	TOTAL 75,532		MEAN 206		MAX 2,340		MIN 30		AC-FT 149,800			

SACRAMENTO RIVER BASIN

11-4012. INDIAN CREEK NEAR TAYLORSVILLE, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	51	68	95	810	305	4,420	2,020	756	191	68	48
2	34	56	61	96	695	285	3,630	1,910	711	165	67	53
3	34	76	61	96	605	296	2,740	1,840	670	165	66	54
4	33	79	61	96	566	288	2,770	1,810	650	151	67	55
5	34	69	65	97	511	278	3,170	1,720	646	147	66	54
6	35	63	64	97	493	295	2,520	1,790	603	149	64	54
7	35	59	65	102	458	290	2,120	1,980	540	146	61	55
8	35	57	66	106	435	292	2,140	2,150	546	143	57	55
9	36	57	67	89	439	298	2,250	2,370	637	140	55	54
10	38	56	109	102	446	285	2,370	2,470	576	144	53	53
11	41	61	157	109	499	283	2,600	2,600	565	141	52	50
12	57	139	110	128	589	289	2,950	2,670	622	132	53	49
13	63	99	110	385	559	271	3,140	2,540	549	127	52	48
14	60	82	106	414	540	268	2,810	2,250	537	123	52	48
15	60	74	142	321	531	277	2,260	1,960	528	116	51	48
16	56	69	135	264	478	308	2,000	1,810	503	111	49	49
17	54	67	113	219	428	361	2,040	1,780	447	107	48	50
18	53	83	101	197	437	438	2,430	1,750	516	102	48	50
19	52	90	102	870	417	475	2,280	1,650	570	98	47	49
20	51	80	85	5,540	383	528	2,400	1,510	481	96	47	48
21	51	73	77	7,550	348	529	2,620	1,410	392	94	47	50
22	50	71	86	2,850	345	528	2,930	1,370	361	91	46	50
23	50	72	101	1,620	359	616	3,120	1,350	327	86	45	48
24	50	74	109	1,240	329	697	2,710	1,310	309	79	45	47
25	50	73	127	1,310	311	761	2,390	1,230	294	77	46	47
26	49	69	120	3,940	315	911	2,170	1,160	253	74	47	48
27	49	68	110	2,390	297	1,190	1,910	1,050	252	67	47	47
28	48	66	109	1,780	320	1,600	1,830	939	217	67	46	47
29	50	66	102	1,340	-----	2,140	2,010	877	212	64	46	46
30	53	68	97	1,110	-----	3,020	2,120	835	210	64	47	46
31	52	-----	97	892	-----	4,200	-----	816	-----	65	47	-----
TOTAL	1,447	2,167	2,983	35,445	12,943	22,602	76,850	52,927	14,480	3,522	1,632	1,500
MEAN	46.7	72.2	96.2	1,143	462	729	2,562	1,707	483	114	52.6	50.0
MAX	63	139	157	7,550	810	4,200	4,420	2,670	756	191	68	55
MIN	33	51	61	89	297	268	1,830	816	210	64	45	46
AC-FT	2,870	4,300	5,920	70,310	25,670	44,830	152,400	105,000	28,720	6,990	3,240	2,980
CAL YR 1968	TOTAL	75,673		MEAN	207	MAX	2,340	MIN	30	AC-FT	150,100	
WTR YR 1969	TOTAL	228,498		MEAN	626	MAX	7,550	MIN	33	AC-FT	453,200	

11-4015. INDIAN CREEK NEAR CRESCENT MILLS, CALIF.

LOCATION.--Lat 40°04'42", long 120°55'36", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.26 N., R.9 E., Plumas County, on left bank 0.8 mile upstream from Dixie Creek, and 1.5 miles south of Crescent Mills.

DRAINAGE AREA.--739 sq mi.

PERIOD OF RECORD.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map). Prior to March 1918, nonrecording gage at site 800 ft upstream at different datum.

AVERAGE DISCHARGE.--48 years (1906-9, 1911-17, 1930-69), 546 cfs (395,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 18,300 cfs Jan. 21 (gage height, 15.81 ft); minimum daily, 24 cfs Aug. 22, Sept. 1.

Period of record: Maximum discharge observed, 25,000 cfs Mar. 19, 1907 (gage height, 20.2 ft, site and datum then in use); minimum, 1.7 cfs Aug. 25, 1931.

REMARKS.--Records good. Natural flow affected by storage in Round Valley Reservoir since 1865 (capacity, 5,000 acre-ft), Taylor Lake since 1929 (capacity, 380 acre-ft), and Antelope Lake since November 1963 (capacity, 22,500 acre-ft). Diversions above station for irrigation of about 11,800 acres, of which 9,700 acres is in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1956(M), 1958(M). WRD Calif. 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	76	125	210	1,370	651	6,410	3,110	1,020	190	51	24
2	36	81	116	208	1,210	616	6,030	2,960	956	187	55	29
3	33	102	108	209	1,070	615	4,830	2,810	886	178	50	31
4	36	119	110	211	973	582	4,010	2,680	848	176	45	34
5	36	106	115	215	994	572	4,170	2,530	846	164	37	37
6	42	97	113	216	928	614	4,040	2,650	807	178	35	36
7	45	87	114	221	805	570	3,230	2,960	738	187	34	32
8	47	82	117	249	752	568	2,880	3,180	753	154	30	33
9	46	82	118	210	910	569	2,870	3,520	902	165	31	38
10	45	80	364	201	1,000	525	2,930	3,750	819	168	31	37
11	45	84	581	257	1,240	517	3,160	3,890	808	174	33	30
12	69	298	288	553	1,630	520	3,550	3,950	854	156	30	31
13	75	216	228	2,390	1,350	481	4,040	3,890	752	156	31	29
14	80	162	272	2,220	1,200	473	3,940	3,520	727	131	29	34
15	83	145	600	1,070	1,420	488	3,270	2,950	738	116	29	31
16	77	133	598	735	1,290	546	2,900	2,620	688	109	29	30
17	74	125	343	572	1,030	675	2,880	2,540	627	105	31	38
18	70	154	254	475	953	832	3,330	2,510	633	96	37	40
19	67	188	235	1,650	873	884	3,480	2,370	724	71	36	44
20	67	154	194	5,670	789	919	3,500	2,150	628	67	29	43
21	71	140	158	15,000	720	901	3,700	1,980	545	68	27	46
22	81	131	159	10,200	680	902	4,150	1,870	484	68	24	50
23	73	126	192	4,940	712	1,080	4,660	1,850	424	69	25	49
24	70	133	263	2,700	653	1,250	4,570	1,780	391	69	25	45
25	69	137	436	2,280	623	1,370	3,860	1,670	358	83	28	42
26	70	128	419	6,150	631	1,580	3,240	1,570	309	75	28	38
27	70	122	364	6,650	588	1,920	2,770	1,480	294	62	30	47
28	67	117	314	4,300	655	2,370	2,600	1,340	262	48	32	47
29	70	116	300	2,700	-----	2,910	2,870	1,230	256	55	32	44
30	80	122	258	1,890	-----	3,700	3,140	1,180	207	47	29	48
31	78	-----	226	1,510	-----	5,010	-----	1,120	-----	49	30	-----
TOTAL	1,909	3,843	8,082	76,062	27,049	35,210	111,010	77,610	19,284	3,621	1,023	1,137
MEAN	61.6	128	261	2,454	966	1,136	3,700	2,504	643	117	33.0	37.9
MAX	83	298	600	15,000	1,630	5,010	6,410	3,950	1,020	190	55	50
MIN	33	76	108	201	588	473	2,600	1,120	207	47	24	24
AC-FT	3,790	7,620	16,030	150,900	53,650	69,840	220,200	153,900	38,250	7,180	2,030	2,260
CAL YR 1968	TOTAL 133,194		MEAN 364		MAX 4,540		MIN 12		AC-FT 264,200			
WTR YR 1969	TOTAL 365,840		MEAN 1,002		MAX 15,000		MIN 24		AC-FT 725,600			

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1800	7.88	3,320	4-1	1345	10.33	6,690
1-21	1245	15.81	18,300	4-13	1300	8.54	4,180
1-26	2200	11.10	7,980	4-23	2315	9.04	4,870
2-12	1815	6.12	1,670	5-13	0445	8.39	4,020

SACRAMENTO RIVER BASIN

11-4019.4. MILL CREEK NEAR QUINCY, CALIF.

LOCATION.--Lat 39°56'03", long 120°54'18", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.24 N., R.10 E., Plumas County, on left bank at culvert on State Highways 70 and 89, 2.2 miles east of Quincy.

DRAINAGE AREA.--6.72 sq mi.

PERIOD OF RECORD.--Water years 1963-65 (annual maximum), October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage with culvert control, and float operated rain gage. Altitude of gage is 3,500 ft (from topographic map). Prior to July 24, 1967, at site 38 ft downstream at datum 0.55 ft lower.

EXTREMES.--Current year: Maximum discharge, 313 cfs Jan. 26 (gage height, 4.51 ft); no flow for several months. Period of record: Maximum discharge, 601 cfs Dec. 22, 1964 (gage height, 7.02 ft, site and datum then in use), from rating curve extended above 220 cfs on basis of computation of flow through culvert at gage heights 5.53 and 7.02 ft; no flow for several months each year.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.19	17	11	40	29	21	5.6	0	0
2	0	.04	0	.19	14	10	35	28	20	3.8	0	0
3	0	.19	0	.14	13	9.7	30	28	19	2.3	0	0
4	0	0	0	.19	12	9.7	25	26	18	1.2	0	0
5	0	0	0	.19	12	9.7	35	27	17	0	0	0
6	0	.05	0	.19	11	9.7	31	32	16	0	0	0
7	0	.25	0	.25	10	9.1	28	37	15	0	0	0
8	0	.19	0	.41	10	9.1	25	44	15	0	0	0
9	0	.25	.22	.32	14	8.5	22	53	16	0	0	0
10	0	.41	10	.25	15	8.2	21	54	15	0	0	0
11	.09	1.2	6.4	1.2	20	7.8	24	54	17	0	0	0
12	.15	2.1	2.5	5.4	30	7.5	27	57	16	0	0	0
13	0	.61	1.6	111	22	7.5	31	53	15	0	0	0
14	0	.41	1.7	50	18	7.5	29	42	15	0	0	0
15	0	.25	11	25	25	8.0	27	39	14	0	0	0
16	0	.14	6.4	14	22	9.0	25	42	13	0	0	0
17	0	.01	2.7	12	19	11	25	45	13	0	0	0
18	0	.84	1.4	12	17	13	26	45	16	0	0	0
19	0	.72	1.4	48	15	14	26	41	15	0	0	0
20	0	.32	.84	172	14	14	27	38	13	0	0	0
21	0	.14	.40	252	13	14	34	36	13	0	0	0
22	0	.03	.80	104	12	14	39	34	12	0	0	0
23	0	0	2.0	59	11	16	41	34	11	0	0	0
24	0	.38	5.0	44	11	16	34	34	9.1	0	0	0
25	0	.03	10	69	10	17	29	32	8.5	0	0	0
26	0	0	2.5	167	10	18	26	30	8.5	0	0	0
27	0	0	1.4	72	9.7	20	24	28	7.9	0	0	0
28	0	0	1.1	50	12	22	25	26	7.9	0	0	0
29	0	0	.72	35	-----	25	30	24	6.4	0	0	0
30	0	0	.51	25	-----	35	31	22	6.4	0	0	0
31	0	-----	.25	20	-----	45	-----	22	-----	0	0	-----
TOTAL	0.24	8.56	70.84	1,349.92	418.7	436.0	872	1,136	409.7	12.9	0	0
MEAN	.008	.29	2.29	43.5	15.0	14.1	29.1	36.6	13.7	.42	0	0
MAX	.15	2.1	11	252	30	45	41	57	21	5.6	0	0
MIN	0	0	0	.14	9.7	7.5	21	22	6.4	0	0	0
AC-FT	.5	17	141	2,680	830	865	1,730	2,250	813	26	0	0
(a)	1.96	5.08	9.45	19.23	6.50	0.61	2.97	.08	1.64	0.0	0.0	0.0
CAL YR 1968	TOTAL 1,518.11		MEAN 4.15		MAX 49	MIN 0		AC-FT 3,010				
WTR YR 1969	TOTAL 4,714.86		MEAN 12.9		MAX 252	MIN 0		AC-FT 9,350				

NOTE.--No gage-height record Jan. 28 to Apr. 14 and May 21 to June 20.

a Precipitation, in inches.

11-4020. SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CALIF.

LOCATION.--Lat 40°00'11", long 120°57'12", in NE $\frac{1}{4}$ sec.27, T.25 N., R.9 E., Plumas County, on right bank 200 ft upstream from Blackhawk Creek, and 0.9 mile southeast of Keddle.

DRAINAGE AREA.--184 sq mi.

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1953, published as "at Keddle." Records for October 1911 to September 1933 at site 1.2 miles downstream not equivalent owing to inflow.

GAGE.--Water-stage recorder. Altitude of gage is 3,250 ft (from topographic map).

AVERAGE DISCHARGE.--36 years, 264 cfs (191,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,300 cfs Jan. 21 (gage height, 12.08 ft), from rating curve extended as explained below; minimum daily, 23 cfs Oct. 1.

Period of record: Maximum discharge, 15,400 cfs Dec. 22, 1964 (gage height, 13.53 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement at gage height 12.47 ft; minimum, 3.8 cfs Aug. 12, 1934.

REMARKS.--Records good. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram of North Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	47	82	122	488	367	1,650	997	460	118	48	36
2	25	53	75	119	423	346	1,320	911	432	99	49	34
3	26	113	71	119	373	316	1,020	912	414	93	49	30
4	29	99	70	120	349	300	890	769	399	97	47	31
5	30	72	70	121	360	309	1,430	812	384	93	41	31
6	27	64	69	121	345	315	1,170	1,030	358	84	36	31
7	28	57	69	122	303	288	881	1,180	318	82	35	30
8	29	53	71	135	286	275	788	1,270	317	73	38	29
9	29	51	72	120	421	268	767	1,420	340	97	38	34
10	30	49	417	110	464	251	757	1,420	297	89	37	33
11	31	52	456	140	653	245	869	1,370	347	85	42	33
12	80	294	191	443	865	237	1,060	1,380	317	88	39	35
13	76	125	143	3,470	615	229	1,130	1,300	282	77	39	35
14	58	97	192	1,630	525	228	971	1,120	306	78	39	35
15	57	94	656	698	770	237	802	942	279	73	39	36
16	55	89	421	452	668	273	788	914	263	72	34	37
17	48	84	213	335	550	350	870	952	242	68	32	36
18	47	112	164	281	492	425	1,150	971	309	68	32	37
19	43	125	144	2,140	449	430	1,050	909	270	69	33	39
20	41	100	124	6,660	416	427	1,090	807	227	69	32	41
21	40	89	103	10,400	371	421	1,280	751	203	63	33	39
22	40	84	107	4,070	341	434	1,480	743	192	60	30	39
23	40	82	118	1,620	341	510	1,620	757	184	56	28	40
24	39	93	214	1,020	330	554	1,230	737	176	55	30	40
25	39	94	453	1,790	313	568	930	674	156	58	32	39
26	39	84	299	6,630	295	609	810	647	145	54	36	38
27	39	81	206	2,220	273	709	764	587	140	51	35	38
28	39	77	175	1,310	347	894	810	533	131	51	35	39
29	40	74	158	864	-----	1,090	1,060	488	123	52	36	38
30	63	82	142	684	-----	1,340	1,130	473	127	51	35	38
31	53	-----	129	551	-----	1,760	-----	479	-----	47	34	-----
TOTAL	1,283	2,670	5,874	48,617	12,426	15,005	31,567	28,255	8,138	2,270	1,143	1,071
MEAN	41.4	89.0	189	1,568	444	484	1,052	911	271	73.2	36.9	35.7
MAX	80	294	656	10,400	865	1,760	1,650	1,420	460	118	49	41
MIN	23	47	69	110	273	228	757	473	123	47	28	29
AC-FT	2,540	5,300	11,650	96,430	24,650	29,760	62,610	56,040	16,140	4,500	2,270	2,120
CAL YR 1968	TOTAL	72,050	MEAN	197	MAX	2,500	MIN	20	AC-FT	142,900		
WTR YR 1969	TOTAL	158,319	MEAN	434	MAX	10,400	MIN	23	AC-FT	314,000		

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1500	7.82	4,930	3-31	2030	5.54	2,150
1-21	1115	12.08	12,300	4- 5	1230	5.14	1,740
1-26	0700	11.98	12,100	4-23	0845	5.12	1,720

SACRAMENTO RIVER BASIN

11-4030. EAST BRANCH OF NORTH FORK FEATHER RIVER NEAR RICH BAR, CALIF.

LOCATION.--Lat 40°00'38", long 121°13'03", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.20, T.25 N., R.7 E., Plumas County, Plumas National Forest, on left bank 0.5 mile upstream from mouth, and 1.3 miles west of Rich Bar.

DRAINAGE AREA.--1,025 sq mi.

PERIOD OF RECORD.--October 1950 to September 1961, December 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,300 ft (from topographic map). Prior to Nov. 29, 1950, at site 30 ft downstream at same datum.

AVERAGE DISCHARGE.--12 years (1950-61, 1969), 1,099 cfs (796,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 32,200 cfs Jan. 22 (gage height, 15.27 ft), from rating curve extended above 7,100 cfs; minimum daily, 79 cfs Oct. 2.

Period of record: Maximum discharge, 48,000 cfs Dec. 23, 1955 (gage height, 16.52 ft), from rating curve extended above 15,000 cfs on basis of study of upstream and downstream peak discharges; minimum, 39 cfs Sept. 6, 7, 1955, July 28, Aug. 23, 1961.

REMARKS.--No storage or diversion between stations on Indian and Spanish Creeks and station near Rich Bar.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	150	238	479	2,320	1,250	8,730	4,620	1,640	362	148	109
2	79	175	231	470	1,980	1,190	8,130	4,370	1,540	350	136	106
3	80	265	209	461	1,710	1,130	6,550	4,210	1,460	324	126	110
4	79	312	202	465	1,560	1,050	5,390	3,900	1,390	327	124	115
5	83	233	202	470	1,570	1,060	6,070	3,820	1,360	318	123	107
6	84	200	204	474	1,520	1,110	5,810	4,210	1,280	310	120	109
7	85	179	202	474	1,330	1,030	4,680	4,680	1,150	318	124	109
8	88	159	207	520	1,240	1,010	4,170	5,020	1,100	288	120	110
9	89	154	211	497	1,500	991	4,150	5,490	1,310	299	120	111
10	90	150	859	428	1,750	945	4,230	5,680	1,190	296	120	115
11	97	193	1,520	539	2,160	914	4,600	5,710	1,210	304	120	120
12	157	708	771	1,240	3,100	889	5,200	5,730	1,250	294	120	124
13	226	511	549	6,020	2,530	859	5,730	5,530	1,120	276	119	129
14	193	332	650	5,030	2,150	841	5,490	4,970	1,080	261	119	127
15	183	297	1,520	2,460	2,590	853	4,680	4,250	1,070	242	118	130
16	173	273	1,550	1,630	2,470	926	4,270	3,900	991	231	114	129
17	163	254	873	1,260	2,070	1,120	4,370	3,860	914	224	116	126
18	148	294	633	1,080	1,850	1,430	5,150	3,840	945	214	115	122
19	143	381	549	3,310	1,690	1,560	5,180	3,610	1,010	194	110	116
20	138	319	453	11,300	1,550	1,570	5,250	3,170	877	188	109	124
21	136	279	639	26,000	1,380	1,550	5,660	3,040	767	184	98	124
22	140	257	765	16,600	1,250	1,560	6,310	2,930	703	180	103	122
23	147	246	727	7,480	1,290	1,800	4,620	2,920	649	177	107	124
24	136	251	690	4,990	1,230	2,030	4,310	2,810	602	186	109	124
25	133	282	656	4,750	1,150	2,160	5,020	2,610	562	177	112	122
26	132	251	627	12,700	1,100	2,410	4,510	2,450	508	159	112	122
27	130	233	600	9,200	1,050	2,930	4,030	2,270	484	156	109	129
28	128	223	574	6,210	1,160	3,750	3,880	2,070	450	154	104	129
29	147	216	549	4,320	-----	4,530	4,450	1,900	436	150	105	131
30	179	228	525	3,230	-----	5,510	4,790	1,830	398	150	105	136
31	169	-----	501	2,580	-----	7,190	-----	1,780	-----	153	110	-----
TOTAL	4,037	8,005	18,686	136,667	48,250	57,148	155,410	117,180	29,446	7,446	3,595	3,611
MEAN	130	267	603	4,409	1,723	1,843	5,180	3,780	982	240	116	120
MAX	226	708	1,550	26,000	3,100	7,190	8,730	5,730	1,640	362	148	136
MIN	79	150	202	428	1,050	841	3,880	1,780	398	150	98	106
AC-FT	8,010	15,880	37,060	271,100	95,700	113,400	308,300	232,400	58,410	14,770	7,130	7,160
CAL YR 1968	TOTAL 273,045		MEAN 746		MAX 8,320		MIN 66		AC-FT 541,600			
WTR YR 1969	TOTAL 589,481		MEAN 1,615		MAX 26,000		MIN 79		AC-FT 1,169,000			

11-4035, BUCKS LAKE NEAR BUCKS LODGE, CALIF.

LOCATION.--Lat 39°53'45", long 121°12'10", in NW¼ sec.33, T.24 N., R.7 E., Plumas County, Plumas National Forest, in intake tower No. 2 upstream from dam on Bucks Creek, 2 miles northwest of Bucks Lodge, and 15 miles west of Quincy.

DRAINAGE AREA.--28.6 sq mi.

PERIOD OF RECORD.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954 published as Bucks Creek Reservoir near Bucks Ranch.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Feather River Power Co.).

EXTREMES.--Current year: Maximum contents, 105,000 acre-ft June 20 (elevation, 5,156.65 ft); minimum, 34,100 acre-ft Jan. 13 (elevation, 5,111.30 ft).
Period of record: Maximum contents, 105,800 acre-ft June 23, 1938 (elevation, 5,157.1 ft); minimum, 12,330 acre-ft Feb. 27, 1929, (elevation, 5,090.7 ft).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam completed in 1927; storage began in May 1927. Capacity, 101,700 acre-ft between elevations 5,064.75 (sill of outlet gate) and 5,154.85 ft (spillway crest) above mean sea level. Released water flows down Bucks Creek to Lower Bucks Lake, where it enters tunnel that discharges into Grizzly Creek, thence to Bucks Creek powerhouse. Figures given herein represent total contents, of which 274 acre-ft is not available for release. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,064.75	274	5,075	2,400	5,100	21,200	5,125	52,500
5,066	388	5,080	4,740	5,105	26,800	5,130	60,000
5,068	635	5,085	7,920	5,110	32,500	5,140	75,900
5,070	977	5,090	11,700	5,115	38,800	5,150	93,000
5,072	1,440	5,095	16,200	5,120	45,500	5,160	111,200

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47,271	40,374	37,956	35,493	54,670	55,484	45,591	54,567	94,320	102,838	89,176	73,923
2	46,839	40,518	37,815	35,380	54,818	55,484	45,591	55,217	95,581	102,454	88,706	73,449
3	46,421	40,611	37,661	35,255	54,966	55,261	45,464	55,959	96,830	102,053	88,099	73,923
4	45,991	40,505	37,508	35,142	55,113	54,715	45,632	56,525	98,210	101,635	87,701	72,489
5	45,563	40,361	37,380	35,030	55,261	54,008	45,451	57,273	99,380	101,271	87,200	72,003
6	45,136	40,203	37,226	34,918	55,410	53,188	45,300	58,266	100,419	100,890	86,700	71,517
7	44,726	40,046	37,073	34,793	55,558	51,765	45,136	59,372	101,344	100,491	86,200	71,049
8	44,277	39,889	36,959	34,669	55,706	51,591	44,958	60,577	102,199	100,102	85,702	70,566
9	43,856	39,732	36,946	34,557	55,855	51,289	44,794	61,930	102,801	99,705	85,222	70,084
10	43,423	39,575	37,636	34,433	56,004	50,986	44,644	63,356	103,038	99,290	84,777	69,603
11	43,329	39,889	37,636	34,334	56,152	50,671	44,603	64,856	103,368	98,876	84,281	69,155
12	43,788	39,928	37,559	34,222	56,227	50,355	44,794	66,433	103,550	98,444	83,736	68,676
13	43,910	39,810	37,572	34,111	56,450	50,027	44,576	68,008	103,734	98,013	83,225	68,182
14	43,761	39,745	37,584	34,160	56,600	49,727	44,426	69,283	103,935	97,582	82,750	67,704
15	43,383	39,640	37,828	34,358	56,600	49,400	44,304	69,715	104,082	97,152	82,241	67,211
16	42,979	39,510	37,738	34,532	56,406	49,074	44,141	71,825	104,173	96,705	81,751	66,718
17	42,751	39,379	37,636	34,656	56,137	48,804	44,168	73,303	104,338	96,259	81,261	66,243
18	42,576	39,471	37,559	35,018	55,914	48,522	46,393	74,807	104,632	95,813	80,756	65,738
19	42,389	39,392	37,444	36,578	55,647	48,212	46,936	76,238	104,853	95,368	80,268	65,281
20	42,215	39,288	37,252	40,164	55,439	47,958	47,509	77,580	104,595	94,924	79,782	64,825
21	42,028	39,145	36,908	44,195	55,217	47,678	48,198	78,979	104,173	94,462	79,296	64,355
22	41,842	39,054	36,616	45,464	55,158	47,383	48,974	80,453	103,898	94,002	78,812	63,886
23	41,656	38,925	36,502	46,574	55,128	47,048	49,927	82,106	103,697	93,524	78,328	63,418
24	41,483	38,899	36,451	48,324	55,084	46,783	50,470	83,583	103,550	93,047	77,829	62,952
25	41,284	38,730	36,362	51,101	55,040	46,505	50,929	85,068	103,422	92,554	77,331	62,502
26	41,099	38,588	36,236	52,839	55,113	46,255	51,375	86,476	103,294	92,079	76,850	62,053
27	40,914	38,433	36,110	53,788	55,261	46,019	51,823	87,805	103,203	91,587	76,354	61,591
28	40,716	38,278	35,983	54,082	55,410	45,825	52,373	89,002	103,148	91,113	75,859	61,114
29	40,848	38,175	35,857	54,229	-----	45,673	53,159	90,239	103,093	90,623	75,382	60,638
30	40,716	38,072	35,732	54,376	-----	45,577	53,891	91,622	103,038	90,151	74,889	60,210
31	40,558	-----	35,606	54,523	-----	45,591	-----	92,994	-----	89,663	74,413	-----
MAX	47,271	40,611	37,956	54,523	56,600	55,484	53,891	92,994	104,853	102,838	89,176	73,923
MIN	40,558	38,072	35,606	34,111	54,670	45,577	44,141	54,567	94,320	89,663	74,413	60,210
(a)	5,116.33	5,114.44	5,112.50	5,126.35	5,126.95	5,120.09	5,125.92	5,150.13	5,155.61	5,148.12	5,139.10	5,130.14
(b)	-7,100	-2,500	-2,500	+18,900	+900	-9,800	+8,300	+39,100	+10,000	-13,300	-15,300	-14,200

CAL YR 1968 b -500
WTR YR 1969 b +12,500

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet, rounded to Geological Survey standards.

11-4045. NORTH FORK FEATHER RIVER AT PULGA, CALIF.

LOCATION.--Lat 39°47'39", long 121°27'03", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.6, T.22 N., R.5 E., Butte County, Plumas National Forest, on left bank between railroad and highway bridges, 0.5 mile downstream from Flea Valley Creek and Pulga, and 1.5 miles downstream from Poe Dam.

DRAINAGE AREA.--1,953 sq mi.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A. Prior to October 1962, published as "at Big Bar."

GAGE.--Water-stage recorder. Datum of gage is 1,304.88 ft above mean sea level (levels by Pacific Gas and Electric Co.). Prior to Oct. 1, 1937, at site 1.1 miles upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

AVERAGE DISCHARGE (including diversion through Poe powerhouse).--59 years, 2,936 cfs (2,127,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 46,900 cfs Jan. 21 (gage height, 28.69 ft); minimum daily, 44 cfs Nov. 29.

Period of record (prior to diversion to Poe powerhouse): Maximum discharge, 72,400 cfs Dec. 23, 1955 (gage height, 35.60 ft, present datum), from rating curve extended above 34,000 cfs; minimum daily, 235 cfs Oct. 31, 1932.

1958 to current year: Maximum discharge, 73,000 cfs Dec. 22, 1964 (gage height, 35.80 ft), from rating curve extended above 34,000 cfs; minimum daily, 33 cfs June 25, 1961.

REMARKS.--Records good. Flow regulated by Lake Almanor (see sta 11-3990), Bucks Lake (see sta 11-4035), Mountain Meadows Reservoir, Butt Valley Reservoir, and five forebays (combined capacity, 1,239,000 acre-ft). Diversion through Poe powerhouse began on May 29, 1958. See schematic diagram of North Fork Feather River basin. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and five discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 931: 1938(M), 1940. WSP 1515: 1935. WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	53	47	68	678	473	7,300	4,100	608	56	54	59
2	54	80	47	67	494	249	6,650	3,700	532	56	56	60
3	53	81	49	66	247	209	5,020	3,210	474	53	56	60
4	54	64	54	67	124	160	3,610	2,570	432	51	54	58
5	54	60	54	83	135	151	4,590	2,640	339	56	55	58
6	55	55	53	69	144	134	4,320	3,700	243	56	56	58
7	54	53	55	67	131	123	3,050	4,740	63	57	89	59
8	53	52	52	68	129	116	2,380	5,150	60	55	60	56
9	55	53	57	63	445	137	2,250	5,900	61	93	60	53
10	57	52	185	58	736	113	2,180	6,690	62	56	60	53
11	65	61	121	85	1,550	106	2,550	6,860	61	53	60	53
12	96	80	73	203	2,490	104	3,190	6,930	60	51	60	53
13	64	56	68	6,020	1,450	103	3,820	6,420	60	50	60	52
14	64	52	97	5,590	791	124	3,950	5,570	59	53	60	53
15	58	54	151	1,260	1,430	142	3,340	4,500	58	54	60	54
16	60	54	106	168	1,530	205	2,730	4,260	129	53	62	54
17	54	51	80	114	681	489	2,810	3,980	58	51	62	55
18	57	57	70	111	562	854	4,150	3,790	57	51	61	54
19	54	53	65	3,900	483	1,080	4,200	3,570	56	52	60	54
20	54	51	59	24,700	575	986	3,990	3,260	55	51	60	52
21	54	49	57	41,300	535	1,120	4,710	2,950	55	51	59	54
22	51	45	55	21,200	401	1,050	6,070	2,680	55	52	60	53
23	52	45	62	9,150	294	1,190	7,320	2,610	53	57	59	53
24	53	50	141	5,050	270	1,310	5,940	2,320	55	56	59	53
25	51	47	181	6,470	266	347	4,510	2,090	53	58	58	52
26	52	47	119	21,100	255	151	3,580	1,890	53	57	60	54
27	51	45	94	12,000	317	387	2,520	1,500	54	56	60	54
28	52	46	92	6,900	623	1,890	2,220	1,030	59	56	58	53
29	62	44	84	3,970	-----	2,540	3,230	845	56	57	59	57
30	56	47	79	2,250	-----	3,720	4,290	785	55	56	58	54
31	54	-----	74	1,050	-----	5,770	-----	752	-----	58	60	-----
TOTAL	1,758	1,637	2,581	173,267	17,766	25,533	120,470	110,992	4,075	1,722	1,855	1,645
MEAN	56.7	54.6	83.3	5,589	635	824	4,016	3,580	136	55.5	59.8	54.8
MAX	96	81	185	41,300	2,490	5,770	7,320	6,930	608	93	89	60
MIN	51	44	47	58	124	103	2,180	752	53	50	54	52
AC-FT	3,490	3,250	5,120	343,700	35,260	50,640	239,000	220,200	8,080	3,420	3,680	3,260
MEAN a	1,387	1,663	3,145	9,607	4,924	5,125	8,309	7,873	3,201	2,170	2,667	2,902
AC-FT a	85,300	98,950	193,400	590,700	273,400	315,100	494,300	484,100	190,500	133,400	164,000	172,700

CAL YR 1968 TOTAL 101,516 MEAN 277 MAX 9,840 MIN 44 AC-FT 201,400 MEAN a 2,725 AC-FT a 1,978,000
WTR YR 1969 TOTAL 463,301 MEAN 1,269 MAX 41,300 MIN 44 AC-FT 919,000 MEAN a 4,415 AC-FT a 3,196,000

a Adjusted for diversion through Poe powerhouse.

combined

1,969,000

11-4053. WEST BRANCH FEATHER RIVER NEAR PARADISE, CALIF.

LOCATION.--Lat 39°47'17", long 121°33'42", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.22 N., R.4 E., Butte County, on left bank 0.6 mile upstream from Griffin Gulch, and 4.0 miles northeast of Paradise.

DRAINAGE AREA.--110 sq mi.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 305 cfs (221,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,000 cfs Jan. 20 (gage height, 19.42 ft); minimum daily, 0.85 cfs Oct. 1-10.

Period of record: Maximum discharge, 26,300 cfs Dec. 22, 1964 (gage height, 26.2 ft from floodmarks), from rating curve extended above 14,000 cfs; minimum, 0.3 cfs Aug. 31, Sept. 1, 2, 1960, Sept. 8, 1962.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at DeSabella and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 cfs to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir (usable capacity, 5,000 acre-ft) and Philbrook Reservoir (capacity, 5,010 acre-ft). Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Water-stage recorder graph and 11 discharge measurements furnished by California Department of Water Resources.

REVISIONS.--WRD Calif. 1968: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	34	33	99	798	621	945	995	915	70	3.3	1.2
2	.85	116	26	92	704	537	880	945	890	56	3.1	1.4
3	.85	207	22	91	633	485	798	965	885	61	2.9	1.4
4	.85	101	19	101	585	432	686	834	880	69	2.6	1.4
5	.85	33	19	112	629	394	1,210	965	830	62	2.2	1.6
6	.85	19	17	110	681	368	960	1,240	748	59	2.2	1.5
7	.85	11	15	107	549	341	789	1,390	662	53	2.2	1.4
8	.85	6.9	20	100	526	314	712	1,460	582	50	2.1	1.4
9	.85	5.7	40	86	1,250	298	668	1,540	528	27	1.9	1.4
10	.85	6.0	1,850	76	1,100	269	633	1,770	472	28	2.8	1.4
11	2.6	15	803	242	1,800	247	686	1,830	552	23	2.3	1.4
12	334	330	292	915	1,910	235	789	1,740	493	20	2.2	1.4
13	195	60	187	4,450	1,120	224	771	1,500	476	17	1.9	1.4
14	58	37	371	1,900	991	218	730	1,310	490	15	1.7	1.4
15	81	50	814	925	1,900	212	681	1,100	524	12	1.7	1.4
16	34	43	463	601	1,170	242	694	1,290	472	11	1.5	1.4
17	17	39	229	446	950	314	753	1,320	340	8.4	1.5	1.4
18	8.7	134	156	400	843	371	900	1,350	322	6.6	1.5	1.4
19	1.4	131	124	2,660	748	353	856	1,290	282	5.4	1.4	1.4
20	1.1	68	95	9,990	690	332	910	1,160	252	5.2	1.4	1.5
21	1.1	47	79	11,400	621	356	1,020	1,160	246	4.9	1.4	1.6
22	17	37	70	4,650	577	329	1,130	1,220	216	4.6	1.3	1.6
23	20	34	92	2,590	605	350	1,310	1,220	216	6.6	1.4	1.5
24	20	49	673	1,800	601	356	1,010	1,170	196	5.4	1.4	1.4
25	20	40	841	3,180	581	368	825	1,160	172	4.4	1.4	1.4
26	3.2	32	359	6,480	533	404	744	1,160	150	3.9	1.4	1.4
27	1.1	26	216	2,680	493	474	726	1,040	128	3.5	1.4	1.4
28	2.0	22	192	1,850	681	553	776	910	112	3.1	1.4	1.4
29	65	20	167	1,380	-----	625	945	920	97	2.9	1.4	1.3
30	149	33	132	1,110	-----	726	1,010	980	84	3.7	1.4	1.2
31	64	-----	112	895	-----	890	-----	980	-----	3.5	1.5	-----
TOTAL	1,103.70	1,786.6	8,528	61,518	24,269	12,238	25,547	37,914	13,212	705.1	57.8	42.4
MEAN	35.6	59.6	275	1,984	867	395	852	1,223	440	22.7	1.86	1.41
MAX	334	330	1,850	11,400	1,910	890	1,310	1,830	915	70	3.3	1.6
MIN	.85	5.7	15	76	493	212	633	834	84	2.9	1.3	1.2
AC-FT	2,190	3,540	16,920	122,000	48,140	24,270	50,670	75,200	26,210	1,400	115	84
CAL YR 1968	TOTAL	78,672.57	MEAN	215	MAX	3,550	MIN	.79	AC-FT	156,000		
WTR YR 1969	TOTAL	186,921.60	MEAN	512	MAX	11,400	MIN	.85	AC-FT	370,800		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1700	9.68	3,200	2-12	0230	8.77	2,440
1-13	0900	12.26	5,710	2-15	1000	8.84	2,490
1-20	2200	19.42	15,000	5-11	2300	8.54	2,100
1-26	0400	16.86	11,300				

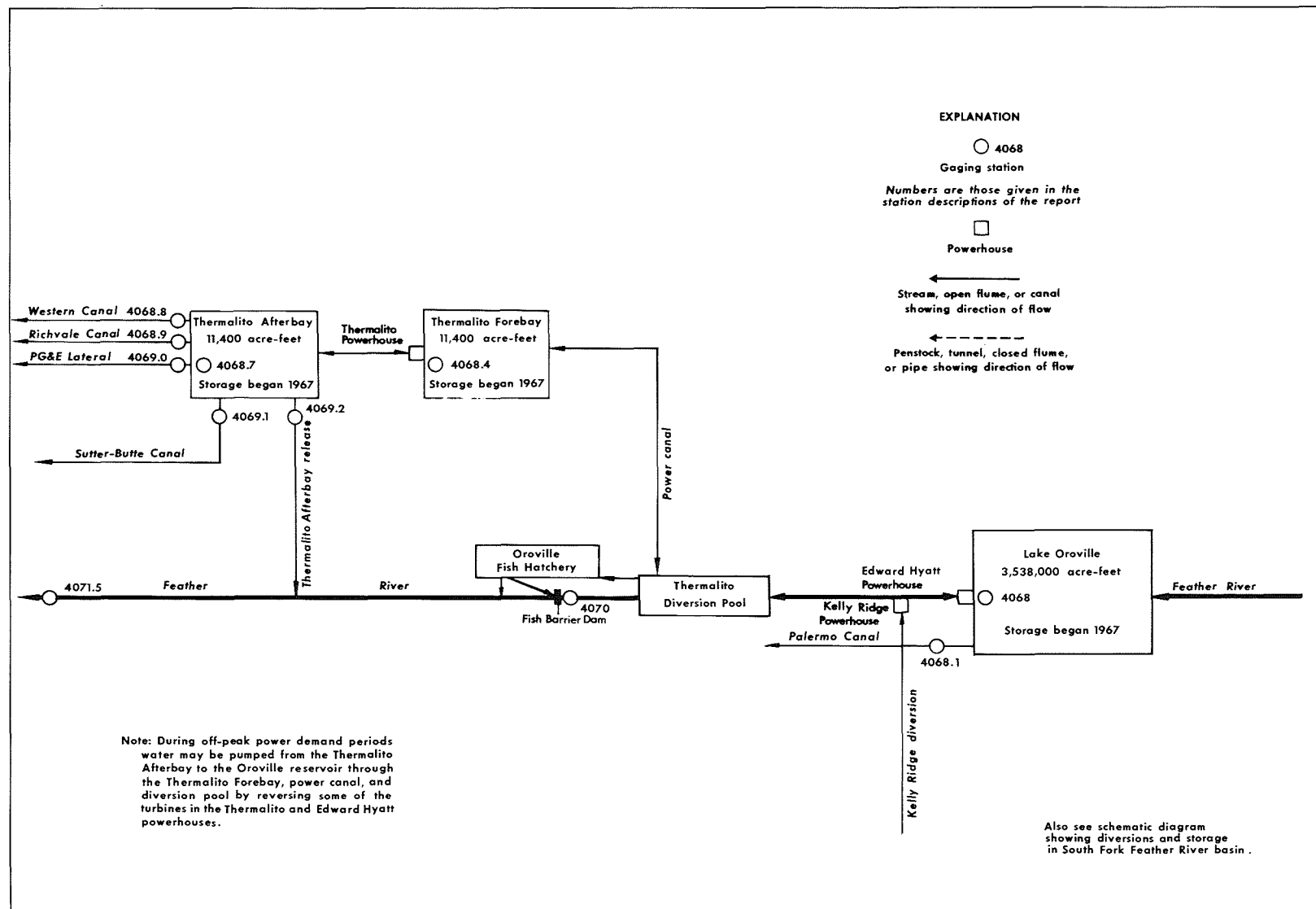


FIGURE 13.—Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

11-4068. LAKE OROVILLE NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°32'00", long 121°28'25", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.19 N., R.4 E., Butte County, near intake structure at left end of Oroville Dam on Feather River, 1.0 mile downstream from North Fork Feather River, and 4.2 miles east of Oroville.

DRAINAGE AREA.--3,609 sq mi.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Current year: Maximum contents, 3,503,200 acre-ft June 22 (gage height, 897.82 ft); minimum, 1,678,200 acre-ft Oct. 1 (gage height, 750.07 ft).

Period of record: Maximum contents, 3,503,200 acre-ft June 22, 1969 (gage height, 897.82 ft); minimum since initial storage began, 1,643,000 acre-ft Sept. 3, 1968 (gage height, 746.27 ft).

REMARKS.--Reservoir is formed by an earthfill dam with concrete chute type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,686,000 acre-ft between elevations 640.0 (minimum power pool) and 900.0 ft (normal maximum pool). Dead storage, 852,200 acre-ft. Total capacity at normal maximum pool 3,538,000 acre-ft. Water is released to Edward Hyatt powerhouse through penstock in left abutment of dam and to Palermo Canal through concrete tunnel also in left abutment of dam. The turbines in the Edward Hyatt powerplant are reversible and during periods of low power demand water is pumped at times from the river back into Lake Oroville. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey in connection with a Federal Power Commission project.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN THOUSANDS OF ACRE-FEET)

730	1,498.2	790	2,081.0	850	2,808.3
740	1,588.1	800	2,191.7	860	2,944.7
750	1,677.6	810	2,306.6	870	3,085.7
760	1,772.7	820	2,425.6	880	3,231.5
770	1,871.5	830	2,548.8	890	3,382.0
780	1,974.2	840	2,676.4	900	3,537.6

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,678	1,704	1,801	2,074	2,782	2,756	2,978	3,023	3,339	3,489	3,352	3,026
2	1,679	1,707	1,804	2,083	2,785	2,752	3,014	3,029	3,344	3,485	3,344	3,014
3	1,679	1,711	1,808	2,091	2,788	2,747	3,032	3,037	3,352	3,482	3,344	2,996
4	1,679	1,714	1,812	2,099	2,789	2,740	3,031	3,042	3,358	3,486	3,330	2,982
5	1,683	1,716	1,817	2,108	2,794	2,740	3,037	3,045	3,367	3,488	3,315	2,967
6	1,685	1,718	1,821	2,115	2,795	2,738	3,040	3,052	3,376	3,492	3,299	2,953
7	1,686	1,719	1,822	2,123	2,795	2,735	3,039	3,064	3,392	3,485	3,284	2,953
8	1,687	1,720	1,824	2,131	2,793	2,733	3,033	3,082	3,405	3,478	3,269	2,940
9	1,688	1,720	1,830	2,140	2,799	2,733	3,028	3,104	3,413	3,472	3,260	2,926
10	1,689	1,723	1,846	2,148	2,797	2,736	3,024	3,129	3,420	3,465	3,260	2,913
11	1,690	1,725	1,860	2,164	2,794	2,742	3,017	3,152	3,429	3,459	3,245	2,900
12	1,695	1,733	1,866	2,188	2,790	2,751	3,014	3,175	3,427	3,460	3,232	2,887
13	1,698	1,738	1,874	2,260	2,782	2,758	3,017	3,195	3,446	3,461	3,218	2,880
14	1,699	1,740	1,882	2,309	2,786	2,765	3,013	3,208	3,459	3,453	3,204	2,879
15	1,702	1,746	1,896	2,334	2,800	2,772	3,007	3,216	3,471	3,446	3,192	2,867
16	1,703	1,749	1,909	2,352	2,803	2,776	2,999	3,222	3,476	3,438	3,186	2,856
17	1,704	1,753	1,919	2,366	2,797	2,782	2,993	3,229	3,481	3,430	3,186	2,842
18	1,704	1,758	1,929	2,382	2,790	2,790	2,991	3,238	3,484	3,423	3,173	2,830
19	1,703	1,763	1,936	2,435	2,786	2,801	2,988	3,248	3,486	3,428	3,161	2,820
20	1,704	1,768	1,945	2,600	2,784	2,801	2,995	3,254	3,486	3,432	3,148	2,818
21	1,703	1,772	1,951	2,811	2,779	2,800	2,995	3,257	3,495	3,428	3,135	2,818
22	1,702	1,776	1,960	2,839	2,775	2,798	3,001	3,263	3,503	3,423	3,123	2,811
23	1,701	1,777	1,969	2,829	2,771	2,799	3,012	3,270	3,502	3,418	3,116	2,804
24	1,703	1,780	1,984	2,812	2,769	2,807	3,018	3,280	3,499	3,414	3,116	2,797
25	1,701	1,782	2,002	2,833	2,763	2,818	3,020	3,287	3,496	3,405	3,103	2,790
26	1,704	1,784	2,015	2,909	2,757	2,830	3,020	3,295	3,494	3,402	3,088	2,790
27	1,705	1,789	2,026	2,915	2,755	2,844	3,018	3,306	3,492	3,406	3,074	2,790
28	1,704	1,792	2,037	2,893	2,757	2,857	3,010	3,315	3,493	3,399	3,058	2,789
29	1,704	1,795	2,048	2,877	-----	2,880	3,012	3,323	3,494	3,392	3,042	2,785
30	1,705	1,798	2,057	2,818	-----	2,907	3,014	3,329	3,492	3,378	3,030	2,781
31	1,705	-----	2,066	2,785	-----	2,938	-----	3,335	-----	3,366	3,028	-----
MAX	1,705	1,798	2,066	2,915	2,803	2,938	3,040	3,335	3,503	3,492	3,352	3,026
MIN	1,678	1,704	1,801	2,074	2,755	2,733	2,978	3,023	3,339	3,366	3,028	2,781
(a)	752.93	762.58	788.63	848.27	846.2	859.54	864.94	886.90	897.08	888.96	865.95	847.98
(b)	+27.2	+92.8	+268.3	+719.1	-28.6	+181.8	+75.4	+321.0	+156.8	-125.5	-338.0	-246.8
(c)	3,480	1,250	1,130	849	627	2,540	3,100	6,460	8,220	12,710	13,790	10,070
CAL YR 1968	b +1,901.1		MAX 2,066.1		MIN 167.5							
WTR YR 1969	b +1,103.5		MAX 3,503.2		MIN 1,678.2							

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-4068.1. PALERMO CANAL NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°31'59", long 121°28'55", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.19 N., R.4 E., Butte County, on right bank 50 ft downstream from Oroville Dam and 4.4 miles east of Oroville.

PERIOD OF RECORD.--April 1965 to current year. Daily discharges of diversion from Kelly Ridge penstock for period April 1965 to October 1968 when Kelly Ridge penstock supplied the entire flow of Palermo Canal are in files of California District office of Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 550 ft (from topographic map). July 1965 to October 1968, water-stage recorder and Parshall flume at site of diversion from Kelly Ridge penstock 0.4 mile downstream at different datum.

EXTREMES.--Period of record: Maximum daily discharge, 28 cfs several days in July to September 1967.

REMARKS.--Canal diverts from left end of Oroville Dam. Water is used for irrigation near Oroville. During period of construction of Oroville Dam, water was released from Kelly Ridge penstock to meet irrigation requirements.

COOPERATION.--Records subsequent to October 1968 collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Yearly
1965	-	-	-	-	-	-	4.03	12.5	17.4	18.6	20.0	20.0	-
1966	12.6	5.50	5.00	5.00	5.00	5.01	9.07	19.5	20.3	20.4	20.1	20.0	12.3
1967	15.1	6.48	5.06	5.01	4.87	5.05	3.12	10.3	17.4	27.1	27.9	26.5	12.9
1968	13.6	4.89	1.24	4.15	5.00	5.00	11.2	23.5	23.0	24.0	23.2	19.2	13.2

Monthly and yearly discharge, in acre-feet

Water year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Yearly
1965	-	-	-	-	-	-	240	768	1,030	1,140	1,230	1,180	-
1966	774	327	307	307	278	308	540	1,200	1,210	1,250	1,240	1,190	8,930
1967	930	386	311	308	271	310	186	633	1,040	1,660	1,720	1,580	9,330
1968	834	291	76	255	288	307	667	1,440	1,370	1,480	1,430	1,140	9,580

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	5.6	5.8	4.5	.60	.50	.50	10	23	23	23	21
2	20	5.6	5.8	4.5	.60	.50	.50	10	23	23	23	21
3	20	5.6	5.8	4.5	.60	.50	.50	10	23	23	23	21
4	20	5.6	5.8	4.5	.50	.50	.50	10	23	23	23	21
5	20	5.6	6.0	4.5	.50	.50	.50	15	23	23	23	21
6	20	5.6	6.0	4.5	.50	.50	.50	20	23	23	23	21
7	20	5.6	6.2	4.5	.50	.50	.50	20	23	23	23	21
8	20	5.6	6.2	4.5	.50	.50	.50	20	23	23	23	21
9	20	5.6	6.2	4.5	.50	.50	.50	20	23	23	23	21
10	18	5.6	6.2	4.5	.60	.50	.50	20	23	23	23	21
11	16	5.6	6.4	4.5	.60	.50	.50	20	23	23	23	21
12	16	5.6	6.0	4.6	.60	.50	.50	20	23	23	23	21
13	16	5.6	5.4	3.6	.60	.50	.50	20	23	23	23	20
14	16	5.8	5.4	3.0	.70	.50	.50	20	23	23	23	20
15	10	5.8	5.4	3.0	.70	.50	.50	20	23	23	22	20
16	6.4	5.8	5.4	3.0	.70	.50	.50	20	23	23	22	20
17	6.4	5.8	5.4	3.0	.70	.50	.50	20	23	23	22	20
18	6.4	5.8	5.4	3.0	.70	.50	.50	20	23	23	22	20
19	6.4	5.8	5.6	3.0	.70	.50	.50	20	23	23	22	20
20	6.4	5.8	5.6	3.0	.70	.50	.50	20	23	23	22	20
21	6.4	5.8	5.6	3.2	.60	.50	.50	20	23	23	22	20
22	8.1	5.8	5.6	3.2	.60	.50	6.6	20	23	23	22	20
23	5.7	5.8	4.8	3.2	.60	.50	9.9	20	23	23	22	20
24	5.6	5.8	4.3	3.2	.60	.50	10	22	23	23	22	20
25	5.6	5.8	4.3	3.2	.60	.50	8.9	22	23	23	22	20
26	5.6	5.8	4.3	3.0	.50	.50	9.9	22	23	23	22	20
27	5.6	5.8	4.3	3.0	.50	.50	10	23	23	23	22	20
28	5.6	5.8	4.3	3.0	.50	.50	10	23	23	23	22	20
29	5.6	5.8	4.3	3.0	-----	.50	10	23	23	23	22	20
30	5.6	5.8	4.3	3.0	-----	.50	10	23	23	23	22	20
31	5.6	-----	4.3	1.6	-----	.50	-----	23	-----	23	22	-----
TOTAL	369.0	171.4	166.4	111.3	16.60	15.50	95.80	596	690	713	696	612
MEAN	11.9	5.71	5.37	3.59	.59	.50	3.19	19.2	23.0	23.0	22.5	20.4
MAX	20	5.8	6.4	4.6	.70	.50	10	23	23	23	23	21
MIN	5.6	5.6	4.3	1.6	.50	.50	.50	10	23	23	22	20
AC-FT	732	340	330	221	33	31	190	1,180	1,370	1,410	1,380	1,210

CAL YR 1968 TOTAL 4,928.80 MEAN 13.5 MAX 25 MIN .10 AC-FT 9,780
WTR YR 1969 TOTAL 4,253.00 MEAN 11.7 MAX 23 MIN .50 AC-FT 8,440

11-4068.7. THERMALITO AFTERBAY NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°27'30", long 121°38'17", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.33, T.19 N., R.3 E., Butte County, at dam 195 ft north-east of centerline of outlet structure, and 5.7 miles southwest of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft southwest of centerline of Western Canal outlet, and 7.2 miles west of Oroville.

EXTREMES.--Current year: Maximum contents, 57,300 acre-ft May 24 (gage height, 136.56 ft); minimum, 13,000 acre-ft Feb. 18 (gage height, 123.05 ft).

Period of record: Maximum contents, 57,300 acre-ft May 24, 1969 (gage height, 136.56 ft); minimum since initial operation began, 5,590 acre-ft Mar. 1, 1968 (gage height, 119.09 ft).

REMARKS.--Reservoir is formed by an earthfill dam completed in 1967; diversion from the reservoir began Oct. 12, 1967. Usable capacity, 61,100 acre-ft between gage heights 120.0 and 139.0 ft, extreme operating levels. Normal operating range is 123 to 136.5 ft. Water is released to four canals and to the Feather River from the reservoir (see sta 11-4068.8, 11-4068.9, 11-4069, 11-4069.1, 11-4069.2). Total maximum release to the four canals is approximately 4,000 cfs. Water is pumped, at times, from Thermalito afterbay back into Thermalito forebay during off-peak periods to be re-released through Thermalito powerplant for power generation during peak demand periods. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

CAPACITY TABLE (GAGE HEIGHT, IN FEET, AND CONTENTS, IN ACRE-FEET)

120.0	7,050	128.0	25,830
122.0	10,790	130.0	32,150
124.0	15,160	134.0	46,720
126.0	20,170	139.0	68,200

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17,860	17,940	14,000	16,990	13,510	14,230	16,740	39,340	50,010	42,770	39,850	21,970
2	19,120	17,990	15,720	16,010	12,070	14,440	15,180	39,820	51,650	44,960	40,070	23,490
3	20,090	16,280	15,920	16,380	13,350	14,580	15,300	39,050	53,560	47,040	32,720	27,380
4	20,490	19,480	14,640	17,140	14,050	18,010	15,770	39,780	53,730	41,640	39,410	30,770
5	18,620	21,090	14,850	16,400	14,340	14,740	17,410	44,220	53,060	35,900	45,385	33,700
6	14,640	21,030	16,040	16,350	14,550	16,350	20,330	47,590	51,360	28,620	48,310	37,850
7	14,390	18,240	20,120	18,090	13,020	16,400	21,310	47,750	43,950	32,420	52,220	28,470
8	14,640	19,640	15,160	17,940	13,840	16,840	22,840	47,040	38,360	35,760	55,330	31,950
9	14,920	19,040	15,820	18,620	13,330	16,940	23,600	46,170	38,610	38,470	53,600	35,700
10	15,060	15,300	16,590	18,470	13,710	16,670	23,380	45,540	39,270	41,260	42,350	39,300
11	15,110	18,700	17,560	20,600	13,820	15,160	23,350	46,050	39,740	44,610	44,650	43,300
12	15,250	19,060	18,370	19,320	13,600	15,630	22,920	46,960	40,520	38,500	45,930	47,510
13	15,540	18,370	19,670	16,760	13,420	15,440	21,910	48,230	40,890	31,690	47,990	46,800
14	16,060	18,040	19,480	14,120	13,890	15,940	24,650	50,580	35,560	34,590	48,670	37,680
15	16,470	17,780	18,390	14,550	13,820	16,520	27,130	53,430	30,180	38,470	50,820	39,270
16	16,200	15,680	18,600	14,510	13,710	17,040	29,070	55,840	29,420	42,240	44,070	42,770
17	15,160	14,390	18,550	19,250	13,910	18,010	29,990	56,700	30,540	46,280	30,570	46,880
18	14,510	16,010	19,170	18,780	13,000	18,140	31,290	56,580	33,830	48,150	30,410	51,650
19	15,060	15,680	19,540	19,820	14,670	17,040	33,560	56,780	38,400	39,710	32,220	55,330
20	13,980	15,920	19,690	18,860	14,760	19,220	29,860	56,870	39,630	31,290	34,210	48,310
21	16,250	16,500	19,850	16,590	16,080	18,440	31,490	56,650	34,240	31,650	35,830	39,560
22	18,340	16,590	17,840	16,350	16,230	18,140	33,420	57,210	28,090	32,550	37,530	37,500
23	19,320	15,940	18,240	16,130	17,310	17,630	34,900	56,960	31,100	32,550	32,050	37,070
24	19,090	14,880	17,380	16,180	16,670	18,960	37,820	57,300	32,780	31,490	20,650	34,930
25	17,280	16,400	17,060	16,540	16,300	17,480	38,540	57,130	36,540	34,040	22,130	35,030
26	16,250	16,570	16,940	16,380	14,670	16,300	37,890	56,230	39,780	30,440	26,680	37,460
27	13,690	16,500	16,670	16,060	13,510	16,760	37,500	55,160	40,550	18,910	30,120	28,220
28	14,180	16,250	17,240	15,820	14,070	16,640	38,470	52,890	40,300	19,010	34,720	18,040
29	14,710	16,520	17,090	15,650	-----	16,740	38,610	50,130	40,300	21,580	39,160	19,640
30	15,630	15,270	17,090	15,200	-----	16,740	38,830	50,010	40,960	26,620	37,890	22,410
31	16,940	-----	17,240	14,900	-----	16,960	-----	50,090	-----	32,950	29,800	-----
MAX	20,490	21,090	20,120	20,600	17,310	19,220	38,830	57,300	53,730	48,150	55,330	55,330
MIN	13,690	14,390	14,000	14,120	12,070	14,230	15,180	39,050	28,090	18,910	20,650	18,040
(a)	124.74	124.05	124.86	123.89	123.53	124.75	131.92	134.84	132.50	130.24	129.28	126.82
(b)	+200	-1,670	+1,970	-2,340	-830	+2,890	+21,870	+11,260	-9,130	-8,010	-3,150	-7,390
(c)	1,310	571	449	222	320	637	1,100	3,100	3,040	3,560	3,720	2,890

CAL YR 1968 b -4,340 MAX 22,810 MIN 0
WTR YR 1969 b +5,670 MAX 57,300 MIN 12,070

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-4068.8. WESTERN CANAL AT INTAKE, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°30'19", long 121°41'06", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.18, T.19 N., R.3 E., Butte County, on left bank 500 ft downstream from Thermalito Afterbay Dam, and 7.3 miles west of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Period of record: Maximum daily discharge, 955 cfs May 4, 5, 1968; no flow for several months each year.

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	227	148	0	0	0	0	638	558	605	605	340
2	201	229	148	0	0	0	0	725	556	610	599	345
3	197	186	149	0	0	0	0	759	555	607	608	375
4	196	159	150	0	0	0	0	762	554	603	608	307
5	199	161	145	0	0	0	0	769	552	600	612	305
6	200	159	146	0	0	0	0	796	551	587	610	275
7	201	152	156	0	0	0	0	801	554	600	612	250
8	199	152	151	0	0	0	0	833	550	605	613	248
9	197	156	148	0	0	0	0	906	546	607	605	245
10	221	148	50	0	0	0	0	871	552	600	600	238
11	246	150	0	0	0	0	0	851	554	599	601	253
12	233	150	0	0	0	0	0	853	550	610	590	222
13	201	150	0	0	0	0	0	782	551	610	600	202
14	137	148	0	0	0	0	0	756	551	606	565	198
15	205	148	0	0	0	0	0	689	548	605	549	203
16	204	146	0	0	0	0	68	656	555	606	561	200
17	202	149	0	0	0	0	100	655	547	600	570	136
18	200	149	0	0	0	0	98	653	552	603	560	104
19	198	150	0	0	0	0	98	620	556	611	562	40
20	199	150	0	0	0	0	98	567	556	607	573	0
21	198	153	0	0	0	0	133	543	550	605	537	0
22	207	153	0	0	0	0	212	545	543	603	519	0
23	205	152	0	0	0	0	256	551	548	605	500	0
24	227	150	0	0	0	0	255	550	553	603	481	0
25	235	152	0	0	0	0	286	550	557	605	486	0
26	227	152	0	0	0	0	297	550	551	600	455	0
27	222	152	0	0	0	0	328	546	554	599	440	0
28	218	150	0	0	0	0	410	542	552	601	405	0
29	225	150	0	0	-----	0	481	539	572	608	398	102
30	227	152	0	0	-----	0	565	555	592	611	399	246
31	235	-----	0	0	-----	0	-----	560	-----	608	350	-----
TOTAL	6,470	4,735	1,391	0	0	0	3,685	20,973	16,620	18,729	16,773	4,834
MEAN	209	158	44.9	0	0	0	123	677	554	604	541	161
MAX	246	229	156	0	0	0	565	906	592	611	613	375
MIN	137	146	0	0	0	0	0	539	543	587	350	0
AC-FT	12,830	9,390	2,760	0	0	0	7,310	41,600	32,970	37,150	33,270	9,590
CAL YR 1968	TOTAL	112,001.00	MEAN	306	MAX	955	MIN	0	AC-FT	222,200		
WTR YR 1969	TOTAL	94,210.00	MEAN	258	MAX	906	MIN	0	AC-FT	186,900		

11-4068.9. RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°30'19", long 121°41'06", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.18, T.19 N., R.3 E., Butte County, on right bank 500 ft downstream from axis of Thermalito Afterbay Dam, and 7.3 miles west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Period of record: Maximum daily discharge, 377 cfs May 12, 13, 1969; no flow for several months each year.

REMARKS.--Canal diverts from Thermalito Afterbay; water is used for irrigation. The canal is part of the Oroville project. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	0	0	0	0	0	0	290	285	213	211	194
2	15	0	0	0	0	0	0	313	250	219	209	200
3	15	0	0	0	0	0	0	343	237	211	212	196
4	7.0	0	0	0	0	0	0	354	238	209	239	196
5	0	0	0	0	0	0	0	350	238	210	248	201
6	0	0	0	0	0	0	0	352	237	207	245	200
7	0	0	0	0	0	0	0	369	238	206	246	199
8	0	0	0	0	0	0	0	372	241	207	243	201
9	0	0	0	0	0	0	0	369	221	206	249	180
10	0	0	0	0	0	0	0	373	207	206	245	173
11	0	0	0	0	0	0	0	374	208	208	242	134
12	0	0	0	0	0	0	0	377	209	213	232	106
13	0	0	0	0	0	0	0	377	210	209	225	107
14	0	0	0	0	0	0	0	303	208	210	226	104
15	0	0	0	0	0	0	0	276	210	208	226	68
16	0	0	0	0	0	0	0	275	206	209	227	51
17	0	0	0	0	0	0	63	274	206	208	224	50
18	0	0	0	0	0	0	100	275	210	209	222	25
19	0	0	0	0	0	0	102	274	214	211	206	15
20	0	0	0	0	0	0	101	274	214	212	199	15
21	0	0	0	0	0	0	101	274	210	209	198	15
22	0	0	0	0	0	0	103	275	207	211	198	14
23	0	0	0	0	0	0	104	275	212	220	197	14
24	0	0	0	0	0	0	168	275	208	220	191	14
25	0	0	0	0	0	0	203	277	212	223	186	14
26	0	0	0	0	0	0	202	276	211	221	195	14
27	0	0	0	0	0	0	202	275	211	221	204	14
28	0	0	0	0	0	0	201	271	211	213	207	13
29	0	0	0	0	-----	0	224	275	216	211	207	13
30	0	0	0	0	-----	0	271	281	215	212	201	12
31	0	-----	0	0	-----	0	-----	284	-----	211	199	-----
TOTAL	49.0	0	0	0	0	0	2,145	9,602	6,600	6,563	6,759	2,752
MEAN	1.58	0	0	0	0	0	71.5	310	220	212	218	91.7
MAX	15	0	0	0	0	0	271	377	285	223	249	201
MIN	0	0	0	0	0	0	0	271	206	206	186	12
AC-FT	97	0	0	0	0	0	4,250	19,050	13,090	13,020	13,410	5,460
CAL YR 1968	TOTAL -		MEAN -		MAX -		MIN -		AC-FT -			
WTR YR 1969	TOTAL 34,470.00		MEAN 94.4		MAX 377		MIN 0		AC-FT 68,370			

SACRAMENTO RIVER BASIN

11-4069. PACIFIC GAS AND ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°29'22", long 121°41'12", in SW¼NW¼ sec.19, T.19 N., R.3 E., Butte County, on right bank 82 ft downstream from axis of Thermalito Afterbay Dam, and 7.2 miles west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Period of record: Maximum daily discharge, 29 cfs May 6, 7, 1969; no flow for several months each year.

REMARKS.--Flow regulated at Outlet Works from Thermalito Afterbay; water is used for irrigation. Records include diversions from Thermalito Afterbay into Pacific Gas and Electric Co. lateral via Duncan lateral siphon.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	20	10	12	12	8.4
2	0	0	0	0	0	0	0	23	10	12	13	7.4
3	0	0	0	0	0	0	0	22	10	12	12	7.8
4	0	0	0	0	0	0	0	23	11	12	12	7.0
5	0	0	0	0	0	0	0	26	12	12	14	5.9
6	0	0	0	0	0	0	0	29	12	11	14	5.9
7	0	0	0	0	0	0	0	29	11	11	14	5.9
8	0	0	0	0	0	0	0	25	11	11	14	4.7
9	0	0	0	0	0	0	0	22	11	11	14	3.5
10	0	0	0	0	0	0	0	22	11	11	12	3.7
11	0	0	0	0	0	0	0	22	11	12	12	1.7
12	0	0	0	0	0	0	0	22	11	12	12	.20
13	0	0	0	0	0	0	0	20	11	11	12	.20
14	0	0	0	0	0	0	0	18	11	11	12	.20
15	0	0	0	0	0	0	0	16	11	11	13	.10
16	0	0	0	0	0	0	0	14	10	12	12	0
17	0	0	0	0	0	0	0	13	10	12	12	0
18	0	0	0	0	0	0	0	12	10	12	12	0
19	0	0	0	0	0	0	0	13	11	12	12	0
20	0	0	0	0	0	0	0	14	11	12	12	0
21	0	0	0	0	0	0	0	12	11	12	12	0
22	0	0	0	0	0	0	0	13	11	12	12	0
23	0	0	0	0	0	0	0	12	11	12	12	0
24	0	0	0	0	0	0	0	13	11	12	11	0
25	0	0	0	0	0	0	0	12	11	12	10	0
26	0	0	0	0	0	0	0	13	11	12	11	0
27	0	0	0	0	0	0	6.7	12	12	11	11	0
28	0	0	0	0	0	0	10	12	11	11	11	0
29	0	0	0	0	-----	0	10	11	12	11	12	0
30	0	0	0	0	-----	0	10	10	11	11	12	0
31	0	-----	0	0	-----	0	-----	10	-----	12	12	-----
TOTAL	0	0	0	0	0	0	36.7	535	328	360	378	62.60
MEAN	0	0	0	0	0	0	1.22	17.3	10.9	11.6	12.2	2.09
MAX	0	0	0	0	0	0	10	29	12	12	14	8.4
MIN	0	0	0	0	0	0	0	10	10	11	10	0
AC-FT	0	0	0	0	0	0	73	1,060	651	714	750	124

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL 1,700.30 MEAN 4.66 MAX 29 MIN 0 AC-FT 3,370

NOTE.--Monthly diversions in acre-feet via Duncan lateral siphon to Pacific Gas and Electric Co. lateral for the period April to September 1968: April, 335; May, 214; June, 266; July, 269; August, 253; September, 36.

11-4069.1. SUTTER BUTTE CANAL AT INTAKE, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°27'02", long 121°39'26", in NW corner of Boga Fernandez Grant, T.18 N., R.3 E., Butte County, on left bank 675 ft downstream from Thermalito Afterbay Dam, and 6.8 miles southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Period of record: Maximum daily discharge, 2,110 cfs Apr. 22-24, 1968; no flow for several months each year.

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	499	82	74	0	0	0	45	1,660	1,570	1,550	1,520	1,320
2	483	84	74	0	0	0	13	1,680	1,580	1,550	1,510	1,310
3	487	82	74	0	0	0	13	1,430	1,590	1,550	1,520	1,260
4	487	84	74	0	0	0	13	1,750	1,590	1,540	1,520	1,200
5	487	84	74	0	0	0	14	1,770	1,580	1,510	1,510	1,160
6	471	85	74	0	0	0	14	1,770	1,600	1,500	1,490	1,140
7	479	80	77	0	0	0	17	1,730	1,610	1,500	1,490	1,130
8	483	76	76	0	0	0	22	1,730	1,620	1,540	1,480	1,040
9	483	77	74	0	0	0	23	1,770	1,580	1,600	1,470	948
10	487	76	72	0	0	0	23	1,820	1,570	1,620	1,480	917
11	487	76	47	0	0	0	14	1,840	1,570	1,600	1,480	896
12	487	76	0	0	0	0	.9	1,830	1,570	1,590	1,440	886
13	491	76	0	0	0	0	0	1,790	1,560	1,590	1,420	886
14	479	76	0	0	0	0	145	1,800	1,560	1,590	1,430	886
15	451	76	0	0	0	0	256	1,780	1,560	1,590	1,420	826
16	447	76	0	0	0	0	329	1,750	1,560	1,590	1,420	724
17	447	74	0	0	0	0	475	1,730	1,550	1,590	1,420	696
18	447	74	0	0	0	0	619	1,730	1,560	1,590	1,420	623
19	447	74	0	0	0	0	710	1,660	1,560	1,590	1,420	619
20	447	74	0	0	0	0	748	1,640	1,560	1,590	1,400	601
21	451	74	0	0	0	0	816	1,620	1,560	1,560	1,400	592
22	459	76	0	0	0	0	1,030	1,620	1,560	1,550	1,400	592
23	459	76	0	0	0	0	1,130	1,620	1,560	1,530	1,400	532
24	459	74	0	0	0	0	1,140	1,610	1,560	1,540	1,400	507
25	447	76	0	0	0	0	1,200	1,610	1,580	1,550	1,370	507
26	455	76	0	0	0	0	1,260	1,600	1,580	1,540	1,370	507
27	447	74	0	0	0	0	1,300	1,560	1,580	1,550	1,370	507
28	455	74	0	0	0	108	1,380	1,560	1,580	1,550	1,370	507
29	463	74	0	0	-----	105	1,500	1,560	1,580	1,550	1,360	479
30	187	76	0	0	-----	105	1,620	1,560	1,560	1,550	1,330	471
31	56	-----	0	0	-----	105	-----	1,570	-----	1,520	1,320	-----
TOTAL	13,814	2,312	790	0	0	423	15,869.9	52,150	47,200	48,360	44,350	24,269
MEAN	446	77.1	25.5	0	0	13.6	529	1,682	1,573	1,560	1,431	809
MAX	499	85	77	0	0	108	1,620	1,840	1,620	1,620	1,520	1,320
MIN	56	74	0	0	0	0	0	1,430	1,550	1,500	1,320	471
AC-FT	27,400	4,590	1,570	0	0	839	31,480	103,400	93,620	95,920	87,970	48,140
CAL YR 1968	TOTAL	264,992.90	MEAN	724	MAX	2,110	MIN	0	AC-FT	525,600		
WTR YR 1969	TOTAL	249,537.90	MEAN	684	MAX	1,840	MIN	0	AC-FT	495,000		

SACRAMENTO RIVER BASIN

11-4069.2. THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE, CALIF.

LOCATION.--Lat 39°27'23", long 121°38'10", in NW¼SE¼ sec.33, T.19 N., R.3 E., Butte County, on left bank of outlet channel 955 ft downstream from centerline of Thermalito Afterbay Dam, and 5.7 miles southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above mean sea level (levels by California Department of Water Resources).

EXTREMES.--Current year: Maximum discharge, 14,600 cfs Jan. 26 (gage height, 21.28 ft); minimum daily, 387 cfs Oct. 6, Dec. 28, 30, 31.

Period of record: Maximum discharge, 14,600 cfs Jan. 26, 1969 (gage height, 21.28 ft); no flow for many days in 1968.

REMARKS.--Flow regulated by gates at Thermalito Afterbay outlet 955 ft upstream. See schematic diagram showing diversions and storage from Feather River at Lake Oroville. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	406	613	394	394	12,200	9,050	4,630	9,720	5,640	598	3,600	6,060
2	406	620	394	394	10,200	9,130	5,300	9,510	4,490	598	3,580	6,150
3	413	613	394	394	9,420	9,100	11,100	7,600	3,610	598	3,540	6,170
4	413	620	394	400	8,890	9,590	13,300	7,650	3,560	590	4,140	6,170
5	406	628	394	400	8,870	9,450	13,700	7,700	2,610	816	5,300	6,150
6	387	605	394	394	9,910	8,890	13,800	7,630	2,610	1,580	5,500	6,130
7	406	582	406	394	10,300	8,690	13,600	7,650	1,550	1,590	5,700	6,060
8	406	567	413	407	9,780	7,820	13,700	7,580	623	1,600	6,100	6,100
9	406	589	413	407	10,700	7,020	13,700	7,550	606	1,880	5,750	6,100
10	406	605	426	407	12,500	6,040	13,700	7,530	606	2,110	5,150	6,130
11	406	605	432	414	13,000	4,670	13,600	7,680	598	2,100	5,750	6,100
12	406	613	439	414	13,100	3,940	13,500	7,630	598	2,080	6,130	6,100
13	413	613	446	3,780	12,800	3,790	13,400	7,680	598	2,080	6,100	6,100
14	426	605	419	1,580	12,900	3,520	13,700	9,670	590	2,110	6,100	6,080
15	620	597	413	400	13,200	3,510	13,700	10,700	590	2,110	6,100	6,130
16	613	413	400	407	13,000	3,920	13,600	10,700	582	2,110	6,060	6,150
17	605	413	400	421	13,000	4,530	13,700	10,600	590	2,110	6,060	6,150
18	597	406	400	436	5,840	4,770	13,300	10,600	590	2,100	6,150	6,170
19	597	406	406	443	4,300	5,900	13,700	10,600	590	2,080	6,170	6,150
20	597	406	406	1,380	5,120	7,550	13,100	10,600	882	2,080	6,150	6,100
21	605	413	406	9,120	7,500	9,130	13,700	10,600	1,080	2,100	6,130	6,080
22	620	413	406	13,400	10,900	10,300	13,800	9,750	1,080	2,120	6,130	6,130
23	620	406	394	14,100	11,300	10,200	14,000	8,450	1,080	2,950	6,100	6,100
24	605	406	394	14,200	10,000	7,800	13,700	7,630	1,090	3,450	6,080	6,100
25	589	406	394	14,100	8,790	5,280	13,700	7,630	992	3,610	6,150	6,100
26	597	400	394	14,400	7,530	5,120	13,700	6,490	606	3,600	6,170	6,130
27	582	394	394	14,100	5,750	5,030	13,600	5,600	598	3,580	6,170	5,600
28	613	394	387	14,100	6,720	4,650	13,500	5,560	606	3,600	6,170	4,610
29	620	394	394	13,900	-----	4,590	11,600	5,580	598	3,610	6,170	3,630
30	636	400	387	13,700	-----	4,610	11,000	5,620	590	3,610	6,130	2,710
31	605	-----	387	13,600	-----	4,610	-----	5,660	-----	3,600	6,060	-----
TOTAL	16,027	15,145	12,520	162,386	277,520	202,200	384,130	255,150	40,433	68,750	176,590	175,640
MEAN	517	505	404	5,238	9,911	6,523	12,800	8,231	1,348	2,218	5,696	5,855
MAX	636	628	446	14,400	13,200	10,300	14,000	10,700	5,640	3,610	6,170	6,170
MIN	387	394	387	394	4,300	3,510	4,630	5,560	582	590	3,540	2,710
AC-FT	31,790	30,040	24,830	322,100	550,500	401,100	761,900	506,100	80,200	136,400	350,300	348,400
CAL YR 1968 TOTAL	199,045.60	MEAN 544		MAX 3,500	MIN 0	AC-FT 394,800						
WTR YR 1969 TOTAL	1,786,491	MEAN 4,894		MAX 14,400	MIN 387	AC-FT 3,544,000						

11-4070. FEATHER RIVER AT OROVILLE, CALIF.

LOCATION.--Lat 39°31'13", long 121°32'48", in SW¼NE¼ sec.8, T.19 N., R.4 E., Butte County, on right bank 300 ft upstream from fish barrier dam on Feather River, and 0.6 mile northeast of Oroville business district.

DRAINAGE AREA.--3,624 sq mi.

PERIOD OF RECORD.--October 1901 to current year. October 1934 to September 1961 published as "near Oroville."

Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 148.97 ft above mean sea level (levels by California Department of Water Resources). Jan. 1, 1902, to Dec. 15, 1912, nonrecording gages at several locations 0.2 mile downstream at various datums. Dec. 16, 1912, to Sept. 30, 1934, water-stage recorder at site 0.2 mile downstream at datum 139.53 ft above mean sea level. Oct. 1, 1934, to June 30, 1962, water-stage recorder at site 5.0 miles upstream at datum 182.02 ft above mean sea level. July 1, 1962, to Sept. 30, 1964, water-stage recorder at site 0.2 mile downstream at mean sea level datum.

AVERAGE DISCHARGE.--68 years, 5,859 cfs (4,245,000 acre-ft per year), adjusted for diversions into and out of, change in storage of, and evaporation from Lake Oroville, Thermalito Forebay, and Thermalito Afterbay.

EXTREMES (River only).--Current year: Maximum discharge, 50,000 cfs Jan. 21, 22 (gage height, 14.19 ft); minimum daily, 304 cfs Oct. 23, 24.

Period of record: Maximum discharge observed, 230,000 cfs Mar. 19, 1907 (elevation, 167.5 ft above mean sea level); minimum, 300 cfs (estimated), Nov. 9, 1931.

(Combined flow).--Maximum discharge, 51,100 cfs Jan. 21, 22; minimum daily, 353 cfs May 28.

Flood of February 1881 reached a stage of 25 ft from floodmarks, site and datum in use from Dec. 16, 1912, to Sept. 30, 1934.

REMARKS.--Flow regulated by Lake Oroville (see sta 11-4068) and other powerplants and reservoirs above station. Several diversions above station for power and irrigation. Feather River Fish Hatchery diverts up to 120 cfs at Thermalito diversion dam 0.4 mile upstream from gage. Diverted flow returns to Feather River approximately 0.3 mile downstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See REMARKS for upstream stations and schematic diagrams showing diversions from Feather River at Lake Oroville and for South Fork Feather River basin. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records collected by California Department of Water Resources under general supervision of Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	402	393	402	411	2,030	2,920	430	440	400	420	400	392
2	402	412	402	411	411	2,880	440	420	410	420	400	392
3	393	412	402	420	392	2,920	430	440	400	431	410	392
4	402	422	402	411	402	1,750	2,490	364	391	431	410	382
5	412	402	412	411	402	1,020	2,390	373	391	431	391	392
6	402	402	402	402	411	997	2,390	402	400	431	382	392
7	402	412	384	402	402	616	2,300	411	400	431	410	392
8	393	422	402	392	402	382	2,390	420	400	420	410	392
9	393	422	402	392	411	402	2,340	411	400	431	400	392
10	393	422	402	392	1,820	411	2,300	373	410	431	400	392
11	402	412	393	402	5,650	420	2,340	373	431	431	410	392
12	412	402	399	430	8,570	411	2,390	382	431	431	410	392
13	412	402	411	472	6,270	392	2,430	392	410	431	400	392
14	412	412	411	402	534	382	2,340	402	391	442	400	382
15	412	412	392	392	805	392	2,430	382	391	442	400	402
16	412	412	411	392	1,840	411	2,390	382	391	410	400	411
17	412	422	402	382	2,480	430	2,410	373	410	382	400	411
18	412	422	392	402	9,680	430	1,490	373	410	391	410	411
19	412	422	382	420	8,920	392	1,510	373	400	400	410	402
20	402	422	402	411	6,140	382	1,430	364	410	400	400	392
21	393	412	402	13,000	3,310	402	1,150	364	420	400	400	402
22	384	412	411	37,400	808	440	420	364	410	400	400	411
23	374	402	420	24,800	844	430	430	369	410	400	400	411
24	374	412	420	18,200	2,510	420	420	391	410	400	400	411
25	384	412	420	5,020	4,100	382	420	382	420	410	395	420
26	393	422	411	17,200	4,430	392	420	382	420	400	382	411
27	393	412	411	22,400	5,830	392	402	362	420	400	382	402
28	393	422	420	24,800	4,620	402	420	353	420	410	382	402
29	393	422	411	24,400	-----	420	420	391	410	400	382	402
30	393	402	411	24,000	-----	411	430	400	420	410	382	402
31	393	-----	411	16,200	-----	420	-----	400	-----	410	392	-----
TOTAL	12,361	12,391	12,555	235,569	84,424	22,851	43,992	12,008	12,237	12,877	12,350	11,971
MEAN	399	413	405	7,599	3,015	737	1,466	387	408	415	398	399
MAX	412	422	420	37,400	9,680	2,920	2,490	440	431	442	410	420
MIN	374	393	382	382	392	382	402	353	391	382	382	382
AC-FT	24,520	24,580	24,900	467,300	167,500	45,320	87,260	23,820	24,270	25,540	24,500	23,740
MEAN a	1,900	2,541	5,081	24,280	12,270	10,140	16,470	16,650	6,596	2,945	2,851	3,075
AC-FT a	116,800	151,200	312,400	1,493,000	681,200	623,600	980,300	1,024,000	392,500	181,100	175,300	183,000

CAL YR 1968 TOTAL 157,300 MEAN 430 MAX 834 MIN 354 AC-FT 312,000 MEAN a 4,600 AC-FT a 3,333,000
WTR YR 1969 TOTAL 485,586 MEAN 1,330 MAX 37,400 MIN 353 AC-FT 963,200 MEAN a 8,715 AC-FT a 6,314,000

a Adjusted for diversions in and out of, change in storage of, and evaporation from Lake Oroville, Thermalito Forebay, and Thermalito Afterbay.

SACRAMENTO RIVER BASIN

11-4071.5. FEATHER RIVER NEAR GRIDLEY, CALIF.

LOCATION.--Lat 39°22'00", long 121°38'46", in SW $\frac{1}{4}$ sec.33, T.18 N., R.3 E., Butte County, on right bank 300 ft upstream from highway bridge, and 2.7 miles east of Gridley.

DRAINAGE AREA.--3,676 sq mi.

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.

GAGE.--Water-stage recorder. Gage is 50.00 ft above datum of Corps of Engineers which is 2.91 ft below mean sea level. Prior to Mar. 13, 1966, water-stage recorder on left bank at datum 2.91 ft below mean sea level.

EXTREMES.--Current year: Maximum discharge, 56,400 cfs Jan. 22 (gage height, 40.20 ft); minimum daily, 836 cfs Jan. 8.

Period of record: Maximum discharge, 151,000 cfs Dec. 23, 1964 (gage height, 50.43 ft, revised); minimum daily, 117 cfs June 27, 1966.

Flood of Dec. 23, 1955, reached a stage of 52.25 ft (present datum), discharge unknown.

REMARKS.--Flow regulated by Lake Oroville since November 1967 (see sta 11-4068) and Thermalito Afterbay release to the Feather River since December 1968 (see sta 11-4069.2). See schematic diagram showing diversions and storage from Feather River at Lake Oroville. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	888	1,100	894	877	17,600	12,400	5,440	10,400	6,250	1,130	4,280	6,700
2	884	1,130	873	877	12,000	12,400	5,790	10,200	5,480	1,130	4,260	6,780
3	900	1,160	889	877	10,600	12,300	10,500	8,390	4,340	1,110	4,220	6,830
4	910	1,140	898	877	9,950	12,000	14,700	8,160	4,330	1,110	4,640	6,830
5	921	1,140	898	864	9,780	10,900	15,700	8,200	3,450	1,200	5,930	6,810
6	914	1,110	898	856	10,400	10,100	15,800	8,180	3,360	1,940	6,200	6,790
7	907	1,080	907	856	10,900	9,800	16,100	8,190	2,400	2,050	6,370	6,750
8	902	1,090	914	836	10,300	8,570	16,100	8,120	1,430	2,060	6,960	6,760
9	905	1,100	948	845	11,000	7,690	16,100	8,090	1,210	2,270	6,620	6,760
10	921	1,120	969	841	13,300	7,030	15,900	8,060	1,210	2,610	5,780	6,760
11	950	1,110	934	893	17,600	5,490	15,400	8,160	1,200	2,590	6,420	6,750
12	979	1,120	902	994	21,800	4,620	15,500	8,130	1,180	2,590	6,950	6,740
13	957	1,080	914	4,210	20,500	4,490	15,400	8,130	1,170	2,590	6,950	6,740
14	1,010	1,100	967	3,190	14,300	4,110	15,400	9,710	1,140	2,620	6,910	6,710
15	1,100	1,100	924	1,200	14,100	4,120	15,500	10,700	1,130	2,620	6,900	6,710
16	1,150	946	844	1,070	14,900	4,370	15,600	10,800	1,130	2,600	6,840	6,740
17	1,160	920	863	989	15,500	5,180	15,800	10,700	1,130	2,550	6,810	6,750
18	1,140	934	888	948	15,400	5,280	14,900	10,600	1,140	2,530	6,890	6,780
19	1,130	913	867	1,070	14,200	6,220	15,200	10,600	1,140	2,540	6,890	6,750
20	1,120	899	856	1,650	12,300	7,790	14,600	10,600	1,310	2,540	6,880	6,700
21	1,120	895	857	13,000	11,700	9,230	14,600	10,600	1,560	2,540	6,840	6,660
22	1,130	892	866	50,300	12,000	10,800	14,000	10,000	1,550	2,550	6,840	6,710
23	1,120	887	875	39,200	12,400	10,600	14,300	8,910	1,550	3,350	6,810	6,720
24	1,100	895	920	37,300	12,300	8,730	14,100	8,010	1,530	4,030	6,760	6,700
25	1,090	886	927	21,000	13,500	5,880	14,200	8,000	1,530	4,310	6,820	6,700
26	1,100	886	899	29,300	12,100	5,730	14,100	7,220	1,160	4,300	6,850	6,700
27	1,100	896	905	35,700	12,100	5,600	14,100	6,120	1,130	4,290	6,820	6,320
28	1,100	900	912	38,500	12,000	5,450	14,100	6,080	1,130	4,300	6,830	5,330
29	1,140	911	909	38,500	-----	5,440	12,600	6,100	1,130	4,320	6,820	4,340
30	1,130	917	889	38,000	-----	5,440	11,900	6,180	1,120	4,320	6,790	3,310
31	1,100	-----	883	34,100	-----	5,440	-----	6,240	-----	4,300	6,740	-----
TOTAL	31,978	30,257	27,889	399,720	374,530	233,200	423,430	267,580	58,520	84,990	198,620	194,630
MEAN	1,032	1,009	900	12,890	13,380	7,523	14,110	8,632	1,951	2,742	6,407	6,488
MAX	1,160	1,160	969	50,300	21,800	12,400	16,100	10,800	6,250	4,320	6,960	6,830
MIN	884	886	844	836	9,780	4,110	5,440	6,080	1,120	1,110	4,220	3,310
AC-FT	63,430	60,010	55,320	792,800	742,900	462,600	839,900	530,700	116,100	168,600	394,000	386,000
CAL YR 1968	TOTAL	379,491	MEAN	1,037	MAX	3,750	MIN	366	AC-FT	752,700		
WTR YR 1969	TOTAL	2,325,344	MEAN	6,371	MAX	50,300	MIN	836	AC-FT	4,612,000		

11-4073. NORTH HONCUT CREEK NEAR BANGOR, CALIF.

LOCATION.--Lat 39°20'32", long 121°29'25", in SW $\frac{1}{4}$ sec.11, T.17 N., R.4 E., Butte County, on left bank 0.2 mile upstream from unnamed tributary and 5.7 miles southwest of Bangor.

DRAINAGE AREA.--47.1 sq mi.

PERIOD OF RECORD.--October 1960 to September 1962, July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 125 ft (from topographic map). Prior to September 1962, at site 50 ft upstream at same datum.

AVERAGE DISCHARGE.--8 years, 40.6 cfs (29,410 acre-ft per year).

EXTREMES.--Water year 1968: Maximum discharge, 3,030 cfs Jan. 30 (gage height, 8.62 ft); no flow July 25, 26.

Water year 1969: Maximum discharge, 6,930 cfs Jan. 13 (gage height, 10.73 ft); minimum daily, 0.30 cfs Aug. 17-19.

Period of record: Maximum discharge, 10,700 cfs Dec. 26, 1964 (gage height, 11.57 ft), from rating curve extended above 4,600 cfs; no flow for many days in 1961, 1962, 1966, 1968.

REMARKS.--Small diversions above station for irrigation. Slight regulation occurs from Lake Wyandotte (capacity, 1,460 acre-ft).

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	4.2	3.3	13	2.9	173	32	18	6.7	2.9	.60	1.1	1.3
2	4.9	5.4	7.4	2.9	532	29	18	6.7	2.8	.40	1.4	1.6
3	8.1	4.0	8.7	3.0	186	25	14	5.9	2.6	.30	1.5	1.6
4	7.0	3.3	27	3.0	103	22	17	5.5	2.8	.40	1.5	1.6
5	7.1	3.2	35	3.2	77	19	15	5.3	3.0	.50	1.2	1.7
6	5.9	3.4	17	3.2	49	16	16	5.0	3.5	.60	1.2	1.9
7	5.4	3.5	33	2.9	38	15	16	4.9	5.3	.40	1.1	1.8
8	5.5	3.4	26	2.9	31	30	16	4.8	5.6	.40	1.1	2.1
9	5.5	3.1	13	3.3	26	25	16	4.7	4.1	.60	1.1	2.1
10	5.4	3.2	8.7	133	24	17	15	4.5	3.5	1.0	1.1	2.0
11	5.2	3.1	6.2	64	21	13	15	4.6	3.1	1.4	1.2	2.1
12	5.1	2.0	5.1	26	19	28	14	5.1	3.1	1.4	1.2	2.1
13	5.0	1.1	4.2	16	22	592	14	5.4	3.3	1.2	1.5	2.1
14	5.0	1.5	3.3	18	22	260	13	6.0	3.1	1.1	1.5	2.1
15	4.3	1.8	3.3	465	18	114	13	6.1	2.6	1.3	1.8	2.2
16	3.6	1.8	3.0	93	19	391	13	5.6	2.2	1.3	1.8	1.9
17	3.1	1.4	2.9	52	417	208	12	4.9	1.9	1.3	1.8	1.7
18	2.8	2.2	3.2	30	171	92	12	4.3	1.6	1.3	1.9	1.5
19	2.7	7.8	3.7	21	428	65	12	4.0	1.5	1.1	2.1	1.5
20	2.6	7.6	3.5	16	844	49	11	3.9	1.7	.90	3.2	1.7
21	2.3	3.8	3.3	13	630	41	11	4.0	1.6	.80	3.1	1.8
22	2.3	2.6	3.0	11	244	36	9.7	4.1	1.6	.50	2.8	1.7
23	2.7	1.8	3.1	9.4	175	30	9.4	4.1	1.5	.30	2.4	1.7
24	3.5	1.6	3.2	8.3	141	26	9.4	4.5	1.3	.10	2.0	1.6
25	3.9	1.7	3.0	7.7	114	25	8.8	4.9	1.1	0	1.7	1.9
26	4.1	1.7	3.1	7.1	60	22	7.4	4.6	.90	0	1.7	2.1
27	4.2	1.6	2.9	6.5	48	21	5.9	3.8	.90	.20	1.7	2.3
28	4.0	2.3	2.8	5.8	40	20	7.1	3.4	.90	.30	1.5	2.2
29	3.6	4.9	2.9	55	36	20	7.0	3.1	.90	.20	1.5	2.2
30	3.0	21	2.8	1,470	-----	18	7.1	3.1	.80	.20	1.2	2.2
31	2.9	-----	2.8	346	-----	16	-----	3.0	-----	.60	1.0	-----
TOTAL	134.9	109.1	260.1	2,901.1	4,708	2,317	372.8	146.5	71.70	20.70	50.9	56.3
MEAN	4.35	3.64	8.39	93.6	162	74.7	12.4	4.73	2.39	.67	1.64	1.88
MAX	8.1	21	35	1,470	844	592	18	6.7	5.6	1.4	3.2	2.3
MIN	2.3	1.1	2.8	2.9	18	13	5.9	3.0	.80	0	1.0	1.3
AC-FT	268	216	516	5,750	9,340	4,600	739	291	142	41	101	112
CAL YR 1967	TOTAL 24,048.30			MEAN 65.9		MAX 3,270	MIN .40	AC-FT 47,700				
WAT YR 1968	TOTAL 11,149.10			MEAN 30.5		MAX 1,470	MIN 0	AC-FT 22,110				

SACRAMENTO RIVER BASIN

11-4073. NORTH HONCUT CREEK NEAR BANGOR, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.0	22	49	82	648	13	14	3.8	2.9	.90	.90
2	2.9	3.4	17	41	86	227	13	14	4.0	2.8	.90	.90
3	2.9	37	12	35	68	189	18	13	4.0	2.6	1.0	.70
4	3.1	33	9.6	31	58	125	16	13	3.8	2.4	.90	.50
5	3.1	15	7.1	27	502	98	107	12	5.0	2.6	1.1	.40
6	3.1	8.7	7.0	25	366	84	161	11	6.0	2.4	1.1	.50
7	3.1	6.4	6.3	22	140	72	85	11	7.5	2.2	1.1	.50
8	3.1	4.9	6.0	20	99	63	58	10	8.0	2.1	1.0	.40
9	3.1	4.0	5.8	18	436	55	50	9.5	8.4	1.8	.90	.60
10	3.1	3.5	18	17	206	52	45	9.0	8.0	1.7	.70	.50
11	3.4	3.5	107	359	614	44	40	8.6	13	1.6	.70	.60
12	8.3	28	40	1,310	863	40	37	8.2	14	1.4	.60	.80
13	13	21	26	3,830	223	37	35	8.2	11	1.2	.60	1.0
14	14	12	506	631	321	34	33	7.8	9.0	1.2	.50	1.2
15	14	50	412	179	1,230	31	30	7.6	7.6	1.2	.40	1.4
16	9.3	32	180	108	399	29	27	7.2	6.8	1.2	.40	1.3
17	4.9	17	77	78	177	32	26	6.8	6.2	1.2	.30	1.5
18	3.2	28	51	123	173	31	25	6.4	5.6	1.1	.30	1.6
19	2.5	44	40	1,870	132	27	24	6.2	5.0	1.0	.30	1.8
20	2.2	23	32	1,280	108	26	22	6.4	4.6	.90	.40	2.0
21	1.9	15	25	2,670	98	55	21	7.1	5.6	.90	.40	2.4
22	1.7	12	21	688	81	41	20	6.7	6.4	.80	.40	2.3
23	1.5	9.3	24	174	217	31	40	6.4	8.0	.70	.40	2.2
24	1.3	8.6	449	137	269	27	45	6.4	6.0	.70	.40	2.1
25	1.9	10	524	593	262	24	30	6.0	5.0	.70	.40	2.0
26	2.2	7.4	189	1,110	151	22	23	5.6	4.2	.90	.60	1.7
27	1.8	7.1	93	215	111	20	19	5.2	3.4	1.0	.60	1.8
28	1.2	6.1	138	130	566	18	17	5.0	3.2	1.0	.60	1.9
29	1.4	5.5	156	93	-----	17	16	4.8	3.1	1.1	.80	2.0
30	4.4	13	86	105	-----	15	15	4.6	3.0	1.1	.90	2.3
31	4.5	-----	62	91	-----	14	-----	4.2	-----	1.1	.80	-----
TOTAL	128.6	471.4	3,348.8	16,059	8,038	2,228	1,111	251.9	189.2	45.50	20.40	39.80
MEAN	4.15	15.7	108	518	287	71.9	37.0	8.13	6.31	1.47	.66	1.33
MAX	14	50	524	3,830	1,230	648	161	14	14	2.9	1.1	2.4
MIN	1.2	3.0	5.8	17	58	14	13	4.2	3.0	.70	.30	.40
AC-FT	255	935	6,640	31,850	15,940	4,420	2,200	500	375	90	40	79
CAL YR 1968	TOTAL 14,593.80		MEAN 39.9		MAX 1,470		MIN 0		AC-FT 28,950			
WTR YR 1969	TOTAL 31,931.60		MEAN 87.5		MAX 3,830		MIN .30		AC-FT 63,340			

NOTE.--No gage-height record Apr. 9 to May 20, May 27 to July 3.

11-4075. SOUTH HONCUT CREEK NEAR BANGOR, CALIF.

LOCATION.--Lat 39°22'04", long 121°22'16", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.18 N., R.5 E., Butte County, on right bank 2.3 miles southeast of Bangor, 3.3 miles upstream from Tennessee Creek, and 16.3 miles southeast of Oroville.

DRAINAGE AREA.--30.6 sq mi.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 620 ft (from topographic map)

AVERAGE DISCHARGE.--19 years, 35.7 cfs (25,860 acre-ft per year); median of yearly mean discharges, 27 cfs (19,600 acre-ft per year).

EXTREMES --Current year: Maximum discharge, 4,500 cfs Jan. 21 (gage height, 9.84 ft); minimum daily, 0.05 cfs Sept. 10-12, 15, 28, 29.

Period of record: Maximum discharge, 17,600 cfs Dec. 26, 1964 (gage height, 19.25 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurements at gage heights 11.15 and 19.25 ft; no flow at times in most years.

REMARKS.--Records good except those for period May to September, which are poor. Some small diversions upstream for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	4.1	7.9	25	92	303	24	9.6	2.2	3.0	.16	.10
2	.55	11	6.4	20	82	174	22	9.3	2.3	2.9	.16	.09
3	.68	29	4.0	16	65	139	27	9.0	2.3	2.9	.13	.11
4	.69	13	3.5	14	56	109	22	8.6	2.2	2.9	.12	.13
5	.52	6.7	3.1	13	292	91	121	8.1	2.9	2.9	.13	.14
6	.32	5.2	2.9	11	268	81	114	7.3	3.4	2.9	.15	.13
7	.41	4.2	2.7	10	129	70	59	6.9	4.5	2.9	.21	.09
8	.68	4.1	2.6	9.2	99	62	41	6.6	4.8	2.9	.43	.07
9	.55	3.9	2.6	8.2	270	58	33	6.3	4.8	2.7	.47	.07
10	.40	3.5	44	7.5	153	54	29	6.1	4.7	2.7	.40	.05
11	.68	4.9	49	361	405	46	27	5.6	7.6	2.7	.35	.05
12	2.8	39	12	493	430	44	25	5.4	8.9	2.9	.36	.05
13	3.0	10	7.6	1,910	177	41	23	5.4	6.9	3.0	.36	.07
14	2.0	4.4	192	415	258	37	23	5.2	6.0	2.6	.34	.06
15	1.6	21	212	143	895	35	21	5.1	5.7	2.5	.32	.05
16	1.3	9.0	61	90	342	34	18	4.8	5.3	2.0	.37	.06
17	1.2	4.2	24	65	182	41	17	4.5	4.6	1.1	.28	.07
18	1.2	11	16	97	161	37	17	4.1	4.5	.58	.22	.08
19	.86	10	13	1,110	124	33	16	4.0	3.8	.43	.20	.12
20	.89	4.5	9.5	1,350	114	35	15	4.1	3.6	.33	.18	.12
21	1.9	3.5	6.9	2,020	104	58	14	4.4	4.5	.32	.16	.12
22	1.3	3.1	5.8	585	88	38	13	4.4	4.9	.29	.14	.11
23	.97	2.8	9.2	204	175	30	26	3.8	6.0	.30	.33	.11
24	.77	3.3	226	169	208	29	28	3.2	5.1	.30	.61	.08
25	.89	3.8	244	504	189	28	18	3.1	4.7	.28	.58	.08
26	.67	3.0	98	798	136	27	14	3.0	4.3	.29	.58	.08
27	.61	2.7	44	212	108	26	12	3.1	3.5	.26	.58	.06
28	.64	2.5	83	146	354	26	11	2.9	3.4	.22	.44	.05
29	.97	2.4	73	107	-----	25	11	2.7	3.4	.19	.08	.05
30	1.3	8.6	37	102	-----	25	10	2.7	3.3	.17	.08	.06
31	3.4	-----	28	83	-----	25	-----	2.5	-----	.16	.10	-----
TOTAL	34.09	238.4	1,530.7	11,097.9	5,956	1,861	851	161.8	134.1	49.62	9.02	2.51
MEAN	1.10	7.95	49.4	358	213	60.0	28.4	5.22	4.47	1.60	.29	.084
MAX	3.4	39	244	2,020	895	303	121	9.6	8.9	3.0	.61	.14
MIN	.32	2.4	2.6	7.5	56	25	10	2.5	2.2	.16	.08	.05
AC-FT	68	473	3,040	22,010	11,810	3,690	1,690	321	266	98	18	5.0
CAL YR 1968	TOTAL	8,466.80	MEAN	23.1	MAX	739	MIN	0	AC-FT	16,790		
WTR YR 1969	TOTAL	21,926.14	MEAN	60.1	MAX	2,020	MIN	.05	AC-FT	43,490		

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	0345	8.78	3,160	1-26	0345	8.68	3,040
1-19	2015	8.01	2,270	2-15	1515	7.67	1,900
1-21	1130	9.84	4,500				

SACRAMENTO RIVER BASIN

11-4077. FEATHER RIVER AT YUBA CITY, CALIF.

LOCATION.--Lat 39°08'20", long 121°36'17", in NE $\frac{1}{4}$ sec.23, T.15 N., R.3 E., Yuba County, on left bank at 5th Street railroad bridge in Yuba City, 0.7 mile above confluence with Yuba River, and at mile 28.0 above mouth.

DRAINAGE AREA.--3,974 sq mi.

PERIOD OF RECORD.--October 1964 to current year. November 1943 to September 1963 (prior to July 1, 1944, stage only) published in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers.

AVERAGE DISCHARGE.--5 years, 5,460 cfs (3,956,000 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 48,100 cfs Jan. 23; minimum daily, 1,020 cfs Oct. 7.
Period of record: Maximum discharge, 172,000 cfs Dec. 23, 1964 (gage height, 76.42 ft); minimum daily, 166 cfs June 30, 1966.

REMARKS.--Flow regulated by powerplants and reservoirs. There are many diversions above the station for irrigation. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record and seventeen discharge measurements furnished by California Department of Water Resources.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,090	1,290	1,190	1,310	26,700	14,300	4,740	10,500	6,190	1,240	4,030	6,890
2	1,050	1,320	1,180	1,240	14,500	15,200	5,080	10,100	5,980	1,240	3,990	6,900
3	1,050	1,500	1,170	1,180	11,000	14,100	7,520	8,870	4,400	1,220	3,990	7,020
4	1,060	1,530	1,150	1,210	9,900	13,300	11,600	8,090	4,240	1,220	4,010	6,980
5	1,070	1,470	1,150	1,190	10,800	12,000	13,400	8,050	3,960	1,170	5,280	7,020
6	1,050	1,430	1,150	1,150	11,900	10,900	14,400	8,040	3,430	1,490	5,910	7,000
7	1,020	1,380	1,140	1,140	12,900	10,500	14,900	8,040	2,830	1,900	5,910	7,030
8	1,030	1,340	1,140	1,120	11,700	9,380	14,300	7,980	2,020	1,870	6,460	7,020
9	1,030	1,330	1,150	1,140	10,700	8,400	14,500	7,890	1,560	1,870	6,470	7,030
10	1,030	1,340	1,230	1,120	13,400	8,010	15,100	7,920	1,480	2,290	5,740	7,000
11	1,060	1,330	1,460	1,200	16,500	6,370	15,300	8,060	1,490	2,330	5,900	6,980
12	1,140	1,380	1,390	2,760	22,200	5,430	15,200	8,150	1,490	2,280	6,490	6,980
13	1,200	1,350	1,320	8,900	26,200	5,090	15,200	8,100	1,470	2,290	6,520	6,970
14	1,200	1,350	1,690	16,000	19,800	4,820	15,200	9,090	1,460	2,320	6,520	6,950
15	1,200	1,450	2,130	5,000	15,300	4,820	15,500	10,500	1,440	2,290	6,500	6,950
16	1,390	1,440	2,380	3,020	21,100	4,600	16,000	11,000	1,390	2,280	6,470	6,970
17	1,410	1,290	1,760	2,350	19,600	5,020	16,100	10,900	1,400	2,220	6,500	6,950
18	1,390	1,290	1,640	2,110	18,000	5,300	15,900	10,900	1,380	2,090	6,540	7,000
19	1,370	1,360	1,860	3,680	16,800	5,460	15,700	10,900	1,370	2,060	6,570	6,980
20	1,360	1,330	1,640	5,800	14,300	6,910	15,800	10,900	1,370	2,100	6,620	6,940
21	1,350	1,280	1,430	9,800	12,300	7,950	15,000	10,800	1,520	2,120	6,600	6,890
22	1,340	1,220	1,440	41,400	12,300	10,300	14,700	10,500	1,620	2,090	6,600	6,870
23	1,340	1,200	1,460	48,100	12,000	10,600	14,600	9,450	1,700	2,520	6,680	6,900
24	1,340	1,190	1,720	41,600	12,500	10,000	14,800	8,130	1,650	3,490	6,660	6,860
25	1,320	1,170	2,480	31,300	13,800	6,450	13,900	7,990	1,600	4,050	6,650	6,860
26	1,290	1,150	2,490	21,800	14,200	5,970	13,800	7,800	1,500	4,060	6,790	6,870
27	1,300	1,150	1,920	40,700	13,400	5,760	14,000	6,360	1,400	4,090	6,760	6,780
28	1,290	1,150	1,580	41,300	12,500	5,450	14,300	6,200	1,250	4,060	6,820	5,980
29	1,340	1,150	1,700	40,200	-----	5,240	13,100	6,150	1,300	4,050	6,870	5,040
30	1,430	1,190	1,590	38,800	-----	5,410	12,200	6,210	1,250	4,060	6,870	4,050
31	1,340	-----	1,420	37,500	-----	5,290	-----	6,240	-----	4,060	6,890	-----
TOTAL	37,880	39,350	48,150	455,120	426,300	248,130	411,840	269,810	65,140	76,420	190,610	202,660
MEAN	1,222	1,312	1,553	14,680	15,230	8,004	13,730	8,704	2,171	2,465	6,149	6,755
MAX	1,430	1,530	2,490	48,100	26,700	15,200	16,100	11,000	6,190	4,090	6,890	7,030
MIN	1,020	1,150	1,140	1,120	9,900	4,600	4,740	6,150	1,250	1,170	3,990	4,050
AC-FT	75,130	78,050	95,510	902,700	845,600	492,200	816,900	535,200	129,200	151,600	378,100	402,000
CAL YR 1968	TOTAL	526,148	MEAN	1,438	MAX	5,400	MIN	410	ACFT	1,044,000		
WAT YR 1969	TOTAL	2,471,410	MEAN	6,771	MAX	48,100	MIN	1,020	ACFT	4,902,000		

RESERVOIRS IN FEATHER RIVER BASIN, CALIF

11-3914.9. LAKE DAVIS.--Lat 39°53'02", long 120°28'32", in SW $\frac{1}{4}$ sec.1, T.23 N., R.13 E., Plumas County, in control house on left abutment of Grizzly Valley Dam on Big Grizzly Creek, 5.3 miles north of Portola. Drainage area, 44.0 sq mi. Period of record, November 1966 to current year. Gage, water-stage recorder in control house on Grizzly Valley Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Extremes for current year: Maximum contents, 92,818 acre-ft May 13, 14 (elevation, 5,777.05 ft); minimum, 55,302 acre-ft Nov. 1 (elevation, 5,766.95 ft). Extremes for period of record: Maximum contents, 92,818 acre-ft May 13, 14, 1969 (elevation, 5,777.05 ft); minimum since initial storage began, 48,276 acre-ft Nov. 13, 1967 (elevation, 5,764.66 ft).

Reservoir is formed by earth- and rockfill dam completed in 1967. Capacity, is 84,040 acre-ft between elevations 5,700 (top of low level intake) and 5,775 ft (crest of spillway). Dead storage, 108 acre-ft. Record of contents furnished by California Department of Water Resources.

11-3913.7. FRENCHMAN LAKE.--Lat 39°53'37", long 120°11'18", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.24 N., R.16 E., Plumas County, in valve chamber at center of toe of Frenchman Dam on Little Last Chance Creek, 5.4 miles upstream from the confluence with Middle Fork Feather River, and 7.1 miles north of Chilcoat. Drainage area, 81.1 sq mi. Period of record, October 1966 to current year in reports of Geological Survey. November 1961 to September 1966 published in reports of California Department of Water Resources. Gage, water-stage recorder in valve house at center of toe of Frenchman Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Extremes for current year: Maximum contents, 58,531 acre-ft Apr. 23 (elevation, 5,589.90 ft); minimum, 40,224 acre-ft Oct. 31, Nov. 1 (elevation, 5,577.42 ft). Extremes for period 1966 to current year: Maximum contents, 59,093 acre-ft May 22, 1967 (elevation, 5,590.28 ft); minimum, 36,715 acre-ft Nov. 12, 1966 (elevation, 5,574.64 ft).

Reservoir is formed by rockfill dam completed in 1961. Capacity, 53,582 acre-ft between elevations 5,517 (invert of intake) and 5,588 ft (crest of spillway). Dead storage, 1,840 acre-ft. Record of contents furnished by California Department of Water Resources.

11-4011.2. ANTELOPE LAKE.--Lat 40°10'43", long 120°36'35", in SE $\frac{1}{4}$ sec.22, T.27 N., R.12 E., Plumas County, in control house at toe of Antelope Dam on Indian Creek, 1.3 miles south of Boulder Creek Guard station, 12 miles northeast of Genesee, and 13.9 miles northeast of Taylorsville. Drainage area, 68.6 sq mi. Period of record, October 1966 to current year in reports of Geological Survey. November 1963 to September 1966 published in reports of California Department of Water Resources. Gage, water-stage recorder in control house at toe of Antelope Dam. Datum of gage is at mean sea level (levels by California Department of Water Resources). Extremes for current year: Maximum contents, 24,578 acre-ft May 11 (elevation, 5,004.11 ft); minimum, 18,987 acre-ft Oct. 31, Nov. 1 (elevation, 4,998.03 ft). Extremes for period 1966 to current: Maximum contents, 24,857 acre-ft May 23, 1967 (elevation, 5,004.45 ft); minimum, 15,246 acre-ft Nov. 8, 1965 (elevation, 4,993.30 ft).

Reservoir is formed by a rockfill dam. Storage began November 1963. Capacity, 22,239 acre-ft between elevations 4,950 (lip of intake tower) and 5,002 ft (crest of spillway). Record of contents furnished by California Department of Water Resources.

MONTH-END ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Elevation (feet)a	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)a	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)a	Contents (acre- feet)	Change in contents (acre- feet)
Lake Davis				Frenchman Lake			Antelope Lake		
Sept. 30.....	5,767.16	55,078	-1,692	5,577.69	40,575	-1,039	4,998.53	19,411	-806
Oct. 31.....	5,766.97	55,366	-608	5,577.42	40,224	-351	4,998.03	18,987	-424
Nov. 30.....	5,767.16	55,974	+608	5,577.58	40,432	+208	4,998.31	19,224	+237
Dec. 31.....	5,767.77	57,953	+1,979	5,578.03	41,020	+588	4,998.81	19,652	+428
CAL YR 1968.....	-	-	+8,490	-	-	-5,632	-	-	-2,114
Jan. 31.....	5,770.87	68,619	+10,666	5,582.19	46,709	+5,689	5,002.68	23,151	+3,499
Feb. 28.....	5,772.03	72,867	+4,248	5,583.87	49,192	+2,425	5,002.43	22,968	-236
Mar. 31.....	5,772.78	75,686	+2,819	5,585.63	51,812	+2,620	5,003.34	23,833	+865
Apr. 30.....	5,776.39	90,056	+14,370	5,589.48	57,847	+6,035	5,003.69	24,170	+337
May 31.....	5,776.38	90,015	-41	5,588.69	56,574	-1,283	5,002.99	23,498	-672
June 30.....	5,775.52	86,477	-3,538	5,588.06	55,571	-1,003	5,002.39	22,931	-567
July 31.....	5,774.32	81,657	-4,820	5,586.54	53,200	-2,371	5,001.99	22,557	-374
Aug. 31.....	5,773.48	78,370	-3,287	5,582.40	47,066	-6,134	5,001.23	21,855	-702
Sept. 30.....	5,773.06	76,754	-1,616	5,581.40	45,652	-1,414	5,000.47	21,166	-689
WTR YR 1969.....	-	-	+20,780	-	-	+5,077	-	-	+1,755

a Elevation at 2400.

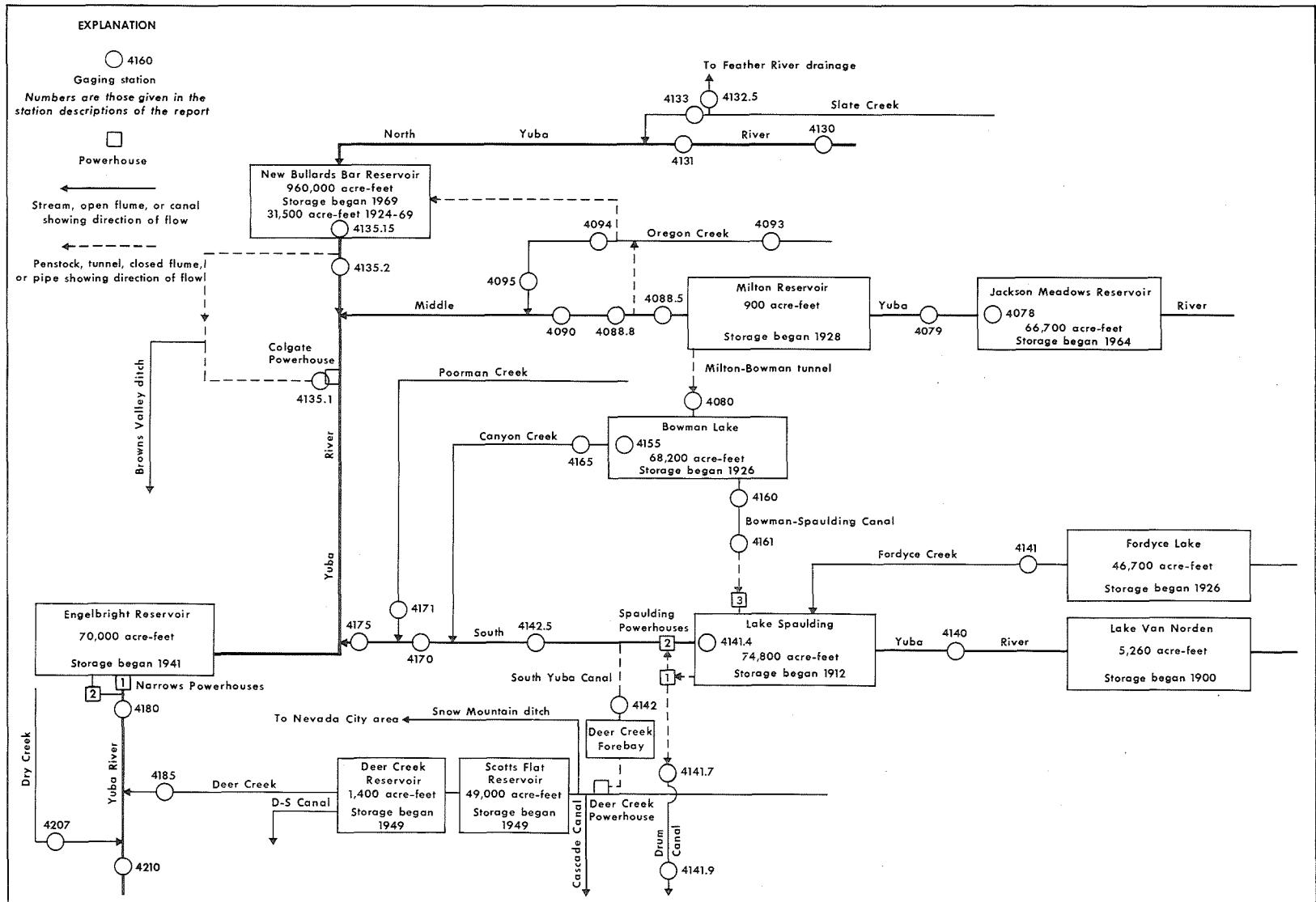


FIGURE 14.--Schematic diagram showing diversions and storage in Yuba River basin.

11-4078. JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°30'40", long 120°33'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.19 N., R.13 E., Sierra County, Tahoe National Forest, on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mile downstream from Pass Creek, and 5.7 miles southeast of Sierra City.

DRAINAGE AREA.--37.4 sq mi.

PERIOD OF RECORD.--November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Current year: Maximum contents, 71,000 acre-ft June 13-16 (elevation, 6,037.7 ft); minimum, 20,300 acre-ft Oct. 21 to Nov. 1 (elevation, 5,978.7 ft).
Period of record: Maximum contents, 71,000 acre-ft June 13-16, 1969 (elevation, 6,037.7 ft); minimum since initial season of normal operation, 20,300 acre-ft Oct. 21 to Nov. 1, 1968 (elevation, 5,978.7 ft).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft between elevations 5,933.0 (bottom of intake tower) and 6,036.0 ft (top of spillway Tainter gates). Dead storage, 2,500 acre-ft. Records, including extremes, represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,960	10,600	6,010	43,900
5,970	15,400	6,020	53,200
5,980	21,000	6,030	63,000
5,990	27,600	6,040	73,500
6,000	35,300		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.80	10.00	12.90	14.20	19.80	22.70	12.60	15.90	41.30	43.20	44.70	44.20
2	12.80	10.20	13.00	14.30	19.90	22.70	12.30	16.30	42.10	43.30	44.70	44.20
3	12.70	10.80	13.00	14.30	20.00	22.80	12.00	16.40	42.50	43.40	44.70	44.20
4	12.70	11.00	13.00	14.30	20.10	22.80	11.70	17.40	42.70	43.50	44.70	44.10
5	12.70	11.10	13.10	14.30	20.20	23.00	11.40	17.80	42.90	43.70	44.70	44.10
6	12.70	11.10	13.10	14.40	20.40	23.00	11.00	18.60	43.00	43.70	44.70	44.10
7	12.30	11.20	13.10	14.40	20.50	23.00	10.60	20.20	42.90	43.80	44.70	43.90
8	11.60	11.20	13.10	14.50	20.60	23.10	10.20	21.40	42.60	44.00	44.70	44.00
9	10.90	11.30	13.20	14.50	20.60	23.10	9.84	22.60	42.20	44.20	44.70	43.90
10	10.40	11.40	13.20	14.50	20.80	23.20	9.42	24.00	41.80	44.40	44.60	43.90
11	10.20	11.50	13.30	14.70	20.90	22.80	9.08	25.20	41.50	44.60	44.60	43.90
12	10.20	11.60	13.30	14.70	21.00	22.20	8.76	26.30	41.20	44.70	44.60	43.90
13	10.20	11.70	13.30	14.90	21.10	21.60	8.48	27.40	41.20	44.80	44.60	43.90
14	10.20	11.80	13.40	14.90	21.20	21.10	8.17	28.40	41.30	45.10	44.60	43.80
15	10.20	11.80	13.50	15.00	21.40	20.50	8.11	29.10	41.50	45.20	44.60	43.80
16	10.20	11.90	13.50	15.10	21.40	20.00	8.41	29.60	41.70	45.40	44.60	43.70
17	10.20	11.90	13.60	15.10	21.50	19.40	8.76	30.30	41.70	45.40	44.60	43.70
18	10.20	12.10	13.60	15.20	21.60	18.90	9.18	30.90	41.90	45.50	44.60	43.70
19	10.20	12.20	13.60	15.60	21.60	18.40	9.67	31.40	41.90	45.50	44.60	43.70
20	10.20	12.30	13.70	16.10	21.80	17.80	10.20	31.90	42.00	45.40	44.60	43.60
21	10.20	12.40	13.70	16.70	21.80	17.30	10.90	32.40	42.00	45.40	44.60	43.60
22	10.20	12.50	13.70	17.10	21.90	16.80	11.70	33.20	42.10	45.40	44.50	43.60
23	10.20	12.60	13.80	17.30	22.00	16.30	12.40	33.70	42.10	45.30	44.40	43.60
24	10.20	12.70	13.90	17.60	22.20	15.90	12.70	34.50	42.20	45.10	44.40	43.60
25	10.20	12.70	14.00	18.00	22.30	15.40	13.20	35.00	42.40	45.10	44.40	43.60
26	10.10	12.70	14.00	18.40	22.40	14.90	13.80	35.50	42.60	45.00	44.40	43.50
27	10.10	12.80	14.10	18.80	22.50	14.50	14.30	36.30	42.70	44.80	44.40	43.50
28	10.10	12.80	14.10	19.00	22.60	14.00	14.70	36.70	42.80	44.80	44.30	43.50
29	10.10	12.90	14.10	19.20	-----	13.60	15.20	37.60	42.90	44.60	44.20	43.50
30	10.10	12.90	14.20	19.40	-----	13.20	15.60	38.90	43.00	44.60	44.20	43.40
31	10.10	-----	14.20	19.60	-----	12.90	-----	40.20	-----	44.60	44.20	-----
MAX	12.80	12.90	14.20	19.60	22.60	23.20	15.60	40.20	43.00	45.50	44.70	44.20
MIN	10.10	10.00	12.90	14.20	19.80	12.90	8.11	15.90	41.20	43.20	44.20	43.40
(a)	5,381.3	5,388.5	5,391.7	5,404.4	5,410.4	5,388.4	5,395.2	5,441.5	5,445.8	5,448.2	5,447.6	5,446.4
(b)	-2.7	+2.8	+1.3	+5.4	+3.0	-9.7	+2.7	+24.6	+2.8	+1.6	-0.4	-0.8
CAL YR 1968	b -7.3		MAX 38.90	MIN 10.00								
WTR YR 1969	b +30.6		MAX 45.50	MIN 8.11								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

SACRAMENTO RIVER BASIN

11-4079. MIDDLE YUBA RIVER BELOW JACKSON MEADOWS DAM, NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°30'58", long 120°33'40", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.18, T.19 N., R.13 E., Sierra County, Tahoe National Forest, on right bank 0.6 mile downstream from Jackson Meadows Dam, and 5.2 miles southeast of Sierra City.

DRAINAGE AREA.--38.3 sq mi.

PERIOD OF RECORD.--October 1964 to current year. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

GAGE.--Water-stage recorder. Datum of gage is 5,717.20 ft above mean sea level (levels by Nevada Irrigation District).

AVERAGE DISCHARGE.--5 years, 125 cfs (90,560 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,040 cfs May 24 (gage height, 5.21 ft); minimum daily, 4.2 cfs on several days.

Period of record: Maximum discharge, 2,300 cfs Sept. 1, 1965 (gage height, 6.60 ft), from rating curve extended above 1,100 cfs as explained below; minimum daily, 0.1 cfs Oct. 1, 2, 1964.

Maximum stage known since at least 1925, 10.57 ft Jan. 31, 1963, from floodmarks (discharge, 10,000 cfs, from rating curve extended above 1,100 cfs on basis of computation of maximum flow over dam, adjusted for diversion and inflow).

REMARKS.--Records good. Flow regulated by Jackson Meadows Reservoir (see sta 11-4078).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	4.2	4.6	4.8	10	6.0	16	365	12	146	13	257
2	264	5.3	4.6	4.8	9.4	6.0	14	379	12	140	12	254
3	260	7.6	4.6	4.8	9.1	6.0	12	368	11	124	11	233
4	260	6.0	4.6	4.8	8.8	6.0	12	334	11	116	9.8	245
5	257	5.1	4.6	4.8	8.8	6.0	12	323	11	114	8.8	264
6	260	4.8	4.4	4.8	8.5	6.0	11	436	10	114	8.8	242
7	260	4.8	4.2	4.8	7.6	6.0	10	552	50	109	8.8	270
8	260	4.8	4.4	4.8	7.6	6.0	9.8	620	288	109	8.8	270
9	257	4.8	4.4	4.8	7.6	5.8	9.8	705	448	116	8.8	270
10	257	4.8	6.2	4.8	7.6	5.8	10	812	472	116	8.8	270
11	257	5.5	6.2	5.1	7.6	5.8	12	860	448	104	8.8	278
12	254	7.5	5.3	5.3	7.6	5.8	14	925	460	100	278	281
13	254	5.3	5.1	9.5	7.3	6.0	15	946	488	94	386	281
14	254	5.1	5.1	10	7.3	6.0	14	890	524	88	264	281
15	251	5.1	5.3	7.9	7.3	6.0	12	788	536	90	267	281
16	251	5.1	5.1	7.3	7.3	6.2	13	740	532	86	302	278
17	251	5.1	4.8	6.8	7.3	6.5	14	800	496	73	326	278
18	251	6.9	4.8	7.5	7.3	6.5	18	918	492	61	295	274
19	245	6.2	4.8	36	7.3	6.5	18	925	496	56	284	274
20	242	5.5	4.8	64	7.3	6.5	18	848	436	49	270	274
21	123	5.3	4.6	46	7.0	6.5	20	818	372	45	264	270
22	4.8	5.1	4.8	23	6.8	6.8	21	866	320	41	274	270
23	4.6	4.8	4.8	17	7.0	7.0	20	960	292	39	288	267
24	4.4	4.8	5.3	14	6.8	7.0	17	974	267	34	278	270
25	4.4	4.8	5.3	21	6.8	7.3	14	904	233	30	267	278
26	4.2	4.6	5.1	34	6.5	8.2	13	884	209	26	278	278
27	4.2	4.4	5.1	18	6.2	9.4	25	860	188	22	267	278
28	4.2	4.4	5.1	16	6.0	11	95	836	170	22	270	270
29	4.4	4.4	5.1	13	-----	12	201	800	160	21	281	267
30	4.2	4.6	4.8	12	-----	14	316	520	152	17	264	267
31	4.2	-----	4.8	11	-----	16	-----	12	-----	14	251	-----
TOTAL	5,275.6	156.7	152.7	432.4	211.7	226.6	1,006.6	21,968	8,596	2,316	5,761.4	8,070
MEAN	170	5.22	4.93	13.9	7.56	7.31	33.6	709	287	74.7	186	269
MAX	264	7.6	6.2	64	10	16	316	974	536	146	386	281
MIN	4.2	4.2	4.2	4.8	6.0	5.8	9.8	12	10	14	8.8	233
AC-FT	10,460	311	303	858	420	449	2,000	43,570	17,050	4,590	11,430	16,010

CAL YR 1968 TOTAL 29,673.9 MEAN 81.1 MAX 323 MIN 4.2 AC-FT 58,860 MEAN a 69.2 AC-FT a 50,260
WTR YR 1969 TOTAL 54,173.7 MEAN 148 MAX 974 MIN 4.2 AC-FT 107,500 MEAN a 165 AC-FT a 119,400

a Adjusted for change in contents in Jackson Meadows Reservoir.

11-4080. MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CALIF.

LOCATION.--Lat 39°27'36", long 120°36'40", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.3, T.18 N., R.12 E., Nevada County, on right bank 100 ft downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 miles east of Graniteville.

PERIOD OF RECORD.--May 1928 to September 1930, February 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as Milton-Bowman tunnel at outlet.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,600 ft (from topographic map). Prior to Sept. 22, 1964, at present site at datum 0.56 ft higher.

AVERAGE DISCHARGE.--41 years, 70.2 cfs (50,860 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 492 cfs Feb. 11, 1941; minimum daily, 0.4 cfs Oct. 7, 1944.

REMARKS.--Records good. Tunnel diverts from Middle Yuba River at Milton, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Practically the entire flow of Middle Yuba River is diverted during low and medium flows. Flow regulated by Jackson Meadows Reservoir (see sta 11-4078) since November 1964.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	261	3.6	5.8	5.8	24	11	34	387	58	152	14	230
2	261	6.0	5.5	5.8	22	10	33	416	54	143	13	223
3	260	13	5.5	5.8	20	10	28	412	54	123	11	203
4	258	9.2	5.5	5.3	18	10	26	375	52	111	9.8	198
5	257	6.3	5.3	5.3	17	9.8	30	352	47	110	8.9	236
6	258	5.5	5.3	5.3	16	9.8	26	414	43	107	7.3	204
7	262	5.0	5.0	5.8	16	9.8	23	427	55	104	6.5	238
8	261	4.6	5.0	6.0	16	9.8	23	431	216	104	6.3	238
9	260	4.6	5.0	6.0	16	9.8	22	432	253	113	6.0	237
10	259	4.1	8.2	6.0	16	9.8	22	431	252	110	5.8	236
11	258	4.3	11	7.3	16	9.5	26	429	251	103	5.8	241
12	269	13	7.6	7.6	16	9.5	31	428	251	95	90	249
13	261	7.8	7.1	15	15	9.5	34	366	253	87	265	249
14	257	6.3	7.3	20	14	9.5	33	292	254	82	239	249
15	254	6.3	7.8	16	15	9.5	29	288	254	85	239	248
16	251	5.8	7.3	13	14	9.5	29	287	253	81	254	247
17	250	5.5	6.5	12	13	9.8	32	290	252	70	299	247
18	248	8.4	6.3	13	13	10	42	293	251	60	275	246
19	246	9.2	6.5	86	13	10	43	292	251	53	262	245
20	245	7.6	6.0	208	12	10	46	289	249	45	244	244
21	163	6.8	5.8	170	12	10	54	289	246	40	229	244
22	9.2	6.5	5.8	76	12	10	61	291	244	36	239	244
23	5.8	6.5	6.5	49	12	11	62	294	244	34	257	243
24	4.8	6.8	7.6	40	12	11	48	294	277	32	250	245
25	4.3	6.5	7.8	64	12	12	39	293	289	28	242	250
26	3.8	6.0	6.8	110	11	13	35	292	246	25	242	249
27	3.8	5.8	6.0	59	11	15	40	292	212	23	241	249
28	3.6	5.8	6.0	43	11	18	115	291	186	21	238	248
29	3.6	5.5	5.8	36	-----	21	225	290	169	21	255	247
30	4.8	5.8	5.8	31	-----	25	332	281	159	18	239	247
31	3.8	-----	5.8	27	-----	33	-----	87	-----	16	224	-----
TOTAL	5,346.5	198.1	199.2	1,160.0	415	375.6	1,623	10,325	5,875	2,232	4,917.4	7,174
MEAN	172	6.60	6.43	37.4	14.8	12.1	54.1	333	196	72.0	159	239
MAX	269	13	11	208	24	33	332	432	289	152	299	250
MIN	3.6	3.6	5.0	5.3	11	9.5	22	87	43	16	5.8	198
AC-FT	10,600	393	395	2,300	823	745	3,220	20,480	11,650	4,430	9,750	14,230
CAL YR 1968	TOTAL 31,590.2		MEAN 86.3		MAX 334		MIN 3.6		AC-FT 62,660			
WTR YR 1969	TOTAL 39,840.8		MEAN 109		MAX 432		MIN 3.6		AC-FT 79,020			

SACRAMENTO RIVER BASIN

11-4088.5, MIDDLE YUBA RIVER NEAR CAMPTONVILLE, CALIF.

LOCATION.--Lat 39°25'01", long 120°57'06", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.18 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 0.6 mile downstream from Kanaka Creek, and 5.8 miles southeast of Camptonville.

DRAINAGE AREA.--136 sq mi.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,170 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 10,800 cfs Jan. 20 (gage height, 14.22 ft); minimum daily, 25 cfs Oct. 1-5, 9, 10.

Period of record: Maximum discharge, 10,800 cfs Jan. 20, 1969 (gage height, 14.22 ft); minimum daily, 24 cfs Sept. 29, 30, 1968.

REMARKS.--Records good. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (see sta 11-4078), Milton-Bowman tunnel (see sta 11-4080) which diverts above station to Bowman Lake (see sta 11-4155), and other small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	36	101	145	725	437	1,240	948	780	144	57	38
2	25	83	94	140	630	401	1,130	910	727	138	56	38
3	25	336	84	147	582	371	952	859	737	134	55	37
4	25	181	81	198	558	347	838	762	715	128	54	37
5	25	97	79	226	562	341	1,140	806	644	123	53	36
6	26	71	78	234	538	341	998	1,020	597	118	52	36
7	26	60	76	233	489	323	853	1,350	539	107	52	36
8	26	54	76	219	450	310	777	1,620	494	108	51	38
9	25	51	77	192	542	300	736	2,020	634	100	50	37
10	25	49	162	170	582	290	709	2,210	653	96	50	36
11	28	53	325	272	755	282	802	2,270	614	92	50	35
12	116	303	176	492	918	278	934	2,400	604	88	48	35
13	119	145	146	1,690	690	268	976	2,280	613	85	109	35
14	88	103	227	1,610	650	268	918	2,110	683	82	92	35
15	65	114	479	803	912	280	803	1,800	691	79	47	34
16	50	105	357	536	834	312	745	1,680	670	76	45	35
17	44	95	215	401	715	380	783	1,800	625	73	44	35
18	41	129	170	380	622	437	1,040	2,020	600	70	44	35
19	39	185	154	3,130	570	431	999	1,960	615	68	43	36
20	37	134	130	8,470	522	437	1,020	1,670	535	66	42	36
21	37	108	113	8,400	486	489	1,140	1,570	443	64	42	35
22	36	95	110	3,780	440	486	1,310	1,680	368	63	41	35
23	35	90	135	2,070	431	526	1,390	1,870	326	62	41	35
24	34	108	417	1,480	447	530	1,120	1,960	288	61	41	34
25	33	113	633	3,380	428	542	904	1,820	215	59	40	34
26	32	98	350	5,500	386	598	807	1,730	192	61	40	34
27	32	87	235	2,520	359	680	758	1,660	180	63	40	33
28	31	81	214	1,700	454	828	790	1,560	171	62	39	33
29	37	77	200	1,210	-----	942	907	1,430	160	61	39	33
30	54	90	174	963	-----	1,080	954	1,430	152	60	39	32
31	41	-----	155	786	-----	1,250	-----	816	-----	58	39	-----
TOTAL	1,282	3,331	6,023	51,477	16,277	14,785	28,473	50,021	15,265	2,649	1,535	1,058
MEAN	41.4	111	194	1,661	581	477	949	1,614	509	85.5	49.5	35.3
MAX	119	336	633	8,470	918	1,250	1,390	2,400	780	144	109	38
MIN	25	36	76	140	359	268	709	762	152	58	39	32
AC-FT	2,540	6,610	11,950	102,100	32,280	29,330	56,480	99,220	30,280	5,250	3,040	2,100
CAL YR 1968	TOTAL	76,612		MEAN	209	MAX	2,760	MIN	24	AC-FT	152,000	
WTR YR 1969	TOTAL	192,176		MEAN	527	MAX	8,470	MIN	25	AC-FT	381,200	

11-4088.8. MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, CALIF.

LOCATION.--Lat 39°24'42", long 120°59'49", in SW¼NW¼ sec.20, T.18 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 400 ft downstream from Our House Dam, and 4.0 miles southeast of Camptonville.

DRAINAGE AREA.--145 sq mi.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,967.51 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 10,900 cfs Jan. 20 (gage height, 10.20 ft); minimum daily, 26 cfs Oct. 23.

REMARKS.--Records good. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (see sta 11-4078), Milton-Bowman tunnel (see sta 11-4080) which diverts above station to Bowman Lake (see sta 11-4155), Lohman Ridge tunnel since October 1968 which diverts 400 ft upstream to Oregon Creek and thence to Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	45	58	173	752	514	1,360	950	84	68	31	31
2	28	47	59	169	677	470	1,250	904	81	67	31	31
3	28	62	59	175	620	430	1,040	864	82	67	31	31
4	28	59	58	226	582	403	896	791	81	66	31	31
5	28	56	58	258	605	397	1,250	812	79	66	31	31
6	27	55	58	265	605	400	1,120	1,010	78	66	31	31
7	27	53	57	263	543	385	920	1,340	78	66	31	31
8	27	52	57	249	490	368	840	1,520	76	66	31	31
9	27	52	57	220	596	356	812	1,840	80	66	31	31
10	27	52	58	194	677	345	791	1,970	81	65	31	31
11	29	51	65	282	860	335	848	2,010	79	65	31	31
12	108	60	63	546	1,280	330	970	2,150	79	65	31	31
13	114	57	60	1,610	812	322	1,010	2,070	79	65	32	30
14	90	56	60	1,620	688	320	950	1,900	81	65	33	30
15	71	56	74	850	1,010	330	848	1,620	81	43	31	30
16	54	56	66	571	888	368	805	1,510	81	30	31	30
17	45	56	93	452	752	440	833	1,620	80	30	31	30
18	42	56	178	431	666	514	1,070	1,780	78	30	31	30
19	40	59	164	3,340	600	502	1,030	1,720	78	30	31	30
20	38	59	138	8,550	564	506	1,060	1,530	76	30	31	30
21	37	58	122	8,650	518	574	1,180	1,460	74	30	31	30
22	27	58	116	4,210	474	569	1,330	1,530	72	30	31	30
23	26	57	145	1,850	474	620	1,370	1,670	72	30	31	30
24	30	57	440	1,390	494	635	1,110	1,740	71	30	31	30
25	32	58	674	2,880	478	650	904	1,630	70	30	31	30
26	33	58	415	6,090	437	699	819	1,570	69	30	31	30
27	33	58	279	2,770	413	798	784	1,510	68	30	31	30
28	33	58	253	1,730	522	912	805	1,450	68	30	31	30
29	33	57	241	1,280	-----	1,040	912	940	68	31	31	30
30	46	57	211	1,010	-----	1,190	950	574	68	31	31	30
31	49	-----	187	833	-----	1,380	-----	95	-----	31	31	-----
TOTAL	1,284	1,675	4,623	53,137	18,077	17,102	29,867	44,080	2,292	1,449	964	912
MEAN	41.4	55.8	149	1,714	646	552	996	1,422	76.4	46.7	31.1	30.4
MAX	114	62	674	8,650	1,280	1,380	1,370	2,150	84	68	33	31
MIN	26	45	57	169	413	320	784	95	68	30	31	30
AC-FT	2,550	3,320	9,170	105,400	35,860	33,920	59,240	87,430	4,550	2,870	1,910	1,810
(a)	180	3,770	3,650	4,200	0	0	1,360	19,070	27,940	2,760	1,350	440

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR. YR 1969 TOTAL 175,462 MEAN 481 MAX 8,650 MIN 26 AC-FT 348,000

a Lohman Ridge tunnel diversion to New Bullards Bar Reservoir.

11-4090. MIDDLE YUBA RIVER ABOVE OREGON CREEK, NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°23'36", long 121°04'50", in SE $\frac{1}{4}$ sec.28, T.18 N., R.8 E., Nevada County, Tahoe National Forest, on left bank 1,000 ft upstream from Oregon Creek, and 2 miles northeast of North San Juan.

DRAINAGE AREA.--162 sq mi.

PERIOD OF RECORD.--October 1940 to September 1969 (discontinued). Monthly and yearly discharges for the water year 1941 published in WSP 1315-A. Prior to October 1949, published as Middle Fork Yuba River above Oregon Creek. October 1949 to September 1964, published as Middle Yuba River above Oregon Creek. If record for Oregon Creek near North San Juan is subtracted from record published as Middle Fork Yuba River near North San Juan, a record equivalent to that at this site can be obtained for the period 1910-41.

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

AVERAGE DISCHARGE.--29 years, 359 cfs (260,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,300 cfs Jan. 20 (gage height, 12.09 ft); minimum daily, 30 cfs Oct. 23.

Period of record: Maximum discharge, 31,600 cfs Jan. 31, 1963 (gage height, 18.55 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement at gage height 15.25 ft; minimum, 10 cfs Jan. 3, 1950.

REMARKS.--Records good except those for February and March, which are poor. Natural flow of stream is affected by Jackson Meadows Reservoir since November 1964 (see sta 11-4078), Milton-Bowman tunnel (see sta 11-4080) which diverts above station to Bowman Lake (see sta 11-4155), Lohman Ridge tunnel since October 1968, and other small diversions above station. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	49	77	177	835	532	1,280	942	96	73	33	34
2	32	64	71	168	715	488	1,190	906	93	73	34	33
3	33	100	67	168	645	456	1,010	855	92	72	34	33
4	33	72	66	217	692	430	865	765	92	72	33	33
5	33	63	64	253	665	422	1,180	775	89	72	34	35
6	34	61	64	259	690	419	1,110	972	87	72	34	34
7	34	59	63	259	610	394	918	1,300	86	71	34	34
8	34	58	63	245	576	380	830	1,510	86	71	34	33
9	32	58	62	217	680	370	785	1,850	89	70	34	33
10	31	57	84	190	745	345	745	2,010	90	70	34	33
11	35	62	93	310	835	340	815	2,050	92	69	34	34
12	110	86	75	645	1,180	330	936	2,160	90	67	35	34
13	115	70	72	1,960	865	320	984	2,060	90	70	32	34
14	90	66	92	1,960	780	320	918	1,930	90	67	35	34
15	73	73	127	981	1,190	335	805	1,660	91	56	33	34
16	56	67	104	646	1,070	355	750	1,580	90	36	34	34
17	50	64	92	481	860	390	775	1,660	89	36	33	34
18	45	71	200	447	750	465	1,000	1,840	87	36	34	35
19	43	70	179	3,450	675	500	990	1,800	87	36	33	35
20	41	67	150	9,300	605	520	996	1,590	86	36	33	35
21	40	66	130	9,640	568	540	1,100	1,500	84	35	34	36
22	33	64	123	4,730	508	575	1,260	1,570	83	36	34	36
23	30	63	150	2,300	508	600	1,350	1,730	82	35	34	35
24	34	67	446	1,730	524	630	1,130	1,820	80	35	34	34
25	37	67	855	3,180	516	650	918	1,710	79	35	34	34
26	36	66	476	6,170	464	675	815	1,640	77	35	34	34
27	36	64	296	2,840	419	770	760	1,580	76	35	35	34
28	36	63	270	1,930	540	880	785	1,500	76	34	34	34
29	39	62	259	1,460	-----	990	895	1,100	75	34	33	34
30	49	70	222	1,140	-----	1,100	948	600	75	34	34	34
31	53	-----	192	912	-----	1,270	-----	120	-----	33	34	-----
TOTAL	1,408	1,989	5,284	58,365	19,710	16,791	28,843	45,085	2,579	1,606	1,048	1,023
MEAN	45.4	66.3	170	1,883	704	542	961	1,454	86.0	51.8	33.8	34.1
MAX	115	100	855	9,640	1,190	1,270	1,350	2,160	96	73	35	36
MIN	30	49	62	168	419	320	745	120	75	33	32	33
AC-FT	2,790	3,950	10,480	115,800	39,090	33,300	57,210	89,430	5,120	3,190	2,080	2,030
CAL YR 1968	TOTAL	77,867	MEAN	213	MAX	2,920	MIN	29	AC-FT	154,400		
WTR YR 1969	TOTAL	183,731	MEAN	503	MAX	9,640	MIN	30	AC-FT	364,400		

SACRAMENTO RIVER BASIN

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11-4093. OREGON CREEK AT CAMPTONVILLE, CALIF.

LOCATION.--Lat 39°26'46", long 121°02'43", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.18 N., R.8 E., Yuba County, Tahoe National Forest, on right bank 25 ft downstream from County bridge, 0.5 mile southeast of Camptonville, and 5.5 miles upstream from mouth.

DRAINAGE AREA.--23.0 sq mi.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,230 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,510 cfs Jan. 21 (gage height, 9.30 ft); minimum daily, 2.2 cfs Sept. 15, 16.

Period of record: Maximum discharge, 2,510 cfs Jan. 21, 1969 (gage height, 9.30 ft); minimum daily, 2.2 cfs Sept. 15, 16, 1969.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	4.8	24	56	195	106	346	163	35	10	3.9	2.6
2	2.4	23	21	53	167	97	321	154	32	9.8	3.8	2.5
3	2.5	90	19	52	151	89	283	146	30	9.4	3.8	2.4
4	2.5	36	18	64	139	85	251	132	28	9.0	3.6	2.4
5	2.6	20	17	74	140	85	328	125	27	8.8	3.5	2.4
6	2.7	15	17	79	130	86	298	138	25	8.6	3.5	2.4
7	2.7	12	17	82	113	81	257	152	24	8.3	3.4	2.4
8	2.7	9.9	18	80	104	79	232	160	23	8.2	3.4	2.6
9	2.6	8.9	19	73	160	76	215	164	23	8.0	3.4	2.6
10	2.7	8.1	79	65	183	72	206	163	23	7.7	3.3	2.5
11	3.6	9.4	119	86	229	70	215	157	24	7.4	3.5	2.4
12	27	70	60	150	314	68	231	151	22	7.1	3.3	2.4
13	15	28	47	642	228	67	235	137	21	6.8	3.3	2.3
14	10	21	78	601	200	69	221	125	20	6.6	3.2	2.6
15	8.0	24	182	324	267	76	197	111	19	6.4	3.1	2.2
16	5.5	24	136	230	239	86	180	102	17	6.2	3.0	2.2
17	4.6	23	83	181	204	120	178	98	17	6.0	3.0	2.3
18	4.2	30	63	178	187	149	207	96	17	5.7	3.0	2.4
19	3.9	31	55	1,070	170	150	203	90	16	5.6	3.0	2.6
20	3.8	25	46	2,000	156	151	199	81	15	5.3	2.9	2.6
21	3.6	21	40	2,190	138	173	206	74	15	5.1	2.9	2.7
22	3.6	19	36	1,340	123	178	219	70	14	5.1	2.8	2.7
23	3.6	17	41	642	120	192	237	67	14	5.1	2.7	2.6
24	3.4	23	163	459	115	199	209	63	13	5.1	2.7	2.4
25	3.4	24	259	980	109	206	180	58	13	4.9	2.8	2.4
26	3.3	21	143	1,390	99	217	160	55	12	4.8	2.8	2.4
27	3.3	19	96	689	91	239	147	51	13	4.7	2.7	2.4
28	3.4	17	87	455	111	266	143	47	13	4.5	2.7	2.4
29	6.0	15	80	325	-----	295	153	43	11	4.4	2.8	2.4
30	12	23	69	260	-----	328	164	40	11	3.9	2.8	2.3
31	5.9	-----	61	217	-----	358	-----	37	-----	3.9	2.6	-----
TOTAL	163.0	712.1	2,193	15,087	4,582	4,513	6,621	3,250	587	202.4	97.2	73.5
MEAN	5.26	23.7	70.7	487	164	146	221	105	19.6	6.53	3.14	2.45
MAX	27	90	259	2,190	314	358	346	164	35	10	3.9	2.7
MIN	2.4	4.8	17	52	91	67	143	37	11	3.9	2.6	2.2
AC-FT	323	1,410	4,350	29,920	9,090	8,950	13,130	6,450	1,160	401	193	146

CAL YR 1968 TOTAL 19,319.2 MEAN 52.8 MAX 870 MIN 2.3 AC-FT 38,320
WTR YR 1969 TOTAL 38,081.2 MEAN 104 MAX 2,190 MIN 2.2 AC-FT 75,530

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1830	7.08	1,110	1-26	0445	8.73	2,080
1-21	0515	9.30	2,510				

SACRAMENTO RIVER BASIN

11-4094. OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CALIF.

LOCATION.--Lat 39°26'18", long 121°03'28", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.11, T.18 N., R.8 E., Yuba County, Tahoe National Forest, on right bank 200 ft upstream from High Point Ravine and 1.2 miles southwest of Camptonville.

DRAINAGE AREA.--29.1 sq mi.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,911.56 ft above mean sea level (levels by Yuba County Water Agency).

EXTREMES.--Current year: Maximum discharge, 3,290 cfs Jan. 20 (gage height, 7.23 ft); minimum daily, 4.4 cfs Oct. 1.

Period of record: Maximum discharge, 3,290 cfs Jan. 20, 1969 (gage height, 7.23 ft); minimum daily, 4.2 cfs Sept. 18, 19, 25, 28, 30, 1968.

REMARKS.--Records fair. Camptonville tunnel (maximum capacity, about 831 cfs) 1,100 ft upstream, diverts to New Bullards Bar Reservoir (see sta 11-4135.15); diversion began October 1968. See schematic diagram of Yuba River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	7.9	15	17	230	171	441	181	22	20	7.8	6.3
2	4.6	36	15	21	191	144	405	171	22	20	7.8	6.3
3	4.5	251	15	46	173	131	351	162	22	19	7.8	6.3
4	4.6	95	15	66	161	122	299	143	22	18	7.5	6.3
5	4.6	16	15	75	167	120	440	135	22	18	7.5	6.5
6	4.8	15	15	79	160	122	395	147	22	18	7.5	6.4
7	4.8	15	15	82	139	112	329	160	22	18	7.5	6.4
8	4.7	15	15	80	127	107	287	169	22	18	7.5	6.6
9	4.7	14	15	72	203	103	261	173	22	18	7.5	6.6
10	4.7	13	16	64	229	96	245	172	23	18	7.5	6.6
11	6.0	12	19	101	292	93	259	162	23	18	7.5	6.5
12	32	17	17	199	412	90	280	156	22	17	7.5	6.5
13	16	15	17	1,090	275	87	285	140	22	17	7.4	6.5
14	13	15	17	833	247	89	263	126	22	16	7.9	6.6
15	11	15	25	399	406	95	230	118	22	12	6.8	6.4
16	8.5	15	23	259	399	108	205	117	23	8.2	6.6	6.5
17	7.5	15	33	197	316	154	200	111	23	8.6	6.6	6.6
18	7.0	15	71	198	284	187	245	106	22	8.6	6.6	6.6
19	6.8	16	61	1,500	254	187	239	99	22	8.6	6.6	6.6
20	6.6	16	49	2,400	230	188	233	90	22	8.6	6.6	6.6
21	6.3	15	41	2,840	200	227	245	82	22	8.6	6.4	6.9
22	6.3	15	38	1,560	177	227	266	76	23	8.6	6.5	6.9
23	6.2	15	45	810	174	242	303	72	23	8.6	6.4	6.7
24	6.1	15	218	588	171	248	256	68	23	8.6	6.3	6.6
25	5.9	16	386	1,140	160	255	213	62	22	8.6	6.3	6.6
26	5.9	15	178	1,640	144	263	184	58	20	8.2	6.3	6.6
27	5.9	15	110	842	132	293	166	56	21	8.2	6.3	6.6
28	5.8	14	98	567	174	334	164	50	21	8.2	6.3	6.6
29	8.2	14	91	403	-----	377	176	33	21	7.8	6.3	6.6
30	15	15	77	316	-----	419	186	23	21	7.8	6.3	6.6
31	9.0	-----	47	253	-----	453	-----	23	-----	7.8	6.3	-----
TOTAL	241.4	777.9	1,812	18,737	6,227	5,844	8,051	3,441	661	398.6	215.7	196.4
MEAN	7.79	25.9	58.5	604	222	189	268	111	22.0	12.9	6.96	6.55
MAX	32	251	386	2,840	412	453	441	181	23	20	7.9	6.9
MIN	4.4	7.9	15	17	127	87	164	23	20	7.8	6.3	6.3
AC-FT	479	1,540	3,590	37,160	12,350	11,590	15,970	6,830	1,310	791	428	390
(a)	110	4,010	5,560	4,890	370	0	2,000	20,400	28,100	2,480	1,170	235

CAL YR 1968 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --
WTR YR 1969 TOTAL 46,603.0 MEAN 128 MAX 2,840 MIN 4.4 AC-FT 92,440

a Camptonville tunnel diversion, in acre-feet, to Bullards Bar Reservoir.

11-4095. OREGON CREEK NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°24'10", long 121°04'35", in NW $\frac{1}{4}$ sec.27, T.18 N., R.8 E., Yuba County, Tahoe National Forest, on right bank 0.7 mile upstream from mouth, and 2.7 miles northeast of North San Juan.

DRAINAGE AREA.--34.4 sq mi.

PERIOD OF RECORD.--September 1911 to September 1969 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,580 ft (from topographic map). Prior to October 1933, nonrecording gages at site 0.6 mile downstream at different datums.

AVERAGE DISCHARGE.--58 years, 79.0 cfs (57,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,490 cfs Jan. 20 (gage height, 9.31 ft); minimum daily, 3.6 cfs Oct. 1.

Period of record: Maximum discharge, 10,300 cfs Dec. 22, 1964 (gage height, 12.88 ft), from rating curve extended above 3,600 cfs on basis of slope-area measurement of maximum flow; minimum, 0.7 cfs for several days in July, August 1931, September 1934.

REMARKS.--Records good. Small diversions above station for irrigation and mining. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	9.8	23	23	252	204	390	190	29	19	6.4	6.4
2	3.8	41	20	25	222	178	366	182	28	19	6.7	6.3
3	3.9	216	19	50	203	161	328	174	27	18	6.7	6.1
4	4.5	103	19	72	189	149	289	159	28	18	6.3	6.6
5	4.5	22	19	81	223	146	390	151	28	18	6.6	6.6
6	4.7	20	19	85	208	147	361	161	27	17	6.2	6.4
7	4.7	19	19	88	174	137	309	174	27	17	6.4	5.7
8	4.6	19	18	86	157	131	276	180	27	16	6.8	6.7
9	4.3	18	19	79	241	126	257	184	28	16	7.9	6.4
10	5.2	17	29	72	259	119	246	184	29	16	8.0	5.8
11	6.7	18	29	126	314	115	253	178	29	16	7.3	6.3
12	41	27	24	215	433	111	265	173	28	16	6.5	6.3
13	22	21	23	921	303	109	270	159	27	16	6.1	6.4
14	17	20	30	760	280	110	257	148	27	15	7.3	6.2
15	14	22	43	340	418	118	233	133	27	13	6.3	6.6
16	11	20	35	228	356	131	215	121	27	7.1	6.4	6.8
17	9.7	19	36	186	294	174	210	115	27	7.9	6.7	6.5
18	9.1	22	76	798	270	206	237	112	26	8.0	6.3	6.5
19	8.6	22	68	2,240	248	206	234	107	26	7.6	6.3	6.2
20	8.4	21	56	3,130	232	207	229	97	25	7.3	5.8	6.1
21	8.2	20	48	2,500	209	240	234	89	24	7.6	6.4	5.9
22	8.2	19	44	1,070	189	237	248	84	22	7.0	6.1	5.5
23	8.0	18	51	582	192	250	280	82	22	6.8	6.6	5.4
24	7.8	20	199	857	194	254	245	77	20	6.8	6.4	5.6
25	7.6	20	330	2,060	194	259	212	73	19	7.0	6.1	5.8
26	7.5	19	184	1,180	174	266	190	69	19	7.3	6.2	5.6
27	7.4	19	120	705	159	287	176	66	20	7.2	6.7	5.8
28	7.4	18	112	579	216	315	171	61	20	7.3	6.6	5.5
29	9.6	18	103	398	-----	342	181	44	20	6.9	6.5	5.6
30	19	20	87	315	-----	372	191	30	19	6.1	6.7	5.4
31	12	-----	59	264	-----	400	-----	29	-----	6.1	6.7	-----
TOTAL	294.0	887.8	1,961	20,115	6,803	6,207	7,743	3,786	752	364.0	204.0	183.0
MEAN	9.48	29.6	63.3	649	243	200	258	122	25.1	11.7	6.58	6.10
MAX	41	216	330	3,130	433	400	390	190	29	19	8.0	6.8
MIN	3.6	9.8	18	23	157	109	171	29	19	6.1	5.8	5.4
AC-FT	583	1,760	3,890	39,900	13,490	12,310	15,360	7,510	1,490	722	405	363
CAL YR 1968	TOTAL	22,937.1	MEAN	62.7	MAX	1,010	MIN	3.3	AC-FT	45,500		
WTR YR 1969	TOTAL	49,299.8	MEAN	135	MAX	3,130	MIN	3.6	AC-FT	97,790		

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1945	7.51	1,720	1-25	1545	8.96	3,080
1-20	2130	9.31	3,490				

SACRAMENTO RIVER BASIN

11-4130. NORTH YUBA RIVER BELOW GOODYEARS BAR, CALIF.

LOCATION.--Lat 39°31'30", long 120°56'13", in SW¼ sec.11, T.19 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 200 ft downstream from St. Catherine Creek, 3.1 miles southwest of Goodyears Bar, and 6.4 miles southwest of Downieville.

DRAINAGE AREA.--250 sq mi.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1949, published as North Fork Yuba River below Goodyears Bar. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 2,435 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--39 years, 743 cfs (738,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 14,300 cfs Jan. 21 (gage height, 14.55 ft); minimum daily, 116 cfs Oct. 8-10.

Period of record: Maximum discharge, 40,000 cfs Feb. 1, 1963 (gage height, 23.8 ft, from floodmarks), from rating curve extended above 8,500 cfs on basis of one float measurement at 17,900 cfs and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum, 69 cfs Aug. 26, 1931.

REMARKS.--Records excellent. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	152	253	280	1,350	738	2,380	2,460	3,390	835	293	202
2	117	270	228	275	1,200	700	2,160	2,390	3,290	805	290	201
3	117	850	222	305	1,150	675	1,820	2,280	3,320	774	282	200
4	117	459	217	350	1,120	644	1,630	2,020	3,280	743	275	198
5	117	285	214	375	1,100	634	1,970	2,220	3,140	722	271	197
6	117	230	213	400	1,050	634	1,770	2,860	2,980	697	267	195
7	118	206	208	405	951	615	1,550	3,290	2,740	675	263	195
8	116	191	212	390	895	595	1,450	3,650	2,590	658	261	199
9	116	191	212	350	1,010	581	1,410	4,180	2,440	643	256	196
10	116	186	486	365	1,060	563	1,390	4,370	2,120	617	252	192
11	123	194	643	441	1,210	547	1,570	4,630	2,060	589	253	189
12	400	816	394	650	1,400	535	1,850	4,630	2,020	564	246	189
13	370	385	334	2,510	1,170	525	1,980	4,330	2,130	541	243	187
14	277	293	422	2,420	1,070	519	1,850	3,960	2,300	524	240	185
15	199	297	795	1,360	1,320	531	1,630	3,580	2,230	505	236	182
16	175	274	632	970	1,220	572	1,570	3,600	2,150	483	233	182
17	163	264	435	783	1,100	639	1,690	3,930	1,960	462	232	183
18	155	438	359	764	1,010	713	2,200	4,120	1,960	442	231	182
19	147	514	334	5,120	942	714	2,110	3,920	1,850	426	228	182
20	144	368	296	11,900	896	728	2,240	3,560	1,690	410	226	181
21	141	313	260	12,200	829	768	2,600	3,560	1,540	395	223	183
22	139	291	255	6,250	780	785	3,040	3,730	1,440	385	219	179
23	135	301	400	3,360	783	856	3,130	4,010	1,400	376	217	177
24	134	305	800	2,530	779	883	2,510	4,030	1,310	369	215	174
25	133	296	1,020	3,830	756	907	2,110	3,770	1,200	357	213	172
26	131	262	600	7,670	711	984	1,880	3,690	1,100	343	213	171
27	130	245	430	3,800	672	1,150	1,790	3,700	1,030	333	211	169
28	130	233	360	3,000	749	1,390	1,890	3,360	963	325	210	168
29	166	224	330	2,350	-----	1,610	2,320	3,280	907	319	209	166
30	228	256	295	1,900	-----	1,890	2,490	3,460	867	309	207	165
31	165	-----	285	1,550	-----	2,350	-----	3,570	-----	300	204	-----
TOTAL	4,955	9,589	12,144	78,853	28,283	25,975	59,980	110,140	61,397	15,926	7,419	5,541
MEAN	160	320	392	2,544	1,010	838	1,999	3,553	2,047	514	239	185
MAX	400	850	1,020	12,200	1,400	2,350	3,130	4,630	3,390	835	293	202
MIN	116	152	208	275	672	519	1,390	2,020	867	300	204	165
AC-FT	9,830	19,020	24,090	156,400	56,100	51,520	119,000	218,500	121,800	31,590	14,720	10,990
CAL YR 1968	TOTAL 203,701		MEAN 557	MAX 4,660	MIN 116	AC-FT 404,000						
WTR YR 1969	TOTAL 420,202		MEAN 1,151	MAX 12,200	MIN 116	AC-FT 833,500						

PEAK DISCHARGE (BASE, 3,200 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1930	8.47	3,950	4-23	0745	7.89	3,320
1-21	0045	14.55	14,300	5-11	2200	9.53	5,270
1-26	0600	13.26	11,400				

11-4131, NORTH YUBA RIVER ABOVE SLATE CREEK NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°31'29", long 121°05'26", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.9, T.19 N., R.8 E., Yuba County, Tahoe National Forest, on left bank 500 ft upstream from Slate Creek, and 2.8 miles southeast of Strawberry Valley.

DRAINAGE AREA.--351 sq mi.

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,953.44 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 33,700 cfs Jan. 21 (gage height, 19.3 ft, from floodmarks), from rating curve extended as explained below; minimum daily, 140 cfs Oct. 6-10.

Period of record: Maximum discharge, 33,700 cfs Jan. 21, 1969 (gage height, 19.3 ft, from floodmarks), from rating curve extended above 20,000 cfs on basis of slope-area measurement at 29.8 ft; minimum daily, 138 cfs Sept. 29, 1968.

Flood of Dec. 22, 1964, reached a stage of 29.8 ft, from floodmarks (discharge, 63,400 cfs from slope-area measurement).

REMARKS.--Records good. Several small diversions above station for irrigation and mining.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	199	354	485	2,150	1,280	4,040	3,800	4,160	939	342	219
2	142	371	326	470	1,980	1,220	3,640	3,640	3,950	911	342	216
3	145	1,230	298	470	1,840	1,160	3,030	3,460	3,960	878	330	213
4	142	729	294	571	1,730	1,100	2,670	3,020	3,910	848	322	210
5	140	433	298	648	1,740	1,080	3,460	3,260	3,640	824	318	207
6	140	342	286	688	1,670	1,080	3,080	4,250	3,450	800	314	207
7	140	298	280	706	1,520	1,040	2,600	4,900	3,140	770	306	207
8	140	272	286	688	1,430	1,000	2,400	5,340	2,900	752	302	213
9	140	262	298	632	1,650	974	2,320	6,160	2,690	746	298	207
10	140	255	836	582	1,790	946	2,290	6,380	2,310	710	290	204
11	148	258	1,310	648	2,000	918	2,590	6,550	2,240	680	290	201
12	576	1,240	694	990	2,300	897	3,110	6,570	2,190	650	283	201
13	520	582	555	4,280	2,010	878	3,350	6,090	2,250	626	280	198
14	370	424	670	4,350	1,840	866	3,080	5,500	2,460	608	273	195
15	280	424	1,370	2,200	2,430	884	2,660	4,860	2,460	590	269	193
16	230	402	1,180	1,580	2,240	953	2,530	4,820	2,310	560	255	193
17	208	384	748	1,270	1,960	1,090	2,710	5,220	2,120	536	252	195
18	199	575	598	1,190	1,770	1,240	3,730	5,500	2,060	512	255	196
19	193	759	540	9,060	1,640	1,230	3,510	5,180	1,990	494	255	195
20	184	535	470	16,000	1,550	1,260	3,660	4,620	1,810	476	249	195
21	181	451	410	19,000	1,440	1,330	4,200	4,540	1,660	455	246	195
22	178	402	410	8,500	1,350	1,360	4,880	4,800	1,540	445	243	190
23	175	402	451	5,000	1,350	1,470	5,100	5,100	1,510	430	240	190
24	172	410	1,040	4,500	1,330	1,520	4,090	5,120	1,430	425	237	188
25	169	402	1,700	6,500	1,290	1,560	3,340	4,720	1,320	415	234	188
26	166	362	1,050	12,000	1,220	1,670	2,940	4,620	1,240	395	234	185
27	166	342	766	6,500	1,160	1,930	2,770	4,540	1,160	385	231	185
28	166	318	659	4,500	1,300	2,290	2,900	4,160	1,100	370	228	183
29	195	298	598	3,500	-----	2,670	3,580	4,020	1,040	366	228	183
30	340	350	545	2,800	-----	3,160	3,860	4,230	981	354	225	180
31	227	-----	515	2,300	-----	3,950	-----	4,360	-----	342	222	-----
TOTAL	6,454	13,711	19,835	122,608	47,680	44,006	98,120	149,330	68,981	18,292	8,393	5,932
MEAN	208	457	640	3,955	1,703	1,420	3,271	4,817	2,299	590	271	198
MAX	576	1,240	1,700	19,000	2,430	3,950	5,100	6,570	4,160	939	342	219
MIN	140	199	280	470	1,160	866	2,290	3,020	981	342	222	180
AC-FT	12,800	27,200	39,340	243,200	94,570	87,280	194,600	296,200	136,800	36,280	16,650	11,770

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL 603,342 MEAN 1,653 MAX 19,000 MIN 140 AC-FT 1,197,000

PEAK DISCHARGE (BASE, 4,500 CFS)				a Outside high-water mark.			
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2000	11.53	7,430	5-11	2330	11.55	7,480
1-21	unknown	19.3	33,700	5-18	0030	11.07	6,350
1-26	about 0400	-	unknown	5-23	2330	10.98	6,160
4-23	0730	10.64	5,420				

SACRAMENTO RIVER BASIN

11-4132.5. SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°36'57", long 121°03'03", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.20 N., R.8 E., Plumas County, Plumas National Forest, on right bank 30 ft upstream from diversion dam on Slate Creek, 0.3 mile upstream from Fency Ravine, and 4.5 miles northeast of town of Strawberry Valley.

PERIOD OF RECORD.--October 1966 to current year. Records of daily discharge for December 1961 to September 1966 are in files of Geological Survey. Monthly diversion used to adjust Slate Creek below diversion dam near Strawberry Valley since February 1962.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Period of record: Maximum daily discharge, 863 cfs Apr. 6, 1963; no flow for many days in each year.

REMARKS.--Records good. Tunnel diverts water from Slate Creek to Sly Creek Reservoir (see sta 11-3954) for power development. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	7.9	34	53	0	0	0	376	0	61	12	3.1
2	0	61	26	53	0	0	0	693	439	59	12	2.7
3	0	237	26	54	0	0	0	680	723	54	11	3.1
4	0	114	26	61	0	0	0	650	676	53	10	2.7
5	0	54	28	68	0	0	0	690	498	48	9.7	2.6
6	0	37	28	77	0	0	0	705	366	45	9.7	2.6
7	0	27	29	86	0	0	0	705	286	44	9.4	2.4
8	0	21	33	85	0	0	0	698	250	43	9.4	2.6
9	0	19	94	79	0	0	0	688	235	16	8.7	2.4
10	0	16	434	73	0	0	0	681	221	0	8.4	2.4
11	0	19	175	73	0	0	0	676	227	0	8.4	2.1
12	106	296	111	77	0	0	0	672	219	0	7.9	2.3
13	60	79	99	610	0	0	0	650	217	0	7.4	2.1
14	29	56	185	830	0	0	0	238	243	0	7.4	2.1
15	21	50	286	537	0	0	0	0	273	46	7.1	1.9
16	13	47	151	324	0	0	0	0	213	28	6.9	1.9
17	8.7	50	109	240	0	0	0	0	187	27	7.1	.71
18	6.9	141	92	265	0	0	0	0	186	25	7.1	0
19	5.3	116	74	747	0	0	0	0	172	23	6.6	0
20	4.8	75	60	337	0	0	0	0	156	23	8.7	0
21	4.4	59	62	225	0	0	0	0	139	21	8.1	0
22	4.2	49	64	140	0	0	0	0	128	19	6.2	.17
23	3.5	44	63	125	0	0	0	0	118	20	5.3	.57
24	2.9	46	118	78	0	0	0	0	109	19	5.3	0
25	2.7	43	98	0	0	0	0	0	99	18	4.8	3.7
26	2.7	36	82	0	0	0	0	0	90	16	4.8	.83
27	2.7	33	70	0	0	0	0	0	85	16	4.4	.59
28	2.6	32	64	0	0	0	0	0	78	15	3.7	.47
29	12	30	60	0	-----	0	0	0	71	14	3.8	.47
30	32	35	57	0	-----	0	0	0	68	14	3.7	.36
31	10	-----	54	0	-----	0	-----	0	-----	13	3.5	-----
TOTAL	334.4	1,929.9	2,892	5,297	0	0	0	8,802	6,772	780	228.5	46.87
MEAN	10.8	64.3	93.3	171	0	0	0	284	226	25.2	7.37	1.56
MAX	106	296	434	830	0	0	0	705	723	61	12	3.7
MIN	0	7.9	26	0	0	0	0	0	0	0	3.5	0
AC-FT	663	3,830	5,740	10,510	0	0	0	17,460	13,430	1,550	453	93

CAL YR 1968 TOTAL 42,135.93 MEAN 115 MAX 832 MIN 0 AC-FT 83,580
WTR YR 1969 TOTAL 27,082.67 MEAN 74.2 MAX 830 MIN 0 AC-FT 53,720

11-4133. SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CALIF.

LOCATION.--Lat 39°36'52", long 121°03'04", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.20 N., R.8 E., Plumas County, Plumas National Forest, on right bank 300 ft downstream from diversion dam, 0.2 mile upstream from Feney Ravine, and 4.5 miles northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

AVERAGE DISCHARGE (adjusted for diversion to Slate Creek tunnel).--9 years, 207 cfs (150,000 acre-ft per year).

EXTREMES (Creek only).--Current year: Maximum discharge, 7,730 cfs Jan. 20 (gage height, 13.18 ft); minimum daily, 6.6 cfs Oct. 6-8.

Period of record: Maximum discharge, 13,100 cfs Dec. 22, 1964 (gage height, 16.42 ft), from rating curve extended above 5,500 cfs on basis of computed flow over dam at gage heights 12.75 and 15.90 ft; minimum, 0.3 cfs Mar. 4, 5, 1962.

(Combined flow).--Current year: Maximum discharge, 8,640 cfs Jan. 20; minimum daily, 6.6 cfs Oct. 6-8.

Period of record: Maximum discharge, 13,900 cfs Dec. 22, 1964; minimum daily, 2.3 cfs Nov. 23, 1961.

REMARKS.--Records good. Slate Creek tunnel (see sta 11-4132.5) diverts at diversion dam 300 ft upstream up to 900 cfs from Slate Creek Reservoir (capacity, 223 acre-ft) to Sly Creek Reservoir (see sta 11-3954). Diversion began in February 1962. See schematic diagram of South Fork Feather River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	8.8	11	11	380	142	803	398	584	9.2	9.8	9.8
2	7.0	9.3	11	11	332	134	726	42	227	9.2	9.8	9.8
3	7.0	9.7	11	11	307	128	593	22	9.8	9.2	9.8	9.8
4	7.0	9.3	11	11	285	123	537	12	13	9.2	9.8	9.8
5	7.0	11	11	11	278	123	716	64	9.8	8.6	9.8	9.8
6	6.6	11	11	11	257	122	614	237	9.8	8.6	9.8	9.8
7	6.6	11	11	11	233	120	517	350	9.2	8.6	9.8	9.8
8	6.6	11	11	11	216	120	492	436	9.2	8.6	9.8	9.8
9	7.0	10	11	11	235	120	486	552	9.2	21	9.8	9.8
10	7.0	10	12	11	259	119	492	608	9.2	55	9.8	9.2
11	7.0	11	12	11	289	116	576	616	8.6	55	9.8	9.8
12	7.0	11	11	11	289	116	677	616	8.6	53	9.8	9.8
13	8.1	11	11	319	227	115	708	520	8.6	51	9.8	9.8
14	8.1	11	11	288	249	116	635	816	8.6	49	9.8	9.8
15	8.1	11	12	12	249	124	561	955	8.6	27	9.8	9.8
16	8.1	10	12	11	239	141	565	955	8.6	9.8	9.8	9.8
17	8.1	10	11	11	216	162	628	1,020	8.6	9.8	9.8	24
18	8.1	10	11	12	205	192	792	1,040	9.2	9.8	9.8	7.6
19	8.1	10	11	1,940	196	187	758	980	9.2	9.8	9.8	8.1
20	8.1	10	11	6,510	192	194	778	860	9.2	9.8	9.8	8.1
21	8.1	10	11	5,540	173	198	902	840	9.2	9.8	9.8	8.6
22	8.1	10	11	2,090	167	209	994	872	9.2	9.8	9.8	8.6
23	8.1	10	11	960	163	247	978	905	9.2	9.8	9.2	8.6
24	8.4	10	12	706	147	267	768	864	9.2	9.8	9.2	10
25	8.4	10	12	1,730	158	287	642	792	9.2	9.2	9.2	9.2
26	8.4	10	11	3,340	156	321	590	752	9.2	9.2	9.2	9.2
27	8.4	11	11	1,310	144	367	576	712	9.2	9.2	9.2	8.6
28	8.4	11	11	838	140	441	628	628	9.2	9.2	9.8	8.6
29	8.4	11	11	632	-----	514	768	608	9.2	9.2	9.8	8.6
30	8.8	11	11	508	-----	621	822	624	9.2	9.8	9.8	8.6
31	8.8	-----	11	420	-----	789	-----	632	-----	9.8	9.8	-----
TOTAL	239.9	310.1	347	27,309	6,381	6,975	20,322	19,328	1,070.0	536.0	300.8	292.6
MEAN	7.74	10.3	11.2	881	228	225	677	623	35.7	17.3	9.70	9.75
MAX	8.8	11	12	6,510	380	789	994	1,040	584	55	9.8	24
MIN	6.6	8.8	11	11	140	115	486	12	8.6	8.6	9.2	7.6
AC-FT	476	615	688	54,170	12,660	13,830	40,310	38,340	2,120	1,060	597	580
MEAN a	18.5	74.6	105	1,050	228	225	677	907	261	42.4	17.1	11.3
AC-FT a	1,140	4,440	6,430	64,680	12,660	13,830	40,310	55,760	15,550	2,610	1,050	673

CAL YR 1968 TOTAL 10,039.0 MEAN 27.4 MAX 1,590 MIN 5.8 AC-FT 19,910 MEAN a 143 AC-FT a 103,500
WTR YR 1969 TOTAL 83,411.4 MEAN 229 MAX 6,510 MIN 6.6 AC-FT 165,400 MEAN a 302 AC-FT a 219,100

a Adjusted for diversion to Slate Creek tunnel.

SACRAMENTO RIVER BASIN

11-4135.1. COLGATE POWERPLANT NEAR FRENCH CORRAL, CALIF.

LOCATION.--Lat 39°19'51", long 121°11'18", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.17 N., R.7 E., Yuba County, at powerplant on right bank of Yuba River, 0.3 mile upstream from Dobbins Creek, and 2.3 miles northwest of French Corral.

PERIOD OF RECORD.--October 1966 to current year. Records of daily discharge for October 1960 to September 1966 are given in files of Geological Survey.

GAGE.--Recorded output from powerplant turbines.

EXTREMES.--Period of record: Maximum daily discharge, 558 cfs Feb. 17, 1968; no flow for several days each year.

REMARKS.--Water is diverted from North Yuba River 0.9 mile upstream from station at North Yuba River below New Bullards Bar Dam near North San Juan (see sta 11-4135.2). Browns Valley Ditch diverts up to 10 cfs from the head of the penstock for use in irrigation.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	157	409	519	0	0	541	528	453	0	78	194
2	361	157	401	395	0	0	519	472	453	0	97	226
3	472	155	404	532	0	0	415	269	450	0	105	132
4	453	215	404	536	0	0	132	297	0	0	120	155
5	453	506	283	536	0	0	389	297	0	0	126	161
6	459	498	372	541	0	0	392	297	0	0	113	145
7	447	407	498	541	0	0	398	297	0	10	113	145
8	267	502	438	541	0	0	409	316	0	110	120	194
9	272	502	341	536	0	0	536	333	0	107	113	123
10	231	511	289	541	0	0	424	356	0	84	113	155
11	197	511	498	541	0	0	256	356	0	110	113	152
12	144	511	541	524	0	0	261	353	0	107	97	107
13	117	519	524	541	0	0	261	353	0	107	110	120
14	152	519	541	453	0	0	258	319	0	103	110	120
15	450	515	524	532	0	0	256	375	0	103	107	120
16	450	459	519	519	0	0	194	311	0	110	107	0
17	447	528	472	519	0	0	432	305	0	116	113	0
18	381	532	541	532	0	0	519	300	0	103	135	0
19	0	532	541	441	0	0	541	291	0	103	194	0
20	0	532	316	189	0	0	528	302	0	107	188	0
21	80	532	541	0	0	0	541	350	0	107	210	0
22	176	532	536	70	0	0	481	350	0	120	204	0
23	256	532	524	384	0	0	524	327	0	123	204	0
24	250	536	536	412	0	0	536	367	0	107	223	0
25	250	536	498	289	0	0	444	401	0	120	229	0
26	239	498	438	0	0	0	532	401	0	110	229	0
27	245	532	524	0	0	107	481	401	0	107	180	0
28	237	519	528	0	0	545	502	409	0	135	171	0
29	234	511	532	0	-----	545	489	367	0	107	210	0
30	231	519	532	0	-----	549	502	450	0	123	161	0
31	157	-----	519	0	-----	549	-----	447	-----	123	113	-----
TOTAL	8,388	14,015	14,564	11,164	0	2,295	12,693	10,997	1,356	2,662	4,506	2,249
MEAN	271	467	470	360	0	74.0	423	355	45.2	85.9	145	75.0
MAX	472	536	541	541	0	549	541	528	453	135	229	226
MIN	0	155	283	0	0	0	132	269	0	0	78	0
AC-FT	16,640	27,800	28,890	22,140	0	4,550	25,180	21,810	2,690	5,280	8,940	4,460
CAL YR 1968	TOTAL	146,827.00	MEAN	401	MAX	558	MIN	0	AC-FT	291,200		
WTR YR 1969	TOTAL	84,889.00	MEAN	233	MAX	549	MIN	0	AC-FT	168,400		

11-4135.15. NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°23'34", long 121°08'25", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.18 N., R.7 E., Yuba County, Plumas National Forest, in center of dam on North Yuba River 2.2 miles upstream from Middle Yuba River and 2.4 miles north-west of North San Juan.

DRAINAGE AREA.--489 sq mi.

PERIOD OF RECORD.--February 1969 to current year.

GAGE.--Nonrecording gage normally read once daily except weekends at various times. Datum of gage is at mean sea level (levels by Yuba County Water Agency).

EXTREMES.--Maximum contents observed during period February to September 1969, 541,100 acre-ft Sept. 30 (elevation, 1,853.4 ft); minimum, unknown.

REMARKS.--Reservoir is formed by concrete-arch dam with a concrete sidehill spillway. Spill controlled by three 30- by 53-feet radial gates. Storage began in January 1969. Usable capacity, 726,400 acre-ft between elevations 1,732.0 ft (minimum power pool) and 1,955.0 ft (normal gross pool). Dead storage, 233,900 acre-ft. Total capacity at normal gross pool (1,955.0 ft), 961,300 acre-ft. Water is released to Colgate powerplant through a tunnel at the dam. Water is diverted into the reservoir from Middle Yuba River via Lohman Ridge tunnel to Oregon Creek then via Camptonville tunnel. Records, including extremes, show total contents at time gage was read.

COOPERATION.--Gage readings furnished by Yuba County Water Agency.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

1,600.0	64,900
1,630.0	90,600
1,660.0	123,000
1,690.0	163,000
1,720.0	211,800
1,750.0	270,100
1,800.0	390,000
1,850.0	539,700
1,900.0	721,100
1,955.0	961,300

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				-	-	-	146,600	209,500	-	512,500	541,400	-
2				-	-	-	151,000	204,700	369,100	514,100	-	547,000
3				-	250,800	103,600	155,500	-	373,000	515,700	-	547,400
4				-	244,000	103,400	157,000	-	379,800	-	542,700	547,400
5				-	237,800	104,200	-	219,300	388,600	-	543,100	547,400
6				-	231,800	104,900	-	-	397,000	-	543,400	-
7				-	225,400	105,100	159,600	234,100	-	521,100	543,700	-
8				-	-	105,200	-	243,600	-	522,100	544,100	547,400
9				-	-	-	153,300	254,400	417,800	523,400	-	547,700
10				-	206,300	105,000	150,500	-	424,300	524,700	-	547,700
11				-	200,900	104,900	152,100	-	429,400	526,000	545,400	547,700
12				-	199,000	104,700	-	297,300	435,500	-	545,400	547,700
13				-	195,200	103,900	-	305,700	441,000	-	545,700	547,700
14				59,700	189,700	103,300	162,400	317,300	-	529,200	546,000	-
15				65,300	184,300	-	166,400	318,800	-	529,900	546,400	547,700
16				67,000	-	-	168,200	318,300	459,000	531,200	-	547,700
17				67,400	178,200	102,800	173,700	-	464,400	531,900	-	548,000
18				67,400	173,100	103,000	180,100	-	469,500	532,800	546,700	548,400
19					167,500	103,400	-	320,200	474,100	-	546,700	548,700
20				106,600	162,500	103,900	-	319,500	478,700	-	546,700	-
21				181,400	155,700	104,600	200,100	319,000	-	528,600	547,000	-
22				235,100	-	-	209,600	318,300	-	535,800	547,000	549,700
23				256,800	-	-	220,100	317,600	493,200	536,500	-	549,700
24				267,000	138,000	107,100	229,600	-	496,300	537,100	-	550,000
25				275,400	132,600	108,400	236,400	-	499,500	537,800	546,700	550,400
26				294,600	-	112,700	-	332,100	501,400	-	546,700	550,400
27				293,300	121,400	117,600	-	344,400	503,900	-	547,000	-
28				284,100	115,900	121,900	221,200	344,400	506,400	539,400	547,000	-
29				277,100	-----	-	215,900	345,700	-	540,100	547,000	550,700
30				271,800	-----	-	212,300	-	509,900	540,400	-	551,100
31		-----		267,200	-----	140,100	-----	-	-----	540,700	-	-----
MAX				294,600	250,800	140,100	236,400	345,700	509,900	540,700	547,000	551,100
MIN				-	115,900	102,800	146,600	304,700	369,100	512,500	541,400	547,000
(a)				1,748.6	1,654.0	1,673.6	1,720.3	-	1,840.8	1,850.3	-	1,853.4
(b)				-	-151,300	24,200	72,200	-	-	30,800	-	-

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-4135.2. NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°22'48", long 121°08'19", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.36, T.18 N., R.7 E., Yuba County, Plumas National Forest, on right bank 1.1 miles downstream from New Bullards Bar Dam, and 2 miles northwest of North San Juan.

DRAINAGE AREA.--490 sq mi.

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 20,700 cfs Jan. 26 (gage height, 25.3 ft, from floodmarks), from design ratings for flow over and through partially completed New Bullards Bar Dam; minimum daily, 3.1 cfs Mar. 26.

Period of record: Maximum discharge, 21,600 cfs Jan. 21, 1967 (gage height, 23.45 ft), from rating curve extended above 13,000 cfs on basis of computation of flow over dam at 49.8 ft; minimum daily, 0.42 cfs Nov. 5, 1966.

REMARKS.--Records fair except those for periods of no-gage height record, which are poor. Flow regulated by New Bullards Bar Reservoir (see sta 11-4135.15) since 1969. Colgate powerplant (see sta 11-4135.1) diverts 0.9 mile upstream. Water is diverted out of basin through Slate Creek tunnel (see sta 11-4132.5). See schematic diagram of Yuba River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	7.4	21	151	5,700	4,340	1,500	4,270	2,460	39	9.4	14
2	24	5.6	14	157	5,700	4,200	1,270	2,720	2,460	124	9.6	11
3	14	21	12	429	5,900	2,700	1,960	238	1,450	333	9.7	16
4	14	18	13	311	6,120	1,520	3,600	237	55	331	9.9	14
5	15	20	96	309	6,060	1,500	3,190	225	36	329	10	11
6	14	23	25	305	5,960	1,490	3,000	221	36	331	10	16
7	11	27	28	299	5,900	1,490	2,750	210	36	195	10	16
8	9.0	23	15	297	5,860	1,480	3,970	200	36	10	10	18
9	6.8	36	12	295	5,820	1,480	4,880	200	36	10	11	16
10	4.2	71	16	275	5,760	1,460	2,300	200	36	10	11	13
11	3.6	95	163	275	5,300	1,460	579	200	37	10	11	16
12	8.6	117	252	302	6,250	1,470	504	200	37	10	11	19
13	7.1	163	254	355	6,260	1,480	474	200	38	10	12	8.1
14	6.5	236	255	1,500	6,170	1,470	442	2,390	38	10	6.4	8.4
15	11	220	268	1,370	6,140	1,470	423	5,950	38	10	22	28
16	14	217	675	1,460	6,120	1,470	166	5,360	39	10	44	71
17	11	175	605	1,470	6,100	1,480	22	5,490	39	10	49	68
18	11	162	652	1,490	5,990	1,480	24	5,520	39	10	33	66
19	49	139	515	1,620	5,900	1,460	22	5,540	39	10	14	82
20	53	175	147	2,030	5,800	1,460	22	5,480	39	10	20	70
21	31	182	187	2,460	5,710	1,470	22	5,450	39	9.9	16	66
22	8.2	161	347	2,490	5,620	1,470	26	5,450	39	9.8	19	66
23	6.2	131	648	2,250	5,560	1,480	24	4,150	39	9.8	18	74
24	10	133	668	2,630	5,460	1,470	23	2,510	39	9.7	17	70
25	5.3	80	785	5,750	5,270	583	2,550	2,500	39	9.6	16	74
26	14	24	678	17,300	5,140	3.1	4,960	2,500	39	9.6	16	64
27	3.6	33	643	17,700	4,910	39	4,660	2,500	39	9.5	16	77
28	3.6	24	817	12,400	4,620	60	4,570	2,490	39	9.5	16	86
29	9.7	20	732	9,630	-----	60	4,480	2,520	39	9.4	19	106
30	5.4	20	302	7,890	-----	60	4,320	2,450	39	9.3	56	112
31	5.3	-----	140	7,160	-----	898	-----	2,460	-----	9.3	34	-----
TOTAL	403.1	2,759.0	9,985	102,360	161,100	43,953.1	56,733	80,031	7,414	1,917.4	566.0	1,376.5
MEAN	13.0	92.0	322	3,302	5,754	1,418	1,891	2,582	247	61.9	18.3	45.9
MAX	53	236	817	17,700	6,260	4,340	4,960	5,950	2,460	333	56	112
MIN	3.6	5.6	12	151	4,620	3.1	22	200	36	9.3	6.4	8.1
AC-FT	800	5,470	19,800	203,000	319,500	87,180	112,500	158,700	14,710	3,800	1,120	2,730
CAL YR 1968	TOTAL 204,745.50		MEAN 559		MAX 11,300		MIN .60		AC-FT 406,100			
WTR YR 1969	TOTAL 468,598.1		MEAN 1,284		MAX 17,700		MIN 3.1		AC-FT 929,500			

NOTE.--No gage-height record Jan. 10 to Feb. 3, June 3 to July 2, July 7 to August 12.

11-4136. SWEETLAND CREEK NEAR NORTH SAN JUAN, CALIF.

LOCATION.--Lat 39°20'18", long 121°06'58", in NE¼ sec.18, T.17 N., R.8 E., Nevada County, on left bank at culvert on State Highway 49, 2.2 miles southwest of North San Juan.

DRAINAGE AREA.--2.68 sq mi.

PERIOD OF RECORD.--Water years 1963-68 (annual maximum), October 1968 to current year.

GAGE.--Water-stage recorder, crest-stage gages, float operated rain gage, and culvert control. Prior to October 1968, crest-stage gage only. Altitude of gage is 1,860 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 302 cfs Jan. 26 (gage height, 3.59 ft); no flow for several months.

Period of record: Maximum discharge, 600 cfs Dec. 22, 1964 (gage height, 7.04 ft); no flow for several months each year.

REMARKS.--Records good. No known diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.04	3.7	2.8	14	36	.88	1.2	.10	0	0	0
2	0	.30	2.8	2.6	12	24	1.4	1.0	.10	0	0	0
3	0	1.5	3.0	2.3	9.2	19	1.9	1.4	.10	0	0	0
4	0	.54	3.0	2.3	7.8	15	1.4	2.1	.10	0	0	0
5	0	.27	2.8	2.1	35	13	7.9	1.4	.10	0	0	0
6	0	.20	2.6	2.1	33	12	5.7	1.0	.09	0	0	0
7	0	.17	2.3	1.9	15	7.3	4.4	.77	.09	0	0	0
8	0	.12	2.1	1.9	13	4.2	6.5	.77	.10	0	0	0
9	0	.10	2.1	1.9	25	4.2	6.1	.77	.10	0	0	0
10	0	.09	6.4	1.7	19	4.2	5.7	.77	.10	0	0	0
11	0	.39	5.2	7.1	20	4.8	3.5	.58	.14	0	0	0
12	0	2.0	3.2	18	28	4.4	1.7	.49	.17	0	0	0
13	0	.58	3.0	96	16	4.2	1.9	.49	.14	0	0	0
14	0	.77	6.9	30	21	3.9	2.1	.49	.14	0	0	0
15	0	1.5	20	9.2	74	5.2	1.9	.49	.12	0	0	0
16	0	.67	7.8	6.5	32	7.3	1.7	.42	.09	0	0	0
17	0	.42	3.5	4.8	19	7.8	2.3	.42	.08	0	0	0
18	0	1.0	2.8	12	19	7.3	3.2	.36	.07	0	0	0
19	0	.77	2.6	85	15	6.9	3.0	.36	.07	0	0	0
20	0	.49	2.3	146	15	6.5	2.8	.36	.05	0	0	0
21	0	.42	2.1	160	14	7.3	2.8	.36	.05	0	0	0
22	0	.36	1.9	56	14	5.7	2.6	.36	.04	0	0	0
23	0	.36	2.6	22	19	3.7	7.6	.31	.04	0	0	0
24	0	.49	11	32	28	2.3	4.2	.27	.03	0	0	0
25	0	.42	32	71	44	2.1	2.8	.23	0	0	0	0
26	0	.36	13	88	28	2.1	1.9	.27	0	0	0	0
27	0	.36	5.2	27	19	1.9	1.5	.23	0	0	0	0
28	0	.36	6.9	21	55	1.9	1.2	.23	0	0	0	0
29	.03	1.0	6.5	14	-----	1.5	1.4	.20	0	0	0	0
30	.06	2.8	3.9	13	-----	.88	1.2	.17	0	0	0	0
31	.04	-----	3.2	10	-----	.88	-----	.12	-----	0	0	-----
TOTAL	0.13	18.85	176.4	950.2	663.0	227.46	93.18	18.39	2.21	0	0	0
MEAN	.004	.63	5.69	30.7	23.7	7.34	3.11	.59	.074	0	0	0
MAX	.06	2.8	32	160	74	36	7.9	2.1	.17	0	0	0
MIN	0	.04	1.9	1.7	7.8	.88	.88	.12	0	0	0	0
AC-FT	.3	37	350	1,880	1,320	451	185	36	4.4	0	0	0
(a)	-	7.70	7.77	18.07	11.53	.73	3.25	.14	.09	0	0	0

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL 2,149.82 MEAN 5.89 MAX 160 MIN 0 AC-FT 4,260

a Precipitation, in inches.

11-4140. SOUTH YUBA RIVER NEAR CISCO, CALIF.

LOCATION.--Lat 39°19'12", long 120°33'38", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.17 N., R.13 E., Nevada County, Tahoe National Forest, on right bank 0.7 mile downstream from Rattlesnake Creek, 1.3 miles west of Cisco Grove, and 1.5 miles northwest of Cisco.

DRAINAGE AREA.--51.8 sq mi.

PERIOD OF RECORD.--April 1942 to current year. Prior to October 1949, published as South Fork Yuba River near Cisco.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (from river-profile map). Prior to October 1945, water-stage recorder at site 200 ft upstream at same datum.

AVERAGE DISCHARGE.--27 years, 198 cfs (143,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,460 cfs Jan. 20 (gage height, 7.96 ft); minimum daily, 21 cfs Oct. 2.

Period of record: Maximum discharge, 18,400 cfs Jan. 31, 1963 (gage height, 19.6 ft, from floodmarks in gage house, 20.6 ft from outside floodmarks), from rating curve extended above 4,600 cfs on basis of slope-area measurement at gage height 15.8 ft; minimum daily, 0.1 cfs Nov. 5-7, 1954.

REMARKS.--Records good. Low flow regulated by Lake Van Norden (capacity, 4,320 acre-ft, 5,260 acre-ft with flashboards).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	26	59	43	119	62	560	851	1,320	243	26	38
2	21	118	56	43	108	60	457	800	1,330	236	25	37
3	26	414	55	43	102	60	286	640	1,420	219	25	37
4	42	98	56	53	102	59	274	506	1,320	206	24	36
5	42	69	56	62	99	59	335	836	1,270	189	23	35
6	41	56	56	67	93	59	241	1,260	1,210	173	22	34
7	40	46	55	70	90	58	190	1,400	1,090	160	27	34
8	39	45	57	64	86	64	183	1,540	1,010	143	47	34
9	38	71	55	57	87	57	195	1,690	824	135	46	32
10	38	57	82	55	90	55	208	1,700	653	125	43	31
11	38	52	87	52	91	54	335	1,800	667	102	32	31
12	57	303	75	52	87	54	468	1,710	730	87	31	31
13	61	94	67	87	81	54	467	1,570	908	80	30	31
14	62	66	67	125	80	54	384	1,380	1,070	74	29	30
15	49	62	62	87	78	58	279	1,230	1,040	69	29	30
16	47	60	63	69	77	67	308	1,310	1,040	62	29	31
17	45	64	60	63	74	70	455	1,540	769	56	29	31
18	42	272	58	66	74	72	620	1,530	713	52	29	31
19	40	191	58	890	73	71	589	1,330	795	49	29	35
20	38	116	58	2,190	71	77	715	1,210	700	46	29	58
21	36	96	60	1,260	72	73	901	1,300	596	43	29	55
22	35	89	53	473	70	72	1,000	1,470	563	40	38	54
23	34	105	54	286	69	93	951	1,570	515	38	42	54
24	33	79	55	218	64	104	670	1,520	503	36	43	53
25	32	75	53	357	60	115	530	1,410	423	34	42	53
26	31	70	53	783	65	156	415	1,330	346	32	41	52
27	30	66	54	345	64	229	416	1,400	321	30	41	51
28	29	63	52	222	62	304	566	1,230	286	29	40	50
29	30	60	51	163	-----	380	762	1,300	270	28	38	49
30	33	60	48	140	-----	487	817	1,410	263	28	38	49
31	29	-----	44	124	-----	585	-----	1,480	-----	28	39	-----
TOTAL	1,180	3,043	1,819	8,609	2,288	3,822	14,577	41,253	23,965	2,872	1,035	1,207
MEAN	38.1	101	58.7	278	81.7	123	486	1,331	799	92.6	33.4	40.2
MAX	62	414	87	2,190	119	585	1,000	1,800	1,420	243	47	58
MIN	21	26	44	43	60	54	183	506	263	28	22	30
AC-FT	2,340	6,040	3,610	17,080	4,540	7,580	28,910	81,820	47,530	5,700	2,050	2,390
CAL YR 1968	TOTAL	55,867.8	MEAN	153	MAX	1,350	MIN	4.8	AC-FT	110,800		
WTR YR 1969	TOTAL	105,670	MEAN	290	MAX	2,190	MIN	21	AC-FT	209,600		

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	1115	7.96	2,460	5-23	2045	7.64	2,210
5-11	2015	7.90	2,390	5-31	2030	7.32	1,990
5-17	2045	7.60	2,180	6-14	1930	6.91	1,740

11-4141. FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CALIF.

LOCATION.--Lat 39°22'45", long 120°29'52", in NW¹SE¹ sec.34, T.18 N., R.13 E., Nevada County, Tahoe National Forest, on right bank 850 ft downstream from Fordyce Dam, and 5.3 miles northeast of Cisco.

DRAINAGE AREA.--31.7 sq mi.

PERIOD OF RECORD.--June 1966 to current year.

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

EXTREMES.--Current year: Maximum discharge, 1,180 cfs June 11 (gage height, 5.61 ft); minimum daily, 6.0 cfs Jan. 5-8.

Period of record: Maximum discharge, 1,610 cfs June 18, 1967 (gage height, 4.92 ft), from rating curve extended above 750 cfs; minimum daily, 5.3 cfs Jan. 8, 9, 1968.

REMARKS.--Flow regulated by Fordyce Lake (usable capacity, 46,700 acre-ft).

COOPERATION.--Records collected by Pacific Gas and Electric Co. under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.9	10	102	10	11	113	24	978	185	426	318
2	6.7	8.3	10	102	10	11	113	24	920	202	426	314
3	6.7	9.5	10	100	10	11	113	24	983	201	420	309
4	6.7	8.3	10	56	10	11	66	25	1,010	188	414	305
5	6.7	8.0	10	6.0	10	11	14	27	983	178	414	300
6	6.7	8.0	10	6.0	10	11	14	27	1,080	166	409	296
7	6.7	8.0	10	6.0	10	11	14	28	1,010	155	409	287
8	6.7	8.0	10	6.0	10	11	14	29	893	148	404	283
9	6.7	8.0	10	6.2	10	11	15	29	745	169	404	278
10	6.7	8.3	10	6.4	10	11	15	31	595	175	398	274
11	6.7	9.2	10	6.2	10	11	16	32	388	181	393	266
12	7.2	9.8	10	6.2	10	11	16	33	167	188	393	109
13	7.2	9.2	10	6.2	10	11	16	80	116	181	388	27
14	7.2	8.9	10	6.2	10	11	16	337	118	80	388	27
15	6.9	9.2	10	12	10	11	16	478	255	46	382	144
16	6.9	9.2	10	15	10	11	17	554	363	43	377	205
17	6.9	9.2	71	10	10	11	17	705	271	43	377	201
18	6.9	11	122	8.9	10	11	18	854	302	43	372	198
19	7.2	9.8	120	8.6	10	11	18	845	519	43	367	195
20	6.9	9.8	120	8.9	10	11	19	752	524	43	362	191
21	6.9	9.8	118	9.8	10	11	20	697	460	43	362	188
22	6.9	9.8	118	12	10	11	21	752	425	120	362	181
23	6.9	9.8	117	9.5	11	12	21	888	438	175	357	178
24	6.9	10	117	9.5	11	12	21	980	405	188	352	175
25	6.9	10	113	9.5	11	70	21	909	345	188	347	72
26	6.9	9.8	111	9.5	11	113	21	884	219	188	342	20
27	6.9	10	111	9.8	11	113	22	887	141	185	342	20
28	6.9	10	109	9.8	11	111	22	865	159	332	332	20
29	7.2	10	107	9.8	-----	111	23	810	175	437	332	19
30	7.2	10	105	9.8	-----	113	23	884	166	431	328	18
31	6.9	-----	104	10	-----	115	-----	942	-----	426	323	-----
TOTAL	213.5	275.8	1,823	593.8	286	1,012	875	14,436	15,153	5,371	11,702	5,418
MEAN	6.89	9.19	58.8	19.2	10.2	32.6	29.2	466	505	173	377	181
MAX	7.2	11	122	102	11	115	113	980	1,080	437	426	318
MIN	6.7	6.9	10	6.0	10	11	14	24	116	43	323	18
AC-FT	423	547	3,620	1,180	567	2,010	1,740	28,630	30,060	10,650	23,210	10,750
CAL YR 1968	TOTAL 26,734.9		MEAN 73.0		MAX 258	MIN 5.3	AC-FT 53,030					
WTR YR 1969	TOTAL 57,159.1		MEAN 157		MAX 1,080	MIN 6.0	AC-FT 113,400					

SACRAMENTO RIVER BASIN

11-4141.4. LAKE SPAULDING NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°19'35", long 120°38'32", in SE¼NE¼ sec.20, T.17 N., R.12 E., Nevada County, on left abutment of Spaulding Dam on South Yuba River, 2.5 miles northeast of Emigrant Gap.

DRAINAGE AREA.--118 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft above mean sea level (levels by Pacific Gas and Electric Co.). Prior to July 1968, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 74,600 acre-ft June 26 (gage height, 204.8 ft); minimum, 4,970 acre-ft Mar. 21 (gage height, 51.9 ft).
Period of record: Maximum contents, 75,100 acre-ft July 13, 1967 (gage height, 205.5 ft); minimum, 4,970 acre-ft Mar. 21, 1969 (gage height, 51.9 ft).

REMARKS.--Lake is formed by three concrete-arch dams with spillway on the middle arc. Storage began in 1913. Capacity, 74,800 acre-ft between gage heights 0.6 ft (bottom of outlet) and 205.0 ft (top of radial gates). Released water flows through Spaulding powerhouses Nos. 1 and 2. Flow through powerhouse No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin.

COOPERATION.--Record of contents collected 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)

11	329	50	4,580
15	427	70	9,630
20	566	100	19,500
25	874	150	41,500
30	1,350	200	71,300
40	2,740	206	75,500

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43,500	12,700	9,760	9,620	40,900	17,100	12,300	29,900	71,900	73,500	60,200	58,800
2	42,400	13,100	9,900	9,620	40,100	16,400	13,300	31,100	71,900	73,500	60,800	59,000
3	41,300	15,100	9,890	9,560	39,300	15,400	13,100	31,800	72,600	73,400	60,800	58,600
4	40,000	15,000	9,880	9,820	38,500	14,500	13,100	32,000	72,700	73,400	60,800	58,300
5	38,900	14,600	9,840	10,100	37,800	13,600	13,400	34,200	72,700	73,300	60,700	58,000
6	37,800	14,000	9,760	9,710	37,100	12,600	13,200	37,400	72,400	73,100	60,800	57,700
7	36,800	13,400	9,850	9,600	36,200	11,600	12,700	38,200	72,200	72,900	60,700	57,500
8	35,700	12,900	9,960	9,540	35,300	10,600	12,000	45,000	72,000	72,300	60,700	58,400
9	34,400	12,700	9,960	9,370	34,400	9,630	11,600	51,500	71,800	72,000	60,700	59,600
10	33,600	12,500	10,300	9,250	33,600	8,980	11,200	54,000	71,700	71,700	60,700	60,700
11	32,600	12,100	10,200	9,290	32,900	8,830	11,400	58,400	71,500	71,300	60,700	61,900
12	31,700	13,200	9,740	9,340	32,100	8,790	12,100	58,400	72,400	70,800	60,500	62,700
13	31,100	12,900	9,430	10,400	31,500	8,800	12,800	62,600	72,100	70,100	60,400	63,200
14	30,300	12,500	9,430	11,400	30,400	7,460	13,000	65,900	73,000	69,400	60,300	63,600
15	29,500	12,000	9,430	11,100	29,600	7,300	12,800	66,700	73,200	68,800	60,200	64,300
16	28,600	11,600	9,600	10,300	28,800	6,490	12,700	66,800	73,200	68,200	60,000	65,200
17	27,400	11,200	9,590	9,690	27,900	5,570	13,300	67,000	72,200	67,300	60,000	66,200
18	26,500	11,500	9,450	9,820	27,000	5,060	14,700	67,500	72,000	66,700	59,900	67,100
19	25,500	11,700	9,520	16,100	26,000	5,090	15,700	67,400	72,500	65,800	59,700	67,500
20	24,600	11,400	9,480	28,800	25,100	5,050	17,100	67,100	73,200	64,900	59,600	66,900
21	23,700	11,000	9,480	35,600	24,200	4,970	19,200	66,900	73,400	63,900	59,300	66,500
22	22,700	10,600	9,480	36,800	23,300	5,020	21,600	67,100	73,400	63,300	59,100	65,900
23	21,700	10,300	9,430	36,900	22,400	5,270	23,700	67,500	73,800	62,900	59,000	65,200
24	20,500	9,900	9,230	36,900	21,600	5,400	24,500	67,500	74,300	62,400	58,800	64,700
25	19,500	9,510	9,420	39,000	20,800	5,620	24,800	67,500	74,400	61,900	58,600	63,600
26	18,400	9,370	9,560	42,900	19,900	6,070	25,100	67,300	74,600	61,200	58,400	63,100
27	17,400	9,330	9,600	43,500	19,000	6,440	25,000	67,300	74,100	60,600	58,300	62,000
28	16,500	9,420	9,570	43,400	18,100	7,070	25,800	68,000	73,700	60,000	58,100	61,000
29	15,500	9,530	9,560	43,000	-----	8,000	27,000	69,400	73,500	60,100	58,000	60,000
30	14,500	9,640	9,560	42,400	-----	9,380	28,400	70,400	73,700	60,200	58,300	58,900
31	13,500	-----	9,580	41,700	-----	11,000	-----	71,700	-----	60,100	58,600	-----
(a)	82.5	70.0	69.8	150.3	95.9	74.7	122.4	200.5	203.4	182.7	180.3	180.7
(b)	-31,100	-3,860	-60	+32,100	-23,600	-7,100	+17,400	+43,300	+2,000	-13,600	-1,500	+300
MAX	43,500	15,100	10,300	43,500	40,900	17,100	28,400	71,700	74,600	73,500	60,800	67,500
MIN	13,500	9,330	9,230	9,250	18,100	4,970	11,200	29,900	71,500	60,000	58,000	57,500
CAL YR 1968	b	+330		MAX	67,100	MIN	6,600					
WTR YR 1969	b	+14,300		MAX	74,600	MIN	4,970					

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

b Change in contents, in acre-feet.

11-4141.7. DRUM CANAL AT INTAKE NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°19'28", long 120°38'37", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.20, T.17 N., R.12 E., Nevada County, in Tahoe National Forest, in Spaulding No. 1 powerhouse, and 2.4 miles northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,880 ft (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 838 cfs Apr. 11, 16, May 14, 1969; no flow for several days in most years.

REMARKS.--Canal diverts from Spaulding No. 1 powerhouse at Lake Spaulding Dam. Water is used for irrigation and power in the Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	710	575	222	411	694	701	784	835	829	731	732	509
2	700	223	219	411	697	698	824	833	830	735	732	676
3	689	220	217	389	697	703	822	830	832	731	732	739
4	698	441	217	317	695	701	823	831	832	729	734	745
5	700	512	309	439	695	700	823	832	830	726	732	742
6	701	508	299	545	698	702	819	833	826	718	735	742
7	699	512	223	482	703	699	826	832	825	713	742	739
8	695	475	221	457	697	696	826	829	825	715	748	3.7
9	696	357	289	388	700	692	825	829	827	719	748	1.1
10	698	356	321	341	701	553	834	829	828	719	748	1.1
11	697	358	515	292	704	356	838	831	828	716	748	1.1
12	691	481	561	294	700	299	837	830	829	716	747	1.1
13	688	520	470	335	699	266	837	837	830	716	745	1.1
14	689	516	318	445	699	525	835	838	832	716	747	1.1
15	688	515	318	615	702	699	835	834	831	716	745	1.1
16	689	518	318	730	702	699	838	831	828	715	742	1.1
17	691	513	373	624	702	697	809	832	827	712	745	1.1
18	685	510	414	319	697	571	818	829	828	722	750	1.0
19	689	506	410	257	701	368	821	830	832	725	748	293
20	694	493	410	237	699	402	819	828	829	725	750	757
21	698	495	410	467	687	399	821	818	828	728	748	748
22	699	501	410	632	697	362	822	825	831	731	747	751
23	698	500	410	692	687	350	828	826	831	731	748	752
24	696	490	425	696	690	390	812	828	831	731	748	749
25	681	472	605	641	702	456	826	826	831	734	745	735
26	689	343	514	541	699	591	829	829	832	735	744	754
27	691	290	445	611	698	706	831	828	833	735	745	753
28	694	221	412	641	703	707	833	828	835	734	744	752
29	691	219	412	642	-----	704	831	831	799	729	654	754
30	691	222	412	675	-----	703	836	832	734	734	509	743
31	675	-----	406	679	-----	705	-----	829	-----	735	507	-----
TOTAL	21,490	12,862	11,505	15,245	19,545	17,800	24,762	25,733	24,763	22,472	22,489	13,447.6
MEAN	693	429	371	492	698	574	825	830	825	725	725	448
MAX	710	575	605	730	704	707	838	838	835	735	750	757
MIN	675	219	217	237	687	266	784	818	734	712	507	1.0
AC-FT	42,620	25,510	22,820	30,240	38,770	35,310	49,110	51,040	49,120	44,570	44,610	26,670
CAL YR 1968	TOTAL 170,082.70		MEAN 465		MAX 750		MIN 0		AC-FT 337,400			
WTR YR 1969	TOTAL 232,113.6		MEAN 636		MAX 838		MIN 1.0		AC-FT 460,400			

11-4142. SOUTH YUBA CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°18'45", long 120°39'45", in SE¼NE¼ sec.30, T.17 N., R.12 E., Nevada County, on left bank of concrete flume 400 ft downstream from Bowman Lake Road, and 2.5 miles northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,640 ft (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 165 cfs Aug. 3, 1965; no flow Apr. 20-22, 1966.

REMARKS.--Canal diverts from South Yuba River below Lake Spaulding. Water is diverted to Deer Creek powerhouse where it enters Deer Creek.

COOPERATION.--Records collected by Pacific Gas and Electric Co. under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	100	89	89	116	125	126	135	136	95	108	105
2	102	102	89	89	116	125	128	134	136	95	106	106
3	102	101	89	90	116	126	128	134	136	97	105	106
4	86	101	89	90	116	124	128	134	137	99	105	106
5	104	98	83	89	118	125	126	33	136	100	105	106
6	105	97	89	88	118	127	125	71	141	101	107	106
7	104	96	90	88	118	126	127	114	142	100	106	106
8	106	97	90	88	118	124	126	119	142	99	104	105
9	106	97	90	89	117	122	125	123	142	99	107	105
10	105	95	92	89	118	99	125	129	141	99	107	106
11	104	95	89	90	119	90	126	129	141	99	105	106
12	105	95	89	90	123	94	127	133	141	98	106	107
13	103	76	90	72	124	94	129	133	141	99	107	107
14	84	94	92	59	126	92	129	133	141	98	106	107
15	78	94	93	76	126	92	129	131	141	99	106	107
16	81	93	92	84	125	93	128	132	141	99	106	107
17	82	92	91	87	124	92	130	134	140	99	106	105
18	93	91	90	92	126	94	130	134	141	100	106	105
19	104	92	90	99	126	94	131	134	141	101	106	105
20	103	93	90	79	125	91	133	134	142	102	106	106
21	85	93	90	63	124	92	134	134	142	102	106	106
22	79	95	90	73	126	92	132	134	142	102	106	106
23	79	95	90	75	126	92	132	135	142	103	106	106
24	79	94	92	79	125	91	133	135	142	106	106	106
25	79	94	86	75	124	92	133	135	142	107	106	106
26	80	95	87	96	123	94	134	135	142	107	105	107
27	79	95	89	122	124	109	132	135	142	107	105	106
28	79	96	89	116	126	118	131	135	142	107	106	106
29	80	96	89	116	-----	121	133	136	125	107	105	105
30	94	91	89	116	-----	124	134	137	96	106	105	102
31	98	-----	88	116	-----	126	-----	136	-----	107	105	-----
TOTAL	2,870	2,843	2,775	2,764	3,413	3,300	3,884	3,940	4,156	3,139	3,281	3,175
MEAN	92.6	94.8	89.5	89.2	122	106	129	127	139	101	106	106
MAX	106	102	93	122	126	127	134	137	142	107	108	107
MIN	78	76	83	59	116	90	125	33	96	95	104	102
AC-FT	5,690	5,640	5,500	5,480	6,770	6,550	7,700	7,810	8,240	6,230	6,510	6,300
CAL YR 1968	TOTAL 35,592		MEAN 97.2		MAX 145		MIN 13		AC-FT 70,600			
WTR YR 1969	TOTAL 39,540		MEAN 108		MAX 142		MIN 33		AC-FT 78,430			

SACRAMENTO RIVER BASIN

11-4142.5. SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°19'07", long 120°39'27", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.20, T.17 N., R.12 E., Nevada County, on right bank 150 ft downstream from road bridge, 0.8 mile downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 miles north-east of Emigrant Gap.

DRAINAGE AREA.--120 sq mi.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft above mean sea level (levels by Pacific Gas and Electric Co.).

EXTREMES.--Current year: Maximum discharge, 3,010 cfs May 23, 24 (gage height, 9.11 ft); minimum daily, 5.4 cfs Oct. 1-3.

Period of record: Maximum discharge, 3,550 cfs June 17, 1967 (gage height, 9.61 ft); minimum daily, 3.1 cfs Nov. 5-7, 1967.

REMARKS.--Flow regulated by Lake Spaulding (see sta 11-4141.4).

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	6.6	8.2	11	53	23	38	37	2,120	14	7.4	6.9
2	5.4	15	8.2	11	53	21	32	38	2,050	14	7.4	6.9
3	5.4	30	8.2	12	53	19	28	38	1,900	14	7.2	6.9
4	6.3	16	8.3	16	50	18	28	38	2,150	14	7.1	6.9
5	6.3	11	7.9	17	50	17	58	27	2,080	13	7.1	6.9
6	5.9	9.5	7.4	17	49	14	34	33	2,050	13	7.1	6.9
7	5.9	8.7	7.5	17	48	13	25	40	1,880	13	7.1	6.9
8	5.8	8.2	7.9	16	48	12	22	44	1,580	13	7.1	6.9
9	5.7	8.2	8.0	14	47	12	22	58	1,310	12	7.1	6.9
10	5.7	8.2	21	13	47	10	25	112	921	11	7.1	6.9
11	6.2	8.2	20	13	48	8.7	31	114	497	11	7.1	7.0
12	15	8.2	15	16	47	8.7	44	107	419	10	7.1	7.0
13	13	8.2	12	80	42	8.7	32	224	567	10	7.1	7.1
14	12	8.2	14	47	40	9.0	26	1,440	542	10	7.1	7.3
15	9.5	8.2	24	26	39	9.5	22	1,660	773	9.9	7.1	7.4
16	8.1	8.2	19	20	39	11	23	1,800	1,260	9.6	7.1	7.4
17	7.5	8.2	15	17	37	14	34	2,230	1,160	9.4	7.1	7.4
18	6.9	8.2	13	27	36	17	48	2,570	724	9.2	7.1	7.4
19	6.4	8.2	12	190	34	17	42	2,320	548	9.0	7.1	7.7
20	6.2	8.2	11	347	33	16	33	1,930	489	8.8	7.1	7.8
21	6.1	8.2	10	253	33	16	35	1,930	578	8.6	7.1	8.1
22	6.1	8.2	10	61	30	17	44	2,190	497	8.1	7.1	8.4
23	6.1	8.2	10	31	29	20	51	2,520	234	7.9	7.1	8.4
24	6.1	8.2	25	29	29	21	39	2,490	279	7.9	7.1	8.3
25	6.1	8.2	22	150	27	23	37	2,270	249	7.9	7.1	8.0
26	6.1	8.2	16	178	30	26	37	2,200	109	7.8	7.1	7.8
27	6.1	8.2	14	66	27	32	37	2,130	61	7.6	7.1	7.6
28	6.1	8.2	13	66	24	35	40	1,440	57	7.5	7.1	7.5
29	8.2	8.2	12	61	-----	40	46	1,350	41	7.4	7.1	7.3
30	8.7	8.2	11	59	-----	44	42	1,620	14	7.4	7.0	6.8
31	7.3	-----	11	47	-----	43	-----	1,760	-----	7.4	6.9	-----
TOTAL	221.6	285.4	401.6	1,928	1,122	595.6	1,055	36,760	27,139	313.4	220.5	220.7
MEAN	7.15	9.51	13.0	62.2	40.1	19.2	35.2	1,186	905	10.1	7.11	7.36
MAX	15	30	25	347	53	44	58	2,570	2,150	14	7.4	8.4
MIN	5.4	6.6	7.4	11	24	8.7	22	27	14	7.4	6.9	6.8
AC-FT	440	566	797	3,820	2,230	1,180	2,090	72,910	53,830	622	437	438

CAL YR 1968 TOTAL 4,827.9 MEAN 13.2

WTR YR 1969 TOTAL 70,262.8 MEAN 193

MAX 145

MIN 4.9

AC-FT 9,580

AC-FT 139,400

11-4155. BOWMAN LAKE NEAR GRANITEVILLE, CALIF.

LOCATION.--Lat 39°27'01", long 120°39'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.18 N., R.12 E., Nevada County, on rockfill portion of Bowman Dam on Canyon Creek, 4.5 miles east of Graniteville, and 8 miles south of Sierra City.

DRAINAGE AREA.--27.1 sq mi.

PERIOD OF RECORD.--December 1926 to current year.

GAGE.--Water-stage recorder. Prior to Oct. 8, 1964, nonrecording gage at same site and datum. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Current year: Maximum contents, 69,200 acre-ft June 3-6, 8, 17-19 (elevation, 5,564.3 ft); minimum, 35,000 acre-ft Jan. 18 (elevation, 5,518.4 ft).

Period of record: Maximum contents, 71,000 acre-ft May 30, 1965 (elevation, 5,566.5 ft); minimum observed under normal operating conditions since reservoir first filled, 1,000 acre-ft Mar. 4, 1931 (elevation, 5,430.1 ft).

REMARKS.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,200 acre-ft between elevations 5,400 ft (bottom of outlet tunnel) and 5,563 ft (crest of concrete-arch dam) above mean sea level. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft, all of which is available for release. Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see sta 11-4080), and releases it through Bowman-Spaulding Canal (see sta 11-4160), which conveys it to reservoirs of Pacific Gas and Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966.

COOPERATION.--Twenty-five nonrecording gage readings furnished by Nevada Irrigation District.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,430	900	5,470	10,200
5,435	1,400	5,480	14,200
5,440	2,100	5,510	30,000
5,450	4,100	5,540	49,800
5,460	6,900	5,570	73,800

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56.10	55.80	48.30	39.00	51.20	46.00	39.80	50.40	68.80	68.80	60.10	55.60
2	56.40	55.60	48.00	38.60	51.20	45.80	40.10	52.00	68.80	68.80	59.60	55.60
3	56.60	56.00	47.60	38.20	51.10	45.50	40.30	53.20	69.20	68.70	59.10	55.60
4	56.80	55.90	47.30	37.90	50.90	45.20	40.40	54.20	69.20	68.70	58.60	55.50
5	57.00	55.60	47.00	37.60	50.80	44.90	40.50	55.50	69.20	68.50	58.00	55.50
6	57.20	55.30	46.60	37.20	50.70	44.60	40.60	57.40	69.20	68.40	57.60	55.50
7	57.50	54.90	46.20	36.90	50.40	44.30	40.50	59.50	69.10	68.30	57.20	55.50
8	57.70	54.60	45.90	36.60	50.10	44.10	40.40	62.40	69.20	68.40	56.70	55.50
9	58.00	54.10	45.60	36.20	50.00	43.70	40.20	64.00	69.10	68.40	56.30	55.50
10	58.10	53.80	45.40	35.90	49.80	43.40	40.10	65.90	69.00	68.20	55.70	55.60
11	58.40	53.50	45.10	35.80	49.70	43.20	40.10	66.50	69.00	68.00	55.20	55.60
12	58.80	53.80	44.80	35.50	49.50	42.90	40.20	66.70	69.00	67.90	54.80	55.60
13	59.20	53.50	44.50	35.60	49.30	42.50	40.60	66.40	69.10	67.60	55.10	55.70
14	59.50	53.20	44.30	35.70	49.20	42.30	40.70	66.20	69.10	67.40	55.10	55.80
15	59.60	52.80	44.10	35.50	49.10	41.90	40.70	66.00	69.10	67.10	55.20	55.90
16	59.80	52.50	43.80	35.30	48.90	41.60	40.70	66.10	69.10	66.80	55.20	56.00
17	59.90	52.20	43.40	35.10	48.70	41.30	40.80	66.30	69.20	66.50	55.50	56.00
18	60.00	52.10	43.10	35.00	48.50	41.00	41.30	66.40	69.20	66.20	55.60	56.00
19	60.10	52.00	42.80	37.30	48.20	40.80	41.70	66.30	69.20	65.80	55.80	56.00
20	60.20	51.80	42.40	42.70	48.00	40.50	42.30	66.10	69.10	65.50	55.80	56.00
21	60.20	51.50	42.10	46.00	47.70	40.20	43.20	66.10	69.10	65.10	55.80	56.00
22	59.90	51.20	41.80	46.60	47.40	39.90	44.10	66.30	69.10	64.70	55.80	55.90
23	59.40	50.80	41.50	47.00	47.30	39.60	45.20	66.40	69.10	64.20	55.80	55.90
24	59.00	50.50	41.40	47.40	47.10	39.40	45.80	66.40	69.10	63.80	55.90	55.80
25	58.60	50.20	41.30	48.10	47.00	39.20	46.00	66.90	69.00	63.30	55.90	55.80
26	58.20	49.90	40.90	50.00	46.80	39.00	46.20	67.70	69.00	62.90	55.90	55.80
27	57.80	49.50	40.60	50.70	46.50	38.80	46.40	68.40	68.90	62.40	55.90	55.70
28	57.40	49.20	40.40	51.20	46.30	38.70	46.80	68.70	68.80	62.00	55.70	55.70
29	57.00	48.90	40.00	51.40	-----	38.70	47.80	68.80	68.80	61.60	55.80	55.70
30	56.60	48.60	39.60	51.30	-----	39.00	49.00	69.00	68.80	61.10	55.70	55.60
31	56.20	-----	39.30	51.20	-----	39.40	-----	68.80	-----	60.60	55.70	-----
MAX	60.20	56.00	48.30	51.40	51.20	46.00	49.00	69.00	69.20	68.80	60.10	56.00
MIN	56.10	48.60	39.30	35.00	46.30	38.70	39.80	50.40	68.80	60.60	54.80	55.50
(a)	5,548.0	5,538.3	5,525.0	5,541.8	5,535.0	5,525.1	5,538.9	5,563.8	5,563.5	5,547.4	5,547.3	5,547.3
(b)	+300	-7,600	-9,300	+11,900	-4,900	-6,900	+9,600	+19,000	0	-8,200	-4,900	-100

CAL YR 1968 b +10,500 MAX 60,200 MIN 19,400
WTR YR 1969 b -300 MAX 69,200 MIN 35,000

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-4160. BOWMAN-SPAULDING CANAL INTAKE NEAR SIERRA CITY, CALIF.

LOCATION.--Lat 39°26'26", long 120°39'30", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.18 N., R.12 E., Nevada County, Tahoe National Forest, on left bank 0.6 mile downstream from Bowman Dam, and 8 miles south of Sierra City.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1962, published as Bowman-Spauldning Canal at intake.

GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft above mean sea level. Prior to July 1965 at site 0.3 mile upstream at different datum.

AVERAGE DISCHARGE.--42 years, 149 cfs (108,000 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 295 cfs Sept. 27-29, 1969; no flow at times in most years.

REMARKS.--Records good. Canal diverts from left bank at Canyon Creek below Bowman Lake. Water is diverted to Lake Spaulding and after passing through several powerhouses is used for irrigation by Nevada Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	228	214	209	135	203	146	60	61	265	278	294
2	228	232	214	209	121	203	134	76	60	265	278	292
3	228	226	214	209	174	203	123	97	57	265	281	272
4	228	216	213	209	172	204	158	124	62	265	282	263
5	229	216	218	212	170	204	183	126	77	265	281	264
6	229	216	224	215	170	204	165	79	125	265	282	265
7	230	221	224	215	170	204	165	60	131	265	284	265
8	230	225	224	215	169	204	191	60	139	134	283	262
9	232	226	223	214	178	203	207	62	152	269	282	263
10	232	229	224	214	186	203	207	33	169	271	281	265
11	233	234	220	213	185	203	208	15	192	275	280	270
12	233	236	219	213	183	202	166	18	203	277	282	272
13	230	232	218	212	183	201	143	16	203	277	284	272
14	229	233	218	154	184	201	164	18	203	276	286	274
15	229	233	218	184	184	201	178	14	203	275	286	274
16	229	233	216	191	183	200	197	16	201	277	284	275
17	229	233	215	190	183	201	191	16	209	278	282	275
18	229	236	214	191	183	201	162	17	216	278	281	275
19	230	229	212	89	196	201	123	17	215	277	281	274
20	232	225	212	11	206	201	85	16	210	272	282	282
21	232	224	210	8.0	206	200	74	16	213	276	283	290
22	232	224	212	68	206	200	62	15	228	283	280	290
23	232	224	212	106	206	200	55	16	238	284	278	290
24	230	224	212	106	206	200	89	18	249	284	282	290
25	230	224	213	80	204	198	142	14	252	277	287	290
26	230	224	210	38	204	197	143	42	252	272	288	292
27	229	224	210	67	203	197	143	62	252	275	292	295
28	229	225	210	93	204	198	134	63	255	277	293	295
29	229	225	209	111	-----	160	102	62	263	276	293	295
30	228	225	209	124	-----	145	70	63	264	276	293	294
31	226	-----	209	135	-----	147	-----	62	-----	277	294	-----
TOTAL	7,124	6,802	6,670	4,705.0	5,154	6,089	4,310	1,373	5,554	8,348	8,803	8,369
MEAN	230	227	215	152	184	196	144	44.3	185	269	284	279
MAX	233	236	224	215	206	204	208	126	264	284	294	295
MIN	226	216	209	8.0	121	145	55	14	57	134	278	262
AC-FT	14,130	13,490	13,230	9,330	10,220	12,080	8,550	2,720	11,020	16,560	17,460	16,600
CAL YR 1968	TOTAL 67,098.00		MEAN 183		MAX 280		MIN 0		AC-FT 133,100			
WTR YR 1969	TOTAL 73,301.0		MEAN 201		MAX 295		MIN 8.0		AC-FT 145,400			

11-4161. BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°20'32", long 120°38'26", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.16, T.17 N., R.12 E., Nevada County, at outlet of Jordan Creek siphon 0.6 mile downstream from Fuller Lake, and 3.5 miles northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft above mean sea level (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 330 cfs Dec. 22, 1964; no flow at times in most years.

REMARKS.--Records show water diverted from Bowman Lake (see sta 11-4155) plus numerous small tributaries before it enters Lake Spaulding (see sta 11-4141.4). See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co. under general supervision of the Geological Survey in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	216	214	215	180	227	288	292	304	296	287	290
2	215	222	236	215	176	226	289	288	292	295	287	289
3	215	244	160	214	218	225	255	293	288	294	286	286
4	215	236	220	214	227	239	233	290	280	293	287	289
5	216	237	216	214	227	227	279	305	271	292	287	288
6	216	186	218	217	221	201	292	308	289	291	286	287
7	216	214	218	222	216	216	265	309	299	289	287	287
8	216	213	218	214	212	219	258	309	294	131	287	288
9	216	214	218	219	212	219	275	311	293	295	288	286
10	216	215	226	219	218	221	282	312	291	292	287	286
11	216	215	237	220	219	221	295	311	295	292	287	288
12	244	237	224	223	226	219	299	311	306	292	285	289
13	235	229	219	253	224	219	292	309	305	292	288	291
14	232	247	227	256	221	218	296	307	308	293	289	291
15	222	228	229	214	224	218	290	304	308	293	289	291
16	244	217	226	219	226	219	295	310	305	292	289	290
17	182	218	218	218	221	219	306	308	299	293	289	289
18	223	221	216	215	216	221	310	302	303	293	288	288
19	237	247	216	296	212	222	306	295	309	293	287	288
20	238	170	216	305	221	222	300	282	300	292	286	288
21	184	226	214	303	227	223	296	299	292	289	287	291
22	216	220	214	232	227	223	304	307	290	291	288	290
23	216	216	217	200	229	224	306	309	290	293	287	289
24	216	216	222	263	232	225	293	307	294	294	286	288
25	216	216	226	296	244	232	295	299	296	291	286	289
26	216	215	223	292	245	239	295	291	295	288	287	287
27	216	214	220	282	226	253	294	303	295	287	288	288
28	214	212	219	243	224	271	300	303	293	287	290	290
29	209	214	218	221	-----	285	305	296	292	287	290	290
30	222	214	217	211	-----	266	300	302	295	286	290	289
31	218	-----	216	201	-----	274	-----	306	-----	286	290	-----
TOTAL	6,771	6,589	6,778	7,326	6,171	7,133	8,693	9,378	8,871	8,872	8,915	8,660
MEAN	218	220	219	236	220	230	290	303	296	286	288	289
MAX	244	247	237	305	245	285	310	312	309	296	290	291
MIN	182	170	160	200	176	201	233	282	271	131	285	286
AC-FT	13,430	13,070	13,440	14,530	12,240	14,150	17,240	18,600	17,600	17,600	17,680	17,180
CAL YR 1968	TOTAL 75,483.00		MEAN 206		MAX 294		MIN 0		AC-FT 149,700			
WTR YR 1969	TOTAL 94,157		MEAN 258		MAX 312		MIN 131		AC-FT 186,800			

SACRAMENTO RIVER BASIN

11-4165. CANYON CREEK BELOW BOWMAN LAKE, CALIF.

LOCATION.--Lat 39°26'23", long 120°39'39", in SE $\frac{1}{4}$ sec.7, T.18 N., R.12 E., Nevada County, on left bank 1 mile downstream from Bowman Dam, 3 miles upstream from Texas Creek, and 9 miles south of Sierra City.

DRAINAGE AREA.--28.3 sq mi.

PERIOD OF RECORD.--January 1927 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,100 ft (from topographic map).

AVERAGE DISCHARGE.--42 years, 40.7 cfs (29,490 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,120 cfs May 13 (gage height, 4.83 ft); minimum daily, 2.6 cfs Oct. 25-28, Sept. 4-6.

Period of record: Maximum discharge, 2,600 cfs Dec. 25, 1964 (gage height, 6.25 ft); no flow at times.

REMARKS.--Records good. Flow regulated by French Lake (usable capacity, 13,840 acre-ft), by Bowman Lake (see sta 11-4155), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (see sta 11-4160). See schematic diagram showing diversions and storage in Yuba River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.0	3.2	3.5	3.6	4.0	7.6	7.2	675	39	3.1	2.8
2	3.6	6.6	3.2	3.5	3.5	3.8	6.1	6.6	575	29	3.1	2.7
3	3.6	9.8	3.2	3.8	3.3	3.6	4.9	5.9	406	18	3.1	2.7
4	3.6	4.8	3.2	4.2	3.3	3.5	5.6	6.4	560	7.9	3.1	2.6
5	3.6	3.8	3.2	4.2	3.9	3.3	7.6	10	515	4.8	3.1	2.6
6	3.6	3.5	3.2	4.2	5.1	3.3	5.2	10	458	5.6	3.1	2.6
7	3.3	3.3	3.2	4.2	3.5	3.2	4.9	8.7	390	4.6	2.9	2.7
8	3.0	3.2	3.3	3.9	3.3	3.2	5.1	9.6	485	4.2	2.9	4.2
9	3.0	3.0	3.3	3.8	3.5	3.2	5.1	9.4	500	4.2	2.8	5.1
10	3.0	3.0	7.2	3.6	3.8	3.2	5.9	232	404	4.0	2.8	4.3
11	3.2	4.3	4.9	6.2	3.9	3.1	7.2	732	350	3.6	2.8	3.9
12	5.1	7.6	4.0	6.7	3.8	3.1	8.9	992	346	3.6	2.8	3.3
13	5.2	4.1	3.9	21	3.6	3.1	7.4	1,090	338	3.5	2.7	3.2
14	4.3	3.8	4.0	10	3.5	3.2	5.9	980	466	3.2	2.8	3.2
15	3.5	3.8	4.5	4.8	6.4	3.3	5.1	860	444	3.2	2.8	2.9
16	3.2	3.8	4.0	4.2	4.2	3.5	5.9	836	448	3.0	2.8	2.7
17	3.0	4.0	3.9	3.9	3.5	3.8	7.6	884	417	3.0	2.8	2.7
18	3.0	6.0	3.8	5.4	3.3	4.2	9.9	968	404	2.9	3.3	2.8
19	2.9	4.4	3.8	38	3.3	4.0	7.8	962	448	2.9	3.8	3.5
20	2.9	3.8	3.8	57	3.5	3.9	8.2	860	362	4.6	3.8	3.6
21	2.7	3.6	3.6	32	3.5	3.9	9.9	818	310	4.8	3.6	3.6
22	2.9	3.5	3.6	7.4	3.3	4.2	9.6	854	268	4.2	3.6	3.5
23	2.7	3.3	3.6	4.8	5.1	4.3	7.8	926	250	4.2	3.6	3.5
24	2.7	3.5	3.9	4.9	6.8	4.3	5.4	974	244	3.9	3.6	3.5
25	2.6	3.5	4.8	19	11	4.6	4.9	657	247	3.5	3.6	3.5
26	2.6	3.2	4.2	19	8.2	5.1	5.2	480	201	3.5	3.6	3.5
27	2.6	3.2	3.8	5.7	4.9	5.7	5.9	655	150	3.3	3.6	3.5
28	2.6	3.2	3.8	7.2	4.5	6.1	7.6	704	104	3.3	3.5	3.1
29	3.2	3.1	3.6	4.6	-----	7.0	7.8	716	70	3.3	3.1	3.3
30	3.0	3.2	3.6	3.9	-----	7.8	7.6	794	46	3.2	2.8	3.9
31	2.9	-----	3.5	3.8	-----	8.9	-----	740	-----	3.1	2.8	-----
TOTAL	100.6	122.9	118.8	308.4	123.1	131.4	203.6	17,787.8	10,881	195.1	97.8	99.0
MEAN	3.25	4.10	3.83	9.95	4.40	4.24	6.79	574	363	6.29	3.15	3.30
MAX	5.2	9.8	7.2	57	11	8.9	9.9	1,090	675	39	3.8	5.1
MIN	2.6	3.0	3.2	3.5	3.3	3.1	4.9	5.9	46	2.9	2.7	2.6
AC-FT	200	244	236	612	244	261	404	35,280	21,580	387	194	196
CAL YR 1968	TOTAL	1,422.4	MEAN	3.89	MAX	23	MIN	2.0	AC-FT	2,820		
WTR YR 1969	TOTAL	30,169.5	MEAN	82.7	MAX	1,090	MIN	2.6	AC-FT	59,840		

11-4170. SOUTH YUBA RIVER NEAR WASHINGTON, CALIF.

LOCATION.--Lat 39°21'38", long 120°46'14", on line between secs.5 and 8, T.17 N., R.11 E., Nevada County, on left bank 800 ft upstream from unnamed tributary, and 1.5 miles east of Washington.

DRAINAGE AREA.--198 sq mi.

PERIOD OF RECORD.--March 1942 to September 1953, October 1956 to current year. Prior to October 1949, published as South Fork Yuba River near Washington.

GAGE.--Water-stage recorder. Altitude of gage is 2,735 ft (from river-profile map). Mar. 14, 1942, to Sept. 30, 1945, at site 150 ft upstream at present datum. Oct. 1, 1945, to July 14, 1949, on right bank 50 ft downstream at present datum. July 15, 1949, to Sept. 30, 1953, on right bank 0.8 mile upstream at different datum. Oct. 1, 1956, to Apr. 24, 1963, at site 50 ft downstream at present datum. Apr. 25, 1963, to Feb. 26, 1965, at site 50 ft downstream at present datum.

AVERAGE DISCHARGE.--24 years, 298 cfs (215,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,240 cfs Jan. 20 (gage height, 8.63 ft); minimum daily, 20 cfs Oct. 1-4, 9, 10.

Period of record: Maximum discharge, 35,300 cfs Dec. 23, 1964 (gage height, 20.0 ft, from floodmarks), from rating curve extended above 6,500 cfs on basis of slope-area measurement at gage height 16.60 ft in gage well, 17.8 ft, from floodmarks; minimum, 9.1 cfs Oct. 18, 1950.

Flood of Dec. 23, 1955, reached a stage of 17.8 ft, from floodmarks (discharge, 26,300 cfs).

REMARKS.--Records good October to June; fair July to September. Natural flow affected by Lake Spaulding beginning in 1912 (see sta 11-4141.4), Bowman Lake (see sta 11-4155), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres by Nevada Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	27	54	90	300	187	453	354	2,890	77	32	21
2	20	60	50	87	274	179	393	328	2,740	73	32	21
3	20	225	47	94	260	170	322	305	2,420	65	34	22
4	20	113	47	126	244	162	300	285	2,760	55	32	22
5	21	60	46	132	250	162	558	348	2,670	50	30	22
6	21	46	44	132	242	160	402	441	2,570	50	27	22
7	21	40	44	131	224	150	308	484	2,360	50	26	22
8	21	37	46	124	214	135	276	554	2,140	54	28	22
9	20	35	47	106	232	129	268	642	1,950	47	27	23
10	20	34	142	93	244	124	270	946	1,560	44	27	23
11	21	35	188	128	340	117	328	1,610	1,070	43	26	23
12	80	192	102	204	387	114	411	1,860	767	43	26	22
13	66	81	82	981	288	112	369	1,840	1,050	42	25	22
14	58	60	135	700	276	112	312	2,750	1,040	41	24	22
15	44	70	261	335	426	118	264	2,800	1,230	40	24	23
16	34	68	179	234	354	135	264	2,810	1,670	40	24	23
17	30	62	118	186	295	165	310	3,200	1,690	39	24	23
18	28	87	95	205	268	196	441	3,650	1,250	38	24	23
19	26	85	85	2,150	246	191	378	3,550	1,060	38	24	23
20	26	64	73	4,370	236	195	381	3,100	945	37	24	24
21	25	54	66	3,710	216	212	444	3,010	940	37	24	24
22	25	49	64	1,610	198	212	487	3,260	730	37	24	24
23	25	46	81	755	196	238	501	3,490	484	36	24	24
24	25	53	330	519	195	240	384	3,650	508	36	23	24
25	24	57	310	1,700	186	246	310	3,240	504	36	23	24
26	24	50	182	2,340	177	272	285	2,950	345	35	23	24
27	24	47	129	849	167	328	288	3,040	244	35	23	24
28	24	44	122	602	196	381	322	2,700	200	35	22	24
29	28	43	112	465	-----	426	381	2,270	160	34	22	25
30	38	48	100	387	-----	471	372	2,640	90	34	22	26
31	29	-----	91	342	-----	501	-----	2,650	-----	34	22	-----
TOTAL	908	1,972	3,472	23,887	7,131	6,540	10,782	64,757	40,037	1,355	792	691
MEAN	29.3	65.7	112	771	255	211	359	2,089	1,335	43.7	25.5	23.0
MAX	80	225	330	4,370	426	501	558	3,650	2,890	77	34	26
MIN	20	27	44	87	167	112	264	285	90	34	22	21
AC-FT	1,800	3,910	6,890	47,380	14,140	12,970	21,390	128,400	79,410	2,690	1,570	1,370
CAL YR 1968	TOTAL	33,108	MEAN	90.5	MAX	1,240	MIN	16	AC-FT	65,670		
WTR YR 1969	TOTAL	162,324	MEAN	445	MAX	4,370	MIN	20	AC-FT	322,000		

SACRAMENTO RIVER BASIN

11-4171. POORMAN CREEK NEAR WASHINGTON, CALIF.

LOCATION.--Lat 39°21'36", long 120°48'24", in SW $\frac{1}{4}$ sec.1, T.17 N., R.10 E., Nevada County, Tahoe National Forest, on left bank just downstream from U.S. Forest Service road bridge, 0.4 mile west of Washington, and 1.4 miles downstream from Deadman Creek.

DRAINAGE AREA.--23.1 sq mi.

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 66.3 cfs (48,030 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,980 cfs Jan. 20 (gage height, 8.31 ft); minimum daily, 7.4 cfs Oct. 3.

Period of record: Maximum discharge, 6,090 cfs Dec. 22, 1964 (gage height, 12.52 ft in gage well, 13.5 ft, from floodmarks), from rating curve extended above 1,700 cfs on basis of slope-area measurement at 10.95 ft; minimum, 5.9 cfs Oct. 4, 1961.

REMARKS.--Records good. No known diversion or storage above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	10	22	35	160	94	222	179	148	33	14	11
2	7.5	26	19	34	142	90	205	172	138	31	14	11
3	7.4	91	18	36	132	87	179	163	131	30	14	11
4	7.5	37	18	47	125	84	166	152	124	29	14	11
5	7.6	20	17	51	125	84	234	170	113	28	13	11
6	7.7	16	17	51	121	85	193	202	103	27	13	10
7	7.7	14	17	48	109	82	167	224	96	27	13	11
8	7.6	13	17	44	103	79	156	246	94	27	13	11
9	7.6	13	17	38	112	77	150	268	87	25	13	11
10	7.6	12	50	34	119	74	148	274	80	24	13	10
11	8.3	14	60	43	155	72	160	286	80	23	13	10
12	33	62	34	64	182	71	175	284	73	22	12	10
13	28	26	28	325	141	69	174	263	69	21	12	10
14	21	21	42	297	134	70	163	241	65	21	12	10
15	14	23	97	144	191	73	148	222	61	20	12	10
16	12	22	64	104	167	81	145	221	59	20	12	10
17	11	20	41	82	144	90	154	233	56	19	12	10
18	10	39	33	87	133	101	194	239	66	19	12	10
19	9.9	33	30	697	123	100	179	225	62	18	12	10
20	9.7	24	26	1,590	116	101	184	207	54	18	12	10
21	9.6	20	24	1,520	109	109	207	207	49	17	12	11
22	9.5	19	23	765	102	111	219	212	46	17	11	10
23	9.4	18	29	421	101	120	224	218	44	17	11	10
24	9.2	22	102	316	101	121	188	210	43	16	11	10
25	9.2	22	127	703	97	124	164	195	41	16	11	10
26	9.2	19	71	1,020	93	135	153	185	40	15	11	10
27	9.1	18	50	488	87	153	150	186	38	15	11	10
28	9.1	17	48	348	98	173	159	170	37	15	11	10
29	11	16	44	256	-----	191	175	163	36	15	11	9.9
30	13	19	40	210	-----	214	180	160	34	15	11	9.9
31	11	-----	36	176	-----	231	-----	157	-----	14	11	-----
TOTAL	341.9	726	1,261	10,074	3,522	3,346	5,315	6,534	2,167	654	377	308.8
MEAN	11.0	24.2	40.7	325	126	108	177	211	72.2	21.1	12.2	10.3
MAX	33	91	127	1,590	191	231	234	286	148	33	14	11
MIN	7.4	10	17	34	87	69	145	152	34	14	11	9.9
AC-FT	678	1,440	2,500	19,980	6,990	6,640	10,540	12,960	4,300	1,300	748	613
CAL YR 1968	TOTAL 15,965.6		MEAN 43.6		MAX 474		MIN 7.3		AC-FT 31,670			
WTR YR 1969	TOTAL 34,626.7		MEAN 94.9		MAX 1,590		MIN 7.4		AC-FT 68,680			

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1915	5.39	556	1-26	0330	7.94	1,730
1-20	1545	8.31	1,980				

11-4175. SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CALIF.

LOCATION.--Lat 39°17'32", long 121°06'13", near center of sec.32, T.17 N., R.8 E., Nevada County, on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mile downstream from bridge on State Highway 49, and 5 miles northwest of Grass Valley.

DRAINAGE AREA.--308 sq mi.

PERIOD OF RECORD.--October 1940 to September 1948, April 1959 to current year. Published as South Fork Yuba River at Jones Bar 1940-48 and as South Yuba River "at Jones Bar" 1959-63.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (from river-profile map). Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--18 years, 491 cfs (355,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 13,800 cfs Jan. 20 (gage height, 15.17 ft); minimum daily, 40 cfs Oct. 1.

Period of record: Maximum discharge, 53,600 cfs Dec. 22, 1964 (gage height, 25.0 ft, from floodmarks), from rating curve extended above 23,000 cfs on basis of slope-area measurement of maximum flow; minimum, 1.0 cfs Sept. 10-13, 1944.

Flood of Dec. 23, 1955, reached a stage of 28.7 ft, from floodmarks (at site 100 ft upstream and datum 2.00 ft lower).

REMARKS.--Records excellent. Flow regulated by Lake Spaulding (see sta 11-4140.4), Fordyce Lake (capacity, 46,700 acre-ft), Bowman Lake (see sta 11-4155), and many smaller reservoirs. Diversions into and out of basin for several powerhouses, and for irrigation of about 20,000 acres by the Nevada Irrigation District. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	62	131	252	1,050	1,220	1,180	802	3,270	169	62	49
2	41	90	135	234	928	990	1,120	774	3,190	159	61	48
3	42	473	114	226	851	892	1,000	726	2,840	149	60	48
4	42	304	107	264	806	810	900	670	2,960	136	58	48
5	41	148	105	295	1,100	762	1,560	682	3,000	122	57	49
6	42	106	99	292	1,160	754	1,330	815	2,880	114	56	48
7	44	91	98	284	874	702	1,040	896	2,660	110	55	49
8	43	82	97	270	774	650	923	970	2,420	108	55	49
9	42	78	99	242	914	614	869	1,080	2,190	112	55	50
10	42	74	228	219	914	582	820	1,290	1,830	103	54	50
11	44	77	557	362	1,370	550	864	1,970	1,350	100	54	50
12	135	356	262	709	1,920	530	960	2,310	860	96	54	49
13	157	204	194	3,050	1,280	512	960	2,260	1,260	92	54	49
14	115	139	416	2,380	1,250	496	878	3,130	1,180	90	53	48
15	100	174	857	1,060	2,730	502	770	3,420	1,350	88	52	48
16	78	150	623	702	1,950	530	726	3,400	1,780	85	52	48
17	68	130	330	544	1,470	596	762	3,920	1,950	82	52	48
18	61	152	248	541	1,290	674	950	4,660	1,520	80	52	48
19	59	214	219	4,830	1,110	670	887	4,510	1,290	79	52	49
20	57	146	186	11,200	1,040	666	864	3,890	1,020	77	52	50
21	55	120	157	10,800	928	762	905	3,560	1,140	75	52	51
22	54	108	147	5,680	860	722	1,040	3,780	1,030	75	52	52
23	54	99	176	2,740	900	758	1,180	4,260	779	73	51	52
24	54	115	867	2,100	1,080	758	1,020	4,500	533	73	51	52
25	53	130	1,520	4,770	1,080	758	815	4,020	746	72	50	51
26	52	114	726	7,550	914	797	754	3,450	499	69	50	51
27	52	104	430	3,210	824	878	726	3,470	394	67	51	50
28	52	98	391	2,190	1,530	1,020	726	3,340	328	66	51	70
29	57	93	372	1,660	-----	1,080	806	2,440	278	65	51	70
30	78	112	310	1,380	-----	1,170	820	3,030	217	64	51	49
31	71	-----	274	1,150	-----	1,230	-----	2,960	-----	63	51	-----
TOTAL	1,925	4,343	10,475	71,186	32,897	23,635	28,155	80,985	46,744	2,913	1,661	1,523
MEAN	62.1	145	338	2,296	1,175	762	939	2,612	1,558	94.0	53.6	50.8
MAX	157	473	1,520	11,200	2,730	1,230	1,560	4,660	3,270	169	62	70
MIN	40	62	97	219	774	496	726	670	217	63	50	48
AC-FT	3,820	8,610	20,780	141,200	65,250	46,880	55,840	160,600	92,720	5,780	3,290	3,020
CAL YR 1968	TOTAL	85,773	MEAN	234	MAX	2,940	MIN	36	AC-FT	170,100		
WTR.YR 1969	TOTAL	306,442	MEAN	840	MAX	11,200	MIN	40	AC-FT	607,800		

SACRAMENTO RIVER BASIN

11-4180. YUBA RIVER AT ENGLEBRIGHT DAM, CALIF.

LOCATION.--Lat 39°14'22", long 121°16'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.14, T.16 N., R.6 E., Nevada County, on left bank upstream from spillway of Englebright Dam, 1 mile upstream from Deer Creek, and 2.5 miles northeast of Smartville.

DRAINAGE AREA.--1,108 sq mi.

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1953, published as "at Narrows Dam." If records for Deer Creek near Smartville (sta 11-4185) since 1941 are added to records at this station, records equivalent to those published from 1903 to 1941 as Yuba River at Smartville (sta 11-4190) can be obtained.

GAGE.--Water-stage recorder and concrete dam, flowmeter in penstock and watt meters in powerhouse just below dam. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Sept. 19, 1958, at datum 526.99 ft higher.

AVERAGE DISCHARGE.--28 years, 2,533 cfs (1,835,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 37,400 cfs Jan. 26, including flow through powerplant; no flow Oct. 4-7.

Period of record: Maximum discharge, 171,000 cfs Dec. 22, 1964 (gage height, 546.14 ft), no flow through powerplant, from rating curve extended above 25,000 cfs on basis of computation of peak flow over spillway of dam at gage heights 544.72 and 546.14 ft; no flow at times in 1942, 1949, 1956, 1958-61, 1968.

REMARKS.--Records good. Diversions for power and irrigation above station. Up to 250 cfs can bypass station and up to 670 cfs can be diverted into Bear River basin. Flow regulated by Lake Spaulding beginning in 1912 (see sta 11-4141.4), Jackson Meadows Reservoir (see sta 11-4078) since November 1964, Englebright Reservoir beginning in 1941 (capacity, 70,000 acre-ft), Bowman Lake (see sta 11-4155), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), and many smaller reservoirs. Records given herein show total flow over Englebright Dam spillway and through and past powerplant.

COOPERATION.--Records of flow through powerplant furnished by Pacific Gas and Electric Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	625	640	1,150	8,500	7,580	5,200	8,500	6,180	708	500	410
2	125	630	640	1,060	8,180	6,660	5,090	7,010	6,220	720	500	380
3	95	620	640	1,260	7,900	5,300	4,830	2,490	5,470	628	500	365
4	0	630	600	1,360	7,760	3,320	5,960	2,250	3,020	500	500	360
5	0	625	565	1,460	8,800	3,160	7,060	2,180	3,170	500	500	340
6	0	620	610	1,430	8,710	3,100	7,120	2,460	3,030	500	500	330
7	0	625	650	1,410	7,910	2,960	6,360	2,820	2,850	500	500	330
8	50	635	655	1,380	7,520	2,860	6,700	3,150	2,590	500	500	295
9	150	650	655	1,330	8,060	2,780	7,420	3,570	2,440	400	500	280
10	155	655	650	1,270	7,980	2,700	5,860	4,030	2,370	350	500	280
11	210	635	650	1,600	7,780	2,620	4,340	4,720	1,660	470	500	280
12	300	590	630	3,040	10,500	2,620	4,580	5,390	1,260	490	500	280
13	300	555	645	8,420	9,040	2,520	4,680	5,280	1,360	490	500	280
14	285	565	630	8,910	8,660	2,500	4,590	7,280	1,410	480	500	280
15	460	575	600	4,770	12,200	2,520	4,320	12,100	1,310	480	500	280
16	315	580	615	3,690	10,400	2,580	3,300	11,100	1,800	480	500	275
17	410	585	616	3,170	9,040	2,720	2,660	11,600	2,200	480	500	275
18	590	560	1,590	2,930	8,580	2,880	3,120	12,500	1,820	480	490	275
19	590	600	1,850	11,700	8,060	2,870	3,170	12,500	1,490	480	475	275
20	575	600	1,160	28,100	7,740	2,920	3,150	11,700	1,310	480	475	275
21	575	610	1,100	30,900	7,500	3,110	3,230	11,100	1,310	480	475	275
22	465	625	1,200	17,700	7,320	3,060	3,540	11,400	1,300	500	465	275
23	600	640	1,250	9,390	7,360	3,110	3,940	10,800	1,080	500	460	275
24	600	650	2,040	7,690	7,740	3,140	3,660	8,910	833	500	455	275
25	600	665	4,300	14,200	7,820	2,580	5,290	8,620	849	500	440	275
26	600	670	3,360	32,400	7,200	1,650	8,540	7,860	789	500	425	275
27	600	610	2,390	24,300	6,700	2,000	8,420	7,820	704	500	425	275
28	600	610	2,240	17,400	7,840	2,760	8,380	7,860	700	500	425	275
29	615	610	2,150	12,700	-----	3,050	8,500	6,560	700	500	425	275
30	625	625	1,680	10,200	-----	3,300	8,540	6,450	700	500	425	275
31	625	-----	1,290	8,820	-----	4,180	-----	6,080	-----	500	425	-----
TOTAL	11,240	18,475	38,291	275,140	232,800	99,110	161,550	226,090	61,925	15,596	14,785	8,895
MEAN	363	616	1,235	8,875	8,314	3,197	5,385	7,293	2,064	503	477	297
MAX	625	670	4,300	32,400	12,200	7,580	8,540	12,500	6,220	720	500	410
MIN	0	555	565	1,060	6,700	1,650	2,660	2,180	700	350	425	275
AC-FT	22,290	36,650	75,950	545,700	461,800	196,600	320,400	448,400	122,800	30,930	29,330	17,640
CAL YR 1968	TOTAL	543,562.00	MEAN	1,485	MAX	17,800	MIN	0	AC-FT	1,078,000		
WTR YR 1969	TOTAL	1,163,897.00	MEAN	3,189	MAX	32,400	MIN	0	AC-FT	2,309,000		

11-4185. DEER CREEK NEAR SMARTVILLE, CALIF.

LOCATION.--Lat 39°13'28", long 121°16'03", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.16 N., R.6 E., Nevada County, on left bank 400 ft upstream from county road bridge, 0.9 mile upstream from mouth, and 2 miles northeast of Smartville.

DRAINAGE AREA.--84.6 sq mi.

PERIOD OF RECORD.--June 1935 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (from river-profile map). June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--34 years, 133 cfs (96,360 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,150 cfs Jan. 20 (gage height, 10.34 ft); minimum daily, 6.8 cfs Sept. 28.

Period of record: Maximum discharge, 11,600 cfs Oct. 13, 1962 (gage height, 13.77 ft), from rating curve extended above 5,200 cfs; minimum, 0.1 cfs Aug. 4-6, 15, 1940.

Flood of March 1928 reached a stage of 14.5 ft, from floodmarks (discharge, 14,000 cfs).

REMARKS.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949 (usable capacity, 26,300 acre-ft, increased to 49,000 acre-ft in July 1964), Deer Creek Reservoir (capacity, 1,400 acre-ft), power developments, and diversion for irrigation. At times, water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	32	64	69	476	931	351	106	24	19	16	15
2	15	68	49	59	444	605	353	97	26	18	16	15
3	15	256	34	53	373	523	390	92	26	17	16	16
4	15	96	33	52	351	437	340	90	27	16	16	14
5	16	51	33	51	1,110	398	760	80	27	15	16	11
6	16	40	48	48	936	379	701	68	26	16	17	10
7	18	29	55	40	476	351	476	57	27	16	14	10
8	18	23	56	40	390	324	401	53	28	17	14	10
9	16	24	56	39	670	319	353	57	30	17	14	9.5
10	16	24	256	38	479	314	324	52	31	17	19	9.1
11	18	26	338	492	831	278	307	48	34	17	16	7.7
12	125	177	88	642	1,050	269	302	46	34	16	16	7.4
13	56	57	58	2,770	625	260	305	45	34	15	16	7.1
14	38	41	444	884	712	247	300	46	32	15	15	7.4
15	37	134	553	283	2,440	241	283	47	28	15	16	7.7
16	24	58	257	182	1,090	239	260	46	26	14	16	8.4
17	20	37	102	135	725	262	245	43	27	13	16	8.4
18	19	62	65	217	685	269	249	41	28	15	15	8.8
19	17	58	66	2,420	585	269	243	39	26	15	15	9.1
20	16	37	52	4,030	537	281	237	38	23	16	14	8.0
21	15	30	41	3,360	512	335	233	37	23	16	9.1	9.1
22	16	26	37	1,280	457	295	217	37	23	16	9.5	9.1
23	16	25	52	563	627	281	338	37	23	16	8.8	8.8
24	18	35	529	770	969	281	345	34	21	16	9.1	7.7
25	18	34	1,080	1,830	1,080	276	267	32	19	16	9.5	7.4
26	21	26	355	2,640	725	278	235	32	19	17	9.9	7.1
27	21	23	146	1,420	526	281	209	36	20	16	9.9	7.1
28	19	21	164	1,050	1,480	288	200	32	19	16	14	6.8
29	21	21	151	761	-----	297	162	29	19	18	16	7.1
30	42	52	99	637	-----	314	130	26	19	19	16	7.1
31	32	-----	80	523	-----	335	-----	23	-----	17	15	-----
TOTAL	768	1,623	5,441	27,378	21,361	10,457	9,516	1,546	769	502	439.8	276.9
MEAN	24.8	54.1	176	883	763	337	317	49.9	25.6	16.2	14.2	9.23
MAX	125	256	1,080	4,030	2,440	931	760	106	34	19	19	16
MIN	14	21	33	38	351	239	130	23	19	13	8.8	6.8
AC-FT	1,520	3,220	10,790	54,300	42,370	20,740	18,870	3,070	1,530	996	872	549
(a)	20,492	22,724	26,785	48,764	48,764	48,837	48,619	47,461	44,060	38,343	31,827	26,535

CAL YR 1968 TOTAL 30,640.6 MEAN 83.7 MAX 1,660 MIN 6.5 AC-FT 60,780
WTR YR 1969 TOTAL 80,077.7 MEAN 219 MAX 4,030 MIN 6.8 AC-FT 158,800

a Monthend contents, in acre-feet, for Scotts Flat Reservoir, furnished by Nevada Irrigation District.

SACRAMENTO RIVER BASIN

11-4207. DRY CREEK NEAR BROWNS VALLEY, CALIF.

LOCATION.--Lat 39°15'23", long 121°20'34", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.7, T.16 N., R.6 E., Yuba County, on left bank 500 ft upstream from diversion dam and 3.6 miles east of Browns Valley.

DRAINAGE AREA.--87.1 sq mi.

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 265 ft (from topographic map).

AVERAGE DISCHARGE (unadjusted).--5 years, 79.0 cfs (57,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,950 cfs Jan. 21 (gage height, 10.38 ft); minimum daily, 1.2 cfs Dec. 12-15, 1964.

REMARKS.--Records good except those for the summer months, which are fair. Flow regulated by Lake Mildred (capacity, 1,500 acre-ft), Merle Collins Reservoir (capacity, 57,000 acre-ft) 6.5 miles upstream since 1963. Some diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	3.0	4.2	8.9	286	1,200	88	7.5	7.3	5.0	4.3	7.5
2	6.7	5.8	3.6	7.8	319	682	85	9.3	7.5	5.9	3.7	7.5
3	7.0	20	3.0	6.8	269	553	108	7.2	7.0	5.6	3.4	7.2
4	7.0	6.5	2.6	6.0	237	430	103	6.6	7.3	5.3	3.4	6.6
5	6.7	5.0	2.5	5.5	717	356	276	5.9	7.0	4.9	3.5	6.5
6	7.0	4.4	2.4	5.1	932	319	479	5.9	7.0	4.9	3.6	6.5
7	7.0	3.7	2.2	4.7	526	288	299	5.5	7.0	5.1	3.6	6.5
8	7.4	2.6	2.2	4.3	361	263	199	7.5	7.0	5.3	3.9	6.5
9	7.7	2.4	2.1	4.0	825	248	154	6.0	7.0	5.0	4.5	6.9
10	7.0	2.4	7.4	3.7	755	244	133	5.6	7.0	4.2	5.0	7.0
11	7.2	3.1	19	42	772	219	116	5.5	6.0	4.4	5.0	6.8
12	14	9.4	7.0	129	1,540	200	106	5.7	6.0	5.1	4.7	6.6
13	9.2	4.0	4.6	787	757	190	101	6.0	6.0	5.7	5.0	5.6
14	7.0	3.8	57	193	650	176	96	6.7	6.0	5.1	4.8	5.6
15	10	9.2	52	62	2,280	168	92	7.2	6.0	5.3	5.7	6.0
16	11	4.8	29	38	1,610	160	84	6.7	6.0	4.7	5.5	6.2
17	11	3.4	13	28	765	173	75	7.3	6.0	4.2	5.9	6.3
18	7.2	6.0	8.5	74	617	181	61	5.7	6.0	4.5	5.5	6.8
19	5.2	5.0	6.5	2,260	508	162	52	4.9	6.0	4.4	6.2	6.7
20	3.7	3.7	5.2	4,190	442	154	33	5.1	6.0	5.2	6.6	6.4
21	3.7	3.0	4.4	4,720	471	218	22	6.1	6.0	5.0	6.2	6.6
22	3.6	2.6	3.9	2,820	379	192	9.0	6.7	6.0	5.1	6.0	6.1
23	3.4	2.4	5.0	903	570	163	10	6.9	6.0	4.6	6.6	5.4
24	3.4	3.2	36	626	732	143	49	6.6	6.0	4.7	6.7	5.5
25	3.2	3.6	80	1,300	801	128	49	6.6	5.0	5.0	6.9	5.4
26	3.2	3.1	37	2,670	573	116	31	7.0	5.0	4.8	7.0	5.7
27	3.1	3.2	19	965	425	109	18	7.0	5.0	4.6	6.7	5.5
28	3.0	2.4	19	570	832	104	9.8	6.9	5.0	4.4	7.1	4.9
29	3.8	2.4	19	410	-----	99	8.0	6.4	5.0	4.5	7.2	4.9
30	4.0	4.4	13	357	-----	94	7.9	7.0	5.0	4.7	7.3	4.8
31	3.4	-----	11	298	-----	90	-----	7.3	-----	4.5	7.1	-----
TOTAL	193.5	138.5	481.3	23,498.8	19,951	7,822	2,953.7	202.3	185.1	151.7	168.6	186.5
MEAN	6.24	4.62	15.5	758	713	252	98.5	6.53	6.17	4.89	5.44	6.22
MAX	14	20	80	4,720	2,280	1,200	479	9.3	7.5	5.9	7.3	7.5
MIN	3.0	2.4	2.1	3.7	237	90	7.9	4.9	5.0	4.2	3.4	4.8
AC-FT	384	275	955	46,610	39,570	15,510	5,860	401	367	301	334	370
CAL YR 1968	TOTAL 10,005.1			MEAN 27.3	MAX 705	MIN 1.6	AC-FT 19,850					
WTR YR 1969	TOTAL 55,933.0			MEAN 153	MAX 4,720	MIN 2.1	AC-FT 110,900					

11-4210. YUBA RIVER NEAR MARYSVILLE, CALIF.

LOCATION.--Lat 39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, on left bank 4.2 miles north-east of Marysville and 5 miles downstream from Dry Creek.

DRAINAGE AREA.--1,339 sq mi.

PERIOD OF RECORD.--October 1940 to current year (1940-43, 1945, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers, which is 2.95 ft below mean sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum.

AVERAGE DISCHARGE.--26 years (1943-69), 2,559 cfs (1,854,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 44,200 cfs Jan. 21 (gage height, 75.10 ft); minimum daily, 29 cfs Oct. 10.

Period of record: Maximum discharge (1943-69), 180,000 cfs Dec. 22, 1964 (gage height, 90.15 ft, from floodmarks), from rating curve extended above 91,000 cfs on basis of Corps of Engineers flood routing study; minimum recorded, 10 cfs July 2, 1959.

REMARKS.--Records good. Flow regulated by several reservoirs above station. Many diversions above station for power. Diversions for irrigation of about 13,000 acres between stations at Englebright Dam and near Marysville. Records of water temperatures near this gaging station for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1960.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	362	512	1,250	10,700	11,000	6,230	8,740	5,970	227	47	61
2	38	407	506	1,060	10,400	8,900	6,010	8,030	6,100	234	47	66
3	38	736	473	1,090	9,890	7,540	5,680	2,580	5,640	224	48	62
4	38	629	460	1,440	9,600	4,720	7,010	2,160	2,790	158	47	64
5	36	499	460	1,420	11,700	4,420	8,520	2,010	2,690	122	48	66
6	38	473	466	1,540	12,300	4,320	9,520	2,150	2,540	106	48	66
7	39	473	480	1,500	10,300	4,220	8,160	2,470	2,400	96	51	69
8	35	460	486	1,460	9,500	4,130	7,970	2,730	2,190	82	54	76
9	32	436	492	1,420	10,500	4,040	8,800	3,130	2,060	69	51	75
10	29	430	525	1,460	10,500	3,860	7,460	3,770	1,870	58	45	71
11	32	425	1,000	1,900	10,100	3,590	5,200	4,520	1,490	49	51	76
12	163	583	613	4,910	14,700	3,500	5,360	5,320	1,090	45	49	84
13	253	499	554	12,200	11,700	3,500	5,570	5,420	921	44	51	84
14	189	460	1,090	12,200	10,900	3,410	5,360	6,570	1,010	49	55	80
15	167	583	1,040	6,190	17,200	3,410	5,080	13,000	1,010	47	60	80
16	460	532	1,090	4,560	15,400	3,520	4,150	11,800	1,220	51	67	86
17	480	486	693	3,900	11,900	3,600	2,870	11,700	1,640	52	76	84
18	460	506	1,160	3,470	11,100	3,800	3,200	12,300	1,440	48	62	96
19	448	539	1,860	14,700	10,300	3,850	3,240	12,500	1,080	47	56	96
20	442	499	1,320	33,200	9,760	3,960	3,200	12,100	907	48	58	102
21	413	486	955	39,900	9,500	4,010	3,430	11,700	795	51	61	106
22	396	480	1,100	24,600	8,930	3,860	3,600	11,900	809	49	61	110
23	401	473	1,140	13,100	9,550	3,730	3,810	11,800	670	48	59	108
24	401	486	1,930	10,400	10,300	3,720	3,900	9,450	460	45	64	110
25	390	492	5,570	15,600	10,800	3,520	4,540	9,160	320	45	54	116
26	357	473	4,380	34,800	9,630	2,330	9,340	8,170	328	47	58	118
27	320	460	2,730	27,600	8,590	2,430	9,000	8,040	248	45	61	114
28	315	454	2,600	20,200	10,400	3,270	8,820	8,200	234	47	59	114
29	331	454	2,570	16,000	-----	3,610	8,820	6,630	234	44	66	108
30	357	499	2,080	13,200	-----	3,900	8,870	6,340	230	44	61	102
31	357	-----	1,520	11,200	-----	4,580	-----	6,010	-----	47	64	-----
TOTAL	7,499	14,774	41,855	337,470	306,150	132,250	182,720	230,400	50,386	2,368	1,739	2,650
MEAN	242	492	1,350	10,890	10,930	4,266	6,091	7,432	1,680	76.4	56.1	88.3
MAX	480	736	5,570	39,900	17,200	11,000	9,520	13,000	6,100	234	76	118
MIN	29	362	460	1,060	8,590	2,330	2,870	2,010	230	44	45	61
AC-FT	14,870	29,300	83,020	669,400	607,200	262,300	362,400	457,000	99,940	4,700	3,450	5,260
CAL YR 1968	TOTAL	543,046	MEAN	1,484	MAX	19,000	MIN	29	AC-FT	1,077,000		
WTR YR 1969	TOTAL	1,310,261	MEAN	3,590	MAX	39,900	MIN	29	AC-FT	2,599,000		

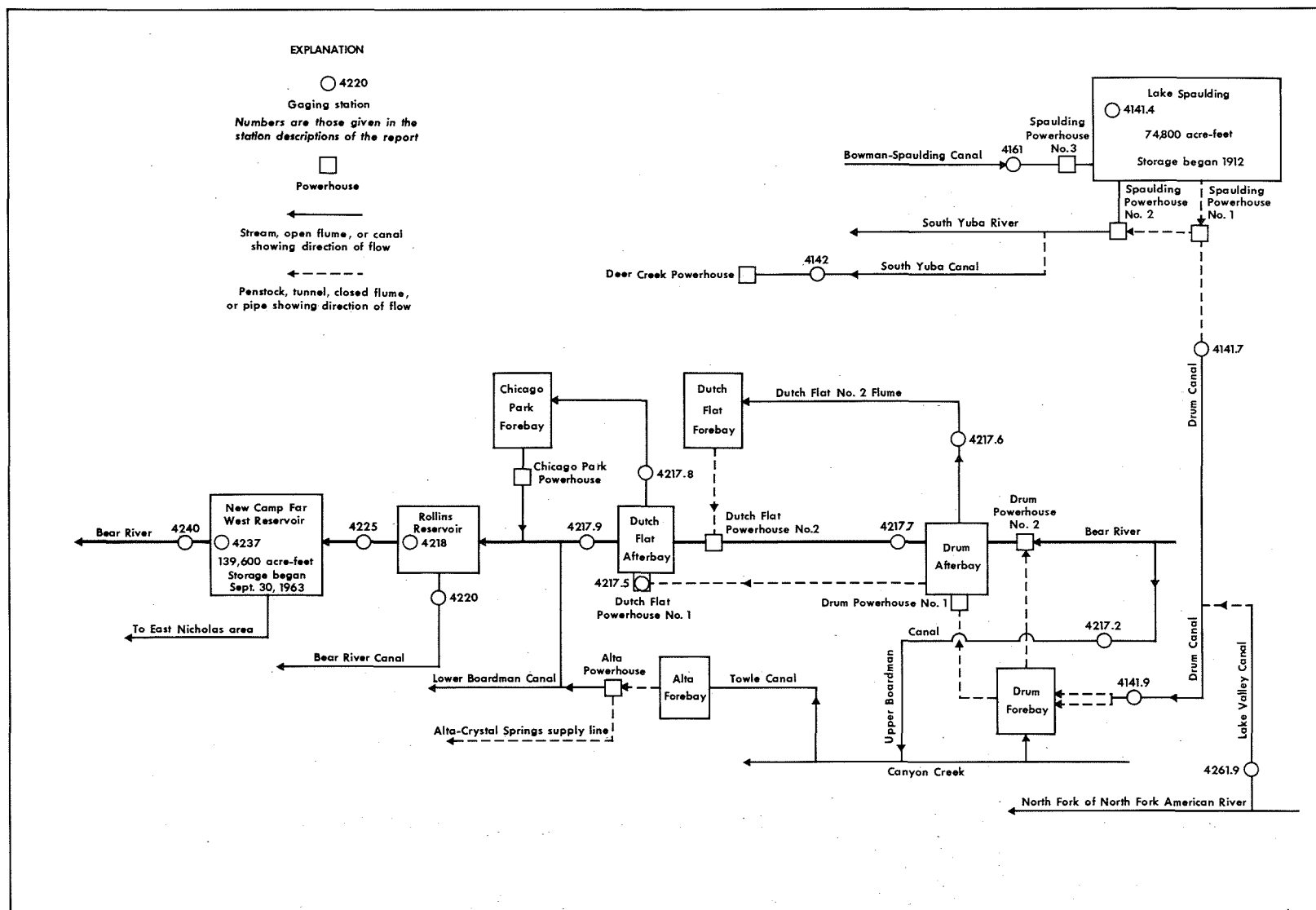


FIGURE 15.—Schematic diagram showing diversion and storage in Bear River basin.

11-4217.2. BOARDMAN CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°17'49", long 120°42'08", in SE¼NE¼ sec.35, T.17 N., R.11 E., Placer County, on right bank 0.4 mile downstream from Boardman diversion dam, and 1.8 miles west of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,020 ft (from topographic map). Prior to June 14, 1967, water-stage recorder 0.25 mile downstream at different datum.

EXTREMES.--Period of record: Maximum daily discharge, 43 cfs Dec. 21, 1964; no flow for several days each year.

REMARKS.--Water is diverted from Bear River to be used for power development and irrigation in the Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co. under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	20	20	19	20	16	19	24	26	29	30
2	28	24	20	21	19	20	20	19	24	26	30	30
3	28	21	20	21	19	19	22	19	24	26	30	30
4	28	20	21	21	19	19	21	19	24	26	30	30
5	29	20	20	22	18	19	21	19	24	26	29	30
6	29	21	21	22	12	19	21	19	24	26	29	30
7	29	21	21	22	11	18	21	20	24	26	30	31
8	30	21	21	22	17	18	21	20	24	26	30	30
9	30	21	21	22	20	18	21	20	24	26	30	30
10	30	21	23	22	18	18	21	19	24	26	30	30
11	30	21	22	22	20	21	22	19	24	26	30	30
12	28	22	21	23	20	23	22	19	22	26	30	31
13	25	19	21	19	19	23	22	19	21	26	30	31
14	7.8	20	22	7.6	19	23	21	18	21	26	30	31
15	.52	20	23	14	20	23	21	22	21	26	30	31
16	.48	20	22	23	19	23	21	23	21	26	30	31
17	.45	20	21	23	19	23	21	23	21	26	30	31
18	11	20	21	24	20	23	21	22	21	26	30	31
19	25	20	21	22	20	23	21	22	21	27	30	31
20	26	20	21	16	20	23	20	23	20	27	30	31
21	7.3	20	21	16	20	23	20	22	20	28	30	31
22	.21	20	21	17	20	23	20	23	21	28	30	31
23	.01	20	21	19	18	23	20	23	21	29	30	30
24	0	20	21	17	20	16	20	23	20	29	30	31
25	0	20	17	12	19	14	20	22	21	30	30	31
26	0	20	18	11	20	15	20	23	22	32	30	31
27	0	20	21	11	19	15	20	23	24	32	30	31
28	0	20	21	16	20	15	20	23	25	32	30	31
29	0	20	20	20	-----	15	20	23	25	30	30	31
30	15	20	20	20	-----	16	20	24	25	29	30	31
31	27	-----	20	19	-----	16	-----	24	-----	28	30	-----
TOTAL	491.77	619	644	586.6	524	607	617	656	677	849	927	919
MEAN	15.9	20.6	20.8	18.9	18.7	19.6	20.6	21.2	22.6	27.4	29.9	30.6
MAX	30	27	23	24	20	23	22	24	25	32	30	31
MIN	0	19	17	7.6	11	14	16	18	20	26	29	30
AC-FT	975	1,230	1,280	1,160	1,040	1,200	1,220	1,300	1,340	1,680	1,840	1,820
CAL YR 1968	TOTAL 8,718.27			MEAN 23.8		MAX 38		MIN 0		AC-FT 17,290		
WTR YR 1969	TOTAL 8,117.37			MEAN 22.2		MAX 32		MIN 0		AC-FT 16,100		

SACRAMENTO RIVER BASIN

11-4217.5. DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°13'02", long 120°50'04", in SW¼SE¼ sec.27, T.16 N., R.10 E., Placer County, at powerplant 0.8 mile north of Dutch Flat.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Recorded powerplant output.

EXTREMES.--Period of record: Maximum daily discharge, 548 cfs for several days in January, February, April 1965; no flow for many days in each year.

REMARKS.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268	282	0	173	374	268	378	425	346	252	252	185
2	294	161	177	158	350	275	491	472	439	283	279	226
3	184	0	93	58	364	299	485	447	251	303	265	256
4	307	0	0	101	259	303	432	402	338	219	255	249
5	191	171	0	63	353	278	470	423	349	308	290	310
6	316	138	103	112	244	371	462	357	348	300	266	253
7	235	138	89	146	206	332	454	0	376	287	239	243
8	336	179	0	280	256	320	433	0	333	283	293	65
9	277	161	0	202	233	312	428	43	354	317	274	0
10	222	155	118	0	276	312	431	0	349	263	321	0
11	271	283	170	0	317	0	431	0	348	233	321	0
12	276	450	223	0	243	0	456	412	364	315	179	0
13	262	521	219	190	286	0	459	398	356	274	256	0
14	289	518	0	261	331	114	456	400	354	263	353	0
15	250	521	0	218	254	275	411	368	348	311	273	0
16	280	521	83	305	330	278	423	332	349	324	258	49
17	256	521	116	315	315	292	424	379	375	306	231	78
18	205	525	109	132	210	261	417	367	358	275	278	0
19	240	521	107	270	383	261	438	365	386	275	278	0
20	270	503	112	537	271	61	405	353	354	247	255	187
21	260	448	128	528	340	49	421	344	365	331	256	245
22	283	525	129	535	292	92	432	334	364	256	275	325
23	261	521	114	394	289	122	482	352	371	256	255	320
24	237	461	109	356	286	78	378	312	333	295	294	289
25	233	496	203	484	296	0	402	347	374	252	287	338
26	275	0	153	541	303	0	382	316	348	383	280	327
27	262	0	115	415	297	0	415	382	364	233	283	244
28	258	0	157	417	297	0	386	344	357	284	271	299
29	270	0	127	394	-----	377	465	351	356	290	270	364
30	255	0	131	386	-----	362	436	370	296	273	168	325
31	256	-----	152	379	-----	380	-----	356	-----	286	164	-----
TOTAL	8,079	8,720	3,237	8,350	8,255	6,072	12,983	9,751	10,603	8,777	8,219	5,177
MEAN	261	291	104	269	295	196	433	315	353	283	265	173
MAX	336	525	223	541	383	380	491	472	439	383	353	364
MIN	184	0	0	0	206	0	378	0	251	219	164	0
AC-FT	16,020	17,300	6,420	16,560	16,370	12,040	25,750	19,340	21,030	17,410	16,300	10,270
CAL YR 1968	TOTAL 39,270.00		MEAN 107		MAX 525	MIN 0		AC-FT 77,890				
WTR YR 1969	TOTAL 98,223.00		MEAN 269		MAX 541	MIN 0		AC-FT 194,800				

11-4217.6. DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CALIF.

LOCATION.--Lat 39°15'16", long 120°46'28", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.16 N., R.11 E., Placer County, on left bank 600 ft downstream from Drum Afterbay and 3.6 miles west of Blue Canyon.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft above mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Period of record.--Maximum daily discharge, 610 cfs Mar. 1, 1968; no flow for many days in each year.

REMARKS.--Records good. Water is diverted from Drum Afterbay through the flume to Dutch Flat No. 2 powerplant and thence to Dutch Flat afterbay.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	474	426	167	327	471	484	539	557	524	466	462	390
2	470	214	115	375	469	479	540	557	525	482	470	379
3	469	329	265	312	512	446	541	557	527	483	468	485
4	477	314	159	206	579	447	476	559	534	463	485	469
5	470	434	249	339	480	460	542	557	512	460	455	478
6	462	469	224	572	577	434	544	512	504	455	479	498
7	464	413	198	453	575	418	544	557	515	452	488	447
8	440	384	96	179	571	416	543	557	523	419	445	88
9	434	257	326	272	539	418	544	557	512	437	464	0
10	436	262	232	347	525	374	535	558	519	469	463	0
11	510	17	372	283	454	317	545	558	518	480	465	0
12	485	0	376	328	562	287	545	558	518	466	486	0
13	463	0	422	421	489	210	546	558	517	467	484	0
14	475	0	322	547	526	293	548	542	525	447	425	0
15	468	0	340	461	533	522	548	557	530	452	493	78
16	473	0	291	516	527	461	547	553	508	446	492	40
17	481	0	297	480	506	469	549	509	557	371	488	18
18	472	0	358	322	508	482	549	515	533	487	492	0
19	477	0	358	575	525	329	550	527	516	482	489	.38
20	483	0	359	575	493	356	550	527	533	473	481	455
21	478	0	332	574	447	353	551	528	534	484	484	487
22	459	0	333	560	487	343	551	531	534	489	477	431
23	463	0	360	560	475	350	552	538	532	467	490	459
24	484	0	428	556	468	362	553	557	524	473	483	441
25	460	213	580	571	470	522	553	527	526	436	465	436
26	465	335	464	384	453	536	554	526	525	423	465	458
27	465	333	411	450	447	538	552	530	518	443	490	440
28	457	237	325	463	478	538	555	527	519	442	481	443
29	489	265	351	447	-----	538	554	450	516	460	455	472
30	472	138	326	452	-----	539	555	530	484	469	377	447
31	448	-----	334	471	-----	540	-----	522	-----	470	367	-----
TOTAL	14,523	5,040	9,770	13,378	14,146	13,261	16,355	16,698	15,662	14,213	14,508	8,339.38
MEAN	468	168	315	432	505	428	545	539	522	458	468	278
MAX	510	469	580	575	579	540	555	559	557	489	493	498
MIN	434	0	96	179	447	210	476	450	484	371	367	0
AC-FT	28,810	10,000	19,380	26,540	28,060	26,300	32,440	33,120	31,070	28,190	28,780	16,540
CAL YR 1968	TOTAL 132,347.00		MEAN 362		MAX 610		MIN 0		AC-FT 262,500			
WTR YR 1969	TOTAL 155,893.38		MEAN 427		MAX 580		MIN 0		AC-FT 309,200			

SACRAMENTO RIVER BASIN

11-4217.7. BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CALIF.

LOCATION.--Lat 39°15'16", long 120°46'26", in SW¼NW¼ sec.17, T.16 N., R.11 E., Placer County, on left bank 60 ft below Drum afterbay dam, and 3.5 miles west of Blue Canyon.

DRAINAGE AREA.--12.3 sq mi.

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft steel Cipolletti weir set in a concrete broad-crested weir. Altitude of gage is 3,300 ft (from topographic map). April 1966 to May 25, 1967, water-stage recorder at present site at different datum, May 26, 1967, to Feb. 11, 1968, water-stage recorder at site 1,000 ft downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 1,660 cfs Jan. 26 (gage height, 3.23 ft); minimum daily, 5.2 cfs Nov. 15.

Period of record: Maximum discharge, 1,660 cfs Jan. 26, 1969 (gage height, 3.23 ft); minimum daily, 1.0 cfs Dec. 9, 1967.

REMARKS.--Water for Dutch Flat No. 1 powerplant (see sta 11-4217.5) and Dutch Flat No. 2 flume (see sta 11-4217.6) is diverted from Drum afterbay just upstream from station.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.6	6.3	6.1	5.8	9.0	11	12	11	11	11	11
2	7.4	7.8	6.4	6.0	5.9	10	11	12	11	11	11	11
3	7.5	7.7	5.7	6.0	5.6	10	11	12	11	11	11	11
4	7.8	7.6	5.7	6.1	5.6	10	45	11	11	11	11	12
5	7.7	7.8	5.9	6.2	6.0	10	57	11	11	11	11	11
6	7.7	8.1	6.2	6.2	5.5	10	11	12	11	12	11	11
7	8.0	8.0	6.3	6.1	5.7	10	11	12	11	11	11	12
8	7.7	8.0	6.1	5.9	5.7	10	11	12	11	12	11	12
9	7.6	8.0	6.2	6.1	5.8	10	11	12	11	11	11	12
10	7.8	8.0	6.1	6.2	5.6	11	11	12	11	11	11	12
11	7.6	7.4	6.2	6.2	5.7	11	15	12	11	11	11	12
12	7.7	5.7	6.0	6.2	5.6	11	17	12	11	11	11	11
13	7.9	5.4	6.1	6.0	5.6	11	17	12	11	11	11	11
14	8.0	5.5	6.0	5.4	5.8	11	17	11	11	12	11	11
15	7.9	5.2	6.1	5.9	9.5	11	17	11	11	11	11	12
16	7.8	5.3	6.2	5.9	6.4	11	17	11	11	11	11	12
17	7.7	5.3	6.1	5.9	5.6	11	17	11	11	11	11	14
18	7.9	5.3	6.1	6.0	6.3	11	17	11	11	11	11	12
19	8.0	5.5	6.1	17	5.8	11	17	11	11	11	11	9.9
20	7.7	5.6	6.1	359	5.9	12	14	11	11	11	11	11
21	8.0	5.9	5.9	369	5.7	13	11	11	11	11	11	11
22	7.9	5.8	6.0	73	5.7	12	12	11	11	11	11	12
23	7.8	5.7	6.0	14	5.7	11	11	11	11	11	11	11
24	8.1	5.8	6.0	14	5.7	11	11	11	11	11	11	11
25	7.9	5.6	5.7	229	5.7	11	11	11	11	11	11	11
26	7.9	6.2	5.8	338	5.6	175	11	11	11	11	11	11
27	7.9	6.4	6.1	39	5.8	296	11	11	11	11	11	11
28	7.9	6.1	6.1	5.7	5.7	198	12	11	11	11	11	12
29	7.8	5.8	6.1	5.8	-----	10	11	12	11	11	11	11
30	7.8	5.9	6.1	5.7	-----	10	12	11	11	11	11	11
31	7.5	-----	6.1	5.7	-----	10	-----	11	-----	11	11	-----
TOTAL	243.9	194.0	187.8	1,583.3	165.0	968.0	468	353	330	344	341	342.9
MEAN	7.87	6.47	6.06	51.1	5.89	31.2	15.6	11.4	11.0	11.1	11.0	11.4
MAX	10	8.1	6.4	369	9.5	296	57	12	11	12	11	14
MIN	7.4	5.2	5.7	5.4	5.5	9.0	11	11	11	11	11	9.9
AC-FT	484	385	373	3,140	327	1,920	928	700	655	682	676	680
CAL YR 1968	TOTAL 10,397.9			MEAN 28.4	MAX 332	MIN 2.9	AC-FT 20,620					
WTR YR 1969	TOTAL 5,520.9			MEAN 15.1	MAX 369	MIN 5.2	AC-FT 10,950					

11-4217.8. CHICAGO PARK FLUME NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°12'55", long 120°50'23", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.16 N., R.10 E., Nevada County, on left bank 670 ft downstream from Dutch Flat afterbay and 0.6 mile north of Dutch Flat.

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (from topographic map). Prior to Sept. 8, 1968, at site 420 ft upstream at same datum.

EXTREMES.--Period of record: Maximum daily discharge, 1,030 cfs Feb. 1, May 31, 1967; no flow for several days in each year.

REMARKS.--Records fair. Flow regulated by Dutch Flat afterbay.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	736	560	79	432	824	907	907	644	915	689	682	538
2	697	269	257	463	907	817	917	814	864	769	752	631
3	620	448	377	358	834	889	919	886	888	781	758	752
4	700	449	166	300	906	718	915	924	868	683	690	731
5	690	467	189	362	725	921	906	922	856	729	736	747
6	755	578	285	687	904	766	908	952	875	722	754	729
7	675	477	183	559	773	890	910	968	896	718	715	519
8	756	502	154	515	855	790	906	969	861	680	755	338
9	679	367	408	418	810	802	914	966	902	764	748	4.8
10	650	318	354	366	800	761	908	1,010	861	761	728	14
11	762	452	569	304	888	410	908	1,010	867	773	740	0
12	753	611	463	481	885	342	897	960	891	707	759	61
13	662	536	618	697	885	259	340	973	879	750	750	0
14	744	584	379	953	856	460	0	980	919	668	687	0
15	708	515	421	735	881	881	0	964	869	843	766	0
16	660	593	343	887	874	713	0	899	855	699	709	11
17	764	560	415	741	874	755	0	851	953	753	753	0
18	637	550	427	389	872	766	0	887	867	679	754	0
19	661	423	423	955	869	514	0	915	926	764	723	0
20	738	513	439	987	867	498	0	917	973	707	732	682
21	674	472	361	919	871	499	0	826	898	807	764	739
22	759	560	411	913	876	402	0	917	906	743	742	713
23	692	559	383	911	826	434	0	816	912	710	756	828
24	641	501	629	907	822	480	0	934	884	735	694	697
25	664	488	833	909	641	579	0	861	902	695	810	746
26	696	224	666	910	868	744	0	802	906	757	722	794
27	680	432	481	908	775	830	141	922	857	715	762	701
28	640	218	440	909	810	887	466	911	885	756	699	751
29	670	224	469	908	-----	893	631	805	886	704	663	876
30	593	164	397	904	-----	892	670	886	787	763	458	816
31	757	-----	476	906	-----	904	-----	834	-----	702	513	-----
TOTAL	21,513	13,614	12,495	21,593	23,578	21,403	13,163	27,925	26,608	22,726	22,274	13,418.8
MEAN	694	454	403	697	842	690	439	901	887	733	719	447
MAX	764	611	833	987	907	921	919	1,010	973	843	810	876
MIN	593	164	79	300	641	259	0	644	787	668	458	0
AC-FT	42,670	27,000	24,780	42,830	46,770	42,450	26,110	55,390	52,780	45,080	44,180	26,620

CAL YR 1968 TOTAL 171,468.00 MEAN 468 MAX 973 MIN 0 AC-FT 340,100
WTR YR 1969 TOTAL 240,310.80 MEAN 658 MAX 1,010 MIN 0 AC-FT 476,700

11-4218. ROLLINS RESERVOIR NEAR COLFAX, CALIF.

LOCATION.--Lat 39°08'05", long 120°56'54", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.15 N., R.9 E., Placer County, on left bank just upstream from Rollins Dam on Bear River, 2.3 miles north of Colfax.

DRAINAGE AREA.--104 sq mi.

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

EXTREMES.--Current year: Maximum contents, 69,400 acre-ft Jan. 20 (elevation, 2,175.1 ft); minimum, 51,600 acre-ft Oct. 1 (elevation, 2,152.1 ft).

Period of record: Maximum contents, 69,400 acre-ft Jan. 20, 1969 (elevation, 2,175.1 ft); minimum since reservoir first filled, 28,100 acre-ft Mar. 7, 1965 (elevation, 2,110.0 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 65,720 acre-ft between elevations 1,970.0 ft (invert of outlet tunnel) and 2,171.0 ft (spillway crest) above mean sea level. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Stored water is released into Bear River, part of which is diverted to Pacific Gas and Electric's Bear River Canal for power development. Water is later used for irrigation. Records, including extremes, represent total contents at 2400 hours.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

2,050	8,940	2,120	32,700
2,060	11,200	2,140	43,800
2,080	16,800	2,175	69,400

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51,600	64,800	64,200	66,400	67,000	67,200	67,000	67,000	66,800	66,600	66,400	65,000
2	52,000	64,700	63,900	66,400	67,000	67,100	67,100	67,000	66,800	66,700	66,400	64,800
3	52,200	65,200	63,800	66,300	67,000	67,000	67,000	66,900	66,800	66,700	66,400	65,200
4	52,700	65,300	63,200	66,200	67,000	67,000	67,000	66,900	66,700	66,600	66,300	65,500
5	53,000	65,500	62,900	66,200	67,200	67,100	67,300	66,900	66,700	66,700	66,300	66,000
6	53,500	65,700	62,600	66,500	67,200	67,000	67,100	66,900	66,700	66,700	66,400	66,300
7	53,900	66,000	62,100	66,500	67,000	67,000	67,100	66,900	66,700	66,700	66,300	66,200
8	54,400	66,200	61,500	66,500	67,000	66,900	67,100	66,900	66,700	66,700	66,300	65,900
9	54,700	66,000	61,500	66,300	67,100	66,900	67,000	66,900	66,700	66,700	66,300	64,800
10	55,100	65,800	61,500	66,200	67,000	66,700	67,000	67,000	66,700	66,700	66,300	63,900
11	55,700	65,900	62,000	66,500	67,300	66,700	67,000	66,900	66,700	66,700	66,300	62,800
12	56,500	66,400	62,300	66,700	67,200	66,600	67,000	66,900	66,700	66,600	66,300	61,900
13	57,000	66,500	62,700	68,100	67,100	66,500	67,000	66,900	66,700	66,700	66,400	60,800
14	57,500	66,600	63,000	67,200	67,200	66,700	67,000	66,900	66,700	66,600	66,300	59,900
15	58,000	66,500	63,700	66,900	67,700	66,900	67,000	66,800	66,700	66,700	66,300	58,800
16	58,400	66,600	64,000	66,900	67,300	66,900	67,000	66,800	66,700	66,700	66,200	57,800
17	59,000	66,500	64,300	66,700	67,200	66,900	67,000	66,800	66,700	66,700	66,300	56,800
18	59,300	66,600	64,400	66,700	67,100	67,100	67,000	66,800	66,700	66,600	66,300	55,700
19	59,700	66,600	64,700	68,300	67,000	67,100	67,000	66,800	66,700	66,600	66,300	54,700
20	60,100	66,600	64,800	69,400	67,000	67,100	67,000	66,800	66,700	66,600	66,300	54,900
21	60,500	66,400	64,800	69,000	67,000	67,100	67,000	66,800	66,700	66,700	66,300	55,300
22	61,000	66,400	64,800	67,900	67,000	67,000	67,000	66,800	66,700	66,700	66,300	55,800
23	61,500	66,500	64,900	67,400	67,000	67,100	67,100	66,800	66,700	66,600	66,200	56,500
24	61,700	66,400	66,300	67,500	67,100	67,100	67,000	66,800	66,700	66,600	66,200	56,800
25	62,100	66,300	67,000	68,800	67,000	66,800	67,000	66,800	66,700	66,600	66,300	57,300
26	62,500	65,900	66,700	68,100	67,000	66,900	67,000	66,700	66,700	66,600	66,300	57,900
27	62,900	65,800	66,600	67,700	67,000	67,000	67,000	66,700	66,700	66,600	66,300	58,200
28	63,100	65,400	66,600	67,200	67,200	67,000	67,000	66,800	66,700	66,600	66,200	58,700
29	63,900	65,100	66,600	67,100	-----	67,100	67,000	66,800	66,700	66,600	66,200	59,400
30	64,000	64,700	66,500	67,100	-----	67,100	67,000	66,800	66,700	66,700	65,700	59,900
31	64,500	-----	66,500	67,100	-----	67,100	-----	66,700	-----	66,600	65,300	-----
MAX	64,500	66,600	67,000	69,400	67,700	67,200	67,300	67,000	66,800	66,700	66,400	66,300
MIN	51,600	64,700	61,500	66,200	67,000	66,500	67,000	66,700	66,700	66,600	65,300	54,700
(a)	2,169.2	2,169.4	2,171.6	2,172.3	2,172.5	2,172.3	2,172.2	2,171.9	2,171.8	2,171.7	2,170.2	2,163.4
(b)	+13,400	+200	+1,800	+600	+100	-100	-100	-300	0	-100	-1,300	-5,400
CAL YR 1968	b +4,400		MAX 67,300		MIN 43,500							
WTR YR 1969	b +8,800		MAX 69,400		MIN 51,600							

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11-4220. BEAR RIVER CANAL INTAKE NEAR COLFAX, CALIF.

LOCATION.--Lat 39°07'58", long 120°57'12", in SW¼SE¼ sec.22, T.15 N., R.9 E., Placer County, on right bank 600 ft downstream from canal inlet, 0.2 mile below Rollins Dam, and 2.2 miles north of Colfax.

PERIOD OF RECORD.--January 1912 to September 1953, October 1964 to current year. Monthly discharge only for some periods published in WSP 1315-A. Prior to 1913, published as Pacific Gas and Electric Co.'s Canal near Colfax.

GAGE.--Water-stage recorder. Altitude of gage is 1,980 ft (from topographic map). Prior to Mar. 25, 1946, water-stage recorder at site 1.5 miles downstream at different datum.

AVERAGE DISCHARGE.--46 years (1912-53, 1964-69), 271 cfs (196,300 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 499 cfs Apr. 20-22, 1966, Aug. 1-3, 1967; no flow at times in most years.

REMARKS.--Records good. Canal diverts from left bank of Bear River. Water is first used to develop power at Halsey and Wise Powerhouse, part of it is then distributed for irrigation and part is eventually spilled into North Fork American River.

COOPERATION.--Records collected by Pacific Gas and Electric Co. under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	449	446	431	399	399	447	457	467	466	456	456
2	448	450	446	431	399	397	448	464	466	466	456	456
3	449	451	445	431	401	416	447	462	466	466	458	456
4	449	451	447	431	401	445	447	464	466	466	457	456
5	449	451	448	430	396	445	447	464	466	466	456	456
6	449	451	448	431	395	445	447	465	466	466	456	456
7	449	452	448	431	392	445	449	465	466	466	456	456
8	449	452	449	439	392	445	450	465	466	466	456	456
9	449	452	449	445	392	445	449	465	462	457	456	456
10	449	451	450	446	426	446	449	465	464	456	456	456
11	449	451	450	405	447	446	449	465	465	456	456	455
12	449	451	451	384	448	446	450	466	465	457	456	455
13	449	450	451	393	447	446	450	466	465	457	455	455
14	449	451	451	428	419	447	449	465	465	457	455	455
15	449	451	452	445	389	447	449	465	466	457	455	455
16	449	450	437	445	388	442	449	465	465	458	456	455
17	449	448	427	446	276	4.0	450	465	466	458	455	455
18	449	447	425	448	11	0	450	465	466	458	456	454
19	447	445	427	417	149	0	450	465	466	458	456	454
20	451	445	428	375	343	0	450	465	466	457	455	454
21	451	444	430	136	379	0	450	465	466	457	455	454
22	450	443	430	208	397	0	450	465	465	457	455	453
23	450	443	431	395	398	0	450	465	464	457	455	453
24	450	443	432	401	397	0	450	465	465	457	455	454
25	450	443	435	381	397	158	450	466	465	457	456	454
26	450	443	430	339	396	361	450	466	467	457	456	454
27	449	443	427	333	396	445	450	465	466	457	456	454
28	449	443	426	336	400	448	450	466	466	456	455	454
29	450	444	427	337	-----	447	450	465	466	456	455	454
30	450	446	427	374	-----	447	450	466	465	456	455	453
31	450	-----	428	398	-----	448	-----	466	-----	456	456	-----
TOTAL	13,927	13,434	13,598	12,170	10,470	9,760.0	13,476	14,408	13,965	14,237	14,127	13,644
MEAN	449	448	439	393	374	315	449	465	466	459	456	455
MAX	451	452	452	448	448	448	450	466	467	466	458	456
MIN	447	443	425	136	11	0	447	457	462	456	455	453
AC-FT	27,620	26,650	26,970	24,140	20,770	19,360	26,730	28,580	27,700	28,240	28,020	27,060

CAL YR 1968 TOTAL 155,441.00 MEAN 425 MAX 483 MIN 0 AC-FT 308,300
WTR YR 1969 TOTAL 157,216.00 MEAN 431 MAX 467 MIN 0 AC-FT 311,800

11-4225. BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CALIF.

LOCATION.--Lat 39°07'53", long 120°57'29", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.15 N., R.9 E., Nevada County, on right bank 65 ft downstream from highway bridge, 0.5 mile downstream from Rollins Dam, and 2.2 miles north of Colfax.

DRAINAGE AREA.--105 sq mi.

PERIOD OF RECORD.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Prior to August 1964, published as Bear River near Colfax. Monthly discharge only for some periods, published in WSP 1315-A. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above mean sea level. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mile upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mile downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE (unadjusted).--10 years (1912-13, 1915-16, 1950-53, 1964-69), 364 cfs (263,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,100 cfs Jan. 20 (gage height, 10.51 ft); minimum daily, 18 cfs Dec. 17.

Period of record: Maximum discharge 9,620 cfs Nov. 20, 1950 (gage height, 21.40 ft, site and datum then in use), from rating curve extended above 3,600 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam in 1964, 10,100 cfs Jan. 20, 1969 (gage height, 10.51 ft); minimum daily, 0.5 cfs Nov. 17, 1964.

REMARKS.--Records good. Flow regulated by Rollins Reservoir (see sta 11-4218) beginning Dec. 15, 1964. Bear River Canal (see sta 11-4220) diverts above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	39	22	215	1,170	1,540	1,050	918	605	325	335	237
2	79	19	21	144	1,220	1,240	1,130	948	544	382	324	237
3	73	22	20	89	1,090	1,230	1,160	936	562	351	318	160
4	70	19	21	38	1,070	888	1,030	888	548	331	282	80
5	70	19	21	30	1,200	1,060	1,430	858	528	308	290	83
6	70	20	21	210	1,600	954	1,450	824	558	353	307	93
7	70	21	20	272	1,180	1,030	1,220	807	571	348	282	137
8	70	22	20	164	1,100	882	1,120	812	530	326	293	90
9	70	22	19	125	1,120	834	1,060	824	571	335	314	78
10	70	19	22	65	1,100	774	1,010	900	526	411	314	77
11	70	19	22	111	1,300	368	1,030	864	540	356	290	75
12	71	37	22	447	2,220	332	1,040	796	540	356	314	72
13	70	126	23	1,680	1,500	188	1,030	790	540	317	310	74
14	70	167	28	2,500	1,350	244	1,010	796	562	303	290	74
15	70	210	31	904	2,340	730	942	758	520	440	286	74
16	70	190	22	880	2,280	670	918	675	501	312	293	74
17	68	176	18	707	1,840	1,200	900	630	600	366	293	72
18	68	168	22	335	1,920	1,120	924	615	516	293	304	74
19	71	188	24	2,740	1,580	972	936	650	566	347	293	72
20	67	146	22	7,820	1,260	912	894	665	620	311	290	74
21	68	117	21	8,560	1,200	978	900	553	530	373	286	75
22	70	126	21	5,330	1,100	924	918	645	535	337	318	75
23	70	154	22	2,730	1,100	802	1,130	558	526	330	279	75
24	70	133	36	2,150	1,190	966	1,060	625	512	353	276	75
25	70	152	1,020	4,160	1,120	942	966	610	512	284	293	75
26	70	46	806	5,950	1,200	780	900	535	522	349	293	75
27	68	20	350	3,070	1,030	796	882	645	492	321	304	75
28	68	20	335	2,300	1,440	894	858	605	500	344	282	83
29	70	20	276	1,810	-----	924	942	512	520	297	276	83
30	70	21	228	1,480	-----	1,010	906	566	441	346	250	77
31	68	-----	203	1,290	-----	1,030	-----	517	-----	294	240	-----
TOTAL	2,176	2,458	3,759	58,306	38,820	27,214	30,746	22,325	16,138	10,499	9,119	2,775
MEAN	70.2	81.9	121	1,881	1,386	878	1,025	720	538	339	294	92.5
MAX	79	210	1,020	8,560	2,340	1,540	1,450	948	620	440	335	237
MIN	67	19	18	30	1,030	188	858	512	441	284	240	72
AC-FT	4,320	4,880	7,460	115,600	77,000	53,980	60,980	44,280	32,010	20,820	18,090	5,500
CAL YR 1968	TOTAL	69,290	MEAN	189	MAX	1,780	MIN	18	AC-FT	137,400		
WTR YR 1969	TOTAL	224,335	MEAN	615	MAX	8,560	MIN	18	AC-FT	445,000		

SACRAMENTO RIVER BASIN

11-4237. NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CALIF.

LOCATION.--Lat 39°03'01", long 121°18'53", in NE¼SW¼ sec.21, T.14 N., R.6 E., on Yuba, Placer county line, in center of New Camp Far West Dam on the Bear River, 6.4 miles east of Wheatland, and 11.8 miles northeast of Sheridan.

DRAINAGE AREA.--283 sq mi.

PERIOD OF RECORD.--October 1966 to current year. October 1963 to September 1966 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by South Sutter Water District).

EXTREMES.--Current year: Maximum contents, 118,900 acre-ft Jan. 20 (elevation, 306.7 ft); minimum, 2,200 acre-ft Oct. 11 (elevation, 175.0 ft), may have been lower during period of no record Oct. 12-16.
Period of record: Maximum contents, 118,900 acre-ft Jan. 20, 1969 (elevation, 306.7 ft); minimum, 2,200 acre-ft Oct. 11, 1968 (elevation, 175.0 ft), may have been lower during period of no record Oct. 12-16, 1968.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Sept. 30, 1963. Usable capacity, 139,600 acre-ft between elevations 175.0 ft (bottom of lowest river outlet) and 316.3 ft (maximum spillway design). Dead storage, 2,200 acre-ft. Records, including extremes, represent total contents at 2400 hours.

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

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

170	1,400	250	34,200
180	3,000	260	44,000
190	4,800	270	55,500
200	7,000	280	69,500
210	9,800	290	85,600
220	14,000	300	104,400
230	19,400	320	151,000
240	25,800		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.60	4.50	15.90	48.40	107.9	110.3	107.0	106.8	105.9	104.8	92.70	84.00
2	2.60	4.50	16.30	49.10	107.9	108.5	107.0	106.8	105.9	104.4	92.60	83.70
3	2.50	5.60	16.50	50.00	107.7	108.1	107.2	106.8	105.9	104.0	92.40	83.50
4	2.50	6.00	16.80	50.30	107.4	108.1	107.2	106.8	105.9	103.8	92.20	83.00
5	2.40	6.20	17.00	50.70	109.0	107.9	108.5	106.6	105.9	103.3	91.80	82.40
6	2.40	6.40	17.20	50.90	109.4	107.7	108.5	106.6	105.9	102.9	91.20	82.10
7	2.40	6.50	17.30	51.90	108.3	107.7	107.9	106.1	105.9	102.3	91.10	81.60
8	2.30	6.60	17.50	52.70	107.9	107.4	107.7	106.4	105.9	101.0	90.90	81.10
9	2.30	6.70	17.70	53.30	108.3	107.4	107.4	106.4	105.9	101.4	90.50	80.60
10	2.30	6.80	18.10	53.70	107.9	107.2	107.2	106.4	105.9	101.2	90.10	80.30
11	2.20	6.90	19.60	55.60	109.2	106.8	107.2	106.4	105.9	100.8	89.70	79.60
12	-	7.50	20.10	59.80	109.6	106.6	107.2	106.4	105.9	100.6	89.50	79.30
13	-	7.70	20.60	75.60	108.5	106.4	107.2	106.4	105.9	100.1	89.20	78.80
14	-	7.90	22.60	88.00	109.0	106.1	107.0	106.4	105.9	99.70	89.00	78.50
15	-	8.50	24.50	92.40	111.5	106.4	107.0	106.4	105.9	99.30	89.00	78.20
16	-	8.90	26.30	95.80	110.0	106.4	106.8	106.1	105.9	98.90	88.60	77.90
17	3.50	9.40	27.10	98.00	109.0	107.0	106.8	106.1	105.9	98.60	88.20	77.60
18	3.60	10.00	27.60	101.0	109.0	107.2	106.8	106.1	105.9	98.40	87.90	77.20
19	3.70	10.60	28.10	112.0	108.5	107.0	106.8	106.1	105.9	97.80	87.70	76.90
20	3.80	11.10	28.50	118.9	108.1	107.0	106.8	106.1	105.9	97.40	87.30	76.60
21	3.90	11.50	28.80	117.2	107.9	107.2	106.8	106.1	105.9	97.10	87.10	76.30
22	3.90	12.00	29.00	112.2	107.7	107.0	106.8	106.1	105.9	96.90	86.70	76.10
23	4.00	12.70	29.20	109.8	108.3	106.8	107.2	106.1	105.9	96.50	86.40	75.90
24	4.00	13.40	30.80	109.8	109.8	107.0	107.2	106.1	105.9	96.10	86.20	75.60
25	4.10	14.00	39.40	113.9	110.9	107.0	107.0	106.1	105.9	95.80	87.50	75.50
26	4.20	14.40	40.70	113.5	109.6	106.8	106.8	105.9	105.7	95.20	85.60	75.30
27	4.20	14.80	42.30	110.3	108.5	106.8	106.8	105.9	105.7	94.60	85.30	75.00
28	4.20	15.00	43.90	109.4	111.3	106.8	106.6	105.9	105.5	94.20	85.00	74.80
29	4.30	15.20	45.50	109.0	-----	106.8	106.8	105.9	105.3	93.90	84.80	74.70
30	4.40	15.50	46.80	108.5	-----	107.0	106.8	105.9	105.3	93.50	84.60	74.50
31	4.40	-----	47.60	108.1	-----	107.0	-----	105.9	-----	93.30	84.30	-----
MAX	4.40	15.50	47.60	118.9	111.5	110.3	108.5	106.8	105.9	104.8	92.70	84.00
MIN	-	4.50	15.90	48.40	107.4	106.1	106.6	105.9	105.3	93.30	84.30	74.50
(a)	187.9	222.8	263.1	301.7	303.2	301.2	301.1	300.7	300.4	294.1	289.2	283.1
(b)	+1.7	+11.1	+32.1	+60.5	+3.2	-4.3	-0.2	-0.9	-0.6	-12.0	-9.0	-9.8
CAL YR 1968	b -35.9		MAX 109.8	MIN -								
WTR YR 1969	b +71.8		MAX 118.9	MIN -								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

11-4240. BEAR RIVER NEAR WHEATLAND, CALIF.

LOCATION.--Lat 39°00'01", long 121°24'21", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3; T.13 N., R.5 E., Yuba County, on right bank 100 ft downstream from bridge on U.S. Highway 99E, 1 mile southeast of Wheatland, and 6.5 miles downstream from Rock Creek.

DRAINAGE AREA.--292 sq mi.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 76.92 ft above mean sea level. Prior to July 17, 1929, nonrecording gage at about same site at datum 4.58 ft higher. July 17, 1929, to Oct. 22, 1943, water-stage recorder at several sites within 300 ft of present site at datum 4.58 ft higher. Oct. 23, 1943, to June 23, 1964, at site 100 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--40 years, 432 cfs (313,000 acre-ft per year), adjusted for change in storage and diversions from New Camp Far West Reservoir since 1966.

EXTREMES.--Current year: Maximum discharge, 20,000 cfs Jan. 20 (gage height, 13.3 ft, from floodmarks); minimum daily, 7.1 cfs Nov. 14.

Period of record: Maximum discharge, 33,000 cfs Dec. 22, 1955 (gage height, 19.30 ft, site and datum then in use); maximum gage height, 20.83 ft Nov. 21, 1950, site and datum then in use; no flow at times.

REMARKS.--Records good. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie (usable capacity, 7,840 acre-ft), Rollins Reservoir since December 1964 (see sta 11-4218) and New Camp Far West Reservoir since October 1963 (see sta 11-4237). Many diversions for irrigation and power. Records of chemical analyses for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	11	14	1,710	5,000	1,130	525	152	25	18	20
2	28	17	10	14	1,580	3,450	1,150	510	158	19	17	17
3	11	23	10	14	1,470	2,470	1,290	525	133	15	17	18
4	7.8	17	9.6	14	1,320	2,040	1,260	530	112	17	17	19
5	7.7	16	9.6	14	2,280	2,130	1,460	495	96	17	15	17
6	45	16	9.6	15	3,500	1,570	2,340	460	77	18	18	17
7	23	15	9.6	14	2,690	1,440	1,850	512	88	18	18	17
8	28	15	9.6	14	1,660	1,350	1,530	390	103	19	17	16
9	25	14	9.6	13	1,660	1,200	1,380	268	92	19	17	14
10	17	13	11	12	1,660	1,220	1,240	320	103	19	17	12
11	16	16	13	38	1,660	1,080	1,130	375	118	16	16	16
12	24	13	10	51	3,400	838	1,100	390	133	17	14	16
13	33	8.2	10	154	2,660	743	1,100	345	133	17	17	15
14	46	7.1	35	59	1,960	611	1,080	325	126	17	17	15
15	46	9.6	22	24	4,150	590	1,030	330	135	17	18	14
16	37	8.2	8	16	5,120	820	940	315	121	17	19	15
17	9.6	9.6	13	10	3,320	940	898	264	101	17	22	17
18	12	11	11	14	2,760	1,230	844	260	98	17	18	17
19	11	10	11	1,730	2,340	1,190	820	260	75	15	14	17
20	14	10	12	14,200	1,800	1,100	809	270	84	14	13	17
21	14	11	11	16,800	1,530	1,180	765	270	105	15	15	17
22	14	11	11	11,700	1,320	1,180	710	270	86	16	17	17
23	16	11	12	6,460	1,500	1,060	760	270	75	16	17	17
24	14	11	20	4,720	2,320	994	1,010	270	55	18	18	17
25	13	11	54	6,810	3,910	1,060	892	270	19	18	19	17
26	13	11	21	11,500	4,060	1,080	738	270	23	20	20	17
27	14	10	16	6,500	2,660	964	660	250	34	19	19	16
28	14	10	17	4,720	3,080	964	600	230	45	19	17	16
29	14	11	17	3,550	-----	1,010	550	210	39	17	18	16
30	14	12	14	2,730	-----	1,050	560	165	33	19	19	16
31	14	-----	14	2,080	-----	1,100	-----	171	-----	18	19	-----
TOTAL	621.1	371.7	461.6	94,004	69,080	42,654	31,626	10,315	2,752	545	537	492
MEAN	20.0	12.4	14.9	3,032	2,467	1,376	1,054	333	91.7	17.6	17.3	16.4
MAX	46	23	54	16,800	5,120	5,000	2,340	530	158	25	22	20
MIN	7.7	7.1	9.6	10	1,320	590	550	165	19	14	13	12
AC-FT	1,230	737	916	186,500	137,000	84,600	62,730	20,460	5,460	1,080	1,070	976
MEAN a	61.3	199	537	4,017	2,524	1,308	1,166	718	477	249	230	28.4
AC-FT a	3,770	11,840	33,020	247,000	140,200	80,300	69,390	44,130	28,370	15,300	14,150	1,690
(b)	838	0	0	0	0	0	6,860	24,570	23,510	26,220	22,080	10,510

CAL YR 1968 TOTAL 70,829.3 MEAN 194 MAX 4,470 MIN 1.4 AC-FT 140,500 MEAN a 288 AC-FT a 208,300
WTR YR 1969 TOTAL 253,459.4 MEAN 694 MAX 16,800 MIN 7.1 AC-FT 502,700 MEAN a 951 AC-FT a 689,200

a Adjusted for diversions from and change in contents in New Camp Far West Reservoir.

b Diversion, in acre-feet, to Camp Far West North and South Canals, and South Sutter conveyance canal.

NOTE.--No gage-height record Jan. 20.

SACRAMENTO RIVER BASIN

11-4246, WELLMAN CREEK NEAR SMARTVILLE, CALIF.

LOCATION.--Lat 39°11'37", long 121°20'23", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.16 N., R.6 E., Yuba County, on right bank 4 ft upstream from culvert on Smartville-Hammonton road, 2.3 miles southwest of Smartville.

DRAINAGE AREA.--0.59 sq mi.

PERIOD OF RECORD.--Water years 1960-67 (annual maximum), October 1967 to current year.

GAGE.--Water-stage recorder with tipping-bucket rain gage, crest-stage gages, and culvert control. Altitude of gage is 495 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 323 cfs Jan. 26 (gage height, 15.22 ft), from rating curve extended above 44 cfs on basis of computation of flow through culverts and over roadway at gage height 14.46 ft; no flow for several months.

Period of record: Maximum discharge, 467 cfs Jan. 20, 1964 (gage height, 15.66 ft), from rating curve extended above 40 cfs on basis of computation of flow through culverts and over roadway at gage heights 12.39, 12.65, 13.94, 14.56, and 15.66 ft; no flow for several months each year.

REVISIONS.--The maximum discharge for the water year 1968 has been revised to 93 cfs Feb. 21, 1968 (gage height, 13.38 ft), superseding figure published in WRD Calif. 1968.

REMARKS.--Records good. No regulation or diversion above station. Small ditch diverts some flow into basin at gage during heavy storms.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.04	.18	3.2	.08	.03	0	0	0	0
2	0	0	0	.04	.16	1.5	.10	.03	0	0	0	0
3	0	0	0	.03	.14	.73	.08	.03	0	0	0	0
4	0	0	0	.03	.12	.41	.08	.02	0	0	0	0
5	0	0	.01	.03	12	.33	.76	.02	0	0	0	0
6	0	0	.02	.03	3.1	.27	.65	.02	0	0	0	0
7	0	0	.01	.03	.41	.24	.14	.01	0	0	0	0
8	0	0	.01	.03	.29	.21	.10	.01	0	0	0	0
9	0	0	0	.04	4.6	.41	.08	.01	0	0	0	0
10	0	0	.92	.02	.54	.31	.08	.01	0	0	0	0
11	0	0	.28	4.5	11	.21	.07	.01	0	0	0	0
12	0	0	.05	5.9	2.9	.18	.07	.01	0	0	0	0
13	0	0	.87	49	.50	.16	.07	.01	0	0	0	0
14	0	.01	4.5	3.2	6.2	.16	.07	.01	0	0	0	0
15	0	0	2.4	.41	20	.16	.07	.01	0	0	0	0
16	0	0	.22	.21	1.6	.16	.06	.01	0	0	0	0
17	0	0	.06	.12	.64	.22	.06	.01	0	0	0	0
18	0	.05	.04	7.7	3.7	.16	.06	.01	0	0	0	0
19	0	.01	.03	27	.88	.14	.05	.01	0	0	0	0
20	0	0	.02	25	.59	.31	.05	.01	0	0	0	0
21	0	0	.01	28	.45	.32	.04	.01	0	0	0	0
22	0	0	.01	2.6	.41	.16	.04	0	0	0	0	0
23	0	0	.16	.64	3.0	.12	.16	0	0	0	0	0
24	0	0	3.8	6.5	11	.10	.06	0	0	0	0	0
25	0	0	3.0	9.9	3.2	.10	.05	0	0	0	0	0
26	0	0	.36	17	1.0	.10	.04	0	0	0	0	0
27	0	0	.10	.59	.76	.10	.04	0	0	0	0	0
28	0	0	.37	.33	9.1	.10	.03	0	0	0	0	0
29	0	0	.21	.22	-----	.08	.03	0	0	0	0	0
30	0	.01	.07	1.0	-----	.08	.03	0	0	0	0	0
31	0	-----	.06	.24	-----	.08	-----	0	-----	0	0	-----
TOTAL	0	0.08	17.59	190.38	98.47	10.81	3.30	0.30	0	0	0	0
MEAN	0	.003	.57	6.14	3.52	.35	.11	.010	0	0	0	0
MAX	0	.05	4.5	49	20	3.2	.76	.03	0	0	0	0
MIN	0	0	0	.02	.12	.08	.03	0	0	0	0	0
AC-FT	0	.2	35	378	195	21	6.6	.6	0	0	0	0
(a)	1.80	3.02	5.10	14.04	9.10	1.60	2.70	0	.30	0	0	0
CAL YR 1968	TOTAL	119.16	MEAN	.33	MAX	17	MIN	0	AC-FT	236		
WTR YR 1969	TOTAL	320.93	MEAN	.88	MAX	49	MIN	0	AC-FT	637		

a Precipitation, in inches.

11-4250. FEATHER RIVER AT NICOLAUS, CALIF.

LOCATION.--Lat 38°54'01", long 121°35'00", T.12 N., R.3 E., Sutter County, on left bank at highway bridge at Nicolaus, 2.9 miles downstream from Bear River, and at mile 9.4.

DRAINAGE AREA.--5,921 sq mi.

PERIOD OF RECORD.--June 1921 to December 1942 (low-water periods only), April 1943 to current year.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.30 ft below mean sea level. Prior to November 1931, on middle fender pier of bridge 0.3 mile upstream at same datum. Since June 1960, auxiliary water-stage recorder at various sites near highway bridge for low-water periods.

AVERAGE DISCHARGE.--26 years (1943-69), 7,956 cfs (5,764,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 88,400 cfs Jan. 22 (gage height, 43.60 ft); minimum daily, 1,020 cfs Oct. 3, 8.

Period of record: Maximum discharge since 1943, 357,000 cfs Dec. 23, 1955; maximum gage height, 51.60 ft Dec. 23, 1955; no flow Aug. 2-18, 1924, July 11-22, 24, 26, Aug. 1, 1931.

REMARKS.--Records fair. Flow partly regulated by reservoirs and powerplants. Diversions for irrigation of about 87,000 acres between stations at Oroville and at Nicolaus. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,100	1,760	1,800	3,200	48,800	36,100	11,700	19,400	11,400	1,400	4,220	7,130
2	1,070	1,760	1,820	2,970	31,700	33,200	12,200	18,200	11,500	1,360	4,210	7,130
3	1,020	2,000	1,820	2,650	25,000	29,100	13,700	14,100	10,300	1,310	4,200	7,150
4	1,050	2,320	1,810	2,720	21,900	23,600	19,000	10,700	8,340	1,310	4,180	7,190
5	1,070	2,200	1,800	2,710	23,200	20,200	23,200	10,300	7,220	1,310	4,670	7,210
6	1,070	2,100	1,780	2,720	27,700	17,200	26,900	10,100	6,550	1,400	5,540	7,260
7	1,040	2,010	1,800	2,700	26,600	16,300	26,900	10,100	6,140	2,130	5,730	7,220
8	1,020	1,930	1,800	2,680	23,900	15,100	25,900	10,300	5,300	2,160	6,100	7,220
9	1,040	1,910	1,800	2,620	23,800	14,700	26,200	10,400	4,470	2,140	6,450	7,180
10	1,030	1,900	1,830	2,590	27,200	14,800	25,900	10,800	4,050	2,300	6,080	7,110
11	1,030	1,890	2,130	2,700	28,200	13,600	23,500	11,400	3,600	2,450	5,740	7,080
12	1,130	2,020	2,260	5,580	39,200	11,800	22,600	12,200	3,170	2,410	6,270	7,070
13	1,350	2,000	2,210	14,600	44,600	11,100	22,600	12,600	2,770	2,430	6,620	7,060
14	1,400	1,890	2,430	35,400	41,400	10,200	22,300	12,900	2,880	2,490	6,630	7,070
15	1,400	2,020	3,390	20,500	41,700	9,400	22,100	18,900	2,810	2,520	6,650	7,050
16	1,640	2,110	4,150	11,000	53,100	9,140	21,700	21,200	2,860	2,540	6,640	7,070
17	1,850	1,980	3,200	8,320	47,300	9,660	20,200	21,200	3,060	2,530	6,610	7,030
18	1,850	1,930	2,840	5,130	42,000	10,500	19,900	21,800	3,100	2,490	6,660	7,030
19	1,820	1,990	3,500	14,700	39,000	10,900	19,400	22,500	2,730	2,460	6,730	7,070
20	1,800	2,010	3,160	48,200	32,400	11,900	19,400	22,500	2,420	2,460	6,780	7,020
21	1,790	1,950	2,560	74,700	27,300	13,600	18,700	22,000	2,470	2,550	6,810	6,970
22	1,770	1,900	2,490	82,800	26,400	15,700	18,400	21,800	2,690	2,550	6,860	6,940
23	1,770	1,890	2,520	80,700	26,300	16,400	18,100	21,300	2,610	2,490	6,910	6,970
24	1,780	1,850	2,620	70,000	28,200	16,200	19,000	18,700	2,370	3,210	6,940	6,930
25	1,770	1,840	5,400	67,000	32,500	13,200	18,300	17,000	2,100	3,770	6,950	6,880
26	1,740	1,810	9,160	72,500	32,800	10,300	21,100	16,100	1,990	4,020	7,030	6,900
27	1,720	1,790	6,170	79,500	28,100	9,360	22,300	14,400	1,510	4,040	7,070	6,860
28	1,700	1,790	4,550	71,600	26,600	9,550	22,100	13,700	1,480	4,100	7,070	6,360
29	1,710	1,780	4,320	65,000	-----	9,730	21,600	12,800	1,500	4,130	7,090	5,540
30	1,880	1,790	3,600	59,300	-----	9,980	20,500	11,900	1,460	4,140	7,110	4,740
31	1,880	-----	3,330	55,200	-----	10,400	-----	11,800	-----	4,220	7,120	-----
TOTAL	45,290	58,120	94,050	971,990	916,900	462,920	625,400	483,100	124,850	80,820	193,670	207,440
MEAN	1,461	1,937	3,034	31,350	32,750	14,930	20,850	15,580	4,162	2,607	6,247	6,915
MAX	1,880	2,320	9,160	82,800	53,100	36,100	26,900	22,500	11,500	4,220	7,120	7,260
MIN	1,020	1,760	1,780	2,590	21,900	9,140	11,700	10,100	1,460	1,310	4,180	4,740
AC-FT	89,830	115,300	186,500	1,928M	1,619M	918,200	1,240M	958,200	247,600	160,300	384,100	411,500
CAL YR 1968	TOTAL 1,101,109		MEAN 3,008		MAX 33,000		MIN 230		AC-FT 2,184,000			
WTR YR 1969	TOTAL 4,264,550		MEAN 11,680		MAX 82,800		MIN 1,020		AC-FT 8,459,000			

SACRAMENTO RIVER BASIN

11-4255. SACRAMENTO RIVER AT VERONA, CALIF.

LOCATION.--Lat 38°46'51", long 121°36'12", in SE $\frac{1}{4}$ sec.23, T.11 N., R.3 E., Sutter County, on left bank 0.8 mile southeast of Verona, 1 mile downstream from Feather River, 6.2 miles east of Knights Landing, and at mile 19.6 upstream from Sacramento.

DRAINAGE AREA.--21,275 sq mi.

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.00 ft below mean sea level.

AVERAGE DISCHARGE.--40 years (1929-69), 18,240 cfs (13,210,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 68,500 cfs Jan. 26 (gage height, 37.11 ft); minimum daily, 9,020 cfs Oct. 11.

Period of record: Maximum discharge, 79,200 cfs Mar. 1, 1940 (gage height, 41.20 ft); minimum daily, 304 cfs July 23, 24, 1931; maximum reverse flow, 16,800 cfs Dec. 4, 1950, backwater from American River.

Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 cfs Dec. 25, 1964.

REMARKS.--Records excellent. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 cfs, flow begins over Fremont weir (just upstream) into Yolo bypass (see sta 11-4530). Elevation of crest of Fremont weir is 33.5 ft (datum of Corps of Engineers).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11,400	11,200	11,200	29,500	63,100	61,000	30,500	33,700	28,500	13,000	13,400	19,400
2	11,600	11,100	11,200	25,500	61,100	61,000	31,600	32,900	27,900	12,700	13,500	19,400
3	11,300	11,100	11,200	22,400	59,300	60,800	32,500	31,000	26,800	12,400	13,500	19,600
4	10,800	11,500	11,200	20,100	57,900	59,800	35,000	27,100	24,600	11,900	13,600	19,900
5	10,200	11,900	11,100	18,700	56,600	58,600	38,200	25,700	22,400	11,100	13,800	20,000
6	9,830	11,900	10,900	17,800	57,800	57,200	41,200	24,900	21,100	10,800	14,900	19,700
7	9,440	11,700	10,900	17,400	58,300	55,700	44,000	24,300	20,400	11,200	15,100	19,300
8	9,240	11,500	11,000	16,700	58,100	53,700	45,200	24,200	19,500	11,500	15,100	18,700
9	9,140	11,400	11,100	15,900	58,000	50,700	45,100	24,500	18,600	11,300	15,600	18,600
10	9,050	11,300	11,700	14,800	58,200	47,100	44,500	25,600	18,100	11,100	15,700	18,300
11	9,020	11,000	13,500	14,100	58,700	43,300	42,900	27,000	18,100	11,300	15,200	18,300
12	9,330	11,200	23,300	15,800	61,000	39,300	41,100	28,400	18,100	11,400	15,600	18,200
13	9,760	11,200	25,000	29,200	61,900	35,900	40,200	29,600	17,900	11,400	16,100	18,100
14	10,400	11,400	20,900	48,700	62,400	33,400	39,700	30,100	18,000	11,700	16,200	18,100
15	11,100	11,900	21,700	56,800	63,300	31,400	39,200	32,900	17,900	11,600	16,100	18,100
16	11,100	12,300	27,500	60,300	64,500	29,900	38,500	36,400	17,600	11,500	16,100	18,100
17	11,200	12,700	30,400	59,200	64,400	29,100	37,200	37,100	17,400	11,400	16,300	18,400
18	11,000	12,500	28,700	57,100	64,100	29,100	35,800	38,100	16,900	11,300	16,500	18,400
19	10,800	12,500	24,500	56,900	63,400	29,100	34,600	39,600	16,300	11,100	16,500	18,300
20	10,800	13,100	21,200	61,200	62,500	29,800	34,100	40,500	15,700	11,100	16,600	18,200
21	10,800	13,500	18,300	65,600	61,600	31,000	33,400	40,600	15,500	11,300	16,600	18,000
22	10,600	13,000	16,200	67,400	61,000	32,800	32,400	40,400	15,700	11,400	16,900	17,800
23	10,500	12,200	14,900	68,300	60,600	34,700	31,700	40,000	15,800	11,300	17,200	17,600
24	10,400	11,900	14,400	67,200	60,600	34,600	32,500	38,700	15,500	11,700	17,300	17,400
25	10,400	11,600	20,300	67,000	61,100	33,000	33,400	36,800	14,800	12,500	17,300	17,000
26	10,400	11,600	32,800	67,700	61,500	30,100	34,700	35,500	14,300	12,900	17,400	16,800
27	10,200	11,500	35,500	68,100	60,500	28,200	36,200	34,000	13,700	12,900	17,800	16,700
28	10,200	11,300	35,200	67,200	59,800	27,800	36,000	32,600	13,300	13,300	18,000	16,400
29	10,200	11,100	34,000	66,100	-----	27,900	35,500	31,500	13,200	13,400	18,400	15,600
30	10,500	11,100	35,300	65,200	-----	28,500	34,500	30,200	13,100	13,300	18,700	14,700
31	10,900	-----	34,000	64,300	-----	29,300	-----	29,300	-----	13,300	19,100	-----
TOTAL	321,610	353,200	639,100	1,392.2M	1,701.3M	1,233.8M	1,111.4M	1,003.2M	546,700	368,100	500,100	543,100
MEAN	10,370	11,770	20,620	44,910	60,760	39,800	37,050	32,360	18,220	11,870	16,130	18,100
MAX	11,600	13,500	35,500	68,300	64,500	61,000	45,200	40,600	28,500	13,400	19,100	20,000
MIN	9,020	11,000	10,900	14,100	56,600	27,800	30,500	24,200	13,100	10,800	13,400	14,700
AC-FT	637,900	700,600	1,268M	2,761M	3,374M	2,447M	2,204M	1,990M	1,084M	730,100	991,900	1,077M
CAL YR 1968	TOTAL 5,915,240			MEAN 16,160	MAX 58,500	MIN 7,280	AC-FT 11,730,000					
WTR YR 1969	TOTAL 9,713,810			MEAN 26,610	MAX 68,300	MIN 9,020	AC-FT 19,270,000					

11-4260. SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CALIF.

LOCATION.--Lat 38°36'25", long 121°33'15", (unsurveyed), Sacramento County, on right bank 100 ft upstream and 100 ft downstream from weir, 3.2 miles upstream from American River, 4 miles northwest of Sacramento, and at mile 4.2 upstream from Sacramento.

PERIOD OF RECORD.--October 1939 to current year. Published as Sacramento weir near Sacramento 1939-61. Monthly discharge only for water years 1940-51, published in WSP 1735. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

GAGE.--Water-stage recorders and concrete weir crest. Gage is set to datum of Corps of Engineers. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or nonrecording gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank at Sacramento River opposite center of weir at same datum. February 1963 to Nov. 15, 1965, water-stage recorders on right bank 100 ft upstream and 100 ft downstream from ends of weir at same datum.

AVERAGE DISCHARGE.--30 years, 232 cfs (168,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 36,000 cfs Jan. 23 (gage height, 31.53 ft); no flow for several months.

Period of record: Maximum discharge, 118,000 cfs Mar. 26, 1928; maximum gage height, 33.01 ft Dec. 23, 1955; no flow during all or most of each year.

REMARKS.--Crest of weir is at elevation 25.0 ft and top of moveable gates at 31.0 ft. Weir consists of 48 gates each 38.1 ft long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. Since February 1963, stage is obtained by averaging the stage obtained at sites above and below the weir.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey, rounded to Survey standards.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	2,470	634	0	0	0	0	0	0
2	0	0	0	0	478	600	0	0	0	0	0	0
3	0	0	0	0	281	547	0	0	0	0	0	0
4	0	0	0	0	168	438	0	0	0	0	0	0
5	0	0	0	0	115	345	0	0	0	0	0	0
6	0	0	0	0	190	264	0	0	0	0	0	0
7	0	0	0	0	220	184	0	0	0	0	0	0
8	0	0	0	0	180	61	0	0	0	0	0	0
9	0	0	0	0	172	0	0	0	0	0	0	0
10	0	0	0	0	176	0	0	0	0	0	0	0
11	0	0	0	0	226	0	0	0	0	0	0	0
12	0	0	0	0	416	0	0	0	0	0	0	0
13	0	0	0	0	472	0	0	0	0	0	0	0
14	0	0	0	0	485	0	0	0	0	0	0	0
15	0	0	0	3	600	0	0	0	0	0	0	0
16	0	0	0	172	725	0	0	0	0	0	0	0
17	0	0	0	214	754	0	0	0	0	0	0	0
18	0	0	0	117	758	0	0	0	0	0	0	0
19	0	0	0	173	739	0	0	0	0	0	0	0
20	0	0	0	612	672	0	0	0	0	0	0	0
21	0	0	0	19,300	605	0	0	0	0	0	0	0
22	0	0	0	32,000	542	0	0	0	0	0	0	0
23	0	0	0	33,300	552	0	0	0	0	0	0	0
24	0	0	0	17,900	581	0	0	0	0	0	0	0
25	0	0	0	15,300	643	0	0	0	0	0	0	0
26	0	0	0	22,700	662	0	0	0	0	0	0	0
27	0	0	0	22,100	576	0	0	0	0	0	0	0
28	0	0	0	19,800	494	0	0	0	0	0	0	0
29	0	0	0	12,300	-----	0	0	0	0	0	0	0
30	0	0	0	10,300	-----	0	0	0	0	0	0	0
31	0	-----	0	7,790	-----	0	-----	0	-----	0	0	-----
TOTAL	0	0	0	214,081	14,952	3,073	0	0	0	0	0	0
MEAN	0	0	0	6,906	534	99.1	0	0	0	0	0	0
MAX	0	0	0	33,300	2,470	634	0	0	0	0	0	0
MIN	0	0	0	0	115	0	0	0	0	0	0	0
AC-FT	0	0	0	424,600	29,660	6,100	0	0	0	0	0	0
CAL YR 1968	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0		
WTR YR 1969	TOTAL	232,106.00	MEAN	636	MAX	33,300	MIN	0	AC-FT	460,400		

SACRAMENTO RIVER BASIN

11-4261.5. ONION CREEK NEAR SODA SPRINGS, CALIF.

LOCATION.--Lat 39°16'02", long 120°21'50", in SE 1/4 sec. 11, T. 16 N., R. 14 E., Placer County, Tahoe National Forest, on right bank 0.3 mile upstream from unnamed tributary, 1 mile upstream from mouth, and 4.0 miles south of Soda Springs.

DRAINAGE AREA.--3.58 sq mi.

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,900 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 9.42 cfs (6,820 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 184 cfs May 10 (gage height, 2.72 ft), from rating curve extended as explained below; minimum daily, 0.22 cfs Oct. 1-4, 7, 8.
Period of record: Maximum discharge, 1,750 cfs Dec. 23, 1964 (gage height, 4.98 ft in gage well, 6.82 ft, from floodmarks), from rating curve extended above 40 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.1 cfs for several days in 1959, 1961.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.66	1.7	1.4	6.3	3.6	37	39	66	7.5	.95	.38
2	.22	7.0	1.9	1.4	5.8	3.6	28	37	66	6.7	.95	.38
3	.22	13	1.7	1.6	5.4	3.6	22	28	64	5.9	.95	.38
4	.22	4.2	1.7	2.5	5.4	3.6	22	26	59	5.6	.85	.38
5	.26	2.8	1.7	2.8	5.4	3.6	23	41	56	5.2	.85	.38
6	.26	2.1	1.7	3.3	5.4	3.6	18	65	49	4.8	.85	.38
7	.22	2.1	1.7	2.8	5.0	3.6	17	84	42	4.5	.85	.38
8	.22	2.8	1.9	2.5	5.0	3.6	17	96	39	4.2	.85	.38
9	.26	2.8	1.7	2.3	5.0	3.6	18	113	33	3.9	.76	.38
10	.31	1.7	2.1	2.1	4.6	3.3	19	118	28	3.4	.76	.33
11	.26	1.7	2.1	2.1	4.6	3.3	26	129	29	3.2	.68	.33
12	2.8	7.6	2.1	2.1	4.3	3.3	34	121	26	3.2	.61	.33
13	4.1	2.5	2.1	2.1	4.3	3.3	34	101	27	2.7	.61	.33
14	1.9	2.1	2.1	2.3	4.3	3.0	27	88	30	2.3	.54	.33
15	1.8	2.1	2.6	2.1	4.3	3.6	24	76	29	2.1	.54	.29
16	1.3	2.1	3.1	2.1	3.9	4.3	26	78	28	2.1	.54	.29
17	.99	2.8	1.7	2.1	3.6	3.9	34	94	24	2.1	.54	.29
18	.66	11	1.7	2.1	3.6	3.9	39	96	37	2.1	.54	.29
19	.57	5.8	1.7	21	3.6	3.9	44	78	25	2.0	.54	.29
20	.57	3.9	1.6	46	3.6	5.0	51	74	21	2.0	.54	.29
21	.57	3.3	1.7	23	3.6	4.6	68	78	18	1.8	.54	.29
22	.57	3.9	1.4	13	3.9	5.4	68	88	16	1.7	.49	.29
23	.49	3.3	1.4	9.3	3.9	6.3	58	96	16	1.6	.49	.29
24	.49	2.5	1.6	7.7	4.3	6.7	35	88	15	1.5	.49	.29
25	.49	2.5	1.5	8.6	4.3	8.2	28	80	14	1.5	.49	.29
26	.49	2.3	1.5	20	3.9	12	25	72	12	1.4	.49	.29
27	.49	2.3	1.4	14	3.6	15	26	72	11	1.4	.43	.29
28	.49	2.1	1.4	9.9	3.6	18	35	64	10	1.3	.43	.29
29	.57	2.1	1.4	8.2	-----	22	35	69	10	1.3	.43	.29
30	.87	1.9	1.4	7.2	-----	32	38	72	9.0	1.2	.43	.29
31	.66	-----	1.4	6.7	-----	39	-----	74	-----	1.0	.38	-----
TOTAL	23.54	106.96	54.7	234.3	124.5	242.4	976	2,435	909.0	91.2	19.39	9.71
MEAN	.76	3.57	1.76	7.56	4.45	7.82	32.5	78.5	30.3	2.94	.63	.32
MAX	4.1	13	3.1	46	6.3	39	68	129	66	7.5	.95	.38
MIN	.22	.66	1.4	1.4	3.6	3.0	17	26	9.0	1.0	.38	.29
AC-FT	47	212	108	465	247	481	1,940	4,830	1,800	181	38	19

CAL YR 1968 TOTAL 2,483.64 MEAN 6.79 MAX 65 MIN .22 AC-FT 4,930
WTR YR 1969 TOTAL 5,226.70 MEAN 14.3 MAX 129 MIN .22 AC-FT 10,370

PEAK DISCHARGE (BASE, 50 CFS)							
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-20	1600	2.08	56	5-10	1700	2.72	184
4-21	1900	2.37	110	5-23	1800	2.63	140

11-4261.9. LAKE VALLEY CANAL NEAR EMIGRANT GAP, CALIF.

LOCATION.--Lat 39°17'58", long 120°39'11", in NE¼NW¼ sec.32, T.17 N., R.12 E., Placer County, Tahoe National Forest, on right bank 0.25 mile upstream from inlet to Carpenter Flat Siphon, and 1 mile east of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,360 ft (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 38 cfs Nov. 18, 1965; no flow for several months in each year.

REMARKS.--Canal diverts from right bank of the North Fork of North Fork American River 2.7 miles downstream from Lake Valley Reservoir to the Drum Canal in the Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	28	3.7	0	0	0	0	0	0	0	29	29
2	27	26	.07	0	0	0	0	0	0	0	29	29
3	27	25	.09	0	0	0	0	0	0	3.0	29	29
4	27	27	.09	0	0	0	0	0	0	9.5	28	29
5	27	29	.09	0	0	0	0	0	0	9.9	28	29
6	27	29	.09	0	0	0	0	0	0	10	28	29
7	27	28	.09	0	0	0	0	0	0	16	28	16
8	28	28	.06	0	0	0	0	0	0	20	28	.10
9	28	28	.02	0	0	0	0	0	0	20	28	0
10	28	27	0	0	0	0	0	0	0	20	29	0
11	28	28	0	0	0	0	0	0	0	26	29	0
12	28	29	0	0	0	0	0	0	0	30	29	0
13	27	27	0	0	0	0	0	0	0	30	29	0
14	27	27	0	0	0	0	0	0	0	29	29	0
15	28	27	0	0	0	0	0	0	0	29	29	0
16	27	27	0	0	0	0	0	0	18	28	29	0
17	27	27	0	0	0	0	0	0	30	29	29	0
18	26	28	0	0	0	0	0	0	30	29	29	0
19	26	27	0	0	0	0	0	0	29	29	29	9.0
20	27	27	0	0	0	0	0	0	28	29	29	27
21	27	27	0	0	0	0	0	0	27	29	29	29
22	27	26	0	0	0	0	0	0	28	29	29	29
23	27	26	0	0	0	0	0	0	9.3	29	29	29
24	26	27	0	0	0	0	0	0	.01	29	29	30
25	26	25	0	0	0	0	0	0	0	29	29	29
26	26	24	0	0	0	0	0	0	0	29	29	29
27	27	24	0	0	0	0	0	0	0	29	29	29
28	28	23	0	0	0	0	0	0	0	29	29	29
29	29	22	0	0	-----	0	0	0	0	29	29	29
30	29	15	0	0	-----	0	0	0	0	29	29	29
31	28	-----	0	0	-----	0	-----	0	-----	29	29	-----
TOTAL	844	788	4.30	0	0	0	0	0	199.31	715.4	893	517.10
MEAN	27.2	26.3	.14	0	0	0	0	0	6.64	23.1	28.8	17.2
MAX	29	29	3.7	0	0	0	0	0	30	30	29	30
MIN	26	15	0	0	0	0	0	0	0	0	28	0
AC-FT	1,670	1,560	8.5	0	0	0	0	0	395	1,420	1,770	1,030

CAL YR 1968 TOTAL 4,865.40

MEAN 13.3

MAX 31

MIN 0

AC-FT 9,650

WTR YR 1969 TOTAL 3,961.11

MEAN 10.9

MAX 30

MIN 0

AC-FT 7,860

11-4262. NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°08'37", long 120°45'30", in SE $\frac{1}{4}$ sec.17, T.15 N., R.11 E., Placer County, Tahoe National Forest, on right bank 0.2 mile downstream from Big Reservoir, and 6.0 miles southeast of Dutch Flat.

DRAINAGE AREA.--1.68 sq mi.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,980 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 4.54 cfs (3,290 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 339 cfs Jan. 21 (gage height, 4.52 ft); minimum daily, 0.30 cfs July 13, 14.

Period of record: Maximum discharge, 339 cfs Jan. 21, 1969 (gage height, 4.52 ft); no flow for many days in 1964-66.

Maximum stage known, 6.40 ft probably Dec. 23, 1955, from floodmarks (discharge unknown).

REMARKS.--Flow regulated by Big Reservoir (capacity, 2,200 acre-ft). Some diversion above the station for mining.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.9	2.1	2.3	33	21	17	.50	.50	.40	1.3	1.9
2	1.9	2.9	2.0	2.3	33	20	19	.50	.50	.40	1.3	1.9
3	1.9	2.9	2.0	2.3	32	20	19	.50	.50	.40	1.3	1.9
4	1.9	2.9	2.0	2.3	32	19	19	.50	.50	.40	1.3	1.9
5	1.9	2.8	2.0	2.3	31	18	20	.50	.50	.40	1.3	1.9
6	2.1	2.7	2.0	2.3	31	17	20	.50	.50	.40	1.3	1.9
7	2.5	2.7	1.9	2.3	30	16	20	.50	.50	.40	1.3	1.9
8	2.5	2.6	1.9	2.3	30	15	9.6	.50	.50	.40	1.2	1.9
9	2.6	2.5	1.9	2.3	29	14	.60	.50	.50	.40	1.3	1.8
10	2.6	2.5	2.0	2.4	29	12	.60	.50	.50	.40	1.3	1.8
11	2.9	2.5	2.1	2.5	29	10	.60	.50	.50	.40	1.3	1.8
12	5.2	2.8	1.9	2.7	29	8.8	.60	.50	.50	.40	1.3	1.8
13	6.8	2.6	1.9	4.2	28	6.8	.60	.50	.50	.30	1.3	1.7
14	6.6	2.5	1.9	5.8	27	6.2	.50	.50	.50	.40	1.2	1.7
15	6.2	2.5	2.3	7.4	27	6.4	.50	.50	.40	.60	1.2	1.7
16	3.0	2.5	2.3	7.5	27	6.7	.50	.50	.40	.90	1.2	1.7
17	2.9	2.5	2.1	7.3	26	7.4	.50	.50	.40	.90	1.2	1.7
18	2.9	2.4	2.1	7.6	26	8.3	.50	.50	.40	.90	1.2	1.7
19	2.8	2.4	2.1	10	25	9.2	.50	.50	.40	.90	1.2	1.7
20	2.6	2.3	2.1	31	25	9.6	.50	.50	.40	.90	1.1	2.4
21	2.6	2.3	2.1	133	24	10	.40	.50	.40	.90	1.1	2.8
22	2.6	2.3	2.1	182	24	11	.40	.50	.40	1.1	1.0	2.8
23	2.6	2.3	2.1	101	23	11	.60	.50	.40	1.5	1.0	2.7
24	2.6	2.3	2.2	72	23	12	.60	.50	.50	1.5	1.0	2.7
25	2.6	2.3	2.6	88	22	12	.70	.50	.50	1.4	1.3	2.8
26	2.6	2.1	2.4	133	22	13	.60	.50	.50	1.4	1.8	2.8
27	2.6	2.1	2.3	99	21	13	.50	.50	.40	1.4	1.8	2.8
28	2.6	2.1	2.3	67	21	14	.50	.50	.40	1.4	1.8	2.8
29	2.7	2.1	2.3	46	-----	14	.50	.50	.40	1.3	1.9	2.7
30	2.9	2.1	2.3	35	-----	15	.50	.50	.40	1.3	1.9	2.7
31	2.9	-----	2.3	33	-----	15	-----	.50	-----	1.3	1.9	-----
TOTAL	93.0	74.4	65.6	1,098.1	759	391.4	155.40	15.50	13.60	25.00	41.6	64.3
MEAN	3.00	2.48	2.12	35.4	27.1	12.6	5.18	.50	.45	.81	1.34	2.14
MAX	6.8	2.9	2.6	182	33	21	20	.50	.50	1.5	1.9	2.8
MIN	1.9	2.1	1.9	2.3	21	6.2	.40	.50	.40	.30	1.0	1.7
AC-FT	184	148	130	2,180	1,510	776	308	31	27	50	83	128
CAL YR 1968	TOTAL 1,270.70		MEAN 3.47		MAX 13		MIN .50		AC-FT 2,520			
WTR YR 1969	TOTAL 2,796.90		MEAN 7.66		MAX 182		MIN .30		AC-FT 5,550			

11-4264. NORTH SHIRTTAIL CREEK NEAR DUTCH FLAT, CALIF.

LOCATION.--Lat 39°07'49", long 120°47'44", in SE $\frac{1}{4}$ sec.24, T.15 N., R.10 E., Placer County, Tahoe National Forest, on right bank 200 ft downstream from Forbes Creek, and 7.0 miles southeast of Dutch Flat.

DRAINAGE AREA.--9.10 sq mi.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 20.6 cfs (14,920 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,670 cfs Jan. 21 (gage height, 7.30 ft), from rating curve extended as explained below; minimum daily, 0.30 cfs Oct. 1.

Period of record: Maximum discharge, 1,780 cfs Dec. 22, 1964 (gage height, 7.56 ft), from rating curve extended above 590 cfs on basis of slope-area measurement at gage height 6.36 ft; minimum daily, 0.20 cfs for many days in 1959, 1960, and 1966.

Flood of Dec. 23, 1955, reached a stage of 7.30 ft, from floodmarks (discharge, 1,650 cfs).

REMARKS.--Flow slightly regulated by Big Reservoir (capacity, 2,200 acre-ft).

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	1.5	6.7	11	100	50	104	24	3.6	2.4	.70	.90
2	.40	4.2	6.7	11	80	47	110	23	3.5	2.2	.70	.80
3	.40	18	6.3	10	75	45	100	22	3.4	2.1	.80	.80
4	.40	8.8	6.0	10	70	45	91	20	3.4	2.0	.70	.80
5	.40	6.5	5.7	10	68	45	132	19	3.4	1.9	.70	.80
6	.40	5.3	5.6	10	67	45	114	19	3.3	1.8	.70	.80
7	.50	4.8	5.5	10	67	45	104	18	3.3	1.9	.70	.80
8	.60	4.3	5.5	11	67	44	97	18	3.3	1.9	.70	.80
9	.60	4.1	5.6	13	66	43	85	17	3.5	1.9	.70	.80
10	.60	3.9	14	14	65	42	75	17	3.5	1.9	.70	.80
11	.70	4.4	23	16	72	42	64	17	4.0	1.8	.60	.80
12	6.7	17	14	27	79	42	64	15	4.3	1.8	.70	.80
13	9.6	8.2	11	120	66	41	64	14	3.8	1.6	.50	.70
14	9.4	6.3	19	90	74	41	58	13	3.4	1.6	.50	.70
15	6.6	7.8	42	75	82	40	51	13	3.3	1.6	.50	.70
16	2.0	8.0	31	60	74	40	45	12	3.5	1.6	.50	.70
17	1.8	7.1	20	46	70	42	44	11	3.6	1.5	.50	.70
18	1.6	8.7	17	55	68	43	47	11	3.3	1.5	.50	.70
19	1.6	7.8	15	470	68	44	42	10	3.0	1.5	.50	.70
20	1.6	6.5	14	997	68	46	40	9.7	3.0	1.5	.50	.90
21	1.6	5.7	14	956	67	47	37	9.2	2.8	1.3	.50	1.0
22	1.6	5.2	14	532	66	49	34	8.7	2.6	1.2	.50	1.0
23	1.5	4.8	13	338	64	50	43	8.2	2.6	1.4	.50	1.0
24	1.4	6.6	28	287	62	52	41	7.6	2.6	1.3	.50	1.0
25	1.3	6.7	32	510	60	54	37	7.4	2.4	1.2	.50	.90
26	1.3	6.1	23	537	58	55	33	7.2	2.6	1.1	1.0	.80
27	1.3	5.4	19	325	56	60	31	7.3	2.5	1.0	1.0	.80
28	1.3	5.1	15	244	52	66	29	6.7	2.4	.90	1.0	.80
29	1.7	4.9	13	188	-----	74	27	5.6	2.4	.80	1.0	.80
30	2.4	5.5	12	147	-----	90	25	4.1	2.4	.70	1.0	.80
31	1.7	-----	11	134	-----	95	-----	3.6	-----	.70	.90	-----
TOTAL	63.30	199.2	467.6	6,264	1,931	1,564	1,868	398.3	94.7	47.60	20.80	24.40
MEAN	2.04	6.64	15.1	202	69.0	50.5	62.3	12.8	3.16	1.54	.67	.81
MAX	9.6	18	42	997	100	95	132	24	4.3	2.4	1.0	1.0
MIN	.30	1.5	5.5	10	52	40	25	3.6	2.4	.70	.50	.70
AC-FT	126	395	927	12,420	3,830	3,100	3,710	790	188	94	41	48

CAL YR 1968 TOTAL 5,350.90 MEAN 14.6 MAX 188 MIN .30 AC-FT 10,610
WTR YR 1969 TOTAL 12,942.90 MEAN 35.5 MAX 997 MIN .30 AC-FT 25,670

PEAK DISCHARGE (BASE, 180 CFS).--Jan. 21 (time unknown) 1,670 cfs (7.30 ft); Jan. 26 (0310) 867 cfs (5.36 ft).

NOTE.--No gage-height record Dec. 21 to Jan. 22, Jan. 31 to Apr. 10.

SACRAMENTO RIVER BASIN

11-4270. NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CALIF.

LOCATION.--Lat 38°56'15", long 121°01'25", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.31, T.13 N., R.9 E., Placer County, on left bank 50 ft upstream from spillway of North Fork Dam, 2 miles upstream from Middle Fork, and 4 miles northeast of Auburn.

DRAINAGE AREA.--342 sq mi.

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 715.0 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--28 years, 822 cfs (595,500 acre-ft per year); median of yearly mean discharges, 680 cfs (493,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 27,600 cfs Jan. 20 (gage height, 7.74 ft); minimum daily, 34 cfs Oct. 5-10.

Period of record: Maximum discharge, 65,400 cfs Dec. 23, 1964 (gage height, 11.87 ft), from rating curve extended above 24,000 cfs on basis of computed flow over spillway of dam at gage height 10.22 ft; no flow Aug. 27-30, Sept. 2-11, 1944, Oct. 5, 6, 1963, Nov. 7-10, 1965, caused by operation of valve in North Fork Dam.

REMARKS.--Records good. Minor regulation by Lake Clementine (usable capacity, 12,800 acre-ft) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (combined capacity, 10,300 acre-ft) above station. Lake Valley Canal (see sta 11-4261.9) diverts from North Fork of North Fork American River into Bear River basin for power development in Alta powerhouse of Pacific Gas and Electric Co. Combined storage and diversion have small effect on natural flow. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	65	213	485	2,080	2,670	3,080	2,550	2,630	460	116	55
2	37	85	237	451	1,870	2,080	2,790	2,480	2,310	451	111	55
3	37	1,020	194	426	1,720	1,820	2,340	2,270	2,450	434	111	55
4	37	729	182	485	1,620	1,610	2,030	1,940	2,430	400	106	55
5	34	311	176	584	1,940	1,460	2,890	2,060	2,130	378	101	55
6	34	206	170	593	2,420	1,420	2,830	3,000	2,080	362	97	55
7	34	160	165	602	2,240	1,310	2,270	3,520	1,870	340	97	55
8	34	136	160	584	1,770	1,210	2,000	3,800	1,710	325	97	55
9	34	116	165	521	1,680	1,150	1,870	4,320	1,520	325	93	58
10	34	121	194	451	1,660	1,080	1,770	4,500	1,330	318	89	55
11	37	121	781	544	1,850	1,010	1,980	4,620	1,160	311	89	52
12	88	437	485	1,180	3,250	970	2,360	4,620	1,280	297	89	52
13	145	453	348	3,470	2,450	926	2,500	4,210	1,270	277	85	52
14	126	256	512	5,120	2,060	882	2,270	3,820	1,360	270	85	52
15	150	270	762	2,460	3,360	882	1,920	3,210	1,410	263	81	52
16	106	244	1,010	1,620	3,570	926	1,770	3,040	1,540	250	81	52
17	81	219	566	1,220	2,620	992	1,900	3,400	1,320	231	77	52
18	69	231	426	1,050	2,240	1,080	2,470	3,750	1,220	213	77	55
19	65	604	385	8,580	1,960	1,130	2,390	3,400	1,300	206	73	55
20	61	362	332	22,700	1,780	1,180	2,500	2,840	1,100	194	69	55
21	58	270	290	21,300	1,680	1,250	2,860	2,770	959	188	69	58
22	58	225	263	11,800	1,540	1,190	3,540	2,880	850	176	65	61
23	55	206	284	5,920	1,630	1,300	3,700	3,250	830	170	65	58
24	55	231	619	4,470	2,000	1,360	2,790	3,380	770	176	65	55
25	52	237	2,000	9,510	2,470	1,380	2,130	3,080	703	165	65	58
26	52	213	1,370	14,900	2,280	1,480	1,870	2,940	611	155	61	55
27	49	194	810	7,180	1,980	1,680	1,800	2,670	575	145	58	55
28	49	176	780	4,810	2,330	1,950	1,910	2,550	530	136	58	55
29	52	170	780	3,570	-----	2,210	2,360	2,420	494	136	58	55
30	65	182	647	2,840	-----	2,510	2,500	2,680	468	126	58	55
31	77	-----	557	2,280	-----	3,100	-----	2,810	-----	126	55	-----
TOTAL	1,902	8,250	15,863	141,706	60,050	45,198	71,390	98,780	40,210	8,004	2,501	1,647
MEAN	61.4	275	512	4,571	2,145	1,458	2,380	3,186	1,340	258	80.7	54.9
MAX	150	1,020	2,000	22,700	3,570	3,100	3,700	4,620	2,630	460	116	61
MIN	34	65	160	426	1,540	882	1,770	1,940	468	126	55	52
AC-FT	3,770	16,360	31,460	281,100	119,100	89,650	141,600	195,900	79,760	15,880	4,960	3,270
CAL YR 1968	TOTAL 196,973		MEAN 538	MAX 7,920	MIN 34	AC-FT 390,700						
WTR YR 1969	TOTAL 495,501		MEAN 1,358	MAX 22,700	MIN 34	AC-FT 982,800						

PEAK DISCHARGE (BASE, 4,300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2230	4.43	7,710	5-12	0300	3.91	5,680
1-20	1600	7.74	27,600	5-18	0330	3.61	4,650
1-26	0800	6.74	20,400				

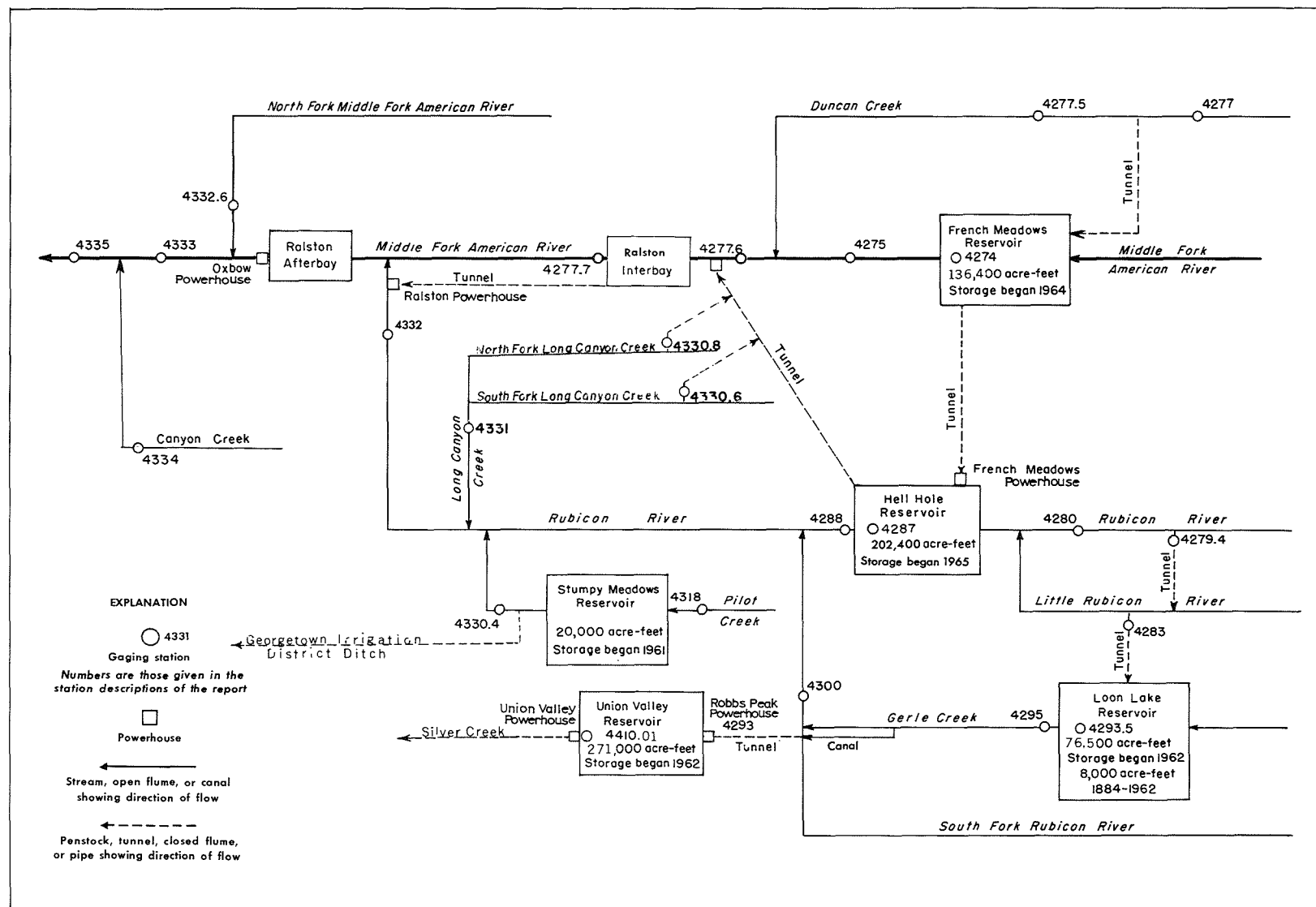


FIGURE 16.--Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

SACRAMENTO RIVER BASIN

11-4274. FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°06'32", long 120°25'49", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.32, T.15 N., R.14 E., Placer County, Tahoe National Forest, on left bank 2.2 miles upstream from dam on Middle Fork American River, 6.9 miles upstream from Chipmunk Creek, and 21 miles northeast of Foresthill.

DRAINAGE AREA.--47.0 sq mi.

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

EXTREMES.--Current year: Maximum contents, 136,500 acre-ft June 14 (elevation, 5,263.1 ft); minimum, 46,400 acre-ft Apr. 11 (elevation, 5,181.9 ft).
Period of record: Maximum contents, 137,700 acre-ft May 19, 1966 (elevation, 5,263.9 ft); minimum since reservoir first filled, 46,400 acre-ft Apr. 11, 1969 (elevation, 5,181.9 ft).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,600 acre-ft between elevations 5,125 ft (minimum operating level) and 5,263 ft (top of radial gates). Dead storage, 10,800 acre-ft. Reservoir is used to store water for hydroelectric power. Up to 400 cfs is diverted in reservoir through tunnel from Duncan Creek. Water is released through tunnel to French Meadows powerplant and then into Hell Hole Reservoir on Rubicon River; releases began Dec. 13, 1965. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

REVISIONS (WATER YEARS).--WRD Calif. 1966: 1965.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,125	10,800	5,200	62,400
5,130	13,100	5,230	94,100
5,150	23,700	5,270	146,500
5,170	37,100		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90.60	76.20	69.40	61.80	79.50	65.00	48.10	59.10	125.7	134.7	121.7	101.5
2	90.00	76.50	69.10	61.50	79.30	64.40	48.30	60.40	127.6	134.4	121.0	100.8
3	89.30	77.40	68.90	61.10	79.10	63.80	48.10	61.10	129.1	134.2	120.4	100.2
4	88.70	77.20	68.60	61.10	78.60	63.00	48.00	62.30	130.5	134.0	119.7	99.50
5	88.30	76.60	68.30	61.10	78.40	62.40	48.00	63.70	131.9	133.9	119.1	98.80
6	88.30	76.00	68.00	60.90	78.20	61.70	47.80	65.80	133.0	133.7	118.4	98.20
7	87.80	75.40	68.00	60.70	77.90	61.10	47.40	68.10	134.0	133.4	117.8	97.70
8	87.10	74.80	68.30	60.50	77.50	60.40	47.10	71.00	134.7	133.2	117.1	97.00
9	86.50	74.70	67.80	60.30	77.10	59.70	46.70	73.90	135.1	132.8	116.6	96.30
10	85.80	74.70	67.80	59.70	76.50	59.00	46.50	77.40	135.3	132.3	115.8	95.60
11	85.10	74.80	67.80	59.80	76.00	58.30	46.40	81.00	135.7	131.9	115.2	95.00
12	85.10	74.80	67.60	59.90	75.50	57.70	46.60	84.00	136.1	131.5	114.5	94.30
13	85.30	74.10	67.10	60.20	74.80	56.90	47.00	86.90	136.4	131.1	113.9	93.60
14	85.00	73.60	67.10	60.00	74.40	56.20	47.10	89.30	136.5	130.5	113.3	92.90
15	84.30	73.00	67.40	60.20	73.90	55.50	47.40	91.30	136.4	130.1	112.6	92.20
16	83.60	73.00	66.90	60.10	73.30	54.90	47.40	93.30	136.3	129.6	112.0	91.50
17	83.00	73.00	66.60	59.90	72.70	54.30	47.90	95.70	136.1	129.0	111.4	90.90
18	82.30	73.00	66.40	60.10	72.10	53.50	48.40	98.30	136.4	128.5	110.6	90.20
19	82.30	72.60	66.10	62.80	71.50	53.00	49.00	100.3	136.4	127.9	110.0	89.50
20	82.30	72.10	65.90	68.90	71.00	52.40	49.80	102.1	136.4	127.4	109.3	88.80
21	81.80	71.50	65.50	72.20	70.40	51.80	50.80	103.9	136.1	126.8	108.7	88.10
22	81.10	71.00	65.10	73.30	69.70	51.10	52.40	106.0	135.8	126.7	108.1	87.50
23	80.40	71.00	64.90	73.70	69.10	50.50	53.80	108.3	135.8	126.7	107.5	86.80
24	79.70	71.20	64.70	74.10	68.60	49.60	54.30	110.5	135.8	126.6	106.9	86.10
25	79.20	70.80	64.30	75.60	68.00	49.10	54.70	112.5	135.7	126.0	106.1	85.50
26	79.20	70.20	63.70	78.20	67.30	48.60	54.90	114.5	135.6	125.3	105.4	84.70
27	79.10	69.70	63.40	79.30	66.40	48.30	55.20	116.3	135.4	124.8	104.8	84.00
28	78.60	69.30	62.80	80.30	65.70	48.00	55.70	118.0	135.1	124.1	104.0	83.40
29	78.10	69.30	62.50	80.10	-----	47.80	56.50	119.9	135.0	123.6	103.4	82.70
30	77.50	69.30	62.30	79.90	-----	47.80	57.40	121.8	134.9	122.9	102.8	82.10
31	76.90	-----	61.80	79.70	-----	48.00	-----	124.0	-----	122.2	102.1	-----
MAX	90.60	77.40	69.40	80.30	79.50	65.00	57.40	124.0	136.5	134.7	121.7	101.5
MIN	76.90	69.30	61.80	59.70	65.70	47.80	46.40	59.10	125.7	122.2	102.1	82.10
(a)	5,214.4	5,207.0	5,199.3	5,217.1	5,203.4	5,183.8	5,194.6	5,254.0	5,261.9	5,252.7	5,236.8	5,219.3
(b)	-14.5	-7.6	-7.5	+17.9	-14.0	-17.7	+9.4	+66.6	+10.9	-12.7	-20.1	-20.0
CAL YR 1968	b +3.7		MAX 130.5	MIN 58.0								
WTR YR 1969	b -9.3		MAX 136.5	MIN 46.4								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

11-4275. MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°06'35", long 120°28'49", in W $\frac{1}{2}$ NW $\frac{1}{4}$ sec.36, T.15 N., R.13 E., Placer County, Tahoe National Forest, on left bank 0.6 mile downstream from French Meadows Dam, 4.1 miles upstream from Chipmunk Creek, and 14 miles south of Cisco.

DRAINAGE AREA.--47.9 sq mi.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,920 ft (from topographic map). Prior to Oct. 1, 1962, at site 0.8 mile upstream at different datum.

EXTREMES.--Current year: Maximum discharge, 518 cfs June 14 (gage height 6.37 ft); minimum daily, 8.3 cfs Dec. 16, 17.

Period of record: Maximum discharge, 21,500 cfs Jan. 31, 1963 (gage height, 14.20 ft), from rating curve extended above 1,100 cfs on basis of maximum flow at former site; minimum, 0.3 cfs Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961.

Maximum discharge since construction of French Meadows in 1964, 1,310 cfs Apr. 30, 1965 (gage height, 7.68 ft); minimum daily, 0.8 cfs Oct. 22, 25, 1964.

REMARKS.--Records good. Flow regulated by French Meadows Reservoir 0.6 mile upstream beginning in December 1964 (see sta 11-4274). Diversions from Duncan Creek to French Meadows Reservoir since December 1964 and from French Meadows Reservoir to Hell Hole Reservoir since December 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	9.8	9.8	10	14	9.5	19	22	12	9.8	9.2	10
2	8.9	12	9.8	9.5	13	9.2	17	22	12	9.8	9.2	10
3	8.9	16	9.8	9.5	12	9.2	16	20	12	9.2	9.2	10
4	8.9	11	9.8	9.8	12	9.2	16	21	12	9.2	9.2	10
5	8.9	10	9.5	9.8	12	8.9	21	24	12	9.2	9.5	10
6	8.9	9.8	9.5	9.8	12	8.9	16	25	12	9.2	9.5	10
7	8.9	9.8	9.5	10	11	8.9	14	26	12	9.2	9.5	10
8	9.5	9.8	9.5	10	11	8.9	14	27	12	9.2	9.8	10
9	9.2	9.8	9.5	10	11	8.9	14	25	13	9.2	9.8	10
10	9.2	9.8	12	10	11	8.9	15	25	12	9.2	9.8	10
11	9.2	10	12	10	12	8.9	18	24	12	9.2	10	10
12	9.5	10	10	10	12	8.9	19	23	12	9.2	10	10
13	9.8	10	9.5	20	11	9.2	19	22	99	9.2	10	10
14	9.5	10	8.6	22	11	9.5	18	20	220	9.2	10	10
15	9.5	10	8.6	14	11	9.2	16	18	506	9.2	10	10
16	9.5	10	8.3	13	11	9.2	18	18	502	9.2	10	10
17	9.5	10	8.3	12	11	9.5	20	18	348	8.9	10	10
18	9.5	11	8.9	15	11	9.8	21	16	153	8.9	10	10
19	9.5	10	9.2	58	11	10	21	16	192	8.9	10	10
20	9.5	10	9.5	85	11	10	22	16	185	8.9	10	9.8
21	9.5	10	9.5	67	10	10	24	14	182	8.9	10	9.8
22	9.5	10	9.2	27	10	9.8	24	14	170	8.9	10	9.8
23	10	10	9.2	20	10	10	23	14	62	8.9	10	9.8
24	9.5	10	10	19	10	10	19	13	10	8.9	10	9.8
25	9.5	10	10	41	10	10	18	13	10	9.2	10	9.8
26	9.5	9.8	9.8	42	9.8	12	18	13	10	9.2	10	9.5
27	9.5	9.8	9.8	22	9.5	14	18	13	10	9.2	10	9.2
28	9.5	9.8	9.8	19	9.5	14	21	13	9.8	9.5	10	9.2
29	9.8	9.8	9.8	16	-----	16	22	12	9.8	9.5	10	8.9
30	10	9.8	9.8	15	-----	18	22	12	9.8	9.2	10	8.9
31	9.8	-----	10	14	-----	19	-----	12	-----	9.2	10	-----
TOTAL	291.6	307.8	298.5	659.4	309.8	327.5	563	571	2,833.4	284.6	304.7	294.5
MEAN	9.41	10.3	9.63	21.3	11.1	10.6	18.8	18.4	94.4	9.18	9.83	9.82
MAX	10	16	12	85	14	19	24	27	506	9.8	10	10
MIN	8.9	9.8	8.3	9.5	9.5	8.9	14	12	9.8	8.9	9.2	8.9
AC-FT	578	611	592	1,310	614	650	1,120	1,130	5,620	565	604	584
CAL YR 1968	TOTAL 4,151.2		MEAN 11.3		MAX 36	MIN 8.3	AC-FT 8,230					
WTR YR 1969	TOTAL 7,045.8		MEAN 19.3		MAX 506	MIN 8.3	AC-FT 13,980					

SACRAMENTO RIVER BASIN

11-4277. DUNCAN CREEK NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°08'09", long 120°28'39", in NE $\frac{1}{4}$ sec.24, T.15 N., R.13 E., Placer County, Tahoe National Forest, on left bank 0.2 mile upstream from diversion dam, 0.5 mile downstream from Little Duncan Creek, 2 miles northwest of French Meadows, and 20 miles northeast of Foresthill.

DRAINAGE AREA.--9.94 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,270 ft (from topographic map). Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

AVERAGE DISCHARGE.--9 years, 35.5 cfs (25,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,550 cfs Jan. 19 (gage height, 9.20 ft), from rating curve extended as explained below; minimum daily, 0.72 cfs Sept. 30.

Period of record: Maximum discharge, 3,650 cfs Dec. 22, 1964 (gage height, 10.6 ft, from floodmarks), from rating curve extended above 400 cfs on basis of computation of flow over diversion dam; minimum daily, 0.2 cfs Sept. 23-25, 1964.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	1.8	8.5	6.4	54	17	94	140	241	24	2.6	.99
2	.96	30	7.8	6.4	46	17	89	131	232	22	2.5	.99
3	.96	63	7.5	6.6	42	17	75	116	235	21	2.3	.99
4	.96	18	7.8	8.8	40	17	70	105	226	19	2.3	.96
5	.99	11	7.8	9.6	36	16	73	133	211	18	2.2	.96
6	.99	8.2	7.5	10	32	16	61	174	187	17	2.1	.96
7	.99	6.6	7.5	12	30	16	55	217	164	17	1.9	.99
8	.99	5.6	7.5	11	27	16	52	264	147	16	1.9	1.0
9	.99	5.6	7.2	10	27	16	52	316	127	14	1.8	1.0
10	.99	4.8	15	9.6	25	16	54	348	112	12	1.8	.99
11	.99	5.8	17	9.6	25	14	69	356	107	11	1.7	.96
12	6.2	25	13	9.2	25	14	83	340	103	9.6	1.6	.93
13	10	12	12	107	23	14	89	313	107	9.2	1.6	.90
14	7.9	8.8	9.0	53	23	15	83	274	107	8.2	1.5	.90
15	3.2	9.2	10	20	23	16	73	229	114	7.5	1.5	.90
16	2.6	9.6	8.0	17	23	18	73	238	110	7.2	1.4	.90
17	2.1	10	7.2	16	22	18	83	278	94	6.4	1.4	.90
18	1.8	31	7.2	18	22	18	103	285	91	5.8	1.3	.90
19	1.7	22	7.2	371	21	18	107	260	82	5.4	1.3	.93
20	1.5	16	7.2	752	20	20	120	232	72	4.8	1.2	.96
21	1.5	14	7.5	544	19	18	167	220	62	4.4	1.2	.96
22	1.4	13	7.5	212	19	19	196	250	57	4.2	1.1	.96
23	1.4	12	8.5	120	19	23	196	274	53	4.6	1.1	.93
24	1.4	11	9.2	96	19	25	140	274	46	4.2	1.0	.90
25	1.4	11	9.2	161	18	28	108	260	41	4.0	1.0	.87
26	1.4	9.2	10	330	18	33	93	232	38	3.6	1.0	.84
27	1.4	9.2	8.5	154	18	40	89	232	33	3.6	1.0	.81
28	1.3	8.5	7.8	110	17	49	101	220	30	3.4	1.0	.78
29	1.8	8.2	7.2	83	-----	60	122	232	27	3.4	1.0	.75
30	3.6	8.2	6.9	69	-----	79	133	247	25	3.3	1.0	.72
31	2.1	-----	6.9	60	-----	89	-----	264	-----	2.9	1.0	-----
TOTAL	66.47	408.3	271.1	3,402.2	733	792	2,903	7,454	3,281	296.7	47.3	27.53
MEAN	2.14	13.6	8.75	110	26.2	25.5	96.8	240	109	9.57	1.53	.92
MAX	10	63	17	752	54	89	196	356	241	24	2.6	1.0
MIN	.96	1.8	6.9	6.4	17	14	52	105	25	2.9	1.0	.72
AC-FT	132	810	538	6,750	1,450	1,570	5,760	14,790	6,510	589	94	55
CAL YR 1968	TOTAL	9,618.74	MEAN	26.3	MAX	300	MIN	.90	AC-FT	19,080		
WTR YR 1969	TOTAL	19,682.60	MEAN	53.9	MAX	752	MIN	.72	AC-FT	39,040		

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1900	7.67	428	1-26	0500	7.70	440
1-19	1000	9.20	1,550	5-10	2000	7.77	436

11-4277.5. DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°07'59", long 120°28'58", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.15 N., R.13 E., Placer County, Tahoe National Forest, on right bank 800 ft downstream from unnamed right bank tributary, 1,000 ft downstream from Duncan Creek diversion dam, and 20 miles northeast of Foresthill.

DRAINAGE AREA.--10.5 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,210 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 17.7 cfs (12,820 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,410 cfs Jan. 19 (gage height, 6.10 ft); minimum daily, 0.41 cfs Oct. 3, 4, 9-11.

Period of record: Maximum discharge, 3,640 cfs Dec. 22, 1964 (gage height, 8.74 ft, in gage well, 10.0 ft, from floodmarks), from rating curve extended above 400 cfs on basis of computation of flow over diversion dam of maximum flow; no flow at times in 1964-66.

REMARKS.--Records good. Practically all flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir. (See sta 11-4274.) Maximum design flow of tunnel is 400 cfs. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	1.6	8.4	7.7	49	11	120	29	34	6.9	2.9	.87
2	.45	5.1	8.4	7.7	42	10	114	26	15	6.9	2.8	.87
3	.41	12	8.1	7.7	37	9.6	94	20	12	6.6	2.4	.80
4	.41	6.8	8.1	7.7	34	9.6	90	19	11	6.6	2.2	.80
5	.45	9.0	8.1	8.5	32	9.6	93	41	11	6.3	2.2	.80
6	.45	8.7	8.4	9.0	30	9.6	78	83	8.4	6.3	2.1	.80
7	.45	8.1	8.4	9.0	26	9.0	69	128	7.5	6.6	2.0	.80
8	.49	6.3	8.7	9.0	24	9.0	67	99	7.5	6.9	1.8	1.0
9	.41	6.3	8.7	8.7	24	9.6	67	77	7.2	6.9	1.6	.94
10	.41	5.6	9.0	8.7	24	9.9	69	130	7.2	6.9	1.6	.87
11	.41	4.8	9.0	8.4	24	11	89	175	7.2	6.9	1.6	.80
12	4.2	8.7	8.7	9.6	20	11	107	179	7.2	6.9	1.6	.80
13	6.6	8.4	8.7	10	19	11	112	159	7.2	6.9	1.4	.80
14	6.0	8.4	8.7	11	19	11	106	136	7.2	7.2	1.4	.80
15	3.0	8.4	8.4	9.3	20	12	62	104	9.3	7.2	1.4	.74
16	2.1	8.4	8.1	8.7	18	14	18	108	8.1	6.9	1.3	.74
17	1.6	8.4	7.7	8.4	16	14	20	144	7.8	6.6	1.3	.80
18	1.4	9.3	7.7	9.6	15	16	22	154	7.8	6.3	1.4	.80
19	1.3	9.3	7.7	303	15	16	23	130	7.5	6.0	1.3	.87
20	1.1	9.0	7.7	634	14	18	25	106	7.5	5.3	1.3	.87
21	1.2	8.7	7.7	494	14	16	39	106	7.5	5.0	1.2	.87
22	1.2	8.4	7.7	219	12	17	48	128	7.2	4.6	1.1	.87
23	1.2	8.4	7.7	130	12	23	52	149	7.2	5.0	1.1	.80
24	1.1	8.4	7.7	104	12	25	22	154	7.2	4.6	1.0	.80
25	1.1	8.4	7.7	172	12	28	18	140	7.2	4.1	1.0	.80
26	1.0	8.1	7.7	306	12	36	18	75	7.2	3.9	1.0	.74
27	1.0	8.1	7.7	161	12	48	18	15	7.2	3.7	.94	.80
28	.94	8.1	7.7	114	12	62	20	12	7.2	3.5	.94	.80
29	1.1	8.4	7.7	88	-----	76	25	16	6.9	3.5	.94	.80
30	3.5	8.4	7.7	69	-----	98	27	25	6.9	3.4	.94	.87
31	2.0	-----	7.7	58	-----	116	-----	47	-----	3.0	.87	-----
TOTAL	47.43	236.0	251.4	3,010.7	600	775.9	1,732	2,914	269.3	177.4	46.63	24.72
MEAN	1.53	7.87	8.11	97.1	21.4	25.0	57.7	94.0	8.98	5.72	1.50	.82
MAX	6.6	12	9.0	634	49	116	120	179	34	7.2	2.9	1.0
MIN	.41	1.6	7.7	7.7	12	9.0	18	12	6.9	3.0	.87	.74
AC-FT	94	468	499	5,970	1,190	1,540	3,440	5,780	534	352	92	49
CAL YR 1968	TOTAL	2,526.25	MEAN	6.90	MAX	209	MIN	.41	AC-FT	5,010		
WTR YR 1969	TOTAL	10,085.48	MEAN	27.6	MAX	634	MIN	.41	AC-FT	20,000		

SACRAMENTO RIVER BASIN

11-4277.6. MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'31", long 120°35'40", in NW¼NW¼ sec.36, T.14 N., R.12 E., Placer County, Tahoe National Forest, on right bank 300 ft upstream from Middle Fork powerhouse, 3.7 miles upstream from Big Mosquito Creek, and 11 miles east of Foresthill.

DRAINAGE AREA.--87.8 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,540 cfs Jan. 20 (gage height, 7.34 ft); minimum daily, 14 cfs Oct. 1-8, 10, 11.
Period of record: Maximum discharge, 2,540 cfs Jan. 20, 1969 (gage height, 7.34 ft); minimum daily, 12 cfs Aug. 31, 1966.

REMARKS.--Records good. Flow regulated by French Meadows Reservoir (see sta 11-4274). See schematic diagram of Middle Fork American and Rubicon River basins.

REVISIONS (WATER YEARS).--WRD Calif. 1968: 1967(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	17	35	46	297	117	439	333	134	47	25	20
2	14	29	31	46	265	112	415	327	114	46	25	20
3	14	101	32	47	248	109	366	300	94	45	25	20
4	14	51	30	50	228	104	356	282	97	44	23	20
5	14	33	30	54	220	104	435	306	88	44	23	19
6	14	30	30	57	212	104	398	370	87	42	22	20
7	14	28	30	60	184	101	348	435	79	42	22	21
8	14	27	30	60	172	98	321	451	78	42	21	22
9	15	26	30	60	166	98	312	447	77	40	21	21
10	14	25	47	52	162	96	309	504	77	39	21	20
11	14	25	70	59	174	93	348	545	79	39	21	20
12	20	54	47	68	195	89	419	518	77	38	21	19
13	26	35	42	227	174	87	431	471	127	37	22	19
14	28	33	53	288	170	86	404	415	327	36	22	18
15	22	39	70	174	208	89	345	352	559	35	23	18
16	19	34	60	131	195	97	294	330	590	35	23	18
17	18	33	50	108	178	104	306	359	478	34	23	18
18	17	40	45	112	166	112	348	362	247	33	22	18
19	17	42	45	1,170	158	117	345	315	291	33	22	19
20	17	35	40	2,080	152	125	366	270	285	31	22	18
21	16	33	38	1,920	143	126	419	258	278	30	22	18
22	16	31	40	1,080	133	126	463	280	270	29	22	18
23	16	30	43	658	133	143	475	294	161	33	21	18
24	16	34	74	518	134	160	370	297	55	30	21	18
25	16	35	98	964	129	176	315	270	53	29	21	18
26	16	32	68	1,400	121	203	285	228	54	29	21	17
27	16	30	55	858	115	242	278	136	52	29	21	17
28	16	30	56	615	120	282	294	125	52	30	21	17
29	17	29	53	463	-----	327	321	120	50	30	21	17
30	21	31	50	380	-----	408	330	128	49	28	21	17
31	18	-----	47	321	-----	447	-----	148	-----	26	20	-----
TOTAL	523	1,052	1,469	14,126	4,952	4,682	10,855	9,976	5,059	1,105	681	563
MEAN	16.9	35.1	47.4	456	177	151	362	322	169	35.6	22.0	18.8
MAX	28	101	98	2,080	297	447	475	545	590	47	25	22
MIN	14	17	30	46	115	86	278	120	49	26	20	17
AC-FT	1,040	2,090	2,910	28,020	9,820	9,290	21,530	19,790	10,030	2,190	1,350	1,120
CAL YR 1968	TOTAL 21,493			MEAN 58.7	MAX 832	MIN 14	AC-FT 42,630					
WTR YR 1969	TOTAL 55,043			MEAN 151	MAX 2,080	MIN 14	AC-FT 109,200					

11-4277.7. MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'35", long 120°36'09". in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.14 N., R.12 E., Placer County, Tahoe National Forest, on right bank 500 ft downstream from Interbay Dam, 3.3 miles upstream from Big Mosquito Creek, and 10.6 miles east of Foresthill.

DRAINAGE AREA.--89.1 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 2,470 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,180 cfs Jan. 20 (gage height, 4.72 ft); minimum daily, 12 cfs Dec. 7.

Period of record: Maximum discharge, 2,180 cfs Jan. 20, 1969 (gage height, 4.72 ft); minimum daily, 1.0 cfs Oct. 25-30, 1966, Jan. 19, 1967.

REMARKS.--Records good except those above 500 cfs, which are poor. Flow regulated by French Meadows Reservoir (see sta 11-4274) and after Aug. 22, 1966, by Interbay Reservoir (capacity, 130 acre-ft between normal operating limits of 2,502.0 and 2,526.0 ft). Water is diverted from Hell Hole Reservoir through tunnel to Interbay powerplant and re-diverted to Ralston powerplant. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Five discharge measurements furnished by Placer County Water Agency.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	14	25	34	180	380	286	109	28	29	24
2	15	15	14	25	34	186	375	270	104	28	29	24
3	15	15	14	25	34	188	325	226	72	28	29	24
4	15	14	14	25	35	188	300	68	65	28	29	24
5	15	14	14	25	36	194	370	25	86	27	28	25
6	15	14	14	25	35	196	330	142	109	27	27	25
7	15	15	12	25	34	279	290	130	81	28	27	25
8	15	15	14	25	35	211	264	134	92	28	24	25
9	14	14	14	25	33	62	256	68	93	28	20	25
10	14	14	14	25	142	62	260	30	93	28	20	25
11	14	14	14	25	178	60	267	30	97	28	21	25
12	15	15	14	25	221	74	302	30	93	28	20	25
13	15	15	14	25	169	62	277	30	166	28	20	19
14	15	15	14	25	174	80	324	155	320	28	20	23
15	15	15	14	26	220	84	254	447	558	28	20	27
16	15	14	14	30	117	88	268	410	610	28	20	28
17	16	15	14	27	124	88	280	447	515	28	20	28
18	16	15	14	25	130	93	325	454	235	28	20	26
19	16	15	14	512	132	82	305	392	290	28	22	24
20	16	15	14	1,810	134	90	179	301	280	28	24	24
21	16	15	14	1,160	139	92	359	315	285	28	24	23
22	16	15	14	174	142	90	388	315	272	27	24	21
23	15	14	14	32	146	102	447	345	151	32	24	21
24	15	14	14	32	151	95	365	350	58	28	24	21
25	15	15	16	340	154	126	310	315	57	28	24	21
26	15	15	21	1,400	156	149	285	268	36	28	24	21
27	15	14	26	420	161	199	119	139	29	27	24	21
28	15	14	25	29	172	244	248	142	28	27	24	21
29	15	14	25	30	-----	300	288	115	28	27	24	21
30	16	14	26	30	-----	355	273	128	28	28	24	22
31	16	-----	25	32	-----	380	-----	114	-----	29	24	-----
TOTAL	470	437	498	6,459	3,272	4,679	9,013	6,621	5,040	867	733	708
MEAN	15.2	14.6	16.1	208	117	151	300	214	168	28.0	23.6	23.6
MAX	16	15	26	1,810	221	380	447	454	610	32	29	28
MIN	14	14	12	25	33	60	119	25	28	27	20	19
AC-FT	932	867	988	12,810	6,490	9,280	17,880	13,130	10,000	1,720	1,450	1,400
CAL YR 1968	TOTAL	4,485.7	MEAN	12.3	MAX	87	MIN	5.4	AC-FT	8,900		
WTR YR 1969	TOTAL	38,797	MEAN	106	MAX	1,810	MIN	12	AC-FT	76,950		

11-4279.4. RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 38°59'20", long 120°13'31", in SE $\frac{1}{4}$ sec.8, T.13 N., R.16 E., El Dorado County, Eldorado National Forest, on right bank at tunnel intake 100 ft upstream from diversion dam on Rubicon River, 2.5 miles upstream from Rubicon Springs, and 6.5 miles southwest of Meeks Bay.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft above mean sea level (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 300 ft downstream from tunnel outlet at different datum.

AVERAGE DISCHARGE.--6 years, 107 cfs (77,520 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,120 cfs Dec. 23, 1964; no flow for several months in each year.

REMARKS.--Records good. Tunnel diverts water from Rubicon River to Rockbound Lake. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	12	32	25	38	25	290	373	790	300	53	1.3
2	0	190	31	24	35	25	222	332	730	322	48	1.1
3	0	752	30	24	34	24	140	245	816	320	48	1.0
4	0	262	28	29	32	24	103	189	836	268	45	.86
5	0	105	27	33	30	23	131	245	836	260	43	.78
6	0	62	25	35	29	23	95	460	793	252	26	.78
7	0	46	25	39	30	23	68	583	740	222	3.4	.70
8	0	48	25	38	30	23	59	646	608	242	2.6	.70
9	0	88	24	33	28	23	64	740	424	308	2.5	.70
10	0	99	26	29	28	22	68	776	340	275	2.6	.62
11	0	67	35	26	27	22	102	828	295	268	2.8	.62
12	0	306	36	27	27	21	153	712	355	255	3.0	.62
13	0	149	34	41	26	21	173	678	481	252	3.2	.62
14	4.6	74	31	80	25	21	141	726	650	260	3.4	.85
15	17	64	31	57	23	21	102	622	754	245	6.2	48
16	17	55	30	38	27	24	113	611	793	211	11	10
17	15	53	32	30	28	26	131	720	611	175	13	5.9
18	15	225	29	31	27	31	187	824	490	169	14	3.2
19	13	258	28	249	26	32	177	779	505	171	14	1.2
20	9.7	126	27	434	24	32	235	653	505	165	10	.48
21	7.8	85	24	264	24	29	315	628	451	155	8.5	.09
22	6.4	67	23	136	24	26	397	678	433	149	7.3	0
23	5.1	102	25	88	24	29	403	808	469	159	6.6	0
24	4.4	74	36	67	25	32	245	872	433	147	5.9	0
25	3.8	64	39	74	30	34	149	824	394	129	5.0	0
26	3.6	55	38	124	33	41	116	872	295	108	3.8	0
27	3.0	47	36	85	30	56	122	872	275	96	2.6	0
28	2.6	40	35	61	27	81	177	751	252	86	2.3	0
29	3.2	34	33	53	-----	124	292	688	240	87	2.1	0
30	12	32	29	48	-----	167	355	754	258	81	1.9	0
31	15	-----	27	43	-----	256	-----	808	-----	64	1.6	-----
TOTAL	158.2	3,641	931	2,365	791	1,361	5,325	20,297	15,852	6,201	402.3	164.27
MEAN	5.10	121	30.0	76.3	28.3	43.9	178	655	528	200	13.0	5.48
MAX	17	752	39	434	38	256	403	872	836	322	53	85
MIN	0	12	23	24	23	21	59	189	240	64	1.6	0
AC-FT	314	7,220	1,850	4,690	1,570	2,700	10,560	40,260	31,440	12,300	798	326
CAL YR 1968	TOTAL	29,930.67	MEAN	81.8	MAX	835	MIN	0	AC-FT	59,370		
WTR YR 1969	TOTAL	57,488.77	MEAN	158	MAX	872	MIN	0	AC-FT	114,000		

11-4280. RUBICON RIVER AT RUBICON SPRINGS, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°01'10", long 120°14'46", in SW¼NE¼ sec.31, T.14 N., R.16 E., El Dorado County, El Dorado National Forest, on right bank 200 ft downstream from Rubicon Springs, 0.7 mile upstream from Miller Creek, and 7 miles west of Meeks Bay.

DRAINAGE AREA.--31.4 sq mi.

PERIOD OF RECORD.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,052.97 ft above mean sea level. Feb. 1, 1910, to Mar. 31, 1914, nonrecording gage or water-stage recorder at site 0.4 mile downstream at different datum.

AVERAGE DISCHARGE.--16 years (1910-13, 1956-69), 119 cfs (86,220 acre-ft per year), adjusted for diversion into Rubicon-Rockbound tunnel.

EXTREMES.--Current year: Maximum discharge, 630 cfs June 14 (gage height, 5.00 ft); minimum daily, 0.72 cfs Aug. 5.

Period of record: Maximum discharge, 11,500 cfs Feb. 1, 1963 (gage height, 14.28 ft), from rating curve extended above 1,200 cfs on basis of slope-conveyance computation of maximum flow; no flow at times in some years.

Flood of December 1955 reached a stage of 13.0 ft, from floodmarks, present site and datum (discharge, 9,270 cfs).

REMARKS.--Records good. Low summer flow, beginning in 1950, augmented by release from streamflow maintenance dams on Lakes Clyde, Lois, Middle Velma, and Schmidell (total controlled capacity, 555 acre-ft). Flow below 1,200 cfs controlled by Rubicon diversion dam 5.5 miles upstream. Diversion to Rubicon-Rockbound tunnel began Dec. 26, 1963. (See sta 11-4279.4.) See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	1.7	3.9	5.1	12	7.3	78	85	64	3.5	.84	6.2
2	4.1	22	3.9	5.1	12	7.0	47	68	46	3.3	.84	6.7
3	3.9	84	3.9	5.1	11	7.0	36	48	50	2.9	.84	6.7
4	3.9	10	3.9	11	11	7.0	49	46	99	2.7	.84	6.7
5	3.9	6.0	3.7	12	11	7.0	52	104	81	2.6	.72	6.5
6	3.9	4.3	3.5	12	11	7.0	33	122	55	2.6	.78	6.5
7	3.9	3.3	3.5	12	9.3	6.7	25	113	27	2.6	.78	6.5
8	3.7	3.0	3.7	11	9.0	6.7	26	120	23	2.7	.84	6.7
9	3.7	2.9	3.9	9.0	8.7	6.7	31	133	18	3.0	.84	6.5
10	2.3	2.6	10	7.8	9.3	7.0	36	143	15	2.7	.78	6.5
11	1.6	3.1	14	7.5	9.3	6.5	64	138	16	2.4	.78	6.5
12	2.2	43	7.3	8.7	9.0	6.2	84	113	17	1.9	3.5	6.7
13	4.7	8.7	6.0	41	8.7	6.2	78	100	17	1.9	4.5	6.2
14	5.8	5.5	5.8	49	8.4	6.2	60	87	103	1.8	4.5	6.5
15	3.7	5.1	5.5	24	8.4	6.7	37	80	80	1.8	4.7	6.2
16	2.2	6.5	5.8	14	8.4	8.4	48	89	121	1.7	4.5	5.5
17	1.7	7.0	5.3	11	8.1	10	75	110	21	1.6	4.7	5.5
18	1.5	29	5.1	23	8.1	15	90	100	20	1.6	4.7	5.5
19	1.4	13	4.9	350	7.8	15	82	81	17	1.5	5.3	5.5
20	1.3	7.0	4.7	297	7.5	14	93	67	13	1.4	5.8	5.3
21	1.3	5.3	4.5	114	7.5	11	111	70	10	1.2	5.8	5.3
22	1.3	4.5	4.1	40	7.5	11	103	81	8.7	1.2	6.0	5.1
23	1.2	4.7	4.5	26	7.8	15	84	93	8.4	1.2	6.0	4.9
24	1.2	4.7	8.7	21	7.5	16	40	130	7.3	1.2	6.0	4.9
25	1.2	6.0	9.0	63	7.5	17	30	101	6.7	1.2	6.0	4.9
26	1.2	5.5	7.5	128	7.5	25	30	101	5.8	1.1	6.0	4.9
27	1.4	4.9	6.2	38	7.5	36	41	127	5.3	1.0	6.0	4.9
28	1.2	4.5	6.0	23	7.3	48	67	70	4.7	1.0	6.0	4.7
29	1.4	3.7	5.8	18	-----	64	93	62	4.3	.96	6.2	4.5
30	3.7	3.5	5.3	15	-----	93	92	61	3.9	.90	6.0	3.2
31	2.2	-----	5.3	13	-----	104	-----	61	-----	.84	6.2	-----
TOTAL	80.8	315.0	175.2	1,414.3	248.1	603.6	1,815	2,904	968.1	58.00	117.28	172.2
MEAN	2.61	10.5	5.65	45.6	8.86	19.5	60.5	93.7	32.3	1.87	3.78	5.74
MAX	5.8	84	14	350	12	104	111	143	121	3.5	6.2	6.7
MIN	1.2	1.7	3.5	5.1	7.3	6.2	25	46	3.9	.84	.72	3.2
AC-FT	160	625	348	2,810	492	1,200	3,600	5,760	1,920	115	233	342
MEAN a	7.71	132	35.8	122	37.1	63.4	238	748	561	202	16.8	11.2
AC-FT a	474	7,840	2,200	7,500	2,060	3,900	14,160	46,020	33,360	12,420	1,030	668

CAL YR 1968 TOTAL 5,655.4 MEAN 15.5 MAX 287 MIN 1.2 AC-FT 11,220 MEAN a 97.2 AC-FT a 70,570
WTR YR 1969 TOTAL 8,871.58 MEAN 24.3 MAX 350 MIN .72 AC-FT 17,600 MEAN a 182 AC-FT a 131,600

a Adjusted for diversion to Rubicon-Rockbound tunnel.

SACRAMENTO RIVER BASIN

11-4283. BUCK-LOON TUNNEL NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°00'15", long 120°15'20", in NW $\frac{1}{4}$ sec.6, T.13 N., R.16 E., El Dorado County, Eldorado National Forest, on right bank at tunnel intake near left abutment of diversion dam, 7.6 miles southwest of Meeks Bay.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft above mean sea level (levels by Sacramento Municipal Utility District).

AVERAGE DISCHARGE.--6 years, 135 cfs (97,810 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,240 cfs Dec. 23, 1964; no flow for many days in each year.

REMARKS.--Records good except those for period of indefinite stage discharge relation, which are fair. Tunnel diverts from Buck Island Lake and discharges into Loon Lake. Water is used for power development downstream. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	19	34	30	52	34	338	478	1,110	375	69	1.3
2	0	66	34	29	46	32	280	439	1,040	403	60	1.3
3	0	967	32	29	42	33	198	320	1,130	415	56	1.2
4	0	572	31	30	39	30	141	229	1,140	362	53	1.2
5	0	182	30	36	41	30	156	287	1,140	341	50	1.2
6	0	66	30	39	42	30	141	544	1,120	328	45	1.2
7	0	45	28	42	40	29	102	732	1,080	299	15	1.2
8	0	41	28	45	38	29	83	812	912	298	3.4	1.2
9	0	48	28	42	36	29	80	967	638	366	3.0	1.1
10	0	79	30	38	35	29	83	1,070	493	354	2.9	1.1
11	0	53	38	36	35	27	115	1,120	416	338	2.8	1.0
12	0	303	37	39	36	26	168	1,040	458	317	2.7	1.0
13	0	242	35	55	34	26	223	920	609	316	2.6	44
14	0	87	34	100	34	25	203	965	816	314	2.5	25
15	1.9	48	34	87	40	24	153	862	1,100	313	2.4	64
16	17	43	36	61	38	26	121	780	1,120	281	2.3	38
17	20	42	34	45	36	30	146	914	952	231	2.3	16
18	21	124	32	44	34	36	231	965	699	204	2.2	6.2
19	20	380	33	257	34	38	226	811	696	201	2.1	2.9
20	16	182	32	643	33	40	293	918	692	200	2.1	1.6
21	13	79	30	489	32	39	387	837	601	191	2.0	.90
22	9.8	50	29	240	31	34	496	882	552	180	2.0	.53
23	7.0	58	30	212	34	34	535	1,070	588	183	1.9	.36
24	4.8	56	36	103	36	38	378	1,130	556	179	1.8	.23
25	3.4	48	42	108	36	40	217	1,120	521	160	1.7	.09
26	2.9	44	40	189	38	47	153	1,140	422	134	1.6	.03
27	2.3	40	37	197	34	64	140	1,150	374	114	1.6	0
28	1.9	38	37	104	34	94	181	1,080	351	101	1.5	0
29	1.8	35	36	76	-----	131	339	969	324	95	1.4	0
30	5.0	34	34	66	-----	188	454	1,030	331	94	1.4	0
31	16	-----	30	57	-----	284	-----	1,120	-----	80	1.4	-----
TOTAL	163.8	4,071	1,031	3,568	1,040	1,596	6,761	26,701	21,981	7,767	399.6	213.84
MEAN	5.28	136	33.3	115	37.1	51.5	225	861	733	251	12.9	7.13
MAX	21	967	42	643	52	284	535	1,150	1,140	415	69	64
MIN	0	19	28	29	31	24	80	229	324	80	1.4	0
AC-FT	325	8,070	2,040	7,080	2,060	3,170	13,410	52,960	43,600	15,410	793	424

CAL YR 1968 TOTAL 35,724.42 MEAN 97.6 MAX 1,000 MIN 0 AC-FT 70,860
WTR YR 1969 TOTAL 75,293.24 MEAN 206 MAX 1,150 MIN 0 AC-FT 149,300

11-4287. HELL HOLE RESERVOIR NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°03'54", long 120°24'50", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.16, T.14 N., R.14 E., Placer County, Eldorado National Forest, on right bank 0.3 mile upstream from Hell Hole Dam on Rubicon River, and 15.6 miles west of Meeks Bay.

DRAINAGE AREA.--114 sq mi.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

EXTREMES.--Current year: Maximum contents, 208,300 acre-ft June 16, 18 (elevation, 4,630.6 ft); minimum, 93,500 acre-ft Mar. 28 (elevation, 4,513.9 ft).

Period of record: Maximum contents, 209,500 acre-ft June 17, 1967 (elevation, 4,631.5 ft); minimum since reservoir first filled, 93,300 acre-ft Feb. 16, 1968 (elevation, 4,513.7 ft).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 202,400 acre-ft between elevations 4,340.0 ft (minimum operating level) and 4,630.0 ft (crest of ogee spillway) above mean sea level. Dead storage, 248 acre-ft. Records represent total contents. See schematic diagram of Middle Fork American and Rubicon River basins.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

4,340	5,220	4,500	83,000
4,360	9,840	4,550	127,700
4,380	16,200	4,600	171,900
4,400	24,200	4,650	233,400
4,450	49,600		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132.2	115.3	109.6	99.40	131.1	112.2	95.90	111.9	191.3	205.2	179.2	145.8
2	131.3	115.6	109.1	98.90	130.9	111.5	96.30	112.7	193.2	204.7	178.2	144.6
3	130.3	117.6	108.3	98.40	130.6	110.6	96.30	113.7	195.5	204.1	177.1	143.4
4	129.3	117.5	107.9	98.70	130.1	109.7	96.20	114.8	197.7	203.8	176.1	142.1
5	129.4	117.1	107.2	99.10	130.0	108.9	96.60	117.3	199.8	203.7	175.1	140.9
6	129.4	117.6	106.6	98.70	129.8	108.0	96.50	120.2	201.5	203.7	174.1	139.7
7	128.4	117.1	106.7	98.30	129.3	107.2	96.10	123.2	202.6	203.2	173.0	138.7
8	127.5	116.0	106.9	97.50	128.9	106.2	95.70	127.1	203.5	202.6	172.0	137.7
9	126.5	115.9	106.1	96.90	128.3	105.3	95.30	131.3	204.2	201.9	170.7	137.0
10	125.6	116.0	105.6	96.20	127.6	104.4	95.10	135.5	204.5	201.1	169.6	135.8
11	124.6	115.6	105.5	96.00	126.9	103.4	95.30	140.3	204.7	200.4	168.4	134.7
12	124.6	115.8	105.0	96.30	126.2	102.5	96.00	144.7	205.1	199.5	169.0	133.7
13	124.7	115.2	104.5	97.70	125.4	101.8	96.70	148.7	205.6	198.8	168.4	134.3
14	124.1	114.6	104.2	99.50	124.7	101.0	97.00	151.7	206.6	197.9	167.3	134.1
15	123.2	114.0	104.7	99.50	124.0	100.1	96.80	153.4	208.2	197.1	166.1	133.1
16	122.1	114.1	104.5	99.40	123.1	99.20	96.90	155.5	208.3	196.4	165.0	131.7
17	121.2	114.1	104.1	99.20	122.3	98.50	97.20	158.2	208.1	195.5	163.8	130.6
18	120.3	114.1	103.4	99.80	121.4	97.70	98.00	160.8	208.3	194.5	162.4	129.3
19	120.2	113.8	102.8	105.8	120.7	97.10	98.80	162.8	208.2	193.6	161.2	128.2
20	120.2	113.2	101.7	114.3	119.8	96.40	100.6	164.6	208.1	192.6	160.0	128.7
21	119.2	112.4	100.7	118.8	119.0	95.60	102.4	166.4	208.0	191.6	158.9	129.3
22	118.6	111.8	99.90	120.6	118.1	94.90	104.3	168.8	207.8	190.2	157.8	129.0
23	118.8	111.9	99.80	121.8	117.3	94.20	105.9	171.4	207.7	188.8	156.5	127.7
24	119.0	112.2	99.80	123.1	116.6	94.90	106.6	174.2	207.5	187.4	155.4	126.6
25	119.5	111.5	100.00	125.6	115.8	94.30	106.7	176.5	207.2	186.3	154.1	125.4
26	119.5	110.8	99.90	129.2	115.0	93.90	106.7	178.6	206.8	185.2	152.9	124.7
27	119.5	110.0	99.20	130.3	113.9	93.60	107.6	181.0	206.3	184.3	151.9	124.9
28	118.8	110.0	100.00	130.8	113.2	93.50	108.4	182.8	206.0	183.2	150.7	125.6
29	118.0	109.3	100.3	131.0	-----	93.70	109.6	184.8	205.6	182.3	149.5	125.0
30	117.1	109.5	99.70	131.1	-----	94.20	111.0	186.9	205.5	181.2	148.2	123.8
31	116.3	-----	99.20	131.3	-----	95.20	-----	189.3	-----	180.2	147.2	-----
MAX	132.2	117.6	109.6	131.3	131.1	112.2	111.0	189.3	208.3	205.2	179.2	145.8
MIN	116.3	109.3	99.20	96.00	113.2	93.50	95.10	111.9	191.3	180.2	147.2	123.8
(a)	4,542.4	4,534.2	4,521.3	4,559.8	4,538.6	4,516.1	4,536.0	4,615.0	4,628.3	4,607.3	4,576.7	4,550.1
(b)	-16.9	-6.8	-10.3	+32.1	-18.1	-18.0	+15.8	+78.3	+16.2	-25.3	-33.0	-24.4
CAL YR 1968	b -3.4		MAX 155.6	MIN 93.3								
WTR YR 1969	b -9.4		MAX 208.3	MIN 93.5								

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

11-4288. RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°03'24", long 120°24'25", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.14 N., R.14 E., Placer County, Eldorado National Forest, on right bank 600 ft downstream from outlet of dam, 2.4 miles downstream from Cottonwood Creek, and 15.3 miles west of Meeks Bay.

DRAINAGE AREA.--114 sq mi.

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft above mean sea level (levels by Placer County Water Agency).

EXTREMES.--Current year: Maximum discharge, 646 cfs June 16, including flow over spillway; minimum daily, 7.6 cfs Sept. 29, 30.

Period of record: Maximum discharge, 2,290 cfs June 18, 1967, including flow over spillway; minimum, no flow Aug. 25 to Sept. 11, 1966.

REMARKS.--Records excellent. Flow regulated by Hell Hole Reservoir beginning December 1965 (see sta 11-4287). Water is diverted out of the basin above the station through Buck-Loon tunnel (see sta 11-4283.). Water is diverted from Middle Fork American River basin by tunnel from French Meadows Reservoir (see sta 11-4274) to Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant. See schematic diagram of Middle Fork American and Rubicon River basins. During years when Hell Hole Dam spills, records include flow which bypass the station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	16	15	14	32	28	35	34	35	32	9.2	8.8
2	9.2	17	15	14	31	28	34	34	35	31	9.2	8.8
3	9.2	20	15	16	31	28	33	34	35	31	8.8	8.4
4	9.2	17	15	16	31	28	32	33	34	31	8.8	8.4
5	9.2	17	15	16	30	28	35	34	33	31	8.8	8.8
6	9.2	16	15	16	30	28	32	36	33	30	8.8	8.8
7	9.2	16	15	16	30	28	31	38	32	30	8.8	8.8
8	9.2	16	15	19	30	29	31	40	32	30	8.8	8.8
9	9.2	15	15	23	30	28	31	41	32	30	8.8	8.4
10	8.8	15	16	22	30	28	32	44	32	30	9.2	8.4
11	8.8	15	16	23	30	28	32	44	32	30	9.2	8.4
12	8.8	17	15	23	30	27	34	43	32	30	9.2	8.4
13	9.2	16	14	35	29	27	33	42	32	30	9.2	8.4
14	9.2	16	15	30	29	28	32	40	32	30	9.2	8.4
15	9.6	16	17	25	30	28	32	38	73	29	9.2	8.4
16	11	16	16	23	29	29	30	39	646	29	9.2	8.4
17	11	16	14	23	29	30	31	40	473	29	9.2	8.4
18	11	17	14	26	29	30	32	40	401	29	9.2	8.4
19	11	17	14	55	29	30	32	38	563	29	9.2	8.4
20	11	16	14	69	28	29	33	38	412	29	8.8	8.8
21	11	16	14	66	28	29	37	38	272	29	8.8	8.8
22	11	16	13	42	29	29	38	38	162	29	8.8	8.4
23	11	16	14	34	29	30	39	38	124	29	8.8	8.4
24	11	15	17	35	29	29	36	37	44	30	8.8	8.4
25	11	15	16	53	28	30	34	37	32	21	8.8	8.0
26	11	15	15	52	28	32	32	37	32	10	8.8	8.0
27	12	15	14	37	27	32	32	37	32	10	8.8	8.0
28	12	15	14	34	27	33	33	36	32	9.6	8.8	8.0
29	12	15	14	33	-----	35	34	36	32	9.6	8.8	7.6
30	14	15	14	32	-----	36	34	36	32	9.6	8.8	7.6
31	16	-----	14	32	-----	37	-----	37	-----	9.2	8.8	-----
TOTAL	324.2	480	459	954	822	919	996	1,177	3,823	796.0	277.6	252.0
MEAN	10.5	16.0	14.8	30.8	29.4	29.6	33.2	38.0	127	25.7	8.95	8.40
MAX	16	20	17	69	32	37	39	44	646	32	9.2	8.8
MIN	8.8	15	13	14	27	27	30	33	32	9.2	8.8	7.6
AC-FT	643	952	910	1,890	1,630	1,820	1,980	2,330	7,580	1,580	551	500
(a)	30,960	26,980	26,750	14,280	46,900	55,020	49,710	42,180	55,720	51,590	53,750	42,240

CAL YR 1968 TOTAL 6,731.0 MEAN 18.4 MAX 38 MIN 8.8 AC-FT 13,350
WTR YR 1969 TOTAL 11,279.8 MEAN 30.9 MAX 646 MIN 7.6 AC-FT 22,380

a Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

11-4293. ROBB'S PEAK POWERPLANT NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°53'46", long 120°22'40", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.11, T.12 N., R.14 E., El Dorado County, Eldorado National Forest, in powerhouse on shore of Union Valley Reservoir, 9.5 miles northwest of Kyburz.

PERIOD OF RECORD.--October 1962 to current year. Prior to October 1965, published as Robbs Peak tunnel near Riverton.

GAGE.--Discharge computed from powerplant output. Altitude of gage is 4,880 ft (from topographic map). Prior to October 1965, water-stage recorder and concrete control in abandoned section of canal 0.5 mile upstream at different datum.

AVERAGE DISCHARGE.--7 years, 230 cfs (166,600 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 1,440 cfs Dec. 22-24, 1964; no flow for many days during 1965-69.

REMARKS.--Tunnel diverts at South Fork Rubicon River diversion dam in NE $\frac{1}{4}$ sec.27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (see sta 11-4410.01). Water is imported from Rubicon River basin via Rubicon-Rockbound tunnel and Buck-Loon tunnel to Loon Lake, thence via Gerle Creek and Robbs Peak tunnel and powerplant to South Fork American River basin for power development. See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.

COOPERATION.--Records furnished by Sacramento Municipal Utility District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	27	24	159	205	675	859	903	413	344	348
2	0	0	0	27	145	219	590	807	955	467	355	352
3	0	254	43	31	71	206	395	773	1,004	475	345	352
4	0	59	0	52	17	228	394	686	990	455	345	393
5	0	0	45	55	101	338	506	888	1,008	543	390	352
6	0	33	33	62	265	335	402	960	1,016	373	332	41
7	0	12	0	68	135	330	351	843	833	444	363	0
8	0	0	38	73	100	427	556	934	930	455	346	0
9	0	0	17	38	70	427	508	932	1,020	380	361	0
10	0	54	56	43	120	405	594	958	914	377	355	0
11	0	0	83	43	71	396	729	818	789	381	357	0
12	0	51	47	51	56	399	776	711	732	369	357	0
13	0	76	40	99	112	392	757	875	695	378	357	0
14	0	24	10	248	246	399	641	835	794	374	357	0
15	35	7.0	56	179	231	403	504	714	921	369	341	0
16	178	27	49	72	269	401	507	742	1,018	371	358	0
17	284	0	35	93	239	420	832	901	1,018	368	340	0
18	291	86	34	68	248	463	934	880	1,012	368	361	0
19	288	64	26	913	240	488	641	793	986	368	342	0
20	268	34	29	690	240	478	752	729	902	351	362	0
21	267	60	21	581	275	460	867	948	837	370	355	0
22	285	22	31	676	163	459	858	981	765	353	352	0
23	277	1.0	32	375	253	486	755	972	705	367	352	0
24	80	64	32	300	237	494	447	963	687	354	362	0
25	0	9.0	19	748	217	504	682	926	632	372	349	0
26	0	47	43	392	237	540	677	945	678	358	356	0
27	0	38	29	299	214	610	699	957	522	353	341	0
28	0	0	35	287	216	646	855	920	518	363	352	0
29	0	50	33	301	-----	463	850	921	478	350	359	0
30	0	19	24	206	-----	541	869	943	478	352	342	0
31	0	-----	32	194	-----	692	-----	936	-----	369	357	-----
TOTAL	2,253	1,091.0	999	7,288	4,947	13,254	19,603	27,050	24,740	12,040	10,945	1,838
MEAN	72.7	36.4	32.2	235	177	428	653	873	825	388	353	61.3
MAX	291	254	83	913	275	692	934	981	1,020	543	390	393
MIN	0	0	0	24	17	205	351	686	478	350	332	0
AC-FT	4,470	2,160	1,980	14,460	9,810	26,290	38,880	53,650	49,070	23,880	21,710	3,650
CAL YR 1968	TOTAL	62,073.0	MEAN	170	MAX	992	MIN	0	ACFT	123,100		
WAT YR 1969	TOTAL	126,048.0	MEAN	345	MAX	1,020	MIN	0	ACFT	250,000		

SACRAMENTO RIVER BASIN

11-4293.5. LOON LAKE NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°00'17", long 120°18'30", in SW¼NW¼ sec.4, T.13 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank at Loon Lake Dam on Gerle Creek, 2.3 miles upstream from Jerrett Creek, and 11 miles southwest of Meeks Bay.

DRAINAGE AREA.--7.94 sq mi.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--Current year: Maximum contents, 77,700 acre-ft June 6 (elevation, 6,411.1 ft); minimum, 10,000 acre-ft Oct. 28-31 (elevation, 6,345.9 ft).

Period of record: Maximum contents, 77,700 acre-ft June 6, 1969 (elevation, 6,411.1 ft); minimum since reservoir first filled, 7,660 acre-ft Nov. 12-14, 1966 (elevation, 6,341.1 ft).

REMARKS.--Reservoir is formed by an earthfill dam completed Dec. 27, 1963. Storage began Dec. 5, 1963. Usable capacity, 74,100 acre-ft between elevations 6,325 ft (invert of fishwater release valve) and 6,410 ft (crest of spillway) above mean sea level. Dead storage, 2,360 acre-ft. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. See schematic diagram of Middle Fork American and Rubicon River basins.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

6,330	3,600
6,340	7,200
6,350	12,500
6,360	19,600
6,370	28,500
6,380	50,000
6,412	79,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.80	10.10	20.60	24.20	37.20	36.00	19.50	26.60	76.80	75.50	66.30	43.50
2	14.80	10.30	20.70	24.30	37.30	35.60	19.80	27.30	77.30	75.40	65.80	42.80
3	14.80	12.70	20.80	24.40	37.50	35.50	20.10	27.70	77.60	75.20	65.20	42.10
4	14.80	13.60	20.90	24.50	37.50	35.10	20.40	27.80	77.60	75.10	64.50	41.40
5	14.80	14.00	20.90	24.60	37.90	34.70	20.70	28.30	77.60	74.80	63.90	41.00
6	14.70	14.20	21.00	24.60	38.10	34.00	21.00	29.70	77.70	74.50	63.40	41.00
7	14.70	14.40	21.00	24.70	38.20	33.50	20.90	31.70	77.60	74.10	62.70	41.00
8	14.70	14.40	21.10	24.80	38.30	32.70	20.90	33.70	77.50	74.00	62.10	41.00
9	14.70	14.60	21.20	24.90	38.40	32.10	20.40	36.20	77.20	74.00	61.30	41.00
10	14.70	14.80	21.40	25.00	38.40	31.40	19.80	38.80	76.80	74.00	60.50	40.90
11	14.60	15.00	21.40	24.20	38.60	30.70	19.40	41.40	76.60	73.80	59.80	40.90
12	14.60	15.70	21.60	24.30	38.60	30.00	19.50	43.80	76.60	73.70	59.00	40.90
13	14.70	16.00	21.80	25.70	38.50	29.30	19.70	46.00	76.90	73.50	58.20	40.90
14	14.70	16.50	22.00	26.00	38.40	28.50	19.70	48.30	77.20	73.40	57.50	40.90
15	14.40	16.70	22.00	26.20	38.40	27.70	19.60	50.50	77.60	73.30	56.70	41.00
16	13.80	16.90	22.20	26.30	38.20	27.10	19.30	52.30	77.60	73.10	55.90	41.10
17	13.30	17.10	22.30	26.40	38.00	26.30	18.90	54.40	77.60	72.80	55.30	41.10
18	12.70	17.60	22.50	26.70	37.80	25.50	19.20	56.60	77.50	72.70	54.40	41.00
19	12.20	18.50	22.50	28.00	37.40	24.60	19.90	58.70	77.30	72.30	53.70	41.00
20	11.60	18.90	22.60	30.50	37.20	23.80	20.50	60.40	77.30	72.00	52.90	41.00
21	11.00	19.10	22.70	32.10	37.00	23.10	21.60	61.50	77.20	71.60	52.10	40.90
22	10.40	19.30	22.90	32.80	36.80	22.40	23.00	62.80	77.00	71.30	51.40	40.90
23	10.10	19.60	23.00	33.20	36.70	21.70	24.60	64.50	77.00	70.90	50.50	40.90
24	10.10	19.90	23.20	33.60	36.60	21.00	25.10	66.20	77.00	70.50	49.80	40.90
25	10.10	20.00	23.50	34.40	36.60	20.30	24.90	67.60	76.90	70.00	48.90	40.90
26	10.10	20.10	23.60	35.30	36.50	19.60	24.50	69.10	76.60	69.60	48.10	40.80
27	10.10	20.30	23.70	35.80	36.50	19.00	24.10	70.50	76.50	69.10	47.40	40.80
28	10.00	20.40	23.80	36.30	36.20	18.70	24.10	71.90	76.20	68.60	46.50	40.80
29	10.00	20.40	24.00	36.60	-----	18.70	24.70	73.00	75.90	68.00	45.70	40.70
30	10.00	20.50	24.10	36.70	-----	18.80	25.70	74.20	75.60	67.50	45.00	40.70
31	10.00	-----	24.20	36.90	-----	19.10	-----	75.40	-----	67.00	44.10	-----
MAX	14.80	20.50	24.20	36.90	38.60	36.00	25.70	75.40	77.70	75.50	66.30	43.50
MIN	10.00	10.10	20.60	24.20	36.20	18.70	18.90	26.60	75.60	67.00	44.10	40.70
(a)	6,345.9	6,361.1	6,365.4	-	6,377.7	-	6,367.0	6,409.4	6,409.6	6,403.3	6,385.1	6,381.9
(b)	-4.9	+10.5	+3.7	+12.7	-0.7	-17.1	+6.6	+49.7	+0.2	-8.6	-22.9	-3.4

CAL YR 1968 b +7.2 MAX 72.80 MIN 8.76
WTR YR 1969 b +27.9 MAX 77.70 MIN 10.00

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

11-4295. GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CALIF.

LOCATION.--Lat 39°00'20", long 120°18'52", in NE¼ sec.5, T.13 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank 0.3 mile downstream from Loon Lake Dam, and 11 miles southwest of Meeks Bay.

DRAINAGE AREA.--8.01 sq mi.

PERIOD OF RECORD.--July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Water-stage recorder. Altitude of gage is 6,250 ft (from topographic map). Prior to August 1962, nonrecording gage at site about 1,400 ft upstream at different datum.

AVERAGE DISCHARGE.--8 years (1911, 1962-69), 121 cfs (87,660 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs June 5 (gage height, 9.03 ft); minimum daily, 7.4 cfs Jan. 2-5.

Period of record: Maximum discharge, 3,240 cfs Feb. 1, 1963 (gage height, 12.65 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913.

REMARKS.--Records excellent. Beginning in 1884, flow regulated by Loon Lake (see sta 11-4293.5). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam which was completed Dec. 27, 1963. Storage began Dec. 5, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Lake and from Buck Lake to Loon Lake via Buck-Loon tunnel (see sta 11-4279.4 and 11-4283). See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	7.9	9.0	7.9	10	147	124	181	479	422	350	351
2	9.0	9.3	9.0	7.9	10	147	125	221	745	463	350	354
3	9.0	11	8.7	7.4	11	147	126	262	952	463	348	354
4	9.3	9.0	8.7	7.4	11	194	126	260	1,020	464	346	354
5	9.0	8.7	8.7	7.4	11	264	126	260	1,030	464	346	165
6	9.0	8.5	8.7	7.7	11	264	126	101	1,010	464	350	7.9
7	9.0	8.7	8.7	7.7	11	297	247	12	990	464	351	7.9
8	9.0	8.7	9.0	7.7	11	368	367	12	952	401	352	7.9
9	9.0	8.7	9.0	7.9	11	368	364	13	830	351	352	7.9
10	9.0	8.7	9.3	7.9	11	366	362	13	676	350	351	7.9
11	9.0	9.3	9.3	7.9	11	364	299	13	585	350	350	8.2
12	9.3	9.3	9.0	7.7	29	362	243	13	524	350	351	8.2
13	9.5	9.0	9.0	8.2	96	360	243	13	526	350	351	8.2
14	22	8.2	9.0	8.2	148	358	242	13	642	350	352	8.2
15	185	8.2	9.0	8.2	148	357	240	13	828	350	352	8.2
16	296	8.5	9.3	7.9	148	354	319	62	975	350	351	8.2
17	292	8.5	9.3	7.9	148	378	383	104	960	350	350	8.2
18	292	9.5	9.3	8.5	148	402	233	104	858	350	352	8.2
19	290	9.0	9.3	13	148	398	106	105	783	350	354	8.2
20	285	8.7	9.3	16	147	394	108	195	732	350	354	8.2
21	291	8.7	9.0	12	147	392	65	393	692	348	354	8.2
22	294	8.7	9.0	9.8	147	388	11	392	648	346	352	7.9
23	128	8.7	9.3	9.5	147	386	10	312	627	345	351	7.9
24	7.7	8.7	9.5	9.5	147	384	173	316	615	350	351	7.9
25	7.7	8.7	9.5	12	147	382	383	392	587	351	352	7.9
26	7.7	8.7	9.5	12	147	381	382	410	540	351	352	7.9
27	7.7	8.7	8.7	10	147	376	382	454	486	351	352	7.9
28	7.7	8.7	8.2	10	147	243	281	455	452	351	354	7.9
29	7.9	8.7	8.2	10	-----	121	178	457	450	351	354	7.9
30	7.9	8.7	7.9	10	-----	122	179	459	450	351	352	7.9
31	7.9	-----	7.9	10	-----	123	-----	463	-----	351	350	-----
TOTAL	2,555.3	264.4	277.3	285.2	2,455	9,587	6,553	6,473	21,644	11,652	10,887	1,778.8
MEAN	82.4	8.81	8.95	9.20	87.7	309	218	209	721	376	351	59.3
MAX	296	11	9.5	16	148	402	383	463	1,030	464	354	354
MIN	7.7	7.9	7.9	7.4	10	121	10	12	450	345	346	7.9
AC-FT	5,070	524	550	566	4,870	19,020	13,000	12,840	42,930	23,110	21,590	3,530
CAL YR 1968	TOTAL 41,009.2			MEAN 112		MAX 370		MIN 7.2		AC-FT 81,340		
WTR YR 1969	TOTAL 74,412.0			MEAN 204		MAX 1,030		MIN 7.4		AC-FT 147,600		

SACRAMENTO RIVER BASIN

11-4300. SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°57'17", long 120°24'02", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.13 N., R.14 E., El Dorado County, Eldorado National Forest, on left bank 600 ft downstream from Gerle Creek, and 18 miles east of Georgetown.

DRAINAGE AREA.--47.6 sq mi.

PERIOD OF RECORD.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,970 ft (from topographic map). Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft downstream at different datum.

AVERAGE DISCHARGE (unadjusted).--7 years (1962-69), 24.4 cfs (17,680 acre-ft er year).

EXTREMES.--Current year: Maximum discharge, 2,760 cfs Jan. 20 (gage height, 8.01 ft); minimum daily, 3.8 cfs Nov. 23, 28, Dec. 4, 5.

Period of record: Maximum discharge, 11,500 cfs Jan. 31, 1963 (gage height, 12.32 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; minimum, 0.8 cfs Sept. 21, 1962.

REMARKS.--Records good. Beginning in 1884, flow regulated by Loon Lake (see sta 11-4293.5). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam which was completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Lake and from Buck Lake to Loon Lake via Buck-Loon tunnel (see sta 4279.4 and 11-4283). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide ditch. Robbs Peak tunnel 1.2 miles upstream (see sta 11-4298) began diversion of up to 1,320 cfs to Silver Creek basin October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	6.9	4.1	6.8	8.3	5.8	12	11	12	9.1	9.2	10
2	7.4	6.5	3.9	6.8	7.8	5.6	11	13	43	8.9	9.3	10
3	7.4	10	3.9	6.7	8.6	5.6	10	15	222	8.9	9.3	10
4	7.4	5.7	3.8	6.6	19	5.6	10	14	341	8.9	9.0	10
5	7.4	4.8	3.8	6.8	57	5.6	14	42	278	8.9	9.1	9.8
6	7.4	4.4	4.2	6.8	34	5.6	11	128	220	8.6	9.1	8.9
7	7.6	4.1	4.9	6.8	10	5.5	9.2	50	390	9.1	9.1	8.5
8	7.6	4.1	5.0	6.9	7.1	5.4	9.2	47	229	9.1	9.0	8.1
9	7.6	4.1	5.2	7.0	6.6	5.4	9.0	129	46	9.1	8.9	6.9
10	7.8	4.0	7.6	7.0	6.5	5.4	9.7	140	9.7	9.2	8.9	6.6
11	7.8	4.1	6.9	7.6	6.9	5.4	11	353	9.8	9.4	8.9	6.6
12	8.6	6.1	6.1	8.5	7.4	5.4	12	277	9.7	9.3	8.9	6.6
13	9.3	4.4	6.0	20	6.8	5.4	11	26	9.5	9.3	9.3	6.6
14	8.9	4.2	6.1	17	6.8	5.4	11	26	9.4	9.2	10	6.6
15	8.6	4.5	7.0	11	7.2	5.5	9.7	13	17	9.1	10	6.5
16	8.6	4.3	6.6	9.7	6.7	5.7	10	12	150	9.0	10	6.5
17	9.1	4.2	6.2	8.8	6.5	6.0	11	50	64	9.0	10	6.7
18	9.5	4.9	6.2	14	6.4	15	36	72	24	9.0	10	6.8
19	9.1	4.5	6.2	182	6.3	6.7	12	28	28	8.7	10	6.8
20	9.1	4.0	6.0	2,040	6.2	6.5	12	14	9.1	8.7	10	6.8
21	9.3	3.9	6.3	1,520	6.1	6.4	13	15	8.9	8.8	10	6.8
22	9.3	3.9	6.5	80	5.9	6.7	38	82	8.8	8.9	10	6.8
23	9.3	3.8	6.3	13	6.1	7.2	14	68	8.8	9.2	10	6.8
24	9.2	4.2	9.6	15	6.3	7.4	11	30	9.0	9.2	10	6.8
25	9.0	4.0	9.0	190	6.3	7.7	10	11	8.7	9.4	10	6.8
26	8.9	3.9	7.5	929	6.5	8.2	10	10	8.4	9.7	10	6.8
27	8.9	3.9	7.0	285	5.8	9.0	10	10	8.9	9.5	9.9	6.8
28	9.1	3.8	7.0	65	5.8	9.6	11	10	9.0	9.2	10	6.8
29	9.5	3.8	6.8	18	-----	10	12	10	9.0	9.0	10	6.8
30	9.1	3.9	6.8	9.5	-----	11	12	14	9.1	9.0	10	6.8
31	8.5	-----	6.8	8.9	-----	12	-----	10	-----	9.1	10	-----
TOTAL	264.3	138.9	189.3	5,520.2	280.9	217.7	381.8	1,730	2,209.8	281.5	297.9	223.3
MEAN	8.53	4.63	6.11	178	10.0	7.02	12.7	55.8	73.7	9.08	9.61	7.44
MAX	9.5	10	9.6	2,040	57	15	38	353	390	9.7	10	10
MIN	7.4	3.8	3.8	6.6	5.8	5.4	9.0	10	8.4	8.6	8.9	6.5
AC-FT	524	276	375	10,950	557	432	757	3,430	4,380	558	591	443
CAL YR 1968 TOTAL	2,762.4			MEAN 7.55		MAX 37		MIN 3.7		AC-FT 5,480		
WTR YR 1969 TOTAL	11,735.6			MEAN 32.2		MAX 2,040		MIN 3.8		AC-FT 23,280		

11-4318. PILOT CREEK ABOVE STUMPY MEADOWS RESERVOIR, CALIF.

LOCATION.--Lat 38°53'41", long 120°34'02", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.18, T.12 N., R.13 E., El Dorado County, on right bank 2.1 miles upstream from Stumpy Meadows dam, and 12.5 miles east of Georgetown.

DRAINAGE AREA.--11.7 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,280 ft (from topographic map).

AVERAGE DISCHARGE.--9 years, 25.0 cfs (18,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,090 cfs Jan. 21 (gage height, 4.59 ft); minimum daily, 2.8 cfs Oct. 1-3.

Period of record: Maximum discharge, 2,380 cfs Dec. 23, 1964 (gage height, 5.92 ft, in gage well, 6.6 ft, from floodmarks), from rating curve extended above 170 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 8.05 ft Jan. 31, 1963; minimum daily discharge, 1.9 cfs Aug. 20-26, Sept. 4-7, 10, 1966.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.6	6.0	12	64	26	92	103	28	15	8.7	5.3
2	2.8	9.4	5.6	12	55	25	94	100	27	15	8.7	5.1
3	2.8	35	5.8	11	51	25	88	94	26	14	8.7	5.1
4	3.0	16	5.6	11	47	23	82	88	25	14	8.4	5.1
5	3.0	9.1	5.3	11	46	23	116	91	25	14	8.4	5.1
6	3.0	7.4	5.6	11	42	23	106	100	23	14	8.4	5.1
7	3.0	6.4	5.6	11	37	23	94	108	23	14	8.1	5.6
8	3.0	6.0	5.8	12	35	23	85	113	23	14	8.1	6.4
9	3.0	5.8	5.8	11	34	23	79	118	23	13	8.1	5.8
10	3.0	5.6	14	12	32	23	75	116	23	13	8.1	5.6
11	3.0	5.6	18	14	37	23	81	115	25	12	8.1	5.8
12	4.4	14	10	23	41	23	92	108	24	12	7.7	5.8
13	7.4	9.1	9.1	103	36	23	95	98	23	12	7.7	5.8
14	8.1	7.7	10	81	36	22	92	88	22	12	7.4	5.8
15	5.6	8.7	14	74	46	21	85	75	21	12	7.1	5.8
16	4.9	8.4	14	54	42	21	82	72	24	12	7.1	5.8
17	4.4	7.7	11	42	39	22	86	70	22	12	6.7	5.8
18	4.2	11	9.4	50	38	23	100	64	21	12	6.7	5.8
19	4.2	11	9.4	415	36	24	100	60	20	11	6.7	5.8
20	4.2	8.7	10	906	36	25	105	53	19	11	6.4	5.8
21	3.9	7.7	10	894	32	26	118	51	19	11	6.4	5.8
22	3.9	7.4	10	423	30	27	129	49	18	10	6.0	5.6
23	3.9	6.7	11	220	30	28	136	46	17	11	6.0	5.6
24	3.7	7.4	24	185	29	30	116	43	17	10	6.0	5.3
25	3.7	7.1	32	351	28	32	103	39	17	10	6.0	5.3
26	3.7	6.4	20	469	28	36	94	38	17	9.8	6.0	5.1
27	3.7	6.0	16	232	26	42	92	37	17	9.8	5.8	5.1
28	3.7	6.0	16	164	26	49	95	34	16	9.8	5.8	5.1
29	4.4	5.8	14	120	-----	57	103	31	15	9.4	5.8	5.1
30	7.1	6.0	13	89	-----	73	105	29	15	9.4	5.8	5.1
31	4.9	-----	12	73	-----	85	-----	28	-----	9.1	5.6	-----
TOTAL	126.4	263.7	358.0	5,096	1,059	949	2,920	2,259	635	367.3	220.5	165.3
MEAN	4.08	8.79	11.5	164	37.8	30.6	97.3	72.9	21.2	11.8	7.11	5.51
MAX	8.1	35	32	906	64	85	136	118	28	15	8.7	6.4
MIN	2.8	4.6	5.3	11	26	21	75	28	15	9.1	5.6	5.1
AC-FT	251	523	710	10,110	2,100	1,880	5,790	4,480	1,260	729	437	328
CAL YR 1968	TOTAL	6,482.8	MEAN	17.7	MAX	160	MIN	2.7	AC-FT	12,860		
WTR YR 1969	TOTAL	14,419.2	MEAN	39.5	MAX	906	MIN	2.8	AC-FT	28,600		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1900	2.63	192	4-5	1200	2.48	138
1-21	1200	4.59	1,090	4-23	0900	2.49	140
1-26	0530	3.94	684				

11-4330.4, PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°55'25", long 120°38'27", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.12 N., R.12 E., El Dorado County, Eldorado National Forest, on left bank 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide diversion dam, 2.5 miles downstream from Stumpy Meadows dam, and 10 miles east of Georgetown.

DRAINAGE AREA.--21.1 sq mi.

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,760 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 30.4 cfs (22,020 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,760 cfs Jan. 21 (gage height, 7.79 ft), from rating curve extended as explained below; minimum daily, 0.66 cfs Oct. 4.

Period of record: Maximum discharge, 5,430 cfs Dec. 22, 1964 (gage height, 9.60 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at gage height 5.00 ft; maximum gage height, 10.06 ft Dec. 23, 1964; minimum daily discharge, 0.20 cfs Sept. 24, Nov. 1-5, 1966.

REMARKS.--Records fair. Flow regulated by Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft) completed in November 1961. Georgetown Irrigation District ditch (capacity, about 20 cfs) diverts water out of Pilot Creek, 500 ft above station. See schematic diagram of Middle Fork American and Rubicon River basins.

REVISIONS (WATER YEARS).--WRD Calif. 1965: 1962.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	4.3	2.0	2.2	153	80	147	143	23	5.2	8.4	7.2
2	.86	8.0	1.6	2.1	130	70	163	141	22	3.7	8.8	6.8
3	.80	16	1.6	2.1	116	69	169	135	20	3.1	8.8	8.0
4	.66	8.0	1.6	2.1	106	61	151	130	19	5.7	8.4	8.8
5	.73	5.3	5.2	2.1	111	56	213	125	18	12	8.8	8.8
6	.80	3.9	6.8	2.1	114	55	211	130	16	11	9.2	8.8
7	.86	3.7	5.0	2.1	91	51	178	135	15	11	8.8	9.2
8	.80	3.7	5.3	2.1	81	48	165	139	15	12	8.8	9.2
9	.80	3.7	5.3	2.1	79	48	154	144	14	13	8.8	8.8
10	.80	3.7	11	2.0	72	48	144	146	14	13	8.8	8.8
11	.80	3.7	11	3.0	87	45	144	141	18	13	8.4	8.8
12	1.5	8.8	4.3	4.6	110	43	151	136	20	13	8.4	8.8
13	1.4	3.7	2.0	34	91	45	156	128	16	12	8.0	8.8
14	1.5	5.0	2.5	28	98	41	156	120	14	12	7.6	8.8
15	4.0	6.8	7.8	14	147	40	147	110	12	12	8.0	8.8
16	6.4	5.7	3.4	9.8	135	38	143	104	17	12	7.6	8.8
17	4.0	5.0	2.4	7.1	116	43	143	100	18	12	8.0	8.8
18	4.8	6.4	2.1	12	113	45	156	97	15	12	7.6	8.8
19	6.8	5.7	2.0	107	110	45	153	91	11	12	7.6	8.8
20	5.3	4.3	1.8	185	109	53	156	85	8.4	12	7.6	8.8
21	5.3	3.0	1.7	990	104	66	162	80	6.8	11	7.6	8.8
22	5.3	2.9	1.7	1,010	93	54	174	76	6.0	11	7.6	8.0
23	5.3	2.7	1.7	488	103	53	214	73	5.6	12	7.6	7.2
24	5.3	4.3	8.2	364	104	59	185	56	5.6	12	7.6	6.8
25	7.1	3.2	11	575	101	61	160	42	4.6	12	7.2	7.6
26	8.0	2.0	3.9	845	93	65	147	39	3.7	9.6	7.6	8.4
27	8.0	1.7	2.9	499	76	74	139	38	2.8	8.8	7.6	8.4
28	8.0	1.6	3.0	359	80	84	138	34	1.8	8.8	7.2	8.4
29	7.5	1.5	2.9	252	-----	96	143	31	5.2	8.4	7.2	8.4
30	5.7	1.7	2.4	207	-----	116	144	30	8.0	8.4	7.2	8.4
31	4.6	-----	2.2	169	-----	136	-----	27	-----	8.0	7.2	-----
TOTAL	114.57	140.0	126.3	6,183.5	2,923	1,888	4,806	3,006	375.5	321.7	248.0	252.8
MEAN	3.70	4.67	4.07	199	104	60.9	160	97.0	12.5	10.4	8.00	8.43
MAX	8.0	16	11	1,010	153	136	214	146	23	13	9.2	9.2
MIN	.66	1.5	1.6	2.0	72	38	138	27	1.8	3.1	7.2	6.8
AC-FT	227	278	251	12,260	5,800	3,740	9,530	5,960	745	638	492	501
CAL YR 1968	TOTAL	6,085.62	MEAN	16.6	MAX	223	MIN	.66	AC-FT	12,070		
WTR YR 1969	TOTAL	20,385.37	MEAN	55.9	MAX	1,010	MIN	.66	AC-FT	40,430		

LOCATION.--Lat 39°03'04", long 120°28'14", in SW¹/₄NE¹/₄ sec.24, T.14 N., R.13 E., Placer County, Eldorado National Forest, on right bank at diversion dam, 3.3 miles upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 miles east of Volcanoville.

REMARKS.--Records good. Tunnel completed in September 1965; diversion began in February 1966. Flow is diverted from South Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork powerplant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.65	.80	2.1	0	84	50	3.3		
2			0	1.1	.80	2.1	0	80	47	2.6		
3			0	1.5	.80	2.1	0	47	45	2.1		
4			0	3.0	.80	2.1	0	35	44	1.7		
5			0	5.0	.80	2.1	0	37	41	.89		
6			0	5.6	.80	2.1	0	33	36	.38		
7			0	6.5	.95	.92	0	28	33	0		
8			0	5.8	.95	0	0	28	30	0		
9			0	5.0	.95	0	0	24	27	0		
10			0	4.0	.95	0	0	18	24	0		
11			0	4.6	.95	0	0	17	24	0		
12			0	5.6	.95	0	0	22	22	0		
13			0	31	2.6	0	0	58	20	0		
14			0	38	3.6	0	0	24	20	0		
15			0	24	3.3	0	42	11	24	0		
16			0	16	3.3	0	61	12	14	0		
17			0	13	3.0	0	121	0	0	0		
18			0	18	2.8	0	166	0	0	0		
19			0	32	2.8	0	130	0	0	0		
20			.05	21	2.8	0	89	0	0	0		
21			.05	3.8	2.8	0	35	0	0	0		
22			0	1.5	2.6	0	23	40	0	0		
23			0	1.1	2.8	0	21	69	4.2	0		
24			5.0	1.1	2.6	0	19	68	9.2	0		
25			3.3	2.6	2.8	0	18	64	8.5	0		
26			2.1	1.7	2.6	0	16	60	7.6	0		
27			1.5	.95	2.3	0	16	55	6.2	0		
28			1.1	.80	2.3	0	16	51	5.2	0		
29			.95	.80	-----	0	16	50	4.6	0		
30			.65	.80	-----	0	56	51	3.8	0		
31		-----	.50	.80	-----	0	-----	52	-----	0		-----
TOTAL	0	0	15.20	257.30	55.50	13.52	845	1,118	550.3	10.97	0	0
MEAN	0	0	.49	8.30	1.98	.44	28.2	36.1	18.3	.35	0	0
MAX	0	0	5.0	38	3.6	2.1	166	84	50	3.3	0	0
MIN	0	0	0	.65	.80	0	0	0	0	0	0	0
AC-FT	0	0	30	510	110	27	1,680	2,220	1,090	22	0	0
CAL YR 1968	TOTAL	2,537.12	MEAN	6.93	MAX	67	MIN	0	ACFT	5,030		
WAT YR 1969	TOTAL	2,865.79	MEAN	7.85	MAX	166	MIN	0	ACFT	5,680		

SACRAMENTO RIVER BASIN

11-4330.8. NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CALIF.

LOCATION.--Lat 39°02'57", long 120°28'56", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.24, T.14 N., R.13 E., Placer County, Eldorado National Forest, on left bank at diversion dam, 3.2 miles upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 miles east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,700 ft (from topographic map).

EXTREMES.--Period of record: Maximum daily discharge, 54 cfs May 27, 1967; no flow for part of each year.

REMARKS.--Records excellent except those for period Apr. 17 to May 18, which are poor. No regulation or diversion above station. Tunnel completed in September 1965 and diversions began in February 1966. Flow is diverted from North Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork power-plant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--One discharge measurement furnished by Placer County Water Agency.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	.96	.86	0	34	9.7			
2		0	0	0	.86	.86	0	35	8.5			
3		2.4	0	.06	.86	.86	0	33	7.5			
4		1.0	0	1.7	.77	.86	0	35	6.4			
5		0	0	2.5	.68	.86	0	37	5.2			
6		0	0	3.6	.86	.86	0	40	4.2			
7		0	0	3.9	.77	.43	0	43	3.6			
8		0	0	2.9	.77	0	0	45	3.2			
9		0	0	2.0	.68	0	0	44	2.6			
10		0	3.5	1.3	.68	0	0	39	2.2			
11		0	3.8	1.1	.68	0	0	30	2.8			
12		2.3	.41	1.2	.68	0	0	23	2.4			
13		.05	.01	15	.77	0	0	42	1.8			
14		0	0	15	.77	0	0	47	1.1			
15		0	.35	10	.77	0	12	42	.44			
16		.06	.14	4.9	.86	0	29	40	0			
17		.20	0	3.1	.96	0	27	42	0			
18		4.6	0	5.0	.96	0	25	39	0			
19		1.6	0	1.9	.96	0	32	33	0			
20		.02	0	.26	.86	0	32	28	0			
21		0	0	.26	.86	0	30	27	0			
22		0	0	.16	.86	0	26	26	0			
23		0	0	.16	.96	0	26	26	0			
24		0	.26	.12	.86	0	25	23	0			
25		0	.08	3.9	.86	0	25	20	0			
26		0	0	1.2	.86	0	25	18	0			
27		0	0	.32	.86	0	25	18	0			
28		0	0	.32	.86	0	25	16	0			
29		0	0	.38	-----	0	25	14	0			
30		0	0	.66	-----	0	33	13	0			
31		-----	0	1.1	-----	0	-----	12	-----			-----
TOTAL	0	12.23	8.55	84.00	23.14	5.59	422	964	61.64	0	0	0
MEAN	0	.41	.28	2.71	.83	.18	14.1	31.1	2.05	0	0	0
MAX	0	4.6	3.8	15	.96	.86	33	47	9.7	0	0	0
MIN	0	0	0	0	.68	0	0	12	0	0	0	0
AC-FT	0	24	17	167	46	11	837	1,910	122	0	0	0
CAL YR 1968	TOTAL	1,190.74	MEAN	3.25	MAX	44	MIN	0	ACFT	2,360		
WAT YR 1969	TOTAL	1,581.15	MEAN	4.33	MAX	47	MIN	0	ACFT	3,140		

11-4331, LONG CANYON CREEK NEAR FRENCH MEADOWS, CALIF.

LOCATION.--Lat 39°01'16", long 120°30'53", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.34, T.14 N., R.13 E., Placer County, Eldorado National Forest, on right bank 75 ft downstream from North Fork Long Canyon, 6.5 miles south of French Meadows, and 18 miles east of Foresthill.

DRAINAGE AREA.--18.0 sq mi.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,610 cfs Jan. 21 (gage height, 8.20 ft), from rating curve extended as explained below; minimum daily, 0.44 cfs Oct. 9, 10.

Period of record: Maximum discharge, 4,690 cfs Dec. 23, 1964 (gage height, 11.20 ft), from rating curve extended above 300 cfs on basis of slope-area measurements at gage heights 6.62 and 10.27 ft; minimum daily, 0.08 cfs Sept. 27, 28, 1968.

REMARKS.--Records good. Water is diverted above this station to a diversion tunnel from Hell Hole Reservoir to Middle Fork American River powerplant via South Fork and North Fork Long Canyon diversion tunnels (see sta 11-4330.6 and 11-4330.8); diversions began in February 1966. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	2.5	6.0	11	118	33	250	94	27	12	3.5	1.7
2	.62	7.4	5.6	10	103	32	218	82	26	12	3.4	1.6
3	.62	40	5.6	10	96	32	187	77	25	12	3.2	1.5
4	.78	13	5.8	13	89	30	180	72	24	12	3.1	1.5
5	.86	7.4	5.9	16	87	31	232	85	23	11	3.0	1.4
6	.56	5.6	6.0	16	79	31	195	114	22	11	2.9	1.5
7	.56	4.7	5.8	17	70	31	166	137	21	11	2.8	1.8
8	.56	4.1	6.0	16	64	33	156	162	21	10	2.8	2.0
9	.44	3.9	6.0	15	62	32	153	200	20	9.5	2.8	1.6
10	.44	3.7	14	14	60	32	162	230	20	8.8	2.8	1.5
11	.70	3.7	17	15	64	32	193	242	20	8.6	2.7	1.4
12	2.7	13	12	20	68	32	223	198	20	7.8	2.7	1.4
13	3.8	8.8	11	112	58	32	216	128	19	7.4	2.7	1.4
14	3.9	6.3	13	105	55	32	195	117	18	6.8	2.6	1.4
15	2.7	7.0	18	51	61	35	148	131	20	6.6	2.5	1.4
16	2.2	7.6	16	37	57	40	88	139	29	6.2	2.4	1.4
17	1.8	7.8	13	30	55	44	94	166	42	6.0	2.4	1.3
18	1.5	12	12	40	52	50	120	160	42	5.8	2.3	1.3
19	1.2	12	11	517	50	58	117	149	37	5.3	2.3	1.4
20	1.1	9.3	9.5	1,200	49	62	134	139	34	5.2	2.3	1.4
21	1.1	7.2	8.6	1,330	44	60	180	134	31	5.0	2.2	1.4
22	.94	7.0	8.8	549	42	65	211	90	28	4.7	2.1	1.3
23	.70	6.0	9.0	285	42	84	211	38	22	5.1	2.1	1.2
24	.78	6.5	21	225	40	93	156	36	15	4.8	2.0	1.2
25	.78	6.5	22	648	38	103	132	35	14	4.6	1.9	1.2
26	.86	6.0	16	847	37	122	123	34	14	4.4	1.8	1.2
27	.86	5.9	13	395	34	147	123	34	14	4.2	1.8	1.2
28	.94	5.8	13	268	34	180	142	31	13	4.0	1.8	1.2
29	1.8	5.6	12	198	-----	211	158	30	13	3.9	1.8	1.1
30	3.7	5.9	12	162	-----	248	126	30	12	3.8	1.7	1.1
31	2.7	-----	11	136	-----	258	-----	28	-----	3.7	1.7	-----
TOTAL	42.70	242.2	345.6	7,308	1,708	2,305	4,989	3,342	686	223.2	76.1	42.0
MEAN	1.38	8.07	11.1	236	61.0	74.4	166	108	22.9	7.20	2.45	1.40
MAX	3.9	40	22	1,330	118	258	250	242	42	12	3.5	2.0
MIN	.44	2.5	5.6	10	34	30	88	28	12	3.7	1.7	1.1
AC-FT	85	480	685	14,500	3,390	4,570	9,900	6,630	1,360	443	151	83
CAL YR 1968	TOTAL	4,632.06	MEAN	12.7	MAX	255	MIN	.08	AC-FT	9,190		
WTR YR 1969	TOTAL	21,309.80	MEAN	58.4	MAX	1,330	MIN	.44	AC-FT	42,270		

SACRAMENTO RIVER BASIN

11-4332. RUBICON RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 38°59'33", long 120°43'14", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.11, T.13 N., R.11 E., Placer County, Eldorado National Forest, on right bank 0.6 mile upstream from Ralston powerhouse, 1.2 miles upstream from confluence of Rubicon River and Middle Fork American River, and 5.6 miles southeast of Foresthill.

DRAINAGE AREA.--315 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (from topographic map). October 1958 to May 17, 1963, at site 2.0 miles upstream, 150 ft downstream from Ralston Bridge, and May 17, 1963, to Mar. 30, 1965, at site 2.1 miles upstream, 100 ft upstream from Ralston Bridge at datum 1,362.20 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 12,700 cfs Jan. 21 (gage height, 14.00 ft); minimum daily, 35 cfs Oct. 7-11.

Period of record: Maximum discharge, unknown Dec. 23, 1964 (gage height, 55.4 ft, from floodmarks), result of failure of the partly constructed Hell Hole Dam; next highest peak discharge, 83,000 cfs Feb. 1, 1963 (gage height, 35.0 ft, former site and datum); minimum daily, 10 cfs Sept. 20-27, 1962.

Floods of December 1937, November 1950, and December 1955, had approximate discharges of 44,000, 56,000, and 73,000 cfs respectively, on basis of 1958-64 stage-discharge relation and U.S. Forest Service flood-marks.

REMARKS.--Records good. Flow regulated by Hell Hole Reservoir (see sta 11-4287), Loon Lake (see sta 11-4293.5), and Stumpy Meadows Reservoir (capacity, 20,000 acre-ft). Water is imported from French Meadows Reservoir on Middle Fork American River through tunnel to French Meadows powerplant on shore of Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through tunnel to Middle Fork powerplant on Middle Fork American River. Robbs Peak tunnel and powerplant (see sta 11-4298) divert water to South Fork American River basin. See schematic diagram of Middle Fork American and Rubicon River basins.

REVISIONS (WATER YEARS).--WRD Calif. 1968: 1967(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	58	78	131	1,110	580	1,200	930	295	123	72	50
2	37	75	80	123	992	580	1,180	890	272	116	73	49
3	37	289	72	119	913	578	1,100	840	400	114	73	50
4	37	204	68	123	878	575	1,050	840	602	112	71	54
5	37	108	67	139	944	568	1,380	900	579	118	68	54
6	37	80	69	139	992	568	1,290	1,050	504	119	66	54
7	35	68	70	139	864	530	1,140	1,200	579	113	66	54
8	35	65	70	139	780	510	1,070	1,330	602	113	65	52
9	35	60	70	142	741	495	1,020	1,450	291	112	64	52
10	35	58	105	134	690	475	984	1,490	227	110	64	50
11	35	60	289	151	809	455	1,030	1,400	214	110	66	45
12	51	155	168	256	1,110	445	1,120	1,320	214	108	64	44
13	65	108	123	878	944	435	1,140	1,250	197	105	63	44
14	78	84	186	1,010	899	420	1,080	1,050	186	104	63	44
15	66	104	278	564	1,310	425	984	910	184	102	63	44
16	58	90	294	404	1,260	440	885	850	693	102	62	44
17	55	87	186	328	1,100	470	885	850	790	100	61	44
18	51	90	151	338	900	510	1,000	840	526	100	61	44
19	52	108	143	2,310	800	530	952	790	588	96	60	44
20	53	90	127	7,190	720	535	960	760	448	94	58	44
21	53	90	104	9,810	670	563	1,040	722	322	93	59	44
22	53	72	104	5,400	620	541	1,190	700	237	93	55	44
23	53	68	108	2,470	620	579	1,300	663	191	99	55	44
24	53	78	294	1,990	610	608	1,160	520	162	98	54	43
25	53	87	597	3,660	600	632	1,020	445	144	96	53	43
26	53	78	344	6,220	580	683	936	410	136	94	53	44
27	51	72	209	3,350	560	761	899	395	132	80	52	44
28	51	68	182	2,220	570	857	906	380	130	75	51	44
29	55	65	168	1,640	-----	952	944	349	128	74	50	44
30	65	68	155	1,400	-----	1,080	980	336	132	73	51	44
31	62	-----	139	1,210	-----	1,180	-----	313	-----	72	50	-----
TOTAL	1,528	2,787	5,098	54,127	23,586	18,560	31,825	26,173	10,105	3,118	1,886	1,398
MEAN	49.3	92.9	164	1,746	842	599	1,061	844	337	101	60.8	46.6
MAX	78	289	597	9,810	1,310	1,180	1,380	1,490	790	123	73	54
MIN	35	58	67	119	560	420	885	313	128	72	50	43
AC-FT	3,030	5,530	10,110	107,400	46,780	36,810	63,120	51,910	20,040	6,180	3,740	2,770
CAL YR 1968	TOTAL	59,073	MEAN	161	MAX	1,520	MIN	35	AC-FT	117,200		
WTR YR 1969	TOTAL	180,191	MEAN	494	MAX	9,810	MIN	35	AC-FT	357,400		

11-4332.6. NORTH FORK OF MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°01'27", long 120°43'03", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.35, T.14 N., R.11 E., Placer County, Tahoe National Forest, on right bank 1.0 mile downstream from El Dorado Canyon and 4.8 miles east of Foresthill.

DRAINAGE AREA.--88.9 sq mi.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 11,000 cfs Jan. 20 (gage height, 12.3 ft, from floodmarks); minimum daily, 23 cfs Oct. 1-7, 9-11.

Period of record: Maximum discharge, 11,000 cfs Jan. 20, 1969 (gage height, 12.3 ft, from floodmarks); minimum daily, 17 cfs Oct. 23 to Nov. 5, 1967.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Seven discharge measurements furnished by Placer County Water Agency.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	32	73	150	610	405	860	993	312	95	52	28
2	23	54	63	142	540	385	840	948	294	90	52	29
3	23	326	54	155	490	366	800	832	277	86	50	29
4	23	175	53	180	520	344	867	712	265	86	46	29
5	23	88	50	200	640	330	1,300	776	241	89	45	29
6	23	63	49	205	700	330	1,130	975	214	91	44	29
7	23	53	49	202	522	326	912	1,080	196	89	42	29
8	24	46	50	195	492	326	816	1,190	186	87	42	32
9	23	42	52	192	492	316	760	1,260	166	86	42	32
10	23	41	87	182	492	303	776	1,300	160	85	41	30
11	23	40	222	189	568	294	975	1,230	169	84	41	29
12	45	157	142	257	816	285	1,120	1,200	154	83	41	29
13	60	101	112	1,360	624	285	1,120	1,080	148	82	39	29
14	66	74	145	1,460	610	273	1,000	930	142	81	38	28
15	49	90	229	752	921	290	808	778	140	80	37	28
16	37	82	240	492	975	303	768	720	178	78	35	28
17	33	73	160	330	760	339	894	760	142	75	34	28
18	32	86	130	324	652	352	1,110	736	137	72	36	28
19	30	125	115	1,500	575	380	1,070	645	134	71	35	28
20	29	86	105	3,800	528	395	1,140	540	124	67	35	28
21	29	73	95	6,400	492	390	1,280	516	122	58	33	28
22	29	63	89	5,900	458	390	1,330	504	114	57	32	28
23	28	60	89	2,000	452	410	1,280	522	112	60	31	28
24	28	68	220	1,500	447	445	1,060	492	112	62	30	28
25	27	73	480	3,200	442	455	849	447	110	60	30	28
26	27	62	375	4,000	430	490	744	410	106	60	30	28
27	26	59	260	2,200	400	540	744	375	100	59	30	28
28	26	54	215	1,500	415	600	832	366	98	59	30	28
29	28	52	195	1,100	-----	680	966	357	96	56	29	28
30	53	53	180	860	-----	760	993	344	100	56	29	28
31	38	-----	165	680	-----	840	-----	344	-----	54	29	-----
TOTAL	974	2,451	4,543	41,607	16,063	12,627	29,144	23,362	4,849	2,298	1,160	859
MEAN	31.4	81.7	147	1,342	574	407	971	754	162	74.1	37.4	28.6
MAX	66	326	480	6,400	975	840	1,330	1,300	312	95	52	32
MIN	23	32	49	142	400	273	744	344	96	54	29	28
AC-FT	1,930	4,860	9,010	82,530	31,860	25,050	57,810	46,340	9,620	4,560	2,300	1,700

CAL YR 1968 TOTAL 61,864 MEAN 169 MAX 2,340 MIN 20 ACFT 122,700
WAT YR 1969 TOTAL 139,937 MEAN 383 MAX 6,400 MIN 23 ACFT 277,600

PEAK DISCHARGE (BASE, 1,600 CFS)
DATE TIME G.H. DISCHARGE DATE TIME G.H. DISCHARGE
1-13 1900 7.70 2,790 1-26 unknown -- --
1-20 unknown 12.3 11,000 4- 5 1200 6.85 1,650

NOTE.--No gage-height record
Jan. 19 to Feb. 6, June 26 to
July 25.

SACRAMENTO RIVER BASIN

11-4333. MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CALIF.

LOCATION.--Lat 39°00'23", long 120°45'40", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.4, T.13 N., R.11 E., Placer County, Tahoe National Forest, on right bank 1.7 miles downstream from Oxbow Powerhouse and 3.2 miles east of Foresthill.

DRAINAGE AREA.--524 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (from topographic map). Prior to Oct. 22, 1965, at site 3.2 miles downstream at different datum.

AVERAGE DISCHARGE.--11 years, 1,074 cfs (778,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 24,700 cfs Jan. 20 (gage height, 17.0 ft, from floodmarks); minimum daily, 70 cfs Oct. 6.

Period of record: Maximum discharge, 310,000 cfs Dec. 23, 1964 (gage height, 69.0 ft, from floodmarks, site and datum then in use), caused by overtopping the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 cfs on basis of slope-area measurement at gage height 38.0 ft, and slope-conveyance study at gage height 69.0 ft at site and datum then in use; next highest peak, 113,000 cfs Feb. 1, 1963 (gage height, 38.00 ft, site and datum then in use); minimum, 35 cfs Oct. 19, 20, 1961.

REMARKS.--Records good except those for flows above 10,000 cfs, which are poor. Flow regulated by French Meadows Reservoir (see sta 11-4274), Hell Hole Reservoir (see sta 11-4287), Loon Lake (see sta 11-4293.5), Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft), and Ralston and Oxbow powerplants. Robbs Peak tunnel (see sta 11-4298) and Georgetown Divide ditch (capacity, about 25 cfs) divert water out of basin above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Eight discharge measurements furnished by Placer County Water Agency.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	902	882	212	384	2,530	2,190	4,280	2,940	1,590	1,100	986	1,050
2	923	348	747	864	2,240	2,110	4,090	2,830	1,530	1,100	986	992
3	874	792	729	957	2,200	2,050	3,670	2,670	1,660	1,100	968	1,040
4	860	914	587	431	2,100	1,950	3,420	2,110	1,830	848	950	1,050
5	165	1,020	741	441	2,060	1,890	4,530	2,000	1,800	752	1,000	1,060
6	70	472	810	998	2,200	1,900	4,020	2,690	1,730	605	920	1,050
7	759	440	390	1,080	2,150	1,780	3,540	2,760	1,730	863	1,020	882
8	860	1,050	99	1,200	1,890	1,870	3,350	2,680	1,800	1,080	1,000	1,060
9	895	216	463	833	1,940	1,740	3,210	2,980	1,460	1,090	1,020	708
10	860	148	836	1,270	1,950	1,710	3,210	3,360	1,380	1,060	1,020	1,040
11	916	335	1,190	727	2,240	1,690	3,360	3,470	1,380	1,080	1,080	973
12	139	870	899	699	2,800	1,690	3,570	3,500	1,380	1,080	334	980
13	172	999	874	3,140	2,460	1,660	3,510	2,660	1,420	1,070	514	102
14	822	938	693	3,830	2,380	1,740	3,360	2,580	1,550	1,070	1,020	489
15	961	1,000	649	2,210	3,150	1,770	3,150	2,940	1,760	1,070	1,020	1,050
16	933	276	1,170	1,710	3,130	1,820	3,000	2,800	2,350	947	1,020	1,050
17	912	191	984	1,420	2,740	1,920	2,830	2,910	2,430	1,060	1,020	1,050
18	846	850	916	960	2,560	2,000	3,510	2,940	1,770	1,060	1,050	1,050
19	235	1,070	901	9,030	2,390	2,090	3,400	2,700	1,890	1,060	1,020	1,050
20	156	1,010	1,110	15,900	2,280	2,140	3,080	2,440	1,730	1,050	1,050	192
21	719	990	1,000	18,500	2,190	2,200	3,640	2,410	1,690	1,030	1,030	138
22	789	933	987	9,000	2,070	2,150	3,960	2,480	1,510	1,050	962	491
23	302	220	1,010	5,000	2,120	2,280	4,280	2,440	1,370	927	1,030	1,020
24	312	183	1,230	4,100	2,220	1,680	3,660	2,360	1,250	1,040	1,040	1,030
25	85	848	1,530	9,200	2,260	2,400	3,220	2,190	1,210	1,030	1,040	1,020
26	102	910	1,270	12,200	2,210	2,590	2,970	2,090	1,200	1,010	1,050	956
27	86	944	1,380	7,000	2,070	2,850	2,440	1,910	1,160	1,020	1,050	84
28	629	165	604	4,500	2,170	3,210	2,800	1,870	1,130	1,020	1,050	113
29	890	802	579	3,580	-----	3,510	3,120	1,790	1,120	986	1,060	718
30	924	182	1,050	3,130	-----	3,930	2,950	1,680	1,100	992	1,050	1,030
31	893	-----	961	2,620	-----	4,290	-----	1,630	-----	986	1,030	-----
TOTAL	18,991	19,998	26,601	126,914	64,700	68,800	103,130	78,810	46,910	31,236	30,390	24,518
MEAN	613	667	858	4,094	2,311	2,219	3,438	2,542	1,564	1,008	980	817
MAX	961	1,070	1,530	18,500	3,150	4,290	4,530	3,500	2,430	1,100	1,080	1,060
MIN	70	148	99	384	1,890	1,660	2,440	1,630	1,100	605	334	84
AC-FT.	37,670	39,670	52,760	251,700	128,300	136,500	204,600	156,300	93,040	61,960	60,280	48,630
(a)	37,630	53,940	34,520	48,610	47,310	33,160	52,290	49,900	52,870	49,670	52,300	41,470

CAL YR 1968 TOTAL 263,727 MEAN 721 MAX 5,430 MIN 69 AC-FT 523,100
WTR YR 1969 TOTAL 640,998 MEAN 1,756 MAX 18,500 MIN 70 AC-FT 1,271,000

a Diversion, in acre-feet, to Ralston powerplant, furnished by Placer County Water Agency.

NOTE.--No gage-height record Jan. 20-28.

11-4334. CANYON CREEK NEAR GEORGETOWN, CALIF.

LOCATION.--Lat 38°56'03", long 120°52'21", in SW¼NW¼ sec.33, T.13 N., R.10 E., El Dorado County, Eldorado National Forest, on right bank 0.7 mile downstream from West Canyon and 2.6 miles northwest of Georgetown.

DRAINAGE AREA.--12.5 sq mi.

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,995 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs Jan. 20 (gage height, 10.58 ft); minimum daily, 2.5 cfs Oct. 23.

Period of record: Maximum discharge, 1,050 cfs Jan. 20, 1969 (gage height, 10.58 ft); minimum daily, 1.8 cfs Oct. 1, 4-12, 1966.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Small diversions above station for irrigation and domestic purposes. See schematic diagram of Middle Fork American and Rubicon River basins. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	6.9	13	13	54	171	28	18	12	8.0	5.8	4.7
2	5.0	15	12	12	51	132	28	18	12	7.9	6.0	4.4
3	6.2	29	9.6	11	48	119	32	17	12	7.5	5.6	4.1
4	7.1	12	8.6	11	46	101	31	17	11	7.3	5.3	4.1
5	6.6	5.5	11	10	111	89	72	17	11	7.0	5.4	4.1
6	5.0	3.9	14	9.5	133	81	58	17	11	6.9	5.3	4.0
7	4.8	6.5	10	9.1	94	73	48	17	11	7.7	5.2	4.2
8	4.3	7.6	15	9.1	73	66	43	16	11	8.2	5.2	5.0
9	5.0	7.3	12	8.6	75	63	39	16	11	8.0	5.2	4.9
10	5.0	7.2	19	8.0	71	59	35	16	11	7.3	5.3	4.7
11	5.1	7.8	28	22	99	53	31	15	12	7.1	5.3	4.7
12	12	22	14	43	222	50	29	15	12	7.0	5.0	4.7
13	6.9	12	12	185	112	48	27	15	12	6.9	4.8	4.6
14	5.3	5.3	29	163	101	45	26	14	12	6.5	4.8	4.6
15	6.5	16	32	42	187	43	24	14	11	9.5	4.7	4.7
16	6.1	11	28	26	146	41	23	14	11	6.0	4.5	4.8
17	5.3	8.7	11	20	105	41	23	13	11	5.6	4.5	4.8
18	4.8	9.6	8.7	28	94	40	23	13	11	6.3	4.3	4.6
19	4.4	8.0	12	366	83	38	22	13	10	5.8	4.3	4.9
20	6.5	6.7	11	747	78	40	22	13	9.6	5.5	4.3	4.8
21	2.7	6.4	9.1	561	73	44	22	12	9.2	5.4	4.4	4.7
22	2.6	6.3	9.2	338	65	38	22	12	8.9	5.2	4.8	4.7
23	2.5	6.3	10	106	70	36	45	12	8.9	5.6	4.9	4.6
24	7.1	9.0	44	102	102	35	35	12	9.2	5.5	4.3	4.4
25	8.3	8.1	105	363	129	34	27	14	9.0	5.4	3.8	4.4
26	7.2	8.5	50	339	121	33	24	19	8.7	5.3	4.8	4.2
27	6.6	8.2	26	143	101	31	22	15	8.5	5.3	4.9	3.7
28	6.6	7.8	27	108	161	30	21	13	8.1	5.9	4.9	3.6
29	7.9	7.6	25	80	-----	29	20	12	7.7	6.0	5.1	3.4
30	10	9.4	19	66	-----	29	19	13	7.5	6.0	5.0	3.3
31	7.3	-----	15	55	-----	28	-----	12	-----	5.9	4.9	-----
TOTAL	185.5	285.6	649.2	4,004.3	2,805	1,760	921	454	310.3	203.5	152.6	132.4
MEAN	5.98	9.52	20.9	129	100	56.8	30.7	14.6	10.3	6.56	4.92	4.41
MAX	12	29	105	747	222	171	72	19	12	9.5	6.0	5.0
MIN	2.5	3.9	8.6	8.0	46	28	19	12	7.5	5.2	3.8	3.3
AC-FT	368	566	1,290	7,940	5,560	3,490	1,830	901	615	404	303	263
CAL YR 1968	TOTAL	4,266.4	MEAN	11.7	MAX	130	MIN	2.1	AC-FT	8,460		
WTR YR 1969	TOTAL	11,863.4	MEAN	32.5	MAX	747	MIN	2.5	AC-FT	23,530		

PEAK DISCHARGE (BASE, 170 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	2330	8.45	366	2-5	0945	7.11	175
1-20	0300	10.58	1,050	2-12	0530	8.15	318
1-22	0015	10.29	912	2-15	1630	7.71	253
1-26	0500	9.48	631	2-28	2000	7.41	211

NOTE.--No gage-height record Apr. 1 to May 14.

11-4335. MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CALIF.

LOCATION.--Lat 38°55'05", long 121°00'51", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.12 N., R.9 E., Placer County, on right bank at Mountain Quarry Co. plant, 1.4 miles upstream from mouth, and 3.3 miles northeast of Auburn.

DRAINAGE AREA.--612 sq mi.

PERIOD OF RECORD.--October 1911 to current year. Prior to October 1934, published as "near East Auburn."

GAGE.--Water-stage recorder. Datum of gage is 552.35 ft above mean sea level (levels by Murray Engineers). Prior to December 1930, nonrecording gages near present site at different datums. December 1930 to Mar. 1, 1963, water-stage recorder at site 0.4 mile upstream at different datum.

AVERAGE DISCHARGE.--58 years, 1,345 cfs (974,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 27,700 cfs Jan. 20 (gage height, 23.1 ft, from floodmarks); minimum daily, 115 cfs Oct. 27.

Period of record: Maximum discharge, 253,000 cfs Dec. 23, 1964 (gage height, 60.4 ft, from floodmarks), from rating curve extended above 69,000 cfs on basis of slope-area measurement of maximum flow (caused by overtopping of the partly constructed Hell Hole Dam); next highest peak, 121,000 cfs Feb. 1, 1963 (gage height, 43.1 ft, from floodmarks, site and datum then in use); minimum, 20 cfs Sept. 6, 1931, Sept. 19, 1934.

REMARKS.--Records good. Natural flow of stream affected by French Meadows Reservoir (see sta 11-4274), Hell Hole Reservoir (see sta 11-4287), Loon Lake (see sta 11-4293.5), Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft), diversion dams on Rubicon and Little Rubicon River, and Ralston and Oxbow powerplants. Robbs Peak tunnel (see sta 11-4298) diverts water out of basin. See schematic diagram of Middle Fork American and Rubicon River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	900	893	207	686	3,320	3,830	4,220	3,120	1,770	1,230	986	1,030
2	920	530	490	602	2,990	3,420	4,150	3,040	1,680	1,200	1,000	1,010
3	880	933	739	993	2,880	3,180	3,860	2,850	1,760	1,160	982	1,020
4	870	842	616	691	2,740	2,940	3,540	2,430	1,910	985	990	1,020
5	380	1,020	716	455	2,960	2,770	4,650	2,280	1,960	795	1,010	1,030
6	120	784	755	739	3,520	2,660	4,520	2,680	1,860	718	952	1,030
7	480	194	776	1,040	3,360	2,440	3,870	2,890	1,800	917	1,010	886
8	870	1,040	129	1,170	2,830	2,450	3,630	2,780	1,940	1,120	1,030	1,050
9	900	500	155	994	2,760	2,310	3,480	3,000	1,610	1,100	1,030	748
10	870	140	784	1,260	2,690	2,240	3,340	3,420	1,520	1,120	1,030	1,030
11	920	234	1,320	982	3,060	2,130	3,380	3,510	1,510	1,110	1,090	1,020
12	464	751	934	957	4,500	2,080	3,650	3,650	1,520	1,100	500	970
13	186	1,030	848	2,920	3,780	1,930	3,630	2,920	1,470	1,100	450	150
14	483	989	958	4,900	3,410	1,980	3,630	2,710	1,650	1,090	1,030	270
15	1,000	1,070	653	2,470	4,700	1,950	3,280	3,040	1,770	1,090	1,030	1,020
16	944	535	1,310	1,940	4,970	1,990	3,160	2,930	2,310	994	1,030	1,030
17	928	228	1,020	1,540	4,070	2,070	3,180	2,940	2,660	1,100	1,030	1,040
18	873	656	947	1,150	3,700	2,150	3,550	3,030	1,970	1,080	1,060	1,030
19	528	1,110	907	8,740	3,390	2,240	3,490	2,870	1,950	1,080	1,030	1,040
20	168	1,040	1,130	22,900	3,160	2,280	3,230	2,530	1,870	1,070	1,060	480
21	382	1,030	1,010	23,400	3,050	2,390	3,640	2,470	1,730	1,050	1,040	160
22	880	925	981	14,000	2,840	2,300	4,040	2,500	1,630	1,040	970	300
23	360	546	1,010	7,010	2,960	2,380	4,390	2,500	1,570	964	1,040	1,020
24	388	201	1,260	5,140	3,300	1,940	3,960	2,370	1,410	1,080	1,040	1,020
25	186	553	2,110	10,400	3,720	2,350	3,440	2,250	1,400	1,050	1,040	1,020
26	121	1,020	1,620	16,900	3,670	2,680	3,190	2,150	1,380	1,050	1,040	1,020
27	115	978	1,510	9,290	3,210	2,900	2,720	1,990	1,370	1,010	1,040	350
28	290	523	967	6,490	3,510	3,220	2,830	1,930	1,340	1,020	1,030	140
29	741	486	673	4,750	-----	3,520	3,220	1,890	1,300	1,020	1,020	420
30	914	501	966	4,120	-----	3,870	3,200	1,840	1,260	1,010	1,040	1,030
31	914	-----	1,050	3,450	-----	4,300	-----	1,820	-----	1,000	1,020	-----
TOTAL	18,975	21,282	28,551	162,079	95,050	80,890	108,070	82,330	50,880	32,453	30,650	24,384
MEAN	612	709	921	5,228	3,395	2,609	3,602	2,656	1,696	1,047	989	813
MAX	1,000	1,110	2,110	23,400	4,970	4,300	4,650	3,650	2,660	1,230	1,090	1,050
MIN	115	140	129	455	2,690	1,930	2,720	1,820	1,260	718	450	140
AC-FT	37,640	42,210	56,630	321,500	188,500	160,400	214,400	163,300	100,900	64,370	60,790	48,360
CAL YR 1968	TOTAL 283,209		MEAN 774		MAX 5,740		MIN 62		AC-FT 561,700			
WTR YR 1969	TOTAL 735,594		MEAN 2,015		MAX 23,400		MIN 115		AC-FT 1,459,000			

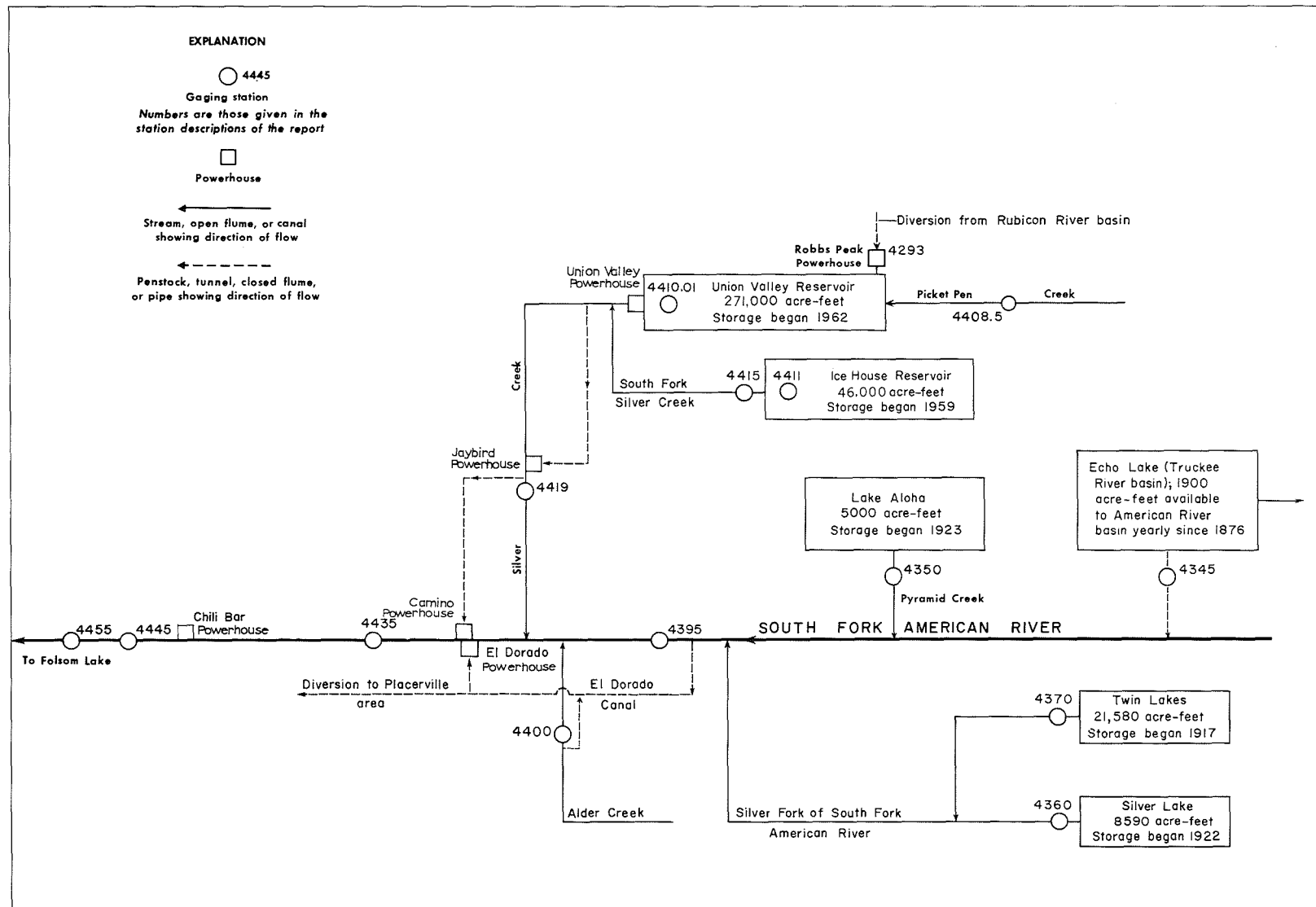


FIGURE 17.--Schematic diagram showing diversions and storage in South Fork American River basin.

SACRAMENTO RIVER BASIN

11-4345. ECHO LAKE CONDUIT NEAR PHILLIPS, CALIF.

LOCATION.--Lat 38°49'52", long 120°02'12", in NW¼ sec.6, T.11 N., R.18 E., El Dorado County, Eldorado National Forest, on right bank in Berkeley Municipal Camp, 0.5 mile downstream from intake, and 2.4 miles northeast of Phillips.

PERIOD OF RECORD.--August 1923 to current year (diversion seasons only). Monthly discharge only for July 1933, published in WSP 1315-A. Published as Echo Lake flume near Vade prior to 1943 and as Echo Lake conduit near Vade for seasons 1944-53.

GAGE.--Water-stage recorder. Altitude of gage is 7,420 ft (from topographic map). Prior to July 16, 1929, nonrecording gage at site 0.4 mile upstream at different datum.

EXTREMES.--Period of record: Maximum daily discharge, 31 cfs Sept. 10, 1963; no flow for most of each year.

REMARKS.--Records good. No flow except during diversion season for which discharge is published. Conduit diverts from Echo Lake (capacity, 1,900 acre-ft) in Truckee River basin into basin of South Fork American River for power and irrigation. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and six discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, SEPTEMBER TO DECEMBER 1969

DAY	SEP	OCT	NOV	DEC
1	0	27	24	4.7
2	0	23	22	3.7
3	0	25	23	3.0
4	0	25	22	2.3
5	0	12	20	1.9
6	0	0	21	1.6
7	0	0	20	1.4
8	0	0	19	.48
9	0	0	18	1.8
10	0	0	16	.05
11	0	0	15	1.4
12	0	0	14	1.3
13	0	0	13	.07
14	0	0	12	.07
15	13	.07	12	0
16	17	.21	12	0
17	0	0	12	0
18	0	14	11	0
19	0	24	11	1.2
20	0	25	10	7.1
21	0	25	9.4	17
22	0	24	9.2	19
23	5.6	24	8.6	13
24	19	24	7.6	14
25	23	23	7.4	11
26	24	23	7.1	13
27	28	24	6.6	21
28	27	23	6.2	24
29	27	24	5.8	24
30	27	25	5.1	23
31	-----	25	-----	10
TOTAL	210.6	439.28	400.0	221.07
MEAN	7.02	14.2	13.3	7.13
MAX	28	27	24	24
MIN	0	0	5.1	0
AC-FT	418	871	793	438

11-4350, PYRAMID CREEK NEAR PHILLIPS, CALIF.

LOCATION.--Lat 38°50'55", long 120°07'40", in N $\frac{1}{2}$ sec.32, T.12 N., R.17 E., El Dorado County, Eldorado National Forest, on left bank 0.9 mile southeast of Lake Aloha dam, 1.6 miles east of Pyramid Peak, 3.4 miles northwest of Phillips, and 4.6 miles west of Echo Lake Resort.

DRAINAGE AREA.--3.73 sq mi.

PERIOD OF RECORD.--September 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1952, published as Medley Lakes Outlet near Vade and October 1952 to September 1955 as Medley Lakes Outlet near Phillips.

GAGE.--Water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

AVERAGE DISCHARGE.--47 years, 17.8 cfs (12,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 122 cfs July 13 (gage height, 2.64 ft); minimum daily recorded, 0.31 cfs Oct. 11.

Period of record: Maximum discharge, 401 cfs Dec. 23, 1964 (gage height, 4.88 ft, from recorded range in stage), from rating curve extended above 130 cfs; maximum gage height, 5.4 ft Jan. 31, 1963 (backwater from ice); no flow at times in some years.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Lake Aloha (capacity, 5,000 acre-ft); no contents Sept. 30, 1968, and no contents Sept. 30, 1969. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record and three discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1395: 1923(M), 1925. WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	5.2	11						90	10	25	88
2	.40	22	11						90	11	23	87
3	.40	26	11						90	15	22	86
4	.40	11	10						90	14	21	85
5	.40	10	10						90	14	18	85
6	.35	10	10						90	13	16	83
7	.35	9.6	9.4						90	10	14	81
8	.35	10	9.1						100	11	26	80
9	.35	14	9.1						100	12	37	77
10	.35	11	8.8						100	35	36	75
11	.31	11	8.8						100	69	36	73
12	.50	15	8.8						100	77	43	69
13	.95	11	8.8						100	98	62	65
14	1.6	10	8.8						100	103	77	59
15	2.4	11	8.8						100	93	77	53
16	3.0	10	8.8						77	79	77	47
17	3.8	10	8.8						58	67	76	36
18	4.3	16	8.8						30	50	74	20
19	4.3	13	8.8						30	41	73	12
20	4.3	11	8.8						30	46	73	9.1
21	4.3	10	8.8						30	45	72	7.9
22	4.1	11	8.8						30	50	71	5.8
23	4.0	12	8.8						30	51	71	5.1
24	3.8	11	8.8						34	50	70	4.7
25	3.6	10	8.8						33	48	78	4.3
26	3.5	10	9.0						32	40	88	3.7
27	3.3	10	9.0						27	38	88	2.7
28	3.0	10	9.0						14	36	90	2.4
29	2.9	9.6	9.0		-----				13	33	91	1.8
30	4.8	10	9.0		-----				11	30	89	1.6
31	5.4	-----	9.0		-----		-----		-----	28	89	-----
TOTAL	71.91	350.4	285.4	263	183	223	1,011	2,350	1,909	1,317	1,803	1,310.1
MEAN	2.32	11.7	9.21	8.48	6.54	7.19	33.7	75.8	63.6	42.5	58.2	43.7
MAX	5.4	26	11	-	-	-	-	-	100	103	91	88
MIN	.31	5.2	8.8	-	-	-	-	-	11	10	14	1.6
AC-FT	143	695	566	522	363	442	2,010	4,660	3,790	2,610	3,580	2,600

CAL YR 1968 TOTAL 4,508.27 MEAN 12.3 MAX 61 MIN - AC-FT 8,940
WTR YR 1969 TOTAL 11,076.81 MEAN 30.3 MAX 103 MIN - AC-FT 21,970

NOTE.--No gage-height record Dec. 22 to June 15.

SACRAMENTO RIVER BASIN

11-4360. SILVER LAKE OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.--Lat 38°40'17", long 120°07'18", in SW $\frac{1}{4}$ sec.32, T.10 N., R.17 E., Amador County, Eldorado National Forest, on right bank 1,000 ft downstream from Silver Lake Dam, and 3.5 miles southwest of Kirkwood.

DRAINAGE AREA.--15.2 sq mi.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 7,199.5 ft above mean sea level, unadjusted.

AVERAGE DISCHARGE.--47 years, 34.1 cfs (24,710 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 478 cfs Jan. 22 (gage height, 4.63 ft); minimum daily, 0.02 cfs Oct. 22-30.

Period of record: Maximum discharge, 676 cfs Nov. 21, 1950 (gage height, 6.03 ft), from rating curve extended above 290 cfs; no flow for many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959 to Feb. 5, 1960.

REMARKS.--Records good. Flow regulated by Silver Lake 1,000 ft upstream (capacity, 3,840 acre-ft at spillway level and 8,590 acre-ft with 11 ft of flashboards); contents in Silver Lake, 1,820 acre-ft Sept. 30, 1968, and 3,500 acre-ft Sept. 30, 1969. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record, seven discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; one discharge measurement made and records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS.--WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	.04	.30	.30	20	15	77	153	374	78	3.5	2.6
2	42	.49	.30	.30	18	14	80	147	327	103	3.0	4.0
3	39	.49	.30	.30	16	14	72	120	327	116	3.0	10
4	38	.04	.30	.30	15	12	55	107	340	133	3.0	14
5	36	.04	.30	.30	18	10	58	114	342	140	3.0	17
6	35	.04	.30	.30	21	10	54	172	342	127	2.8	22
7	33	.04	.30	.30	18	9.8	41	247	336	96	2.8	22
8	31	.04	.30	.30	16	8.8	33	285	336	52	3.0	26
9	28	.05	.30	.30	14	9.3	31	334	295	45	3.0	37
10	26	.08	.30	.30	13	9.3	30	377	80	50	3.0	46
11	24	.10	.30	.30	13	8.4	35	340	14	55	3.0	50
12	23	.42	.30	.30	14	8.4	50	352	7.1	48	3.2	59
13	22	.36	.30	.30	12	7.9	58	350	4.0	51	3.2	63
14	21	.36	.30	.36	15	6.7	62	339	4.9	52	3.2	62
15	18	.30	.30	.36	22	6.3	54	327	6.7	50	3.0	52
16	16	.30	.30	.36	20	6.7	50	322	18	50	3.0	61
17	14	.30	.30	.36	16	6.0	59	351	55	40	3.0	76
18	12	.42	.30	.49	15	6.0	70	334	90	35	3.0	74
19	11	.36	.30	2.0	14	6.0	80	335	127	31	3.0	73
20	6.7	.36	.30	1.2	14	6.0	106	326	177	24	3.0	71
21	3.5	.30	.30	27	13	6.0	143	351	166	13	2.6	70
22	.02	.30	.30	346	12	6.0	177	364	173	6.0	2.6	68
23	.02	.30	.30	102	21	6.0	152	378	180	4.6	3.0	67
24	.02	.30	.30	58	22	6.0	108	374	184	4.6	3.0	66
25	.02	.30	.30	54	20	6.0	82	374	177	4.6	2.8	63
26	.02	.30	.30	53	18	7.9	72	378	151	4.3	2.4	60
27	.02	.30	.30	43	15	14	72	378	77	4.0	2.6	59
28	.02	.30	.30	39	16	18	91	360	18	3.8	2.6	58
29	.02	.30	.30	34	-----	23	124	363	33	3.2	2.8	56
30	.02	.30	.30	26	-----	36	143	364	52	3.0	3.0	54
31	.04	-----	.30	22	-----	60	-----	374	-----	3.8	2.6	-----
TOTAL	519.42	7.63	9.30	813.03	461	369.5	2,319	9,490	4,813.7	1,430.9	90.7	1,462.6
MEAN	16.8	.25	.30	26.2	16.5	11.9	77.3	306	160	46.2	2.93	48.8
MAX	42	.49	.30	346	22	60	177	378	374	140	3.5	76
MIN	.02	.04	.30	.30	12	6.0	30	107	4.0	3.0	2.4	2.6
AC-FT	1,030	15	18	1,610	914	733	4,600	18,820	9,550	2,840	180	2,900
CAL YR 1968	TOTAL	7,741.15	MEAN	21.2	MAX	129	MIN	.02	AC-FT	15,350		
WTR YR 1969	TOTAL	21,786.78	MEAN	59.7	MAX	378	MIN	.02	AC-FT	43,210		

11-4370. TWIN LAKES OUTLET NEAR KIRKWOOD, CALIF.

LOCATION.--Lat 38°42'29", long 120°03'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.18, T.10 N., R.18 E., Alpine County, Eldorado National Forest, on right bank 500 ft downstream from main dam and outlet gate of Twin Lakes, and 1.3 miles east of Kirkwood.

DRAINAGE AREA.--13.5 sq mi.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,700 ft (from topographic map).

AVERAGE DISCHARGE (including flow over Twin Lakes spillway).--47 years, 36.6 cfs (26,520 acre-ft per year).

EXTREMES.--Current year: Maximum combined daily discharge for outlet and spillway, 669 cfs June 3; minimum daily, 1.8 cfs Nov. 1.

Period of record: Maximum combined daily discharge for outlet and spillway, 669 cfs June 3, 1969; minimum daily, 0.1 cfs Mar. 25-31, 1944, Nov. 27, 28, 1956.

REMARKS.--Records good. Flow regulated by Twin Lakes 500 ft upstream (capacity, 19,750 acre-ft spillway level, 21,580 acre-ft with 3 ft of flashboards), contents of which were 13,800 acre-ft on Sept. 30, 1968, and 18,600 acre-ft on Sept. 30, 1969. Flow over Twin Lakes spillway occurred May 30 to June 7, June 17 to Sept. 30 and is included in table below. No diversion above station. See schematic diagram of South Fork American River basin.

COOPERATION.--Gage-height record, seven discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; one discharge measurement made and records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS.--WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	1.8	73	24	24	24	24	26	459	125	34	28
2	37	2.2	73	24	24	24	24	26	653	157	59	28
3	40	2.2	73	24	24	24	24	26	669	158	58	27
4	45	2.1	78	24	24	24	24	99	576	152	37	26
5	49	2.1	81	24	24	24	23	99	547	144	15	25
6	49	2.7	81	24	24	24	23	99	519	137	9.7	24
7	49	21	81	24	24	24	23	98	375	135	24	24
8	49	50	79	24	24	24	24	98	350	138	33	13
9	48	50	79	24	24	24	24	98	344	149	33	5.2
10	48	37	79	24	24	24	24	98	339	149	33	5.2
11	48	20	79	24	24	24	24	98	339	150	44	5.2
12	48	20	79	24	24	24	24	98	331	141	30	5.2
13	48	20	79	24	24	24	25	96	271	140	20	4.8
14	48	20	78	24	24	24	25	96	183	135	22	4.8
15	48	31	78	24	24	24	25	33	189	132	21	4.4
16	48	44	78	24	24	24	26	33	189	125	21	4.2
17	48	24	77	24	24	24	27	34	191	92	21	6.0
18	48	10	77	24	24	24	27	34	193	44	28	21
19	47	10	77	24	24	24	28	33	173	42	33	39
20	31	10	77	24	24	24	28	34	148	85	32	44
21	5.1	6.3	75	24	24	24	25	34	152	89	34	42
22	3.4	20	75	24	24	24	25	34	154	102	37	53
23	3.4	44	75	24	24	24	25	33	162	106	37	62
24	3.0	44	75	24	24	24	25	34	147	83	39	64
25	4.1	44	74	24	24	24	25	35	92	69	39	64
26	4.8	44	74	24	24	24	25	38	43	69	29	60
27	4.8	58	74	24	24	24	25	39	26	68	20	60
28	3.4	73	74	24	24	24	25	38	26	53	23	60
29	2.4	73	74	24	-----	24	26	43	25	14	28	64
30	2.4	73	73	24	-----	24	26	207	38	3.8	30	69
31	2.1	-----	48	24	-----	24	-----	403	-----	4.5	29	-----
TOTAL	947.9	859.4	2,347	744	672	744	748	2,294	7,903	3,191.3	952.7	942.0
MEAN	30.6	28.6	75.7	24.0	24.0	24.0	24.9	74.0	263	103	30.7	31.4
MAX	49	73	81	24	24	24	28	403	669	158	59	69
MIN	2.1	1.8	48	24	24	24	23	26	25	3.8	9.7	4.2
AC-FT	1,880	1,700	4,660	1,480	1,330	1,480	1,480	4,550	15,680	6,330	1,890	1,870
CAL YR 1968	TOTAL	9,159.50	MEAN	25.0	MAX	86	MIN	0.90	AC-FT	18,170		
WTR YR 1969	TOTAL	22,345.3	MEAN	61.2	MAX	669	MIN	1.8	AC-FT	44,320		

SACRAMENTO RIVER BASIN

11-4395. SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°45'49", long 120°19'39", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.29, T.11 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank beside U.S. Highway 50, 0.8 mile downstream from Silver Fork of South Fork, and 1.9 miles southwest of Kyburz.

DRAINAGE AREA.--193 sq mi.

PERIOD OF RECORD.--August to December 1907, October 1922 to current year. Prior to October 1956, records for river and El Dorado Canal published separately; combined only, October 1956 to September 1962.

GAGE.--Water-stage recorder on river; water-stage recorder for canal diversion. Altitude of gage is 3,840 ft (from topographic map). Prior to Oct. 1, 1962, at datum 1.00 ft higher.

AVERAGE DISCHARGE (River only).--47 years (1922-69), 289 cfs (209,400 acre-ft per year).

(Combined river and diversion).--47 years (1922-69), 403 cfs (292,000 acre-ft per year).

EXTREMES (River only).--Current year: Maximum discharge, 4,280 cfs May 23 (gage height, 7.25 ft); minimum daily, 4.8 cfs Dec. 4, 7, 8, 9, Aug. 15.

Period of record: Maximum discharge, 17,400 cfs Dec. 23, 1964 (gage height, 10.92 ft), from rating curve extended above 6,300 cfs on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.3 cfs Nov. 9-11, 1928.

(Combined flow).--Current year: Maximum discharge, 4,420 cfs May 23; minimum daily, 21 cfs Oct. 27.

Period of record: Maximum discharge, 17,500 cfs Dec. 23, 1964; minimum daily, 10 cfs Oct. 17, 19, 1929.

REMARKS.--Records good. Flow at low and medium stages greatly regulated by four reservoirs since beginning of record (total usable capacity, 37,100 acre-ft). See schematic diagram of South Fork American River basin.

For records of combined discharge of river and canal, see following page. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Gage-height record, 14 discharge measurements for river; gage-height record, 11 discharge measurements for canal, and computations of daily discharges furnished by Pacific Gas and Electric Co.; one discharge measurement for river made and records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1445: 1923(M), 1925(M), 1927(M), 1928(river only), 1935-37(M). WSP 1515: 1928(combined). WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	29	5.2	7.0	292	92	1,100	1,640	3,100	659	5.5	7.2
2	5.3	175	5.2	6.5	258	82	993	1,530	3,180	724	34	7.2
3	5.5	753	5.0	5.0	226	85	776	1,290	3,160	713	28	7.4
4	5.5	169	4.8	14	211	78	764	1,180	2,990	680	21	7.4
5	5.5	102	5.0	6.8	204	69	943	1,540	2,930	654	8.1	7.4
6	5.5	81	5.0	7.9	202	62	747	2,050	2,750	608	6.4	7.4
7	5.5	24	4.8	12	179	58	613	2,420	2,430	565	5.5	7.7
8	5.5	5.3	4.8	9.7	159	55	569	2,770	2,010	541	5.3	10
9	5.5	16	4.8	5.2	147	54	569	3,160	1,770	546	5.3	7.4
10	5.5	24	18	6.8	139	53	584	3,360	1,480	537	5.3	7.7
11	5.5	5.2	43	6.1	139	49	788	3,420	1,440	532	5.0	7.7
12	5.9	137	28	5.7	141	48	1,010	3,260	1,470	510	5.0	7.7
13	6.3	27	23	124	121	48	1,040	3,250	1,640	537	5.0	7.7
14	11	5.2	25	184	124	47	931	3,000	1,640	519	5.2	7.7
15	5.3	5.0	37	99	139	55	776	2,720	1,750	471	4.8	7.7
16	5.2	5.0	29	45	145	75	794	2,860	1,840	415	6.8	8.7
17	5.2	5.2	43	29	124	87	961	3,310	1,480	347	7.9	8.9
18	5.2	182	52	41	119	110	1,140	3,330	1,570	283	7.9	7.9
19	5.2	179	60	1,010	112	122	1,170	2,970	1,520	199	7.9	8.1
20	5.2	66	57	1,920	107	131	1,400	2,750	1,440	236	7.7	7.9
21	41	39	61	1,820	101	128	1,690	2,770	1,300	229	7.7	8.4
22	33	13	79	836	93	130	1,870	3,130	1,260	219	7.9	8.4
23	26	28	47	598	95	175	1,730	3,380	1,240	224	7.7	8.4
24	24	10	58	484	95	195	1,300	3,330	1,170	199	7.4	7.2
25	22	5.2	54	1,140	117	214	1,060	3,080	1,040	151	7.4	13
26	22	5.0	43	1,700	109	275	967	3,200	867	124	11	7.2
27	21	5.0	44	849	93	378	993	3,200	736	110	7.9	6.1
28	22	6.3	42	603	92	510	1,230	2,790	588	93	7.7	5.9
29	23	5.9	36	455	-----	670	1,500	2,820	555	67	7.4	5.5
30	32	5.3	33	385	-----	913	1,610	2,930	565	25	7.4	6.1
31	33	-----	29	327	-----	1,120	-----	3,280	-----	5.9	7.2	-----
TOTAL	413.6	2,117.6	985.6	12,745.7	4,083	6,168	31,618	85,720	50,911	11,722.9	274.3	233.0
MEAN	13.3	70.6	31.8	411	146	199	1,054	2,765	1,697	378	8.85	7.77
MAX	41	753	79	1,920	292	1,120	1,870	3,420	3,180	724	34	13
MIN	5.2	5.0	4.8	5.0	92	47	569	1,180	555	5.9	4.8	5.5
AC-FT	820	4,200	1,950	25,280	8,100	12,230	62,710	170,000	101,000	23,250	544	462
CAL YR 1968	TOTAL 49,167.7			MEAN 134	MAX 1,250	MIN 4.1	AC-FT 97,520					
WTR YR 1969	TOTAL 206,992.7			MEAN 567	MAX 3,420	MIN 4.8	AC-FT 410,600					

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-21	0945	6.18	2,470	5-17	1845	7.24	4,250
1-26	0545	6.32	2,670	5-23	1800	7.25	4,280
4-21	2115	5.92	2,140	5-31	1745	7.15	4,080
5-10	1845	7.18	4,140	6-16	0030	6.38	2,760

11-4395. SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CALIF.--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SOUTH FORK AMERICAN RIVER
AND EL DORADO CANAL NEAR KYBURZ, CALIF., WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	29	155	111	407	236	1,230	1,770	3,240	815	166	157
2	124	175	147	110	374	226	1,120	1,670	3,320	880	194	154
3	129	753	148	112	349	229	899	1,430	3,300	872	188	156
4	126	169	147	132	338	222	887	1,320	3,130	840	151	159
5	131	102	154	141	331	213	1,070	1,680	3,070	814	148	156
6	129	81	153	148	329	207	870	2,190	2,890	768	141	161
7	125	68	152	155	305	202	736	2,560	2,570	725	132	165
8	121	121	154	152	289	199	692	2,910	2,150	701	140	172
9	117	170	150	137	279	198	692	3,300	1,910	705	153	156
10	113	178	165	129	273	198	707	3,500	1,620	697	151	160
11	109	123	185	136	278	194	913	3,560	1,580	692	150	157
12	110	290	170	148	279	193	1,140	3,400	1,610	670	160	161
13	122	180	165	253	261	193	1,170	3,390	1,780	697	146	161
14	146	134	167	314	264	192	1,060	3,140	1,790	679	163	155
15	121	135	176	234	279	200	905	2,860	1,900	631	163	147
16	112	152	162	184	285	220	923	3,000	1,990	575	161	153
17	108	150	162	164	263	232	1,090	3,450	1,640	507	159	158
18	104	301	164	176	258	255	1,270	3,470	1,720	443	156	142
19	100	280	161	1,130	251	267	1,300	3,110	1,680	359	162	155
20	97	167	165	2,040	246	276	1,540	2,890	1,600	396	160	160
21	56	139	177	1,940	240	273	1,820	2,910	1,460	389	157	154
22	33	122	199	950	232	274	2,000	3,270	1,420	379	161	150
23	26	180	171	713	234	320	1,860	3,520	1,400	384	158	163
24	24	164	183	599	235	339	1,440	3,470	1,330	359	154	163
25	22	155	178	1,260	261	359	1,200	3,220	1,200	311	152	176
26	22	140	167	1,820	253	420	1,100	3,340	1,020	284	176	169
27	21	137	169	960	237	522	1,130	3,340	892	270	160	169
28	22	156	167	717	236	654	1,360	2,930	743	251	157	167
29	23	153	161	571	-----	815	1,640	2,960	710	227	158	166
30	32	154	157	500	-----	1,050	1,750	3,070	721	182	162	170
31	33	-----	153	443	-----	1,250	-----	3,420	-----	155	159	-----
TOTAL	2,686	5,258	5,084	16,579	7,866	10,628	35,514	90,050	55,386	16,657	4,898	4,792
MEAN	86.6	175	164	535	281	343	1,184	2,905	1,846	537	158	160
MAX	146	753	199	2,040	407	1,250	2,000	3,560	3,320	880	194	176
MIN	21	29	147	110	232	192	692	1,320	710	155	132	142
AC-FT	5,330	10,430	10,080	32,880	15,600	21,080	70,440	178,600	109,900	33,040	9,720	9,500
CAL YR 1968	TOTAL	94,960	MEAN	259	MAX	1,400	MIN	21	AC-FT	188,400		
WTR YR 1969	TOTAL	255,398	MEAN	700	MAX	3,560	MIN	21	AC-FT	506,600		

SACRAMENTO RIVER BASIN

11-4400. ALDER CREEK NEAR WHITE HALL, CALIF.

LOCATION.--Lat 38°45'19", long 120°22'17", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on right bank 0.9 mile upstream from mouth, and 2.2 miles southeast of White Hall.

DRAINAGE AREA.--22.1 sq mi.

PERIOD OF RECORD.--October 1922 to current year (includes diversions by pipeline).

GAGE.--Water-stage recorder. Broad-crested weir with V-notch since Aug. 28, 1964. Altitude of gage is 3,840 ft (from topographic map). Prior to July 23, 1924, nonrecording gage at same site and datum.

AVERAGE DISCHARGE (including diversions by pipeline).--47 years, 37.5 cfs (27,170 acre-ft per year).

EXTREMES (Creek only).--Current year: Maximum discharge, 1,360 cfs Jan. 21 (gage height, 5.54 ft); minimum daily, 0.03 cfs Dec. 4, 5.

Period of record: Maximum discharge, 5,500 cfs Dec. 23, 1955 (gage height, 8.40 ft from floodmarks), from rating curve extended above 500 cfs; no flow at times in several years.

REMARKS.--Records good. Records include computed flow in feeder pipeline that was diverted 1,300 ft above station into El Dorado Canal from Oct. 14 to June 14.

COOPERATION.--Gage-height record, 13 discharge measurements, and computations of daily discharge furnished by Pacific Gas and Electric Co.; records reviewed by Geological Survey in connection with a Federal Power Commission project.

REVISIONS (WATER YEARS).--WSP 1215: 1928(M). WSP 1445: 1925(M), 1929, 1935-36(M), 1938(M), 1940-43(M), 1945(M). WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.6	4.4	11	132	35	232	237	111	11	2.3	1.4
2	.40	1.6	3.5	11	115	33	218	226	100	9.7	2.3	1.3
3	.37	41	3.4	11	104	33	189	210	93	8.9	2.3	1.3
4	.37	15	4.3	11	95	31	184	192	87	8.2	2.1	1.3
5	.37	9.2	4.7	13	90	31	223	204	81	7.5	2.1	1.2
6	.37	11	5.0	14	84	30	192	237	72	7.5	2.1	1.2
7	.40	5.2	5.0	17	75	29	162	270	64	6.9	2.1	1.4
8	.37	3.7	5.2	18	69	28	151	305	57	6.9	2.1	1.9
9	.40	3.6	6.0	17	66	27	145	332	53	6.3	1.9	1.8
10	.40	3.0	9.4	11	61	26	147	325	45	5.8	1.9	1.4
11	.42	2.8	12	17	62	26	174	322	46	5.8	2.1	1.2
12	.69	11	12	23	66	26	204	309	43	5.3	1.9	1.2
13	1.4	11	11	116	58	24	215	292	38	4.9	1.9	1.2
14	4.1	11	11	151	58	24	204	267	50	4.9	1.9	1.2
15	3.3	8.0	12	97	55	26	182	237	46	4.4	1.8	1.1
16	1.3	6.1	10	69	57	29	182	232	46	4.4	1.8	1.1
17	1.2	6.0	10	53	51	33	197	240	40	4.1	1.8	1.1
18	1.0	7.2	9.1	69	50	39	223	235	38	4.1	1.8	1.1
19	.92	6.5	9.1	513	47	44	226	215	34	3.7	1.8	1.1
20	.88	6.0	9.7	776	46	46	243	197	30	3.4	1.8	1.2
21	.54	10	9.2	862	44	46	280	184	27	3.4	1.8	1.2
22	.22	7.9	10	470	41	47	305	184	24	3.4	1.6	1.2
23	.20	7.0	11	305	44	57	305	184	22	3.1	1.6	1.2
24	.20	7.2	14	261	44	64	249	177	20	3.1	1.6	1.1
25	.19	7.1	19	531	47	72	212	162	19	2.8	1.6	1.1
26	.18	6.5	16	655	39	84	194	151	17	2.8	1.6	1.0
27	.18	6.0	14	410	37	100	189	143	15	2.8	1.4	.96
28	.17	5.8	13	299	36	122	204	130	14	2.8	1.4	.96
29	1.6	5.6	11	223	-----	151	226	122	13	2.6	1.4	.92
30	1.6	5.3	11	182	-----	192	235	120	11	2.6	1.4	.92
31	1.6	-----	10	149	-----	226	-----	116	-----	2.3	1.4	-----
TOTAL	25.74	238.9	295.0	6,365	1,773	1,781	6,292	6,757	1,356	155.4	56.6	36.26
MEAN	.83	7.96	9.52	205	63.3	57.5	210	218	45.2	5.01	1.83	1.21
MAX	4.1	41	19	862	132	226	305	332	111	11	2.3	1.9
MIN	.17	1.6	3.4	11	36	24	145	116	11	2.3	1.4	.92
AC-FT	51	474	585	12,620	3,520	3,530	12,480	13,400	2,690	308	112	72
CAL YR 1968	TOTAL	7,629.50	MEAN	20.8	MAX	239	MIN	.17	AC-FT	15,130		
WTR YR 1969	TOTAL	25,131.90	MEAN	68.9	MAX	862	MIN	.17	AC-FT	49,850		

PEAK DISCHARGE (BASE, 170 CFS, CREEK ONLY)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
1-13	1745	3.33	214	4- 5	1130	3.42	240
1-21	0915	5.54	1,360	4-21	2115	3.67	321
1-26	0500	4.82	858	5- 9	1745	3.76	353

11-4410.01, UNION VALLEY RESERVOIR NEAR RIVERTON, CALIF.

LOCATION.--Lat 38°51'52", long 120°26'19", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.20, T.12 N., R.14 E., El Dorado County, Eldorado National Forest, in valve control house near left bank at Union Valley Dam on Silver Creek, 0.6 mile upstream from Little Silver Creek, and 6.6 miles north of Riverton.

DRAINAGE AREA.--83.6 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--Current year: Maximum contents, 268,800 acre-ft July 8 (elevation, 4,869.2 ft); minimum, 99,100 acre-ft Mar. 25, 26 (elevation, 4,787.9 ft).
Period of record: Maximum contents, 270,400 acre-ft June 10, 1963 (elevation, 4,869.8 ft); minimum since reservoir first filled, 90,900 acre-ft Jan. 27, 1967 (elevation, 4,782.1 ft).

REMARKS.--Reservoir is formed by earthfill dam completed in December 1962. Storage began in May 1962. Usable capacity, 264,000 acre-ft between elevations 4,645.0 ft (minimum operating level) and 4,870.0 ft (top of radial spillway gates) above mean sea level. Dead storage, 7,000 acre-ft. Reservoir receives water from the South Fork Rubicon River via Robbs Peak powerplant (see sta 11-4298). Water is used for power development in the South Fork American River basin. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins and South Fork American River basin.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN THOUSANDS OF ACRE-FEET)

4,700	25.0	4,800	117.0
4,720	35.0	4,820	153.0
4,740	48.0	4,840	196.0
4,760	65.0	4,870	271.0
4,780	88.0		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179.5	167.3	155.1	136.8	168.8	124.7	105.8	143.5	223.7	265.3	260.2	223.7
2	178.6	167.5	154.3	135.9	167.3	122.9	107.6	145.1	226.3	265.6	258.8	222.4
3	177.7	170.0	153.2	135.0	165.8	121.0	108.3	146.2	229.7	265.9	259.1	221.4
4	176.9	169.8	152.1	134.3	163.5	118.8	109.0	147.1	232.6	267.2	257.8	220.3
5	176.2	169.2	151.2	134.6	162.0	116.8	110.4	148.9	235.4	267.5	256.4	219.0
6	176.0	168.3	150.3	133.9	160.8	115.5	110.8	151.6	238.0	268.6	255.1	217.6
7	175.5	167.5	149.2	132.8	159.1	113.8	111.0	154.7	240.9	268.6	253.7	217.3
8	175.3	166.4	149.0	132.3	157.6	112.4	111.9	158.0	244.0	268.8	252.4	215.8
9	174.9	165.6	148.3	131.4	155.7	111.0	112.6	161.4	246.4	268.6	251.0	214.3
10	174.4	165.8	147.6	130.5	154.0	109.5	113.0	165.0	247.8	268.3	251.0	212.9
11	174.2	166.0	148.0	130.1	152.1	108.2	113.8	168.3	248.9	268.0	249.9	211.4
12	174.4	165.8	147.6	130.5	150.5	107.2	115.4	171.3	249.9	268.0	248.3	210.1
13	174.7	165.0	146.5	131.6	148.9	106.2	117.0	174.0	251.3	268.3	246.7	208.8
14	174.0	164.3	145.8	133.0	147.6	105.3	118.4	176.4	252.1	268.0	245.1	208.3
15	173.8	163.5	146.3	132.7	146.3	104.2	119.0	178.0	253.4	267.8	243.5	206.6
16	173.4	162.7	145.4	132.5	145.3	103.5	119.0	180.4	254.3	267.5	241.9	204.8
17	173.6	162.7	144.5	132.1	143.8	102.8	120.4	183.5	257.0	267.0	241.7	203.3
18	173.6	162.4	143.8	132.8	142.6	102.0	122.4	186.8	258.3	266.7	240.6	201.5
19	173.4	162.2	143.1	138.2	140.9	101.4	123.8	189.4	259.7	266.7	239.1	200.0
20	173.4	161.4	142.4	146.0	139.5	100.9	125.6	190.9	260.5	267.2	237.5	198.2
21	172.5	160.6	141.3	153.0	137.9	100.7	128.2	193.4	260.7	267.0	235.9	197.8
22	172.5	159.7	140.8	156.6	136.1	100.00	130.9	196.4	261.6	266.4	234.4	196.0
23	172.3	158.9	140.0	157.8	134.5	99.80	133.4	199.3	262.4	265.9	232.6	194.2
24	171.9	159.3	139.7	159.1	133.0	99.30	134.3	202.2	262.6	265.3	232.8	192.5
25	171.5	158.5	140.2	163.5	131.4	99.10	135.4	204.6	263.4	264.5	231.5	190.3
26	170.8	157.6	139.5	167.7	129.8	99.10	136.1	207.0	263.7	264.2	230.0	188.3
27	170.8	156.6	138.6	169.6	128.2	99.30	136.8	209.4	263.7	264.8	228.4	186.3
28	170.0	156.8	137.9	171.3	126.5	99.90	138.2	211.4	264.0	264.0	226.6	185.9
29	169.6	155.9	138.1	171.9	-----	100.5	139.7	213.6	265.3	263.4	225.0	184.3
30	168.8	155.1	137.3	171.3	-----	102.0	141.5	217.3	265.3	262.6	223.5	184.6
31	168.1	-----	136.8	170.0	-----	104.0	-----	220.1	-----	261.6	223.7	-----
MAX	179.5	170.0	155.1	171.9	168.8	124.7	141.5	220.1	265.3	268.8	260.2	223.7
MIN	168.1	155.1	136.8	130.1	126.5	99.10	105.8	143.5	223.7	261.6	223.5	184.3
(a)	4,827.2	4,821.0	4,811.0	4,828.1	4,805.3	4,791.3	4,813.6	4,850.8	4,867.9	4,866.5	4,852.2	4,834.8
(b)	-12.8	-13.0	-18.3	+33.2	+43.5	-22.5	+37.5	+78.6	+45.2	-3.7	-37.9	-39.1

CAL YR 1968 b -3.1 MAX 233.3 MIN 128.5
WTR YR 1969 b +4.4 MAX 268.8 MIN 99.1

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

SACRAMENTO RIVER BASIN

11-4411. ICE HOUSE RESERVOIR NEAR KYBURZ, CALIF.

LOCATION.--Lat 38°49'26", long 120°21'34", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.1, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on left bank at Ice House Dam on South Fork Silver Creek, 0.5 mile upstream from Peavine Creek, and 4.8 miles northwest of Kyburz.

DRAINAGE AREA.--27.2 sq mi.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

EXTREMES.--Current year: Maximum contents, 45,500 acre-ft July 18, 19 (elevation, 5,449.4 ft); minimum, 7,990 acre-ft Apr. 15 (elevation, 5,375.3 ft).

Period of record: Maximum contents, 46,200 acre-ft Aug. 15, 1965 (elevation, 5,450.3 ft); minimum since reservoir first filled, 1,740 acre-ft Oct. 5-9, 1962 (elevation, 5,349.85 ft).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1959. Usable capacity, 45,800 acre-ft between elevations 5,327.5 ft (centerline of fishwater outlet) and 5,450.0 ft (top of spillway gates). Dead storage, 160 acre-ft. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin. Reservoir is used to store water for power development.

REVISIONS (WATER YEARS).--WRD Calif. 1967: 1960.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

5,349	1,600	5,400	17,600
5,350	1,760	5,420	27,400
5,360	3,840	5,450	46,000
5,380	9,600		

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.50	20.30	22.40	24.00	35.00	39.00	42.60	55.40	60.60	70.00	69.40	57.90
2	30.00	20.40	22.40	24.00	35.30	39.20	43.00	55.40	62.30	70.00	69.40	57.40
3	29.50	20.50	22.40	24.00	35.50	39.30	43.30	55.30	64.10	70.00	69.40	56.90
4	28.90	20.70	22.40	24.00	35.70	39.40	43.60	55.20	65.90	70.00	69.40	56.40
5	28.30	20.70	22.40	24.00	35.90	39.50	44.00	55.40	67.50	70.00	69.40	56.00
6	27.80	20.70	22.40	24.10	36.10	39.50	44.20	55.70	69.00	70.00	69.40	55.60
7	27.20	20.80	22.50	24.20	36.20	39.60	44.50	55.90	70.20	70.00	69.40	55.00
8	26.60	20.80	22.50	24.20	36.30	39.60	44.80	56.10	70.70	70.00	69.40	54.50
9	26.10	20.80	22.60	24.20	36.40	39.70	44.90	56.30	70.80	70.00	69.40	54.00
10	25.50	20.80	22.70	24.20	36.60	39.80	45.20	56.40	70.80	70.00	69.30	53.50
11	25.00	21.00	22.80	24.40	36.80	39.90	45.50	56.50	70.80	69.90	69.30	53.00
12	24.50	21.20	22.80	24.40	36.80	39.90	45.80	56.50	70.90	69.90	68.90	52.40
13	24.10	21.30	22.90	24.70	37.00	40.00	46.30	56.40	71.00	69.90	68.00	51.80
14	23.60	21.30	22.90	24.80	37.20	40.10	46.70	56.30	71.00	69.80	67.50	51.40
15	23.10	21.40	23.10	24.90	37.40	40.20	47.00	56.10	71.00	69.80	66.10	50.80
16	22.50	21.40	23.10	25.00	37.50	40.20	47.40	56.20	71.00	69.70	65.60	50.30
17	22.00	21.40	23.10	25.00	37.60	40.20	47.80	56.40	70.90	69.70	65.00	49.80
18	21.50	21.60	23.20	25.10	37.70	40.30	48.30	56.40	70.90	69.60	64.60	49.20
19	21.00	21.80	23.20	25.90	37.80	40.40	48.90	56.30	70.90	69.60	64.10	48.70
20	20.50	21.80	23.30	28.00	37.90	40.50	49.50	56.20	70.80	69.60	63.70	48.20
21	20.30	21.80	23.30	29.80	38.00	40.60	50.30	56.20	70.70	69.60	63.20	47.70
22	20.30	21.90	23.30	30.40	38.10	40.70	51.30	56.40	70.60	69.60	62.70	47.10
23	20.30	22.00	23.40	30.90	38.30	40.70	52.40	56.50	70.50	69.50	62.30	46.70
24	20.30	22.10	23.60	31.30	38.40	40.80	53.10	56.40	70.50	69.50	61.70	46.10
25	20.30	22.10	23.70	32.00	38.70	40.90	53.70	56.40	70.40	69.50	61.20	45.60
26	20.30	22.10	23.70	33.10	38.80	40.90	54.00	56.40	70.30	69.50	60.80	45.00
27	20.30	22.20	23.80	33.60	38.90	41.10	54.50	56.40	70.20	69.50	60.30	44.50
28	20.30	22.10	23.80	34.00	39.00	41.30	54.90	56.30	70.20	69.50	59.80	43.90
29	20.30	22.20	23.80	34.40	-----	41.50	55.10	56.30	70.00	69.40	59.30	43.40
30	20.30	22.30	23.90	34.60	-----	41.80	55.30	57.00	70.00	69.40	58.80	42.90
31	20.30	-----	23.90	34.90	-----	42.20	-----	58.90	-----	69.40	58.30	-----
MAX	30.50	22.30	23.90	34.90	39.00	42.20	55.30	58.90	71.00	70.00	69.40	57.90
MIN	20.30	20.30	22.40	24.00	35.00	39.00	42.60	55.20	60.60	69.40	58.30	42.90
(a)	5,978.7	5,982.1	5,984.6	5,999.4	6,004.3	6,008.0	6,022.2	6,025.9	6,036.8	6,036.2	6,025.3	6,008.8
(b)	-10,700	+2,000	+1,600	+11,000	+4,100	+3,200	+13,100	+3,600	+11,100	-600	-11,100	-15,400
CAL YR 1968	b	-8,600	MAX	69,900	MIN	20,300						
WTR YR 1969	b	+11,900	MAX	71,000	MIN	20,300						

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11-4415. SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CALIF.

LOCATION.--Lat 38°49'08", long 120°21'51", in NW¼NW¼ sec.12, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on right bank 300 ft upstream from Peavine Creek, 0.4 mile downstream from Ice House Dam, and 4.8 miles northwest of Kyburz.

DRAINAGE AREA.--27.5 sq mi.

PERIOD OF RECORD.--October 1924 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,290 ft (from topographic map). Prior to Oct. 1, 1959, at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE (adjusted for change in contents in Ice House Reservoir).--45 years, 74.4 cfs (53,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 545 cfs Mar. 11 (gage height, 4.55 ft); minimum daily, 5.7 cfs many days.

Period of record: Maximum discharge, 3,940 cfs Dec. 23, 1955 (gage height, 6.71 ft, site and datum then in use), from rating curve extended above 540 cfs on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of Ice House Dam in 1959, 802 cfs June 11, 1962 (gage height, 4.72 ft); minimum, 0.3 cfs Nov. 3, 1959.

REMARKS.--Records excellent. Flow regulated by Ice House Reservoir beginning in December 1959 (see sta 11-4411). See schematic diagram of South Fork American River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.1	6.3	5.7	7.9	6.8	300	6.3	13	72	12	11
2	10	5.7	6.0	5.7	7.7	6.8	300	8.8	232	47	12	11
3	10	7.1	6.0	5.7	7.4	6.5	300	11	427	46	12	11
4	10	6.0	6.0	5.7	7.7	6.5	300	11	427	46	12	11
5	10	5.7	6.0	5.7	7.7	6.5	300	11	433	46	12	11
6	10	6.0	6.0	5.7	7.7	6.5	295	11	433	46	12	11
7	173	6.8	6.0	5.7	7.4	6.5	295	11	433	46	12	11
8	320	7.4	6.0	5.7	7.1	6.5	295	11	433	26	12	11
9	295	7.4	6.0	5.7	7.1	6.5	290	11	433	11	12	12
10	240	7.4	6.5	5.7	7.1	6.5	290	12	445	12	12	11
11	75	7.4	6.3	6.3	7.1	172	295	12	452	12	12	11
12	10	7.4	6.0	6.5	7.4	295	305	12	452	12	12	11
13	10	7.1	6.0	8.2	7.1	300	305	12	363	12	12	11
14	10	7.1	6.0	7.7	7.4	300	305	12	305	12	12	11
15	9.9	7.7	6.3	6.5	7.1	300	187	154	305	12	12	11
16	9.9	7.7	6.0	6.3	7.1	295	6.8	305	305	12	12	11
17	10	7.7	5.7	6.3	7.1	295	7.7	305	305	12	12	11
18	10	7.7	5.7	6.8	7.4	295	7.7	305	305	46	12	11
19	10	6.8	6.0	12	7.4	295	6.8	305	305	81	12	11
20	10	6.8	5.7	16	7.4	295	6.8	305	240	81	12	11
21	10	6.8	5.7	16	7.4	295	7.7	310	199	81	12	11
22	10	6.8	5.7	9.2	7.4	290	7.1	310	199	86	12	11
23	10	6.8	5.7	8.2	7.1	290	6.8	310	199	89	12	11
24	10	6.8	6.3	8.5	7.1	290	6.8	315	125	87	12	11
25	10	6.8	6.3	14	7.1	290	6.8	315	79	87	12	11
26	10	6.5	6.0	12	7.1	295	6.5	315	81	87	12	11
27	10	6.5	6.0	8.5	6.8	300	6.5	315	81	87	12	11
28	10	6.3	6.0	8.2	6.8	305	6.8	325	81	87	12	11
29	11	6.0	6.0	7.9	-----	305	7.1	215	81	87	12	11
30	11	6.0	6.0	7.9	-----	300	7.1	13	81	43	12	11
31	10	-----	6.0	7.9	-----	300	-----	13	-----	12	12	-----
TOTAL	1,364.8	205.3	186.2	247.9	204.1	6,167.6	4,467.0	4,587.1	8,252	1,523	372	331
MEAN	44.0	6.84	6.01	8.00	7.29	199	149	148	275	49.1	12.0	11.0
MAX	320	7.7	6.5	16	7.9	305	305	325	452	89	12	12
MIN	9.9	5.7	5.7	5.7	6.8	6.5	6.5	6.3	13	11	12	11
AC-FT	2,710	407	369	492	405	12,230	8,860	9,100	16,370	3,020	738	657
MEAN a	.16	53.9	27.2	95.8	61.2	41.1	194	548	322	75.1	5.50	-2.40
AC-FT a	10	3,210	1,670	5,890	3,400	2,530	11,560	33,700	19,170	4,620	338	-143

CAL YR 1968 TOTAL 21,345.9 MEAN 58.3 MAX 478 MIN 5.1 AC-FT 42,340 MEAN a 48.3 AC-FT a 35,050
WTR YR 1969 TOTAL 27,908.0 MEAN 76.5 MAX 452 MIN 5.7 AC-FT 55,360 MEAN a 119 AC-FT a 85,960

a Adjusted for change in contents in Ice House Reservoir.

NOTE.--When inflow to reservoir is small and other quantities are large, discordant figures of net runoff may occur. Data for evaporation from Ice House Reservoir are not available.

SACRAMENTO RIVER BASIN

11-4419. SILVER CREEK BELOW CAMINO DIVERSION DAM, CALIF.

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., Placer County, Eldorado National Forest, on right bank 300 ft downstream from Round Tent Canyon, 0.4 mile downstream from diversion dam, and 5 miles northeast of Pollock Pines.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft above mean sea level (Sacramento Municipal Utility District bench mark).

AVERAGE DISCHARGE (unadjusted).--9 years, 131 cfs (94,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,020 cfs Jan. 21 (gage height, 7.75 ft), from rating curve extended as explained below; minimum daily, 7.0 cfs Dec. 8.

Period of record: Maximum discharge, 19,300 cfs Jan. 31, 1963 (gage heights, 11.28 ft in gage well, 11.9 ft, from floodmarks), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 4.6 cfs July 1, 1964.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin. Records not adjusted for diversions or changes in storage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	13	9.4	14	29	17	64	20	20	21	21	24
2	16	16	8.4	14	26	17	60	19	21	21	21	23
3	16	20	8.3	42	24	16	55	18	20	21	22	23
4	17	14	8.3	14	22	16	50	17	20	21	22	23
5	17	13	8.2	15	22	17	61	16	21	21	23	23
6	17	13	8.1	16	22	18	55	15	21	20	22	23
7	17	13	7.3	16	20	18	52	14	22	21	23	22
8	16	11	7.0	16	18	18	47	13	20	20	23	23
9	16	13	8.5	16	17	18	41	13	21	20	22	24
10	17	14	12	15	17	17	41	12	20	20	18	24
11	17	14	15	16	18	17	43	12	21	19	23	23
12	16	16	13	22	23	16	45	11	22	20	23	23
13	16	13	12	65	22	16	46	14	22	19	23	23
14	17	12	13	71	23	16	43	21	21	18	23	23
15	16	14	18	45	31	17	38	21	21	19	22	23
16	16	14	17	33	30	18	35	21	22	21	21	23
17	16	14	15	26	28	20	34	20	20	19	19	23
18	16	14	14	31	27	23	36	20	21	18	22	24
19	15	14	13	392	25	26	34	20	22	17	23	23
20	16	11	12	2,150	24	26	33	20	22	16	24	23
21	16	9.2	11	2,910	22	26	33	21	22	19	23	23
22	16	8.7	11	1,330	21	28	33	21	21	19	23	23
23	16	7.8	11	530	20	30	35	21	21	18	23	23
24	16	7.6	17	68	21	32	33	20	21	21	22	23
25	16	9.0	26	124	20	35	30	21	22	21	23	23
26	16	8.3	20	150	19	38	27	21	22	18	23	23
27	16	8.7	17	93	17	43	25	21	21	16	23	24
28	16	8.4	17	66	17	48	24	21	21	20	23	24
29	15	8.4	16	48	-----	53	22	21	21	19	23	23
30	15	8.7	15	38	-----	60	22	20	20	19	24	22
31	15	-----	14	33	-----	64	-----	21	-----	18	23	-----
TOTAL	499	360.8	402.5	8,419	625	824	1,197	566	632	600	693	694
MEAN	16.1	12.0	13.0	272	22.3	26.6	39.9	18.3	21.1	19.4	22.4	23.1
MAX	17	20	26	2,910	31	64	64	21	22	21	24	24
MIN	15	7.6	7.0	14	17	16	22	11	20	16	18	22
AC-FT	990	716	798	16,700	1,240	1,630	2,370	1,120	1,250	1,190	1,370	1,380
CAL YR 1968	TOTAL	6,004.3	MEAN	16.4	MAX	73	MIN	7.0	AC-FT	11,910		
WTR YR 1969	TOTAL	15,512.3	MEAN	42.5	MAX	2,910	MIN	7.0	AC-FT	30,770		

11-4435. SOUTH FORK AMERICAN RIVER NEAR CAMINO, CALIF.

LOCATION.--Lat 38°46'23", long 120°42'02", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.11 N., R.11 E., El Dorado County, on right bank 500 ft upstream from Iowa Canyon Creek, and 2.8 miles northwest of Camino.

DRAINAGE AREA.--493 sq mi.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the American River flume published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

GAGE.--Water-stage recorder. Altitude of gage is 1,620 ft (from topographic map). Nov. 1, 1950, to Dec. 5, 1951, nonrecording gage, Dec. 6, 1951, to May 27, 1964, water-stage recorder at site 100 ft downstream at different datum. May 28, 1964, to Oct. 11, 1966, at site 1,000 ft downstream at datum 11.37 ft lower.

AVERAGE DISCHARGE.--37 years (1922-59, prior to extensive regulation and transbasin diversion in South Fork American River basin), 961 cfs (695,700 acre-ft per year), combined flow of South Fork American River and American River flume.

EXTREMES.--Current year: Maximum discharge, 12,500 cfs Jan. 21 (gage height, 17.24 ft); minimum daily, 8.2 cfs Feb. 13.

Period of record: Maximum discharge, 49,800 cfs Dec. 23, 1955 (gage height, 32.6 ft from floodmarks, site and datum then in use), from rating curve extended above 24,000 cfs on basis of computation of maximum flow over dam; minimum daily, 1.3 cfs Aug. 24, 1931.

REMARKS.--Records good. Flow regulated principally by six reservoirs (total usable capacity, 347,000 acre-ft). Echo Lake conduit (see sta 11-4345) imports up to 1,900 acre-ft each year from Truckee River basin. Variable amounts of El Dorado Canal water (up to 40 cfs, May to October, and about 7 cfs remainder of the year) diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River basin by way of Robbs Peak tunnel (see sta 11-4298). See schematic diagram of South Fork American River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	23	11	11	11	30	60	65	290	55	33	29
2	28	16	11	11	10	30	58	65	182	37	34	29
3	28	267	11	11	10	29	57	64	938	37	34	30
4	28	11	11	11	9.2	38	57	61	727	37	34	29
5	28	11	11	11	8.7	35	57	62	503	37	34	29
6	28	11	11	11	8.7	28	57	65	522	36	34	30
7	28	11	11	11	8.7	27	57	69	260	35	34	29
8	28	11	11	11	8.7	27	56	72	90	36	34	28
9	28	11	11	11	8.7	28	55	77	85	36	34	27
10	28	11	11	11	8.7	29	55	82	84	36	34	26
11	28	11	11	11	8.7	29	55	677	81	36	35	27
12	27	11	11	11	8.5	29	56	1,640	79	35	35	26
13	27	11	11	12	8.2	29	56	1,470	77	35	35	26
14	27	11	11	12	21	28	57	1,410	78	36	35	26
15	27	11	11	11	32	28	67	1,060	79	36	35	27
16	27	11	12	11	33	28	78	995	78	36	35	27
17	27	11	12	11	34	30	77	1,300	77	36	35	27
18	27	11	12	12	34	30	77	1,490	74	35	35	27
19	27	11	12	12	34	30	76	1,250	75	35	35	27
20	27	11	11	5,890	34	30	74	910	74	35	34	27
21	27	11	11	9,770	34	29	75	876	74	35	34	27
22	27	11	11	3,430	34	30	76	960	74	35	34	28
23	27	11	11	631	34	30	77	1,310	74	35	34	29
24	27	11	11	20	34	31	77	1,340	73	35	33	29
25	27	11	12	675	35	31	76	1,170	74	35	33	29
26	27	11	12	3,730	34	31	74	1,170	74	35	33	29
27	27	11	12	952	33	31	71	1,190	74	35	28	29
28	27	11	11	20	32	31	67	910	77	35	28	29
29	27	11	11	12	-----	30	66	754	81	35	28	30
30	27	11	11	12	-----	30	65	218	82	34	28	29
31	27	-----	11	11	-----	47	-----	76	-----	34	28	-----
TOTAL	848	603	348	25,366	609.8	943	1,966	22,858	5,210	1,120	1,029	841
MEAN	27.4	20.1	11.2	818	21.8	30.4	65.5	737	174	36.1	33.2	28.0
MAX	28	267	12	9,770	35	47	78	1,640	938	55	35	30
MIN	27	11	11	11	8.2	27	55	61	73	34	28	26
AC-FT	1,680	1,200	690	50,310	1,210	1,870	3,900	45,340	10,330	2,220	2,040	1,670
CAL YR 1968	TOTAL 41,529		MEAN 113		MAX 1,440		MIN 11		AC-FT 82,370			
WTR YR 1969	TOTAL 61,741.8		MEAN 169		MAX 9,770		MIN 8.2		AC-FT 122,500			

SACRAMENTO RIVER BASIN

11-4445. SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CALIF.

LOCATION.--Lat 38°46'16", long 120°48'55", in SW $\frac{1}{4}$ sec.25, T.11 N., R.10 E., El Dorado County, on right bank 700 ft downstream from Chili Bar Dam, 0.5 mile upstream from Big Canyon, and 2.5 miles north of Placerville.

DRAINAGE AREA.--598 sq mi.

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft above mean sea level (levels by Pacific Gas and Electric Co.). Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.6 mile downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 18,500 cfs Jan. 21 (gage height, 14.45 ft); minimum daily, 99 cfs Oct. 29.

Period of record: Maximum discharge, 47,300 cfs Dec. 23, 1964 (gage height, 17.4 ft, from floodmarks), from rating curve extended above 17,000 cfs on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 cfs Nov. 12, 1964.

REMARKS.--Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project and reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	634	418	316	389	3,450	3,440	3,870	3,970	4,370	1,620	1,750	329
2	647	512	926	990	3,460	3,010	3,870	3,970	4,180	1,710	1,190	977
3	575	1,720	927	964	3,180	2,180	3,890	3,970	4,890	1,430	828	1,270
4	715	1,380	1,190	867	2,370	2,640	3,680	3,950	4,680	1,280	1,050	1,340
5	562	1,700	898	315	3,150	3,020	3,840	3,290	4,450	1,920	1,520	1,040
6	325	1,010	913	541	3,190	2,960	3,490	3,620	4,480	1,650	1,510	1,180
7	752	897	933	972	3,160	2,840	3,450	3,990	4,210	1,650	1,670	707
8	761	863	328	1,070	2,780	2,380	3,830	4,020	4,050	1,630	1,400	1,030
9	731	804	812	591	1,020	1,100	3,390	4,150	4,050	1,430	1,490	1,590
10	675	327	1,200	830	2,150	1,820	3,290	4,100	4,030	1,420	340	1,130
11	723	527	1,570	879	3,020	2,380	3,080	4,540	3,940	1,480	970	952
12	497	974	1,200	553	3,780	2,680	3,140	5,730	3,500	1,490	1,520	1,230
13	326	841	1,330	2,470	3,000	2,680	3,150	5,620	3,480	761	1,320	839
14	462	1,100	1,620	3,880	2,950	2,630	3,130	5,580	3,390	903	1,610	641
15	484	661	643	1,750	3,640	2,640	3,800	5,140	3,140	1,730	1,250	845
16	656	847	968	1,620	2,030	892	3,490	5,090	3,590	1,340	1,310	1,230
17	564	335	1,030	1,150	2,740	2,040	3,550	5,440	3,670	1,500	336	1,320
18	763	988	1,050	997	2,830	2,630	3,460	5,680	3,650	1,680	1,100	1,130
19	524	855	1,090	5,190	2,950	2,630	3,990	5,460	3,080	1,190	1,530	1,210
20	402	847	1,080	12,300	2,880	2,620	4,000	4,980	3,350	862	1,400	946
21	420	836	946	15,200	2,830	2,710	3,710	4,960	3,310	892	1,430	766
22	380	843	325	9,130	2,650	2,600	4,120	5,020	2,560	1,220	1,410	766
23	368	850	1,010	5,140	2,390	1,560	3,970	5,430	2,760	1,150	1,480	1,300
24	366	324	1,100	4,170	2,920	2,180	4,120	5,500	2,610	1,120	378	1,270
25	692	893	1,360	5,760	3,150	2,680	4,070	5,270	2,170	1,010	898	1,750
26	303	744	946	9,140	3,120	2,780	4,050	5,270	2,120	1,460	1,490	1,360
27	314	749	1,050	5,600	2,890	2,860	3,920	5,290	1,650	788	1,420	1,610
28	337	323	1,040	4,270	3,050	3,080	3,950	5,020	546	1,020	1,340	430
29	99	714	626	3,980	-----	3,530	3,950	4,780	359	1,230	1,450	1,050
30	118	746	1,050	3,870	-----	3,230	3,970	4,260	1,590	1,570	1,230	671
31	119	-----	952	3,830	-----	3,290	-----	4,120	-----	1,380	344	-----
TOTAL	15,294	24,628	30,429	108,408	80,730	79,712	111,220	147,210	97,855	41,516	37,964	31,909
MEAN	493	821	982	3,497	2,883	2,571	3,707	4,749	3,262	1,339	1,225	1,064
MAX	763	1,720	1,620	15,200	3,780	3,530	4,120	5,730	4,890	1,920	1,750	1,750
MIN	99	323	316	315	1,020	892	3,080	3,290	359	761	336	329
AC-FT	30,340	48,850	60,360	215,000	160,100	158,100	220,600	292,000	194,100	82,350	75,300	63,290
CAL YR 1968	TOTAL 330,702			MEAN 904	MAX 2,880	MIN 90	AC-FT 655,900					
WTR YR 1969	TOTAL 806,875			MEAN 2,211	MAX 15,200	MIN 99	AC-FT 1,600,000					

11-4455. SOUTH FORK AMERICAN RIVER NEAR LOTUS, CALIF.

LOCATION.--Lat 38°49'07", long 120°56'45", in SW¼ sec.11, T.11 N., R.9 E., El Dorado County, on left bank 0.4 mile downstream from Greenwood Creek, 2.4 miles northwest of Lotus, and 3.3 miles northwest of Coloma.

DRAINAGE AREA.--673 sq mi.

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 635 ft (from topographic map).

AVERAGE DISCHARGE.--11 years (1952-62, prior to extensive regulation and transbasin diversion), 1,109 cfs (802,900 acre-ft per year). 7 years (1963-69), 1,504 cfs (1,090,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 21,800 cfs Jan. 21 (gage height, 13.55 ft); minimum daily, 111 cfs Oct. 30.
Period of record: Maximum discharge, 71,800 cfs Dec. 23, 1955 (gage height, 21.37 ft); minimum daily, 50 cfs Oct. 21, 22, 1964.
Maximum stage known since 1862 and prior to beginning of record, 20.4 ft, from floodmarks, Nov. 21, 1950 (discharge, 64,500 cfs).

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	308	397	547	3,730	4,280	3,880	4,040	4,310	1,510	1,690	294
2	505	515	736	873	3,700	3,690	3,900	4,040	4,110	1,660	1,430	807
3	638	1,100	910	982	3,550	2,970	3,990	4,040	4,710	1,570	588	966
4	586	1,330	1,180	939	2,580	2,850	3,770	4,040	4,660	1,270	911	1,310
5	649	1,720	611	475	3,540	3,290	4,100	3,630	4,440	1,640	1,670	1,190
6	374	1,080	902	477	4,170	3,210	3,960	3,390	4,520	1,740	1,220	1,070
7	644	906	884	961	3,810	3,130	3,560	4,050	4,250	1,540	1,670	802
8	736	857	541	1,080	3,160	2,540	3,940	4,060	4,070	1,590	1,280	869
9	700	788	614	590	1,700	1,650	3,510	4,160	4,060	1,420	1,650	1,280
10	672	361	1,140	828	1,990	1,650	3,350	4,160	4,040	1,560	405	1,320
11	692	359	1,650	944	3,250	2,480	3,110	4,230	4,020	1,460	599	897
12	492	1,050	1,330	831	4,360	2,830	3,090	5,640	3,610	1,460	1,450	936
13	386	846	1,120	2,730	3,460	2,770	3,190	5,500	3,460	730	1,260	1,090
14	400	945	1,920	5,260	3,290	2,750	3,160	5,490	3,360	857	1,680	604
15	470	815	737	2,150	4,270	2,730	3,980	5,090	3,140	1,510	1,060	687
16	562	869	1,240	1,790	3,000	1,320	3,420	4,930	3,320	1,120	1,540	921
17	604	451	1,080	1,420	2,980	1,730	3,600	5,190	3,700	1,440	335	1,270
18	698	903	938	955	3,200	2,690	3,480	5,550	3,640	1,660	703	1,130
19	580	861	1,110	6,400	3,270	2,680	4,030	5,420	3,160	1,250	1,670	1,170
20	372	837	1,090	15,100	3,140	2,690	4,060	4,920	3,250	896	1,290	1,140
21	437	836	1,000	18,000	3,100	2,840	3,700	4,870	3,310	761	1,180	735
22	341	840	486	11,500	2,890	2,740	4,140	4,820	2,640	1,020	1,630	608
23	338	827	927	5,930	2,900	1,670	4,070	5,220	2,450	1,100	1,130	1,090
24	371	412	1,080	4,740	2,510	2,060	4,230	5,430	2,720	1,080	673	1,210
25	683	765	1,820	7,060	4,510	2,610	4,150	5,240	2,210	973	503	1,680
26	268	749	1,270	11,100	4,100	2,740	4,130	5,100	2,080	1,450	1,670	1,290
27	296	725	1,150	6,490	3,500	2,890	4,000	5,190	1,910	971	1,120	1,560
28	307	383	1,150	4,900	3,880	3,160	4,050	5,050	764	691	1,300	702
29	172	613	599	4,420	-----	3,530	3,950	4,700	331	1,180	1,370	726
30	111	729	1,160	4,230	-----	3,280	4,040	4,330	1,060	1,620	1,380	864
31	117	-----	991	4,130	-----	3,290	-----	4,090	-----	1,220	441	-----
TOTAL	14,674	23,780	31,763	127,832	94,540	84,740	113,540	145,610	97,305	39,949	36,498	30,218
MEAN	473	793	1,025	4,124	3,376	2,734	3,785	4,697	3,244	1,289	1,177	1,007
MAX	736	1,720	1,920	18,000	4,510	4,280	4,230	5,640	4,710	1,740	1,690	1,680
MIN	111	308	397	475	1,700	1,320	3,090	3,390	331	691	335	294
AC-FT	29,110	47,170	63,000	253,600	187,500	168,100	225,200	288,800	193,000	79,240	72,390	59,940
CAL YR 1968	TOTAL 329,112			MEAN 899	MAX 3,400	MIN 111	AC-FT 652,800					
WTR YR 1969	TOTAL 840,449			MEAN 2,303	MAX 18,000	MIN 111	AC-FT 1,667,000					

SACRAMENTO RIVER BASIN

11-4462. FOLSOM LAKE NEAR FOLSOM, CALIF.

LOCATION.--Lat 38°42'29", long 121°09'22", in NW¼NE¼ sec.24, T.10 N., R.7 E., Sacramento County, near center of dam on American River, 0.7 mile downstream from South Fork American River, and 2.3 miles northeast of Folsom.

DRAINAGE AREA.--1,861 sq mi.

PERIOD OF RECORD.--February 1955 to current year. Prior to October 1959, published as Folsom Reservoir near Folsom.

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

EXTREMES.--Current year: Maximum contents, 895,500 acre-ft Aug. 2 (elevation, 455.70 ft); minimum, 440,000 acre-ft Mar. 26, 27 (elevation, 406.48 ft).

Period of record: Maximum contents, 1,024,400 acre-ft June 15, 1963 (elevation, 467.23 ft); minimum since storage pool first filled, 261,500 acre-ft Jan. 7, 1960 (elevation, 378.23 ft).

REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft between elevations 205.5 ft (invert of lower tier of river outlets) and 466.0 ft (gross pool elevation), all of which is available for release. Spillway design flood pool elevation, 475.4 ft (capacity, 1,120,200 acre-ft). Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET)

370	222,300	420	548,300
380	270,700	440	732,900
390	327,800	460	942,600
400	393,300	480	1,176,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	552.2	579.1	594.2	596.3	566.5	601.9	461.0	584.2	747.0	863.6	894.5	875.7
2	553.5	582.3	592.0	592.6	566.0	600.1	467.6	587.1	748.7	866.0	895.5	874.5
3	554.8	590.5	591.4	591.1	567.8	595.1	472.6	589.2	752.5	868.1	894.7	872.5
4	556.1	593.5	591.2	589.2	566.8	587.9	475.5	590.0	756.6	869.3	894.5	871.1
5	557.3	598.1	590.1	586.4	571.3	580.7	486.0	591.2	759.8	870.4	894.8	870.8
6	556.6	601.1	589.2	583.3	582.4	573.0	495.2	592.2	765.1	872.1	894.3	869.0
7	556.4	601.1	589.0	581.5	589.0	564.3	500.1	596.3	768.3	873.5	894.7	866.6
8	557.9	602.8	586.6	580.6	590.9	554.0	504.3	600.9	771.5	875.4	894.4	864.3
9	559.4	603.8	583.7	578.6	590.1	542.2	506.2	607.1	774.6	877.1	894.7	862.4
10	560.8	602.9	584.1	577.2	587.8	529.2	507.7	614.9	777.6	879.3	892.8	861.0
11	562.7	602.1	587.6	577.3	591.5	519.5	509.2	623.7	779.2	881.3	890.8	858.9
12	564.3	604.1	589.6	578.0	604.3	512.7	511.9	636.1	781.5	882.9	890.4	856.6
13	564.5	606.7	590.3	597.4	610.7	505.2	515.1	644.7	783.6	883.3	888.1	853.9
14	565.0	608.8	593.9	629.8	615.3	497.7	517.8	653.3	786.4	883.5	888.2	849.2
15	566.9	610.2	595.0	637.3	628.4	490.0	520.8	659.4	789.0	884.8	887.4	846.2
16	568.8	610.0	598.6	635.1	632.1	479.7	521.8	664.8	793.5	885.5	887.8	844.0
17	570.9	607.7	600.1	628.7	629.7	471.6	523.5	671.4	801.6	886.9	885.5	842.6
18	572.6	606.7	601.0	622.6	626.7	469.2	526.7	680.2	809.4	888.7	883.6	841.0
19	573.9	607.4	601.8	668.6	622.0	464.8	531.0	687.5	816.2	889.6	884.1	839.5
20	573.8	607.7	602.9	760.0	616.0	461.6	535.0	692.0	823.0	889.8	884.3	837.5
21	573.9	607.5	603.3	789.7	609.3	459.1	539.8	696.5	831.2	889.5	884.0	833.4
22	575.1	607.2	602.6	739.2	601.4	455.4	547.1	700.1	837.5	889.8	884.3	829.0
23	575.4	606.1	602.4	658.4	596.8	450.6	556.1	706.8	842.9	889.8	883.6	827.4
24	575.8	603.9	603.9	640.0	595.2	445.1	562.7	714.4	848.4	889.8	882.2	826.1
25	576.2	602.3	613.4	647.1	599.7	441.9	566.6	721.2	852.8	890.2	879.6	826.1
26	575.7	602.0	617.8	665.0	600.9	440.0	569.4	725.7	856.7	891.1	880.1	825.3
27	575.2	601.5	617.4	634.9	598.0	440.0	570.8	730.0	860.1	891.1	880.2	823.6
28	574.7	599.8	614.3	601.5	598.8	441.6	574.1	734.1	861.4	890.5	880.0	819.9
29	575.8	597.8	609.5	589.3	-----	445.1	577.9	736.7	861.2	890.9	880.0	815.7
30	576.5	596.7	605.6	575.3	-----	447.9	581.0	739.8	861.7	892.3	880.0	813.6
31	577.4	-----	601.2	566.4	-----	453.9	-----	743.4	-----	893.0	878.1	-----
MAX	577.4	610.2	617.8	789.7	632.1	601.9	581.0	743.4	861.7	893.0	895.5	875.7
MIN	552.2	579.1	583.7	566.4	566.0	440.0	461.0	584.2	747.0	863.6	878.1	813.6
(a)	423.36	425.54	426.04	422.10	425.77	408.32	423.77	441.06	452.56	455.47	454.09	447.98
(b)	+26.0	+19.3	+4.5	-34.8	+32.4	-144.9	+127.1	+162.4	+118.3	+31.3	-14.9	-64.5
(c)	2,340	960	460	220	510	1,780	2,750	5,300	5,690	7,890	7,500	5,600
CAL YR 1968	b +47.1		MAX	778.5	MIN	537.6						
WTR YR 1969	b +262.2		MAX	895.5	MIN	440.0						

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

11-4465. AMERICAN RIVER AT FAIR OAKS, CALIF.

LOCATION.--Lat 38°38'08", long 121°13'36", in SE¼NE¼ sec.17, T.9 N., R.7 E., Sacramento County, on right bank 2,100 ft downstream from Nimbus Dam, 2.4 miles east of Fair Oaks, 8.1 miles downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.--1,888 sq mi.

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 77.53 ft above mean sea level. Prior to Nov. 7, 1930, nonrecording gages or water-stage recorders at several sites 2.2 miles downstream, all at datum 11.74 ft lower. Nov. 7, 1930, to Dec. 31, 1957, at site 2.2 miles downstream at datum 12.74 ft lower.

AVERAGE DISCHARGE.--65 years, 3,761 cfs (2,725,000 acre-ft per year), adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955.

EXTREMES.--Current year: Maximum discharge, 73,400 cfs Jan. 23 (gage height, 15.64 ft); minimum daily, 904 cfs Oct. 19.

Period of record: Maximum discharge, 180,000 cfs Nov. 21, 1950 (gage height, 31.85 ft, site and datum then in use); minimum, 3.6 cfs Aug. 16, 1924. Maximum discharge since construction of Folsom Dam in 1953, 115,000 cfs Dec. 23-25, 1964 (gage height, 21.65 ft); minimum, 86 cfs Apr. 7, 1955.

REMARKS.--Records excellent. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (see sta 11-4462). Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom powerplant re-regulated by Nimbus Reservoir (capacity, 2,800 acre-ft between normal operating elevations 118.5 and 125.0 ft) and powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, Cordova Water Service, city of Folsom, and State of California are made at Folsom Dam. Some inflow from Bear and Yuba River basins. Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	960	932	2,450	4,600	10,100	11,700	8,290	8,020	6,920	2,100	2,010	2,500
2	960	932	2,450	4,050	9,760	12,300	8,260	7,960	6,920	2,100	2,010	2,540
3	960	932	2,450	3,550	8,080	12,300	8,200	8,110	6,900	2,100	2,010	3,100
4	946	946	2,450	3,530	8,080	12,300	8,200	8,080	6,900	2,100	2,050	3,100
5	932	946	2,450	3,530	8,230	12,200	8,380	7,960	6,780	2,100	2,510	2,500
6	932	1,200	2,450	3,550	8,470	12,100	8,350	8,020	6,040	2,100	2,540	3,100
7	932	1,500	2,450	3,510	8,170	12,300	8,320	8,020	6,040	2,080	2,520	3,100
8	918	1,520	2,400	3,530	8,110	12,200	8,290	8,050	6,120	2,010	2,540	3,100
9	918	1,520	2,470	3,550	8,110	12,300	8,290	8,050	6,060	2,010	2,540	3,100
10	918	1,540	2,450	3,530	8,110	12,100	8,260	7,930	5,640	1,990	2,500	3,090
11	918	1,540	2,450	3,510	8,320	11,100	8,170	8,050	5,560	1,980	2,500	3,090
12	918	1,540	2,450	3,550	8,350	10,200	8,170	7,870	5,120	1,980	2,500	3,100
13	918	1,540	2,470	3,570	8,050	10,200	8,260	8,050	5,100	1,980	2,500	3,090
14	918	1,560	2,470	3,590	8,080	10,100	8,140	7,960	5,080	2,030	2,480	3,090
15	918	2,060	2,450	5,200	8,230	10,100	8,230	7,960	5,080	2,050	2,480	3,090
16	918	2,420	2,450	7,270	11,300	10,100	8,140	7,990	5,020	2,060	2,470	3,120
17	946	2,440	2,470	7,810	11,600	9,010	8,170	7,900	3,970	2,060	2,500	3,100
18	918	2,440	2,440	7,810	12,300	7,750	8,170	7,900	3,140	2,060	2,470	3,070
19	904	2,420	2,450	8,200	11,900	7,870	8,080	7,900	3,170	2,060	2,470	2,990
20	932	2,450	2,450	28,500	11,700	8,290	8,230	7,990	3,100	2,060	2,480	3,020
21	932	2,440	2,450	56,700	11,700	8,110	8,140	7,990	2,270	2,050	2,480	3,040
22	932	2,450	2,490	67,200	11,800	8,170	8,170	7,990	2,060	2,050	2,480	3,040
23	932	2,450	2,470	60,200	11,600	8,200	8,080	7,600	2,090	2,050	2,480	3,040
24	932	2,440	3,030	26,100	11,700	8,140	8,140	7,280	2,090	2,060	2,500	3,020
25	946	2,420	3,090	28,700	11,300	7,990	8,140	7,480	2,090	2,060	2,520	3,010
26	946	2,440	3,310	39,900	11,600	8,050	8,140	7,480	2,090	2,060	2,520	3,020
27	946	2,440	4,320	39,100	11,800	8,110	7,990	7,300	2,090	2,030	2,140	3,090
28	946	2,440	4,950	33,500	11,800	8,080	7,810	7,330	2,100	2,010	2,510	3,100
29	946	2,440	5,020	20,100	-----	8,140	7,960	7,480	2,120	2,010	2,510	3,100
30	946	2,450	5,050	19,500	-----	8,230	7,930	7,120	2,120	2,010	2,500	3,100
31	932	-----	4,980	15,300	-----	8,320	-----	6,900	-----	2,010	2,500	-----
TOTAL	28,920	56,788	90,180	522,240	278,350	306,060	245,100	241,720	129,780	63,410	75,220	90,550
MEAN	933	1,893	2,909	16,850	9,941	9,873	8,170	7,797	4,326	2,045	2,426	3,018
MAX	960	2,450	5,050	67,200	12,300	12,300	8,380	8,110	6,920	2,100	2,540	3,120
MIN	904	932	2,400	3,510	8,050	7,750	7,810	6,900	2,060	1,980	2,010	2,500
AC-FT	57,360	112,600	178,900	1,036M	552,100	607,100	486,200	479,500	257,400	125,800	149,200	179,600
MEAN a	1,476	2,284	3,030	16,330	10,210	7,588	10,410	10,620	6,524	2,812	2,430	2,136
AC-FT a	90,750	135,900	186,300	1,004M	587,300	466,600	619,300	653,200	388,200	172,900	149,400	127,100
(b)	5,050	3,000	2,450	2,350	2,290	2,650	3,320	6,110	6,810	7,880	7,580	6,390

CAL YR 1968 TOTAL 886,258 MEAN 2,421 MAX 8,230 MIN 904 AC-FT 1,758,000 MEAN a 2,619 AC-FT a 1,901,000
WTR YR 1969 TOTAL 2,128,318 MEAN 5,831 MAX 67,200 MIN 904 AC-FT 4,222,000 MEAN a 6,328 AC-FT a 4,581,000

a Adjusted for change in contents, diversions and evaporation from Folsom Lake.

b Diversion, in acre-feet, to Cordova Water Service, city of Folsom, San Juan Suburban Water District, and to State of California; furnished by Bureau of Reclamation.

SACRAMENTO RIVER BASIN

11-4473.6. ARCADE CREEK NEAR DEL PASO HEIGHTS, CALIF.

LOCATION.--Lat 38°38'28", long 121°22'38", in Del Paso Grant, Sacramento County, on right bank 1,200 ft upstream from bridge on Interstate Highway 80 and 1.6 miles east of city limits of Del Paso Heights.

DRAINAGE AREA.--31.5 sq mi.

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder and concrete low water control. Datum of gage is 47.98 ft above mean sea level (levels by County of Sacramento).

AVERAGE DISCHARGE.--6 years, 17.5 cfs (12,680 acre-ft-per year).

EXTREMES.--Current year: Maximum discharge, 1,570 cfs Jan. 13 (gage height, 12.55 ft); minimum daily, 0.28 cfs Dec. 7.
Period of record: Maximum discharge, 2,000 cfs Jan. 21, 1967 (gage height, 14.42 ft); no flow for several days in 1963-66.

REMARKS.--Records fair. Low summer flow sustained by residential and industrial waste water.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.2	2.0	1.1	5.2	321	1.7	1.9	3.1	4.0	3.3	3.5
2	1.7	23	.88	.95	4.4	49	2.0	2.0	3.0	3.4	3.1	3.5
3	3.7	229	.74	.88	4.3	40	6.3	2.3	2.8	3.8	3.2	3.7
4	2.6	30	.67	.88	3.9	10	2.4	2.3	3.1	3.5	3.4	3.3
5	2.5	4.0	.48	.95	227	6.3	124	2.4	3.2	3.4	3.2	3.1
6	2.7	2.0	.33	.74	443	4.7	47	2.6	2.8	3.2	3.5	3.0
7	2.6	1.5	.28	.88	41	4.2	6.7	2.5	2.6	3.8	4.2	3.2
8	1.8	1.2	.88	.88	11	3.4	3.8	2.2	3.0	3.9	5.0	2.4
9	1.6	1.1	.95	.60	47	4.5	3.1	2.3	2.8	3.4	4.9	3.1
10	1.9	1.0	26	.60	17	13	2.8	3.2	2.6	3.2	4.6	3.8
11	2.2	1.1	34	123	455	4.6	2.6	3.4	3.1	3.1	4.4	3.9
12	39	26	2.6	93	424	20	2.5	2.7	3.2	2.6	4.2	3.9
13	12	3.9	17	1,280	26	8.8	2.3	1.9	3.9	2.6	4.3	3.8
14	4.7	8.7	301	261	58	3.7	2.3	1.7	3.3	2.7	4.9	3.3
15	4.3	50	93	18	250	3.0	2.2	2.3	3.7	2.0	4.4	3.2
16	1.9	5.9	52	6.7	65	3.0	2.1	2.6	8.1	2.6	4.4	2.3
17	1.2	1.8	4.6	3.9	15	6.8	2.3	3.0	10	2.8	4.4	2.8
18	1.2	38	2.0	300	182	3.7	2.1	3.3	4.2	3.4	4.0	1.4
19	1.1	14	1.4	1,110	71	2.5	2.4	2.6	4.4	3.1	3.2	2.1
20	1.0	2.1	5.8	1,150	25	9.2	2.4	2.6	4.3	3.0	3.8	2.2
21	1.6	1.2	1.8	551	11	18	3.0	3.2	4.0	3.0	4.0	2.0
22	1.3	.81	2.1	209	7.3	3.5	3.1	2.8	4.2	3.3	3.9	2.5
23	.95	.60	4.8	27	260	2.5	78	3.0	4.4	3.2	3.7	2.4
24	1.2	2.7	61	172	362	2.2	13	2.5	4.9	3.2	3.0	2.5
25	1.7	1.7	126	860	384	1.9	2.6	2.8	4.6	2.6	2.6	2.5
26	1.7	.81	49	759	87	1.8	2.0	2.8	4.6	2.8	2.8	2.7
27	2.0	.48	5.7	41	21	1.8	2.1	2.3	5.0	3.3	3.2	3.0
28	1.7	.43	8.1	20	470	1.8	2.5	2.4	4.2	3.1	3.4	3.1
29	2.8	.54	4.3	10	-----	2.1	2.3	2.8	3.8	3.0	3.5	3.7
30	4.0	4.7	2.0	22	-----	2.0	2.3	3.0	3.9	3.2	3.3	2.4
31	2.0	-----	1.3	8.6	-----	2.0	-----	3.0	-----	2.8	3.4	-----
TOTAL	112.65	459.47	812.71	7,033.66	3,977.1	561.0	333.9	80.4	120.8	97.0	117.2	88.3
MEAN	3.63	15.3	26.2	227	142	18.1	11.1	2.59	4.03	3.13	3.78	2.94
MAX	39	229	301	1,280	470	321	124	3.4	10	4.0	5.0	3.9
MIN	.95	.43	.28	.60	3.9	1.8	1.7	1.7	2.6	2.0	2.6	1.4
AC-FT	223	911	1,610	13,950	7,890	1,110	662	159	240	192	232	175
CAL YR 1968	TOTAL	3,625.86	MEAN	9.91	MAX	301	MIN	.23	AC-FT	7,190		
WTR YR 1969	TOTAL	13,794.19	MEAN	37.8	MAX	1,280	MIN	.28	AC-FT	27,360		

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11- 3	0930	7.37	378	2- 6	1000	9.15	863
12-14	0430	8.99	634	2-11	2200	12.03	1,390
12-15	1700	6.31	253	2-15	1500	7.15	348
1-13	0630	12.55	1,570	2-18	1500	6.77	303
1-19	1000	11.98	1,370	2-23	1300	8.00	468
1-20	0400	12.04	1,390	2-24	1400	8.50	548
1-26	0400	12.34	1,490	2-28	1630	10.22	885
2- 5	1200	7.42	385				

11-4475. SACRAMENTO RIVER AT SACRAMENTO, CALIF.
(International Hydrological Decade Station)

LOCATION.--Lat 38°35'12", long 121°30'16", Sacramento County, on left bank 1,000 ft upstream from I Street Bridge, in city of Sacramento, and 0.5 mile downstream from American River.

DRAINAGE AREA.--23,530 sq mi.

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 15, 1912, nonrecording gage in vicinity of I Street Bridge. Oct. 15, 1912, to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to Nov. 16, 1956, datum of gages at low-water mark of Oct. 23, 1856, 0.12 ft above mean sea level, and 3.10 ft above datum of Corps of Engineers. Auxiliary water-stage recorder on right bank 10.8 miles downstream near Freeport.

AVERAGE DISCHARGE.--21 years (1948-69), 23,380 cfs (16,940,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 95,500 cfs Jan. 21 (elevation, 28.18 ft); minimum daily, 10,300 cfs Oct. 9, 10; minimum elevation, 2.50 ft Oct. 10.

1948 to current year: Maximum discharge, 104,000 cfs Nov. 21, 1950 (elevation, 30.14 ft, site and datum then in use); minimum daily, 5,590 cfs July 20, 1949.

Maximum discharge known prior to Nov. 21, 1950, 103,000 cfs Jan. 17, 1909 (elevation, 29.6 ft, present datum), from reports of California Department of Water Resources.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas. A portion of the flow bypasses station during flood periods through Yolo bypass (see sta 11-4280, 11-4530). Records of chemical analyses, water temperatures, and suspended-sediment loads at or near this gaging station for the water year 1969 are published in Part 2 of this report.

COOPERATION.--Records collected and prepared in cooperation with the California Department of Water Resources.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12,800	12,300	13,400	34,500	72,900	74,600	38,000	41,700	35,200	15,500	15,400	21,600
2	12,900	12,200	13,700	30,200	72,200	73,800	39,400	40,700	34,600	15,400	15,500	21,700
3	12,700	12,600	13,700	26,800	69,100	73,100	40,200	39,600	34,000	15,000	15,500	22,100
4	12,200	12,600	13,500	24,400	67,000	72,200	42,700	35,500	32,100	14,500	15,600	22,700
5	11,600	12,800	13,300	22,900	66,100	70,800	46,500	33,300	29,900	13,900	16,100	22,500
6	11,200	12,900	13,400	22,200	67,400	69,400	49,800	32,700	27,900	13,700	17,100	22,600
7	10,800	13,000	13,200	21,600	67,900	67,900	52,800	32,700	26,900	13,600	17,500	22,400
8	10,500	12,900	13,300	21,100	67,200	65,800	54,400	31,800	26,400	14,000	17,300	21,600
9	10,300	12,700	13,300	20,400	67,100	62,900	54,600	31,500	25,400	14,000	17,900	21,400
10	10,300	12,700	13,700	19,600	67,100	59,500	54,000	32,400	24,400	13,700	18,000	21,200
11	10,400	12,500	15,300	19,000	68,100	55,400	52,600	34,000	24,300	13,700	17,500	21,200
12	10,800	12,800	22,600	19,400	71,400	50,300	50,400	36,000	23,800	13,800	17,700	21,100
13	11,100	12,700	26,400	30,800	71,600	46,100	49,400	37,300	23,600	13,700	18,200	21,000
14	11,600	13,000	24,100	51,000	71,600	44,000	48,700	38,000	23,500	13,900	18,400	21,100
15	12,500	14,100	23,100	62,000	73,200	41,600	48,100	40,300	23,400	14,000	18,400	21,200
16	12,600	14,500	27,600	68,400	76,300	39,900	47,400	44,500	23,100	13,800	18,400	21,200
17	12,500	14,900	31,000	69,300	76,900	38,400	46,300	45,700	22,300	13,600	18,400	21,500
18	12,300	14,800	30,500	67,400	76,900	36,700	44,600	46,600	20,900	13,600	18,800	21,500
19	11,900	14,700	26,600	68,500	76,400	36,600	43,100	48,500	20,100	13,400	18,800	21,300
20	11,800	15,100	23,900	78,500	75,100	37,500	42,600	49,800	19,600	13,300	19,000	21,400
21	11,900	15,100	21,400	93,500	73,800	38,900	41,300	50,200	18,900	13,500	18,900	21,200
22	11,700	15,200	19,600	95,200	73,000	40,500	40,400	50,100	18,500	13,700	19,000	20,900
23	11,500	14,500	18,400	94,400	72,400	42,900	39,600	49,500	18,500	13,500	19,500	20,500
24	11,500	14,100	18,100	83,300	73,500	43,100	39,700	48,000	18,300	14,100	19,700	20,300
25	11,200	14,200	21,800	81,800	74,800	41,500	40,400	46,000	17,500	14,700	19,700	19,900
26	11,400	14,000	33,200	87,600	75,100	38,500	41,300	44,600	17,100	15,000	19,700	19,600
27	11,400	14,100	38,000	87,000	73,400	36,300	43,100	42,700	16,400	15,000	19,800	19,600
28	11,300	14,000	39,100	85,100	72,700	35,400	43,300	40,800	16,000	15,200	20,100	19,600
29	11,800	13,700	38,100	78,400	-----	35,300	43,200	39,900	15,600	15,300	20,500	18,700
30	11,900	13,400	39,000	77,200	-----	35,900	42,600	38,000	15,500	15,300	21,000	17,900
31	12,100	-----	38,700	76,000	-----	36,800	-----	36,400	-----	15,300	21,300	-----
TOTAL	360,500	408,100	711,000	1,717.5M	2,010.2M	1,541.6M	1,360.5M	1,258.8M	693,700	440,700	568,700	630,500
MEAN	11,630	13,600	22,940	55,400	71,790	49,730	45,350	40,610	23,120	14,220	18,350	21,020
MAX	12,900	15,200	39,100	95,200	76,900	74,600	54,600	50,200	35,200	15,500	21,300	22,700
MIN	10,300	12,200	13,200	19,000	66,100	35,300	38,000	31,500	15,500	13,300	15,400	17,900
AC-FT	715,000	809,500	1,410M	3,407M	3,987M	3,058M	2,699M	2,497M	1,376M	874,100	1,128M	1,251M
CAL YR 1968	TOTAL	6,758,080	MEAN	18,460	MAX	66,600	MIN	9,780	AC-FT	13,400,000		
WTR YR 1969	TOTAL	11,701,800	MEAN	32,060	MAX	95,200	MIN	10,300	AC-FT	23,210,000		

SACRAMENTO RIVER BASIN

11-4485, ADOBE CREEK NEAR KELSEYVILLE, CALIF.

LOCATION (revised).--Lat 38°55'37", long 122°52'47", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.32, T.13 N., R.9 W., Lake County, on left bank 2.3 miles upstream from Highland Creek, and 4.2 miles southwest of Kelseyville.

DRAINAGE AREA.--6.36 sq mi.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,476.06 ft above mean sea level.

AVERAGE DISCHARGE.--15 years, 12.2 cfs (8,840 acre-ft per year); median of yearly mean discharges, 10 cfs (7,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs Jan. 13 (gage height, 7.94 ft); no flow for several months.

Period of record: Maximum discharge, 1,500 cfs Dec. 22, 1964 (gage height, 9.11 ft); maximum gage height, 9.22 ft Jan. 31, 1963; no flow at times in each year.

REMARKS.--Records good above 10 cfs and fair below. Some regulation and diversions above station for irrigation of about 200 acres.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.50	.66	9.4	28	94	3.3	4.8	.72	0	0	0
2	0	1.1	.60	7.1	24	63	8.2	4.5	.90	0	0	0
3	0	.60	.58	5.7	21	43	5.3	4.1	.83	0	0	0
4	0	.29	.56	4.9	22	32	5.3	3.9	.78	0	0	0
5	0	.22	.52	4.9	103	26	40	3.6	.85	0	0	0
6	0	.18	.54	4.1	130	20	19	3.3	.95	0	0	0
7	0	.22	.68	4.1	57	17	14	3.1	1.1	0	0	0
8	0	.20	1.3	3.3	66	14	11	2.9	1.2	0	0	0
9	0	.18	2.6	3.0	232	13	11	2.7	1.3	0	0	0
10	0	.17	160	3.0	90	11	10	2.6	1.5	0	0	0
11	.25	.16	22	124	206	9.4	9.0	2.5	1.6	0	0	0
12	.70	.36	9.4	260	100	9.4	8.0	2.3	1.3	0	0	0
13	.40	.30	22	457	51	8.2	7.5	2.2	1.0	0	0	0
14	.30	1.0	41	80	48	7.1	7.0	2.1	.85	0	0	0
15	.17	1.2	217	35	85	6.6	6.5	2.0	.74	0	0	0
16	.07	.50	32	22	56	6.1	6.1	2.0	.65	0	0	0
17	0	.58	12	16	40	7.6	5.8	1.9	.57	0	0	0
18	0	.75	7.1	48	31	6.1	5.5	1.9	.50	0	0	0
19	0	.65	5.7	187	23	5.7	5.2	1.8	.45	0	0	0
20	0	.58	4.1	381	18	6.1	5.0	1.7	.40	0	0	0
21	0	.50	3.0	472	15	8.2	4.7	1.5	.36	0	0	0
22	0	.42	2.7	112	16	6.1	4.5	1.4	.32	0	0	0
23	0	.45	69	51	39	5.3	20	1.3	.28	0	0	0
24	0	.56	136	35	76	4.9	13	1.4	.24	0	0	0
25	0	.68	112	162	66	4.9	9.0	1.6	.20	0	0	0
26	0	.60	53	207	43	4.5	7.5	1.7	.18	0	0	0
27	0	.51	29	69	64	4.5	7.0	1.9	.15	0	0	0
28	0	.42	37	42	163	4.1	6.4	1.3	.13	0	0	0
29	.20	.55	22	34	-----	3.7	5.8	1.0	.10	0	0	0
30	.90	.72	15	31	-----	3.7	5.3	.90	.05	0	0	0
31	.65	-----	12	23	-----	3.7	-----	.80	-----	0	0	-----
TOTAL	3.64	15.15	1,031.04	2,897.5	1,913	458.9	275.9	70.70	20.20	0	0	0
MEAN	.12	.51	33.3	93.5	68.3	14.8	9.20	2.28	.67	0	0	0
MAX	.90	1.2	217	472	232	94	40	4.8	1.6	0	0	0
MIN	0	.16	.52	3.0	15	3.7	3.3	.80	.05	0	0	0
AC-FT	7.2	30	2,050	5,750	3,790	910	547	140	40	0	0	0
CAL YR 1968	TOTAL 3,982.38	MEAN 10.9	MAX 639	MIN 0	AC-FT 7,900							
WTR YR 1969	TOTAL 6,686.03	MEAN 18.3	MAX 472	MIN 0	AC-FT 13,260							

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1030	6.66	536	1-21	0315	7.51	860
12-15	0915	7.28	767	1-25	2315	7.53	869
1-13	0600	7.94	1,050				

11-4489. HIGHLAND CREEK ABOVE HIGHLAND CREEK DAM, CALIF.

LOCATION.--Lat 38°55'48", long 122°55'11", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.36, T.13 N., R.10 W., Lake County, on left bank 100 ft downstream from Pipeline Creek, 1.7 miles upstream from Highland Creek Dam, and 5.7 miles southwest of Kelseyville.

DRAINAGE AREA.--11.9 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,490.07 ft above mean sea level.

AVERAGE DISCHARGE.--7 years, 20.6 cfs (14,920 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,430 cfs Dec. 15 (gage height, 7.95 ft); no flow for many days.
Period of record: Maximum discharge, 3,080 cfs Dec. 22, 1964 (gage height, 12.15 ft); no flow at times in each year.

REVISIONS.--The maximum discharge for the water year 1968 has been revised to 1,810 cfs Jan. 29, 1968 (gage height, 8.70 ft), superseding figure published in WRD Calif. 1968.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.94	1.3	14	71	174	8.8	6.5	2.2	.76	.02	0
2	.08	2.6	1.3	12	53	125	13	6.2	2.2	.70	0	0
3	.08	1.7	1.1	11	43	89	11	6.2	2.1	.70	0	0
4	.10	1.2	1.1	9.2	40	65	11	6.2	2.1	.70	0	0
5	.12	.81	1.0	8.0	138	51	53	5.6	2.2	.64	0	0
6	.15	.54	1.0	7.2	240	41	31	5.3	2.2	.64	0	0
7	.15	.54	1.1	6.5	105	35	22	5.3	2.2	.59	0	0
8	.15	.50	1.6	6.2	109	30	17	5.0	2.2	.54	0	0
9	.15	.50	3.3	5.6	276	27	17	5.0	2.5	.50	0	0
10	.15	.50	230	5.0	150	24	14	4.7	2.5	.50	0	0
11	.38	.92	39	77	401	22	12	4.5	2.4	.46	0	0
12	.87	1.5	15	394	188	22	11	4.5	2.2	.42	0	0
13	.84	.76	48	696	94	19	10	4.5	2.1	.38	0	0
14	.72	2.5	71	162	89	17	9.6	4.5	1.8	.34	0	0
15	.65	4.7	438	68	179	16	8.8	4.2	1.6	.34	0	0
16	.62	1.9	58	41	111	15	8.0	3.7	1.5	.30	0	.01
17	.58	1.3	25	28	77	16	8.0	3.5	1.4	.27	0	0
18	.48	1.9	16	107	59	14	7.6	3.5	1.5	.21	0	.04
19	.45	1.7	11	387	45	13	6.8	3.4	1.5	.18	0	.10
20	.44	1.3	8.0	552	36	14	6.8	3.3	1.4	.15	0	.10
21	.44	1.0	5.9	750	31	17	6.5	3.1	1.5	.12	0	.12
22	.43	.92	5.3	310	31	13	6.5	3.1	1.2	.10	0	.06
23	.43	.84	132	133	71	12	22	2.9	1.1	.08	0	.03
24	.46	1.9	366	75	159	11	19	2.9	1.1	.08	0	.03
25	.42	2.2	207	263	150	11	10	2.9	1.1	.12	0	.02
26	.43	1.4	111	365	96	11	9.2	3.3	1.1	.12	0	.01
27	.45	1.2	59	134	143	10	8.4	3.1	1.1	.09	0	0
28	.48	1.0	59	89	288	10	7.6	2.7	1.1	.06	0	0
29	.78	1.1	39	63	-----	9.6	7.2	2.5	1.0	.05	0	0
30	.95	1.5	25	59	-----	9.2	6.8	2.4	.92	.04	0	.01
31	.84	-----	20	48	-----	8.8	-----	2.2	-----	.03	0	-----
TOTAL	13.35	41.37	2,001.0	4,885.7	3,473	951.6	389.6	126.7	51.02	10.21	0.02	0.53
MEAN	.43	1.38	64.5	158	124	30.7	13.0	4.09	1.70	.33	.0006	.018
MAX	.95	4.7	438	750	401	174	53	6.5	2.5	.76	.02	.12
MIN	.08	.50	1.0	5.0	31	8.8	6.5	2.2	.92	.03	0	0
AC-FT	26	82	3,970	9,690	6,890	1,890	773	251	101	20	.04	1.1

CAL YR 1968 TOTAL 7,257.49 MEAN 19.8 MAX 822 MIN 0 AC-FT 14,400
WTR YR 1969 TOTAL 11,944.10 MEAN 32.7 MAX 750 MIN 0 AC-FT 23,690

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-10	1000	6.66	804	1-21	0045	7.67	1,290
12-15	0900	7.95	1,430	1-25	2330	7.62	1,260
12-24	0615	6.62	788	2-11	0715	6.48	732
1-13	0900	7.43	1,170				

SACRAMENTO RIVER BASIN

11-4490.1. HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CALIF.

LOCATION.--Lat 38°56'54", long 122°54'03", in NE $\frac{1}{4}$ sec.30, T.13 N., R.9 W., Lake County, on left bank 500 ft downstream from Highland Creek Dam, and 4.0 miles southwest of Kelseyville.

DRAINAGE AREA.--14.2 sq mi.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,416.52 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 576 cfs Jan. 21 (gage height, 4.67 ft); no flow for many days.
Period of record: Maximum discharge, 576 cfs Jan. 21, 1969 (gage height, 4.67 ft); maximum gage height, 4.99 ft Jan. 4, 1966; no flow for many days in each year.

REMARKS.--Records fair. Flow completely regulated by Highland Creek Dam 500 ft upstream (capacity, 3,500 acre-ft). No diversion above station. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	20	73	251	5.4	6.4	0	.01	.05	.01
2	0	0	0	16	57	146	6.8	6.4	0	.01	.05	.02
3	0	0	0	12	48	113	9.8	5.4	0	.01	.05	.01
4	0	0	0	11	43	82	7.2	5.7	0	.01	.05	.02
5	0	0	0	8.4	130	63	44	6.0	0	.02	.05	.02
6	0	0	0	7.8	295	52	42	5.7	0	.02	.05	.02
7	0	0	0	7.2	126	44	27	5.1	0	.01	.03	.02
8	0	0	0	6.8	107	40	21	4.8	0	.02	.07	.02
9	0	0	0	6.4	213	34	19	5.4	0	.05	.23	.03
10	0	0	171	6.0	449	31	16	5.1	0	.03	.28	.03
11	0	0	52	48	510	26	12	4.8	0	.03	.28	.05
12	0	0	16	364	266	25	11	4.8	0	0	.33	.07
13	0	.12	19	557	123	23	9.8	4.8	0	0	.44	.09
14	0	0	82	465	78	20	9.0	4.8	0	0	.44	.09
15	0	0	388	88	202	18	8.4	4.6	.03	.03	.44	.09
16	0	0	129	49	131	16	8.4	4.3	.15	.05	.33	.12
17	0	0	34	34	96	18	7.8	4.1	.19	0	.33	.12
18	0	0	19	84	75	16	7.2	3.6	.12	0	.33	.12
19	0	0	12	413	57	14	6.8	3.8	0	0	.33	.12
20	0	0	8.4	510	48	14	6.4	2.0	0	.01	.33	.15
21	0	0	6.4	567	41	19	6.4	0	.01	.01	.33	.15
22	0	0	4.8	562	37	15	5.7	0	.01	.01	.33	.15
23	0	0	91	365	84	11	22	0	.01	.01	.09	.12
24	0	0	406	78	170	9.8	26	0	.01	.01	.02	.12
25	0	0	247	180	169	8.4	15	0	.02	.02	.01	.12
26	0	0	163	475	113	7.8	9.8	0	.02	.03	.01	.09
27	0	0	67	179	124	7.2	9.0	0	.02	.09	0	.09
28	0	0	65	96	317	6.8	7.8	0	.01	.09	0	.09
29	0	0	46	72	-----	6.0	7.2	0	.01	.09	0	.09
30	0	0	34	67	-----	6.0	6.4	0	.01	.07	0	.09
31	0	-----	24	54	-----	5.7	-----	0	-----	.05	.01	-----
TOTAL	0	0.12	2,084.6	5,408.6	4,182	1,148.7	400.3	97.6	0.62	0.79	5.29	2.33
MEAN	0	.004	67.2	174	149	37.1	13.3	3.15	.021	.026	.17	.078
MAX	0	.12	406	567	510	251	44	6.4	.19	.09	.44	.15
MIN	0	0	0	6.0	37	5.7	5.4	0	0	0	0	.01
AC-FT	0	.2	4,130	10,730	8,290	2,280	794	194	1.2	1.6	10	4.6
CAL YR 1968	TOTAL	7,445.36		MEAN 20.3	MAX 562	MIN 0		AC-FT 14,770				
WTR YR 1969	TOTAL	13,330.95		MEAN 36.5	MAX 567	MIN 0		AC-FT 26,440				

11-4491. SCOTTS CREEK NEAR LAKEPORT, CALIF.

LOCATION.--Lat 39°05'44", long 122°57'38", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.3, T.14 N., R.10 W., Lake County, on left bank at upstream side of Eickhoff Road bridge, 0.9 mile downstream from small right-bank tributary, and 4.2 miles northwest of Lakeport. Prior to Oct. 1, 1968, at site 3.0 miles upstream.

DRAINAGE AREA.--55.2 sq mi.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map). Prior to Oct. 1, 1968, at site 3.0 miles upstream at different datum.

AVERAGE DISCHARGE.--9 years, 77.9 cfs (56,440 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,540 cfs Jan. 13 (gage height, 12.44 ft); no flow for several months.

Period of record: Maximum discharge, 8,680 cfs Dec. 22, 1964 (gage height, 17.88 ft, site and datum then in use); no flow for several months in each year.

REMARKS.--Small diversions above station for irrigation.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	101	365	849	33	22	.70	0	0	0
2	0	0	0	80	345	632	36	22	.70	0	0	0
3	0	0	0	65	271	544	40	20	.60	0	0	0
4	0	0	0	55	228	418	33	20	.60	0	0	0
5	0	0	0	49	358	345	79	19	.50	0	0	0
6	0	0	0	41	777	283	72	17	.50	0	0	0
7	0	0	0	38	728	228	58	16	.50	0	0	0
8	0	0	0	35	559	192	51	15	.60	0	0	0
9	0	0	0	31	1,660	161	53	16	.60	0	0	0
10	0	0	586	29	897	142	49	16	.60	0	0	0
11	0	0	183	262	1,490	122	42	14	.50	0	0	0
12	0	0	79	1,090	1,060	110	39	14	.50	0	0	0
13	0	0	67	2,260	552	98	38	13	.40	0	0	0
14	0	0	287	826	454	86	35	13	.30	0	0	0
15	0	0	967	422	950	78	32	13	.20	0	0	0
16	0	0	318	259	684	73	30	12	.20	0	0	0
17	0	0	125	182	454	80	29	9.7	.10	0	0	0
18	0	0	76	346	332	73	28	7.7	.20	0	0	0
19	0	0	54	1,400	245	66	26	7.7	.30	0	0	0
20	0	0	37	2,190	186	66	24	7.4	.20	0	0	0
21	0	0	27	2,380	152	68	23	6.8	.30	0	0	0
22	0	0	25	1,160	135	58	22	5.9	.20	0	0	0
23	0	0	873	559	159	53	45	4.0	.10	0	0	0
24	0	0	1,870	398	395	50	59	3.4	.10	0	0	0
25	0	0	1,320	513	465	45	40	4.2	0	0	0	0
26	0	0	699	1,450	377	43	33	3.8	0	0	0	0
27	0	0	362	740	472	41	30	3.6	0	0	0	0
28	0	0	361	514	1,240	38	27	3.0	0	0	0	0
29	0	0	250	361	-----	36	25	1.8	0	0	0	0
30	0	0	174	297	-----	35	24	1.3	0	0	0	0
31	0	-----	129	242	-----	34	-----	.90	-----	0	0	-----
TOTAL	0	0	8,869	18,375	15,990	5,147	1,155	333.20	9.50	0	0	0
MEAN	0	0	286	593	571	166	38.5	10.7	.32	0	0	0
MAX	0	0	1,870	2,380	1,660	849	79	22	.70	0	0	0
MIN	0	0	0	29	135	34	22	.90	0	0	0	0
AC-FT	0	0	17,590	36,450	31,720	10,210	2,290	661	19	0	0	0
CAL YR 1968	TOTAL	28,852.10	MEAN	78.8	MAX	3,100	MIN	0	AC-FT	57,230		
WTR YR 1969	TOTAL	49,878.70	MEAN	137	MAX	2,380	MIN	0	AC-FT	98,930		

SACRAMENTO RIVER BASIN

11-4493.5. BURNS VALLEY CREEK NEAR CLEARLAKE HIGHLANDS, CALIF.

LOCATION.--Lat 38°58'33", long 122°36'42", in SE $\frac{1}{4}$ sec.15, T.13 N., R.7 W., Lake County, on right bank 500 ft downstream from unnamed tributary, and 2.7 miles northeast of Clearlake Highlands.

DRAINAGE AREA.--4.37 sq mi.

PERIOD OF RECORD.--January 1963 to September 1969; discontinued as a continuous-record station; converted to a crest-stage partial record station.

GAGE.--Water-stage recorder. Datum of gage is 1,390.10 ft above mean sea level.

AVERAGE DISCHARGE.--6 years, 1.53 cfs (1,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 430 cfs Feb. 5 (gage height, 5.25 ft); no flow for several months.
Period of record: Maximum discharge, 552 cfs Jan. 29, 1968 (gage height, 5.86 ft); no flow for several months in each year.

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

REVISIONS.--WRD 1966 Calif.: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.41	5.0	18	.08	.01	0	0	0	0
2	0	0	0	.33	2.8	12	.12	.01	0	0	0	0
3	0	0	0	.27	2.0	8.1	.12	.01	0	0	0	0
4	0	0	0	.22	1.7	5.3	.12	.01	0	0	0	0
5	0	0	0	.17	57	3.8	.28	0	0	0	0	0
6	0	0	0	.14	35	2.8	.22	0	0	0	0	0
7	0	0	0	.10	8.7	2.4	.12	0	0	0	0	0
8	0	0	0	.08	5.4	1.9	.08	0	0	0	0	0
9	0	0	0	.05	6.5	1.6	.05	0	0	0	0	0
10	0	0	.05	.05	4.4	1.7	.05	0	0	0	0	0
11	0	0	0	.22	32	1.2	.05	0	0	0	0	0
12	0	0	0	2.0	14	1.1	.05	0	0	0	0	0
13	0	0	.03	25	6.4	.82	.05	0	0	0	0	0
14	0	.02	.26	4.8	16	.70	.05	0	0	0	0	0
15	0	0	13	2.0	49	.49	.05	0	0	0	0	0
16	0	0	1.5	1.3	15	.49	.05	0	0	0	0	0
17	0	0	.35	.82	9.0	.59	.05	0	0	0	0	0
18	0	0	.12	13	7.4	.42	.05	0	0	0	0	0
19	0	0	.05	24	5.1	.35	.03	0	0	0	0	0
20	0	0	.01	33	3.8	.42	.05	0	0	0	0	0
21	0	0	0	95	3.0	.42	.05	0	0	0	0	0
22	0	0	0	14	2.8	.28	.05	0	0	0	0	0
23	0	0	2.1	5.5	13	.22	.16	0	0	0	0	0
24	0	0	29	5.0	26	.12	.05	0	0	0	0	0
25	0	0	21	24	20	.12	.05	0	0	0	0	0
26	0	0	1.3	48	7.6	.12	.05	0	0	0	0	0
27	0	0	.70	9.3	32	.12	.03	0	0	0	0	0
28	0	0	.52	5.1	56	.12	.03	0	0	0	0	0
29	0	0	.88	3.2	-----	.12	.03	0	0	0	0	0
30	0	0	.70	5.0	-----	.12	.01	0	0	0	0	0
31	0	-----	.52	3.8	-----	.08	-----	0	-----	0	0	-----
TOTAL	0	0.02	72.09	325.86	446.6	66.02	2.23	0.04	0	0	0	0
MEAN	0	.0007	2.33	10.5	16.0	2.13	.074	.001	0	0	0	0
MAX	0	.02	29	95	57	18	.28	.01	0	0	0	0
MIN	0	0	0	.05	1.7	.08	.01	0	0	0	0	0
AC-FT	0	.04	143	646	886	131	4.4	.08	0	0	0	0
CAL YR 1968	TOTAL 710.60			MEAN 1.94	MAX 261	MIN 0	AC-FT 1,410					
WTR YR 1969	TOTAL 912.86			MEAN 2.50	MAX 95	MIN 0	AC-FT 1,810					

PEAK DISCHARGE (BASE, 80 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-24	0700	2.95	97	2-11	1730	3.34	139
1-21	0430	5.24	428	2-15	0645	3.53	162
1-25	2400	4.82	344	2-28	1100	3.55	164
2- 5	2200	5.25	430				

SACRAMENTO RIVER BASIN

1001

11-4494.6. SEIGLER CREEK AT LOWER LAKE, CALIF.

LOCATION.--Lat 38°54'34", long 122°36'48", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.10, T.12 N., R.7 W., Lake County, on left bank 400 ft upstream from highway bridge, and 0.2 mile southwest of Lower Lake.

DRAINAGE AREA.--12.5 sq mi.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,364.75 ft above mean sea level.

EXTREMES.--Current year: Maximum discharge, 1,420 cfs Jan. 26 (gage height, 7.64 ft), from rating curve extended above 430 cfs; no flow for many days.

Period of record: Maximum discharge, 1,420 cfs Jan. 26, 1969 (gage height, 7.64 ft), from rating curve extended above 430 cfs; no flow for many days in each year.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.81	1.1	5.5	32	93	6.8	4.3	1.1	.40	.01	0
2	0	2.8	.99	5.0	24	81	8.0	4.3	1.1	.38	.01	0
3	0	2.0	.92	4.4	20	60	9.5	3.9	1.1	.37	.01	0
4	0	1.2	.92	4.1	18	48	8.5	3.9	1.1	.37	.01	0
5	0	.99	.99	3.8	102	41	23	3.8	1.2	.35	0	0
6	0	.92	1.1	3.5	119	36	13	3.5	1.4	.33	0	0
7	0	.99	1.1	3.4	48	32	9.6	3.4	1.4	.31	0	0
8	0	.92	1.9	3.2	52	29	9.0	3.4	1.6	.31	0	0
9	0	.85	2.9	3.0	109	29	8.3	3.4	2.0	.29	0	0
10	0	.99	70	2.8	62	29	8.0	3.2	2.2	.29	0	0
11	.15	.73	14	15	212	24	7.5	3.1	2.2	.33	0	0
12	.92	1.4	5.2	177	89	24	7.1	2.8	2.0	.25	0	0
13	.85	.99	14	256	59	22	6.9	2.8	1.7	.21	0	0
14	.69	1.7	40	41	101	19	6.6	2.8	1.4	.17	0	0
15	.65	3.9	175	21	150	17	6.4	2.8	1.2	.17	0	0
16	.61	2.2	19	16	71	16	5.9	2.6	1.1	.15	0	0
17	.57	1.3	7.8	12	60	16	5.7	2.4	.92	.14	0	0
18	.49	1.9	5.0	80	52	15	5.7	2.4	1.0	.13	0	0
19	.45	1.5	3.9	119	41	14	5.3	2.4	1.1	.15	0	.04
20	.43	1.1	3.1	203	34	14	5.2	2.2	1.0	.11	0	.15
21	.45	.92	2.7	293	30	16	5.0	2.1	.93	.08	0	.27
22	.43	.92	2.5	82	30	13	4.8	2.0	.85	.05	0	.27
23	.43	.92	15	44	65	12	16	1.8	.76	.04	0	.19
24	.49	1.3	174	39	113	11	10	1.8	.66	.03	0	.15
25	.41	1.4	102	171	77	10	6.9	2.0	.64	.03	0	.14
26	.41	1.1	34	248	47	9.4	5.7	2.1	.56	.03	0	.14
27	.43	.99	16	67	140	8.8	5.3	2.4	.54	.03	0	.12
28	.45	.92	22	45	190	8.3	4.8	1.9	.46	.02	0	.23
29	.77	.92	12	34	-----	7.9	4.8	1.4	.44	.02	0	.21
30	.99	1.3	8.6	34	-----	7.6	4.6	1.3	.43	.02	0	.29
31	.73	-----	6.9	31	-----	7.2	-----	1.2	-----	.02	0	-----
TOTAL	11.80	39.88	764.62	2,066.7	2,147	770.2	233.9	83.4	34.09	5.58	0.04	2.20
MEAN	.38	1.33	24.7	66.7	76.7	24.8	7.80	2.69	1.14	.18	.001	.073
MAX	.99	3.9	175	293	212	93	23	4.3	2.2	.40	.01	.29
MIN	0	.73	.92	2.8	18	7.2	4.6	1.2	.43	.02	0	0
AC-FT	23	79	1,520	4,100	4,260	1,530	464	165	68	11	.08	4.4

CAL YR 1968 TOTAL 3,361.53 MEAN 9.18 MAX 490 MIN 0 AC-FT 6,670
WTR YR 1969 TOTAL 6,159.41 MEAN 16.9 MAX 293 MIN 0 AC-FT 12,220

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-15	0915	6.54	760	1-21	0430	6.15	585
12-24	0730	5.95	508	1-26	0015	7.64	1,420
1-13	0700	6.07	553				

SACRAMENTO RIVER BASIN

11-4495. KELSEY CREEK NEAR KELSEYVILLE, CALIF.

LOCATION.--Lat 38°55'39", long 122°50'33", in SE¼SE¼ sec.34, T.13 N., R.9 W., Lake County, on left bank 1.6 miles downstream from Widow Creek, and 3.5 miles south of Kelseyville.

DRAINAGE AREA.--36.6 sq mi.

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,475.44 ft above mean sea level. Prior to July 16, 1955, at site 600 ft upstream at different datum.

AVERAGE DISCHARGE.--23 years, 73.3 cfs (53,110 acre-ft per year); median of yearly mean discharges, 63 cfs (45,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,140 cfs Jan. 26 (gage height, 10.59 ft); minimum daily, 4.0 cfs Oct. 4.

Period of record: Maximum discharge, 8,800 cfs Dec. 21, 1955 (gage height, 12.80 ft); maximum gage height, 13.48 ft Jan. 5, 1965; minimum discharge, 0.5 cfs Sept. 1, 1950, but may have been less during August 1950.

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

REVISIONS (WATER YEARS).--WSP 1285: 1947-48(M), 1950-52(P). WSP 1931: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	7.8	12	59	224	486	59	52	22	12	6.3	4.9
2	4.1	18	11	52	198	382	66	50	21	12	6.0	5.2
3	4.1	17	10	47	175	305	78	48	21	11	5.7	4.8
4	4.0	11	10	43	166	246	61	48	21	11	6.1	4.9
5	4.2	9.6	10	39	370	214	190	45	21	11	6.0	4.9
6	4.2	9.3	10	37	550	189	126	42	22	11	6.0	4.7
7	4.5	9.4	10	34	308	174	101	41	21	11	6.0	4.9
8	4.4	8.7	20	33	331	159	90	40	22	10	5.9	4.9
9	4.4	8.4	52	32	1,070	147	88	38	23	9.7	5.4	5.2
10	4.3	8.2	810	31	558	142	80	37	24	9.4	5.3	5.2
11	4.8	8.6	148	338	1,050	126	73	36	23	9.4	5.7	5.0
12	17	13	85	935	610	120	70	34	23	9.3	5.6	5.0
13	11	11	130	1,820	397	111	66	33	21	8.7	5.5	4.9
14	8.2	11	570	478	391	103	63	33	20	9.3	5.6	4.7
15	7.9	20	1,280	250	642	96	59	33	19	9.2	5.6	5.4
16	6.8	16	400	183	415	92	57	32	18	8.6	5.5	5.7
17	6.3	13	100	150	328	102	55	30	17	8.5	5.2	5.3
18	6.0	15	58	228	273	97	54	29	18	8.1	5.4	5.3
19	5.8	15	45	815	230	93	51	29	19	7.6	5.8	5.5
20	5.7	12	38	1,680	196	94	49	29	18	7.1	5.4	5.5
21	5.7	11	34	2,150	177	101	48	28	18	7.1	5.4	5.6
22	5.7	10	32	730	169	90	46	27	17	7.2	5.2	5.3
23	5.5	10	130	415	248	83	133	26	15	7.2	4.9	5.1
24	5.5	12	562	310	385	77	115	26	15	7.2	5.0	5.0
25	5.7	13	566	754	337	75	79	26	15	7.2	5.4	4.9
26	5.7	11	270	1,350	244	71	69	28	15	7.0	5.5	4.9
27	5.5	11	180	502	409	69	63	29	15	6.7	5.5	4.9
28	5.7	10	220	355	880	67	59	27	14	6.4	5.3	4.7
29	9.5	10	140	275	-----	65	57	25	13	6.7	5.3	4.8
30	14	13	94	238	-----	63	54	24	13	6.6	5.3	5.3
31	9.0	-----	71	204	-----	61	-----	23	-----	6.5	4.6	-----
TOTAL	199.4	353.0	6,108	14,567	11,331	4,300	2,259	1,048	564	269.7	171.4	152.4
MEAN	6.43	11.8	197	470	405	139	75.3	33.8	18.8	8.70	5.53	5.08
MAX	17	20	1,280	2,150	1,070	486	190	52	24	12	6.3	5.7
MIN	4.0	7.8	10	31	166	61	46	23	13	6.4	4.6	4.7
AC-FT	396	700	12,120	28,890	22,470	8,530	4,480	2,080	1,120	535	340	302

CAL YR 1968 TOTAL 25,506.5 MEAN 69.7 MAX 2,880 MIN 3.0 AC-FT 50,590
WTR YR 1969 TOTAL 41,322.9 MEAN 113 MAX 2,150 MIN 4.0 AC-FT 81,960

PEAK DISCHARGE (BASE, 1,600 CFS)
DATE TIME G.H. DISCHARGE DATE TIME G.H. DISCHARGE
12-15 unknown 10.18 3,620 1-26 0045 10.59 4,140
1-13 0745 10.16 3,590 2-11 0815 8.36 1,710
1-21 0430 10.58 4,120

11-4500. CLEAR LAKE AT LAKEPORT, CALIF.

LOCATION.--Lat 39°02'21", long 122°54'44", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.25, T.14 N., R.10 W., Lake County, on private pier at 410 Esplanada Street in Lakeport.

DRAINAGE AREA.--528 sq mi.

PERIOD OF RECORD.--1874-1900 (incomplete), January 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.65 ft above mean sea level. Prior to July 8, 1947, non-recording gage and July 8, 1947, to Mar. 17, 1949, at municipal wharf at foot of Third Street in Lakeport at datum 0.06 ft lower. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.06 ft lower.

EXTREMES.--Current year: Maximum daily mean gage height, 8.91 ft Feb. 16; minimum, 1.76 ft Oct. 26.

Period of record: Maximum gage height observed, 11.12 ft Jan. 28, 1914; minimum observed, -3.50 ft Sept. 24-27, 1920.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft (limits stipulated by court decree of 1920), about 319,000 acre-ft. Water is released down natural channel of Cache Creek from which it is diverted for irrigation (see sta 11-4510).

COOPERATION.--Daily mean gage-height record furnished by Yolo County Flood Control and Water Conservation District.

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.99	1.84	1.88	4.14	8.04	8.63	7.54	7.57	6.79	5.70	4.36	3.10
2	1.98	1.84	1.90	4.17	7.96	8.60	7.56	7.53	6.76	5.65	4.31	3.07
3	1.97	1.84	1.90	4.20	7.89	8.58	7.60	7.50	6.73	5.62	4.28	3.04
4	1.95	1.84	1.90	4.23	7.83	8.51	7.61	7.45	6.69	5.58	4.23	3.01
5	1.93	1.84	1.90	4.25	7.98	8.41	7.62	7.45	6.65	5.54	4.18	2.98
6	1.91	1.84	1.90	4.27	8.03	8.30	7.63	7.43	6.61	5.50	4.14	2.95
7	1.88	1.84	1.90	4.30	8.04	8.23	7.63	7.42	6.56	5.46	4.10	2.93
8	1.87	1.83	1.90	4.32	8.02	8.14	7.62	7.41	6.54	5.43	4.06	2.90
9	1.86	1.83	1.91	4.33	8.21	8.08	7.61	7.40	6.52	5.39	4.03	2.88
10	1.84	1.83	2.06	4.36	8.30	7.97	7.59	7.39	6.49	5.35	3.97	2.86
11	1.85	1.83	2.13	4.50	8.55	7.87	7.55	7.37	6.47	5.31	3.93	2.84
12	1.85	1.83	2.20	4.70	8.69	7.77	7.49	7.35	6.45	5.28	3.90	2.81
13	1.84	1.83	2.22	5.50	8.70	7.68	7.46	7.31	6.42	5.24	3.86	2.78
14	1.83	1.92	2.25	5.78	8.78	7.58	7.47	7.29	6.39	5.19	3.81	2.74
15	1.82	1.92	2.76	5.95	8.86	7.48	7.49	7.26	6.37	5.15	3.77	2.71
16	1.81	1.92	2.87	6.02	8.91	7.34	7.49	7.25	6.35	5.10	3.74	2.67
17	1.80	1.93	2.92	6.09	8.86	7.27	7.49	7.21	6.30	5.06	3.70	2.63
18	1.80	1.93	2.93	6.24	8.79	7.30	7.50	7.17	6.27	5.01	3.66	2.59
19	1.79	1.92	2.96	6.50	8.72	7.33	7.50	7.16	6.23	4.96	3.63	2.55
20	1.78	1.92	2.98	6.98	8.62	7.36	7.52	7.13	6.20	4.92	3.60	2.52
21	1.78	1.91	3.00	7.63	8.55	7.39	7.52	7.10	6.17	4.88	3.56	2.50
22	1.78	1.91	3.04	7.82	8.47	7.42	7.54	7.08	6.12	4.84	3.53	2.48
23	1.78	1.90	3.10	7.90	8.50	7.47	7.59	7.04	6.05	4.79	3.47	2.45
24	1.77	1.86	3.20	7.88	8.47	7.48	7.59	7.02	6.00	4.74	3.41	2.44
25	1.77	1.87	3.55	7.90	8.47	7.49	7.60	6.99	5.95	4.69	3.37	2.42
26	1.76	1.88	3.73	8.28	8.44	7.50	7.61	6.95	5.89	4.64	3.32	2.41
27	1.77	1.87	3.88	8.33	8.45	7.52	7.61	6.92	5.84	4.59	3.27	2.38
28	1.78	1.86	3.96	8.31	8.59	7.53	7.60	6.88	5.81	4.55	3.23	2.37
29	1.77	1.86	4.02	8.26	-----	7.54	7.59	6.85	5.78	4.50	3.20	2.35
30	1.77	1.87	4.07	8.19	-----	7.52	7.57	6.84	5.75	4.46	3.17	2.33
31	1.77	-----	4.11	8.11	-----	7.53	-----	6.82	-----	4.41	3.13	-----
MEAN	1.83	1.87	2.74	6.11	8.42	7.77	7.56	7.21	6.31	5.08	3.74	2.69
MAX	1.99	1.93	4.11	8.33	8.91	8.63	7.63	7.57	6.79	5.70	4.36	3.10
MIN	1.76	1.83	1.88	4.14	7.83	7.27	7.46	6.82	5.75	4.41	3.13	2.33

SACRAMENTO RIVER BASIN

11-4510. CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., Lake County, on left bank 500 ft downstream from Clear Lake Dam, 1.9 miles downstream from Copsey Creek, and 2.5 miles northeast of Lower Lake.

DRAINAGE AREA.--528 sq mi.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,280.34 ft above mean sea level.

AVERAGE DISCHARGE (unadjusted).--25 years, 334 cfs (242,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,960 cfs Jan. 26 (gage height, 7.92 ft); minimum daily, 1.6 cfs Dec. 8, 12.

Period of record: Maximum discharge, 8,000 cfs Feb. 24, 1958 (gage height, 9.40 ft); minimum recorded, 0.2 cfs Mar. 15-23, 1950.

REMARKS.--Records fair. Flow completely regulated by Clear Lake 500 ft upstream (see sta 11-4500).

REVISIONS (WATER YEARS).--WRD Calif. 1968: 1966-67.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	1.9	1.7	2.8	2,900	3,580	11	247	410	463	437	308
2	102	2.1	1.7	3.1	3,130	3,540	11	247	446	470	418	328
3	101	2.1	1.7	3.1	3,040	3,540	11	270	474	516	386	339
4	95	1.9	1.7	3.1	2,980	3,450	10	280	502	514	380	338
5	88	1.9	1.7	3.1	3,330	3,420	165	295	534	488	395	336
6	87	1.9	1.7	3.3	3,520	3,400	397	310	542	464	445	317
7	76	1.9	1.7	3.3	3,230	3,330	410	325	526	504	513	282
8	64	2.1	1.6	3.1	3,220	3,250	421	349	494	576	509	252
9	63	2.1	1.7	3.1	3,620	3,220	816	373	474	600	484	234
10	63	2.1	1.9	3.1	3,450	3,160	1,070	382	435	582	464	233
11	63	2.2	1.7	3.1	3,880	3,080	1,060	394	367	562	435	231
12	63	2.2	1.6	3.6	3,720	3,010	1,070	463	338	542	422	230
13	59	2.4	1.7	4.2	3,620	2,970	404	506	338	517	432	232
14	45	2.4	1.8	4.1	3,700	2,900	9.9	474	361	516	411	224
15	42	2.4	2.8	4.1	4,010	2,830	9.3	438	397	555	378	222
16	41	2.2	2.2	3.7	3,750	2,760	9.3	400	435	574	353	231
17	40	2.2	2.2	3.5	3,700	1,690	9.9	382	463	573	334	222
18	40	2.2	2.2	4.28	3,690	119	9.9	385	486	604	358	212
19	40	2.2	2.3	1,360	3,640	105	9.9	376	510	593	425	210
20	40	2.2	2.1	2,040	3,610	103	10	373	506	535	470	208
21	40	2.1	2.1	3,260	3,500	108	11	385	506	526	468	181
22	31	2.1	2.1	3,290	3,430	109	13	404	502	535	476	158
23	28	2.1	2.1	3,150	3,530	108	12	438	478	551	472	158
24	28	1.9	3.0	3,110	3,610	104	12	452	463	551	444	157
25	28	1.9	2.8	3,330	3,540	106	12	452	463	539	427	146
26	27	1.8	2.8	3,780	3,400	106	11	414	442	542	437	134
27	26	1.7	2.8	3,270	3,510	107	11	376	452	514	447	133
28	10	1.7	3.0	3,200	3,850	108	73	361	452	492	428	132
29	2.1	1.7	3.0	3,150	-----	283	194	343	432	488	382	135
30	2.1	1.7	3.0	3,160	-----	12	240	349	446	480	347	139
31	1.9	-----	3.0	3,160	-----	13	-----	373	-----	456	317	-----
TOTAL	1,538.1	61.3	67.4	39,745.4	98,110	54,621	6,513.2	11,616	13,674	16,422	13,094	6,662
MEAN	49.6	2.04	2.17	1,282	3,504	1,762	217	375	456	530	422	222
MAX	102	2.4	3.0	3,780	4,010	3,580	1,070	506	542	604	513	339
MIN	1.9	1.7	1.6	2.8	2,900	12	9.3	247	338	456	317	132
AC-FT	3,050	122	134	78,830	194,600	108,300	12,920	23,040	27,120	32,570	25,970	13,210
CAL YR 1968	TOTAL	121,801.4	MEAN	334	MAX	3,040	MIN	1.6	AC-FT	241,600		
WTR YR 1969	TOTAL	262,124.4	MEAN	718	MAX	4,010	MIN	1.6	AC-FT	519,900		

11-4515. NORTH FORK CACHE CREEK NEAR LOWER LAKE, CALIF.

LOCATION.--Lat 39°01'09", long 122°34'04", in NE $\frac{1}{4}$ sec.31, T.14 N., R.6 W. (unsurveyed), Lake County, on right bank 500 ft upstream from Sweet Hollow Creek, 5 miles upstream from mouth, and 7 miles northeast of Lower Lake.

DRAINAGE AREA.--197 sq mi.

PERIOD OF RECORD.--July 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,035.60 ft above mean sea level. Prior to June 15, 1939, at datum 1.00 ft higher.

AVERAGE DISCHARGE.--39 years, 192 cfs (139,100 acre-ft per year); median of yearly mean discharges, 170 cfs (123,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,960 cfs Jan. 13 (gage height, 9.40 ft); minimum daily, 1.2 cfs Oct. 10.

Period of record: Maximum discharge, 20,300 cfs Dec. 11, 1937 (gage height, 13.98 ft, present datum, from floodmarks), from rating curve extended above 7,600 cfs on basis of slope-area measurement at gage height 13.9 ft for peak of Feb. 28, 1940; no flow at times in 1930-36, 1949-50, 1956-57.

REMARKS.--Records fair. No regulation; several small diversions for irrigation of about 150 acres above station.

REVISIONS (WATER YEARS).--WSP 831: 1932(M). WSP 1315-A: 1935(M), 1937-38(M). WRD Calif. 1966: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	2.5	17	270	800	1,500	327	121	44	16	5.6	2.8
2	6.2	6.5	17	248	760	1,250	332	118	41	15	5.4	2.4
3	6.2	6.2	17	241	698	1,110	322	111	39	14	5.3	2.3
4	6.2	4.0	16	256	660	970	283	109	38	14	4.9	2.3
5	5.5	3.5	16	290	941	908	343	104	36	13	4.4	2.4
6	3.3	3.5	16	267	1,590	865	338	98	34	13	4.6	2.3
7	2.3	4.9	16	236	1,130	800	311	96	33	12	4.5	2.3
8	1.9	5.8	16	211	963	730	286	92	32	12	4.4	2.4
9	1.8	6.2	20	191	2,540	707	272	89	31	11	4.1	2.5
10	1.2	6.5	458	171	2,040	740	254	84	30	11	3.9	2.5
11	1.8	6.9	333	595	3,070	652	237	82	30	10	4.1	2.5
12	3.3	8.0	142	2,530	2,790	600	229	82	30	10	4.1	2.3
13	2.5	8.4	101	5,410	1,730	542	220	79	29	9.8	4.1	2.0
14	2.3	11	400	2,590	1,620	492	212	79	27	9.7	3.7	2.2
15	2.1	19	1,380	1,500	2,680	468	201	79	27	9.7	3.4	2.2
16	1.9	22	536	974	1,990	462	188	77	25	9.3	3.4	2.1
17	1.9	22	223	725	1,550	572	180	75	24	8.9	3.8	2.2
18	1.8	24	144	776	1,270	624	174	72	24	8.7	3.9	1.9
19	1.8	26	110	2,230	1,010	576	167	71	23	8.3	3.9	2.2
20	4.8	23	85	3,380	881	553	157	69	22	8.3	4.0	2.3
21	2.5	20	70	5,600	785	524	152	68	21	7.7	3.2	2.2
22	2.1	17	62	1,600	703	468	144	65	21	7.7	3.4	2.1
23	2.1	16	147	1,140	740	448	214	63	20	7.6	3.3	2.2
24	1.9	16	1,010	1,020	914	432	216	60	20	7.4	3.2	2.1
25	2.1	15	1,710	1,960	952	416	182	57	20	7.4	3.1	2.1
26	2.1	15	920	2,790	850	398	163	54	19	7.2	3.1	2.0
27	2.1	15	539	1,770	881	392	152	53	19	6.3	3.1	2.0
28	2.1	14	530	1,360	1,880	389	140	51	18	5.7	3.3	2.1
29	2.7	14	468	1,030	-----	377	133	50	17	5.6	3.4	2.0
30	2.9	15	377	892	-----	362	127	48	17	5.4	3.3	1.6
31	2.7	-----	310	775	-----	349	-----	45	-----	5.3	3.1	-----
TOTAL	90.3	376.9	10,206	43,028	38,418	19,676	6,656	2,401	811	297.0	121.0	66.5
MEAN	2.91	12.6	329	1,388	1,372	635	222	77.5	27.0	9.58	3.90	2.22
MAX	6.2	26	1,710	5,600	3,070	1,500	343	121	44	16	5.6	2.8
MIN	1.2	2.5	16	171	660	349	127	45	17	5.3	3.1	1.6
AC-FT	179	748	20,240	85,340	76,200	39,030	13,200	4,760	1,610	589	240	132

CAL YR 1968 TOTAL 63,414.3 MEAN 173 MAX 2,470 MIN 1.2 AC-FT 125,800
WTR YR 1969 TOTAL 122,147.7 MEAN 335 MAX 5,600 MIN 1.2 AC-FT 242,300

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
12-15	1400	7.35	3,730	1-26	0500	7.34	3,710
1-13	1100	9.40	7,960	2-11	1230	7.54	4,020
1-21	0930	9.26	7,620				

SACRAMENTO RIVER BASIN

11-4517.2. BEAR CREEK NEAR RUMSEY, CALIF.

LOCATION (revised).--Lat 38°56'42", long 122°20'42", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.13 N., R.4 W., Colusa County, on left bank 0.3 mile downstream from Brophy Canyon, 1.4 miles upstream from mouth, and 7.3 miles northwest of Rumsey.

DRAINAGE AREA.--100 sq mi.

PERIOD OF RECORD.--October 1958 to current year.

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

AVERAGE DISCHARGE.--11 years, 41.5 cfs (30,070 acre-ft per year).

EXTREMES.--Water year 1968: Maximum discharge, 7,810 cfs Jan. 29 (gage height, 11.07 ft); minimum daily, 1.2 cfs Sept. 30.

Water year 1969: Maximum discharge, 3,520 cfs Jan. 21 (gage height, 7.88 ft); minimum daily, 1.1 cfs many days.

Period of record: Maximum discharge, 9,720 cfs Jan. 5, 1965 (gage height, 11.93 ft); no flow July 25, 26, Aug. 20, 1960.

Maximum stage known since 1955, 12.33 ft Feb. 24, 1958 (discharge, 9,350 cfs).

REMARKS.--No regulation or diversion above station. Records of suspended-sediment loads for the water year 1969 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).--WRD Calif. 1963: 1962(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	1.4	2.6	5.5	4.3	133	65	46	9.9	2.9	3.3	4.0	2.7
2	2.0	2.6	4.0	4.4	763	62	56	9.7	3.0	3.2	4.0	2.6
3	3.1	2.6	15	4.3	377	56	47	9.0	2.9	3.4	4.1	2.7
4	2.8	2.7	27	4.1	170	53	42	8.6	2.9	3.3	4.1	2.7
5	2.4	2.8	40	4.0	127	51	39	8.3	3.0	3.3	4.0	2.6
6	2.5	2.9	11	4.0	121	47	37	8.0	3.5	3.3	3.9	2.6
7	2.2	2.9	13	4.0	102	49	33	7.7	3.1	3.3	3.8	2.4
8	2.1	2.9	9.2	4.5	85	64	31	7.5	3.0	3.3	3.8	2.4
9	2.1	2.9	6.3	5.4	77	62	30	7.2	3.0	3.4	3.7	2.4
10	2.2	2.8	5.4	247	71	53	28	7.0	2.9	3.4	3.8	2.4
11	2.2	2.8	4.9	59	63	47	28	6.5	2.9	3.4	3.7	2.3
12	2.2	2.9	4.5	25	57	94	27	6.3	2.9	3.4	3.6	2.2
13	2.1	3.2	3.9	20	53	178	25	6.6	2.9	3.4	3.6	2.3
14	2.0	5.3	3.5	485	49	88	24	9.1	2.9	3.4	3.4	2.1
15	1.7	5.2	3.8	501	44	78	23	7.6	2.9	3.5	3.5	2.0
16	1.8	3.8	4.5	98	160	503	22	5.7	2.9	3.6	3.5	2.0
17	2.0	3.2	4.4	50	814	156	21	4.8	2.9	3.6	3.4	2.0
18	2.1	3.1	15	33	168	99	20	4.5	2.9	3.6	3.4	1.9
19	2.2	3.2	14	25	567	86	20	4.5	2.9	3.6	3.3	1.9
20	2.3	3.2	6.8	21	515	80	18	4.6	3.0	3.6	3.3	1.8
21	2.4	2.8	5.5	17	337	76	17	4.3	3.1	3.7	3.1	1.8
22	2.6	2.5	5.0	15	161	71	15	4.2	3.1	3.8	3.3	1.8
23	2.6	2.5	4.6	12	127	66	15	4.6	3.1	3.8	3.1	1.8
24	2.6	2.6	4.3	11	108	61	16	4.6	3.1	3.8	3.0	1.6
25	2.6	2.6	4.1	11	94	57	15	4.6	3.1	3.8	3.1	1.6
26	2.5	2.6	4.2	11	84	53	14	4.2	3.1	3.8	2.9	1.6
27	2.6	2.5	4.4	10	79	50	12	4.1	3.3	3.8	2.9	1.5
28	2.8	2.7	4.6	10	73	48	12	4.0	3.3	4.0	2.9	1.4
29	2.7	3.9	4.3	3,360	67	46	11	3.7	3.3	4.0	2.8	1.4
30	2.5	5.9	4.3	1,490	-----	43	11	3.2	3.3	4.0	2.8	1.2
31	2.5	-----	4.3	236	-----	41	-----	3.0	-----	4.0	2.7	-----
TOTAL	71.8	94.2	251.3	6,786.0	5,646	2,583	755	187.6	91.1	110.8	106.5	61.7
MEAN	2.32	3.14	8.11	219	195	83.3	25.2	6.05	3.04	3.57	3.44	2.06
MAX	3.1	5.9	40	3,360	814	503	56	9.9	3.5	4.0	4.1	2.7
MIN	1.4	2.5	3.5	4.0	44	41	11	3.0	2.9	3.2	2.7	1.2
AC-FT	142	187	498	13,460	11,200	5,120	1,500	372	181	220	211	122

CAL YR 1967 TOTAL 24,751.9 MEAN 67.8 MAX 4,120 MIN 0.70 AC-FT 49,100
WAT YR 1968 TOTAL 16,745.0 MEAN 45.8 MAX 3,360 MIN 1.2 AC-FT 33,210

SACRAMENTO RIVER BASIN

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11-4517.2. BEAR CREEK NEAR RUMSEY, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.1	3.1	39	138	551	71	37	8.7	3.7	1.1	1.7
2	1.4	2.5	2.9	36	128	420	74	35	8.5	3.4	1.1	1.7
3	1.4	5.8	2.6	34	114	373	87	34	7.5	3.2	1.1	1.7
4	1.5	4.1	2.5	32	105	267	71	34	6.8	3.2	1.1	1.7
5	1.4	3.2	2.5	34	200	234	84	33	6.6	3.1	1.1	1.7
6	1.5	2.9	2.6	30	380	213	90	33	6.2	3.0	1.2	1.8
7	1.6	2.9	2.7	27	250	195	78	33	6.1	2.8	1.2	1.8
8	1.5	2.9	3.2	25	430	178	66	33	6.3	2.9	1.2	1.8
9	1.5	2.5	4.2	22	750	182	63	32	7.0	2.6	1.2	1.8
10	1.5	2.3	53	21	560	390	60	32	8.1	2.3	1.2	1.8
11	1.6	2.1	68	29	970	264	55	32	7.6	2.1	1.3	1.9
12	2.2	2.1	17	295	670	221	51	31	7.1	1.8	1.3	1.9
13	2.8	1.9	8.7	1,480	470	182	49	31	6.6	1.6	1.3	1.9
14	2.4	2.6	64	227	550	161	50	30	6.1	1.5	1.3	1.9
15	2.2	5.3	502	101	740	148	49	29	5.8	1.4	1.3	1.9
16	2.1	5.7	113	75	460	137	46	27	5.8	1.5	1.4	1.9
17	1.9	4.2	39	63	365	141	45	26	5.6	1.4	1.4	1.9
18	1.9	4.2	23	242	305	132	44	25	5.5	1.3	1.4	1.9
19	1.8	4.5	16	663	274	120	43	24	5.6	1.2	1.4	1.9
20	1.7	3.7	12	796	224	123	43	23	5.6	1.2	1.4	1.9
21	1.7	3.2	9.4	2,050	192	159	43	22	5.2	1.3	1.5	2.0
22	1.4	3.1	8.3	404	179	121	42	21	5.0	1.2	1.5	1.9
23	1.2	2.9	14	193	310	106	46	20	4.7	1.2	1.5	1.9
24	1.1	3.1	420	171	660	96	53	18	4.4	1.3	1.5	1.8
25	1.1	3.2	743	377	529	93	49	17	4.1	1.1	1.5	1.8
26	1.1	2.8	210	1,210	278	90	45	15	4.1	1.1	1.6	1.8
27	1.1	2.6	80	292	291	87	43	14	4.6	1.1	1.6	1.7
28	1.1	2.4	130	196	1,360	84	41	12	4.4	1.1	1.6	1.8
29	1.1	2.4	85	150	-----	81	39	10	4.1	1.1	1.6	1.8
30	1.1	2.7	57	170	-----	76	38	9.1	3.8	1.1	1.6	1.7
31	1.1	-----	45	134	-----	73	-----	9.0	-----	1.1	1.6	-----
TOTAL	48.4	94.9	2,743.7	9,618	11,882	5,698	1,658	781.1	177.5	57.9	42.1	54.7
MEAN	1.56	3.16	88.5	310	424	184	55.3	25.2	5.92	1.87	1.36	1.82
MAX	2.8	5.8	743	2,050	1,360	551	90	37	8.7	3.7	1.6	2.0
MIN	1.1	1.1	2.5	21	105	73	38	9.0	3.8	1.1	1.1	1.7
AC-FT	96	188	5,440	19,080	23,570	11,300	3,290	1,550	352	115	84	108
CAL YR 1968	TOTAL 19,214.7		MEAN 52.5		MAX 3,360		MIN 1.1		AC-FT 38,110			
WTR YR 1969	TOTAL 32,856.3		MEAN 90.0		MAX 2,050		MIN 1.1		AC-FT 65,170			

SACRAMENTO RIVER BASIN

11-4517.6. CACHE CREEK ABOVE RUMSEY, CALIF.

LOCATION.--Lat 38°54'47", long 122°16'14", in SE $\frac{1}{4}$ sec.2, T.12 N., R.4 W., Yolo County, on right bank 0.4 mile downstream from highway bridge and 2.5 miles northwest of Rumsey.

DRAINAGE AREA.--955 sq mi.

PERIOD OF RECORD.--October 1960 to September 1962, June 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 480 ft (from topographic map).

AVERAGE DISCHARGE.--6 years (1961-62, 1966-69), 704 cfs (510,000 acre-ft per year).

EXTREMES.--Water year 1968: Maximum discharge, 23,200 cfs Jan. 29 (gage height, 15.38 ft); minimum daily, 13 cfs Nov. 26-28.
 Water year 1969: Maximum discharge, 20,200 cfs Jan. 21 (gage height, 14.63 ft); minimum daily, 13 cfs Nov. 1, 9, 10.
 Period of record: Maximum discharge, 30,000 cfs Jan. 21, 1967 (gage height, 16.90 ft); minimum, 3.1 cfs Oct. 29, 1960.
 Flood of Jan. 5, 1965, reached a stage of 21.42 ft, from floodmarks (discharge, 59,000 cfs, by slope-area measurement).

REMARKS.--Flow partly regulated by Clear Lake beginning in 1915 (see sta 11-4500). Records of water temperatures and suspended-sediment loads for the water years 1968 and 1969 are published in Part 2 of this report.

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

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	59	34	49	1,780	596	291	559	558	520	460	366
2	107	58	37	49	4,840	1,130	333	553	514	505	460	351
3	108	58	58	45	4,380	1,100	274	522	511	520	461	348
4	86	59	133	40	3,500	956	250	511	548	499	458	356
5	81	60	400	37	1,240	606	237	489	564	481	430	388
6	79	60	410	34	1,100	568	225	484	558	474	405	362
7	77	63	323	34	999	349	211	507	549	477	395	347
8	76	66	391	34	854	371	200	567	524	505	401	307
9	77	54	162	39	734	326	191	544	493	544	432	276
10	66	44	109	1,360	663	272	183	512	481	543	424	265
11	60	39	84	541	578	265	176	508	494	557	394	247
12	59	32	73	257	514	390	224	500	490	566	414	225
13	58	32	66	194	458	2,080	297	470	482	621	438	212
14	56	45	60	1,220	421	2,550	294	459	456	598	410	211
15	57	47	46	3,220	379	2,440	290	379	470	569	363	207
16	57	42	47	1,120	528	3,560	318	423	475	560	361	190
17	57	41	48	694	2,370	2,910	317	455	491	528	356	190
18	57	39	67	470	1,290	2,680	385	487	519	495	330	186
19	58	38	120	356	2,040	2,820	428	472	579	479	330	186
20	59	37	95	288	5,030	3,230	422	465	577	478	339	149
21	59	33	72	245	5,010	2,970	387	433	571	460	332	145
22	59	19	62	212	4,280	2,560	385	457	558	455	276	144
23	59	15	59	184	3,990	1,500	451	513	518	438	223	144
24	59	14	56	166	3,720	1,450	490	521	483	413	217	144
25	60	14	51	155	3,500	1,430	483	488	485	428	244	156
26	59	13	55	145	3,320	1,400	486	469	494	443	272	182
27	59	13	60	138	2,450	1,310	549	507	467	418	294	184
28	59	13	58	135	648	374	551	589	498	431	293	155
29	60	19	55	8,970	561	321	527	604	506	432	274	144
30	59	27	52	5,740	-----	298	544	583	497	415	295	142
31	59	-----	49	1,590	-----	280	-----	568	-----	461	327	-----
TOTAL	2,094	1,153	3,392	27,761	61,177	43,092	10,399	15,598	15,410	15,313	11,108	6,909
MEAN	67.5	38.4	109	896	2,110	1,390	347	503	514	494	358	230
MAX	108	66	410	8,970	5,030	3,560	551	604	579	621	461	388
MIN	56	13	34	34	379	265	176	379	456	413	217	142
AC-FT	4,150	2,290	6,730	55,060	121,300	85,470	20,630	30,940	30,570	30,370	22,030	13,700
CAL YR 1967	TOTAL 321,005		MEAN 877	MAX 17,800	MIN 13	ACFT 636,700						
WAT YR 1968	TOTAL 213,406		MEAN 583	MAX 8,970	MIN 13	ACFT 423,300						

SACRAMENTO RIVER BASIN

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11-4517.6. CACHE CREEK ABOVE RUMSEY, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	13	25	359	3,710	7,060	507	463	484	497	412	311
2	121	15	25	327	3,920	6,260	500	456	505	498	407	327
3	118	21	25	311	3,580	5,980	554	454	535	535	378	348
4	117	22	24	312	3,530	5,400	467	479	554	542	357	346
5	106	18	24	348	4,900	5,080	558	468	587	525	374	345
6	103	16	24	341	7,440	4,940	951	486	597	491	395	342
7	99	15	23	313	4,840	4,650	909	488	590	497	472	307
8	83	14	25	283	4,330	4,380	866	512	571	568	485	280
9	76	13	29	255	7,370	4,260	1,030	531	536	608	465	249
10	74	13	276	236	6,270	4,470	1,350	539	531	594	450	250
11	74	14	677	240	8,830	4,050	1,330	542	466	573	430	273
12	78	15	249	2,360	8,090	3,890	1,310	573	418	557	403	273
13	75	16	152	9,180	6,090	3,690	1,050	643	414	542	416	270
14	67	19	500	3,290	6,560	3,570	364	616	414	522	412	269
15	56	29	2,140	1,560	10,500	3,470	340	590	454	549	376	256
16	51	35	1,110	1,080	7,320	3,390	318	548	480	581	357	262
17	49	35	434	830	6,050	3,080	304	513	515	567	329	258
18	49	38	272	1,110	5,740	1,010	298	507	520	583	337	242
19	48	39	203	4,850	5,390	933	289	500	556	608	390	234
20	48	39	164	8,150	4,990	892	278	489	555	538	457	230
21	49	37	137	15,600	4,640	923	270	495	555	512	459	226
22	51	32	120	8,380	4,400	827	261	507	554	519	461	199
23	45	28	130	6,010	4,840	778	319	529	537	521	468	173
24	39	26	1,410	5,300	5,880	746	374	551	500	534	446	170
25	39	27	2,960	5,670	5,720	724	308	546	508	505	428	168
26	39	25	1,470	9,650	4,970	698	280	534	489	514	428	156
27	38	24	742	5,780	5,020	682	262	485	476	496	447	140
28	37	23	731	5,250	9,020	677	248	480	502	465	442	138
29	34	23	630	4,500	-----	830	382	448	470	458	402	134
30	19	23	500	4,360	-----	562	452	441	473	451	365	139
31	15	-----	416	4,030	-----	530	-----	448	-----	436	336	-----
TOTAL	2,023	707	15,647	110,265	163,940	88,432	16,729	15,861	15,346	16,386	12,784	7,315
MEAN	65.3	23.6	505	3,557	5,855	2,853	558	512	512	529	412	244
MAX	126	39	2,960	15,600	10,500	7,060	1,350	643	597	608	485	348
MIN	15	13	23	236	3,530	530	248	441	414	436	329	134
AC-FT	4,010	1,400	31,040	218,700	325,200	175,400	33,180	31,460	30,440	32,500	25,360	14,510
CAL YR 1968	TOTAL	225,152	MEAN	615	MAX	8,970	MIN	13	AC-FT	446,600		
WTR YR 1969	TOTAL	465,435	MEAN	1,275	MAX	15,600	MIN	13	AC-FT	923,200		

SACRAMENTO RIVER BASIN

11-4520. CACHE CREEK NEAR CAPAY, CALIF.

LOCATION.--Lat 38°43'44", long 122°06'15", in Canada de Capay Grant, Yolo County, on right bank 1.8 miles upstream from Clear Lake Water Co.'s diversion dam, 3.2 miles northwest of Capay, and 5.4 miles northwest of Esparto.

DRAINAGE AREA.--1,044 sq mi.

PERIOD OF RECORD.--May 1942 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 225 ft (from river-profile map).

AVERAGE DISCHARGE.--27 years, 634 cfs (459,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,600 cfs Jan. 21 (gage height, 14.35 ft); minimum daily, 12 cfs Nov. 13.

Period of record: Maximum discharge, 51,600 cfs Feb. 24, 1958 (gage height, 20.90 ft), from rating curve extended above 20,000 cfs; minimum, 2.2 cfs Sept. 11, 12, 16, 1947.

REMARKS.--Records good. Flow partially regulated by Clear Lake beginning in 1915 (see sta 11-4500). About 3,700 acre-ft diverted annually between stations above Rumsey and near Capay for irrigation of approximately 900 acres, from data furnished by U.S. Soil Conservation Service.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	23	21	387	4,060	7,590	512	457	446	476	428	309
2	100	23	21	349	3,860	6,460	493	450	464	480	418	303
3	95	24	22	327	3,720	6,270	546	446	492	506	397	318
4	98	21	23	315	3,540	5,710	473	472	508	523	365	323
5	95	23	23	332	4,090	5,380	485	464	540	512	370	323
6	91	21	23	339	7,510	5,190	851	476	560	483	383	320
7	86	19	23	316	5,380	4,960	881	480	556	473	434	303
8	82	17	24	290	4,590	4,670	827	500	552	524	469	279
9	71	16	26	266	6,500	4,480	863	516	524	575	459	253
10	67	15	48	240	6,850	4,630	1,350	528	524	575	442	235
11	67	15	712	228	7,980	4,350	1,350	524	476	554	426	226
12	73	15	299	1,690	9,140	4,150	1,330	544	425	540	399	222
13	73	12	171	8,670	7,110	3,990	1,270	615	408	523	401	221
14	71	16	341	5,190	6,470	3,790	524	605	397	499	403	223
15	64	26	1,560	2,400	11,200	3,620	443	580	422	512	377	216
16	56	27	1,910	1,560	8,490	3,470	411	544	446	544	355	216
17	54	32	590	1,150	7,100	3,340	390	508	480	538	334	220
18	51	36	360	1,190	6,530	1,500	373	492	488	543	324	214
19	51	37	271	5,090	6,000	1,040	362	492	524	577	350	206
20	50	37	210	7,810	5,530	945	349	480	532	534	407	203
21	50	37	175	14,100	5,160	966	340	476	528	501	423	202
22	50	35	152	8,930	4,810	875	328	480	528	506	425	184
23	48	31	141	5,770	5,090	802	340	496	520	502	434	155
24	44	28	897	4,640	5,930	757	408	516	492	524	423	151
25	39	26	3,020	4,470	6,140	732	369	516	492	507	403	147
26	38	23	2,150	8,670	5,470	707	340	520	484	512	394	143
27	37	20	888	6,380	5,050	689	322	476	464	506	413	132
28	35	21	740	5,360	8,260	675	310	460	488	479	417	128
29	37	21	674	4,840	-----	775	340	439	472	464	393	124
30	35	21	544	4,560	-----	651	432	425	460	459	360	121
31	28	-----	450	4,250	-----	536	-----	422	-----	450	335	-----
TOTAL	1,951	718	16,509	110,109	171,560	93,700	17,612	15,399	14,692	15,901	12,361	6,620
MEAN	62.9	23.9	533	3,552	6,127	3,023	587	497	490	513	399	221
MAX	115	37	3,020	14,100	11,200	7,590	1,350	615	560	577	469	323
MIN	28	12	21	228	3,540	536	310	422	397	450	324	121
AC-FT	3,870	1,420	32,750	218,400	340,300	185,900	34,930	30,540	29,140	31,540	24,520	13,130
CAL YR 1968	TOTAL	224,739	MEAN	614	MAX	8,650	MIN	12	AC-FT	445,800		
WTR YR 1969	TOTAL	477,132	MEAN	1,307	MAX	14,100	MIN	12	AC-FT	946,400		

11-4525. CACHE CREEK AT YOLO, CALIF.

LOCATION.--Lat 38°43'31", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, on left bank 800 ft upstream from highway bridge, 0.5 mile south of Yolo, and 7.3 miles downstream from Moore Dam.

DRAINAGE AREA.--1,139 sq mi.

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to summer of 1930, nonrecording gage at datum 58.21 ft higher. Summer of 1930 to June 11, 1954, water-stage recorder at datum 56.24 ft higher. June 11, 1954, to July 16, 1965, at datum 52.24 ft higher. July 17, 1965, to Apr. 24, 1969, at datum 50.24 ft higher.

AVERAGE DISCHARGE.--67 years, 516 cfs (373,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,900 cfs Jan. 21 (gage height, 22.36 ft); no flow for several months.

Period of record: Maximum discharge, 41,400 cfs Feb. 25, 1958 (gage height, 85.35 ft, present datum); maximum stage observed, 88.44 ft (present datum) Mar. 10, 1904; no flow at times in each year.

REMARKS.--Records good. Flow regulated by Clear Lake beginning in 1915 (see sta 11-4500). Diversions for irrigating up to about 30,000 acres between stations near Capay and at Yolo, from data furnished by Clear Lake Water Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	338	4,150	8,330	540	0	0	0	0	0
2	0	0	0	289	3,920	6,260	480	0	0	0	0	0
3	0	0	0	262	3,840	6,180	510	0	0	0	0	0
4	0	0	0	244	3,640	5,560	480	0	0	0	0	0
5	0	0	0	243	3,960	5,190	470	0	0	0	0	0
6	0	0	0	266	8,090	4,980	658	0	0	0	0	0
7	0	0	0	253	5,620	4,780	859	0	0	0	0	0
8	0	0	0	233	4,560	4,520	839	0	0	0	0	0
9	0	0	0	211	5,830	4,300	811	0	0	0	0	0
10	0	0	0	193	7,220	4,400	1,160	0	0	0	0	0
11	0	0	0	182	7,220	4,250	1,290	0	0	0	0	0
12	0	0	226	880	10,200	4,010	1,250	0	0	0	0	0
13	0	.50	120	6,710	7,000	3,860	1,230	0	0	0	0	0
14	0	1.1	106	6,440	5,980	3,680	730	0	0	0	0	0
15	0	2.2	607	2,140	11,500	3,550	342	0	0	0	0	0
16	0	.28	2,240	1,270	9,530	3,410	200	0	0	0	0	0
17	.35	0	620	876	7,080	3,340	115	0	0	0	0	0
18	.70	.28	302	710	6,510	2,140	70	0	0	0	0	0
19	0	.90	201	4,330	5,940	1,320	55	0	0	0	0	0
20	0	.90	153	7,490	5,450	1,170	51	0	0	0	0	0
21	.70	.80	115	13,100	5,140	1,120	49	0	0	0	0	0
22	.90	0	86	11,700	4,820	1,040	48	0	0	0	0	0
23	.80	0	67	6,440	5,030	932	47	0	0	0	0	0
24	.42	0	199	5,130	6,060	867	48	0	0	0	0	0
25	0	.63	2,430	4,940	6,570	825	50	0	0	0	0	0
26	0	.21	2,590	9,870	5,630	793	46	0	0	0	0	0
27	0	0	1,060	7,160	5,060	748	35	0	0	0	0	0
28	0	0	690	5,560	7,740	678	17	0	0	0	0	0
29	0	0	682	4,890	-----	653	0	0	0	0	0	0
30	0	0	531	4,660	-----	792	0	0	0	0	0	0
31	0	-----	415	4,340	-----	600	-----	0	-----	0	0	-----
TOTAL	3.87	7.80	13,440	111,350	173,290	94,278	12,480	0	0	0	0	0
MEAN	.12	.26	434	3,592	6,189	3,041	416	0	0	0	0	0
MAX	.90	2.2	2,590	13,100	11,500	8,330	1,290	0	0	0	0	0
MIN	0	0	0	182	3,640	600	0	0	0	0	0	0
AC-FT	7.7	15	26,660	220,900	343,700	187,000	24,750	0	0	0	0	0

CAL YR 1968 TOTAL 140,213.96 MEAN 383 MAX 11,100 MIN 0 AC-FT 278,100
WTR YR 1969 TOTAL 404,849.67 MEAN 1,109 MAX 13,100 MIN 0 AC-FT 803,000

SACRAMENTO RIVER BASIN

11-4530. YOLO BYPASS NEAR WOODLAND, CALIF.

LOCATION.--Lat 38°40'40", long 121°38'35", (unsurveyed), Yolo County, on left bank 300 ft upstream from Sacramento and Woodland railroad bridge, 6 miles upstream from Sacramento bypass, 6 miles (revised) downstream from Fremont weir, and 7 miles east of Woodland.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.41 ft below mean sea level. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 higher. A supplementary water-stage recorder 6 miles downstream at different datum is used for records of low flow.

AVERAGE DISCHARGE.--30 years, 3,827 cfs (2,773,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 112,000 cfs Jan. 27 (gage height, 28.74 ft); no flow June 24-26, July 24-27.
Period of record: Maximum discharge, 272,000 cfs Feb. 8, 1942 (gage height, 32.00 ft); no flow at times in recent years.

REMARKS.--Records fair except those for period May to September, which are poor. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir; during the summer months, the flow consists largely of return water from irrigation. There is some diversion for irrigation between the main and supplementary gage which affects the low flow record.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	7.8	4.1	1,690	63,100	34,900	901	259	632	22	5.1	35
2	22	8.4	4.1	1,360	40,300	36,300	889	248	527	18	5.1	35
3	21	14	3.0	945	27,400	36,100	904	211	440	15	6.6	36
4	21	16	3.0	626	19,600	31,800	911	215	352	12	13	35
5	20	24	3.0	442	13,100	24,600	961	215	206	8.4	29	35
6	21	24	2.7	337	15,100	18,900	976	169	94	15	27	34
7	20	24	4.6	272	19,900	13,500	1,010	115	79	21	27	31
8	15	19	6.1	248	19,100	8,980	1,030	69	77	20	26	32
9	17	13	5.1	219	19,200	6,620	1,040	57	58	22	25	39
10	18	9.0	6.1	193	21,300	6,000	1,040	87	52	32	25	32
11	15	7.8	8.4	167	22,100	5,720	1,090	160	60	32	24	32
12	17	8.4	7.2	169	33,300	5,460	1,120	395	60	34	23	27
13	17	10	5.1	1,300	43,200	5,010	1,140	635	134	35	20	27
14	14	4.6	12	8,100	52,200	4,370	1,130	812	134	35	20	26
15	16	8.4	32	11,000	65,000	3,930	997	916	116	34	19	27
16	29	9.0	366	36,700	82,000	3,630	724	1,020	97	9.0	19	25
17	20	9.0	2,270	32,400	81,000	3,530	544	1,060	80	4.1	20	22
18	12	8.4	2,160	20,500	77,800	3,120	469	1,050	63	5.6	6.1	22
19	21	9.0	1,600	13,700	70,100	2,810	335	1,060	58	9.6	.90	24
20	21	12	895	28,700	58,100	1,760	282	1,050	62	24	.60	24
21	16	19	412	50,600	47,000	1,640	282	1,030	50	31	.30	24
22	15	18	216	79,200	39,700	1,640	259	983	60	25	.30	20
23	14	10	146	98,900	36,700	1,760	222	944	30	5.6	.15	19
24	29	7.8	126	107,000	34,500	1,540	224	894	0	0	.10	19
25	32	7.2	203	102,000	35,100	1,270	268	865	0	0	3.7	19
26	35	5.1	2,400	100,000	38,700	1,140	270	877	0	0	15	18
27	35	4.6	3,720	109,000	33,700	1,120	287	880	.10	0	24	18
28	29	5.6	3,160	100,000	30,200	1,060	282	856	.30	15	26	18
29	13	5.6	2,590	94,800	-----	990	272	820	1.5	31	27	18
30	10	4.6	2,320	83,000	-----	959	292	767	8.4	29	27	18
31	7.8	-----	2,020	78,400	-----	944	-----	707	-----	18	30	-----
TOTAL	611.8	333.3	24,710.5	1,162.0M	1,138.5M	271,103	20,151	19,426	3,531.30	562.3	494.95	791
MEAN	19.7	11.1	797	37,480	40,660	8,745	672	627	118	18.1	16.0	26.4
MAX	35	24	3,720	109,000	82,000	36,300	1,140	1,060	632	35	30	39
MIN	7.8	4.6	2.7	167	13,100	944	222	57	0	0	.10	18
AC-FT	1,210	661	49,010	2,305M	2,258M	537,700	39,970	38,530	7,000	1,120	982	1,570
CAL YR 1968	TOTAL	317,676.63	MEAN	868	MAX	19,000	MIN	0	ACFT	630,100		
WAT YR 1969	TOTAL	2,642,183.15	MEAN	7,239	MAX	109,000	MIN	0	ACFT	5,241,000		

LOCATION.--Lat 38°44'07", long 122°38'52", in NW¹/₄NW¹/₄ sec.9, T.10 N., R.7 W., Lake County, on right bank 0.3 mile downstream from Kroll Creek, 2.1 miles southwest of Middletown, and 2.7 miles upstream from mouth.

GAGE.--Water-stage recorder. Datum of gage is 1,172.15 ft above mean sea level.

AVERAGE DISCHARGE.--10 years, 27.7 cfs (20,070 acre-ft per year); median of yearly mean discharges, 24 cfs (17,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,640 cfs Jan. 13 (gage height, 8.06 ft); no flow for many days.
Period of record: Maximum discharge, 3,470 cfs Feb. 8, 1960 (gage height, 9.90 ft); no flow for many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.95	2.5	30	91	157	12	12	2.9	1.1	.09	0
2	0	11	2.4	26	72	120	23	11	2.9	1.0	.06	0
3	0	5.8	2.2	22	57	89	20	11	2.8	.95	.05	0
4	0	2.6	2.0	19	50	74	17	10	2.8	.89	.03	0
5	0	1.8	2.0	18	112	61	95	9.3	2.8	.83	.04	0
6	0	1.4	1.9	15	200	51	48	8.5	2.8	.78	.06	0
7	0	1.3	1.9	14	95	44	35	8.3	2.8	.73	.05	0
8	0	1.0	4.8	13	142	38	29	8.0	2.8	.68	.06	0
9	0	.89	89	12	670	34	29	7.5	2.9	.63	.04	0
10	0	.83	535	11	248	31	25	7.3	3.0	.58	.03	0
11	.58	1.1	74	238	378	28	22	6.8	2.9	.53	.03	0
12	14	2.5	29	706	191	28	20	6.5	2.8	.53	.03	0
13	2.4	1.5	47	985	112	25	19	6.3	2.6	.48	.02	0
14	1.4	2.6	124	187	154	23	18	6.0	2.4	.44	.02	0
15	1.2	9.0	288	90	358	21	16	5.8	2.2	.44	.01	0
16	.83	5.2	76	64	172	20	15	5.4	2.0	.36	0	0
17	.63	3.9	43	48	112	29	14	5.2	2.0	.32	.01	0
18	.53	6.5	32	140	88	25	13	5.0	2.2	.29	.03	0
19	.48	5.8	25	618	69	22	12	4.8	2.0	.26	.05	0
20	.44	4.3	20	870	54	23	11	4.7	1.9	.23	.05	.03
21	.40	3.6	17	940	46	27	11	4.5	1.9	.23	.03	.07
22	.36	3.0	15	358	44	22	11	4.3	1.7	.20	.02	.07
23	.36	2.6	31	149	76	20	39	4.2	1.5	.17	0	.07
24	.32	3.1	226	103	108	18	34	4.0	1.4	.17	0	.06
25	.29	2.8	298	280	105	18	22	4.0	1.4	.17	.01	.05
26	.29	2.4	111	427	84	16	18	4.3	1.4	.17	0	.04
27	.29	2.0	66	149	86	15	16	4.3	1.4	.15	0	.03
28	.26	1.9	92	105	268	14	15	3.9	1.4	.15	0	.04
29	3.3	2.0	56	79	-----	13	13	3.6	1.3	.13	0	.04
30	3.4	2.6	44	72	-----	13	13	3.3	1.2	.11	0	.04
31	1.4	-----	35	60	-----	12	-----	3.0	-----	.11	0	-----
TOTAL	33.16	95.97	2,392.7	6,848	4,242	1,131	685	192.8	66.1	13.81	0.82	0.54
MEAN	1.07	3.20	77.2	221	152	36.5	22.8	6.22	2.20	.45	.027	.018
MAX	14	11	535	985	670	157	95	12	3.0	1.1	.09	.07
MIN	0	.83	1.9	11	44	12	11	3.0	1.2	.11	0	0
AC-FT	66	190	4,750	13,580	8,410	2,240	1,360	382	131	27	1.6	1.1
CAL YR 1968	TOTAL	8,356.43	MEAN	22.8	MAX	630	MIN	0	AC-FT	16,570		
WTR YR 1969	TOTAL	15,701.90	MEAN	43.0	MAX	985	MIN	0	AC-FT	31,140		
PEAK DISCHARGE (BASE, 1,000 CFS)												
DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE					
12-10	1030	7.49	1,280	1-26	0130	7.30	1,180					
1-13	0800	8.06	1,640	2- 9	0515	7.17	1,120					
1-21	1830	7.95	1,570									

SACRAMENTO RIVER BASIN

11-4535. PUTAH CREEK NEAR GUENOC, CALIF.

LOCATION.--Lat 38°46'44", long 122°30'59", in Guenoc Grant, Lake County, on right bank just upstream from Coyote Valley damsite, 2.8 miles upstream from Soda Creek, 3.2 miles downstream from highway bridge at Guenoc.

DRAINAGE AREA.--113 sq mi.

PERIOD OF RECORD.--February 1904 to September 1906, July 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 914.18 ft above mean sea level. February 1904 to September 1906, nonrecording gage 0.2 mile upstream at different datum.

AVERAGE DISCHARGE.--41 years, 207 cfs (150,000 acre-ft per year); median of yearly mean discharges, 168 cfs (122,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,100 cfs Jan. 12 (gage height, 14.35 ft, high-water mark in well); minimum daily, 0.72 cfs Oct. 10, 18.
Period of record: Maximum discharge, 32,000 cfs Dec. 11, 1937 (gage height, 22.7 ft), from rating curve extended above 13,000 cfs; no flow for many days in August and September 1964.

REMARKS.--Records good. Some regulation by Hartmann Dam on Coyote Creek since 1969 (capacity, 3,000 acre-ft); diversions and ground-water withdrawals for irrigation of about 1,600 acres above station. Records of water temperatures and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1285: 1937(M), 1938, 1940, 1943(M), 1951(M). WRD Calif. 1967: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969¹

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	16	229	699	1,360	145	104	27	10	5.6	2.7
2	1.1	2.5	15	200	607	1,070	165	100	28	8.7	5.6	2.3
3	1.1	1.8	15	174	516	884	207	93	27	9.0	5.9	2.2
4	1.3	1.6	16	156	460	719	165	89	26	8.4	5.4	2.2
5	1.3	1.3	16	143	951	611	349	85	25	8.1	5.0	1.9
6	1.6	1.3	16	133	1,920	541	305	80	25	8.4	4.5	1.9
7	1.3	1.3	16	122	907	481	249	77	25	8.7	4.4	1.9
8	1.1	1.3	18	113	838	418	213	76	25	8.7	3.8	1.8
9	.92	1.3	24	106	4,360	382	202	74	24	8.1	3.7	1.3
10	.72	1.6	1,890	98	1,980	367	187	71	26	7.4	4.3	1.3
11	1.3	3.0	560	569	2,840	321	167	69	27	9.0	3.9	1.3
12	2.5	6.2	233	8,480	1,710	318	158	65	26	8.1	4.0	1.3
13	1.8	8.1	195	5,000	1,130	302	151	64	24	7.1	4.1	1.3
14	1.6	9.4	882	1,640	1,460	274	143	63	21	7.1	4.2	1.8
15	1.3	25	2,430	875	2,930	256	134	61	21	7.1	4.5	2.0
16	1.1	33	716	625	1,560	240	125	58	19	6.2	4.2	1.8
17	1.1	25	346	481	1,140	269	122	55	18	6.2	4.3	1.6
18	.72	20	242	940	925	243	116	52	17	5.9	4.4	1.8
19	.92	30	198	4,500	779	235	113	52	17	5.4	4.6	1.8
20	.92	27	160	5,650	671	233	106	49	16	4.8	4.4	1.8
21	.92	22	138	6,310	537	256	102	47	17	4.8	3.7	2.0
22	.92	20	120	2,750	485	229	97	45	17	4.2	3.5	1.8
23	.92	18	246	1,390	788	216	206	42	14	3.9	3.5	1.6
24	.92	17	1,830	1,070	1,110	205	261	39	14	3.9	3.7	1.3
25	.92	18	1,970	2,040	1,020	207	183	39	13	3.7	3.4	1.1
26	.92	17	944	3,790	811	224	152	38	12	3.7	3.1	1.1
27	.92	16	520	1,510	892	178	136	43	12	3.9	2.7	.92
28	.92	15	691	1,100	1,950	169	124	33	12	3.7	2.3	1.1
29	1.1	16	443	835	-----	163	109	33	11	4.5	1.9	1.1
30	1.3	16	358	819	-----	158	109	30	11	5.6	1.7	.92
31	1.3	-----	269	663	-----	154	-----	29	-----	4.8	2.2	-----
TOTAL	36.06	376.8	15,533	52,511	35,976	11,683	5,001	1,855	597	199.1	122.5	48.94
MEAN	1.16	12.6	501	1,694	1,285	377	167	59.8	19.9	6.42	3.95	1.63
MAX	2.5	33	2,430	8,480	4,360	1,360	349	104	28	10	5.9	2.7
MIN	.72	1.1	15	98	460	154	97	29	11	3.7	1.7	.92
AC-FT	72	747	30,810	104,200	71,360	23,170	9,920	3,680	1,180	395	243	97
CAL YR 1968	TOTAL	65,452.86	MEAN	179	MAX	5,700	MIN	.72	AC-FT	129,800		
WTR YR 1969	TOTAL	123,939.40	MEAN	340	MAX	8,480	MIN	.72	AC-FT	245,800		

DATE	TIME	PEAK DISCHARGE (BASE, 5,000 CFS)	DATE	TIME	DISCHARGE
12-15	1200	G.H. 11.39 DISCHARGE 6,460	1-26	0300	12.82 8,510
1-12	unknown	14.35 11,100	2- 9	0800	11.80 7,010
1-21	0600	13.06 8,900			

NOTE.--No gage-height record Jan. 11-13, Aug. 1 to Sept. 8.

SACRAMENTO RIVER BASIN

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11-4536. POPE CREEK NEAR POPE VALLEY, CALIF.

LOCATION.--Lat 38°37'48", long 122°19'52", in SW $\frac{1}{4}$ sec. 17, T.9 N., R.4 W., Napa County, on left bank 0.2 mile upstream from Lake Berryessa, 0.7 mile downstream from Maxwell Creek, and 5.2 miles east of Pope Valley.

DRAINAGE AREA.--78.3 sq mi.

PERIOD OF RECORD.--December 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

EXTREMES.--Maximum and minimum discharges for the water years 1966-69 are contained in the following table:

WATER YEAR	DATE	MAXIMUM		MINIMUM DAILY		
		DISCHARGE (cfs)	GAGE HEIGHT (feet)	DATE	DISCHARGE (cfs)	GAGE HEIGHT (feet)
1966	Jan. 5, 1966	7,230	13.96	many days	0	-
1967	Jan. 21, 1967	a4,510	-	many days	0	-
1968	Jan. 29, 1968	5,730	12.54	many days	0	-
1969	Jan. 26, 1969	6,840	13.19	many days	0	-

a Maximum daily.

Period of record: Maximum discharge, 18,000 cfs Jan. 31, 1963 (gage height, 19.79 ft), from rating curve extended above 7,700 cfs; no flow for many days in each year.

REMARKS.--No regulation or diversion above station.

COOPERATION.--Gage-height record, nine discharge measurements, and computations of daily discharge furnished by California Department of Water Resources; one discharge measurement made and records reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.20	11	149	562	78	21	8.2	2.8	.40	0	0
2	.10	.20	9.6	100	260	69	20	8.8	2.9	.30	0	0
3	.10	.20	8.0	121	458	61	19	7.3	2.7	.40	0	0
4	.10	.20	7.2	2,740	730	57	18	8.1	3.0	.40	0	0
5	.10	.20	6.7	3,680	315	54	18	7.6	3.3	.30	0	0
6	.10	.20	6.5	786	210	52	17	7.7	3.8	.20	0	0
7	.10	.20	6.4	365	163	49	17	7.6	4.0	.20	0	0
8	.10	.30	6.1	243	134	46	16	6.9	3.7	.20	0	0
9	.10	.40	6.2	178	115	51	18	7.3	3.2	.20	0	0
10	.10	.40	5.7	139	95	138	30	8.3	2.8	.20	0	0
11	.10	.40	6.4	115	84	80	37	7.6	2.5	.20	0	0
12	.10	.70	8.8	99	79	63	47	7.0	2.2	.20	0	0
13	.10	3.2	8.1	87	71	62	30	6.4	2.2	.20	0	0
14	.10	121	6.8	79	65	56	22	6.0	2.2	.20	0	0
15	.10	73	6.3	73	60	51	19	5.7	1.8	.20	0	0
16	.10	23	5.7	64	54	49	17	5.1	1.6	.20	0	0
17	.10	64	5.4	60	52	45	16	4.8	1.6	.20	0	0
18	.10	125	5.2	57	50	43	16	4.2	1.5	.10	0	0
19	.10	49	5.2	52	196	41	14	4.1	1.3	.20	0	0
20	.10	24	5.2	47	117	38	14	3.7	1.1	.20	0	0
21	.10	15	5.1	43	81	35	13	3.6	1.0	.30	0	0
22	.10	11	4.7	43	73	33	13	3.8	.90	.20	0	0
23	.10	8.9	4.7	41	88	31	12	3.6	.80	.20	0	0
24	.10	127	74	40	91	30	11	3.3	.90	.20	0	0
25	.10	82	166	38	109	28	11	2.8	.80	.20	0	0
26	.10	37	67	37	162	27	10	2.3	.70	.20	0	0
27	.10	27	41	37	104	25	9.9	2.4	.60	.10	0	0
28	.10	20	792	36	87	24	9.8	2.6	.30	.10	0	0
29	.10	16	412	251	-----	24	9.5	3.0	.20	.10	0	0
30	.20	13	245	491	-----	23	9.3	3.6	.40	.10	0	0
31	.20	-----	317	195	-----	22	-----	3.1	-----	0	0	-----
TOTAL	3.30	842.70	2,265.0	10,486	4,665	1,485	534.5	166.5	56.80	6.40	0	0
MEAN	.11	28.1	73.1	338	167	47.9	17.8	5.37	1.89	.21	0	0
MAX	.20	127	792	3,680	730	138	47	8.8	4.0	.40	0	0
MIN	.10	.20	4.7	36	50	22	9.3	2.3	.20	0	0	0
AC-FT	6.6	1,670	4,490	20,800	9,250	2,950	1,060	330	113	13	0	0
CAL YR 1965: TOTAL	25,073.30			MEAN 68.7	MAX 4,810	MIN 0	AC-FT 49,730					
WAT YR 1966: TOTAL	20,511.20			MEAN 56.2	MAX 3,680	MIN 0	AC-FT 40,680					

SACRAMENTO RIVER BASIN

11-4536. POPE CREEK NEAR POPE VALLEY, CALIF.--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	109	19	511	43	230	113	31	6.0	1.2	.60
2	0	0	1,260	18	351	42	169	104	104	5.5	1.4	.60
3	0	0	480	17	266	41	148	96	80	5.8	1.3	1.0
4	0	0	1,260	16	220	39	131	90	42	5.9	1.2	1.0
5	0	0	1,480	16	186	37	155	85	34	5.3	1.1	1.0
6	0	0	699	15	160	35	784	81	32	5.0	1.1	1.2
7	0	0	331	14	145	34	438	75	30	4.5	1.0	1.0
8	0	0	204	15	132	34	266	70	28	4.1	.90	1.0
9	0	.10	161	15	122	33	200	68	25	7.2	.90	.90
10	0	.10	331	14	113	50	284	68	24	4.3	.80	1.2
11	0	0	182	14	104	215	269	63	23	2.9	.70	1.0
12	0	0	134	15	97	379	184	60	22	3.0	.70	.80
13	0	0	112	14	93	302	154	55	21	3.2	.60	.80
14	0	.10	93	14	86	208	139	52	19	3.0	.60	.90
15	0	.80	76	14	80	221	134	49	18	2.7	.50	.90
16	0	91	65	14	77	1,590	126	48	17	2.6	.70	1.0
17	0	10	57	14	74	419	502	44	16	2.7	1.2	.80
18	0	3.9	51	14	70	254	650	42	16	2.6	1.3	1.2
19	0	282	46	14	65	192	484	40	16	2.4	1.0	1.0
20	0	615	43	930	60	209	288	39	16	2.2	.90	.80
21	0	183	39	4,510	56	212	380	36	15	2.0	.80	.80
22	0	108	35	1,000	55	168	328	35	14	1.9	.80	.90
23	0	39	32	460	54	206	392	33	13	1.8	.60	1.0
24	0	23	30	652	52	156	315	31	12	1.8	.60	.90
25	0	16	29	398	60	135	242	30	12	1.7	.60	.80
26	0	13	27	486	51	124	195	28	11	1.5	.60	.70
27	0	11	24	589	46	112	183	27	11	1.6	.60	.50
28	0	57	23	664	44	108	157	26	9.7	1.5	.60	.50
29	0	185	23	2,260	-----	103	139	27	8.8	1.4	.40	.50
30	0	57	22	1,720	-----	460	123	25	7.7	1.3	.40	.50
31	0	-----	20	959	-----	444	-----	26	-----	1.2	.50	-----
TOTAL	0	1,695.00	7,478	14,914	3,430	6,605	8,189	1,666	728.2	98.6	25.60	25.80
MEAN	0	56.5	241	481	123	213	273	53.7	24.3	3.18	.83	.86
MAX	0	615	1,480	4,510	511	1,590	784	113	104	7.2	1.4	1.2
MIN	0	0	20	14	44	33	123	25	7.7	1.2	.40	.50
AC-FT	0	3,360	14,830	29,580	6,800	13,100	16,240	3,300	1,440	196	51	51

CAL YR 1966: TOTAL 26,573.20 MEAN 72.8
WAT YR 1967: TOTAL 44,855.20 MEAN 123

MAX 3,680 MIN 0 AC-FT 52,710
MAX 4,510 MIN 0 AC-FT 88,970

NOTE.--No gage-height record Jan. 13-26.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.90	4.2	1.9	225	69	52	11	3.2	.50	.30	0
2	.90	.90	2.7	1.9	329	64	50	11	2.7	.60	.20	0
3	1.2	.90	97	1.7	247	57	43	11	2.6	.60	.20	0
4	.60	.90	96	1.6	177	54	40	11	2.1	.60	.20	0
5	.90	.70	102	1.6	142	51	39	11	2.3	.60	.20	0
6	.80	1.1	22	1.7	118	49	36	10	3.0	.60	.10	0
7	.70	1.2	79	1.7	102	50	34	11	2.7	.50	.10	0
8	.80	1.2	28	1.9	90	54	31	14	2.2	.50	.10	0
9	.70	1.3	14	2.9	81	45	30	14	2.2	.50	.10	0
10	.60	1.3	9.4	620	73	41	29	12	2.1	.50	.10	0
11	.60	1.3	6.8	75	64	39	28	11	1.9	.40	.10	0
12	.60	1.3	5.1	35	60	265	27	11	1.9	.40	0	0
13	.50	1.6	3.7	30	56	315	25	11	2.1	.30	0	0
14	.40	2.7	3.0	285	52	270	24	13	2.2	.30	0	0
15	.30	2.3	2.7	572	50	179	24	11	2.2	.30	0	0
16	.30	1.9	2.4	109	71	722	22	10	2.0	.30	0	0
17	.30	1.7	2.7	50	347	300	21	9.0	1.9	.40	0	0
18	.40	1.6	12	33	200	196	21	8.7	1.8	.40	0	0
19	.40	1.5	14	25	904	145	20	8.5	1.6	.40	0	0
20	.40	1.4	8.5	20	779	118	20	7.9	1.5	.40	0	0
21	.40	1.3	6.1	17	643	100	19	7.4	1.4	.50	0	0
22	.50	1.1	5.0	15	317	90	18	7.3	1.3	.50	0	0
23	.50	1.2	4.4	13	247	81	17	7.3	1.2	.50	0	0
24	.50	1.3	3.9	12	185	73	17	6.7	1.1	.50	0	0
25	.70	1.2	3.4	11	142	68	16	6.7	.90	.50	0	0
26	1.5	1.1	3.0	10	114	63	14	6.4	.80	.50	0	0
27	.60	1.1	2.6	9.7	94	59	13	5.8	.80	.50	0	0
28	.70	1.3	2.3	9.6	83	55	12	5.0	.70	.40	0	0
29	.70	3.8	2.1	2,670	73	52	12	4.6	.60	.40	0	0
30	.60	6.0	2.0	1,530	-----	49	11	4.2	.50	.40	0	0
31	.70	-----	1.9	360	-----	44	-----	3.7	-----	.30	0	-----
TOTAL	19.30	47.10	551.9	6,528.2	6,065	3,817	765	282.2	53.50	14.10	1.70	0
MEAN	.62	1.57	17.8	211	209	123	25.5	9.10	1.78	.45	.055	0
MAX	1.5	6.0	102	2,670	904	722	52	14	3.2	.60	.30	0
MIN	.30	.70	1.9	1.6	50	39	11	3.7	.50	.30	0	0
AC-FT	38	93	1,090	12,950	12,030	7,570	1,520	560	106	28	3.4	0
CAL YR 1967: TOTAL	36,300.50			MEAN 99.5	MAX 4,510	MIN .30	AC-FT 72,000					
WAT YR 1968: TOTAL	18,145.00			MEAN 49.6	MAX 2,670	MIN 0	AC-FT 35,990					

SACRAMENTO RIVER BASIN

11-4536. POPE CREEK NEAR POPE VALLEY, CALIF.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.2	2.6	57	310	757	57	31	8.9	2.4	.90	.30
2	0	5.6	2.5	47	245	583	64	30	9.0	2.5	.90	.30
3	0	24	2.4	40	203	454	80	28	8.9	2.4	.90	.20
4	0	9.5	3.0	36	177	324	62	27	8.6	2.4	1.0	.20
5	0	4.9	2.6	32	565	269	117	25	8.7	2.2	.90	.20
6	0	3.1	2.4	29	1,070	234	118	24	8.5	2.2	.80	.20
7	0	2.5	2.3	27	364	207	96	24	7.3	2.3	.80	.20
8	0	1.9	3.3	25	315	183	79	24	8.4	2.4	.80	.30
9	0	.80	14	23	1,890	176	73	22	9.3	2.2	.80	.30
10	0	.20	498	22	737	201	68	22	9.4	2.1	.70	.30
11	0	1.1	116	291	1,250	152	61	20	8.5	2.0	.70	.30
12	0	1.9	41	1,450	721	177	57	19	8.5	2.1	.60	.30
13	0	1.0	36	3,500	428	160	54	19	7.8	2.1	.60	.30
14	0	2.5	293	596	642	136	52	19	7.1	1.9	.50	.20
15	0	28	897	273	1,860	124	48	19	6.7	1.9	.50	.20
16	0	17	188	193	754	117	44	18	6.5	1.8	.50	.20
17	0	9.6	80	153	499	132	42	18	5.8	1.7	.50	.20
18	0	11	52	678	426	121	41	17	5.2	1.6	.50	.30
19	0	21	41	2,820	340	109	39	16	5.2	1.5	.40	.30
20	0	12	32	3,270	283	110	38	16	5.2	1.3	.50	.30
21	0	8.2	26	3,390	243	114	36	15	5.4	1.2	.50	.30
22	0	6.2	22	1,150	222	100	35	15	5.5	1.3	.40	.30
23	0	4.9	30	516	511	90	69	14	3.9	1.2	.30	.30
24	0	4.7	828	465	758	83	96	13	5.4	1.1	.30	.30
25	.20	3.8	917	826	736	79	55	13	2.9	1.0	.30	.30
26	.50	3.7	329	2,210	494	75	44	13	2.9	1.0	.30	.30
27	.80	3.2	140	664	402	72	39	14	3.3	1.0	.30	.30
28	1.0	2.8	296	511	1,150	68	36	13	3.6	.90	.30	.30
29	2.0	2.6	152	410	-----	64	34	11	6.3	.90	.30	.30
30	2.4	2.7	98	566	-----	62	33	10	2.9	.90	.30	.30
31	2.0	-----	71	310	-----	59	-----	9.6	-----	.90	.30	-----
TOTAL	8.90	202.60	5,218.1	24,580	17,595	5,592	1,767	578.6	195.6	52.40	17.40	8.10
MEAN	.29	6.75	168	793	628	180	58.9	18.7	6.52	1.69	.56	.27
MAX	2.4	28	917	3,500	1,890	757	118	31	9.4	2.5	1.0	.30
MIN	0	.20	2.3	22	177	59	33	9.6	2.9	.90	.30	.20
AC-FT	18	402	10,350	48,750	34,900	11,090	3,500	1,150	388	104	35	16
CAL YR 1968	TOTAL	22,956.30	MEAN	62.7	MAX	2,670	MIN	0	AC-FT	45,530		
WTR YR 1969	TOTAL	55,815.70	MEAN	153	MAX	3,500	MIN	0	AC-FT	110,700		

11-4539. LAKE BERRYESSA NEAR WINTERS, CALIF.

LOCATION.--Lat 38°30'48", long 122°06'13", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T.8 N., R.2 W., Napa County, near center of Monticello Dam on Putah Creek, 7.4 miles west of Winters.

DRAINAGE AREA.--566 sq mi.

PERIOD OF RECORD.--January 1957 to current year.

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

EXTREMES.--Current year: Maximum contents, 1,679,000 acre-ft Feb. 15 (elevation, 443.94 ft); minimum, 1,339,700 acre-ft Dec. 8 (elevation, 425.89 ft).

Period of record: Maximum contents, 1,686,100 acre-ft Jan. 6, 1965 (elevation, 444.30 ft); minimum since irrigation pool first filled, 1,077,900 acre-ft Oct. 10, 11, 1962 (elevation, 410.60 ft).

REMARKS.--Reservoir is formed by concrete arch-gravity dam, completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 ft (invert of outlet valves) and 440 ft (crest of glory-hole spillway) above mean sea level. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during year was 178,814 acre-ft. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

CAPACITY TABLE (ELEVATION, IN FEET, AND CONTENTS, IN ACRE-Feet)

400	911,200
410	1,068,100
420	1,236,000
430	1,414,200
445	1,699,900

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370.8	1,342.0	1,340.6	1,408.5	1,645.3	1,662.5	1,618.5	1,611.6	1,579.2	1,537.8	1,490.3	1,449.2
2	1,369.6	1,343.5	1,340.1	1,409.6	1,643.0	1,661.8	1,618.5	1,611.4	1,577.5	1,536.3	1,489.4	1,448.1
3	1,368.0	1,344.2	1,340.1	1,409.8	1,640.9	1,659.4	1,618.5	1,610.8	1,576.3	1,535.2	1,488.2	1,446.8
4	1,366.5	1,343.6	1,340.1	1,410.1	1,638.7	1,656.7	1,617.8	1,609.4	1,574.8	1,533.8	1,486.6	1,445.8
5	1,365.2	1,343.5	1,340.1	1,410.3	1,642.0	1,653.6	1,618.5	1,608.5	1,573.3	1,532.3	1,484.9	1,444.4
6	1,364.2	1,343.5	1,339.9	1,410.7	1,649.1	1,650.4	1,618.9	1,607.9	1,571.5	1,530.8	1,483.6	1,442.9
7	1,362.9	1,343.3	1,339.9	1,411.2	1,647.7	1,647.3	1,618.7	1,606.9	1,570.2	1,529.5	1,482.1	1,442.5
8	1,361.3	1,342.9	1,339.7	1,411.2	1,646.7	1,645.0	1,618.5	1,605.8	1,568.7	1,527.8	1,480.8	1,441.4
9	1,359.8	1,342.9	1,339.9	1,411.1	1,660.6	1,643.0	1,618.5	1,605.2	1,567.3	1,526.3	1,479.1	1,440.3
10	1,358.6	1,342.6	1,348.3	1,411.1	1,661.2	1,641.1	1,618.1	1,604.4	1,566.0	1,524.6	1,477.8	1,439.4
11	1,358.0	1,342.7	1,349.6	1,412.5	1,668.4	1,639.1	1,617.8	1,603.4	1,564.6	1,523.2	1,476.5	1,438.1
12	1,357.3	1,342.7	1,350.5	1,429.8	1,667.6	1,637.9	1,617.2	1,602.3	1,563.5	1,521.3	1,475.0	1,437.5
13	1,356.0	1,341.7	1,351.4	1,472.4	1,663.7	1,636.2	1,616.8	1,601.1	1,562.6	1,519.8	1,473.5	1,436.2
14	1,355.3	1,342.7	1,355.7	1,479.8	1,665.5	1,634.8	1,616.4	1,599.8	1,561.2	1,518.1	1,471.6	1,435.5
15	1,354.1	1,342.6	1,369.0	1,482.8	1,679.0	1,633.3	1,615.8	1,599.2	1,559.9	1,516.8	1,470.3	1,434.4
16	1,353.2	1,342.4	1,371.2	1,485.3	1,677.8	1,631.7	1,615.2	1,598.2	1,558.4	1,515.1	1,469.0	1,433.3
17	1,352.3	1,342.2	1,371.8	1,487.5	1,673.7	1,630.8	1,614.8	1,596.9	1,557.2	1,513.8	1,467.4	1,432.5
18	1,351.0	1,342.9	1,372.3	1,495.8	1,669.4	1,629.4	1,614.7	1,596.1	1,556.1	1,512.1	1,465.7	1,431.6
19	1,349.9	1,343.1	1,372.3	1,522.9	1,664.5	1,628.2	1,614.3	1,594.8	1,554.5	1,510.6	1,464.6	1,430.5
20	1,348.9	1,343.1	1,372.5	1,558.7	1,659.8	1,627.4	1,614.1	1,593.8	1,553.2	1,508.9	1,463.5	1,430.0
21	1,347.8	1,343.1	1,372.5	1,599.4	1,656.3	1,626.5	1,613.9	1,592.7	1,552.3	1,507.2	1,462.2	1,429.1
22	1,347.1	1,343.1	1,373.0	1,613.5	1,651.8	1,625.7	1,613.5	1,591.7	1,551.3	1,505.5	1,460.7	1,428.3
23	1,346.5	1,342.9	1,373.4	1,618.9	1,650.8	1,625.1	1,614.8	1,590.3	1,549.6	1,503.4	1,459.2	1,427.6
24	1,346.0	1,342.7	1,383.7	1,622.6	1,654.7	1,624.1	1,614.5	1,589.2	1,548.5	1,501.4	1,458.3	1,426.8
25	1,345.3	1,342.6	1,395.0	1,632.3	1,656.3	1,623.6	1,614.3	1,587.5	1,546.7	1,499.7	1,457.0	1,425.9
26	1,344.7	1,342.0	1,398.6	1,651.8	1,654.5	1,622.8	1,613.9	1,586.7	1,545.4	1,498.2	1,455.8	1,425.2
27	1,344.0	1,341.7	1,401.4	1,652.4	1,653.6	1,622.0	1,613.9	1,585.5	1,543.3	1,496.9	1,454.4	1,424.5
28	1,343.3	1,341.8	1,404.7	1,651.8	1,661.6	1,621.6	1,613.7	1,584.4	1,541.8	1,495.6	1,453.4	1,423.4
29	1,343.3	1,341.3	1,406.5	1,650.6	-----	1,620.8	1,613.1	1,583.0	1,540.3	1,494.4	1,452.3	1,422.8
30	1,343.3	1,341.0	1,407.6	1,649.4	-----	1,620.3	1,612.3	1,581.7	1,539.1	1,493.1	1,451.0	1,421.9
31	1,342.9	-----	1,408.3	1,646.9	-----	1,619.3	-----	1,580.7	-----	1,491.6	1,450.3	-----
(a)	426.07	425.96	429.68	442.30	443.05	440.88	440.52	438.88	436.70	434.18	431.96	430.40
(b)	-29.8	-1.9	+67.3	+238.6	+14.7	-42.3	-7.0	-31.6	-41.6	-47.5	-41.3	-28.4
(c)	4,305	1,791	974	785	1,110	4,810	5,788	10,699	10,280	12,771	12,091	8,586
MAX	1,370.8	1,344.2	1,408.3	1,652.4	1,679.0	1,662.5	1,618.9	1,611.6	1,579.2	1,537.8	1,490.3	1,449.2
MIN	1,342.9	1,341.0	1,339.7	1,408.5	1,638.7	1,619.3	1,612.3	1,580.7	1,539.1	1,491.6	1,450.3	1,421.0
CAL YR 1968	b -23.5		MAX 1,626.3		MIN 1,339.7							
WTR YR 1969	b +49.2		MAX 1,679.0		MIN 1,339.7							

a Elevation, in feet, at end of month.

b Change in contents, in thousands of acre-feet.

c Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11-4540. PUTAH CREEK NEAR WINTERS, CALIF.

LOCATION.--Lat 38°30'55", long 122°04'51", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.8 N., R.2 W., Yolo County, on left bank 1 mile downstream from Cold Canyon, 1.3 miles downstream from Monticello Dam, and 6 miles west of Winters.

DRAINAGE AREA.--574 sq mi.

PERIOD OF RECORD.--July 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 160.75 ft above mean sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher.

AVERAGE DISCHARGE.--39 years, 504 cfs (365,100 acre-ft per year), adjusted for change in contents and evaporation from Lake Berryessa.

EXTREMES.--Current year: Maximum discharge, 6,410 cfs Feb. 15 (gage height, 14.72 ft); minimum daily, 10 cfs Dec. 11, 12.

Period of record: Maximum discharge, 81,000 cfs Feb. 27, 1940 (gage height, 30.5 ft, present datum), from rating curve extended above 30,000 cfs; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Maximum discharge since construction of Monticello Dam in 1957, 7,740 cfs Jan. 7, 1965 (gage height, 14.96 ft); minimum daily, 6.1 cfs Dec. 19, 1967.

Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

REMARKS.--Records good. Flow regulated by Lake Berryessa beginning January 1957 (see sta 11-4539). Records of water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	605	70	97	91	2,840	4,160	651	434	629	588	500	387
2	584	42	94	95	2,640	4,050	620	471	616	565	458	373
3	582	15	89	104	2,430	3,910	613	458	574	558	464	396
4	584	45	71	116	2,240	3,630	587	477	667	581	538	417
5	581	80	18	112	2,210	3,340	601	513	669	601	584	385
6	566	86	19	100	3,000	3,060	642	545	675	612	595	345
7	554	86	19	69	3,090	2,800	638	565	667	610	579	353
8	556	85	19	63	2,920	2,570	626	554	659	650	559	378
9	543	76	19	63	3,630	2,390	622	579	643	659	551	380
10	512	69	16	84	4,280	2,230	603	570	598	684	537	385
11	511	41	10	140	4,640	2,070	582	562	574	661	517	363
12	453	13	10	131	5,130	1,960	577	556	564	649	526	329
13	426	16	11	91	4,780	1,850	537	537	581	639	550	296
14	439	16	13	43	4,440	1,710	516	534	551	660	560	284
15	432	16	20	82	5,850	1,590	496	534	534	711	518	297
16	363	16	47	89	6,180	1,500	470	529	563	728	517	300
17	440	16	76	113	5,650	1,410	465	540	608	685	509	297
18	442	16	79	121	5,120	1,340	437	559	580	679	509	297
19	447	16	60	102	4,590	1,250	419	579	526	666	517	297
20	445	16	42	225	4,090	1,180	399	554	525	660	504	270
21	434	16	70	116	3,650	1,140	383	551	537	662	502	269
22	294	31	70	259	3,270	1,090	377	523	508	667	478	282
23	243	51	142	615	3,120	1,040	386	587	510	676	429	300
24	259	36	96	890	3,290	970	415	573	557	681	393	308
25	278	24	72	1,230	3,500	914	410	545	576	645	417	308
26	288	23	68	3,200	3,470	872	399	568	578	593	435	294
27	264	39	90	3,560	3,270	835	380	573	596	580	404	285
28	244	89	77	3,530	3,640	793	385	573	602	558	395	280
29	139	92	82	3,300	-----	764	408	582	588	505	401	269
30	82	97	90	3,250	-----	726	419	596	590	494	396	250
31	74	-----	90	3,050	-----	693	-----	605	-----	478	388	-----
TOTAL	12,664	1,334	1,776	25,034	106,960	57,837	15,063	16,926	17,645	19,385	15,230	9,674
MEAN	409	44.5	57.3	808	3,820	1,866	502	546	588	625	491	322
MAX	605	97	142	3,560	6,180	4,160	651	605	675	728	595	417
MIN	74	13	10	43	2,210	693	377	434	508	478	388	250
AC-FT	25,120	2,650	3,520	49,650	212,200	114,700	29,880	33,570	35,000	38,450	30,210	19,190
MEAN a	-6.10	427	1,168	4,700	4,105	1,252	482	206	61.8	60.5	16.3	-10.6
AC-FT a	-375	2,540	71,790	289,000	228,000	77,010	28,670	12,670	3,680	3,720	1,000	-630
CAL YR 1968	TOTAL 139,258.1			MEAN 380		MAX 1,160	MIN 8.4	AC-FT 276,200	MEAN a 456		AC-FT a330,500	
WTR YR 1969	TOTAL 299,528			MEAN 821		MAX 6,180	MIN 10	AC-FT 594,100	MEAN a 990		AC-FT a717,100	

a Adjusted for change in contents and evaporation from Lake Berryessa.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements, and others collected for some special reason, are called measurements at miscellaneous sites.

Crest-stage partial-record stations

As explained on page 509 the California district publishes annual maxima on small streams at 304 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 the above-mentioned report. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current 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 during water year 1969							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Buena Vista Lake basin							
11-1951.5	Bitterwater Creek near Maricopa	W½ sec. 11, T. 11 N., R. 24 W., 1.0 mile southwest of Maricopa.	18.5	1961-69	2-24-69	(a)	71
11-1953.	Santiago Creek near Maricopa	NW¼ sec. 36, T. 11 N., R. 23 W., 8 miles southeast of Maricopa.	34.8	1961-69	2-24-69	17.51	948
Tulare Lake basin							
11-1973.7	Bitterwater Creek near Lost Hills	NW¼SE¼ sec. 21, T. 27 S., R. 18 E., 0.2 mile downstream from Cedar Canyon, 21 miles west of Lost Hills.	76.4	1961-69	2-24-69	4.90	3,190
11-2120.	Sand Creek near Orange Cove	NW¼ sec. 15, T. 15 S., R. 25 E., 3.8 miles east of Orange Cove.	26.8	1944-54b 1967, 1969	12-6-66 1-25-69	5.60 8.75	cl,350 3,520
11-2251.	Los Gatos Creek below Jacalitos Creek, near Coalinga	At intersection of secs. 22, 23, 26, and 27, T. 20 S., R. 16 E., at bridge on El Dorado Ave., 8 miles east of Coalinga.	407	1959-67, 1969	2-24-69	14.27	20,200
11-2251.3	Zapato Chino Creek near Avenal	SE¼SW¼ sec. 34, T. 21 S., R. 16 E., 6.6 miles northwest of Avenal.	43.2	1961-69	2-24-69	(a)	3,290
San Joaquin River basin							
11-2588.	East Fork Chowchilla River near Ahwahnee	NW¼SW¼ sec. 8, T. 7 S., R. 20 E., 5.5 miles west of Ahwahnee.	57.8	1957-67b 1969	1-25-69	11.20	4,800
11-2589.2	Middle Fork Chowchilla River near Nipinnawasee	SW¼NE¼ sec. 25, T. 6 S., R. 19 E., 6 miles west of Nipinnawasee.	13.6	1958-67b 1969	1-25-69	11.30	1,510
11-2630.5	Garzas Creek near Gustine	SW¼ sec. 18, T. 8 S., R. 8 E., above diversion weir, 7.7 miles west of Gustine.	51.2	1959-69	1-25-69	5.88	1,220
11-3050.	San Domingo Creek near San Andreas	NW¼ sec. 14, T. 3 N., R. 12 E., 6.5 miles southeast of San Andreas.	27.1	1950-62b 1963-67, 1969	1-21-69	3.29	222
11-3055.	San Antonio Creek near San Andreas	NE¼ sec. 10, T. 3 N., R. 12 E., 800 ft below highway bridge, 1.9 miles above mouth, and 5 miles southeast of San Andreas.	48.1	1950-59b 1961-69	1-21-69	5.50	2,360
11-3070.	Esperanza Creek near Mokelumne Hill	NW¼ sec. 6, T. 5 N., R. 13 E., 600 ft above mouth, 6 miles east of Mokelumne Hill.	16.6	1951-59b 1961-69	1-21-69	5.74	2,070
11-3075.	Jesus Maria Creek near Mokelumne Hill	SE¼ sec. 16, T. 5 N., R. 12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.6	1950-59b 1961-69	1-21-69	5.74	2,180
11-3085.	Murray Creek near San Andreas	SW¼ sec. 8, T. 4 N., R. 12 E., 1.5 miles upstream from mouth and 1.1 miles north of San Andreas.	23.6	1950-59b 1961-67, 1969	1-21-69	5.24	1,100

a. Gage height not determined.

b. Operated as a continuous-record gaging station.

c. Not published previously.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations--Continued

Annual maximum discharge at crest-stage partial-record stations during water year 1969--Continued

Annual maximum discharge at cross section gaging stations during water year 1969 continued					Annual maximum		
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Gage height (feet)	Discharge (cfs)
Sacramento River basin							
11-3655.	Squaw Creek above Shasta Lake	SW 1/4 sec. 29, T. 35 N., R. 2 W., 1.3 miles upstream from Salt Creek, 2 miles upstream from Shasta Lake, and 10 miles west of town of Montgomery Creek.	64.0	1944-66b	1-21-69	18.86	11,100
11-3732.	Oak Run Creek near Oak Run	SE 1/4 NW 1/4 sec. 25, T. 33 N., R. 2 W., 800 ft downstream from road bridge and 1.1 miles northwest of town of Oak Run.	11.0	1957-66b 1969	1-21-69	6.12	1,060
11-3775.	Paynes Creek near Red Bluff	SE 1/4 sec. 22, T. 28 N., R. 3 W., 0.4 mile upstream from mouth and 6.5 miles northeast of Red Bluff.	92.7	1950-66b 1967-69	1-21-69	9.83	7,200

b. Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 1969

Discharge measurements made at miscellaneous sites during water year 1969						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Eagle Lake basin						
Pine Creek	Eagle Lake	SE $\frac{1}{4}$ sec. 5, T. 31 N., R. 8 E., 1 mile southwest of Bogard Guard Station and 19 miles north of Westwood.	24.8	1950-61a 1964 1967-68	5-14-69 9-9-69	106 b2.38
Buena Vista Lake basin						
Erskine Creek	Kern River	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 27 S., R. 33 E., at diversion weir 1.9 miles east of Bodfish and 4.0 miles south of the town of Lake Isabella.	33.1	--	1-25-69	c550
Bodfish Creek	Kern River	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 27 S., R. 32 E., at culvert on State Highway 178 at Bodfish post office.	15.8	--	1-25-69 2-24-69	c570 c388
Clear Creek	Kern River	NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 27 S., R. 32 E., 0.2 mile upstream from Hobo Hot Springs Guard Station and 8 miles southwest of the town of Lake Isabella.	48.1	--	1-25-69	c967
Sacramento Gulch	Beardsley Canal	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 29 S., R. 28 E., 150 ft south of China Grade Loop Road and 2.7 miles east of Oildale.	3.28	--	2-24-69	c16
Lakern Creek tributary	Buena Vista Lake	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 30 S., R. 22 E., at culvert on State Highway 33, 2.3 miles south of McKittrick.	0.83	--	2-24-69	c20
Walker Creek	Buena Vista Lake	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 30 S., R. 30 E., 0.9 mile west of Bena and 7.5 miles northwest of Calienta.	118	--	2-25-69	c1,120
Tulare Lake basin						
Franciscan Creek	Tulare Lake	SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T. 26 S., R. 18 E., 550 ft upstream from culvert on County Road 466 and 8.8 miles southwest of town of Devils Den.	20.8	--	2-24-69	c506
Rag Gulch	Tulare Lake	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 25 S., R. 27 E., at culvert on State Highway 65, 3.8 miles southeast of Richgrove.	186	--	2-24-69	c2,240
White River	Tulare Lake	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 24 S., R. 27 E., at bridge on State Highway 65, 1.9 miles south of Ducor.	120	--	2-24-69	c4,180
Lewis Creek	Tule River	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 20 S., R. 28 E., 100 ft upstream from unnamed right bank tributary and 4.5 miles northeast of Strathmore.	18.3	--	2-24-69	c1,480
Antelope Creek	St. Johns River	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 17 S., R. 26 E., at railroad bridge on west edge of Woodlake.	19.2	--	2-24-69	c1,050
Wooten Creek	Tulare Lake	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 15 S., R. 24 E., on west side of Hill Valley Road, 1.2 miles north of Orange Cove.	7.25	--	2-24-69	c264
Cottonwood Creek	Tulare Lake	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 17 S., R. 26 E., 50 ft downstream from bridge on State Highway 201 at Elderwood.	83.4	--	2-24-69	c4,670
Hughes Creek	Kings River	SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 12 S., R. 24 E., 0.25 mile upstream from culvert on Trimmer Road and 1.7 miles north of Piedra.	12.1	--	1-25 69	c5,810
Wahtoke Creek	Tulare Lake	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 14 S., R. 24 E., 0.3 mile upstream from bridge on State Highway 180 and 6.7 miles east of Centerville.	18.3	--	2-24-69	c1,760
Travers Creek	Tulare Lake	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 15 S., R. 23 E., 900 ft upstream from bridge on Huntsman Ave. and 1.8 miles southeast of Reedley.	5.48	--	2-24-69	c1,130
Warthan Creek	Los Gatos Creek	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 21 S., R. 14 E., adjacent to State Highway 198 and 5 miles southwest of Coalinga.	94.4	--	2-24-69	c7,990
Jacalitos Creek	Los Gatos Creek	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 20 S., R. 16 E., 1,000 ft downstream from bridge on Jayne Ave. and 4 miles east of Coalinga.	64.8	--	2-24-69	c5,660
Canoas Creek	Tulare Lake	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 21 S., R. 16 E., 600 ft east of Sutter Ave. and 4.5 miles northwest of Avenal.	33.4	--	2-24-69	c1,530

- a. Operated as a continuous-record gaging station.
 b. Base flow.
 c. Peak flow.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements at miscellaneous sites--Continued

Discharge measurements made at miscellaneous sites during water year 1969--Continued

Discharge measurements made at miscellaneous sites during water year 1969--Continued						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
San Joaquin River basin						
Red Bank Slough	San Joaquin River	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 12 S., R. 22 E., at culvert on Herndon Ave., 7.8 miles east of Clovis.	4.72	--	1-25-69	c395
Cottonwood Creek	San Joaquin River	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 11 S., R. 18 E., 1,700 ft upstream from Avenue 15 bridge and 3.9 miles north of Trigo.	36.7	--	2-24-69	c3,270
Little Dry Creek	San Joaquin River	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T. 11 S., R. 19 E., at culvert on County Road 35, 4.1 miles northeast of Trigo.	32.2	--	2-24-69	c2,980
Salt Creek	San Joaquin River	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 18 S., R. 15 E., 0.1 mile upstream from powerline crossing, 7 miles south of Three Rocks, and 18 miles north of Coalinga.	25.6	--	2-24-69	c1,020
Arroyo Hondo	San Joaquin River	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 17 S., R. 14 E., at bridge on Interstate Highway 5, 6.7 miles southwest of town of Cantua Creek.	25.8	--	2-24-69	c864
Dry Creek	Fresno River	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 10 S., R. 17 E., at culvert on County Road 26, 700 ft downstream from diversion dam, and 4.4 miles east of Berenda.	44.4	--	2-24-69	c963
Berenda Creek	Fresno River	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 10 S., R. 17 E., at culvert on Avenue 20 $\frac{1}{2}$, 1.5 miles northeast of Berenda.	36.7	--	2-24-69	c1,080
Romero Creek	Fresno River	SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 9 S., R. 8 E., 0.3 mile west of Romero Ranch and 8.8 miles west of Volta.	19.1	--	2-24-69	c392
Quinto Creek	Fresno River	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 9 S., R. 8 E., 0.3 mile east of Howard Ranch and 9 miles northwest of Volta.	29.2	--	2-24-69	c411
Tenaya Creek	Merced River	Lat 37°44'32", long 119°33'25", at bridge 0.7 mile above mouth and 1.7 miles east of Yosemite National Park headquarters.	47	1904-9a 1912-58a 1961, 1966-68	9-25-69	b1.78
Yosemite Creek	Merced River	Lat 37°44'45", long 119°35'40", 0.3 mile above mouth and 0.7 mile west of Yosemite National Park headquarters.	43.2	1904-9a 1912-26a 1960, 1966-68	9-25-69	b.58
South Fork Merced River	Merced River	SW $\frac{1}{4}$ sec. 34, T. 4 S., R. 21 E., in Yosemite National Park, 1,000 ft downstream from highway bridge at Wawona and 1,200 ft upstream from Big Creek.	100	1958-68a	9-24-69	b6.87
Crane Creek	Merced River	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 2 S., R. 20 E., 100 ft above diversion and 3 miles northeast of El Portal.	--	1964-68	9-25-69	b1.96
Hunter Creek	North Fork Tuolumne River	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 1 N., R. 20 E., at road ford, 5.5 miles southeast of Tuolumne.	--	1911, 1964 1967-68	8-25-69	b1.46
San Antonio Creek	Calaveras River	NE $\frac{1}{4}$ sec. 10, T. 3 N., R. 12 E., 800 ft below highway bridge, 1.9 miles above mouth, and 5 miles southeast of San Andreas.	48.1	1950-59a 1967-68	9-24-69	b3.30
Esperanza Creek	Calaveras River	NW $\frac{1}{4}$ sec. 6, T. 5 N., R. 13 E., 600 ft above mouth, 6 miles east of Mokelumne Hill.	16.6	1951-59a 1967-68	9-24-69	b1.34
Jesus Maria Creek	Calaveras River	SE $\frac{1}{4}$ sec. 16, T. 5 N., R. 12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.6	1950-59a 1967-68	9-24-69	b1.37
Murray Creek	Calaveras River	SW $\frac{1}{4}$ sec. 8, T. 4 N., R. 12 E., 1.5 miles upstream from mouth and 1.1 miles north of San Andreas.	23.5	1950-59a 1961-67	9-23-69	b0.54
Sacramento River basin						
Salt Creek	Sacramento River	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 35 N., R. 4 W., at Oakland Boys Camp.	--	--	9-17-69	b0.52
Salt Creek	Sacramento River	NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 35 N., R. 4 W., near Upper Salt Creek Resort.	--	--	9-17-69	b1.63
Coal Creek	Salt Creek	SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 35 N., R. 4 W., near Lower Salt Creek Resort.	--	--	9-17-69	b.07
Lost Creek	Hat Creek	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 32 N., R. 4 E., 0.9 mile north of boundary of Lassen Volcanic National Park, and 14.5 miles northeast of Mineral.	--	1966-68	9-15-69	b8.10
Horse Creek	Pit River	NE $\frac{1}{4}$ sec. 15, T. 35 N., R. 7 E., 100 ft downstream from railroad bridge, 0.5 mile northeast of Little Valley, and 13 miles southeast of Pittville.	237	1929-31a 1960-67a 1968	9-16-69	b7.96
Fall River	Pit River	NE $\frac{1}{4}$ sec. 30, T. 38 N., R. 4 E., 0.7 mile southeast of Dana and 1 mile downstream from large springs below Bear Creek.	--	1959-67a 1968	9-15-69	b435
Squaw Creek	Pit River	SW $\frac{1}{4}$ sec. 29, T. 35 N., R. 2 W., 1.3 miles upstream from Salt Creek, 2 miles upstream from Shasta Lake, and 10 miles west of town of Montgomery Creek.	64.0	1945-67a 1968	9-11-69	b15.5

- a. Operated as a continuous-record gaging station.
b. Base flow.
c. Peak flow.

Measurements at miscellaneous sites--Continued

Discharge measurements made at miscellaneous sites during water year 1969--Continued

Discharge measurements made at miscellaneous sites during water year 1969--Continued						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Sacramento River basin--Continued						
Oak Run Creek	Cow Creek	SE 1/4 sec. 25, T. 33 N., R. 2 W., 800 ft downstream from road bridge, 1.1 miles northwest of town of Oak Run, 3.2 miles upstream from Tracy Creek, and 12.2 miles northeast of Millville.	11.0	1957-66a 1967-68	9-11-69	b15.5
Paynes Creek	Sacramento River	SE 1/4 sec. 22, T. 28 N., R. 3 W., 0.4 mile upstream from mouth and 6.5 miles northeast of Red Bluff.	92.7	1950-66	12-19-67 11-13-68 9-8-69	bd14.5 22.4 b.62

b. Base flow.

d. Not published previously.

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