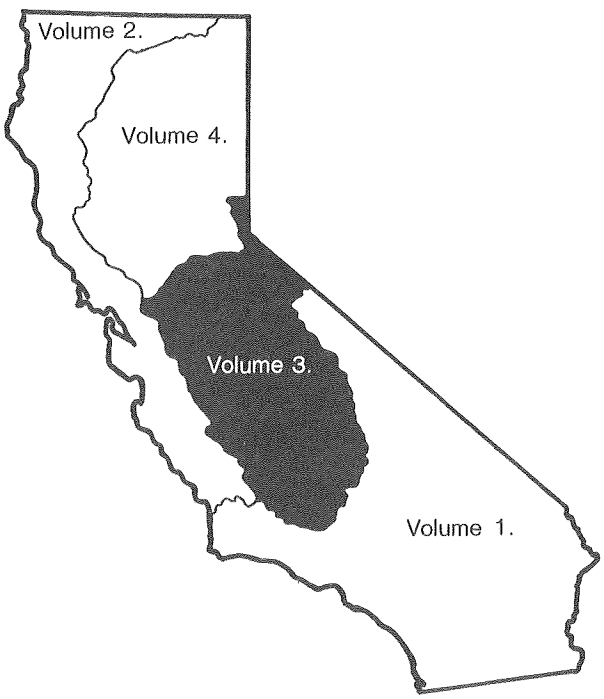
Water Resources Data
California
Water Year 1986

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-86-3
Prepared in cooperation with the California Department of Water Resources and with other agencies

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

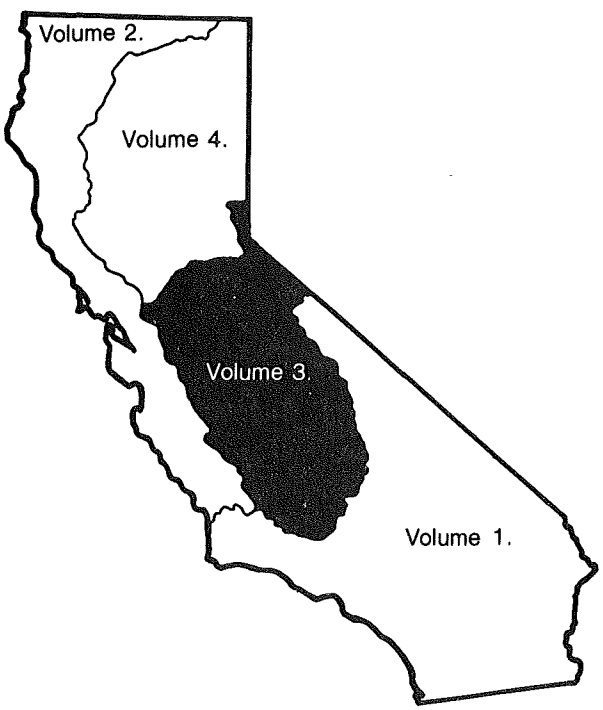
The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

Water Resources Data California Water Year 1986

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

by T.C. Hunter, J.R. Mullen, R.G. Simpson, and D.A. Grillo



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-86-3
Prepared in cooperation with the California Department of Water Resources and with other agencies

DEPARTMENT OF THE INTERIOR

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U.S. GEOLOGICAL SURVEY

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2800 Cottage Way
Sacramento, California 95825

1988

PREFACE

This volume of the annual hydrologic data report of California is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for California are contained in five volumes:

Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River

Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

Volume 5. Ground-water data for California

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, the individuals contributing significantly to the collection, processing, and tabulation of the data are given on page V.

This report was prepared in cooperation with the California Department of Water Resources and with other agencies, under the general supervision of John M. Klein, District Chief, California.

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15. Supplementary Notes

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

16. Abstract (Limit: 200 words)

Water resources data for the 1986 water year for California consist of records of stage, discharge, and water quality of streams; stage and contents in lakes and reservoirs; and water levels and water quality in wells. Volume 3 contains discharge records for 159 gaging stations; stage and contents for 37 lakes and reservoirs; gage height records for 2 lakes; and water quality for 16 streams. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.

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SURFACE-WATER AND WATER-QUALITY STATIONS
IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

[Letters after station name designate type of data: (d), discharge; (l), lake contents; (c), chemical; (b), biological; (p), precipitation; (t), water temperature; and (s), sediment]

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WATER RESOURCES DATA -- CALIFORNIA, WATER YEAR 1986

VOLUME 3--SOUTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN

FROM WALKER RIVER TO TRUCKEE RIVER

By T.C. Hunter, J.R. Mullen, R.G. Simpson, and D.A. Grillo

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of California each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data - California."

This report includes records on surface water in the State. Specifically, it contains: (1) Discharge records for 159 streamflow-gaging stations and 4 crest-stage partial-record streamflow stations; (2) stage and contents records for 37 lakes and reservoirs; and (3) water-quality records for 16 streamflow-gaging stations. Records included for stream stages are only a small fraction of those obtained during the water year.

This series of annual reports for California began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format changed to one volume, including data on quantities of surface water, quality of surface and ground water, and ground-water levels. Beginning with the 1985 water year, a separate volume for ground-water levels and quality was published for California.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for California were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 10 and 11." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." These Water-Supply Papers may be consulted in public libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 810, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-86-3." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (916) 978-4668.

COOPERATION

The U.S. Geological Survey and organizations of the State of California have had cooperative agreements for the systematic collection of 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, David N. Kennedy, Director.
California State Water Resources Control Board, Michael Campos, Executive Director.
East Bay Municipal Utility District, Jerome B. Gilbert, General Manager.
El Dorado County Water Agency, Robert E. Dorr, Chairman, Board of Supervisors.
Fresno County Metropolitan Flood Control District, Doug Harrison, General Manager-Secretary.
Kings River Conservation District, Jeff L. Taylor, General Manager-Chief Engineer.
Madera Irrigation District, Robert L. Stanfield, General Manager-Chief Engineer.
Merced, City of, Steven M. Stroud, Director of Public Works.
Merced Irrigation District, Tom Reta, Chief Engineer-Manager.
San Francisco, City and County, Hetch-Hetchy Water and Power, Rudolf Nothenberg, General Manager of Public Utilities.
Tahoe Regional Planning Agency, David S. Ziegler, Senior Planner.
Terra Bella Irrigation District, John E. Boudreau, Engineer-Manager.
Tulare County Flood Control District, Jack L. Carlsen, Flood Control Engineer.
Turlock Irrigation District, Paul S. Brown, Controller.
University of California (Davis), Division of Environmental Studies.
Woodbridge Irrigation District, Mabel Hall, Manager-Secretary.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Forest Service and Soil Conservation Service, U.S. Department of Agriculture; Bureau of Reclamation and Fish and Wildlife Service, U.S. Department of Interior.

The following organizations aided in collecting records: Pacific Gas and Electric Co.; Southern California Edison Co.; Merced, Nevada, and Oakdale-South San Joaquin Irrigation Districts.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1986 water year in the area covered by this volume was about 250 percent of the 1951-80 median of mean annual flow (based on seven representative streamflow records), and ranged from 162 percent of median at the Merced River at Pohono Bridge, near Yosemite, to 583 percent of median at Orestimba Creek near Newman. Runoff, in percent of median, at selected sites in California is shown in figure 1. The monthly runoff in the 1986 water year at four index stations and the 1951-80 maximum, minimum, and median monthly mean flows are shown in figure 2. Maximum instantaneous discharges at 11 gaging stations exceeded existing peaks of record in the area covered by this volume; peak discharges for those gages are shown below:

Station No.	Station name	Years of record	Previous peak (ft^3/s)	1986 peak (ft^3/s)	Unit discharge [$(ft^3/s)/mi^2$]
11206700	Emerald Lake Outflow near Giant Forest	3	23	40	93
11258960	Chowchilla River above Willow Creek, near Raymond	6	12,900	16,900	98
11284400	Big Creek above Whites Gulch, near Groveland	17	2,180	2,620	160
11284700	North Fork Tuolumne River near Long Barn	24	2,190	2,760	119
11295400	Stanislaus River near Hathaway Pines	19	37,000	46,200	73
11299600	Black Creek near Copperopolis	3	2,290	5,200	361
11316800	Forest Creek near Wilseyville	26	1,770	1,980	95
11317000	Middle Fork Mokelumne River at West Point	75	4,510	5,080	74
11318500	South Fork Mokelumne River near West Point	53	6,920	7,300	97
11329500	Dry Creek near Galt	49	24,000	30,500	94
11335000	Cosumnes River at Michigan Bar	79	42,000	45,100	84

The 1986 water year was relatively mild through January, averaging 80 to 90 percent of normal precipitation. The warm February and March storms filled most reservoirs to capacity, but contributed little to the high elevation snowpack. Snowmelt runoff was delayed by lower than average spring temperatures, resulting in reservoirs at or near capacity at the end of the water year.

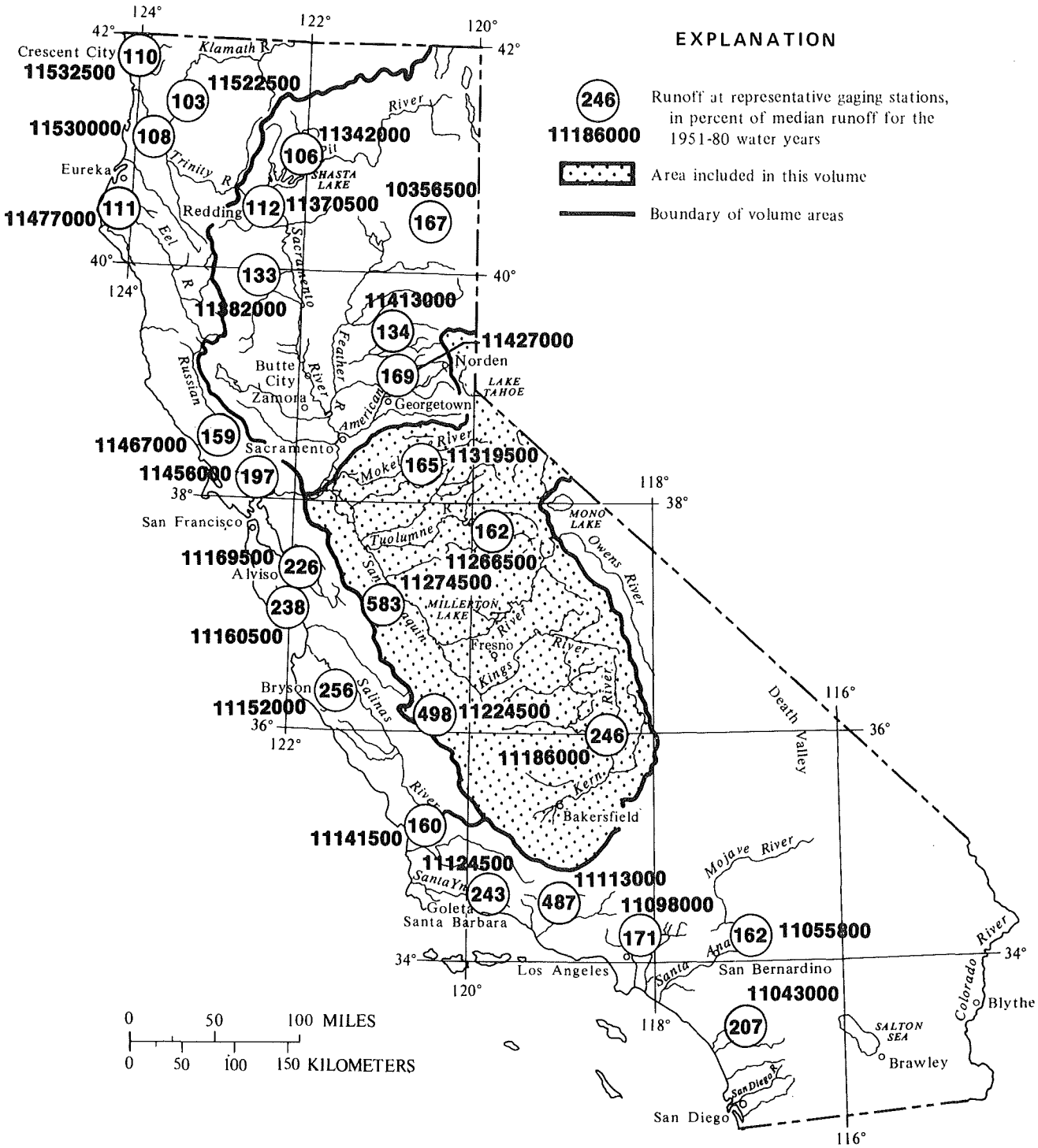

FIGURE 1.—Runoff, in percent of median, for the 1986 water year.

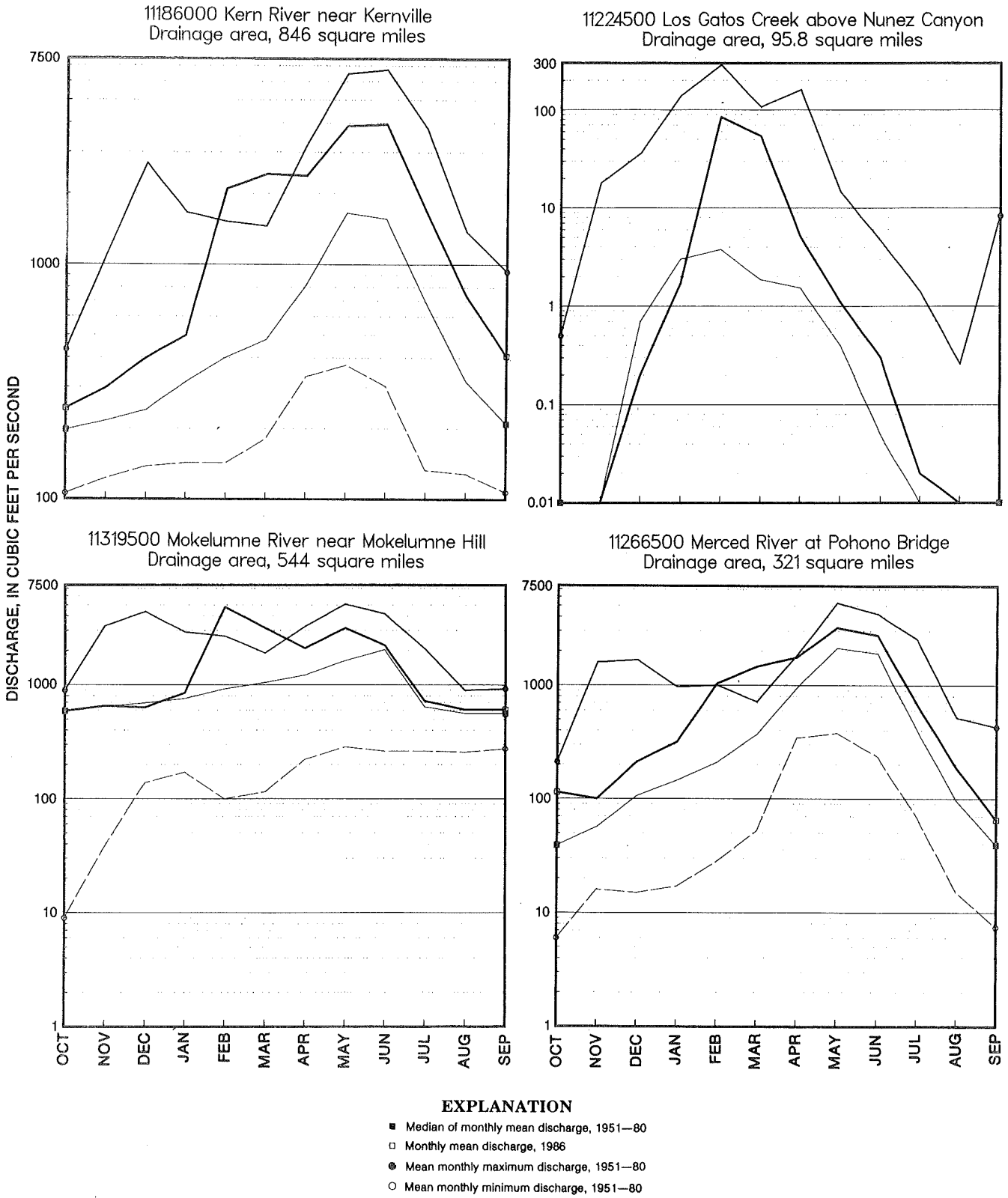

FIGURE 2. — Comparison of discharge during water year 1986 with long-term median discharge at four representative gaging stations.

Water Quality

Water samples collected at four NASQAN and two Hydrologic Bench-mark stations reported in this volume were analyzed for water-quality constituents. Median dissolved-solids concentrations of samples collected from these stations were comparable to the 1985 values. Median dissolved-solids concentrations at the San Joaquin River near Vernalis decreased from 373 mg/L in 1985 to 312 mg/L in 1986. The monthly dissolved-solids concentrations during water year 1986 are compared in figure 3 with long-term dissolved-solids concentrations at two selected stations.

Fecal-coliform and fecal-streptococci bacteria densities increased from the previous year with the exception of samples collected from the Merced River at Happy Isles Bridge, near Yosemite. The largest fecal-coliform and fecal-streptococci bacteria densities occurred in water samples collected from the Mokelumne River near Woodbridge (greater than 2,000 colonies per 100 milliliters) and from the Kings River below North Fork, near Trimmer (2,100 colonies per 100 milliliters), respectively.

Surface water-quality data are being collected at 11 stations located in the lower San Joaquin River drainage basin as part of the Western San Joaquin Valley Study. Data collection began in June 1985 and is continuing on a biweekly basis. Physical measurements are made onsite at each station, and water samples are collected for chemical, biological, and sediment analyses. The results of these measurements and analyses will be published separately in other reports.

Sediment

Suspended-sediment discharge and concentration were monitored daily at seven stations and periodically at eight stations in the area reported in this volume. Six of the daily stations monitor sediment transport into Lake Tahoe. The high resistance to erosion of the granitic and volcanic rock surrounding the lake, as well as the presence of snowcover during a significant part of the year, generally result in relatively low sediment discharge rates and concentrations. The stations monitored periodically are in an area extending from as far north as Truckee to as far south as the town of Kernville.

During the 1986 water year, sediment discharge in the Lake Tahoe basin ranged from 3 to 18 times the sediment discharge for water year 1985. The increase in sediment discharge was largest for stations on the west side of Lake Tahoe and smallest for those on the east side. Sediment discharge at the San Joaquin River near Vernalis in 1986 was 150 percent of the mean sediment discharge for the 1957-85 water years.

Sediment discharge for the daily stations ranged from 7.7 tons per year for Logan House Creek near Glenbrook, to 569,000 tons per year for the San Joaquin River near Vernalis. Annual sediment discharge per square mile of drainage area ranged from a minimum of 3.8 tons per square mile for Logan House Creek to a maximum of 621 tons per square mile for Blackwood Creek near Tahoe City.

The majority of sediment transport in the Tahoe basin was the result of February and March storms. Sediment discharge at the San Joaquin River station was more evenly distributed during the year because of flow regulation.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide. The data provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for; (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) to detect changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

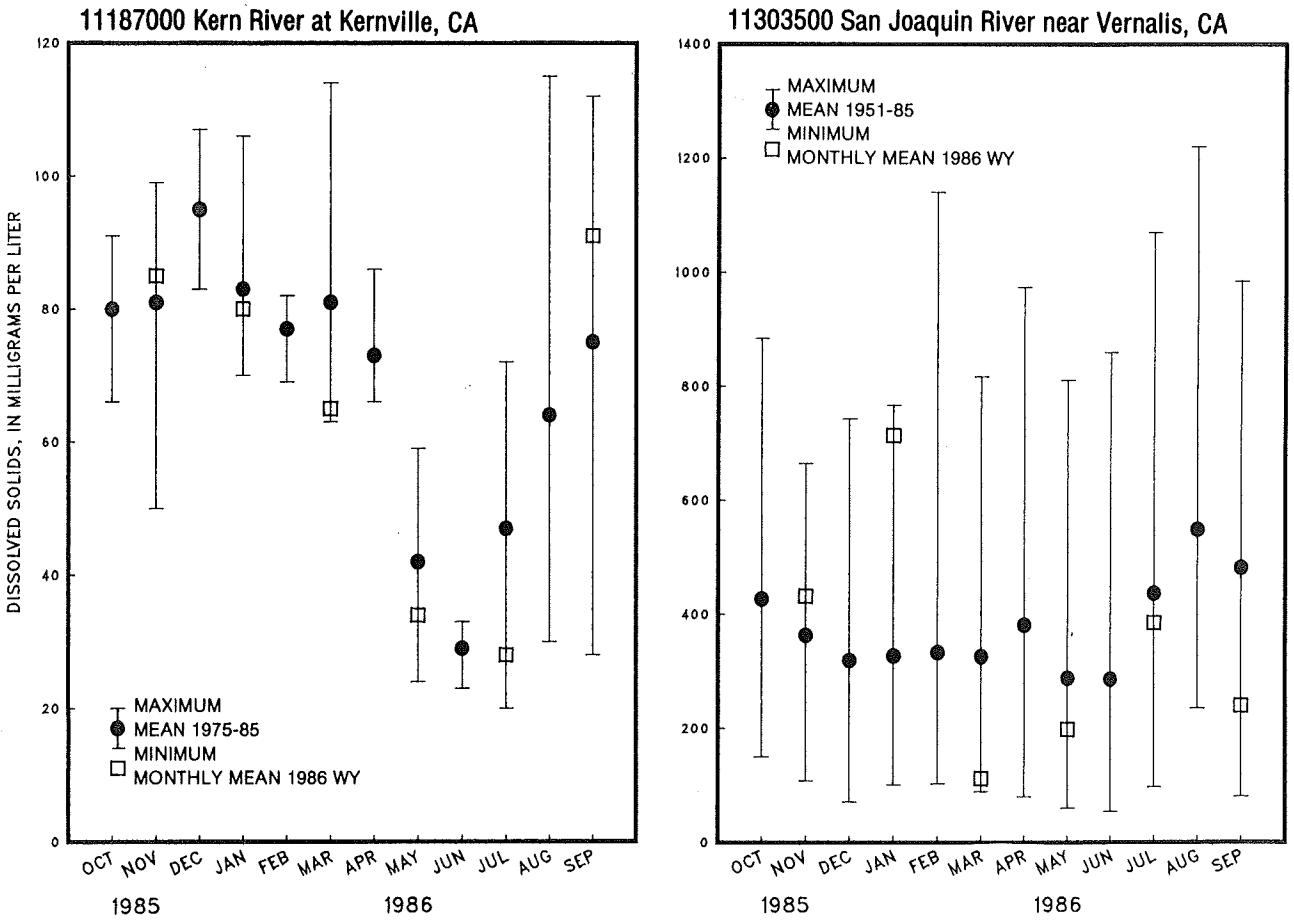

FIGURE 3. — Comparison of monthly mean dissolved-solids concentration during water year 1986 with long-term dissolved-solids concentration of two selected stations.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The locations of the stations where the data were collected are shown in figures 5 through 24. The following sections of the introductory text are presented to provide users with a more detailed explanation of how ologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each streamsite data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for surface-water stations in California where only miscellaneous measurements are made.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports has been in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other 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 series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 11465350, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "465350." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 4).

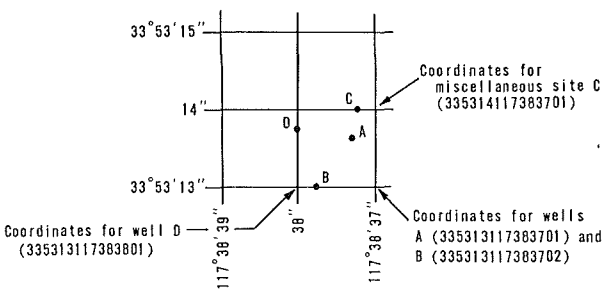

Figure 4.--System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake and reservoir contents, similarly, are those for which stage or contents may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown, by county, in figures 5 through 25.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake contents. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in U.S. Geological Survey Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI), Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge are prepared for any stage within the range of the measurements. If it is necessary to define extremes of discharge outside the range of current-meter measurements, the curves are extended using (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dam or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. 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 of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes or observations, and records for other stations in the same or nearby basins for comparable periods.

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 computing discharge. 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 computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available surveys, curves, or tables defining the relationship of stage and contents. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. When this is done, the contents computed may become increasingly in error as time increases since the last survey. Discharges over lake or reservoir spillways are computed from stage-discharge relationships, in the same manner as other stream discharges are computed.

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 from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation.

The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time when the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted 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 most recently revised figure was published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station, and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possible, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office to determine if the published records were revised after the station was discontinued. If the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton storage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. 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 usually expressed in cubic feet per second per square mile (line headed "CFSM"), in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. 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.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing the table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than 1 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges 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, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. 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 losses are large in comparison with the observed discharge.

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of sites as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge measurement notes, gage-height records, temperature measurements, and rating tables are on file in the California District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 5 through 25.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern is the assurance that the data obtained represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, are made onsite when samples are taken. To assure that measurements made in the laboratory also represent the in-situ water, carefully prescribed procedures are followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. All these references are listed on p. 22 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the California District office.

One sample can adequately define the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative value available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based on hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Cross-Section Data

Cross-section surveys of water temperature, pH, specific conductance, dissolved oxygen, and suspended sediment are done at all NASQAN and Hydrologic Bench-mark stations during various seasons and surface-water discharges. Documentation of cross-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S Geological Survey laboratories in Arvada, Colorado, or Doraville, Georgia. Methods used in analyzing sediment samples and computing sediment records are given in Techniques of Water-Resources Investigations, Book 5, Chapter C1; methods used by the laboratories are given in Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and other data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the individual parameters.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions ot the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, VA 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report are defined below. See the table for converting inch-pound units to International System (SI) Units on the inside of the back cover.

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 about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by a well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease; others perform an essential role in nature in the recycling of materials, for example, decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35 °C. For the membrane filter method these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C ± 0.5 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. For the membrane filter method they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5 °C ± 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. For the membrane filter method they are defined as all the organisms which produce red or pink colonies within 48 hours at 35 °C ± 0.5 °C on KF streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals living in or on the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 ^{o}C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3) and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105 ^{o}C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism that are counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually in milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

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.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day (cfs.d) 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, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters.

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

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate. It is recognized that certain kinds of samples cannot be filtered; to provide for this, procedures that are considered equivalent to filtering through a 0.45-micrometer membrane filter will be identified and announced at a later date.

Dissolved-solids concentration of water is determined either analytically or by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = \sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the samples are the same; to some positive number, when some or all the organisms in the sample are different.

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 include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the Earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water, together with all tributary surface streams and bodies of impounded surface water.

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to the National Geodetic Vertical Datum of 1929. This elevation is established by a system of levels from known bench marks or by approximation from topographic maps.

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 hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_o}.$$

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This development process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-pupa-adult or egg-nymph-adult.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (UG/G, ug/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, ug/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called Sea Level Datum of 1929 or mean sea level in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting that the data may be used for, (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) to detect changes in trends with time in the pattern occurrence of water-quality characteristics, and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area of the habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter code is a five-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024-0.004	Sedimentation
Silt.....	0.004-0.062	Sedimentation
Sand.....	0.062-2.0	Sedimentation or sieve
Gravel.....	2.0-64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition or percent of total is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, or volume.

Periphyton is the assemblage of micro-organisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, the periphyton also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton are suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton compose the plant part of the plankton. They are usually microscopic, and their movement is subject to water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials into the surrounding water, the phytoplankton have a profound effect on the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are phytoplankton organisms having a blue pigment in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms, chiefly green plants. The rate of primary production is estimated by measuring the amount of carbon assimilated by plants (carbon method) or the amount of oxygen released (oxygen method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.time)] for phytoplankton are the units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity that the oxygen light- and dark-bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2.time)] for periphyton and macrophytes and [mg O_2/(m^3.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment; thus, the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bedload is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bedload is considered to consist of particles in transit within 0.25 ft (0.076 m) of the streambed.

Bedload discharge (tons per day) is the quantity of sediment, as measured by dry weight, that moves past a section as bedload in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour period.

Suspended-sediment discharge (tons per day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day by multiplying discharge times milligrams per liter times 0.0027.

Suspended-sediment load (tons per day) is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge or total-sediment load (tons per day) is the sum of suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry mass, that passes a section in a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content in water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic-organism collection and plexiglass strips for periphyton collection.

Surface area of a lake is the area, in square miles or acres, outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter. In localities not covered by topographic maps, the areas are computed from the best maps available. Areas shown are for the lake stage at the time the map was made.

Surficial bed material is the part (upper 0.1 to 0.2 ft or 0.03 to 0.06 m) of the bed material that is sampled by using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata* is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	*Hexagenia*
Species	*Hexagenia limbata*

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that records water temperature in a digital format on punched paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total load (tons) is the total amount of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the milligrams per liter of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in the dissolved and suspended phases of the sample. A knowledge of the expected form is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all the constituent in the sample.)

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90° from the path of incident light source.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1986, is called the "1986 water year."

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Building 810, Denver, CO 80225. Prepayment is required. Remittance should be sent by check or money order payable to U.S. Geological Survey, Department of the Interior. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. Water temperature--influential factors, field measurement, and data presentation, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. Application of surface geophysics to ground-water investigations, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-E1. Application of borehole geophysics to water-resources investigations, by W.S. Keys, and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

3-A1. General field and office procedures for indirect discharge measurements, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. Measurement of peak discharge by slope-area method, by Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. Measurement of peak discharge at culverts by indirect methods, by G.L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. Measurement of peak discharge at width contractions by indirect methods, by H.F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. General procedure for gaging streams, by R.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. Stage measurements at gaging stations, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. Discharge measurements at gaging stations, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. Measurement of time of travel and dispersion in streams by dye tracing, by E.F. Hubbard, F.A. Kilpatrick, L.A. Martens, and J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-A10. Discharge ratings at gaging stations, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. Measurement of dischrage by moving-boat method, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A13. Computation of continuous records of streamflow, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. Use of flumes in measuring discharge, by F.A. Kilpatrick and V.R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. Introduction to ground-water hydraulics, a programmed text for self-instruction, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J.E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-C1. Fluvial sediment concepts, by H.P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. Field methods for measurement of fluvial sediment, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. Computation of fluvial sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. Some statistical tools in hydrology, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. Frequency curves, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. Low-flow investigations by H.C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. Storage analyses for water supply, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. Regional analyses of streamflow characteristics, by H.C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. Computation of rate and volume of stream depletion by wells, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, edited by M.W. Skougstad and others: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. Determination of minor elements in water by emission spectroscopy, by P.R. Barnett and E.C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. Methods for analysis of organic substances in water, by D.F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 322 pages.

5-A5. Methods for determination of radioactive substances in water and fluvial sediments, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: UGSG--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L.C. Friedman, and D.E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. Laboratory theory and methods for sediment analysis, by H.P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L.F. Konikow and J.D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. A model for simulation of flow in singular and interconnected channels by R.W. Shaffrannek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. Methods of measuring water levels in deep wells, by M.S. Garber and F.C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. Installation and service manual for U.S. Geological Survey manometers, by J.D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. Calibration and maintenance of vertical-axis type current meters, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

DISCONTINUED GAGING STATIONS

The following continuous-record streamflow stations in California have been discontinued as of the 1986 water year. Daily streamflow or stage records were collected and published for the period of record shown for each station.

Station No.	Station name	Drainage area (mi^2)	Period of record
10336600	Upper Truckee River near Meyers	33.1	1960-86
11197250	Avenal Creek near Avenal	57.1	1961-86
11228500	Granite Creek near Cattle Mountain	47.8	1921-28, 1953-86
11284700	North Fork Tuolumne River near Long Barn	23.1	1963-86
11336070	Cosumnes River at State Highway 104, near Galt	--	1972-86

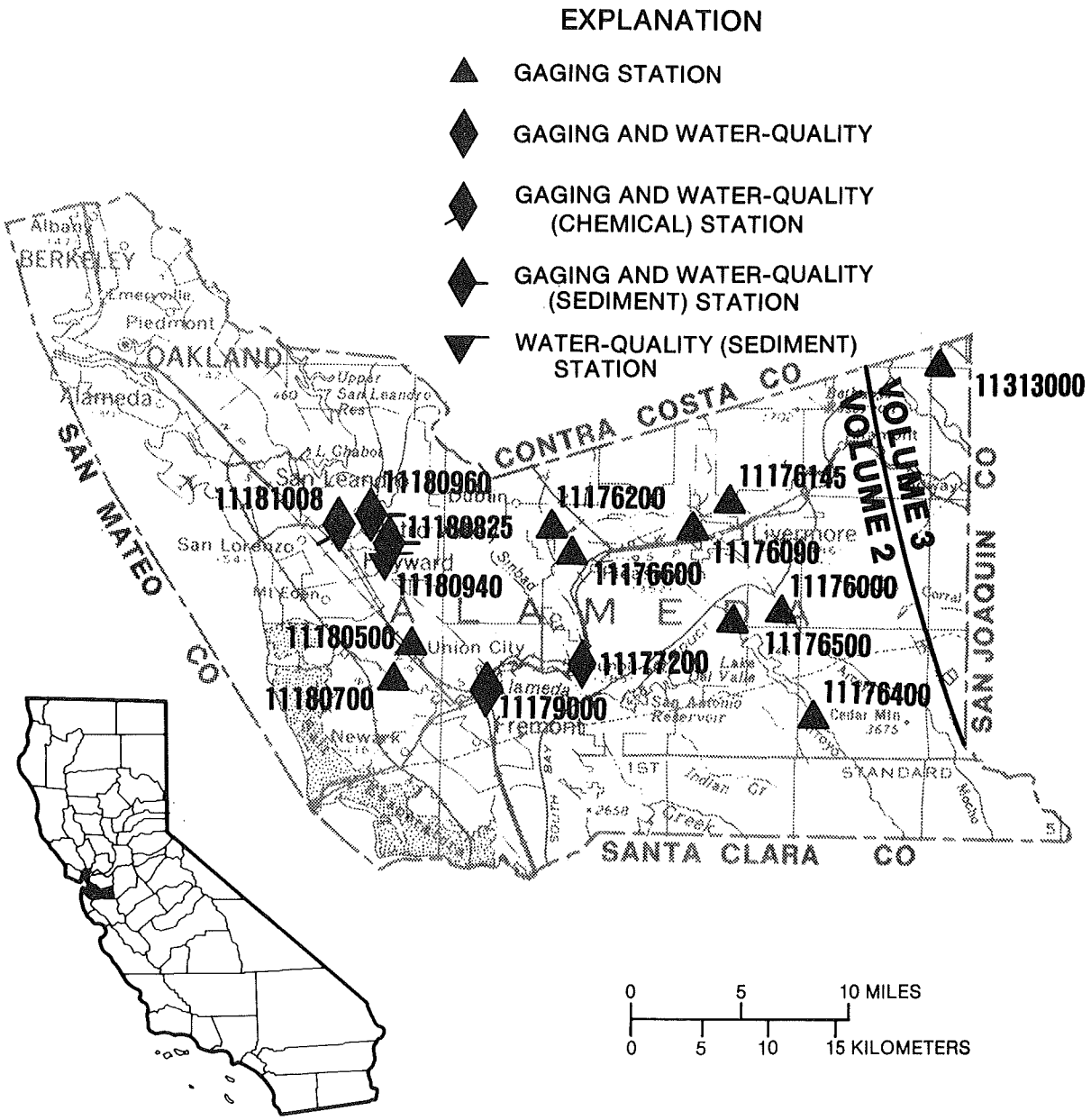

FIGURE 5.—Location of discharge and water-quality stations in Alameda County. (Note: Records for stations 11176000 through 11181008 published in volume 2)

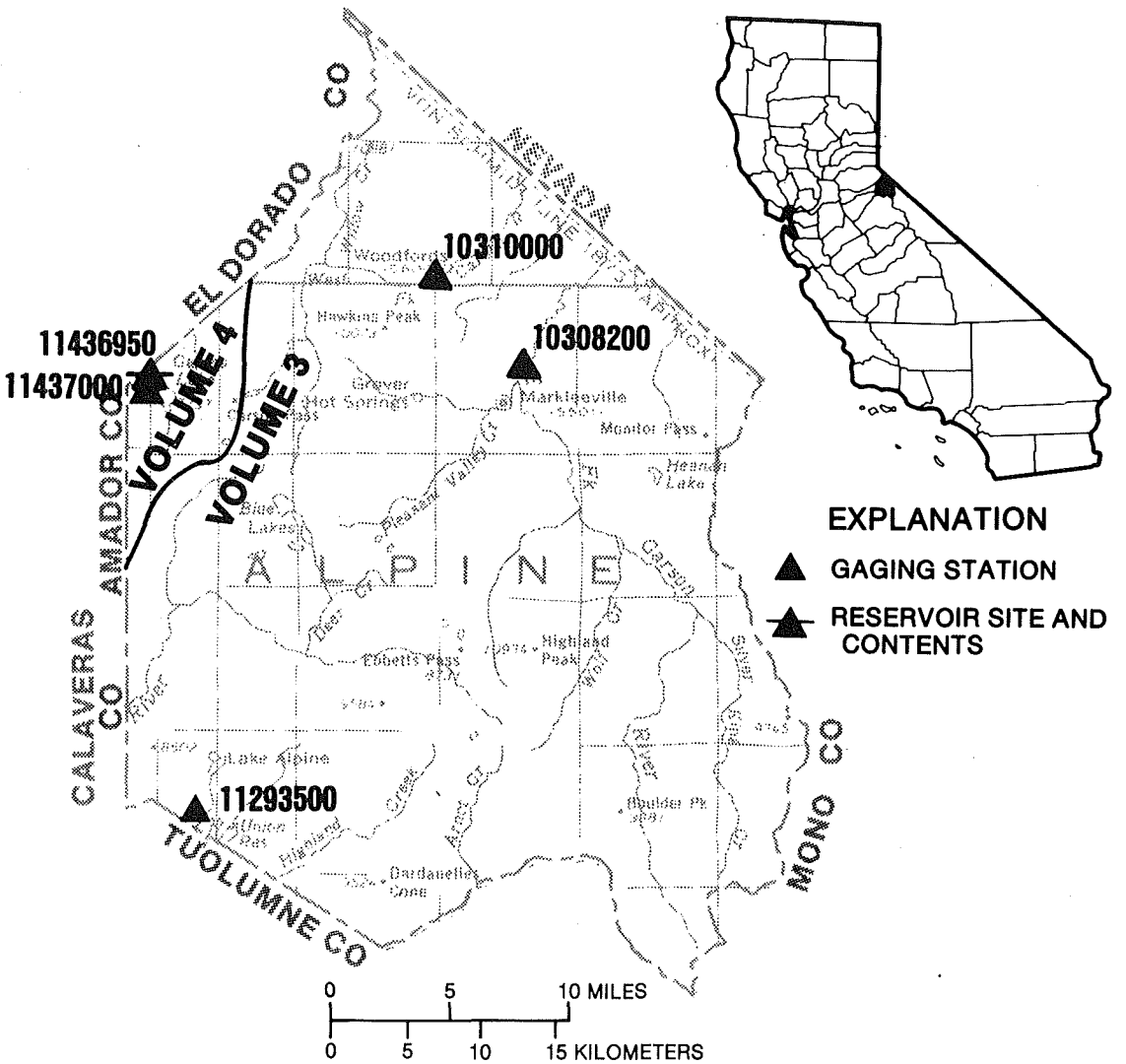

FIGURE 6.—Location of discharge stations in Alpine County.
(Note: Stations 10297000, 10336740, and 10336759 in Dauglas County, Nevada, not shown on this map. Record for stations 11436950 and 11437000 published in volume 4)

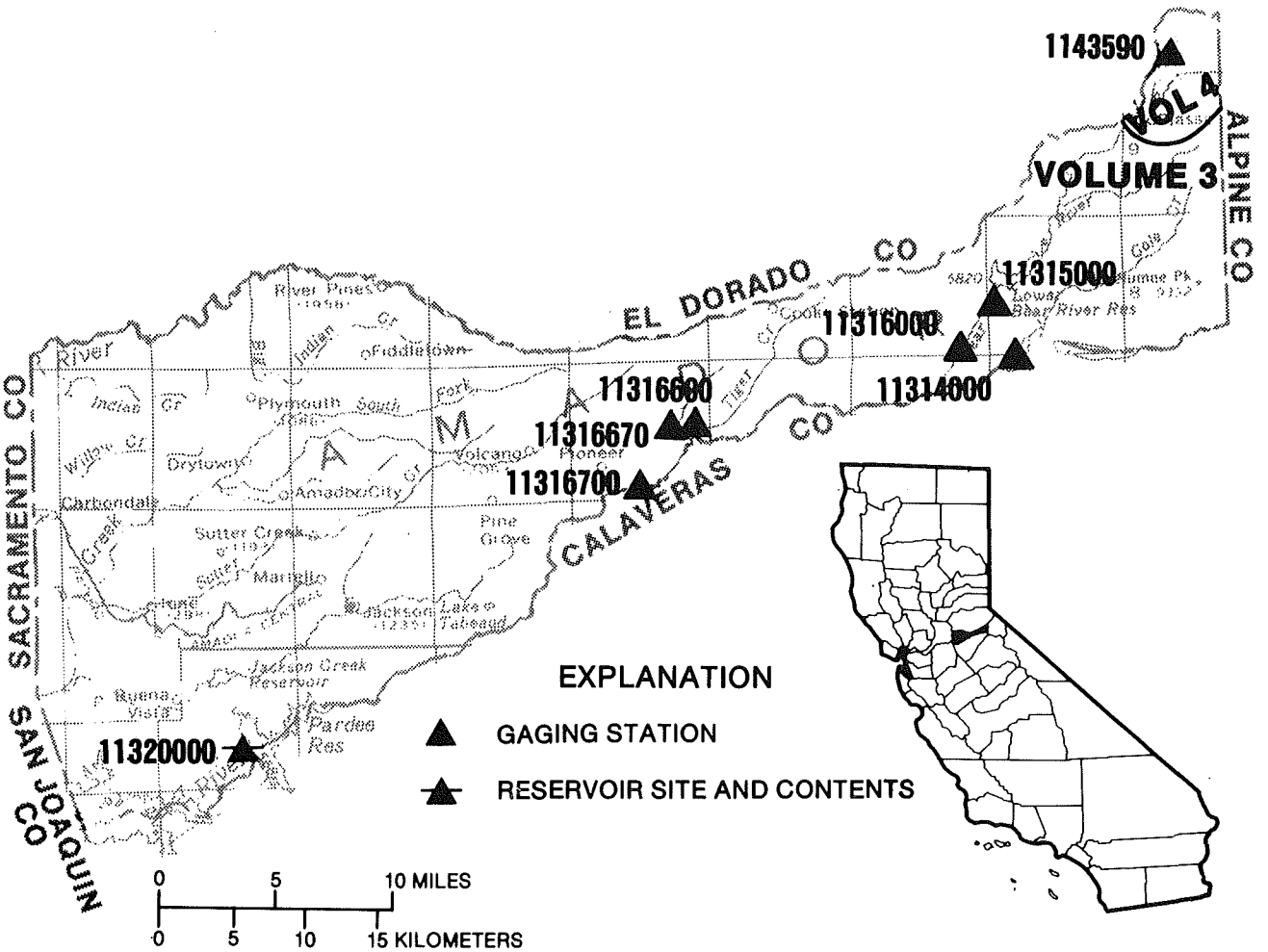

FIGURE 7.—Location of discharge stations in Amador County.

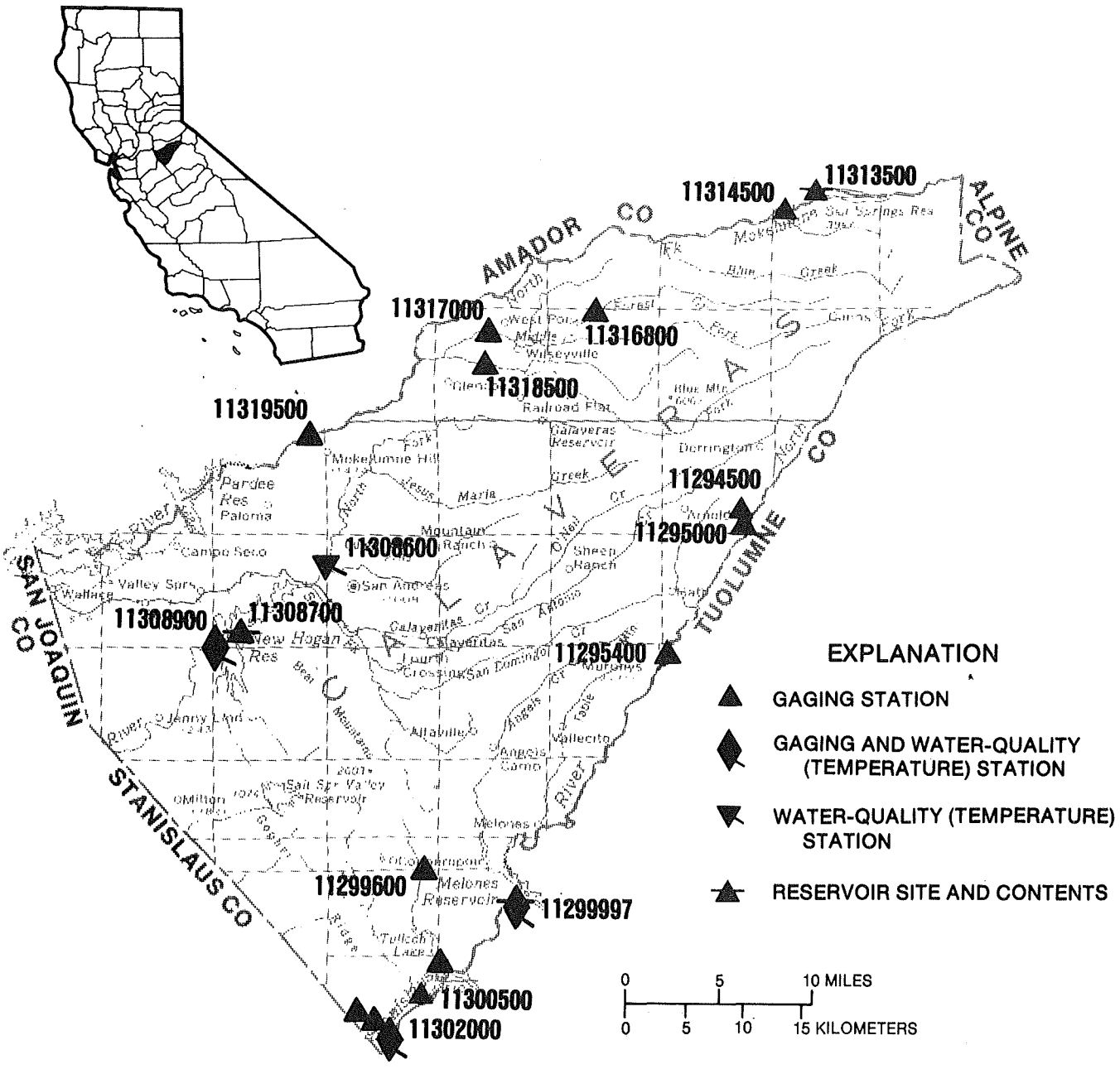

FIGURE 8.—Location of discharge and water-quality stations in Calaveras County.

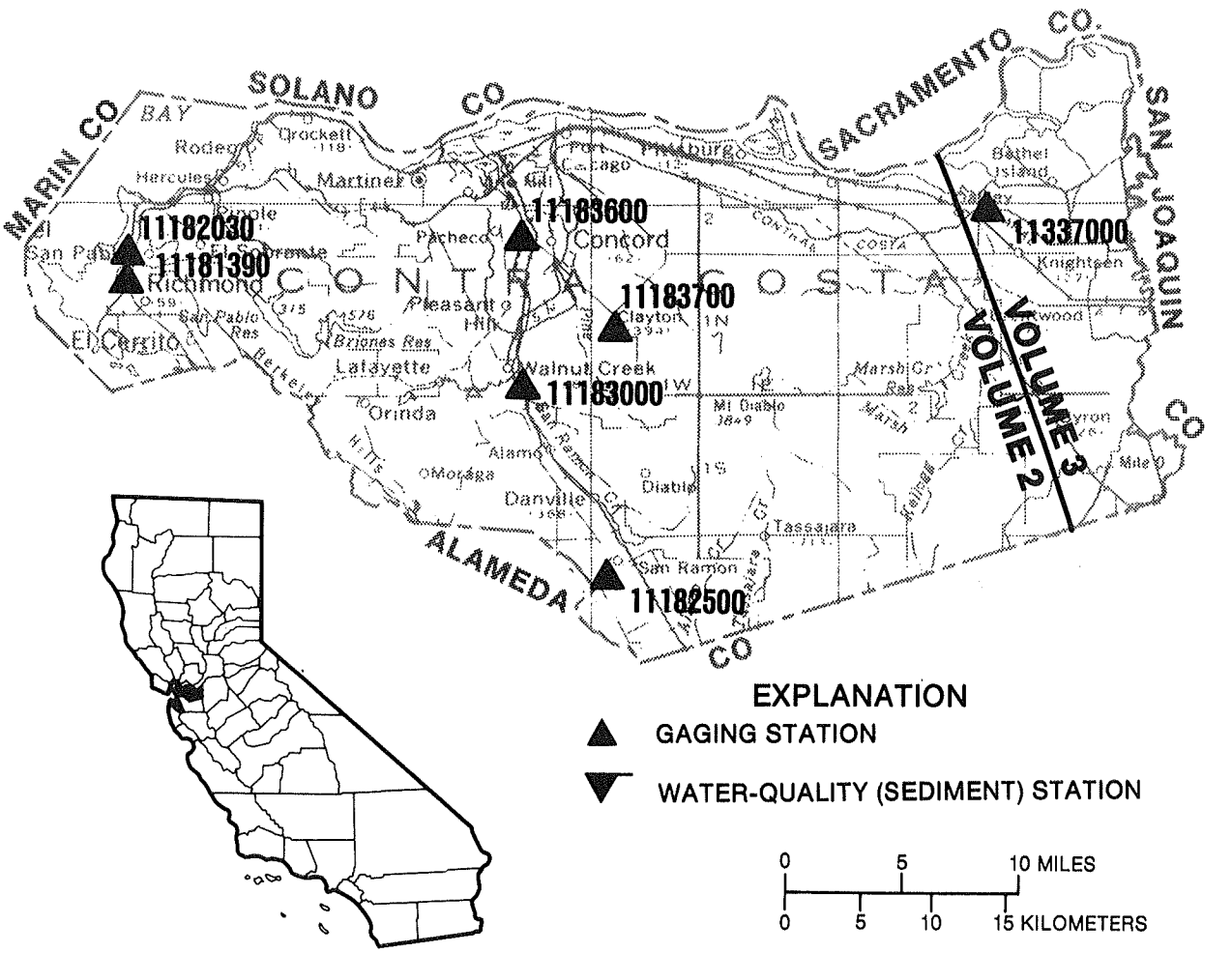

FIGURE 9.—Location of dscharge stations in Contra Costa County.
(Note: Records for stations 11181390 through 11183600 published in volume 2)

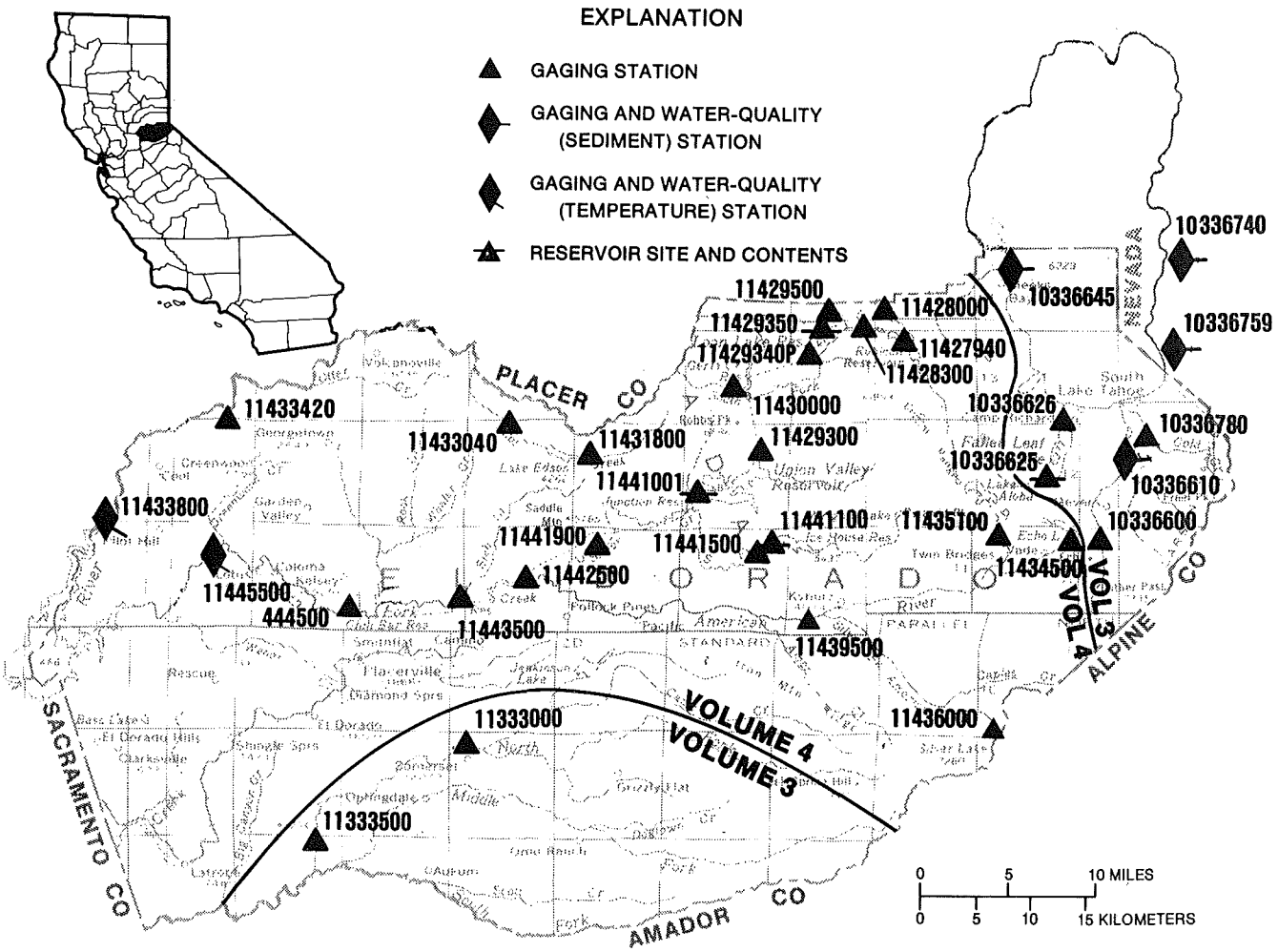

FIGURE 10.—Location of discharge and water-quality stations in El Dorado County. (Note: Records for stations 11427940 through 11445500 published in volume 4)

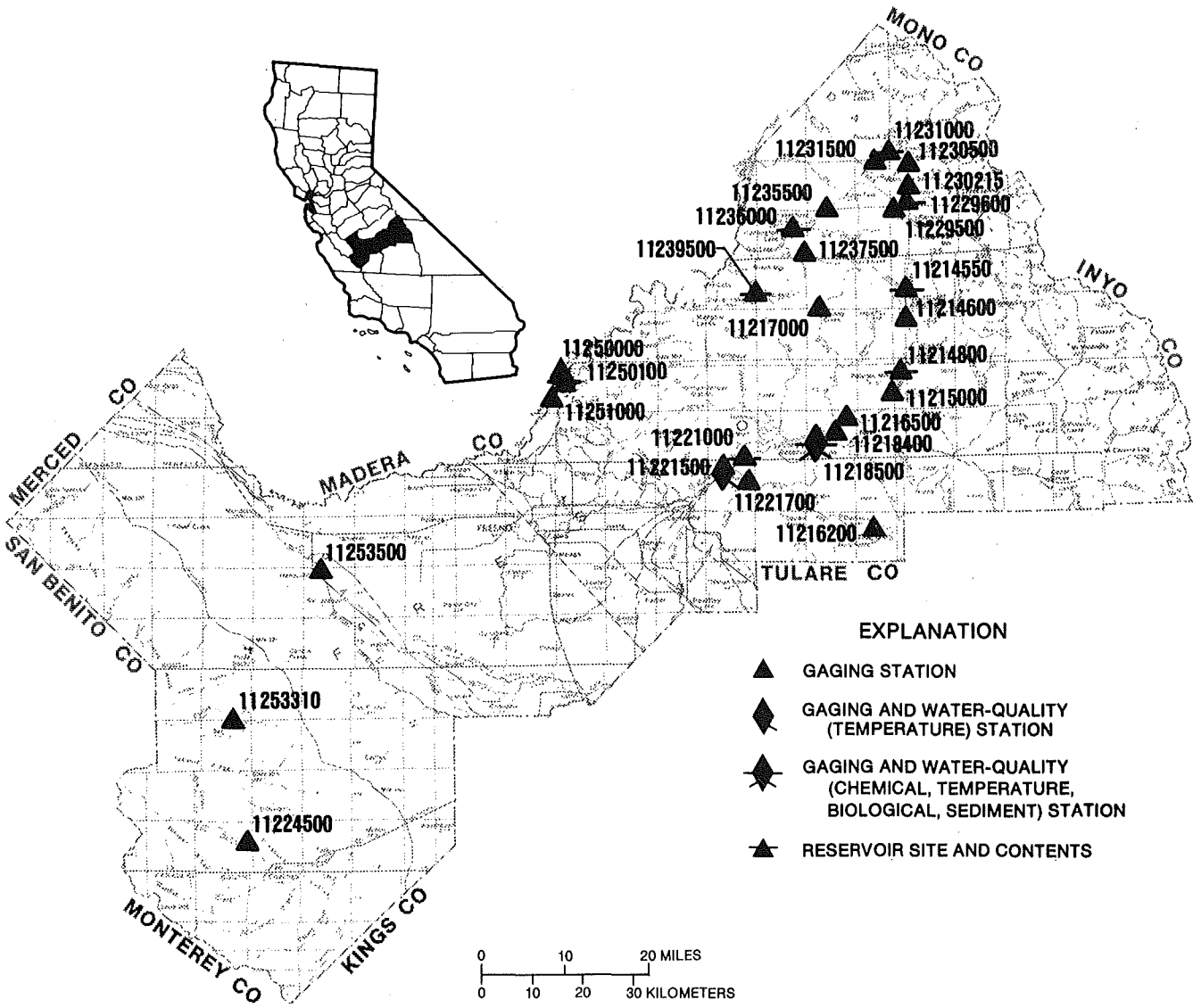

FIGURE 11.—Location of discharge and water-quality stations in Fresno County.

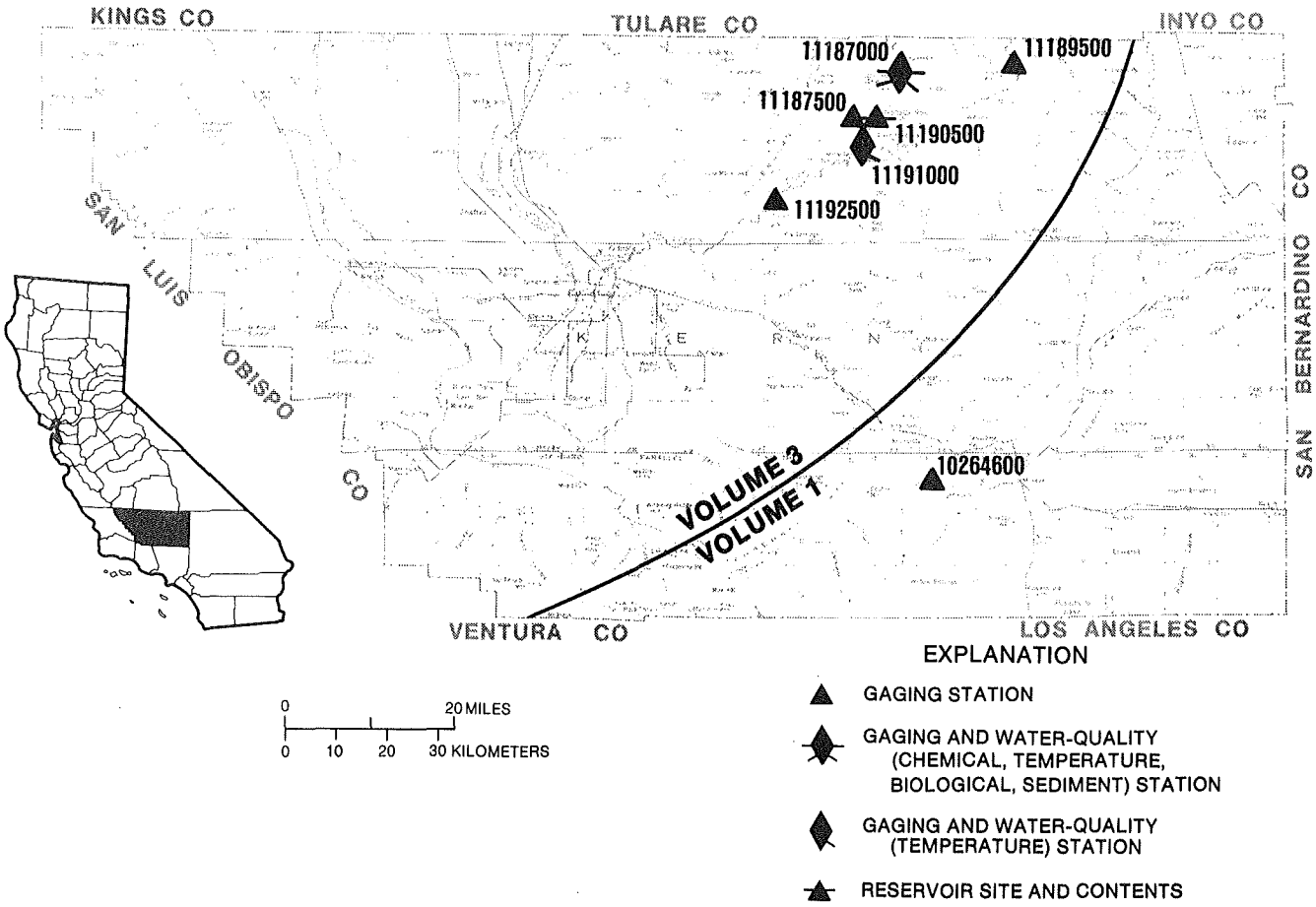

FIGURE 12.—Location of discharge and water-quality station in Kern County. (Note: Record for station 10264600 published in volume 1)

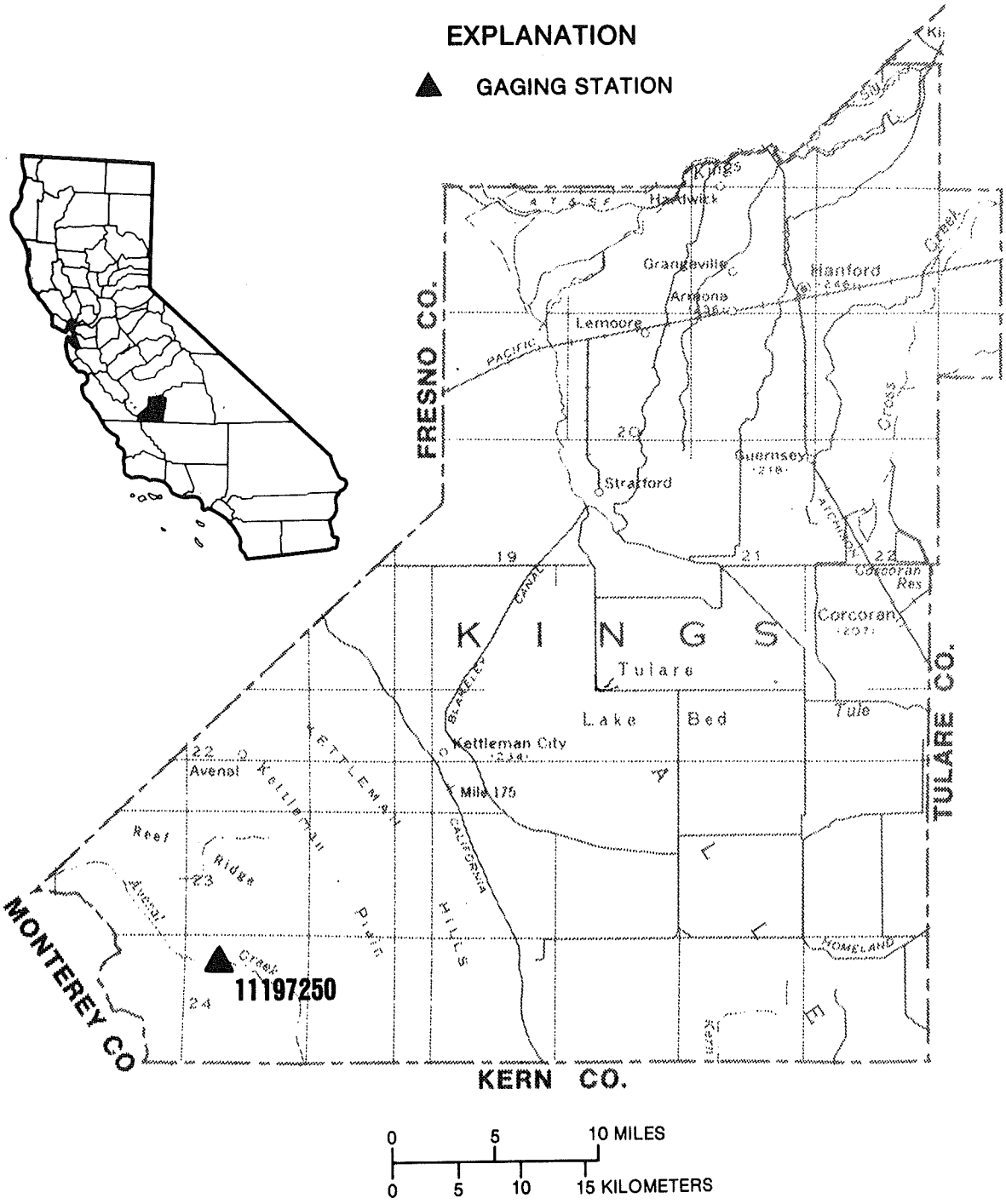

FIGURE 13.—Location of discharge station in Kings County.

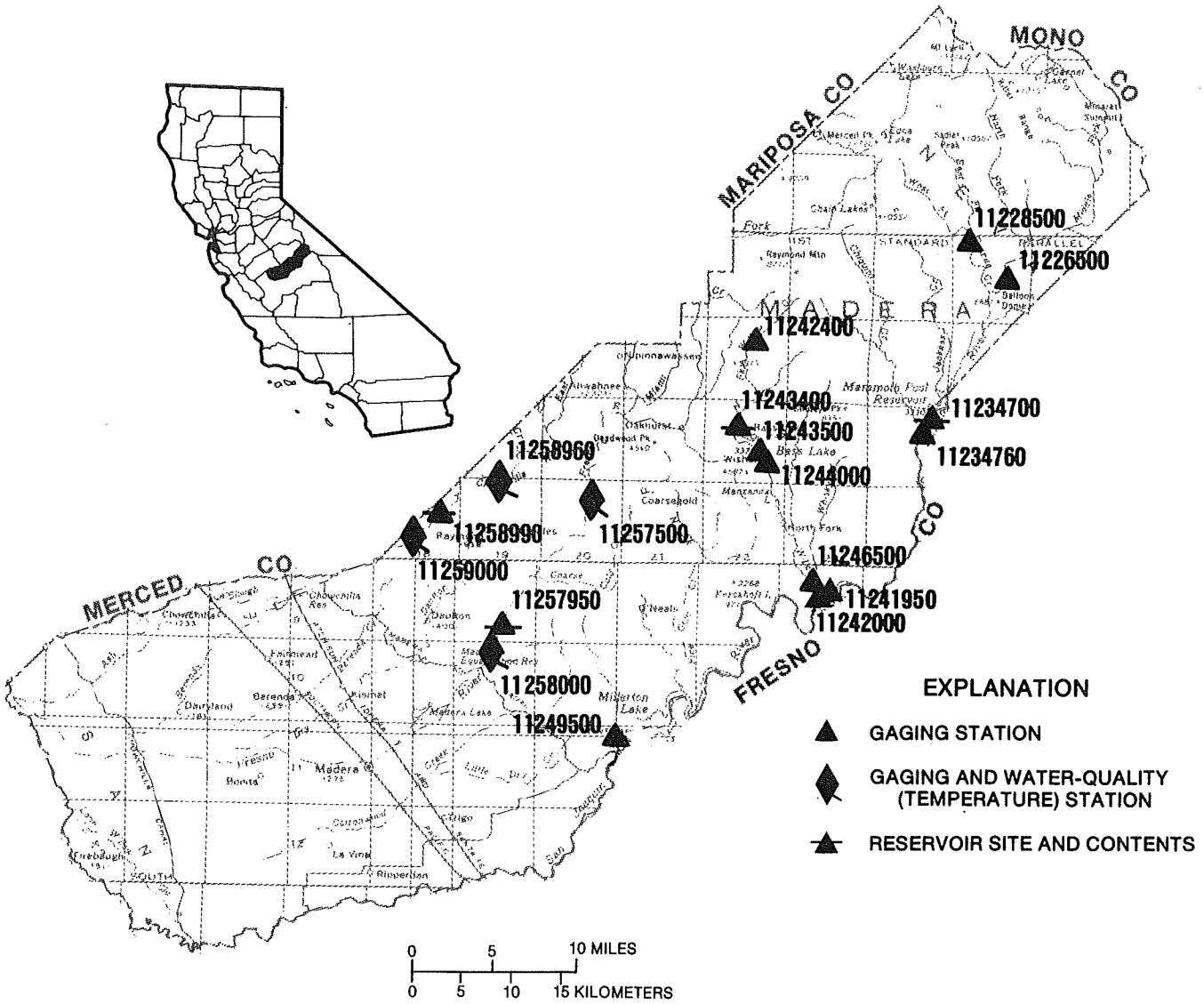

FIGURE 14.—Location of discharge and water-quality stations in Madera County.

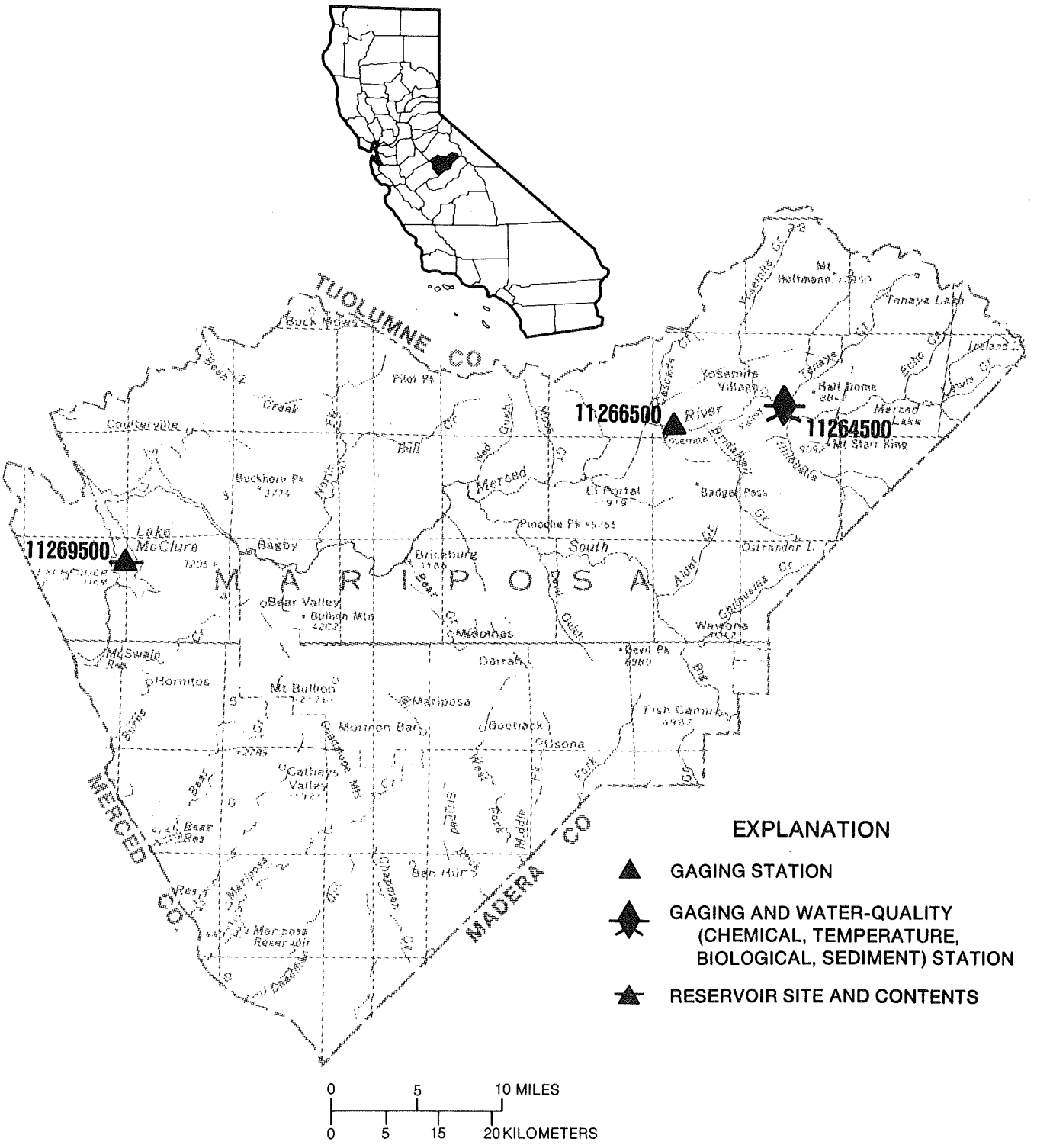

FIGURE 15.—Location of discharge and water-quality stations in Mariposa County.

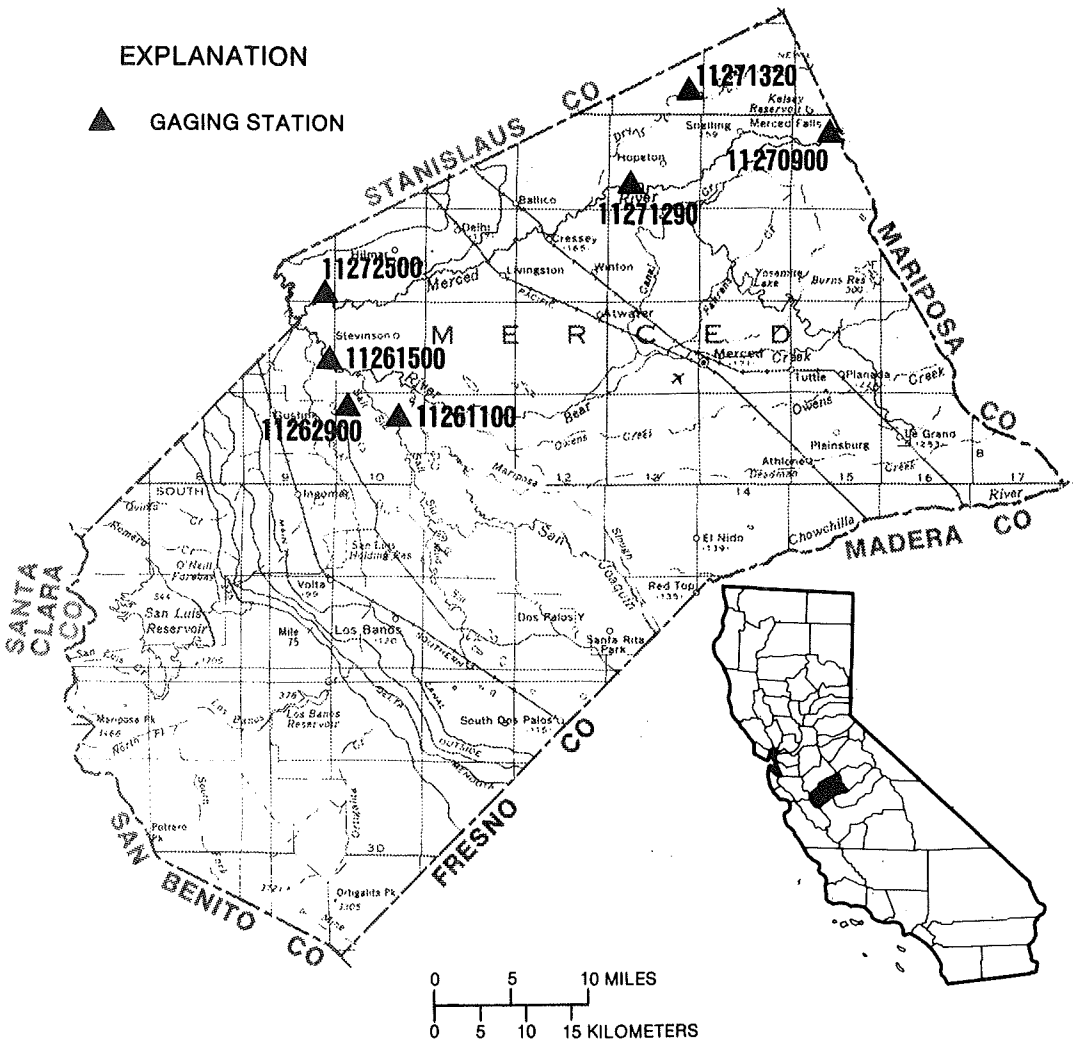

FIGURE 16.—Location of discharge stations in Merced County.

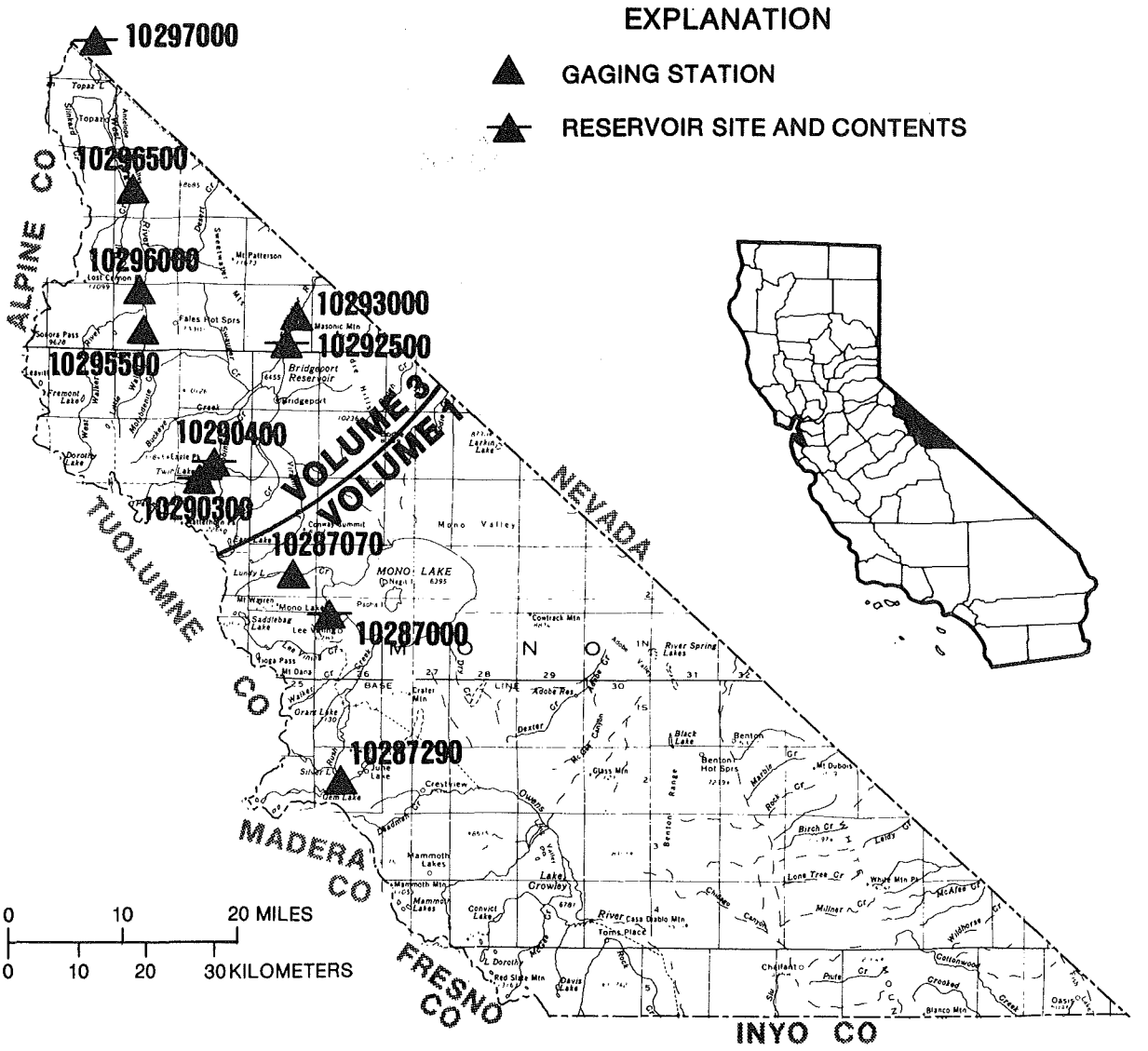

FIGURE 17.—Location of discharge stations in Mono County.
(Note: Records for stations 10287000, 10287070, and 10287290 published in volume 1)

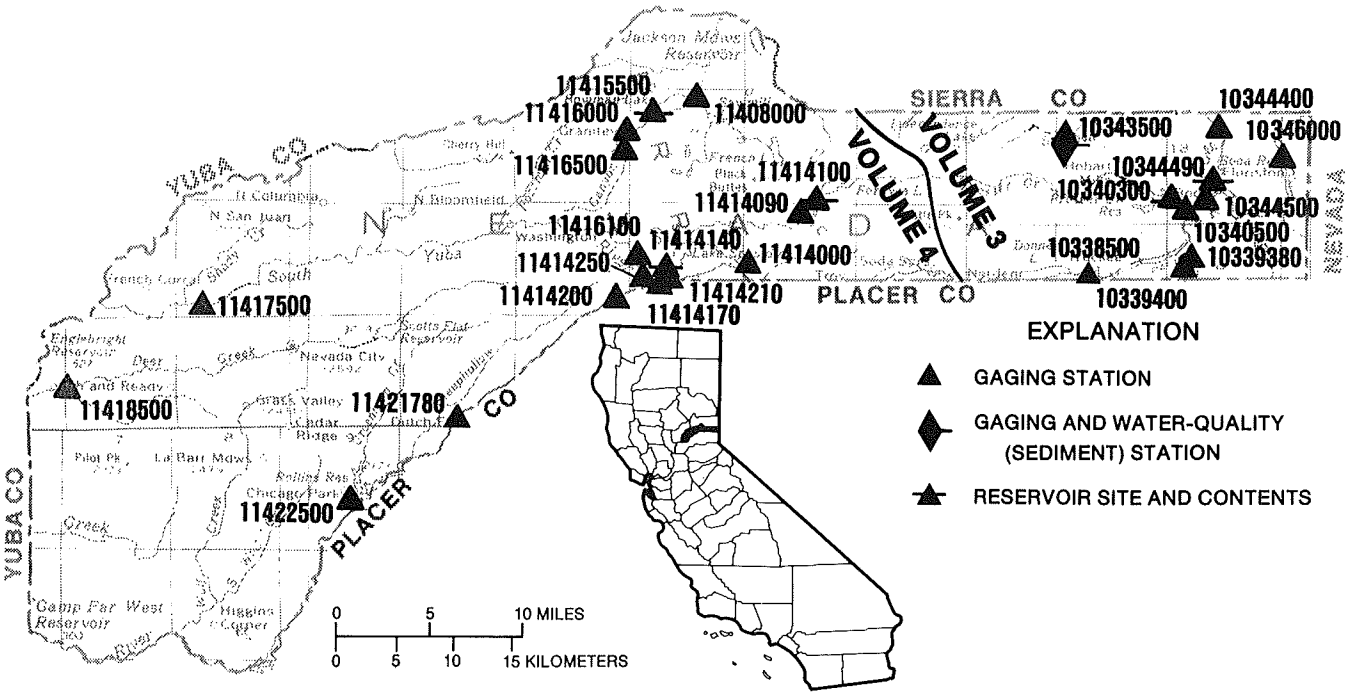

FIGURE 18.—Location of discharge and water-quality stations in Nevada County. (Note: Records for stations 11408000 through 11422500 published in volume 4)

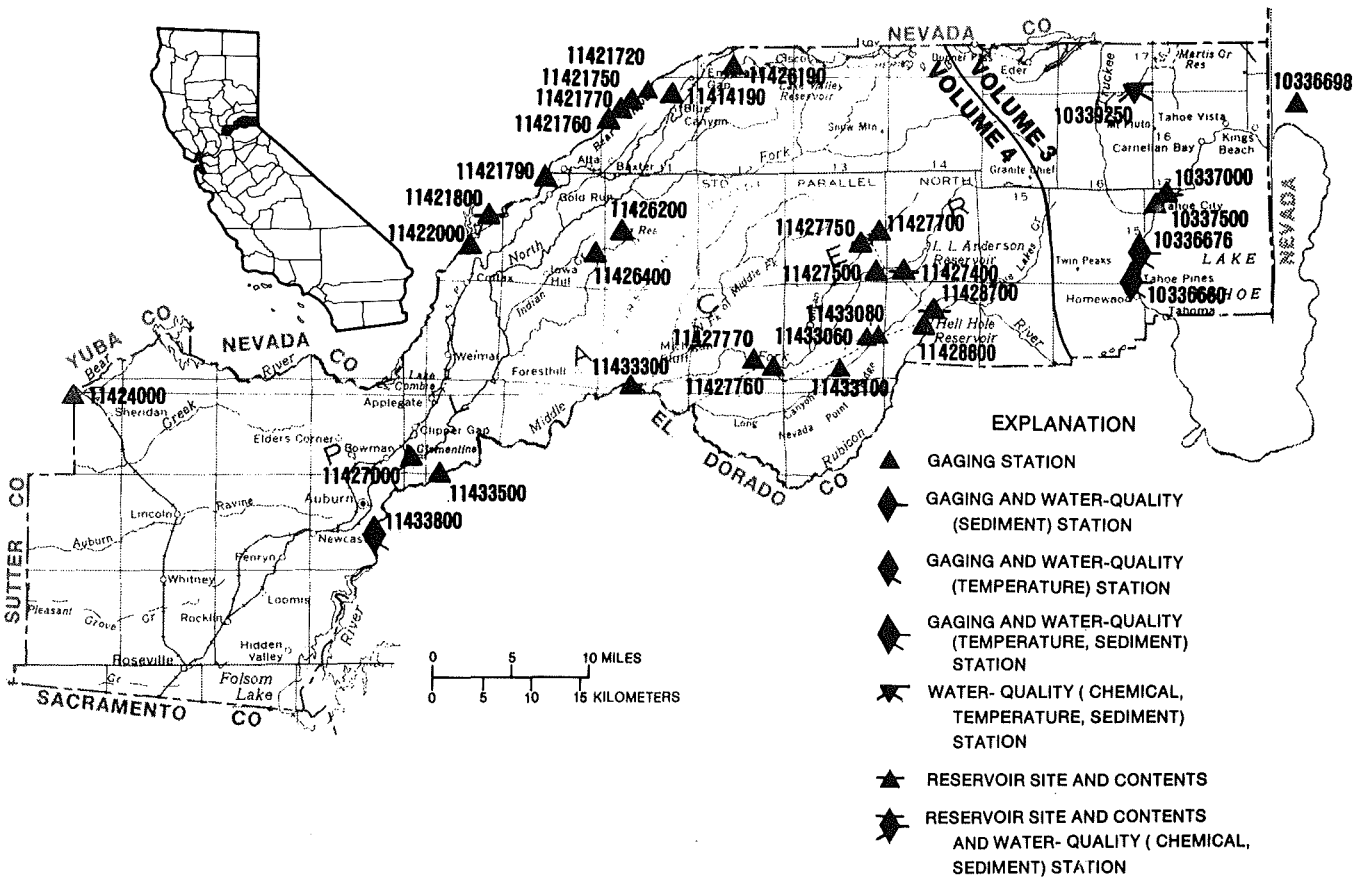

FIGURE 19.—Location of discharge and water-quality stations in Placer County. (Note: Records for stations 11414190 through 11433800 published in volume 4)

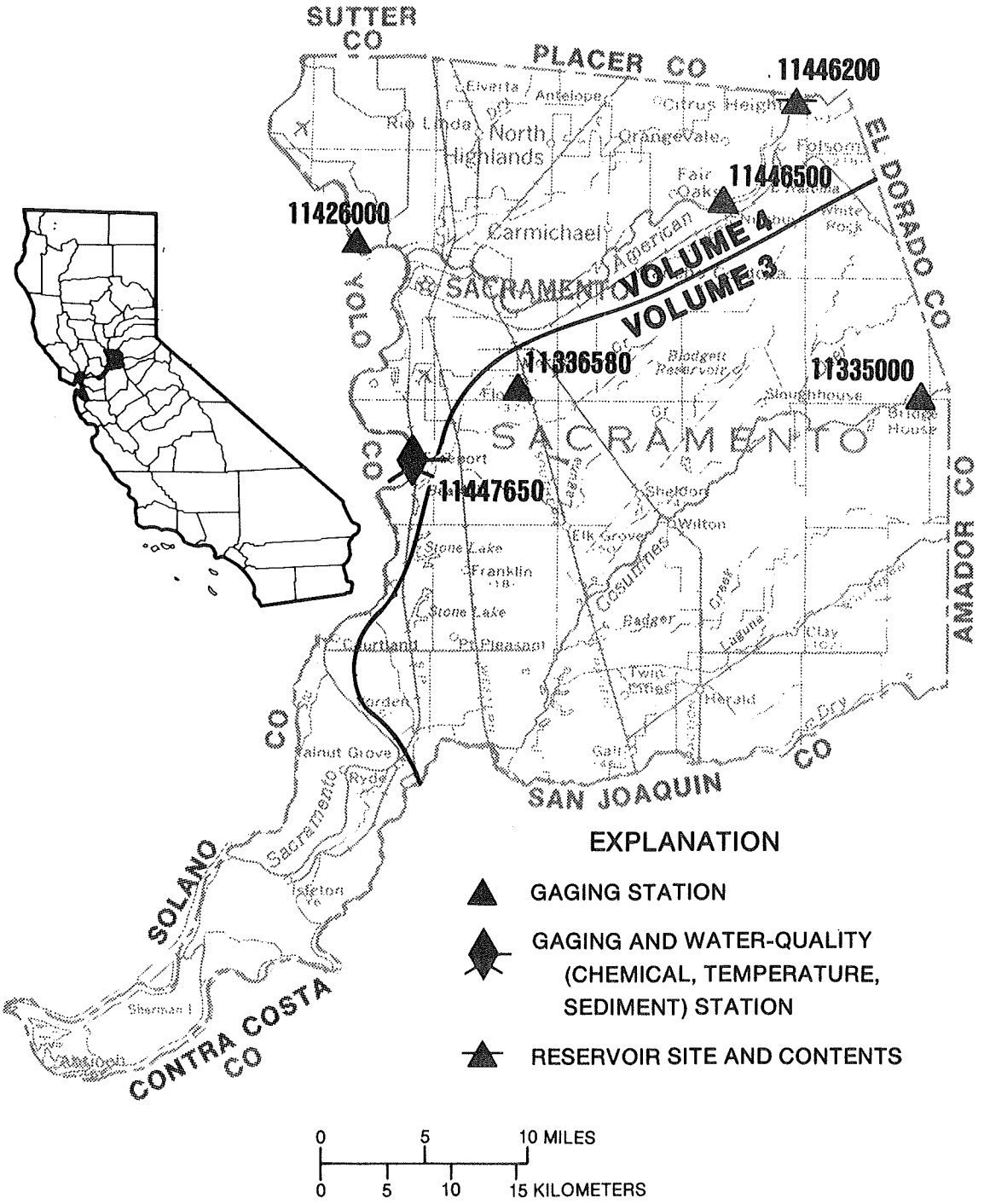

FIGURE 20.—Location of discharge and water-quality stations in Sacramento County. (Note: Records for stations 11426000, 11446200, 11446500, and 11447650 published in volume 4)

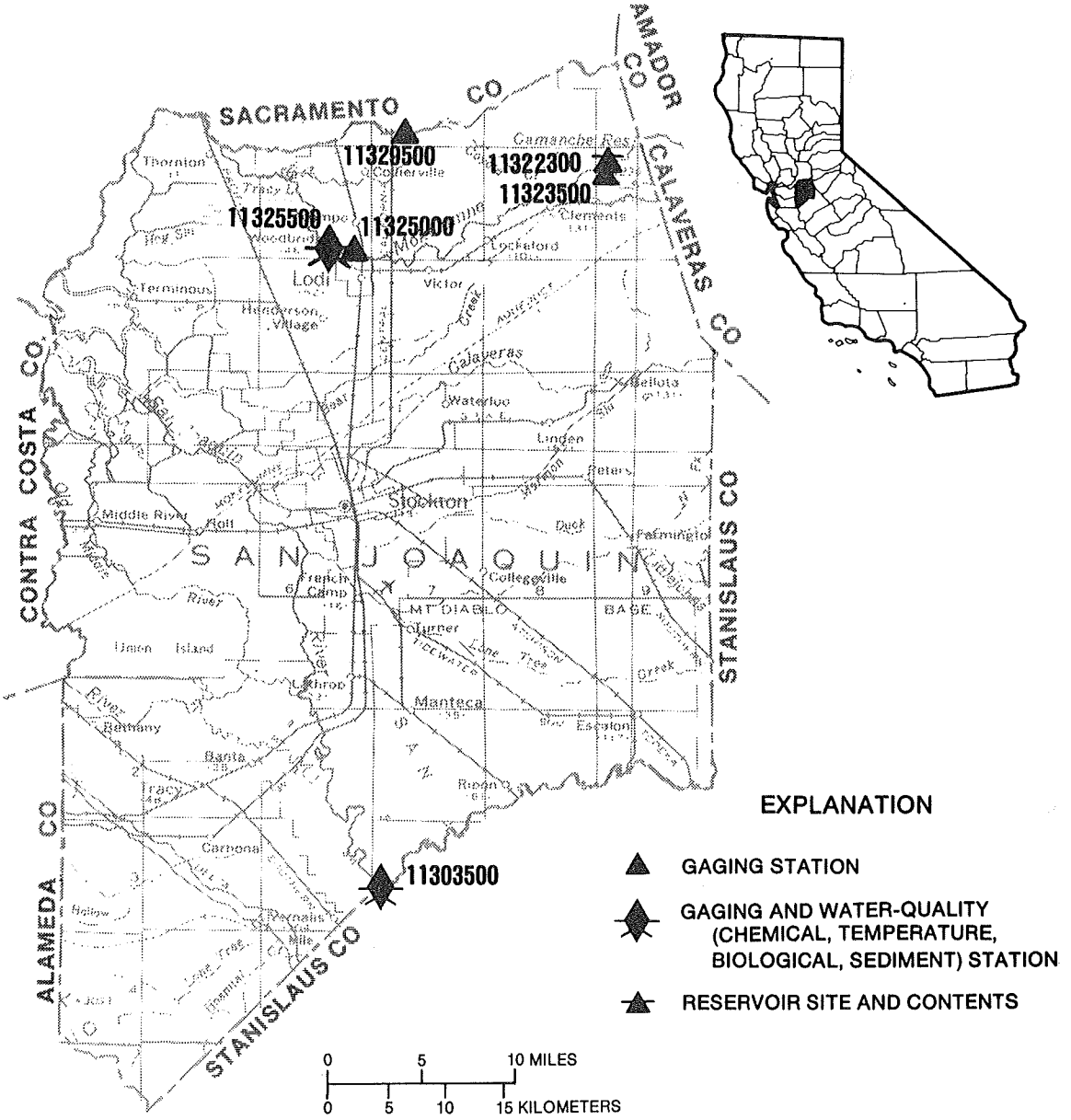

FIGURE 21.—Location of discharge and water-quality stations in San Joaquin County.

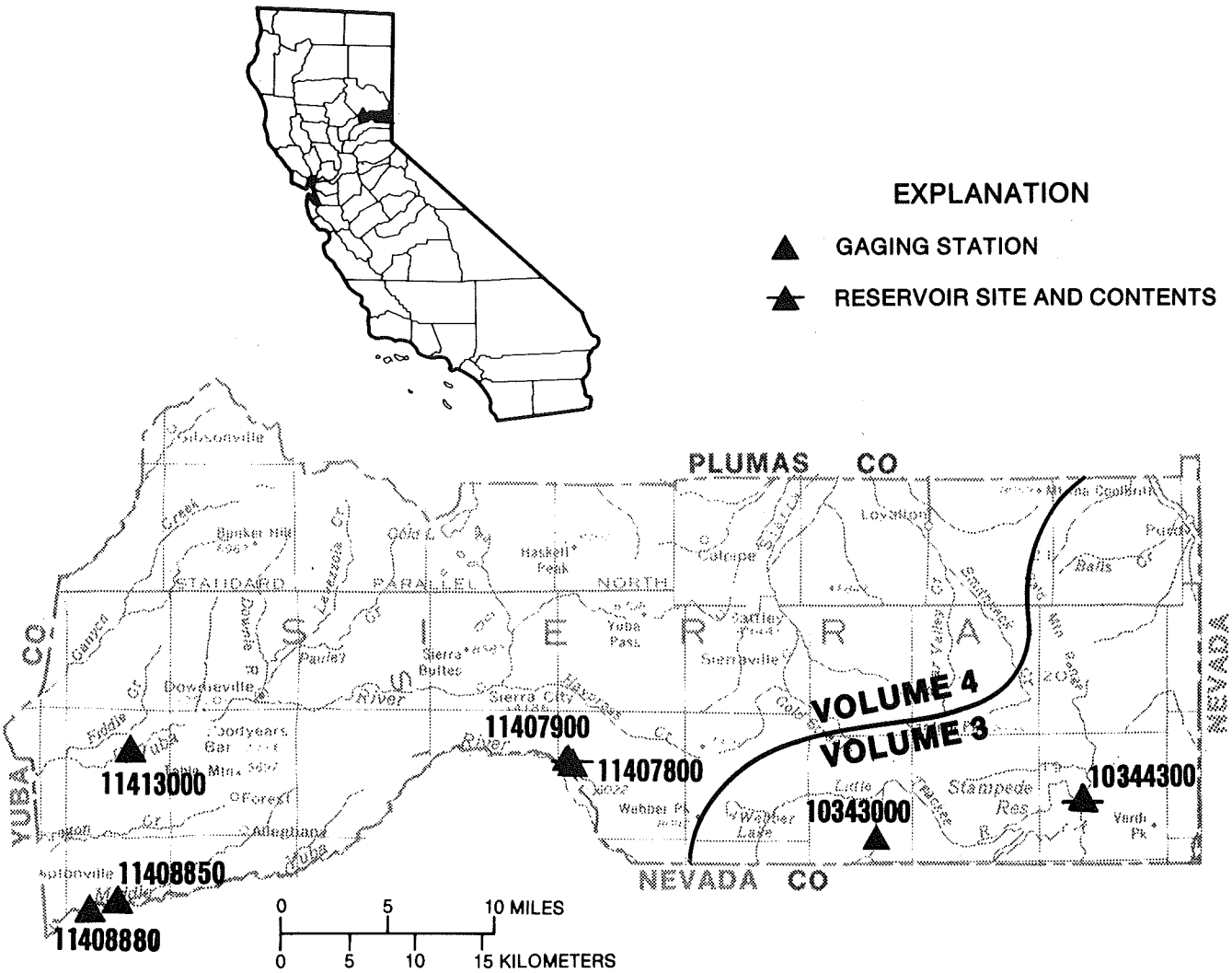

FIGURE 22.—Location of discharge stations in Sierra County.
(Note: Records for stations 11407800 through 11413000 published in volume 4)

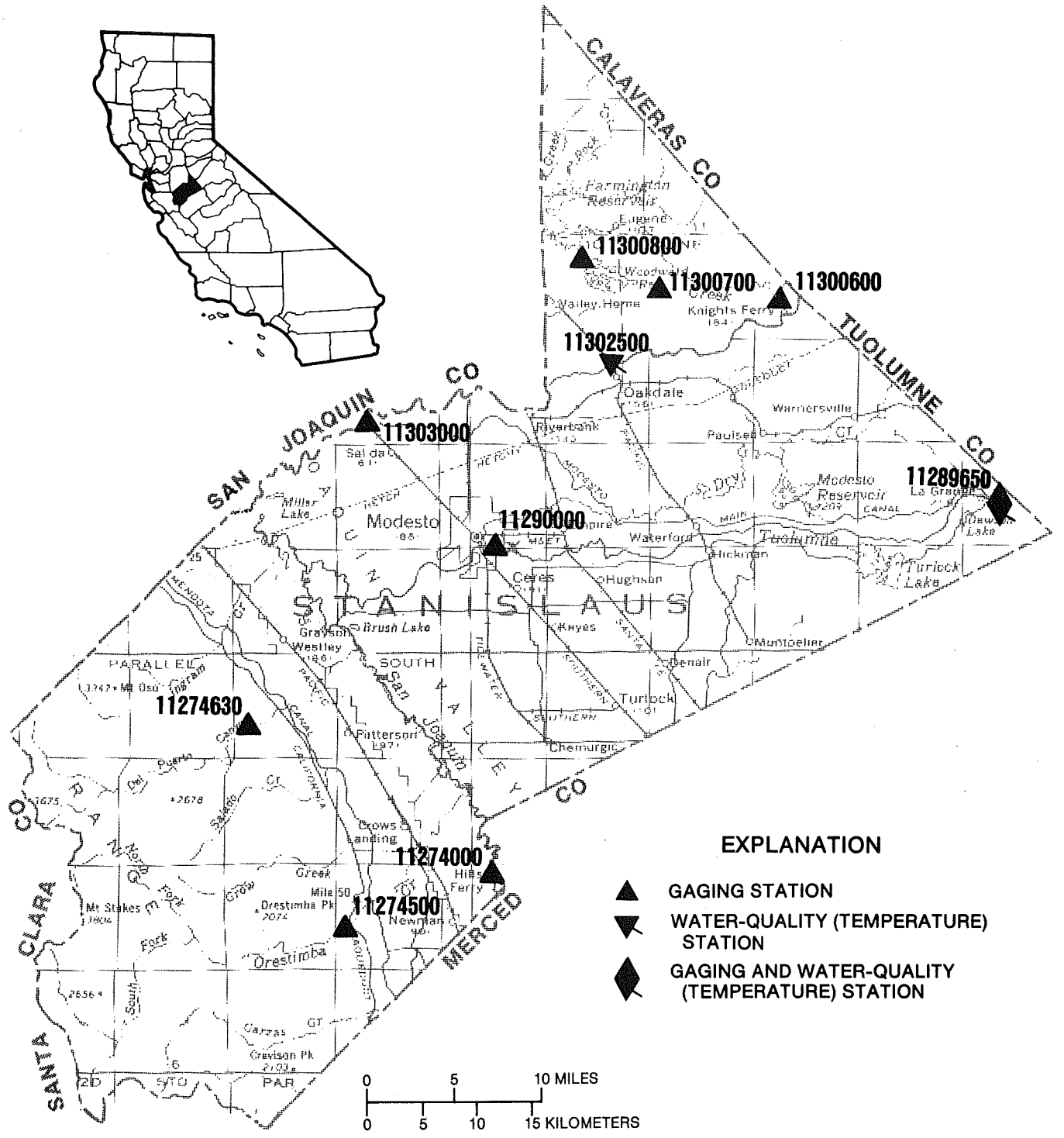

FIGURE 23.—Location of discharge and water-quality stations in Stanislaus County.

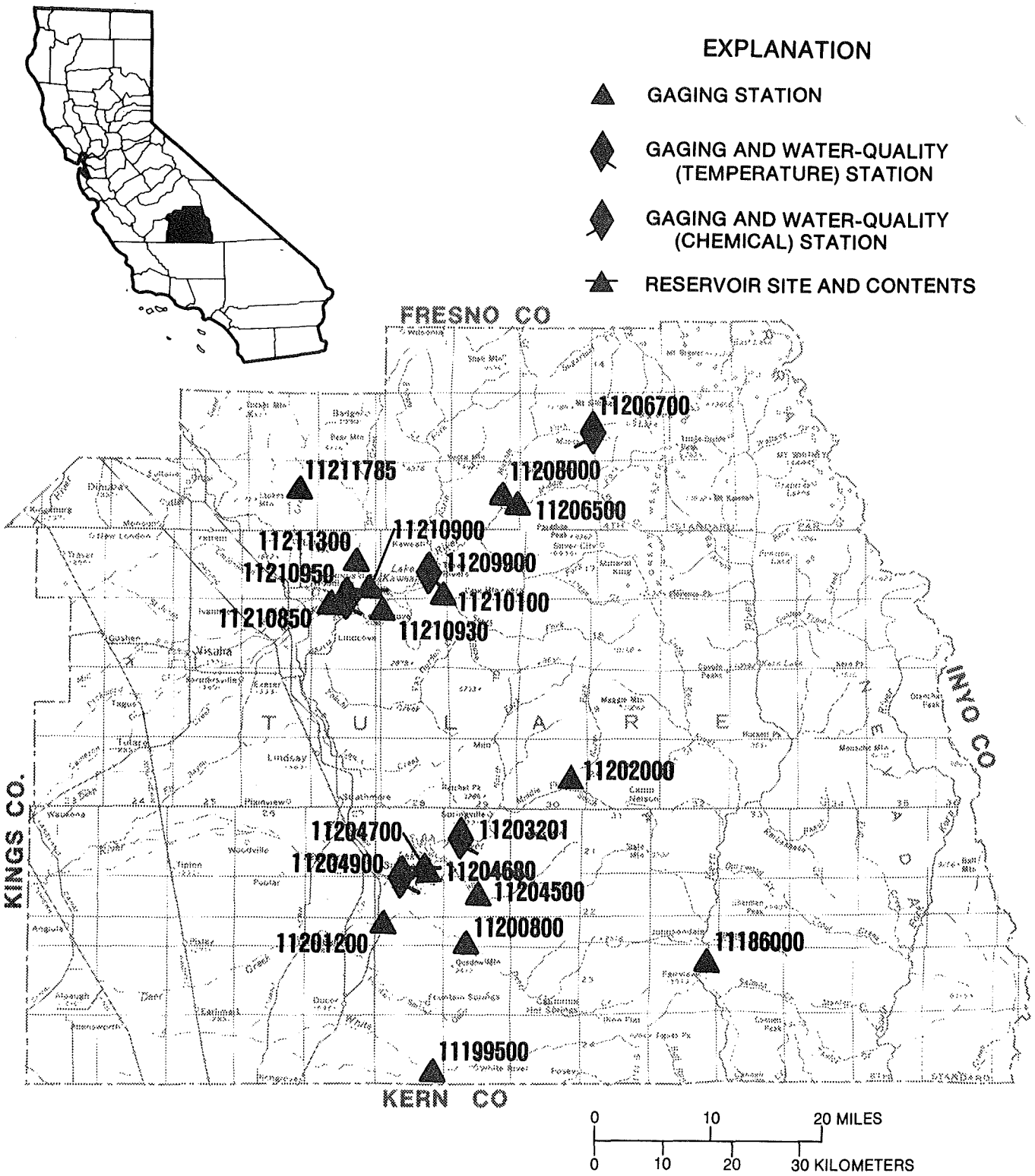

FIGURE 24.—Location of discharge and water-quality stations in Tulare County.

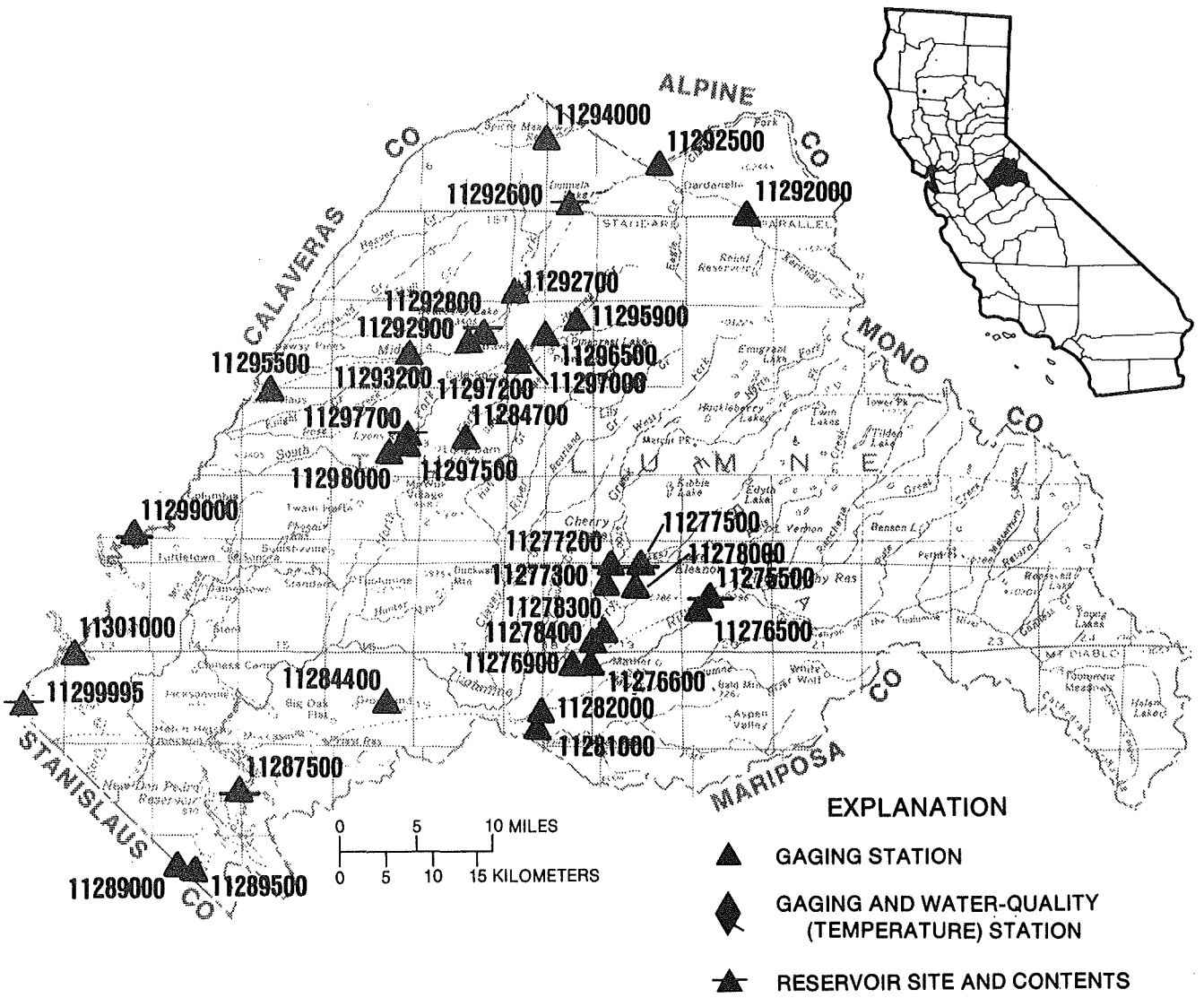

FIGURE 25.—Location of discharge and water-quality stations in Tuolumne County.

THE GREAT BASIN

WALKER LAKE BASIN

10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--38°09'15", long 119°20'58", in NW 1/4 NE 1/4 sec.5, T.3 N., R.24 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, at outlet of upper lake dam on Robinson Creek, and 10 mi southwest of Bridgeport.

DRAINAGE AREA.--29.5 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical datum of 1929 (project datum of U.S. Indian Irrigation Service).

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,990 acre-ft, July 7, 1983, elevation, 7,209.85 ft; minimum observed, 62 acre-ft, Oct. 31, Nov. 1, 1964, elevation, 7,200.22 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--No contents observed Oct. 17, 1961.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

10290400 LOWER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°10'05", long 119°19'33", in NE 1/4 NE 1/4 sec.33, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, at outlet of lower lake dam on Robinson Creek and 8 mi southwest of Bridgeport.

DRAINAGE AREA.--38.9 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (project datum of U.S. Indian Irrigation Service).

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 ft, natural rim, and 7,200 ft, spillway crest. One transarea diversion out of Tamarack Creek into Summers Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,560 acre-ft, June 19, 1983, elevation, 7,203.58 ft; no usable contents Nov. 17, 1966.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

WALKER LAKE BASIN

10292500 BRIDGEPORT RESERVOIR NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'30", long 119°12'40", in SE 1/4 NE 1/4 sec. 34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, at Bridgeport Dam on East Walker River, 4.5 mi north of Bridgeport.

DRAINAGE AREA.--358 mi^2.

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

REVISED RECORDS.--WSP 1180: 1949. WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (project datum).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1923. Dam completed in November 1924. Capacity, 42,460 acre-ft between altitudes 6,415 ft, approximate elevation of outlet tunnel, and 6,460.75 ft, crest of spillway. There are four siphons that become operative prior to reaching this spillway. Elevation of sill of outlet gage, 6,412 ft. No dead storage. Figures given herein represent total contents. Water is used for irrigation by Walker River Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,880 acre-ft, June 16, 1974, elevation, 6,460.78 ft; no usable contents during fall of 1929-30, 1960, 1977.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'40", long 119°12'50", in SW 1/4 NE 1/4 sec.34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, in Toiyabe National Forest, on right bank 1,500 ft downstream from Bridgeport Reservoir, 5 mi north of Bridgeport, and 10 mi upstream from Sweetwater Creek.

DRAINAGE AREA.--359 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 6,400 ft above National Geodetic Vertical Datum for 1929, from topographic map. See WSP 2127 for history of changes prior to May 25, 1939.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation of pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir (station 10292500).

AVERAGE DISCHARGE (unadjusted).--62 years (water years 1923-24, 1926-85), 147 ft^3/s, 106,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, 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 ft^3/s, many days in 1955 and 1956.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

WALKER LAKE BASIN

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°21'39", long 119°26'38", in NW 1/4 NW 1/4 sec.22, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on right bank 0.8 mi north of Sonora Junction, 1.5 mi upstream from mouth, and 14 mi northwest of Bridgeport.

DRAINAGE AREA.--63.1 mi^2.

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.

REVISED RECORDS.--WDR CA-82-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,790 ft above National Geodetic Vertical Datum of 1929, from topographic map. April to August 1910, nonrecording gage at site 1 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 25, 26, Dec. 1, 2, 4, 7, 13-29, Dec. 31 to Jan. 4, Jan. 11, 13-17, Jan. 24 to Feb. 7, Feb. 9-14, and Mar. 8-10, 28. Records good except estimated daily discharges, due to ice effect, which are fair. Small diversions above station.

AVERAGE DISCHARGE.--41 years (water years 1945-85) 52.8 ft^3/s, 38,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft^3/s, Jan. 31, 1963, gage height, 3.22 ft, from rating curve extended above 350 ft^3/s on basis of slope-area measurement at gage height 2.80 ft; maximum gage height recorded, 3.63 ft, Jan. 3, 1945 (backwater from ice); minimum discharge, 1.4 ft^3/s, Nov. 20, 1977.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

WALKER LAKE BASIN

10296000 WEST WALKER RIVER BELOW LITTLE WALKER RIVER, NEAR COLEVILLE, CA

LOCATION.--Lat 38°22'47", long 119°26'57", in NE 1/4 SE 1/4 sec.9, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on right bank 150 ft downstream from Little Walker River, 60 ft upstream from bridge on U.S. Highway 395, and 13 mi southeast of Coleville.

DRAINAGE AREA.--181 mi^2.

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

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,591.39 ft above National Geodetic Vertical Datum of 1929, supplementary adjustment of 1958. Oct. 1, 1939, to Sept. 30, 1969, at site 100 ft upstream at same datum. Prior to Oct. 1, 1939, at site 25 ft downstream at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 1, 14-28, 30, Jan. 1-7, 11-14, 16-18, Jan. 24 to Feb. 7, and Feb. 9-14. Records good except those for estimated daily discharges, due to ice effect, which are fair. Station is above diversion except for a few small ranch ditches. Flow slightly regulated by Poor Lake Reservoir (capacity unknown) 7 mi upstream.

AVERAGE DISCHARGE.--47 years, 265 ft^3/s, 192,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft^3/s, Nov. 29, 1950, gage height, 8.10 ft, from rating curve extended above 1,900 ft^3/s on basis of slope-area measurement of peak flow; minimum, 4.0 ft^3/s, Nov. 18, 1948, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge observed prior to 1938, 5,800 ft^3/s, Dec. 11, 1937, by slope-area measurement.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

WALKER LAKE BASIN

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA

LOCATION.--Lat 38°30'55", long 119°27'15", in NW 1/4 NE 1/4 sec.28, T.8 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on left bank 0.2 mi downstream from Rock Creek, and 5 mi southeast of Coleville.

DRAINAGE AREA.--250 mi^2.

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.

REVISED RECORDS.--WSP 880: 1917 (runoff in acre-ft). WSP 1514: 1918, 1923, WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,520 ft National Geodetic Vertical Datum of 1929, from topographic map. See WSP 2127 for history of changes prior to Sept. 10, 1963.

REMARKS.--Estimated daily discharges: Oct. 6-9, Dec. 14-26, Jan. 1-4, 12-16, Jan. 25 to Feb. 7, Feb. 9-13, Sept. 20-30. Records good except for periods of ice effect, Dec. 14-26, Jan. 1-4, 12-16, Jan. 25 to Feb. 7, and Feb. 9-13, which are fair. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poor lake Reservoir (capacity unknown) 17 mi upstream.

AVERAGE DISCHARGE.--56 years (water years 1902-7, 1910, 1916-37, 1958-85), 280 ft^3/s, 202,900 acre-ft/yr.

EXTREMS FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft^3/s, Dec. 11, 1937, from slope area measurement of peak flow; minimum, 5 ft^3/s, Dec. 3, 1924, Aug. 27, 1931.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

WALKER LAKE BASIN

10297000 TOPAZ LAKE NEAR TOPAZ, CA

LOCATION.--Lat 38°41'35", long 119°31'10", in NW 1/4 NE 1/4 sec.33, T.10 N., R.22 E., Douglas County, Nevada (shown on map of Alpine County), Hydrologic Unit 16050301, at outlet works of Topaz Lake on West Walker River, 5.5 mi 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 nonrecording gages read once daily. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at datum 4.62 ft higher.

REMARKS.--Topaz Lake, formerly known as Alkali Lake and Topaz Reservoir, 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 4,967.68 ft, lowest practical elevation for diversion through tunnel, bottom of outlet tunnel at elevation 4,965.4 ft and 5,000.38 ft, 3 ft below top of levee. Usable capacity of reservoir was increased from about 45,000 acre-ft 59,440 acre-ft in October 1937 by an earthfill, rock-faced levee at south end. Figures given herein represent usable contents at 0800 hours. There is 65,000 acre-ft of lake volume below the point of controllable storage. Water is used for irrigation in Walker River Irrigation District.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,680 acre-ft, July 3, 1980, elevation, 5,000.92 ft, present datum; no contents at times in 1924, 1960, 1977.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

CARSON RIVER BASIN

10308200 EAST FORK CARSON RIVER BELOW MARKLEEVILLE CREEK, NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°42'50", long 119°45'50", in SW 1/4 SE 1/4 sec.15, T.10 N., R.20 E., Alpine County, Hydrologic Unit 16050201, on right bank 0.5 mi downstream from Markleeville Creek and 1.5 mi northeast of Markleeville.

DRAINAGE AREA.--276 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 5,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1967, at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 20 to Feb. 18. Records good except for estimated discharges and period of ice effect, which are poor. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs, total capacity, about 5,000 acre-ft.

AVERAGE DISCHARGE.--25 years, 376 ft^3/s, 272,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft^3/s, Jan. 31, 1963, gage height, 10.21 ft, present datum; minimum daily, 9.5 ft^3/s, Nov. 9, 1977.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

CARSON RIVER BASIN

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA

LOCATION.--Lat 38°46'10", long 119°49'55", in NW 1/4 SE 1/4 sec.34, T.11 N., R.19 E., Alpine County, Hydrologic Unit 16050201, Toiyabe National Forest, on left bank 0.3 mi downstream from bridge on State Highway 88-89, 0.6 mi southwest of Woodfords, and 3.8 mi downstream from Willow Creek.

DRAINAGE AREA.--65.4 mi^2.

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

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,754.5 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at about the same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower.

REMARKS.--Estimated daily discharges: Dec. 16-18, Feb. 1, 5-7. Records good. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft.

AVERAGE DISCHARGE.--54 years (water years 1901-7, 1939-85), 114 ft^3/s, 82,590 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,890 ft^3/s, Feb. 1, 1963, gage height, 9.0 ft, on basis of slope-area measurement of peak flow; minimum, about 5 ft^3/s, Dec. 23, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 11, 1937, reached a stage of 8.0 ft, present datum, from floodmarks, discharge, 3,500 ft^3/s, by slope-area measurement.

DATA FOR 1986 WATER YEAR
NOT AVAILABLE AT TIME OF PUBLICATION.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336600 UPPER TRUCKEE RIVER NEAR MEYERS, CA

LOCATION.--Lat 38°50'35", long 120°01'25", in NE 1/4 SE 1/4 sec.31, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 0.4 mi upstream from mouth of Echo Lake outlet, 1.1 mi southwest of Meyers, and 2.5 mi upstream from Angora Creek.

DRAINAGE AREA.--33.1 mi^2.

PERIOD OF RECORD.--October 1960 to September 1986 (discontinued).

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,321.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 4-21, Dec. 9-15, 19-28, Feb. 6-10. Records good. No regulation. Some small diversions for domestic use upstream from station.

AVERAGE DISCHARGE.--26 years, 68.2 ft^3/s, 49,410 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft^3/s, Feb. 1, 1963, gage height, 12.41 ft; minimum daily, 1.5 ft^3/s, Aug. 31 to Sept. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0100	669	8.34	May 2	2215	343	6.96
Mar. 8	0815	*1,230	*9.74	May 19	2130	508	7.74
Mar. 31	2300	224	6.15	May 29	2345	663	8.32

Minimum daily, 4.1 ft^3/s, Oct. 3-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	9.3	12	24	29	111	199	250	480	101	27	10
2	4.7	9.0	26	22	29	109	167	273	466	101	25	9.7
3	4.1	8.8	23	20	28	115	138	288	477	93	23	9.6
4	4.1	8.4	18	27	27	124	131	221	426	86	22	9.5
5	4.1	8.0	16	64	25	128	131	180	376	80	21	9.1
6	4.3	7.8	15	46	24	130	130	157	339	75	20	8.4
7	7.2	7.3	18	34	25	216	128	141	296	72	20	8.0
8	7.1	7.2	17	28	26	710	116	136	261	68	19	7.6
9	8.4	7.2	16	26	25	263	113	154	260	65	19	7.3
10	7.7	7.2	15	26	25	182	129	191	258	60	18	8.1
11	9.6	7.2	14	24	23	146	156	199	255	58	18	8.0
12	9.5	7.2	13	24	25	128	166	217	260	59	17	7.5
13	8.7	7.2	13	23	50	115	131	244	273	58	16	7.6
14	7.5	7.3	13	23	90	104	119	266	277	53	16	7.8
15	7.1	7.4	13	23	102	97	117	286	247	47	16	8.0
16	6.9	7.6	13	35	67	91	112	295	229	42	16	8.3
17	6.8	7.8	13	130	343	85	104	305	224	38	15	9.3
18	6.6	7.9	13	70	483	81	101	349	217	37	15	10
19	6.2	8.0	13	54	386	80	109	398	187	36	14	11
20	5.8	8.2	13	48	177	83	142	382	164	35	14	9.9
21	7.5	8.2	13	39	125	88	204	303	160	34	15	9.7
22	7.8	8.4	13	35	108	91	256	259	165	37	15	9.4
23	10	10	13	33	98	93	254	263	164	54	14	9.2
24	15	13	14	32	96	90	223	279	165	51	13	11
25	17	15	14	30	102	92	203	367	156	47	13	12
26	14	14	14	28	106	101	184	416	149	49	13	12
27	13	11	14	27	108	120	194	440	140	38	12	13
28	12	13	14	27	111	145	261	460	126	34	12	13
29	12	13	15	28	---	168	270	504	110	32	12	13
30	11	12	29	34	---	194	250	533	101	30	12	15
31	9.7	---	29	33	---	199	---	536	---	28	11	---
TOTAL	260.7	273.6	489	1117	2863	4479	4938	9292	7408	1698	513	292.0
MEAN	8.41	9.12	15.8	36.0	102	144	165	300	247	54.8	16.5	9.73
MAX	17	15	29	130	483	710	270	536	480	101	27	15
MIN	4.1	7.2	12	20	23	80	101	136	101	28	11	7.3
AC-FT	517	543	970	2220	5680	8880	9790	18430	14690	3370	1020	579

CAL YR 1985 TOTAL 14802.8 MEAN 40.6 MAX 253 MIN 3.0 AC-FT 29360
WTR YR 1986 TOTAL 33623.3 MEAN 92.1 MAX 710 MIN 4.1 AC-FT 66690

PYRAMID AND WINNEMUCCA LAKES BASIN

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°55'22", long 119°59'23", in NW 1/4 SE 1/4 sec.4, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, near center of bridge span on downstream side of U.S. Highway 50 bridge, 1.0 mi northeast of South Lake Tahoe Post Office, and 1.4 mi upstream from Lake Tahoe.
DRAINAGE AREA.--54.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to September 1974, October 1976 to June 1977, October 1977 to June 1978, March 1980 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,229.04 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 26, 1984, at datum 2.00 ft higher.
REMARKS.--Estimated daily discharges: Nov. 11-30, Dec. 2, 3, 8, 11, 18, 19, 21, 22, 24, 26, 27, Feb. 3, 7-10, July 4-7. Records fair. Two small dams may cause slight regulation at times. Some small diversions for domestic use upstream from station.

AVERAGE DISCHARGE.--9 years (water years 1972-74, 1981-86), 127 ft^3/s, 92,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,740 ft^3/s, Mar. 8, 1986, gage height, 9.08 ft; maximum gage height, 10.12 ft, present datum, Feb. 16, 1982; minimum daily, 1.7 ft^3/s, on many days during September 1981.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0445	371	5.02	May 3	0300	437	5.14
Feb. 18	0315	2,320	*(a)9.76	May 20	0800	606	5.94
Mar. 8	1030	*2,740	9.08	June 1	0445	865	6.79
Apr. 1	0245	329	4.58				

(a) Ice jam.
Minimum daily, 6.7 ft^3/s, Sept. 4, 8, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	15	31	48	63	202	307	344	736	132	33	9.9
2	10	15	50	46	61	202	277	351	609	135	32	9.0
3	14	14	46	42	60	211	233	411	640	134	30	9.0
4	16	14	39	60	59	219	221	341	639	125	29	6.7
5	19	14	30	141	54	221	216	276	542	117	27	8.0
6	19	13	25	118	51	220	216	245	468	111	26	8.3
7	25	13	29	90	50	389	227	217	405	103	25	9.1
8	23	12	30	75	49	1870	205	199	342	99	23	6.7
9	26	12	29	68	48	874	192	203	322	93	22	7.5
10	23	7.0	27	62	47	502	205	237	302	85	21	8.0
11	24	12	26	57	46	372	229	251	300	83	20	8.2
12	21	12	25	54	55	295	249	269	273	84	19	7.5
13	19	12	23	51	180	249	216	308	296	84	19	8.2
14	17	13	22	47	232	219	195	341	314	81	17	6.9
15	16	13	21	49	361	201	188	374	303	76	17	6.7
16	15	13	21	91	467	190	183	379	284	70	17	9.8
17	15	13	21	290	1230	174	170	380	282	63	16	11
18	17	14	21	155	1740	164	160	436	285	59	15	14
19	17	14	21	128	1290	163	161	499	259	56	14	13
20	11	14	21	113	616	169	182	555	224	55	14	12
21	17	15	21	93	324	178	238	465	204	54	15	8.4
22	16	16	21	79	255	182	317	378	203	56	14	8.1
23	22	20	21	76	222	184	354	366	203	76	13	7.9
24	28	25	21	76	209	178	319	350	210	75	13	12
25	26	30	22	68	208	177	296	445	204	66	12	18
26	22	28	22	63	208	183	264	534	197	78	12	19
27	21	24	22	58	210	202	254	596	190	62	12	23
28	20	27	23	60	210	228	328	621	177	57	12	21
29	19	28	26	60	---	255	373	671	158	52	11	23
30	18	26	60	77	---	290	343	727	140	38	12	24
31	16	---	59	69	---	300	---	778	---	36	11	---
TOTAL	581.4	498.0	876	2564	8605	9463	7318	12547	9711	2495	573	343.9
MEAN	18.8	16.6	28.3	82.7	307	305	244	405	324	80.5	18.5	11.5
MAX	28	30	60	290	1740	1870	373	778	736	135	33	24
MIN	9.4	7.0	21	42	46	163	160	199	140	36	11	6.7
AC-FT	1150	988	1740	5090	17070	18770	14520	24890	19260	4950	1140	682

CAL YR 1985 TOTAL 22800.4 MEAN 62.5 MAX 384 MIN 3.6 AC-FT 45220
WTR YR 1986 TOTAL 55575.3 MEAN 152 MAX 1870 MIN 6.7 AC-FT 110200

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972-74, 1978, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1981 to September 1983.
WATER TEMPERATURE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1977 to June 1978, March 1980 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 312 mg/L, Dec. 29, 1973; minimum daily mean, 0 mg/L, on several days in most years.
SEDIMENT LOAD: Maximum daily, 781 tons, Mar. 8, 1986; minimum daily, 0 ton, on several days in most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 254 mg/L, Jan. 17; minimum daily mean, 2 mg/L, Oct. 1, Sept. 9, 10, 25-27.
SEDIMENT LOAD: Maximum daily, 781 tons, Mar. 8; minimum daily, .04 ton, Sept. 9, 10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	---	---	---	---	---	3.0	---	11.0	15.5	---	---
2	---	---	2.0	---	---	---	---	8.5	7.0	---	---	---
3	---	---	---	---	---	---	6.5	3.5	13.0	18.0	---	---
4	10.0	---	3.0	2.5	---	6.0	5.0	5.5	---	---	---	---
5	---	9.0	---	2.0	1.0	---	4.5	---	12.0	---	20.0	18.0
6	---	---	---	---	---	3.5	2.5	---	---	---	---	---
7	---	4.0	---	---	---	3.0	7.0	6.0	---	17.0	---	---
8	---	---	---	2.5	---	1.5	---	9.5	---	---	---	---
9	---	---	---	---	---	0.0	---	9.5	---	---	---	17.5
10	---	---	---	---	---	---	3.0	---	---	18.5	---	---
11	10.0	---	1.0	---	---	---	---	2.5	---	---	---	---
12	---	---	0.0	---	---	---	4.0	---	---	---	---	13.5
13	---	---	---	---	0.5	2.5	6.5	8.5	13.0	---	---	---
14	---	2.0	---	3.0	3.0	2.5	8.0	3.5	---	15.0	---	---
15	---	---	---	---	1.0	0.0	---	4.0	---	---	21.0	---
16	---	---	---	2.5	0.5	---	5.0	6.0	11.0	---	---	---
17	---	---	0.0	2.0	1.0	1.5	---	10.0	---	---	---	---
18	---	---	---	---	0.5	5.0	8.5	---	---	---	---	9.0
19	---	---	1.0	---	1.0	4.5	10.0	9.0	9.0	---	21.0	---
20	---	---	---	---	1.0	7.0	---	---	13.0	21.0	---	---
21	4.0	---	---	---	4.0	8.0	---	7.5	---	---	19.5	---
22	---	1.0	---	---	---	5.0	7.0	8.0	---	15.0	---	10.5
23	---	---	---	---	---	---	7.0	4.0	10.0	13.0	---	---
24	---	---	---	1.0	---	6.5	7.5	5.0	17.0	---	---	7.0
25	---	---	---	---	---	---	---	5.0	16.5	13.0	---	6.5
26	---	1.0	---	---	4.0	9.0	8.0	5.0	---	---	---	---
27	---	---	---	1.0	5.0	7.0	---	9.5	17.0	---	---	---
28	---	---	---	---	---	6.0	---	11.5	16.0	---	---	---
29	9.5	---	---	---	---	5.5	3.5	9.0	---	---	---	6.0
30	---	---	1.0	---	---	---	8.0	---	16.0	---	---	---
31	---	---	---	---	---	7.0	---	10.5	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	9.4	2	.05	15	6	.24	31	17	1.4
2	10	3	.08	15	6	.24	50	76	10
3	14	3	.11	14	6	.23	46	22	2.7
4	16	3	.13	14	6	.23	39	6	.63
5	19	4	.21	14	6	.23	30	5	.41
6	19	4	.21	13	6	.21	25	5	.34
7	25	4	.27	13	7	.25	29	5	.39
8	23	5	.31	12	7	.23	30	10	.81
9	26	6	.42	12	7	.23	29	9	.70
10	23	7	.43	7.0	7	.13	27	9	.66
11	24	8	.52	12	8	.26	26	12	.84
12	21	8	.45	12	8	.26	25	9	.61
13	19	8	.41	12	9	.29	23	9	.56
14	17	8	.37	13	17	.60	22	10	.59
15	16	8	.35	13	19	.67	21	9	.51
16	15	8	.32	13	16	.56	21	7	.40
17	15	8	.32	13	16	.56	21	4	.23
18	17	8	.37	14	16	.60	21	4	.23
19	17	7	.32	14	16	.60	21	5	.28
20	11	7	.21	14	16	.60	21	5	.28
21	17	7	.32	15	16	.65	21	5	.28
22	16	7	.30	16	16	.69	21	6	.34
23	22	8	.48	20	17	.92	21	6	.34
24	28	7	.53	25	19	1.3	21	6	.34
25	26	7	.49	30	21	1.7	22	6	.36
26	22	6	.36	28	17	1.3	22	6	.36
27	21	6	.34	24	17	1.1	22	6	.36
28	20	6	.32	27	17	1.2	23	6	.37
29	19	6	.31	28	17	1.3	26	6	.42
30	18	6	.29	26	17	1.2	60	26	4.6
31	16	6	.26	---	---	---	59	9	1.4
TOTAL	581.4	---	9.86	498.0	---	18.58	876	---	31.74

DAY		JANUARY			FEBRUARY			MARCH	
1	48	8	1.0	63	10	1.7	202	16	8.7
2	46	7	.87	61	10	1.6	202	18	9.8
3	42	7	.79	60	15	2.4	211	20	11
4	60	28	6.1	59	15	2.4	219	25	15
5	141	78	30	54	15	2.2	221	30	18
6	118	51	16	51	17	2.3	220	29	17
7	90	23	5.6	50	17	2.3	389	92	117
8	75	10	2.0	49	16	2.1	1870	166	781
9	68	8	1.5	48	16	2.1	874	40	94
10	62	7	1.2	47	16	2.0	502	50	68
11	57	7	1.1	46	16	2.0	372	40	40
12	54	6	.87	55	20	3.0	295	36	29
13	51	5	.69	180	107	59	249	32	22
14	47	4	.51	232	252	216	219	28	17
15	49	4	.53	361	105	102	201	18	9.8
16	91	68	35	467	72	91	190	14	7.2
17	290	254	221	1230	85	282	174	13	6.1
18	155	33	14	1740	40	188	164	13	5.8
19	128	35	12	1290	42	146	163	16	7.0
20	113	32	9.8	616	80	133	169	18	8.2
21	93	30	7.5	324	48	42	178	18	8.7
22	79	30	6.4	255	42	29	182	17	8.4
23	76	30	6.2	222	24	14	184	16	7.9
24	76	35	7.2	209	24	14	178	15	7.2
25	68	25	4.6	208	22	12	177	15	7.2
26	63	17	2.9	208	22	12	183	14	6.9
27	58	8	1.3	210	22	12	202	14	7.6
28	60	7	1.1	210	22	12	228	25	15
29	60	7	1.1	---	---	---	255	29	20
30	77	19	4.0	---	---	---	290	35	27
31	69	10	1.9	---	---	---	300	32	26
TOTAL	2564	---	404.76	8605	---	1390.1	9463	---	1433.5

PYRAMID AND WINNEMUCCA LAKES BASIN

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	307	30	25	344	47	44	736	62	123
2	277	22	16	351	60	57	609	42	69
3	233	14	8.8	411	105	117	640	50	86
4	221	10	6.0	341	65	60	639	52	90
5	216	11	6.4	276	35	26	542	40	59
6	216	22	13	245	32	21	468	32	40
7	227	23	14	217	24	14	405	30	33
8	205	23	13	199	25	13	342	28	26
9	192	19	9.8	203	27	15	322	27	23
10	205	27	15	237	34	22	302	24	20
11	229	30	19	251	37	25	300	27	22
12	249	41	28	269	44	32	273	25	18
13	216	14	8.2	308	49	41	296	28	22
14	195	8	4.2	341	63	58	314	36	31
15	188	9	4.6	374	72	73	303	45	37
16	183	13	6.4	379	91	93	284	49	38
17	170	11	5.0	380	66	68	282	47	36
18	160	8	3.5	436	73	86	285	49	38
19	161	6	2.6	499	78	105	259	38	27
20	182	8	3.9	555	88	132	224	20	12
21	238	40	26	465	78	98	204	13	7.2
22	317	55	47	378	77	79	203	13	7.1
23	354	58	55	366	40	40	203	11	6.0
24	319	58	50	350	29	27	210	17	9.6
25	296	50	40	445	37	44	204	14	7.7
26	264	44	31	534	38	55	197	13	6.9
27	254	23	16	596	64	103	190	13	6.7
28	328	50	44	621	78	131	177	13	6.2
29	373	55	55	671	58	105	158	13	5.5
30	343	45	42	727	57	112	140	12	4.5
31	---	---	---	778	58	122	---	---	---
TOTAL	7318	---	618.4	12547	---	2018	9711	---	917.4
DAY		JULY			AUGUST			SEPTEMBER	
1	132	10	3.6	33	10	.89	9.9	6	.16
2	135	10	3.6	32	10	.86	9.0	6	.15
3	134	10	3.6	30	10	.81	9.0	6	.15
4	125	10	3.4	29	10	.78	6.7	6	.11
5	117	10	3.2	27	10	.73	8.0	6	.13
6	111	8	2.4	26	10	.70	8.3	5	.11
7	103	6	1.7	25	9	.61	9.1	4	.10
8	99	6	1.6	23	9	.56	6.7	3	.05
9	93	6	1.5	22	9	.53	7.5	2	.04
10	85	6	1.4	21	8	.45	8.0	2	.04
11	83	7	1.6	20	8	.43	8.2	3	.07
12	84	8	1.8	19	8	.41	7.5	4	.08
13	84	9	2.0	19	7	.36	8.2	4	.09
14	81	10	2.2	17	7	.32	6.9	5	.09
15	76	10	2.1	17	7	.32	6.7	5	.09
16	70	10	1.9	17	7	.32	9.8	5	.13
17	63	10	1.7	16	8	.35	11	6	.18
18	59	10	1.6	15	9	.36	14	6	.23
19	56	10	1.5	14	10	.38	13	5	.18
20	55	10	1.5	14	8	.30	12	4	.13
21	54	10	1.5	15	6	.24	8.4	3	.07
22	56	10	1.5	14	6	.23	8.1	3	.07
23	76	13	2.7	13	6	.21	7.9	3	.06
24	75	13	2.6	13	6	.21	12	3	.10
25	66	6	1.1	12	6	.19	18	2	.10
26	78	9	1.9	12	6	.19	19	2	.10
27	62	8	1.3	12	6	.19	23	2	.12
28	57	8	1.2	12	6	.19	21	2	.11
29	52	8	1.1	11	6	.18	23	5	.31
30	38	9	.92	12	6	.19	24	3	.19
31	36	10	.97	11	6	.18	---	---	---
TOTAL	2495	---	60.69	573	---	12.67	343.9	---	3.54
YEAR	55575.3		6919.24						

PYRAMID AND WINNEMUCCA LAKES BASIN

10336625 FALLEN LEAF LAKE NEAR CAMP RICHARDSON, CA

LOCATION.--Lat 38°54'00", long 120°04"14", in NE 1/4 SW 1/4 sec.11, T.12 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, 200 ft north of Cathedral Creek, 1.5 mi south of Fallen Leaf Dam, 2.9 mi southwest of Camp Richardson, and 3.7 mi west of South Lake Tahoe Post Office.

DRAINAGE AREA.--16.7 mi^2.

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1973, published as "near Tahoe Valley."

GAGE.--Water-stage recorder. Datum of gage is 6,372.30 ft above National Geodetic Vertical Datum of 1929.

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.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 5.85 ft, Jan. 13, 1980; minimum, 1.79 ft, Jan. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.61 ft, Feb. 18, 19; minimum, 2.14 ft, Dec. 27, 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.03	2.74	2.46	2.35	2.39	2.84	2.92	3.05	4.26	4.42	4.18	3.54
2	3.00	2.74	2.50	2.34	2.44	2.82	2.92	3.05	4.17	4.45	4.16	3.53
3	2.98	2.73	2.51	2.33	2.44	2.81	2.89	3.14	4.10	4.42	4.13	3.52
4	2.96	2.71	2.50	2.50	2.41	2.81	2.85	3.10	3.94	4.40	4.11	3.51
5	2.93	2.71	2.46	2.69	2.38	2.81	2.83	3.04	3.87	4.42	4.09	3.49
6	2.94	2.71	2.44	2.69	2.35	2.81	2.82	2.96	3.84	4.42	4.05	3.48
7	2.91	2.68	2.43	2.65	2.33	3.28	2.80	2.89	3.78	4.42	4.03	3.45
8	2.95	2.65	2.41	2.61	2.30	4.17	2.76	2.82	3.70	4.42	4.02	3.40
9	2.92	2.64	2.38	2.57	2.28	3.95	2.74	2.79	3.66	4.42	4.00	3.37
10	2.91	2.78	2.34	2.52	2.25	3.76	2.73	2.80	3.65	4.42	3.97	3.35
11	2.89	2.80	2.31	2.49	2.23	3.51	2.74	2.83	3.68	4.42	3.94	3.33
12	2.87	2.80	2.27	2.45	2.44	3.29	2.78	2.86	3.75	4.41	3.92	3.29
13	2.85	2.78	2.25	2.42	2.53	3.14	2.77	2.93	3.85	4.41	3.89	3.25
14	2.84	2.74	2.23	2.41	2.82	2.99	2.74	3.02	3.94	4.41	3.88	3.22
15	2.82	2.72	2.21	2.40	3.07	2.93	2.71	3.10	4.00	4.37	3.86	3.18
16	2.81	2.68	2.18	2.65	3.29	2.84	2.68	3.16	4.00	4.34	3.83	3.15
17	2.80	2.65	2.19	2.82	4.09	2.76	2.65	3.25	4.01	4.32	3.81	3.17
18	2.78	2.62	2.18	2.82	4.61	2.69	2.63	3.36	4.09	4.31	3.80	3.15
19	2.76	2.57	2.18	2.78	4.61	2.64	2.62	3.48	4.13	4.30	3.79	3.14
20	2.71	2.53	2.17	2.74	4.27	2.61	2.62	3.57	4.14	4.29	3.78	3.13
21	2.78	2.46	2.16	2.68	3.87	2.58	2.71	3.54	4.14	4.30	3.76	3.12
22	2.76	2.41	2.16	2.62	3.56	2.56	2.85	3.47	4.15	4.32	3.74	3.11
23	2.76	2.41	2.15	2.62	3.31	2.54	2.96	3.42	4.20	4.32	3.72	3.09
24	2.77	2.47	2.15	2.57	3.14	2.53	2.99	3.38	4.29	4.32	3.69	3.16
25	2.77	2.48	2.15	2.52	3.03	2.52	2.98	3.47	4.35	4.34	3.68	3.17
26	2.78	2.42	2.15	2.48	2.96	2.53	2.95	3.61	4.39	4.35	3.67	3.21
27	2.77	2.42	2.14	2.44	2.90	2.57	2.92	3.74	4.40	4.35	3.65	3.24
28	2.78	2.45	2.14	2.41	2.86	2.62	2.98	3.86	4.40	4.32	3.62	3.24
29	2.76	2.44	2.18	2.40	---	2.69	3.04	4.02	4.38	4.29	3.59	3.24
30	2.75	2.40	2.33	2.43	---	2.78	3.05	4.15	4.39	4.24	3.57	3.25
31	2.75	---	2.35	2.42	---	2.86	---	4.30	---	4.20	3.56	---
MEAN	2.84	2.61	2.28	2.54	2.97	2.91	2.82	3.30	4.06	4.36	3.85	3.28
MAX	3.03	2.80	2.51	2.82	4.61	4.17	3.05	4.30	4.40	4.45	4.18	3.54
MIN	2.71	2.40	2.14	2.33	2.23	2.52	2.62	2.79	3.65	4.20	3.56	3.09

CAL YR 1985 MAX 4.32 MIN 2.03
WTR YR 1986 MAX 4.61 MIN 2.14

PYRAMID AND WINNEMUCCA LAKES BASIN

10336626 TAYLOR CREEK NEAR CAMP RICHARDSON, CA

LOCATION.--Lat 38°55'18", long 120°03'37", in NE 1/4 NW 1/4 sec.2, T.12 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, on left bank 0.1 mi downstream from Fallen Leaf Lake outlet, and 1.4 mi southwest of Camp Richardson.

DRAINAGE AREA.--16.7 mi^2.

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1973, published as "near Tahoe Valley."

GAGE.--Water-stage recorder. Datum of gage is 6,361.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Fallen Leaf Lake Dam (station 10336625).

AVERAGE DISCHARGE (unadjusted).--18 years, 49.4 ft^3/s, 35,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,530 ft^3/s, Jan. 14, 1980, gage height, 6.33 ft; minimum daily, 0.20 ft^3/s, Oct. 4-7, 1970, Sept. 4-6, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 691 ft^3/s, Feb. 19, gage height, 5.40 ft; minimum daily, 2.4 ft^3/s Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	8.2	35	30	36	90	103	127	425	39	22	4.8
2	14	8.1	46	30	38	86	105	130	403	60	22	4.9
3	13	7.9	51	28	39	84	100	142	385	71	17	4.7
4	17	7.7	48	32	37	83	93	144	358	56	17	4.8
5	17	7.5	43	54	35	82	87	130	269	39	17	5.0
6	17	7.4	38	66	31	83	83	114	207	39	14	4.9
7	18	7.1	38	63	29	113	83	99	198	39	12	4.7
8	18	6.9	37	57	26	390	77	88	186	38	11	4.7
9	18	6.6	34	51	24	428	71	82	155	37	11	4.6
10	18	9.1	30	48	22	369	69	83	140	36	11	4.7
11	18	11	27	44	20	307	71	83	123	36	11	4.7
12	19	11	25	40	26	241	78	87	118	36	11	4.8
13	18	20	22	37	44	189	77	92	111	36	11	3.8
14	17	26	21	34	61	144	73	100	111	37	11	3.4
15	17	25	19	35	118	118	70	114	121	37	11	3.4
16	16	25	18	38	170	101	65	118	125	34	11	3.5
17	15	24	17	77	327	87	61	125	128	24	11	3.5
18	15	23	15	88	511	75	56	138	100	19	8.0	3.3
19	15	27	14	83	613	66	54	157	87	19	5.6	3.2
20	14	32	14	76	515	61	53	177	89	19	5.3	3.2
21	14	37	13	68	403	56	58	181	88	19	5.1	3.2
22	13	43	12	61	312	53	75	170	89	18	4.7	3.2
23	12	37	12	58	241	52	101	160	70	18	4.8	2.8
24	11	39	11	52	181	51	114	152	60	18	5.2	3.2
25	10	44	11	48	141	48	117	157	66	18	5.0	2.7
26	9.7	41	11	44	119	48	106	175	70	18	4.8	2.8
27	9.6	36	11	40	105	49	100	197	74	18	4.6	2.7
28	9.2	37	11	37	96	54	103	214	75	29	4.5	2.5
29	8.9	41	12	35	---	62	119	234	73	35	4.5	2.4
30	8.6	39	25	37	---	73	125	271	51	34	4.7	2.4
31	8.4	---	30	37	---	88	---	364	---	30	4.8	---
TOTAL	443.4	694.5	751	1528	4320	3831	2547	4605	4555	1006	302.6	112.5
MEAN	14.3	23.2	24.2	49.3	154	124	84.9	149	152	32.5	9.76	3.75
MAX	19	44	51	88	613	428	125	364	425	71	22	5.0
MIN	8.4	6.6	11	28	20	48	53	82	51	18	4.5	2.4
AC-FT	879	1380	1490	3030	8570	7600	5050	9130	9030	2000	600	223

CAL YR 1985	TOTAL	9466.73	MEAN	25.9	MAX	154	MIN	.56	AC-FT	18780
WTR YR 1986	TOTAL	24696.0	MEAN	67.7	MAX	613	MIN	2.4	AC-FT	48980

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'07", long 120°07'03", in NE 1/4 NE 1/4 sec.20, T.14 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, on right bank 200 ft upstream from State Highway 89, 0.4 mi upstream from Lake Tahoe, and 1.1 mi north of Meeks Bay.

DRAINAGE AREA.--7.44 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,250.38 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 10-13, 16-19, 28-30, Dec. 10-12, 27, Feb. 7, 9, 10. Records good except for periods of ice effect listed above, which are fair. No known diversion or regulation upstream from station.

AVERAGE DISCHARGE.--6 years, 22.9 ft^3/s, 16,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s, Dec. 20, 1981, gage height, 5.43 ft, from rating curve extended above 180 ft^3/s on basis of computation of flow through culvert; minimum daily, 0.53 ft^3/s, Sept. 10, 1981 and Sept. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 18	0345	473	4.06	May 3	0030	122	2.14
Mar. 8	0745	*534	*4.30	May 18	2245	153	2.33
Apr. 22	2300	121	2.13	May 31	2315	171	2.43

Minimum daily, 0.98 ft^3/s, Aug. 18 and Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.8	2.0	8.0	14	40	78	74	99	3.5	1.3	1.0
2	1.0	1.7	8.6	7.1	13	40	64	81	77	3.3	1.3	1.0
3	1.0	1.6	9.0	5.7	13	42	49	96	65	3.0	1.3	1.0
4	1.0	1.5	6.1	11	13	44	44	63	51	2.8	1.3	1.0
5	1.1	1.5	5.1	31	11	46	46	46	41	2.5	1.2	.99
6	1.4	1.4	5.2	27	10	45	47	38	36	2.4	1.2	.98
7	1.8	1.3	5.5	17	10	75	50	34	32	2.4	1.2	.99
8	2.1	1.3	5.4	11	10	372	42	32	27	2.3	1.2	1.0
9	2.4	1.3	4.9	9.2	9.8	185	38	37	25	2.1	1.2	1.1
10	2.3	1.4	4.8	8.4	9.4	99	46	54	23	2.0	1.1	1.1
11	2.4	1.4	4.7	7.7	9.1	64	61	62	23	1.9	1.1	1.1
12	2.2	1.5	4.6	7.4	10	50	64	70	29	1.8	1.1	1.1
13	1.8	1.5	4.5	7.0	33	42	46	78	23	1.7	1.0	1.1
14	1.6	1.5	4.2	7.4	42	36	37	85	20	1.6	1.1	1.2
15	1.6	1.5	3.7	7.2	51	34	37	87	18	1.6	1.1	1.1
16	1.5	1.5	3.5	17	43	32	35	88	15	1.4	1.0	1.2
17	1.5	1.5	3.2	81	213	29	32	90	13	1.4	.99	1.5
18	1.5	1.5	3.0	44	400	27	30	104	12	1.5	.98	1.6
19	1.5	1.4	3.0	27	353	26	31	104	11	1.5	.99	1.6
20	1.5	1.4	3.0	23	149	26	44	93	9.4	1.5	1.0	1.6
21	2.5	1.4	3.0	18	80	28	76	74	8.4	1.5	1.0	1.5
22	2.3	1.3	2.9	15	58	30	100	59	7.7	1.6	1.0	1.5
23	2.9	1.7	2.9	14	48	31	95	61	7.4	2.1	1.0	1.5
24	2.5	2.9	2.9	14	40	32	77	70	6.6	1.8	1.0	2.1
25	2.2	3.5	2.8	12	38	33	65	101	6.2	2.0	1.0	2.7
26	2.0	2.4	2.7	11	38	35	55	108	5.6	2.0	1.0	2.7
27	1.8	2.1	2.9	10	39	42	58	104	5.1	1.7	1.0	3.1
28	1.8	2.1	3.1	10	40	54	78	103	4.4	1.6	1.0	2.5
29	1.8	2.0	3.2	10	---	63	80	110	4.1	1.5	1.0	2.2
30	1.8	2.0	12	15	---	77	73	110	3.8	1.4	1.0	1.9
31	1.8	---	11	17	---	83	---	109	---	1.4	1.0	---
TOTAL	55.6	50.9	143.4	510.1	1797.3	1862	1678	2425	708.7	60.8	33.66	44.96
MEAN	1.79	1.70	4.63	16.5	64.2	60.1	55.9	78.2	23.6	1.96	1.09	1.50
MAX	2.9	3.5	12	81	400	372	100	110	99	3.5	1.3	3.1
MIN	1.0	1.3	2.0	5.7	9.1	26	30	32	3.8	1.4	.98	.98
AC-FT	110	101	284	1010	3560	3690	3330	4810	1410	121	67	89

CAL YR 1985	TOTAL	4050.57	MEAN	11.1	MAX	99	MIN	.53	AC-FT 8030
WTR YR 1986	TOTAL	9370.42	MEAN	25.7	MAX	400	MIN	.98	AC-FT 18590

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURE: October 1980 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

COOPERATION.--Selected sediment samples and water temperature observations provided by University of California at Davis.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 266 mg/L, Dec. 20, 1981; minimum daily mean, 0 mg/L, on many days in most years.
SEDIMENT LOAD: Maximum daily, 457 tons, Dec. 20, 1981; minimum daily, 0 ton, on many days in most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 162 mg/L, Feb. 18; minimum daily mean, 0 mg/L, on many days.
SEDIMENT LOAD: Maximum daily, 181 tons, Feb. 18; minimum daily, 0 ton, on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	2.0	3.5	---	5.5	---	---	---
2	8.0	---	0.5	---	---	---	---	---	10.0	---	---	---
3	---	---	0.5	---	---	---	---	3.5	10.5	13.0	---	---
4	---	---	---	1.0	---	---	---	---	7.0	---	14.0	---
5	---	4.5	---	0.0	---	---	---	---	---	---	---	---
6	---	---	---	0.0	0.0	---	---	---	---	---	---	---
7	---	---	---	1.0	---	2.0	---	---	---	---	---	---
8	---	---	---	---	---	0.5	2.0	5.0	---	---	13.0	10.0
9	---	---	0.5	---	---	0.0	4.5	---	---	---	---	---
10	---	---	---	0.0	---	0.0	---	---	---	---	---	---
11	---	---	---	---	---	1.0	---	4.0	---	---	---	---
12	---	---	---	---	---	2.0	---	---	---	---	---	7.5
13	---	---	---	---	0.0	---	---	---	---	---	---	---
14	---	1.0	---	---	1.0	---	---	6.0	---	14.0	---	---
15	---	---	---	1.0	0.0	---	---	2.5	---	---	---	---
16	5.0	---	---	1.5	---	---	---	7.0	---	---	---	---
17	---	---	0.0	0.0	0.0	---	---	7.0	11.0	---	---	---
18	---	0.0	---	1.5	0.0	---	---	5.0	---	---	---	---
19	---	---	---	---	0.0	---	---	6.0	---	---	11.0	---
20	---	---	---	---	0.5	3.0	---	5.5	---	---	---	---
21	---	---	---	---	0.5	---	4.5	---	---	---	---	---
22	---	---	---	1.0	---	---	4.5	2.0	---	---	---	---
23	5.0	---	---	---	1.5	---	3.5	---	---	---	---	---
24	---	---	---	---	---	---	---	4.5	---	13.0	---	6.0
25	---	1.0	---	---	---	---	---	5.0	11.0	---	---	---
26	---	---	---	---	---	---	---	5.5	---	---	---	---
27	---	---	0.0	---	---	1.5	---	4.5	14.5	---	---	---
28	---	---	---	---	---	2.5	2.5	9.0	---	---	---	---
29	---	---	---	---	---	---	4.5	9.5	---	---	---	---
30	---	---	0.0	1.5	---	---	2.0	---	---	---	9.5	---
31	---	---	0.0	---	---	---	---	9.0	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1.0	2	.01	1.8	0	.00	2.0	1	.01
2	1.0	2	.01	1.7	0	.00	8.6	6	.14
3	1.0	2	.01	1.6	0	.00	9.0	2	.05
4	1.0	2	.01	1.5	0	.00	6.1	1	.02
5	1.1	2	.01	1.5	0	.00	5.1	1	.01
6	1.4	2	.01	1.4	0	.00	5.2	0	.00
7	1.8	2	.01	1.3	0	.00	5.5	0	.00
8	2.1	2	.01	1.3	0	.00	5.4	0	.00
9	2.4	2	.01	1.3	0	.00	4.9	0	.00
10	2.3	2	.01	1.4	0	.00	4.8	0	.00
11	2.4	1	.01	1.4	0	.00	4.7	0	.00
12	2.2	1	.01	1.5	0	.00	4.6	0	.00
13	1.8	1	.00	1.5	0	.00	4.5	0	.00
14	1.6	1	.00	1.5	0	.00	4.2	0	.00
15	1.6	1	.00	1.5	0	.00	3.7	0	.00
16	1.5	1	.00	1.5	0	.00	3.5	0	.00
17	1.5	1	.00	1.5	0	.00	3.2	0	.00
18	1.5	1	.00	1.5	0	.00	3.0	0	.00
19	1.5	1	.00	1.4	0	.00	3.0	0	.00
20	1.5	1	.00	1.4	0	.00	3.0	0	.00
21	2.5	1	.01	1.4	0	.00	3.0	0	.00
22	2.3	1	.01	1.3	0	.00	2.9	0	.00
23	2.9	1	.01	1.7	1	.00	2.9	0	.00
24	2.5	1	.01	2.9	2	.02	2.9	0	.00
25	2.2	1	.01	3.5	1	.01	2.8	0	.00
26	2.0	1	.01	2.4	1	.01	2.7	0	.00
27	1.8	1	.00	2.1	1	.01	2.9	0	.00
28	1.8	1	.00	2.1	1	.01	3.1	0	.00
29	1.8	1	.00	2.0	1	.01	3.2	1	.01
30	1.8	0	.00	2.0	1	.01	12	5	.16
31	1.8	0	.00	---	---	---	11	2	.06
TOTAL	55.6	---	0.18	50.9	---	0.08	143.4	---	0.46
DAY		JANUARY			FEBRUARY			MARCH	
1	8.0	2	.04	14	3	.11	40	3	.32
2	7.1	1	.02	13	3	.11	40	3	.32
3	5.7	1	.02	13	2	.07	42	4	.45
4	11	5	.15	13	2	.07	44	4	.48
5	31	15	1.3	11	2	.06	46	4	.50
6	27	3	.22	10	2	.05	45	4	.49
7	17	1	.05	10	2	.05	75	30	6.1
8	11	0	.00	10	2	.05	372	130	140
9	9.2	0	.00	9.8	2	.05	185	32	16
10	8.4	0	.00	9.4	2	.05	99	16	4.3
11	7.7	0	.00	9.1	2	.05	64	10	1.7
12	7.4	0	.00	10	2	.05	50	4	.54
13	7.0	0	.00	33	8	.71	42	3	.34
14	7.4	0	.00	42	11	1.9	36	2	.19
15	7.2	0	.00	51	10	1.4	34	2	.18
16	17	6	.73	43	3	.35	32	1	.09
17	81	21	4.9	213	79	66	29	1	.08
18	44	2	.24	400	162	181	27	0	.00
19	27	2	.15	353	103	107	26	0	.00
20	23	2	.12	149	28	11	26	0	.00
21	18	3	.15	80	16	3.5	28	1	.08
22	15	3	.12	58	10	1.6	30	2	.16
23	14	3	.11	48	6	.78	31	2	.17
24	14	3	.11	40	5	.54	32	3	.26
25	12	3	.10	38	4	.41	33	3	.27
26	11	3	.09	38	3	.31	35	4	.38
27	10	3	.08	39	3	.32	42	4	.45
28	10	3	.08	40	3	.32	54	4	.58
29	10	3	.08	---	---	---	63	5	.85
30	15	3	.12	---	---	---	77	6	1.2
31	17	3	.14	---	---	---	83	6	1.3
TOTAL	510.1	---	9.12	1797.3	---	377.91	1862	---	177.78

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	78	5	1.1	74	2	.40	99	8	2.1
2	64	4	.69	81	6	1.3	77	3	.62
3	49	4	.53	96	5	1.3	65	3	.53
4	44	3	.36	63	3	.51	51	2	.28
5	46	3	.37	46	3	.37	41	3	.33
6	47	2	.25	38	3	.31	36	3	.29
7	50	2	.27	34	2	.18	32	3	.26
8	42	1	.11	32	2	.17	27	2	.15
9	38	1	.10	37	2	.20	25	2	.14
10	46	2	.25	54	3	.44	23	2	.12
11	61	3	.49	62	3	.50	23	1	.06
12	64	3	.52	70	4	.76	29	1	.08
13	46	2	.25	78	4	.84	23	1	.06
14	37	1	.10	85	4	.92	20	1	.05
15	37	1	.10	87	8	1.9	18	1	.05
16	35	1	.09	88	8	1.9	15	1	.04
17	32	1	.09	90	9	2.5	13	1	.04
18	30	1	.08	104	14	4.8	12	1	.03
19	31	1	.08	104	15	4.8	11	1	.03
20	44	2	.12	93	12	3.0	9.4	1	.03
21	76	8	1.8	74	5	1.0	8.4	1	.02
22	100	10	2.8	59	5	.80	7.7	0	.00
23	95	7	1.8	61	4	.66	7.4	0	.00
24	77	3	.62	70	7	1.3	6.6	0	.00
25	65	2	.35	101	10	3.4	6.2	0	.00
26	55	2	.30	108	12	3.8	5.6	0	.00
27	58	2	.31	104	8	2.6	5.1	0	.00
28	78	3	.63	103	8	2.4	4.4	0	.00
29	80	3	.65	110	8	2.5	4.1	0	.00
30	73	3	.59	110	7	2.2	3.8	1	.00
31	---	---	---	109	8	2.9	---	---	---
TOTAL	1678	---	15.80	2425	---	50.66	708.7	---	5.31
DAY		JULY			AUGUST			SEPTEMBER	
1	3.5	1	.00	1.3	0	.00	1.0	0	.00
2	3.3	1	.01	1.3	0	.00	1.0	1	.00
3	3.0	1	.01	1.3	0	.00	1.0	1	.00
4	2.8	1	.01	1.3	0	.00	1.0	1	.00
5	2.5	1	.01	1.2	0	.00	.99	2	.01
6	2.4	1	.01	1.2	1	.04	.98	2	.01
7	2.4	1	.01	1.2	2	.01	.99	2	.01
8	2.3	1	.01	1.2	2	.01	1.0	3	.01
9	2.1	1	.01	1.2	2	.01	1.1	3	.01
10	2.0	1	.01	1.1	2	.01	1.1	2	.01
11	1.9	1	.01	1.1	2	.01	1.1	2	.01
12	1.8	1	.00	1.1	2	.01	1.1	2	.01
13	1.7	1	.00	1.0	2	.01	1.1	2	.01
14	1.6	1	.05	1.1	1	.00	1.2	2	.01
15	1.6	1	.00	1.1	1	.00	1.1	2	.01
16	1.4	1	.00	1.0	1	.00	1.2	2	.01
17	1.4	1	.00	.99	1	.00	1.5	2	.01
18	1.5	1	.00	.98	1	.00	1.6	2	.01
19	1.5	1	.00	.99	1	.00	1.6	1	.00
20	1.5	1	.00	1.0	1	.00	1.6	1	.00
21	1.5	1	.00	1.0	1	.00	1.5	1	.00
22	1.6	1	.00	1.0	1	.00	1.5	1	.00
23	2.1	1	.01	1.0	1	.00	1.5	1	.00
24	1.8	1	.00	1.0	1	.00	2.1	1	.01
25	2.0	1	.01	1.0	0	.00	2.7	1	.01
26	2.0	1	.01	1.0	0	.00	2.7	1	.01
27	1.7	1	.00	1.0	0	.00	3.1	1	.01
28	1.6	1	.00	1.0	0	.00	2.5	1	.01
29	1.5	1	.00	1.0	0	.00	2.2	1	.01
30	1.4	0	.00	1.0	0	.00	1.9	1	.01
31	1.4	0	.00	1.0	0	.00	---	---	---
TOTAL	60.8	---	0.18	33.66	---	0.11	44.96	---	0.21
YEAR	9370.42		637.80						

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN						
16...	2335	62	0.0	42	7.0	23
17...	0255	88	0.0	59	14	32
17...	0645	95	0.0	26	6.7	21
17...	1150	83	0.0	15	3.4	24
FEB						
17...	1205	197	0.0	77	41	23
17...	1225	207	0.0	81	45	24
20...	1415	138	0.5	38	14	22
MAR						
07...	1535	71	2.0	23	4.4	36
07...	1915	112	1.0	59	18	24
MAY						
28...	1730	92	9.5	9	2.2	37

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA

LOCATION.--Lat 39°06'27", long 120°09'40", in NW 1/4 NE 1/4 sec.36, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft upstream from bridge on State Highway 89, 1,000 ft upstream from Lake Tahoe, and 4.6 mi south of Tahoe City.
DRAINAGE AREA.--11.2 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 6,240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Oct. 1, 1960, to Sept. 30, 1964, at datum 10.25 ft lower and Oct. 1, 1964, to Aug. 27, 1970, at datum 12 ft lower, at site 400 ft downstream.

REMARKS.--Estimated daily discharges: Nov. 10-14, 16-21, Dec. 7-30, Feb. 9, 10. Records good except for above periods of ice effect, which are fair. No known diversion or regulation upstream from station.

AVERAGE DISCHARGE.--26 years, 39.5 ft^3/s, 28,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft^3/s, Dec. 22 or 24, 1964, on basis of computation of flow through culvert; maximum gage height, 9.90 ft, site and datum then in use, Dec. 22, 1964; minimum discharge, 0.30 ft^3/s, Sept. 19, 1968.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0200	238	2.49	May 18	2200	213	2.49
Feb. 18	0115	1,100	4.90	May 31	1945	432	3.30
Mar. 8	0615	*1,640	*6.14				

Mininum daily, 2.5 ft^3/s, Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.8	5.1	17	27	87	130	128	271	46	7.3	2.8
2	2.8	3.8	21	15	27	89	115	122	254	45	6.8	2.6
3	2.8	3.7	18	13	25	95	96	134	233	42	6.4	2.9
4	2.8	3.7	12	35	22	99	90	115	193	38	6.0	2.9
5	2.8	3.6	10	79	21	101	88	98	170	34	5.7	2.8
6	3.2	3.6	8.7	50	21	98	88	85	154	32	5.5	2.8
7	3.5	3.6	8.5	33	20	259	88	77	136	29	5.3	2.7
8	3.5	3.5	8.2	26	18	920	79	73	124	27	5.1	2.7
9	3.7	3.5	7.9	22	18	267	77	76	122	26	4.7	2.7
10	3.5	3.5	7.7	20	17	164	87	90	122	24	4.6	2.8
11	3.5	3.6	7.5	19	17	123	97	95	121	23	4.4	2.6
12	3.6	3.7	7.2	17	20	102	100	103	142	23	4.3	2.5
13	3.6	3.7	6.9	16	53	89	82	114	136	22	4.2	2.5
14	3.5	3.7	6.7	16	94	77	76	128	132	20	4.1	2.6
15	3.5	3.8	6.4	16	92	71	75	139	117	18	4.1	2.6
16	3.6	3.7	6.2	46	67	64	68	146	108	16	4.0	2.8
17	3.5	3.7	6.1	160	549	58	63	150	106	15	3.9	3.1
18	3.5	3.7	6.0	75	732	54	61	170	104	14	3.9	2.7
19	3.6	3.7	5.9	57	458	51	64	183	88	13	3.8	3.0
20	3.1	3.7	5.9	49	180	52	79	174	76	12	3.8	2.8
21	4.4	3.8	5.8	40	125	53	108	152	73	12	3.5	3.0
22	4.0	4.0	5.8	35	104	54	136	134	75	11	3.2	3.3
23	4.2	4.8	5.8	33	93	56	140	128	78	14	3.1	2.8
24	4.1	5.9	6.0	30	86	58	127	134	77	12	3.1	4.3
25	4.5	6.3	6.1	26	87	60	117	178	72	12	3.0	5.0
26	4.3	5.8	6.4	24	86	65	103	207	68	12	3.1	5.5
27	4.2	5.6	6.7	24	88	76	107	214	64	10	3.1	7.2
28	4.2	6.0	6.9	23	90	91	131	223	58	9.5	3.0	6.8
29	4.1	6.2	8.9	22	---	104	135	261	51	8.9	2.9	6.5
30	4.0	5.4	29	30	---	126	131	288	47	8.1	2.8	7.9
31	3.9	---	20	30	---	133	---	312	---	7.6	2.8	---
TOTAL	112.2	127.1	279.3	1098	3237	3796	2938	4631	3572	636.1	131.5	107.2
MEAN	3.62	4.24	9.01	35.4	116	122	97.9	149	119	20.5	4.24	3.57
MAX	4.5	6.3	29	160	732	920	140	312	271	46	7.3	7.9
MIN	2.7	3.5	5.1	13	17	51	61	73	47	7.6	2.8	2.5
AC-FT	223	252	554	2180	6420	7530	5830	9190	7090	1260	261	213

CAL YR 1985	TOTAL	9225.7	MEAN	25.3	MAX	162	MIN	2.1	AC-FT	18300
WTR YR 1986	TOTAL	20665.4	MEAN	56.6	MAX	920	MIN	2.5	AC-FT	40990

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-78, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1980 to September 1983.
WATER TEMPERATURE: October 1974 to June 1978 (1977-78 storm season only), October 1979 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1974 to June 1978 (1977-78 storm season only), October 1979 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

COOPERATION.--Selected sediment samples and water temperature observations provided by University of California at Davis.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,200 mg/L, Jan. 13, 1980; minimum daily mean, 0 mg/L, on many days in most years.

SEDIMENT LOAD: Maximum daily, 2,710 tons, Mar. 8, 1986; minimum daily, 0 ton, on many days in most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 883 mg/L, Mar. 8; minimum daily mean, 1 mg/L, Oct. 1.
SEDIMENT LOAD: Maximum daily, 2,710 tons, Mar. 8; minimum daily, .01 ton, several days in October and September.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	6.5	---	4.0	---	---	---
2	11.5	---	0.0	---	---	---	---	---	5.0	---	---	---
3	---	---	1.5	---	---	---	---	5.0	8.0	11.0	---	---
4	---	---	---	2.0	---	---	---	---	4.5	---	17.0	---
5	---	5.5	---	1.0	---	---	---	---	---	---	---	---
6	---	---	---	1.0	0.0	---	---	---	---	---	---	---
7	---	---	---	2.5	---	2.5	---	---	---	---	---	---
8	---	---	---	---	---	1.0	3.5	9.0	---	---	16.5	11.0
9	---	---	0.5	---	---	1.5	7.0	---	---	---	---	---
10	---	---	---	0.5	---	1.5	---	---	---	---	---	---
11	---	---	---	---	---	3.0	---	7.5	---	---	---	---
12	---	---	---	---	---	4.5	---	---	---	---	---	8.0
13	---	---	---	---	0.0	---	---	---	---	---	---	---
14	---	1.0	---	---	2.0	---	---	8.0	---	13.0	---	---
15	---	---	---	1.0	0.0	---	---	3.5	---	---	---	---
16	8.0	---	---	2.0	---	---	---	8.5	---	---	---	---
17	---	---	0.0	1.5	0.0	---	---	8.0	10.0	---	---	---
18	---	0.0	---	4.0	0.0	---	---	4.0	---	---	---	---
19	---	---	---	---	2.0	---	---	7.0	---	---	12.0	---
20	---	---	---	---	1.5	6.5	---	7.0	---	---	---	---
21	---	---	---	---	3.0	---	6.0	---	---	---	---	---
22	---	---	---	2.0	---	---	5.5	4.0	---	---	---	---
23	7.0	---	---	---	4.5	---	5.5	---	---	---	---	---
24	---	---	---	---	---	---	---	3.5	---	16.0	---	7.0
25	---	2.0	---	---	---	---	---	3.5	8.0	---	---	---
26	---	---	---	---	---	---	---	7.5	---	---	---	---
27	---	---	0.0	---	---	4.5	---	3.5	8.5	---	---	---
28	---	---	---	---	---	---	5.0	9.0	---	---	---	---
29	---	---	1.0	---	---	---	7.0	9.0	---	---	---	---
30	---	---	0.0	2.5	---	---	3.5	---	---	---	10.0	---
31	---	---	2.0	---	---	---	---	4.5	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	2.7	1	.01	3.8	3	.03	5.1	3	.04
2	2.8	2	.02	3.8	3	.03	21	18	1.2
3	2.8	2	.02	3.7	3	.03	18	7	.34
4	2.8	2	.02	3.7	3	.03	12	4	.13
5	2.8	2	.02	3.6	3	.03	10	3	.08
6	3.2	3	.03	3.6	3	.03	8.7	3	.07
7	3.5	3	.03	3.6	3	.03	8.5	3	.07
8	3.5	3	.03	3.5	3	.03	8.2	3	.07
9	3.7	3	.03	3.5	3	.03	7.9	3	.06
10	3.5	4	.04	3.5	4	.04	7.7	3	.06
11	3.5	4	.04	3.6	4	.04	7.5	3	.06
12	3.6	5	.05	3.7	4	.04	7.2	3	.06
13	3.6	5	.05	3.7	5	.05	6.9	3	.06
14	3.5	6	.06	3.7	5	.05	6.7	3	.05
15	3.5	6	.06	3.8	4	.04	6.4	3	.05
16	3.6	7	.07	3.7	3	.03	6.2	3	.05
17	3.5	6	.06	3.7	2	.02	6.1	3	.05
18	3.5	5	.05	3.7	2	.02	6.0	3	.05
19	3.6	4	.04	3.7	2	.02	5.9	3	.05
20	3.1	3	.03	3.7	2	.02	5.9	3	.05
21	4.4	3	.04	3.8	2	.02	5.8	3	.05
22	4.0	3	.03	4.0	3	.03	5.8	3	.05
23	4.2	3	.03	4.8	3	.04	5.8	3	.05
24	4.1	3	.03	5.9	3	.05	6.0	3	.05
25	4.5	3	.04	6.3	3	.05	6.1	3	.05
26	4.3	3	.03	5.8	3	.05	6.4	3	.05
27	4.2	3	.03	5.6	3	.05	6.7	3	.05
28	4.2	3	.03	6.0	3	.05	6.9	3	.06
29	4.1	3	.03	6.2	3	.05	8.9	7	.17
30	4.0	3	.03	5.4	3	.04	29	28	2.2
31	3.9	3	.03	---	---	---	20	6	.32
TOTAL	112.2	---	1.11	127.1	---	1.07	279.3	---	5.75

DAY		JANUARY			FEBRUARY			MARCH	
1	17	5	.23	27	2	.15	87	7	1.6
2	15	4	.16	27	2	.15	89	7	1.7
3	13	3	.11	25	2	.14	95	6	1.5
4	35	56	11	22	2	.12	99	6	1.6
5	79	59	14	21	2	.11	101	5	1.4
6	50	8	1.1	21	2	.11	98	5	1.3
7	33	5	.45	20	2	.11	259	211	298
8	26	4	.28	18	2	.10	920	883	2710
9	22	4	.24	18	2	.10	267	150	108
10	20	4	.22	17	2	.09	164	50	22
11	19	4	.21	17	2	.09	123	20	6.6
12	17	3	.14	20	3	.16	102	12	3.3
13	16	3	.13	53	10	1.4	89	10	2.4
14	16	2	.09	94	52	19	77	8	1.7
15	16	2	.09	92	10	2.5	71	7	1.3
16	46	51	19	67	4	.72	64	6	1.0
17	160	125	68	549	447	847	58	5	.78
18	75	9	1.8	732	675	1400	54	5	.73
19	57	4	.62	458	208	309	51	4	.55
20	49	4	.53	180	45	22	52	3	.42
21	40	3	.32	125	30	10	53	3	.43
22	35	3	.28	104	18	5.1	54	3	.44
23	33	3	.27	93	11	2.8	56	3	.45
24	30	3	.24	86	10	2.3	58	5	.78
25	26	3	.21	87	9	2.1	60	6	.97
26	24	3	.19	86	9	2.1	65	10	1.8
27	24	2	.13	88	8	1.9	76	12	2.5
28	23	2	.12	90	8	1.9	91	14	3.4
29	22	2	.12	---	---	---	104	15	4.2
30	30	2	.16	---	---	---	126	18	6.1
31	30	2	.16	---	---	---	133	18	6.5
TOTAL	1098	---	120.60	3237	---	2631.25	3796	---	3193.45

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	130	22	7.7	128	5	1.7	271	106	85
2	115	13	4.0	122	7	2.3	254	44	30
3	96	8	2.1	134	10	3.6	233	43	27
4	90	8	1.9	115	10	3.1	193	28	15
5	88	8	1.9	98	10	2.6	170	15	6.9
6	88	7	1.7	85	6	1.4	154	12	5.0
7	88	6	1.4	77	5	1.0	136	8	2.9
8	79	5	1.1	73	5	.99	124	13	4.4
9	77	8	1.7	76	8	1.6	122	12	4.0
10	87	15	3.5	90	10	2.4	122	11	3.6
11	97	21	5.5	95	8	2.1	121	8	2.6
12	100	8	2.2	103	13	3.6	142	12	4.6
13	82	5	1.1	114	12	3.7	136	11	4.0
14	76	5	1.0	128	20	6.9	132	9	3.2
15	75	5	1.0	139	30	11	117	8	2.5
16	68	5	.92	146	34	13	108	6	1.7
17	63	5	.85	150	38	15	106	6	1.7
18	61	5	.82	170	46	24	104	5	1.4
19	64	7	1.2	183	46	23	88	5	1.2
20	79	15	3.2	174	35	16	76	4	.82
21	108	25	7.3	152	15	6.2	73	4	.79
22	136	30	12	134	10	3.6	75	4	.81
23	140	20	7.6	128	5	1.7	78	4	.84
24	127	14	4.8	134	20	7.2	77	4	.83
25	117	12	3.8	178	55	30	72	4	.78
26	103	12	3.3	207	75	46	68	4	.73
27	107	13	3.8	214	71	45	64	4	.69
28	131	15	5.3	223	72	48	58	4	.63
29	135	14	5.1	261	109	86	51	3	.41
30	131	10	3.5	288	141	119	47	3	.38
31	---	---	---	312	155	144	---	---	---
TOTAL	2938	---	101.29	4631	---	675.69	3572	---	214.41
DAY		JULY			AUGUST			SEPTEMBER	
1	46	3	.37	7.3	2	.04	2.8	2	.02
2	45	3	.36	6.8	2	.04	2.6	2	.01
3	42	2	.23	6.4	2	.03	2.9	2	.02
4	38	2	.21	6.0	2	.03	2.9	2	.02
5	34	2	.18	5.7	2	.03	2.8	2	.02
6	32	2	.17	5.5	2	.03	2.8	2	.02
7	29	2	.16	5.3	3	.04	2.7	2	.01
8	27	2	.15	5.1	3	.04	2.7	2	.01
9	26	2	.14	4.7	3	.04	2.7	2	.01
10	24	2	.13	4.6	3	.04	2.8	2	.02
11	23	2	.12	4.4	3	.04	2.6	2	.01
12	23	2	.12	4.3	3	.03	2.5	2	.01
13	22	2	.12	4.2	3	.03	2.5	2	.01
14	20	2	.11	4.1	3	.03	2.6	2	.01
15	18	2	.10	4.1	3	.03	2.6	2	.01
16	16	2	.09	4.0	3	.03	2.8	2	.02
17	15	2	.08	3.9	3	.03	3.1	2	.02
18	14	2	.08	3.9	3	.03	2.7	2	.01
19	13	2	.07	3.8	3	.03	3.0	2	.02
20	12	2	.06	3.8	3	.03	2.8	2	.02
21	12	2	.06	3.5	3	.03	3.0	2	.02
22	11	2	.06	3.2	3	.03	3.3	2	.02
23	14	2	.08	3.1	3	.03	2.8	2	.02
24	12	2	.06	3.1	3	.03	4.3	3	.03
25	12	2	.06	3.0	2	.02	5.0	3	.04
26	12	2	.06	3.1	2	.02	5.5	3	.04
27	10	2	.05	3.1	2	.02	7.2	3	.06
28	9.5	2	.05	3.0	2	.02	6.8	3	.06
29	8.9	2	.05	2.9	2	.02	6.5	3	.05
30	8.1	2	.04	2.8	2	.02	7.9	3	.06
31	7.6	2	.04	2.8	2	.02	---	---	---
TOTAL	636.1	---	3.66	131.5	---	0.93	107.2	---	0.70
YEAR	20665.4		6949.91						

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC											
30...	1205	29	0.0	26	2.0	89	--	--	--	--	--
JAN											
16...	2000	88	2.0	75	18	46	--	--	--	--	--
16...	2300	165	0.0	334	149	37	--	--	--	--	--
17...	0210	226	0.0	421	257	37	--	--	--	--	--
17...	0610	188	0.0	105	53	47	--	--	--	--	--
17...	1005	168	1.5	61	28	43	--	--	--	--	--
17...	1440	143	2.5	37	14	46	--	--	--	--	--
17...	2115	110	1.5	19	5.6	50	--	--	--	--	--
FEB											
14...	1925	167	0.0	139	63	48	--	--	--	--	--
17...	1145	570	0.0	401	617	32	--	--	--	--	--
17...	1215	609	0.0	431	709	28	42	67	90	98	100
17...	1315	641	0.0	531	919	30	--	--	--	--	--
17...	1545	744	0.0	546	1100	28	--	--	--	--	--
17...	2115	938	0.0	755	1910	41	61	84	97	100	--
18...	0115	1060	0.0	986	2820	41	61	84	98	100	--
18...	0515	906	--	715	1750	46	--	--	--	--	--
18...	1045	696	0.0	808	1520	40	--	--	--	--	--
18...	1100	691	0.0	814	1520	39	--	--	--	--	--
18...	1600	624	0.0	637	1070	41	--	--	--	--	--
20...	1105	175	1.5	49	23	42	--	--	--	--	--
MAR											
07...	2335	719	0.5	646	1250	35	--	--	--	--	--
08...	0510	1500	0.0	1830	7410	41	--	--	--	--	--
08...	0950	1240	1.0	1150	3850	47	--	--	--	--	--
08...	0955	1220	1.0	942	3100	51	--	--	--	--	--
08...	1125	1030	1.0	856	2380	42	61	79	91	97	100
08...	1205	932	1.0	625	1570	48	--	--	--	--	--
08...	1645	603	0.0	414	674	40	--	--	--	--	--
MAY											
19...	1840	182	7.0	34	17	32	--	--	--	--	--
19...	1945	194	7.0	45	24	30	--	--	--	--	--
28...	1755	254	9.0	67	46	38	56	81	99	100	--

PYRAMID AND WINNEMUCCA LAKES BASIN

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA

LOCATION.--Lat 39°07'56", long 120°09'24", in NW 1/4 SE 1/4 sec.24, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on right bank 165 ft downstream from State Highway 89 bridge, 2.1 mi north of Tahoe Pines, and 2.6 mi southwest of Tahoe City.

DRAINAGE AREA.--9.70 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 5-21, Dec. 2, 3, 9-16, 20-23, 29-31, Jan. 1, 4-11, 13, 16-26, 30, 31, Feb. 3, 4, 6, 7, 9-11. Records good except those for October to February, which are fair. Minor diversion for local water supply upstream from station.

AVERAGE DISCHARGE.--14 years, 29.7 ft^3/s, 21,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s, Dec. 19, 1981, gage height, 8.05 ft, from rating curve extended above 800 ft^3/s; no flow many days during 1977-78, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	--	127	ice jam	Mar. 8	0630	*860	*7.03
Feb. 17	2345	731	6.83	May 31	1945	246	5.79

Minimum daily, 0.98 ft^3/s, Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	4.5	5.3	13	18	57	81	85	176	29	4.0	1.1
2	1.3	4.5	12	11	18	58	71	88	167	28	3.8	1.1
3	1.3	4.3	16	10	18	61	59	94	146	26	3.5	1.1
4	1.3	4.3	11	20	17	63	56	77	118	24	3.3	1.1
5	1.3	4.1	8.3	34	17	66	56	64	106	22	3.1	1.0
6	1.8	4.0	7.3	23	16	65	56	55	97	20	3.0	1.0
7	2.9	3.9	7.3	18	16	172	56	51	85	18	2.8	.98
8	2.4	3.7	7.2	15	15	504	50	50	78	17	2.6	.99
9	2.5	3.5	7.1	14	15	187	52	54	75	15	2.4	1.0
10	2.4	3.4	7.0	13	15	120	61	65	73	14	2.3	1.1
11	2.5	3.3	6.9	12	15	97	69	66	74	14	2.2	1.1
12	2.4	3.3	6.7	12	15	81	66	70	83	13	2.1	1.1
13	2.3	3.3	6.5	11	58	68	52	78	82	13	2.0	1.1
14	2.2	3.3	6.3	11	67	58	49	87	79	12	1.9	1.1
15	2.1	3.3	6.1	11	54	53	49	91	71	11	1.8	1.2
16	2.1	3.3	6.0	28	35	48	46	94	65	9.7	1.8	1.5
17	2.1	3.3	5.9	70	315	43	42	99	63	9.0	1.7	2.1
18	2.0	3.4	5.7	41	436	39	42	111	62	8.4	1.6	1.9
19	2.0	3.4	5.7	31	313	38	45	115	53	8.0	1.6	2.0
20	2.1	3.5	5.7	26	124	38	57	111	47	7.4	1.6	2.1
21	5.8	3.7	5.7	22	88	38	77	102	46	7.2	1.6	1.9
22	5.1	4.5	5.7	20	77	38	93	91	46	6.9	1.5	1.8
23	7.0	4.9	5.7	18	71	39	93	85	48	8.7	1.4	1.8
24	6.0	6.6	5.7	17	63	39	84	91	47	7.3	1.3	3.2
25	5.6	7.5	5.7	16	60	40	77	117	45	7.3	1.2	3.1
26	5.1	6.3	5.8	16	58	43	67	134	43	7.4	1.2	3.0
27	4.9	5.7	6.1	16	58	49	71	138	40	6.4	1.2	3.1
28	4.9	5.7	6.4	16	59	58	89	147	36	5.6	1.1	3.3
29	4.7	5.6	10	16	---	68	89	175	32	5.1	1.1	3.4
30	4.7	5.5	22	18	---	80	88	195	30	4.7	1.1	4.7
31	4.5	---	17	18	---	82	---	203	---	4.3	1.1	---
TOTAL	98.6	129.6	245.8	617	2131	2490	1943	3083	2213	389.4	62.9	54.97
MEAN	3.18	4.32	7.93	19.9	76.1	80.3	64.8	99.5	73.8	12.6	2.03	1.83
MAX	7.0	7.5	22	70	436	504	93	203	176	29	4.0	4.7
MIN	1.3	3.3	5.3	10	15	38	42	50	30	4.3	1.1	.98
AC-FT	196	257	488	1220	4230	4940	3850	6120	4390	772	125	109

CAL YR 1985	TOTAL	6302.76	MEAN	17.3	MAX	121	MIN	.75	AC-FT	12500
WTR YR 1986	TOTAL	13458.27	MEAN	36.9	MAX	504	MIN	.98	AC-FT	26690

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1983.
WATER TEMPERATURE: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

COOPERATION.--Selected sediment samples and water temperature observations provided by University of California at Davis.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,510 mg/L, Dec. 19, 1981; minimum daily mean, 0 mg/L, on many days each year.
SEDIMENT LOAD: Maximum daily, 3,720 tons, Dec. 19, 1981; minimum daily, 0 ton, on many days each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 453 mg/L, Mar. 8; minimum daily mean, 0 mg/L, on many days.
SEDIMENT LOAD: Maximum daily, 771 tons, Mar. 8; minimum daily, 0 ton, on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	3.5	5.5	---	4.0	---	---	---
2	11.0	---	0.0	---	---	---	---	---	5.0	---	---	---
3	---	---	0.0	---	---	---	---	4.5	8.0	12.5	---	---
4	---	---	---	0.0	---	---	---	---	4.5	---	17.5	---
5	---	4.0	---	0.0	---	---	---	---	---	---	---	---
6	8.5	---	---	0.5	0.0	---	---	---	---	---	---	---
7	---	---	---	2.0	---	2.0	---	---	---	---	---	---
8	---	---	---	---	---	0.0	3.5	7.5	---	---	19.0	15.0
9	---	---	0.0	---	---	---	5.0	---	---	---	---	---
10	---	---	---	0.0	---	1.0	---	---	---	---	---	---
11	---	---	---	---	---	3.0	---	8.0	---	---	---	---
12	---	---	---	---	---	3.5	---	---	---	---	---	10.0
13	---	---	---	---	0.0	---	---	---	---	---	---	---
14	---	0.5	---	---	1.5	---	---	7.5	---	13.0	---	---
15	---	---	---	0.0	0.0	---	---	3.0	---	---	---	---
16	7.0	---	---	2.0	0.0	---	---	7.0	---	---	---	---
17	---	---	0.0	1.5	0.0	---	---	7.5	10.0	---	---	---
18	---	---	---	3.0	0.0	---	6.5	3.5	---	---	---	---
19	---	0.0	---	---	0.0	---	---	4.5	---	---	14.0	---
20	---	---	---	---	1.5	5.0	---	---	---	---	---	---
21	---	---	---	---	2.5	---	4.5	---	---	---	---	---
22	---	---	---	1.5	---	---	4.5	4.5	---	---	---	---
23	6.5	---	---	---	3.5	---	5.0	---	---	---	---	---
24	---	---	---	---	---	---	---	7.0	---	15.0	---	5.5
25	---	0.0	---	---	---	---	---	3.5	8.5	---	---	---
26	---	---	---	---	---	---	---	7.0	---	---	---	---
27	---	---	0.0	---	---	5.0	---	3.0	10.0	---	---	---
28	---	---	---	---	---	---	6.0	6.0	---	---	---	---
29	---	---	0.0	---	---	---	6.5	8.0	---	---	---	---
30	---	---	0.0	2.0	---	---	5.5	---	---	---	13.0	---
31	---	---	0.0	---	---	---	---	4.5	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1.3	1	.00	4.5	2	.02	5.3	3	.04
2	1.3	1	.00	4.5	2	.02	12	6	.19
3	1.3	1	.00	4.3	2	.02	16	3	.13
4	1.3	1	.00	4.3	2	.02	11	3	.09
5	1.3	1	.00	4.1	2	.02	8.3	3	.07
6	1.8	3	.01	4.0	2	.02	7.3	3	.06
7	2.9	3	.02	3.9	2	.02	7.3	3	.06
8	2.4	2	.01	3.7	2	.02	7.2	3	.06
9	2.5	2	.01	3.5	2	.02	7.1	3	.06
10	2.4	1	.01	3.4	2	.02	7.0	3	.06
11	2.5	1	.01	3.3	6	.05	6.9	4	.07
12	2.4	1	.01	3.3	8	.07	6.7	8	.14
13	2.3	1	.01	3.3	6	.05	6.5	8	.14
14	2.2	1	.01	3.3	6	.05	6.3	6	.10
15	2.1	1	.01	3.3	4	.04	6.1	4	.07
16	2.1	1	.01	3.3	4	.04	6.0	2	.03
17	2.1	1	.01	3.3	4	.04	5.9	2	.03
18	2.0	1	.01	3.4	3	.03	5.7	2	.03
19	2.0	1	.01	3.4	3	.03	5.7	2	.03
20	2.1	1	.01	3.5	3	.03	5.7	2	.03
21	5.8	4	.06	3.7	3	.03	5.7	2	.03
22	5.1	2	.03	4.5	3	.04	5.7	1	.02
23	7.0	3	.06	4.9	3	.04	5.7	1	.02
24	6.0	2	.03	6.6	4	.07	5.7	1	.02
25	5.6	2	.03	7.5	4	.08	5.7	1	.02
26	5.1	2	.03	6.3	4	.07	5.8	1	.02
27	4.9	2	.03	5.7	4	.06	6.1	1	.02
28	4.9	2	.03	5.7	3	.05	6.4	1	.02
29	4.7	2	.03	5.6	3	.05	10	2	.05
30	4.7	2	.03	5.5	3	.04	22	4	.24
31	4.5	2	.02	---	---	---	17	3	.14
TOTAL	98.6	---	0.54	129.6	---	1.16	245.8	---	2.09
DAY		JANUARY			FEBRUARY			MARCH	
1	13	2	.07	18	1	.05	57	2	.31
2	11	2	.06	18	1	.05	58	2	.31
3	10	2	.05	18	2	.10	61	2	.33
4	20	10	.54	17	2	.09	63	2	.34
5	34	20	1.8	17	2	.09	66	2	.36
6	23	9	.56	16	2	.09	65	2	.35
7	18	1	.05	16	2	.09	172	115	98
8	15	1	.04	15	2	.08	504	453	771
9	14	1	.04	15	2	.08	187	30	15
10	13	2	.07	15	2	.08	120	10	3.2
11	12	2	.06	15	2	.08	97	2	.52
12	12	2	.06	15	3	.12	81	2	.44
13	11	1	.03	58	5	.78	68	2	.37
14	11	0	.00	67	37	8.8	58	2	.31
15	11	0	.00	54	5	.73	53	1	.14
16	28	18	4.4	35	1	.09	48	1	.13
17	70	50	16	315	284	345	43	1	.12
18	41	5	.55	436	321	420	39	1	.11
19	31	4	.33	313	103	110	38	0	.00
20	26	3	.21	124	14	4.7	38	0	.00
21	22	2	.12	88	10	2.4	38	0	.00
22	20	1	.05	77	5	1.0	38	0	.00
23	18	1	.05	71	3	.58	39	1	.11
24	17	1	.05	63	3	.51	39	1	.11
25	16	1	.04	60	3	.49	40	2	.22
26	16	1	.04	58	2	.31	43	2	.23
27	16	1	.04	58	2	.31	49	3	.40
28	16	1	.04	59	2	.32	58	4	.63
29	16	1	.04	---	---	---	68	5	.92
30	18	1	.05	---	---	---	80	5	1.1
31	18	1	.05	---	---	---	82	5	1.1
TOTAL	617	---	25.49	2131	---	897.02	2490	---	896.16

PYRAMID AND WINNEMUCCA LAKES BASIN

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	81	4	.87	85	2	.46	176	28	14
2	71	3	.58	88	2	.48	167	24	12
3	59	2	.32	94	2	.51	146	22	9.0
4	56	2	.30	77	1	.21	118	17	5.5
5	56	1	.15	64	0	.00	106	11	3.1
6	56	1	.15	55	0	.00	97	6	1.6
7	56	0	.00	51	1	.14	85	4	.92
8	50	0	.00	50	1	.14	78	4	.84
9	52	1	.14	54	1	.15	75	3	.61
10	61	1	.16	65	1	.18	73	3	.59
11	69	1	.19	66	1	.18	74	3	.60
12	66	1	.18	70	2	.38	83	3	.67
13	52	1	.14	78	2	.42	82	3	.66
14	49	0	.00	87	2	.47	79	3	.64
15	49	0	.00	91	2	.49	71	3	.58
16	46	0	.00	94	2	.51	65	3	.53
17	42	0	.00	99	4	1.1	63	3	.51
18	42	0	.00	111	6	2.2	62	3	.50
19	45	2	.24	115	11	3.6	53	3	.43
20	57	3	.46	111	9	2.7	47	2	.25
21	77	10	2.4	102	6	1.7	46	2	.25
22	93	14	3.8	91	4	.98	46	2	.25
23	93	12	3.0	85	3	.69	48	2	.26
24	84	10	2.3	91	5	1.2	47	1	.13
25	77	4	.83	117	16	5.8	45	1	.12
26	67	3	.54	134	20	8.1	43	1	.12
27	71	5	.96	138	25	10	40	1	.11
28	89	5	1.2	147	23	11	36	1	.10
29	89	4	.96	175	27	15	32	1	.09
30	88	3	.71	195	27	16	30	0	.00
31	---	---	---	203	30	18	---	---	---
TOTAL	1943	---	20.58	3083	---	102.79	2213	---	54.96
DAY		JULY			AUGUST			SEPTEMBER	
1	29	0	.00	4.0	0	.00	1.1	1	.00
2	28	0	.00	3.8	0	.00	1.1	1	.00
3	26	0	.00	3.5	0	.00	1.1	1	.00
4	24	0	.00	3.3	0	.00	1.1	1	.00
5	22	0	.00	3.1	0	.00	1.0	1	.00
6	20	0	.00	3.0	0	.00	1.0	1	.00
7	18	0	.00	2.8	0	.00	.98	1	.00
8	17	0	.00	2.6	0	.00	.99	1	.00
9	15	0	.00	2.4	0	.00	1.0	1	.00
10	14	0	.00	2.3	0	.00	1.1	1	.00
11	14	0	.00	2.2	0	.00	1.1	1	.00
12	13	0	.00	2.1	0	.00	1.1	1	.00
13	13	0	.00	2.0	0	.00	1.1	1	.00
14	12	0	.00	1.9	0	.00	1.1	1	.00
15	11	0	.00	1.8	0	.00	1.2	1	.00
16	9.7	0	.00	1.8	0	.00	1.5	1	.00
17	9.0	0	.00	1.7	0	.00	2.1	1	.01
18	8.4	0	.00	1.6	0	.00	1.9	0	.00
19	8.0	0	.00	1.6	0	.00	2.0	0	.00
20	7.4	0	.00	1.6	0	.00	2.1	0	.00
21	7.2	0	.00	1.6	0	.00	1.9	0	.00
22	6.9	0	.00	1.5	0	.00	1.8	0	.00
23	8.7	0	.00	1.4	0	.00	1.8	0	.00
24	7.3	0	.00	1.3	0	.00	3.2	2	.02
25	7.3	0	.00	1.2	1	.00	3.1	2	.02
26	7.4	0	.00	1.2	1	.00	3.0	2	.02
27	6.4	0	.00	1.2	1	.00	3.1	2	.02
28	5.6	0	.00	1.1	1	.00	3.3	2	.02
29	5.1	0	.00	1.1	1	.00	3.4	3	.03
30	4.7	0	.00	1.1	1	.00	4.7	5	.06
31	4.3	0	.00	1.1	1	.00	---	---	---
TOTAL	389.4	---	0.00	62.9	---	0.00	54.97	---	0.20
YEAR	13458.27		2000.99						

10336676 WARD CREEK AT STATE HIGHWAY 89, NEAR TAHOE PINES, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
JAN											
16...	1935	43	0.0	60	7.0	46	--	--	--	--	--
16...	2230	84	0.0	85	19	49	--	--	--	--	--
17...	0130	127	0.0	102	35	46	--	--	--	--	--
17...	0545	111	0.0	77	23	52	--	--	--	--	--
17...	0910	105	0.0	70	20	43	--	--	--	--	--
17...	1410	72	1.5	36	7.0	32	--	--	--	--	--
FEB											
14...	1850	117	0.0	112	35	54	--	--	--	--	--
14...	2300	89	0.0	24	5.8	54	--	--	--	--	--
17...	1045	261	0.0	205	144	39	51	69	90	100	--
17...	1130	306	0.0	224	185	38	--	--	--	--	--
17...	1500	362	--	250	244	41	--	--	--	--	--
17...	2020	495	--	581	777	40	58	78	92	98	100
18...	0030	715	--	700	1350	45	--	--	--	--	--
18...	0430	525	--	456	646	44	--	--	--	--	--
18...	1000	414	--	338	378	44	--	--	--	--	--
18...	1010	403	1.0	345	375	42	59	78	91	97	100
18...	1520	377	--	231	235	45	--	--	--	--	--
18...	2215	362	--	154	151	44	--	--	--	--	--
19...	0435	448	--	202	244	44	--	--	--	--	--
19...	1010	324	2.0	79	69	59	--	--	--	--	--
MAR											
07...	1445	169	2.0	107	49	40	--	--	--	--	--
07...	2300	436	--	401	472	35	--	--	--	--	--
08...	0415	723	--	950	1850	41	57	76	90	98	100
08...	0915	739	0.5	694	1380	35	--	--	--	--	--
MAY											
28...	1830	191	6.0	51	26	72	--	--	--	--	--
28...	1910	195	6.0	54	28	67	--	--	--	--	--

PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV

LOCATION.--Lat 39°04'00", long 119°56'04", in NW 1/4 NW 1/4 sec.23, T.14 N., R.18 E., Douglas County, Nevada (see map of Alpine County), Hydrologic Unit 16050101, Toiyabe National Forest, on right bank 0.1 mi downstream from unnamed tributary, 0.3 mi upstream from U.S. Highway 50, and 1.6 mi south of Glenbrook.

DRAINAGE AREA.--2.08 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 10-25, 28, 29, Dec. 9, 10, 12-15, Feb. 7-11. Records good except periods of ice affected record listed above, which are fair. One small diversion 50 ft upstream from station for domestic use.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6.4 ft^3/s, Apr. 22, 1986; gage height, 4.60 ft; minimum daily, 0.15 ft^3/s, Aug. 12, 14-16, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 8	1000	4.1	4.45	Apr. 11	1830	3.6	4.45
Mar. 30	1930	3.9	4.44	Apr. 22	1845	*6.4	*4.60

Minimum daily, 0.26 ft^3/s, Oct. 2-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.32	.36	.37	.40	1.2	2.8	3.5	1.5	.53	.51	.41
2	.26	.32	.71	.35	.40	1.1	2.3	3.8	1.3	.52	.45	.39
3	.26	.32	.48	.35	.40	1.2	1.9	3.4	1.1	.50	.43	.40
4	.26	.32	.41	.57	.38	1.4	2.0	2.7	1.1	.50	.43	.40
5	.28	.32	.39	.63	.37	1.5	2.0	2.4	1.0	.49	.40	.39
6	.32	.33	.36	.49	.36	1.5	2.0	2.1	1.0	.52	.40	.39
7	.41	.34	.36	.41	.35	1.5	2.0	2.0	.99	.52	.40	.40
8	.36	.34	.36	.38	.35	3.4	1.7	2.1	1.0	.51	.39	.41
9	.37	.31	.35	.36	.34	2.3	1.8	2.3	.97	.48	.38	.43
10	.42	.31	.34	.36	.33	1.8	2.4	2.7	.96	.48	.38	.46
11	.52	.31	.33	.36	.33	1.5	2.8	2.9	.95	.50	.36	.45
12	.50	.31	.32	.32	.34	1.3	2.5	2.9	1.1	.46	.35	.44
13	.44	.32	.32	.32	.43	1.2	1.7	3.0	.95	.46	.35	.47
14	.39	.32	.31	.32	.60	1.1	1.7	2.8	.89	.44	.35	.47
15	.38	.32	.30	.32	.63	1.1	1.9	2.5	.86	.44	.37	.49
16	.39	.32	.30	.46	.52	1.0	1.8	2.5	.81	.45	.39	.50
17	.38	.32	.31	.80	1.1	.92	1.5	2.4	.77	.46	.37	.54
18	.36	.32	.32	.59	1.9	.89	1.7	2.4	.72	.47	.36	.57
19	.36	.32	.32	.53	1.8	.91	2.1	2.4	.72	.45	.36	.54
20	.36	.32	.32	.51	1.1	.97	3.0	2.2	.68	.44	.40	.52
21	.38	.32	.32	.45	.90	1.1	3.8	1.8	.67	.46	.38	.52
22	.38	.33	.31	.45	.83	1.2	4.6	1.6	.65	.55	.37	.52
23	.49	.33	.32	.42	.80	1.3	4.5	1.6	.64	.95	.36	.51
24	.52	.34	.31	.41	.78	1.4	4.2	1.5	.64	.71	.37	.52
25	.45	.35	.31	.39	.84	1.4	3.8	1.6	.60	.75	.37	.59
26	.38	.36	.31	.39	.93	1.6	3.4	1.5	.58	.70	.41	.63
27	.36	.36	.31	.39	1.0	2.0	3.7	1.5	.58	.58	.40	.65
28	.36	.36	.31	.39	1.1	2.3	4.0	1.4	.53	.53	.42	.64
29	.36	.36	.34	.41	---	2.7	4.0	1.4	.52	.50	.40	.65
30	.32	.36	.49	.42	---	3.1	3.8	1.3	.54	.52	.40	.64
31	.32	---	.42	.41	---	3.2	---	1.5	---	.52	.40	---
TOTAL	11.61	9.88	11.02	13.33	19.61	49.09	81.4	69.7	25.32	16.39	12.11	14.94
MEAN	.37	.33	.36	.43	.70	1.58	2.71	2.25	.84	.53	.39	.50
MAX	.52	.36	.71	.80	1.9	3.4	4.6	3.8	1.5	.95	.51	.65
MIN	.26	.31	.30	.32	.33	.89	1.5	1.3	.52	.44	.35	.39
AC-FT	23	20	22	26	39	97	161	138	50	33	24	30

CAL YR 1985	TOTAL	198.27	MEAN	.54	MAX	2.9	MIN	.15	AC-FT	393
WTR YR 1986	TOTAL	334.40	MEAN	.92	MAX	4.6	MIN	.26	AC-FT	663

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1983 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 51 mg/L, Mar. 8, 1986; minimum daily mean, 0 mg/L, Nov. 5-9, 1983.
SEDIMENT LOAD: Maximum daily, 0.48 tons, Mar. 8, 1986; minimum daily, 0 ton, on many days in each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 51 mg/L, Mar. 8; minimum daily mean, 1 mg/L, on many days in July to September.
SEDIMENT LOAD: Maximum daily, 0.48 tons, Mar. 8; minimum daily, 0 ton, on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	---	---	---	---	2.0	---	4.0	12.0	11.0	---	---
2	---	---	---	---	---	---	1.5	---	---	11.5	11.0	---
3	---	3.0	---	---	---	---	---	3.0	12.0	---	---	9.0
4	---	---	---	---	---	3.0	---	---	---	---	---	---
5	---	---	---	---	0.5	---	2.5	---	---	9.0	---	8.0
6	7.0	2.0	---	---	---	4.0	---	---	---	---	11.0	8.0
7	---	---	---	---	---	2.0	2.0	3.0	7.5	9.5	---	---
8	---	---	---	---	---	1.0	---	---	---	---	---	---
9	---	---	---	0.5	---	---	2.5	4.5	---	9.5	10.0	---
10	---	---	---	---	---	---	---	---	---	---	---	8.0
11	---	---	---	---	---	3.0	---	---	10.0	---	---	---
12	---	---	---	---	---	---	1.0	6.0	---	10.0	---	---
13	---	---	0.0	---	---	---	---	---	---	---	9.0	6.0
14	---	---	---	---	---	1.5	---	6.0	10.0	---	---	---
15	---	---	---	---	---	4.0	---	---	---	---	---	---
16	---	---	---	---	---	---	1.5	6.5	---	8.0	9.0	---
17	---	---	0.0	2.0	---	---	---	7.0	---	---	---	5.5
18	---	---	---	---	1.0	---	---	---	10.0	---	---	---
19	---	---	---	---	1.0	2.0	---	8.0	---	9.0	---	---
20	---	---	---	---	---	---	3.0	6.5	---	---	11.0	3.0
21	---	---	---	---	---	---	---	6.5	9.0	---	9.5	---
22	---	---	---	---	---	2.0	---	---	---	---	---	---
23	---	---	---	---	---	---	2.5	5.5	---	10.0	9.0	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	9.0	---	---
26	---	0.5	---	---	1.5	2.0	---	---	11.0	8.0	---	---
27	---	---	---	1.0	---	---	---	10.0	---	---	10.5	3.0
28	4.0	---	---	1.0	---	2.5	2.0	---	10.0	---	---	---
29	---	---	---	---	---	---	3.5	---	---	---	---	---
30	---	---	1.0	---	---	3.0	---	---	---	8.0	8.0	---
31	---	---	---	---	---	1.5	---	11.5	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	.27	3	.00	.32	2	.00	.36	2	.00
2	.26	3	.00	.32	2	.00	.71	7	.01
3	.26	3	.00	.32	2	.00	.48	5	.01
4	.26	3	.00	.32	2	.00	.41	4	.00
5	.28	3	.00	.32	2	.00	.39	4	.00
6	.32	5	.00	.33	2	.00	.36	3	.00
7	.41	3	.00	.34	2	.00	.36	3	.00
8	.36	3	.00	.34	2	.00	.36	3	.00
9	.37	3	.00	.31	2	.00	.35	3	.00
10	.42	4	.00	.31	2	.00	.34	3	.00
11	.52	6	.01	.31	2	.00	.33	3	.00
12	.50	6	.01	.31	2	.00	.32	3	.00
13	.44	5	.01	.32	2	.00	.32	2	.00
14	.39	4	.00	.32	2	.00	.31	2	.00
15	.38	3	.00	.32	2	.00	.30	2	.00
16	.39	3	.00	.32	2	.00	.30	2	.00
17	.38	3	.00	.32	2	.00	.31	2	.00
18	.36	3	.00	.32	2	.00	.32	2	.00
19	.36	3	.00	.32	2	.00	.32	2	.00
20	.36	3	.00	.32	2	.00	.32	2	.00
21	.38	3	.00	.32	2	.00	.32	2	.00
22	.38	3	.00	.33	2	.00	.31	2	.00
23	.49	5	.01	.33	2	.00	.32	2	.00
24	.52	6	.01	.34	2	.00	.31	2	.00
25	.45	5	.01	.35	2	.00	.31	2	.00
26	.38	3	.00	.36	2	.00	.31	2	.00
27	.36	3	.00	.36	2	.00	.31	2	.00
28	.36	3	.00	.36	2	.00	.31	2	.00
29	.36	3	.00	.36	2	.00	.34	2	.00
30	.32	2	.00	.36	2	.00	.49	5	.01
31	.32	2	.00	---	---	---	.42	4	.00
TOTAL	11.61	---	0.06	9.88	---	0.00	11.02	---	0.03
DAY		JANUARY			FEBRUARY			MARCH	
1	.37	3	.00	.40	3	.00	1.2	4	.01
2	.35	3	.00	.40	3	.00	1.1	4	.01
3	.35	3	.00	.40	3	.00	1.2	4	.01
4	.57	5	.01	.38	3	.00	1.4	4	.02
5	.63	6	.01	.37	3	.00	1.5	3	.01
6	.49	5	.01	.36	3	.00	1.5	3	.01
7	.41	4	.00	.35	3	.00	1.5	4	.02
8	.38	3	.00	.35	3	.00	3.4	51	.48
9	.36	3	.00	.34	3	.00	2.3	26	.16
10	.36	3	.00	.33	3	.00	1.8	20	.10
11	.36	3	.00	.33	3	.00	1.5	17	.07
12	.32	3	.00	.34	3	.00	1.3	13	.05
13	.32	3	.00	.43	4	.00	1.2	8	.03
14	.32	3	.00	.60	6	.01	1.1	4	.01
15	.32	3	.00	.63	6	.01	1.1	4	.01
16	.46	5	.01	.52	5	.01	1.0	3	.01
17	.80	8	.02	1.1	16	.05	.92	3	.01
18	.59	6	.01	1.9	23	.12	.89	3	.01
19	.53	5	.01	1.8	11	.05	.91	3	.01
20	.51	5	.01	1.1	8	.02	.97	3	.01
21	.45	4	.00	.90	6	.01	1.1	4	.01
22	.45	4	.00	.83	5	.01	1.2	4	.01
23	.42	4	.00	.80	5	.01	1.3	4	.01
24	.41	4	.00	.78	5	.01	1.4	5	.02
25	.39	4	.00	.84	5	.01	1.4	5	.02
26	.39	3	.00	.93	5	.01	1.6	6	.03
27	.39	3	.00	1.0	5	.01	2.0	8	.04
28	.39	3	.00	1.1	5	.01	2.3	9	.06
29	.41	3	.00	---	---	---	2.7	11	.08
30	.42	3	.00	---	---	---	3.1	13	.11
31	.41	3	.00	---	---	---	3.2	14	.12
TOTAL	13.33	---	0.09	19.61	---	0.35	49.09	---	1.56

PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	2.8	12	.09	3.5	16	.15	1.5	11	.05
2	2.3	9	.06	3.8	18	.18	1.3	6	.02
3	1.9	7	.04	3.4	15	.14	1.1	6	.02
4	2.0	8	.04	2.7	11	.08	1.1	6	.02
5	2.0	8	.04	2.4	10	.06	1.0	5	.01
6	2.0	8	.04	2.1	8	.05	1.0	5	.01
7	2.0	8	.04	2.0	8	.04	.99	5	.01
8	1.7	6	.03	2.1	8	.05	1.0	4	.01
9	1.8	7	.03	2.3	9	.06	.97	4	.01
10	2.4	10	.06	2.7	11	.08	.96	4	.01
11	2.8	12	.09	2.9	13	.10	.95	4	.01
12	2.5	10	.07	2.9	13	.10	1.1	4	.01
13	1.7	6	.03	3.0	13	.11	.95	4	.01
14	1.7	6	.03	2.8	12	.09	.89	3	.01
15	1.9	7	.04	2.5	10	.07	.86	3	.01
16	1.8	7	.03	2.5	10	.07	.81	3	.01
17	1.5	5	.02	2.4	10	.06	.77	4	.01
18	1.7	6	.03	2.4	10	.06	.72	4	.01
19	2.1	8	.05	2.4	10	.06	.72	4	.01
20	3.0	13	.11	2.2	8	.05	.68	4	.01
21	3.8	18	.18	1.8	7	.03	.67	4	.01
22	4.6	26	.32	1.6	6	.03	.65	4	.01
23	4.5	25	.30	1.6	6	.03	.64	4	.01
24	4.2	20	.23	1.5	5	.02	.64	4	.01
25	3.8	18	.18	1.6	6	.03	.60	4	.01
26	3.4	15	.14	1.5	5	.02	.58	4	.01
27	3.7	17	.17	1.5	5	.02	.58	4	.01
28	4.0	19	.21	1.4	4	.02	.53	5	.01
29	4.0	19	.21	1.4	4	.02	.52	4	.01
30	3.8	17	.17	1.3	4	.01	.54	4	.01
31	---	---	---	1.5	17	.10	---	---	---
TOTAL	81.4	---	3.08	69.7	---	1.99	25.32	---	0.37
DAY		JULY			AUGUST			SEPTEMBER	
1	.53	4	.01	.51	2	.00	.41	2	.00
2	.52	4	.01	.45	2	.00	.39	3	.00
3	.50	4	.01	.43	2	.00	.40	3	.00
4	.50	4	.01	.43	2	.00	.40	3	.00
5	.49	4	.01	.40	2	.00	.39	3	.00
6	.52	4	.01	.40	2	.00	.39	2	.00
7	.52	4	.01	.40	2	.00	.40	1	.00
8	.51	4	.01	.39	2	.00	.41	1	.00
9	.48	4	.01	.38	2	.00	.43	1	.00
10	.48	4	.01	.38	2	.00	.46	1	.00
11	.50	3	.00	.36	2	.00	.45	1	.00
12	.46	3	.00	.35	3	.00	.44	2	.00
13	.46	3	.00	.35	3	.00	.47	2	.00
14	.44	3	.00	.35	3	.00	.47	2	.00
15	.44	3	.00	.37	3	.00	.49	2	.00
16	.45	3	.00	.39	3	.00	.50	2	.00
17	.46	2	.00	.37	2	.00	.54	2	.00
18	.47	1	.00	.36	2	.00	.57	2	.00
19	.45	1	.00	.36	2	.00	.54	2	.00
20	.44	1	.00	.40	2	.00	.52	2	.00
21	.46	1	.00	.38	1	.00	.52	2	.00
22	.55	3	.00	.37	2	.00	.52	2	.00
23	.95	7	.02	.36	2	.00	.51	2	.00
24	.71	6	.01	.37	2	.00	.52	1	.00
25	.75	6	.01	.37	2	.00	.59	1	.00
26	.70	3	.01	.41	2	.00	.63	1	.00
27	.58	2	.00	.40	2	.00	.65	1	.00
28	.53	3	.00	.42	2	.00	.64	1	.00
29	.50	3	.00	.40	1	.00	.65	1	.00
30	.52	3	.00	.40	1	.00	.64	1	.00
31	.52	3	.00	.40	1	.00	---	---	---
TOTAL	16.39	---	0.15	12.11	---	0.00	14.94	---	0.00
YEAR	334.40		7.68						

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB						
18...	0915	1.8	1.0	25	0.12	58
18...	1005	2.0	1.0	25	0.13	55
MAY						
20...	1800	2.2	6.5	8	0.05	41

PARTICLE SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER-ATURE (DEG C)	NUMBER OF SAM-PLING POINTS	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JAN								
17...	0915	2.0	1	0.8	1	1	3	6
MAR								
31...	1030	1.5	1	2.5	1	4	10	21
MAY								
20...	1000	6.5	2	2.2	2	4	13	24

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
JAN							
17...	10	16	28	44	66	96	100
MAR							
31...	36	51	71	92	100	--	--
MAY							
20...	39	59	80	93	100	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS	STREAM-FLOW, INSTAN-TANEOUS (CFS)	STREAM WIDTH (FT)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
JAN								
17...	0925	2.0	6	0.77	3.00	0.00	--	--
FEB								
18...	0950	1.0	3	1.8	2.50	0.02	1	2
MAR								
08...	1425	1.0	1	3.8	3.00	0.03	1	3

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
JAN							
17...	2	19	40	56	81	100	--
FEB							
18...	4	26	41	57	77	89	100
MAR							
08...	16	52	76	91	98	100	--

PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV

LOCATION.--Lat 38°57'50", long 119°55'24", in SW 1/4 NE 1/4 sec.26, T.13 N., R.18 E., Douglas County, Nevada (see map of Alpine County), Hydrologic Unit 16050101, on right bank 0.1 mi upstream from unnamed tributary, 0.9 mi upstream from U.S. Highway 50, and 1.1 mi northeast of Stateline.

DRAINAGE AREA.--3.20 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 10, 12, 16, 17, 20, 21, 23-25, 28, 29, Dec. 6-10, 12, 14, 15. Records good including those days of ice effect listed above. No known diversion or regulation upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24 ft^3/s, May 27, 1983, gage height, 2.41 ft; minimum daily, 0.94 ft^3/s, July 14, 16, 17, 19, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 8	0745	*22	*2.28				

Minimum daily, 1.2 ft^3/s, Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.6	1.8	1.9	1.9	4.0	7.9	6.0	3.5	2.0	1.7	1.4
2	1.2	1.6	3.2	1.9	1.8	3.9	6.9	6.1	3.3	1.9	1.6	1.4
3	1.2	1.6	2.2	1.8	1.9	4.8	6.4	6.1	3.2	1.9	1.6	1.4
4	1.2	1.6	2.1	2.9	1.8	5.3	6.6	5.7	3.1	1.9	1.6	1.4
5	1.2	1.6	2.0	3.1	1.8	5.4	7.0	5.5	3.1	1.9	1.8	1.3
6	1.5	1.6	1.9	2.4	1.8	5.1	7.0	5.6	3.0	1.9	1.7	1.3
7	1.6	1.6	1.9	2.2	1.7	7.0	7.5	5.3	3.0	2.0	1.6	1.3
8	1.6	1.6	1.8	2.1	1.7	17	6.5	5.2	3.0	1.9	1.6	1.4
9	1.7	1.6	1.8	2.1	1.6	8.5	7.0	5.2	2.9	1.9	1.5	1.4
10	1.9	1.6	1.8	2.0	1.7	6.9	7.3	5.1	2.8	1.9	1.5	1.5
11	2.1	1.6	1.7	2.1	1.8	5.9	7.5	5.0	2.8	1.8	1.5	1.4
12	2.1	1.7	1.6	2.0	1.9	5.3	7.0	5.0	3.4	1.8	1.5	1.4
13	1.9	1.7	1.6	2.0	2.6	4.9	6.2	4.9	2.8	1.8	1.5	1.4
14	1.8	1.7	1.6	1.9	3.3	4.5	6.2	5.0	2.6	1.8	1.6	1.5
15	1.8	1.7	1.6	1.9	2.5	4.2	6.3	4.9	2.6	1.7	1.5	1.6
16	1.8	1.7	1.6	2.6	2.1	4.0	6.5	4.8	2.5	1.7	1.5	1.6
17	1.9	1.7	1.6	4.0	4.1	3.7	5.7	4.7	2.5	1.7	1.5	1.7
18	1.8	1.7	1.6	2.6	8.0	3.7	5.7	4.7	2.5	1.7	1.5	1.8
19	1.8	1.6	1.6	2.4	7.5	3.9	6.0	4.6	2.5	1.7	1.5	1.8
20	1.7	1.6	1.6	2.3	4.9	4.2	6.6	4.5	2.4	1.6	1.5	1.8
21	1.9	1.6	1.6	2.2	4.0	4.3	7.2	4.4	2.4	1.6	1.5	1.8
22	2.1	1.6	1.6	2.1	3.8	4.5	7.7	4.3	2.3	1.9	1.5	1.7
23	2.3	1.6	1.7	2.0	3.7	4.9	7.2	4.2	2.3	2.7	1.5	1.7
24	2.1	1.7	1.7	1.9	3.7	5.0	6.7	4.1	2.3	2.1	1.4	1.8
25	1.9	1.7	1.7	1.9	3.7	5.1	6.3	4.1	2.2	2.2	1.4	2.1
26	1.9	1.9	1.6	1.9	3.9	5.7	6.0	3.9	2.1	2.1	1.4	2.0
27	1.8	1.8	1.6	1.9	4.2	6.3	6.2	3.8	2.0	1.9	1.5	2.3
28	1.8	1.8	1.6	1.9	4.3	6.5	6.8	3.8	2.0	1.8	1.4	2.1
29	1.8	1.7	1.8	1.9	---	7.1	6.3	3.7	2.0	1.7	1.4	2.0
30	1.7	1.7	2.2	2.0	---	7.9	6.1	3.6	2.0	1.8	1.4	2.0
31	1.7	---	2.0	2.0	---	8.1	---	3.6	---	1.7	1.4	---
TOTAL	54.0	49.8	55.7	67.9	87.7	177.6	200.3	147.4	79.1	58.0	47.1	49.3
MEAN	1.74	1.66	1.80	2.19	3.13	5.73	6.68	4.75	2.64	1.87	1.52	1.64
MAX	2.3	1.9	3.2	4.0	8.0	17	7.9	6.1	3.5	2.7	1.8	2.3
MIN	1.2	1.6	1.6	1.8	1.6	3.7	5.7	3.6	2.0	1.6	1.4	1.3
AC-FT	107	99	110	135	174	352	397	292	157	115	93	98

CAL YR 1985	TOTAL	710.78	MEAN	1.95	MAX	5.7	MIN	.94	AC-FT	1410
WTR YR 1986	TOTAL	1073.9	MEAN	2.94	MAX	17	MIN	1.2	AC-FT	2130

PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1982 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1982 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 403 mg/L, May 21, 1983; minimum daily mean, 2 mg/L, Dec. 13-19, 1983.
SEDIMENT LOAD: Maximum daily, 22 tons, May 21, 1983; minimum daily, 0.01 ton, several days in each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 316 mg/L, Mar. 8; minimum daily mean, 3 mg/L, on several days in October and November.
SEDIMENT LOAD: Maximum daily, 16 tons, Mar. 8; minimum daily, 0.01 ton, on several days in October and November.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	---	---	---	---	---	5.5	---	12.0	10.0	---	---
2	---	---	2.5	---	---	---	---	7.5	---	---	---	10.0
3	---	---	---	---	---	---	5.0	6.0	---	---	---	---
4	7.5	---	3.0	4.0	---	---	5.0	6.0	---	---	---	---
5	---	5.5	---	3.0	1.5	---	3.5	---	10.5	---	11.0	9.0
6	---	5.0	---	---	---	3.0	3.0	---	---	---	---	---
7	---	---	---	---	---	2.5	4.0	6.0	---	10.0	---	---
8	---	---	---	---	---	0.5	5.0	6.5	---	---	---	---
9	---	---	---	2.0	---	---	4.5	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	5.0	---	1.0	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	1.0	---	1.5	---	5.0	9.0	10.5	---	---	---
14	---	3.0	---	5.0	2.5	2.0	5.5	4.5	---	9.5	---	---
15	---	---	---	---	3.5	---	---	---	---	---	10.5	---
16	---	---	---	3.0	---	---	4.0	9.0	---	---	---	---
17	---	---	2.0	2.5	1.5	3.0	---	---	---	---	---	---
18	---	---	---	---	1.0	2.5	---	---	---	---	---	5.5
19	---	---	3.0	---	2.5	---	7.5	8.5	7.0	---	10.0	---
20	---	---	---	---	3.5	4.0	---	9.0	---	10.5	---	---
21	3.5	---	---	---	2.0	---	---	---	---	---	9.5	---
22	---	3.0	---	---	---	3.5	6.5	9.0	---	10.0	---	6.0
23	---	---	---	---	---	---	6.0	---	---	10.0	---	---
24	---	---	---	2.0	---	4.0	7.0	---	11.0	---	---	5.5
25	---	---	---	---	---	---	---	---	---	9.0	---	4.5
26	---	2.0	---	---	2.0	3.5	2.5	---	---	---	---	5.5
27	---	---	---	1.5	---	5.5	---	10.5	---	---	---	---
28	---	---	---	3.0	---	3.0	5.0	---	11.0	---	---	---
29	6.0	---	---	---	---	---	5.0	---	---	---	---	---
30	---	---	4.0	---	---	5.5	5.0	---	---	---	---	---
31	---	---	---	---	---	5.0	---	11.5	---	---	---	---

PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1.2	3	.01	1.6	4	.02	1.8	4	.02
2	1.2	3	.01	1.6	4	.02	3.2	81	.83
3	1.2	4	.01	1.6	4	.02	2.2	8	.05
4	1.2	4	.01	1.6	4	.02	2.1	5	.03
5	1.2	4	.01	1.6	4	.02	2.0	5	.03
6	1.5	8	.03	1.6	6	.03	1.9	5	.03
7	1.6	6	.03	1.6	6	.03	1.9	5	.03
8	1.6	6	.03	1.6	5	.02	1.8	5	.02
9	1.7	6	.03	1.6	5	.02	1.8	5	.02
10	1.9	8	.04	1.6	5	.02	1.8	4	.02
11	2.1	15	.09	1.6	4	.02	1.7	4	.02
12	2.1	12	.07	1.7	4	.02	1.6	4	.02
13	1.9	9	.05	1.7	3	.01	1.6	4	.02
14	1.8	8	.04	1.7	3	.01	1.6	5	.02
15	1.8	7	.03	1.7	3	.01	1.6	5	.02
16	1.8	6	.03	1.7	3	.01	1.6	6	.03
17	1.9	6	.03	1.7	3	.01	1.6	6	.03
18	1.8	6	.03	1.7	3	.01	1.6	6	.03
19	1.8	6	.03	1.6	3	.01	1.6	5	.02
20	1.7	5	.02	1.6	3	.01	1.6	5	.02
21	1.9	5	.03	1.6	3	.01	1.6	5	.02
22	2.1	6	.03	1.6	3	.01	1.6	5	.02
23	2.3	7	.04	1.6	4	.02	1.7	5	.02
24	2.1	5	.03	1.7	4	.02	1.7	5	.02
25	1.9	5	.03	1.7	4	.02	1.7	5	.02
26	1.9	4	.02	1.9	4	.02	1.6	5	.02
27	1.8	4	.02	1.8	4	.02	1.6	5	.02
28	1.8	4	.02	1.8	4	.02	1.6	5	.02
29	1.8	3	.01	1.7	4	.02	1.8	7	.03
30	1.7	3	.01	1.7	4	.02	2.2	12	.07
31	1.7	4	.02	---	---	---	2.0	9	.05
TOTAL	54.0	---	0.89	49.8	---	0.52	55.7	---	1.62
DAY		JANUARY			FEBRUARY			MARCH	
1	1.9	9	.05	1.9	6	.03	4.0	10	.11
2	1.9	8	.04	1.8	6	.03	3.9	11	.12
3	1.8	7	.03	1.9	6	.03	4.8	53	.83
4	2.9	123	1.3	1.8	6	.03	5.3	74	1.2
5	3.1	52	.44	1.8	7	.03	5.4	60	.87
6	2.4	12	.08	1.8	7	.03	5.1	36	.50
7	2.2	10	.06	1.7	7	.03	7.0	153	3.8
8	2.1	9	.05	1.7	6	.03	17	316	16
9	2.1	9	.05	1.6	6	.03	8.5	46	1.1
10	2.0	9	.05	1.7	7	.03	6.9	22	.41
11	2.1	8	.05	1.8	6	.03	5.9	21	.33
12	2.0	8	.04	1.9	10	.05	5.3	18	.26
13	2.0	8	.04	2.6	54	.45	4.9	13	.17
14	1.9	7	.04	3.3	102	1.3	4.5	12	.15
15	1.9	7	.04	2.5	28	.19	4.2	13	.15
16	2.6	78	.89	2.1	18	.10	4.0	14	.15
17	4.0	87	1.1	4.1	71	.98	3.7	14	.14
18	2.6	11	.08	8.0	195	4.3	3.7	12	.12
19	2.4	9	.06	7.5	142	2.9	3.9	14	.15
20	2.3	8	.05	4.9	40	.53	4.2	17	.19
21	2.2	8	.05	4.0	25	.27	4.3	18	.21
22	2.1	7	.04	3.8	25	.26	4.5	15	.18
23	2.0	7	.04	3.7	25	.25	4.9	15	.20
24	1.9	6	.03	3.7	25	.25	5.0	15	.20
25	1.9	7	.04	3.7	25	.25	5.1	25	.34
26	1.9	9	.05	3.9	20	.21	5.7	41	.71
27	1.9	10	.05	4.2	20	.23	6.3	44	.85
28	1.9	7	.04	4.3	20	.23	6.5	28	.49
29	1.9	6	.03	---	---	---	7.1	28	.54
30	2.0	6	.03	---	---	---	7.9	35	.75
31	2.0	6	.03	---	---	---	8.1	30	.66
TOTAL	67.9	---	4.97	87.7	---	13.08	177.6	---	31.88

PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	7.9	18	.38	6.0	9	.15	3.5	10	.09
2	6.9	12	.22	6.1	10	.16	3.3	10	.09
3	6.4	12	.21	6.1	10	.16	3.2	11	.10
4	6.6	12	.21	5.7	11	.17	3.1	12	.10
5	7.0	9	.17	5.5	11	.16	3.1	10	.08
6	7.0	10	.19	5.6	11	.17	3.0	10	.08
7	7.5	306	6.3	5.3	10	.14	3.0	10	.08
8	6.5	20	.35	5.2	8	.11	3.0	10	.08
9	7.0	28	.53	5.2	8	.11	2.9	10	.08
10	7.3	28	.55	5.1	9	.12	2.8	10	.08
11	7.5	28	.57	5.0	9	.12	2.8	10	.08
12	7.0	16	.30	5.0	10	.14	3.4	17	.16
13	6.2	15	.25	4.9	11	.15	2.8	9	.07
14	6.2	15	.25	5.0	9	.12	2.6	8	.06
15	6.3	16	.27	4.9	10	.13	2.6	7	.05
16	6.5	15	.26	4.8	12	.16	2.5	7	.05
17	5.7	17	.26	4.7	13	.16	2.5	7	.05
18	5.7	17	.26	4.7	13	.16	2.5	6	.04
19	6.0	18	.29	4.6	14	.17	2.5	6	.04
20	6.6	18	.32	4.5	17	.21	2.4	7	.05
21	7.2	20	.39	4.4	16	.19	2.4	8	.05
22	7.7	20	.42	4.3	12	.14	2.3	9	.06
23	7.2	19	.37	4.2	12	.14	2.3	9	.06
24	6.7	15	.27	4.1	12	.13	2.3	10	.06
25	6.3	11	.19	4.1	12	.13	2.2	10	.06
26	6.0	8	.13	3.9	12	.13	2.1	11	.06
27	6.2	11	.18	3.8	12	.12	2.0	11	.06
28	6.8	21	.39	3.8	12	.12	2.0	11	.06
29	6.3	15	.26	3.7	12	.12	2.0	10	.05
30	6.1	11	.18	3.6	12	.12	2.0	10	.05
31	---	---	---	3.6	11	.11	---	---	---
TOTAL	200.3	---	14.92	147.4	---	4.42	79.1	---	2.08
DAY		JULY			AUGUST			SEPTEMBER	
1	2.0	9	.05	1.7	5	.02	1.4	5	.02
2	1.9	8	.04	1.6	5	.02	1.4	5	.02
3	1.9	8	.04	1.6	5	.02	1.4	5	.02
4	1.9	7	.04	1.6	5	.02	1.4	5	.02
5	1.9	7	.04	1.8	5	.02	1.3	5	.02
6	1.9	6	.03	1.7	5	.02	1.3	5	.02
7	2.0	5	.03	1.6	5	.02	1.3	5	.02
8	1.9	5	.03	1.6	5	.02	1.4	5	.02
9	1.9	5	.03	1.5	5	.02	1.4	5	.02
10	1.9	5	.03	1.5	5	.02	1.5	5	.02
11	1.8	5	.02	1.5	5	.02	1.4	5	.02
12	1.8	5	.02	1.5	5	.02	1.4	5	.02
13	1.8	5	.02	1.5	5	.02	1.4	5	.02
14	1.8	5	.02	1.6	8	.03	1.5	5	.02
15	1.7	5	.02	1.5	5	.02	1.6	5	.02
16	1.7	5	.02	1.5	5	.02	1.6	5	.02
17	1.7	5	.02	1.5	5	.02	1.7	5	.02
18	1.7	5	.02	1.5	5	.02	1.8	5	.02
19	1.7	5	.02	1.5	5	.02	1.8	5	.02
20	1.6	5	.02	1.5	5	.02	1.8	5	.02
21	1.6	5	.02	1.5	5	.02	1.8	6	.03
22	1.9	9	.06	1.5	5	.02	1.7	6	.03
23	2.7	19	.15	1.5	5	.02	1.7	6	.03
24	2.1	5	.03	1.4	5	.02	1.8	5	.02
25	2.2	5	.03	1.4	5	.02	2.1	18	.11
26	2.1	5	.03	1.4	5	.02	2.0	8	.04
27	1.9	5	.03	1.5	5	.02	2.3	12	.07
28	1.8	5	.02	1.4	5	.02	2.1	7	.04
29	1.7	5	.02	1.4	5	.02	2.0	7	.04
30	1.8	5	.02	1.4	5	.02	2.0	6	.03
31	1.7	5	.02	1.4	5	.02	---	---	---
TOTAL	58.0	---	0.99	47.1	---	0.63	49.3	---	0.84
YEAR	1073.9		76.84						

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC								
02...	0925	4.3	2.5	140	1.6	--	--	--
02...	1645	3.1	2.5	32	0.27	--	--	--
JAN								
04...	1640	4.5	4.0	370	4.5	--	--	--
17...	1045	3.4	2.5	43	0.39	--	--	--
17...	1425	3.4	3.0	35	0.32	--	--	--
FEB								
18...	1100	7.8	1.0	141	3.0	--	--	--
18...	1150	7.8	1.0	140	2.9	--	--	--
18...	1415	8.4	1.0	150	3.4	--	--	--
20...	1405	4.5	1.0	32	0.39	--	--	--
MAR								
08...	1300	19	1.0	198	10	--	--	--
APR								
07...	1205	7.6	3.0	1550	32	67	84	93
07...	1300	7.6	3.0	446	9.2	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
DEC							
02...	--	--	53	--	--	--	--
02...	--	--	52	--	--	--	--
JAN							
04...	--	--	66	--	--	--	--
17...	--	--	52	--	--	--	--
17...	--	--	46	--	--	--	--
FEB							
18...	--	--	47	--	--	--	--
18...	--	--	47	--	--	--	--
18...	--	--	37	54	79	97	100
20...	--	--	54	--	--	--	--
MAR							
08...	--	--	35	47	68	92	100
APR							
07...	97	99	99	99	100	--	--
07...	--	--	97	97	98	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER-ATURE (DEG C)	NUMBER OF SAM-PLING POINTS	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JAN							
17...	1110	2.5	1	3.4	1	5	14
APR							
07...	1255	3.0	1	7.6	1	4	15
28...	1210	5.0	1	6.2	1	9	24
MAY							
20...	2030	9.0	1	4.5	1	13	17

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
JAN						
17...	19	30	61	95	100	--
APR						
07...	26	36	51	77	92	100
28...	35	47	66	89	98	100
MAY						
20...	27	48	73	90	100	--

PYRAMID AND WINNEMUCCA LAKES BASIN

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA

LOCATION.--Lat 38°55'12', long 119°58'17", in NW 1/4 SE 1/4 sec.3, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 5 ft upstream from Martin Avenue Bridge, 500 ft upstream from Heavenly Valley Creek, and 1.8 mi east of Tahoe Valley.

DRAINAGE AREA.--36.7 mi^2.

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

GAGE.--Water-stage recorder and sharp-crested weir in culvert at bridge. Elevation of gage is 6,250 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 11-21, 28, 29, Dec. 9-11, 13, 14, 18-20, 24, 27, Feb. 7-11, 17-19, Mar. 8. Records good except for periods of estimated daily record, which are fair. Minor diversions for local water supply upstream from station.

AVERAGE DISCHARGE.--26 years, 39.5 ft^3/s, 28,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft^3/s, Feb. 1, 1963, gage height, 11.14 ft, from rating curve extended above 250 ft^3/s on basis of computation of peak flow (weir formula); no flow for part of Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 18	Unknown	410	10.52	Mar. 31	2145	101	7.51
Mar. 8	1200	*480	*11.00	June 2	0100	264	9.36

Minimum daily, 11 ft^3/s, Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	16	19	20	65	92	95	240	84	42	25
2	15	15	37	18	18	65	83	97	247	83	42	24
3	15	15	26	17	20	67	76	103	243	80	41	24
4	15	15	20	23	18	69	75	90	235	78	40	23
5	15	15	19	36	21	69	75	85	221	76	38	22
6	16	15	18	26	17	69	75	83	206	75	37	22
7	21	15	18	21	18	93	79	81	191	74	36	22
8	18	15	17	19	18	328	73	80	174	69	35	22
9	18	14	17	19	19	151	70	81	165	65	33	22
10	20	11	17	18	20	115	73	85	159	63	33	22
11	21	12	18	19	21	102	76	84	155	61	32	22
12	20	13	18	18	22	94	79	88	163	60	31	22
13	18	14	18	18	40	86	71	92	157	59	31	22
14	16	14	17	18	47	82	68	94	154	58	31	23
15	16	14	17	18	53	76	69	98	148	56	31	24
16	16	14	16	24	85	69	67	102	142	53	30	24
17	16	14	16	53	230	62	64	106	138	52	29	25
18	16	15	16	32	320	58	63	115	134	52	28	27
19	16	15	16	27	220	58	66	125	129	50	27	27
20	15	15	16	26	122	59	72	131	122	50	28	27
21	16	15	16	23	92	61	83	122	116	48	28	27
22	18	15	16	22	78	62	94	115	112	53	27	26
23	20	17	16	21	73	64	100	115	109	71	27	26
24	20	19	16	21	68	64	96	117	106	56	26	28
25	20	20	16	21	66	64	91	134	102	59	26	30
26	18	17	16	20	66	68	84	147	100	57	26	29
27	18	16	16	21	66	74	87	161	96	50	26	30
28	17	16	16	20	66	78	99	175	93	49	26	29
29	17	16	17	20	---	84	95	194	90	47	25	30
30	16	16	23	22	---	89	94	213	88	46	25	30
31	15	---	21	22	---	90	---	231	---	44	24	---
TOTAL	533	452	562	702	1924	2635	2389	3639	4535	1878	961	756
MEAN	17.2	15.1	18.1	22.6	68.7	85.0	79.6	117	151	60.6	31.0	25.2
MAX	21	20	37	53	320	328	100	231	247	84	42	30
MIN	15	11	16	17	17	58	63	80	88	44	24	22
AC-FT	1060	897	1110	1390	3820	5230	4740	7220	9000	3730	1910	1500

CAL YR 1985	TOTAL	9321.8	MEAN	25.5	MAX	84	MIN	9.5	AC-FT 18490
WTR YR 1986	TOTAL	20966	MEAN	57.4	MAX	328	MIN	11	AC-FT 41590

PYRAMID AND WINNEMUCCA LAKES BASIN

10337000 LAKE TAHOE AT TAHOE CITY, CA

LOCATION.--Lat 39°10'51", long 120°07'06", in NE 1/4 NE 1/4 sec.5, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050101, on U.S. Coast Guard pier at Lake Forest, 1.1 mi northeast of Tahoe City, and 1.8 mi northeast of Lake Tahoe outlet dam on Truckee River at Tahoe City.
DRAINAGE AREA.--506 mi^2, at lake outlet.
PERIOD OF RECORD.--April 1900 to current year. Monthend elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe."
REVISED RECORDS.--WDR CA-78-3: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft above U.S. Bureau of Reclamation datum, 6,218.86 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1957, nonrecording 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.
REMARKS.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Monthly figures given represent usable contents. Usable capacity, 744,600 acre-ft between elevations 6,223 ft, natural rim of lake and 6,229.1 ft, maximum permissible elevation by Federal Court decree. Lake elevations are referred to U.S. Bureau of Reclamation datum because that datum is used as the official reference point by all local, State, and Federal agencies. There are minor diversions for domestic purposes, irrigation, and power.
EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 6,231.26 ft, July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft, Dec. 26, 1934.
EXTREMES FOR CURRENT YEAR.--Maximum elevation, 6,229.03 ft, June 26; minimum, 6,226.33 ft, Nov. 20.

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

6,223	0	6,227	486,800
6,224	121,400	6,228	609,300
6,225	243,000	6,229.1	744,600
6,226	364,800		

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.71	6.41	6.51	6.51	6.88	8.41	8.23	8.38	8.85	8.98	8.80	8.34
2	6.68	6.41	6.60	6.55	6.92	8.39	8.25	8.36	8.88	8.96	8.78	8.33
3	6.67	6.41	6.58	6.50	6.93	8.38	8.25	8.36	8.90	8.92	8.77	8.31
4	6.66	6.41	6.59	6.60	6.93	8.35	8.25	8.34	8.90	8.93	8.76	8.30
5	6.65	6.41	6.56	6.62	6.92	8.33	8.28	8.36	8.89	8.90	8.75	8.28
6	6.63	6.40	6.58	6.62	6.92	8.31	8.30	8.36	8.89	8.90	8.72	8.27
7	6.62	6.40	6.58	6.63	6.91	8.48	8.33	8.36	8.91	8.90	8.71	8.24
8	6.67	6.43	6.58	6.63	6.91	8.63	8.33	8.36	8.91	8.89	8.70	8.20
9	6.62	6.44	6.57	6.63	6.88	8.68	8.33	8.41	8.92	8.88	8.70	8.17
10	6.60	6.52	6.57	6.63	6.87	8.71	8.34	8.35	8.93	8.89	8.69	8.16
11	6.59	6.50	6.53	6.63	6.85	8.70	8.37	8.37	8.94	8.89	8.67	8.13
12	6.58	6.42	6.50	6.63	6.97	8.68	8.34	8.38	8.96	8.89	8.65	8.10
13	6.55	6.42	6.50	6.63	7.00	8.67	8.34	8.39	8.96	8.88	8.65	8.06
14	6.55	6.42	6.50	6.66	7.13	8.64	8.36	8.40	8.94	8.89	8.64	8.03
15	6.54	6.41	6.50	6.65	7.35	8.64	8.34	8.41	8.95	8.85	8.62	7.97
16	6.55	6.41	6.52	6.77	7.55	8.61	8.34	8.44	8.94	8.83	8.61	7.97
17	6.55	6.39	6.48	6.78	8.03	8.60	8.34	8.46	8.91	8.79	8.60	7.94
18	6.55	6.39	6.46	6.79	8.28	8.56	8.33	8.48	8.94	8.82	8.59	7.88
19	6.55	6.35	6.46	6.80	8.53	8.52	8.32	8.53	8.97	8.80	8.57	7.89
20	6.59	6.33	6.46	6.80	8.56	8.48	8.32	8.56	8.96	8.81	8.56	7.86
21	6.59	6.36	6.46	6.81	8.54	8.45	8.32	8.51	8.99	8.79	8.53	7.86
22	6.53	6.34	6.45	6.81	8.52	8.42	8.32	8.54	8.99	8.82	8.53	7.83
23	6.53	6.37	6.44	6.83	8.51	8.43	8.32	8.56	9.00	8.83	8.51	7.83
24	6.51	6.44	6.44	6.83	8.50	8.37	8.33	8.57	9.02	8.84	8.48	7.90
25	6.51	6.40	6.44	6.83	8.48	8.35	8.33	8.59	9.02	8.85	8.47	7.86
26	6.49	6.42	6.43	6.83	8.46	8.33	8.33	8.62	9.03	8.85	8.46	7.88
27	6.50	6.47	6.42	6.84	8.44	8.31	8.35	8.65	9.01	8.83	8.45	7.87
28	6.46	6.51	6.42	6.84	8.43	8.28	8.33	8.67	8.99	8.82	8.42	7.86
29	6.46	6.47	6.44	6.84	---	8.26	8.33	8.71	8.98	8.82	8.39	7.85
30	6.44	6.46	6.51	6.86	---	8.25	8.33	8.74	8.97	8.81	8.36	7.83
31	6.43	---	6.56	6.87	---	8.24	---	8.82	---	8.81	8.36	---
MEAN	6.57	6.42	6.50	6.72	7.61	8.47	8.32	8.49	8.95	8.86	8.60	8.03
MAX	6.71	6.52	6.60	6.87	8.56	8.71	8.37	8.82	9.03	8.98	8.80	8.34
MIN	6.43	6.33	6.42	6.50	6.85	8.24	8.23	8.34	8.85	8.79	8.36	7.83
a	417300	420900	433100	470900	662200	638800	649900	710200	728600	708900	653600	588500
b	-36600	+3600	+12200	+37800	+191300	-23400	+11100	+60300	+18400	-19700	-55300	-65100

CAL YR 1985 b -106400
WTR YR 1986 b +134600

a Usable contents, in acre-feet, at end of month.
b Change in contents, in acre-feet.
NOTE.--Add 6,220 ft to obtain elevation, U.S. Bureau of Reclamation datum, at 2400 hours.

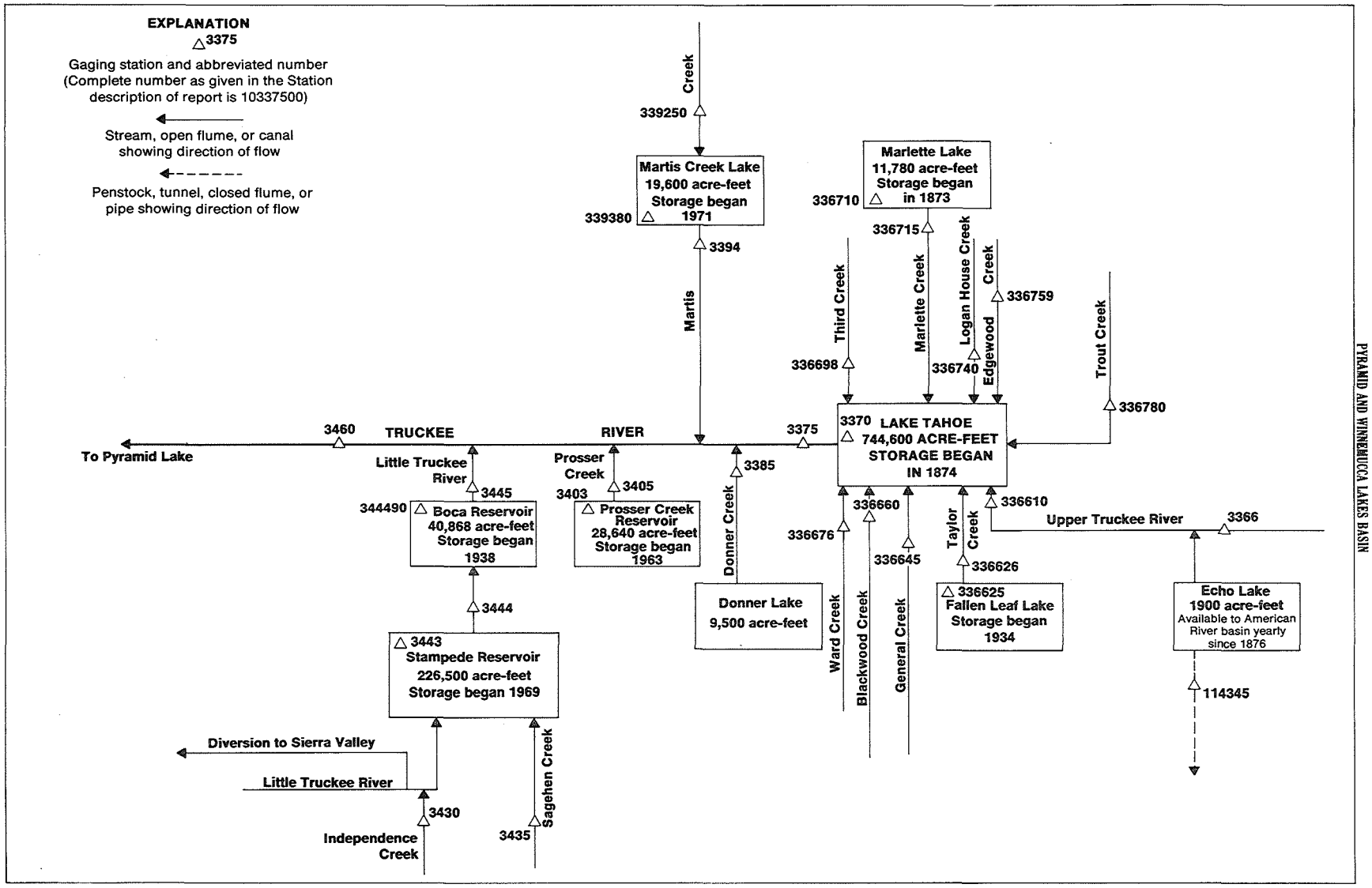

FIGURE 26. — Schematic diagram showing diversions and storage on Truckee River basin.

PYRAMID AND WINNEMUCCA LAKES BASIN

10337500 TRUCKEE RIVER AT TAHOE CITY, CA

LOCATION.--Lat 39°09'59", long 120°08'36", in NE 1/4 NW 1/4 sec.7, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050102, on left bank 510 ft downstream from dam at outlet of Lake Tahoe at Tahoe City.

DRAINAGE AREA.--507 mi^2.

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."

REVISED RECORDS.--WDR CA-78-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,216.59 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Sept. 16-22, 25-30. Records excellent. Flow completely regulated by dam at outlet of Lake Tahoe (station 10337000), 510 ft upstream. There are several diversions for irrigation, power, and domestic water supply. In addition, sewer effluent is pumped from the Lake Tahoe basin.

AVERAGE DISCHARGE (unadjusted).--86 years (water years 1901-86), 261 ft^3/s, 189,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft^3/s, June 19, 1969, gage height, 9.32 ft; no flow for parts of many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft^3/s, Mar. 13, gage height, 8.84 ft; minimum daily, 26 ft^3/s, Sept. 25-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	165	192	222	40	2280	1140	955	425	300	301	242
2	126	165	157	205	41	2270	643	956	617	299	302	240
3	126	174	63	158	39	2260	646	960	937	299	302	242
4	184	232	93	160	56	2250	644	961	1580	299	302	244
5	227	232	112	111	70	2250	646	955	1690	299	301	245
6	230	232	113	52	69	2240	647	724	1420	299	302	245
7	126	231	113	51	92	2250	649	627	592	201	309	247
8	47	230	112	51	113	1830	651	627	550	141	326	241
9	46	231	112	51	115	1450	649	626	504	141	326	241
10	43	233	126	51	117	1750	650	627	503	141	325	242
11	45	233	188	55	117	2100	649	625	665	143	326	243
12	43	232	192	89	121	2320	648	457	856	143	325	242
13	44	231	192	99	87	2410	646	424	855	143	289	237
14	45	231	191	113	62	2400	646	429	855	145	275	237
15	45	231	191	153	61	2400	647	428	645	156	272	105
16	44	231	202	159	61	2400	835	428	490	182	271	40
17	45	231	219	97	114	2390	954	428	268	184	270	40
18	46	230	218	51	131	2370	953	428	93	194	270	32
19	47	231	218	47	228	2360	951	428	93	214	269	28
20	46	230	219	42	831	2340	951	377	93	217	269	28
21	47	229	219	42	1750	2330	951	422	93	219	269	27
22	44	229	219	43	1930	2320	953	421	93	254	255	27
23	129	230	219	43	1930	2310	951	420	93	276	245	27
24	185	231	219	42	2160	2300	952	421	93	275	245	27
25	173	233	219	42	2310	2280	950	421	265	276	245	26
26	165	232	219	41	2300	2280	951	422	293	276	245	26
27	165	231	219	42	2290	2270	953	422	491	278	245	26
28	165	232	219	43	2290	2260	953	423	593	278	243	26
29	165	215	219	44	---	2260	955	423	593	284	243	26
30	165	194	224	44	---	2250	954	422	423	302	243	26
31	165	---	224	42	---	2100	---	424	---	301	243	---
TOTAL	3302	6692	5642	2485	19525	69280	24368	17111	16761	7159	8653	3925
MEAN	107	223	182	80.2	697	2235	812	552	559	231	279	131
MAX	230	233	224	222	2310	2410	1140	961	1690	302	326	247
MIN	43	165	63	41	39	1450	643	377	93	141	243	26
AC-FT	6550	13270	11190	4930	38730	137400	48330	33940	33250	14200	17160	7790

CAL YR 1985	TOTAL	60328	MEAN	165	MAX	378	MIN	43	AC-FT	119700
WTR YR 1986	TOTAL	184903	MEAN	507	MAX	2410	MIN	26	AC-FT	366800

PYRAMID AND WINNEMUCCA LAKES BASIN

10338500 DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'25", long 120°14'00", in SW 1/4 NW 1/4 sec.17, T.17 N., R.16 E., Nevada County, Hydrologic Unit 16050102, in Donner Memorial State Park, on left bank 10 ft downstream from bridge on Donner Memorial State Park road, 0.2 mi downstream from outlet of Donner Lake, 0.7 mi upstream from Cold Creek, and 2.5 mi west of Truckee.

DRAINAGE AREA.--14.3 mi^2.

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.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,924.40 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--No estimated daily discharges. Records excellent except flows below 1.0 ft^3/s, which are poor. Flow completely regulated by dam at outlet of Donner Lake 0.2 mi upstream, usable capacity, 9,500 acre-ft.

AVERAGE DISCHARGE (unadjusted).--49 years (water years 1930-35, 1937, 1940-42, 1944-52, 1956-57, 1959-86), 35.9 ft^3/s, 26,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 707 ft^3/s, Feb. 19, 1986; gage height, 4.83 ft; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 707 ft^3/s, Feb. 19, gage height, 4.83 ft; minimum daily, 0.06 ft^3/s, Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	1.3	2.4	81	44	187	129	71	183	15	5.8	2.9
2	14	1.2	3.0	82	47	174	133	62	181	15	5.8	3.0
3	13	1.2	2.4	78	48	165	129	46	168	11	6.1	2.8
4	12	1.2	2.4	72	45	158	122	48	153	4.0	6.1	2.7
5	11	1.1	2.5	79	42	153	117	48	132	3.6	3.7	2.5
6	10	1.1	2.4	81	40	149	114	49	108	3.4	.86	2.2
7	10	1.0	2.5	75	38	177	118	49	108	3.6	.71	2.1
8	9.4	.84	2.5	68	35	446	115	49	108	3.6	.68	2.1
9	8.6	.74	2.6	61	33	474	111	39	69	3.4	.63	1.9
10	7.8	.89	2.6	54	31	436	110	24	19	3.4	.58	2.0
11	7.3	2.2	2.7	48	29	381	111	23	3.3	3.4	.52	2.0
12	6.4	1.8	2.5	44	31	322	112	24	3.3	3.4	.84	2.0
13	5.6	1.8	2.5	40	46	270	110	24	2.4	3.4	1.1	2.1
14	5.2	1.8	2.4	37	64	224	106	25	1.8	3.4	1.1	2.1
15	4.9	1.9	2.4	36	100	191	102	17	1.4	3.1	1.1	2.1
16	4.6	2.0	2.4	41	109	167	100	5.2	1.0	2.8	1.1	2.1
17	4.4	2.2	2.4	79	188	147	98	4.8	.95	2.7	1.1	2.2
18	3.2	2.0	2.5	89	428	131	92	4.8	3.4	2.6	1.1	1.9
19	2.0	1.8	2.5	88	690	117	88	4.6	5.9	2.5	1.0	1.9
20	2.2	1.8	1.3	85	662	107	88	4.1	18	2.4	.94	1.8
21	2.5	1.8	.58	79	571	100	97	3.8	29	2.4	.95	1.8
22	1.9	1.6	.65	72	486	95	89	30	31	2.4	.90	1.8
23	1.2	1.7	.64	69	411	91	81	66	31	2.4	.87	1.8
24	1.8	2.0	.29	63	343	89	85	66	23	2.4	.79	60
25	1.9	2.2	.08	57	291	88	74	66	14	2.3	.65	105
26	1.3	2.2	.08	52	252	88	62	68	15	2.3	1.7	103
27	1.2	2.1	.09	47	223	90	63	68	15	2.3	3.1	102
28	1.2	2.1	.07	44	203	95	65	85	15	2.3	3.3	100
29	1.2	2.3	.06	41	---	101	67	107	15	3.9	3.1	160
30	1.1	2.3	6.5	41	---	110	68	139	15	5.8	3.1	194
31	1.4	---	48	44	---	121	---	183	---	5.8	3.1	---
TOTAL	174.3	50.17	105.94	1927	5530	5644	2956	1503.3	1473.45	130.0	62.42	873.8
MEAN	5.62	1.67	3.42	62.2	198	182	98.5	48.5	49.1	4.19	2.01	29.1
MAX	16	2.3	48	89	690	474	133	183	183	15	6.1	194
MIN	1.1	.74	.06	36	29	88	62	3.8	.95	2.3	.52	1.8
AC-FT	346	100	210	3820	10970	11190	5860	2980	2920	258	124	1730

CAL YR 1985	TOTAL	7924.28	MEAN	21.7	MAX	261	MIN	.06	AC-FT	15720
WTR YR 1986	TOTAL	20430.38	MEAN	56.0	MAX	690	MIN	.06	AC-FT	40520

10339250 MARTIS CREEK AT STATE HIGHWAY 267, NEAR TRUCKEE, CA

LOCATION.--Lat 39°18'08", long 120°07'13", in SW 1/4 SW 1/4 sec.20, T.17 N., R.17 E., Placer County, Hydrologic Unit 16050102, 4.0 mi southeast of Truckee. Water-quality samples are collected 10 ft upstream from State Highway 267. Temperature records are obtained about 300 ft upstream from highway, off left bank immediately downstream from confluence of main stem and Middle Martis Creek.

DRAINAGE AREA.--25.8 mi^2.

PERIOD OF RECORD.--Water years 1975 to current year.
CHEMICAL DATA: Water years 1975 to current year.
WATER TEMPERATURE: Water years 1975 to current year.
SEDIMENT DATA: Water years 1975, 1977 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October to November 1974, August 1975 to current year.

REVISED RECORDS.--WDR CA-80-3: Drainage area.

INSTRUMENTATION.--Digital water-temperature recorder October to November 1974, and August 1975 to current year.

REMARKS.--There is no temperature record for the following periods due to equipment failure: Nov. 3, 4, Dec. 11 to Jan. 3, 19-22, Feb. 23-24, June 5-24, July 5-17. The temperature record was affected by backwater from Martis Creek Lake, May 13 to June 14.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 27.5°C, July 30, Aug. 3, 1977; minimum recorded, -0.5°C, Jan. 5, 10-16, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, several days in June, July, and August; minimum recorded, 0.0°C, many days during November to April.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT										
16...	1020	6.8	129	7.80	2.5	615	1.4	11.0	100	71
APR										
24...	1030	51	70	8.10	6.5	615	4.7	10.4	105	35
JUN										
24...	0900	8.3	130	7.60	12.5	620	3.0	8.5	98	66
AUG										
19...	0940	6.7	121	7.70	12.0	625	2.0	8.5	96	29

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT									
16...	<0.10	0.06	0.24	0.3	--	0.02	0.02	3	1
APR									
24...	0.30	0.03	0.27	0.3	0.6	0.03	0.02	4	3
JUN									
24...	<0.10	0.02	0.28	0.3	--	0.04	0.03	8	2
AUG									
19...	<0.10	0.03	0.27	0.3	--	0.02	0.02	4	4

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
16...	280	150	7	2	4	30	28	20	24
APR									
24...	--	--	<5	8	<4	10	17	80	39
JUN									
24...	570	210	<5	<5	<4	70	43	30	6
AUG									
19...	420	230	<5	<5	<4	30	24	20	9

< Actual value is known to be less than value shown.

PYRAMID AND WINNEMUCCA LAKES BASIN

10339250 MARTIS CREEK AT STATE HIGHWAY 267, NEAR TRUCKEE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	4.0	7.0	1.0	2.0	0.0	---	---	5.0	0.5	6.0	1.0
2	12.0	4.5	7.5	1.5	1.5	0.0	---	---	1.0	0.0	8.5	2.0
3	13.0	4.5	---	---	2.5	0.5	---	---	0.0	0.0	10.5	0.5
4	13.5	5.0	---	---	3.0	0.0	1.0	0.0	2.0	0.0	10.5	1.0
5	13.5	5.0	7.0	2.0	3.5	0.5	0.5	0.0	1.5	0.0	10.0	1.5
6	11.0	6.5	6.5	1.0	3.0	0.0	1.0	0.0	1.0	0.0	7.0	1.0
7	11.5	7.0	6.5	1.0	2.5	0.0	1.0	0.0	0.0	0.0	5.5	3.0
8	7.0	3.0	5.5	2.5	0.5	0.0	1.0	0.0	0.0	0.0	4.0	0.0
9	7.0	1.0	3.0	0.0	0.5	0.0	2.0	0.5	0.0	0.0	5.0	0.5
10	9.0	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	5.0	0.0
11	9.0	3.0	0.0	0.0	---	---	1.5	0.0	0.5	0.0	9.0	0.5
12	9.0	3.0	0.0	0.0	---	---	2.0	0.0	1.0	0.0	8.0	0.5
13	8.5	2.0	0.0	0.0	---	---	2.0	1.0	1.5	0.0	6.0	0.5
14	7.5	0.5	0.0	0.0	---	---	1.5	0.0	0.0	0.0	8.0	0.0
15	8.5	1.0	0.5	0.0	---	---	3.5	0.5	0.0	0.0	2.0	0.0
16	8.5	1.5	1.0	0.0	---	---	2.5	0.5	0.5	0.0	3.5	0.0
17	9.5	2.0	1.0	0.0	---	---	3.0	0.5	1.0	0.0	6.5	0.0
18	9.5	2.5	1.0	0.0	---	---	2.0	0.0	0.5	0.0	8.5	0.0
19	9.0	2.5	0.0	0.0	---	---	---	---	1.5	0.0	10.5	0.0
20	9.5	4.0	0.0	0.0	---	---	---	---	4.0	0.5	10.5	0.5
21	7.0	2.5	0.0	0.0	---	---	---	---	7.0	0.0	11.0	1.0
22	6.0	2.5	0.5	0.0	---	---	---	---	8.0	0.0	11.0	1.0
23	10.0	4.0	0.5	0.0	---	---	1.0	0.0	---	---	10.5	1.0
24	9.5	4.0	0.5	0.0	---	---	0.5	0.0	---	---	10.0	2.0
25	9.0	3.5	2.5	0.0	---	---	0.5	0.0	9.5	1.0	11.5	1.0
26	8.5	2.5	1.5	0.0	---	---	1.5	0.0	9.0	0.0	12.0	1.5
27	8.5	2.5	2.0	0.5	---	---	2.5	0.0	10.0	0.5	11.0	2.0
28	9.0	2.5	2.5	1.0	---	---	3.5	0.0	9.5	0.5	10.5	2.5
29	8.0	2.0	2.0	0.0	---	---	3.5	1.0	---	---	11.5	2.5
30	7.5	3.5	1.0	0.0	---	---	3.0	1.0	---	---	12.0	3.5
31	6.5	1.0	---	---	---	---	3.0	1.0	---	---	11.5	2.0
MONTH	13.5	0.5	---	---	---	---	---	---	---	---	12.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	2.0	11.5	3.5	14.0	7.5	21.0	11.0	21.0	12.0	18.0	9.0
2	8.5	0.0	13.0	5.5	15.5	8.5	21.0	11.5	20.0	11.5	18.5	9.5
3	10.5	0.0	11.0	5.5	15.5	8.0	20.0	10.5	20.0	10.0	18.5	9.5
4	8.5	1.5	10.5	3.0	11.0	7.5	19.5	11.0	20.0	10.5	19.0	10.0
5	9.5	3.5	8.0	3.0	---	---	---	---	20.5	10.5	18.5	10.5
6	10.0	3.0	7.5	2.0	---	---	---	---	20.5	11.0	18.0	10.0
7	8.5	2.0	11.0	2.0	---	---	---	---	20.0	10.5	17.5	9.0
8	6.0	2.5	13.0	3.5	---	---	---	---	20.5	10.5	16.5	10.0
9	12.0	3.5	13.0	4.0	---	---	---	---	21.0	11.0	14.5	7.0
10	11.5	3.5	13.0	6.0	---	---	---	---	21.0	11.5	15.0	7.0
11	12.0	2.5	12.5	4.0	---	---	---	---	20.0	11.0	15.0	7.0
12	6.0	3.0	14.0	4.5	---	---	---	---	19.5	9.5	13.0	6.5
13	10.5	1.0	12.0	4.5	---	---	---	---	19.5	9.0	15.0	8.0
14	11.0	2.0	12.5	5.0	---	---	---	---	19.5	10.0	13.0	6.5
15	9.0	3.0	13.5	4.5	---	---	---	---	19.5	11.5	12.0	5.5
16	6.5	2.0	14.0	5.0	---	---	---	---	20.0	11.0	8.5	5.0
17	8.0	2.5	15.0	6.0	---	---	---	---	19.0	10.5	11.5	6.0
18	11.5	1.5	15.5	6.0	---	---	19.0	9.0	20.0	10.5	11.5	4.5
19	13.0	3.0	12.5	6.5	---	---	20.0	10.0	19.5	11.5	11.0	5.5
20	14.0	3.5	11.5	6.0	---	---	21.0	11.0	18.5	13.5	10.0	5.0
21	14.5	4.0	11.5	5.0	---	---	19.5	11.5	20.0	11.5	9.5	4.5
22	13.0	4.0	12.5	4.0	---	---	19.0	11.5	19.0	10.5	11.0	4.0
23	11.5	4.0	10.5	6.0	---	---	15.0	12.5	18.5	10.0	9.5	4.0
24	11.0	3.5	13.5	5.0	---	---	16.0	10.0	17.5	10.0	8.5	5.0
25	10.5	4.0	14.0	6.5	21.0	11.0	14.5	10.0	18.0	9.5	9.5	4.0
26	10.5	2.0	14.5	7.0	21.0	11.0	14.5	9.0	17.0	10.5	9.0	5.0
27	13.0	3.5	15.0	7.0	20.5	12.0	19.0	9.0	18.0	10.5	9.0	4.0
28	13.0	5.0	15.5	7.0	19.0	11.5	18.5	10.5	18.5	11.0	10.0	3.5
29	12.0	2.5	14.0	8.0	19.0	9.0	19.0	9.0	18.5	11.0	10.5	3.5
30	12.5	3.0	15.5	8.5	20.0	9.0	20.0	9.5	18.0	9.5	11.5	5.0
31	---	---	14.5	8.5	---	---	20.5	10.5	17.5	8.5	---	---
MONTH	14.5	0.0	15.5	2.0	---	---	---	---	21.0	8.5	19.0	3.5

10339250 MARTIS CREEK AT STATE HIGHWAY 267, NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
16...	1020	6.8	2.5	3	0.05
APR					
24...	1030	51	6.5	7	0.96
JUN					
24...	0900	8.3	12.5	8	0.18
AUG					
19...	0940	6.7	12.0	6	0.11

PYRAMID AND WINNEMUCCA LAKES BASIN

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'38", long 120°06'48", in NE 1/4 NW 1/4 sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, Tahoe National Forest, in control house at Martis Creek Dam, 2.0 mi upstream from mouth, and 3.5 mi east of Truckee.
DRAINAGE AREA.--39.6 mi^2.

WATER-CONTENT RECORDS

PERIOD OF RECORD.--March to May 1972 (occasional readings only), June 1972 to current year.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by rolled-earthfill dam. Storage began Oct. 7, 1971. Usable capacity, 19,600 acre-ft between elevations 5,780 ft, bottom of intake tower, and 5,838 ft, crest of spillway. Dead contents, below elevation 5,780 ft, 775 acre-ft. Figures given herein, including extremes, represent total contents at 2400 hours. Reservoir is used for flood control, enhancement of fishery, and recreation.
COOPERATION.--Capacity tables were provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,700 acre-ft, May 11, 12, 1980, elevation, 5,815.16 ft; minimum since reservoir first filled, 768 acre-ft, Aug. 24, 1977, elevation, 5,779.88 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,790 acre-ft, June 2-5, elevation, 5,812.70 ft; minimum, 789 acre-ft, several days in October and August, elevation, 5,780.23 ft.

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

5,779	716	5,800	3,260
5,780	775	5,810	5,880
5,785	1,140	5,820	9,720
5,790	1,650		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	790	792	795	799	811	3000	2220	5590	6770	3890	791	792
2	789	792	832	797	803	2030	2450	5660	6790	3740	791	792
3	790	791	813	796	805	1180	2630	5740	6790	3590	791	792
4	790	791	804	812	805	885	2810	5800	6790	3450	791	792
5	790	791	801	829	804	877	2990	5880	6790	3310	790	792
6	792	791	798	814	801	873	3150	5940	6780	3170	790	792
7	793	792	801	805	800	1040	3360	5990	6770	3020	789	792
8	794	792	798	801	798	2580	3500	6030	6760	2860	789	794
9	794	792	797	799	798	3290	3630	6070	6740	2700	789	793
10	794	793	794	798	798	3790	3770	6110	6730	2540	789	793
11	793	793	792	797	798	4130	3900	6150	6620	2370	789	792
12	792	793	791	796	821	4230	4020	6190	6480	2220	789	792
13	792	793	792	796	856	4180	4130	6220	6350	2060	789	792
14	791	793	792	796	985	3650	4230	6260	6200	1920	790	793
15	791	793	792	796	899	2800	4320	6290	6070	1760	790	794
16	791	794	792	862	987	1990	4400	6330	5930	1600	790	796
17	791	794	792	847	2900	1240	4470	6370	5800	1460	790	797
18	792	793	792	831	3770	864	4540	6410	5660	1300	789	796
19	791	793	792	841	4600	847	4600	6450	5530	1150	789	797
20	789	792	792	822	5130	844	4680	6480	5400	1000	790	797
21	793	792	791	813	5440	843	4770	6520	5270	858	791	797
22	793	792	791	810	5690	844	4870	6540	5140	803	791	796
23	793	794	791	806	5900	845	4970	6570	5000	797	791	796
24	793	804	791	804	6100	846	5060	6590	4870	795	791	803
25	793	803	791	803	6190	846	5150	6610	4730	794	791	801
26	793	798	791	801	5670	945	5220	6630	4590	796	791	801
27	792	795	791	801	4930	1130	5290	6650	4440	794	792	803
28	792	798	791	803	4010	1320	5370	6670	4310	793	791	799
29	792	798	794	809	---	1520	5450	6690	4170	791	791	798
30	792	794	804	822	---	1750	5530	6700	4040	791	791	798
31	792	---	802	815	---	1990	---	6740	---	791	791	---
MAX	794	804	832	862	6190	4230	5530	6740	6790	3890	792	803
MIN	789	791	791	796	798	843	2220	5590	4040	791	789	792
a	5780.27	5780.31	5780.43	5780.63	5803.33	5792.64	5808.86	5812.56	5803.45	5780.25	5780.26	5780.36
b	+2	+2	+8	+13	+3195	-2020	+3540	+1210	-2700	-3249	0	+7

CAL YR 1985 b +6
WTR YR 1986 b +8

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.
CHEMICAL DATA: Water years 1975 to current year.
SEDIMENT DATA: Water years 1975-76, 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLING DEPTH (M)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT										
16...	1150	1.0	128	8.80	10.5	615	1.5	9.3	104	72
APR										
24...	1125	1.0	72	7.50	11.0	615	5.4	9.1	103	37
JUN										
24...	1140	1.0	96	8.80	22.0	620	9.5	9.8	139	45
AUG										
19...	1115	1.0	138	7.60	21.5	625	4.2	8.5	118	67

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT									
16...	0.20	0.07	0.23	0.3	0.5	0.02	0.01	3	<1
APR									
24...	<0.10	0.02	0.28	0.3	--	0.04	0.02	7	3
JUN									
24...	<0.10	0.03	0.97	1.0	--	0.06	0.01	4	1
AUG									
19...	<0.10	0.04	0.66	0.7	--	0.03	0.02	3	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT									
16...	230	100	27	5	<4	50	12	40	8
APR									
24...	290	120	5	6	<4	20	3	30	12
JUN									
24...	360	80	<5	<5	<4	30	5	<10	6
AUG									
19...	710	350	<5	<5	4	90	34	20	5

< Actual value is known to be less than value shown.

SUSPENDED SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)
OCT			
16...	1155	10.5	4
APR			
24...	1130	11.0	9
JUN			
24...	1145	22.0	20
AUG			
19...	1120	21.5	16

PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'44", long 120°07'00", in NE 1/4 NW 1/4 sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.2 mi downstream from Martis Creek Lake Dam, 1.8 mi upstream from mouth, and 3.5 mi east of Truckee.

DRAINAGE AREA.--39.9 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,730 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 10, 1972, at site 1.0 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Low and medium flow may be regulated and high flow completely regulated by Martis Creek Lake Dam (station 10339380) since Oct. 7, 1971.

AVERAGE DISCHARGE (unadjusted).--28 years, 27.6 ft^3/s, 20,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft^3/s, Feb. 1, 1963, gage height, 6.16 ft, site and datum then in use; minimum, 1.1 ft^3/s, July 19, 20, 1961. Maximum discharge since construction of Martis Creek Lake Dam in 1971, 663 ft^3/s, Feb. 28, 1986, gage height, 5.66 ft; maximum gage height, 6.01 ft, Apr. 2, 1974; minimum daily, 0.20 ft^3/s, Nov. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 663 ft^3/s, Feb. 28, gage height, 5.66 ft; minimum daily, 7.0 ft^3/s, Mar. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	11	13	18	28	626	7.8	21	25	99	16	12
2	9.0	11	38	16	25	592	8.0	21	25	99	15	12
3	8.9	11	39	15	21	547	8.1	21	25	97	14	12
4	8.9	11	25	17	22	281	8.6	22	25	95	14	12
5	9.0	11	20	39	21	139	8.9	22	25	94	14	11
6	9.4	11	17	38	20	130	9.6	22	25	93	13	11
7	11	11	17	25	17	175	11	22	26	95	13	11
8	11	11	17	20	17	80	12	22	26	102	13	10
9	11	11	15	18	15	7.0	13	22	26	105	13	12
10	11	12	14	16	16	7.5	14	23	26	104	13	12
11	11	9.5	12	16	15	8.6	15	23	78	103	12	12
12	10	11	12	15	20	91	16	23	97	101	12	12
13	10	12	12	15	102	150	17	23	97	100	12	12
14	10	12	12	15	189	379	18	23	96	98	12	12
15	10	13	12	15	231	523	19	23	96	103	12	13
16	10	13	12	32	218	494	19	24	95	105	12	13
17	10	13	12	111	524	457	19	24	95	103	12	15
18	10	13	12	57	605	273	19	24	95	103	11	15
19	10	11	12	55	400	92	19	24	94	102	11	15
20	10	12	12	49	11	82	20	24	94	99	12	15
21	11	12	11	32	12	79	20	24	93	100	12	15
22	12	12	11	26	15	80	20	24	93	49	12	15
23	12	12	11	24	16	82	20	24	96	24	12	15
24	12	16	11	21	16	84	20	24	96	21	12	16
25	12	21	11	20	66	86	20	24	95	20	12	19
26	11	17	11	19	399	41	20	24	95	21	12	18
27	11	14	11	19	527	7.5	20	25	94	21	12	20
28	11	14	11	19	609	7.5	20	25	93	19	12	18
29	11	17	12	21	---	7.5	21	25	92	18	12	16
30	11	14	19	32	---	7.5	21	25	95	17	12	16
31	11	---	20	33	---	7.7	---	25	---	16	12	---
TOTAL	324.2	379.5	474	868	4177	5623.8	484.0	722	2133	2326	388	417
MEAN	10.5	12.6	15.3	28.0	149	181	16.1	23.3	71.1	75.0	12.5	13.9
MAX	12	21	39	111	609	626	21	25	97	105	16	20
MIN	8.9	9.5	11	15	11	7.0	7.8	21	25	16	11	10
AC-FT	643	753	940	1720	8290	11150	960	1430	4230	4610	770	827

CAL YR 1985	TOTAL	7031.9	MEAN	19.3	MAX	142	MIN	4.2	AC-FT	13950
WTR YR 1986	TOTAL	18316.5	MEAN	50.2	MAX	626	MIN	7.0	AC-FT	36330

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.
CHEMICAL DATA: Water years 1975 to current year.
WATER TEMPERATURE: Water years 1975 to current year.
SEDIMENT DATA: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1974 to current year.

INSTRUMENTATION.--Digital water-temperature recorder since October 1974.

REMARKS.--No temperature record Feb. 15-25. Unpublished chemical-quality, water temperatures, and sediment data prior to October 1974, available at State office in Carson City, NV.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, on several days in 1977 and 1979; minimum recorded, 0.0°C, Feb. 16, 17, 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, July 14, 15; minimum recorded, 0.5°C, Feb. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT										
16...	1245	9.7	133	9.10	10.5	615	1.3	11.1	124	75
APR										
24...	1235	15	82	7.40	9.0	615	3.5	9.7	104	39
JUN										
24...	1230	96	97	7.00	15.5	620	2.0	8.2	101	46
AUG										
19...	1215	12	127	7.60	18.5	625	3.4	9.3	122	58

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT									
16...	<0.10	0.07	0.23	0.3	--	0.02	0.02	4	<1
APR									
24...	0.30	0.02	0.28	0.3	0.6	0.03	0.02	4	2
JUN									
24...	<0.10	0.05	0.35	0.4	--	0.05	0.03	3	<1
AUG									
19...	0.10	0.06	0.44	0.5	0.6	0.05	0.02	3	2

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
16...	210	77	20	6	5	40	10	30	<3
APR									
24...	90	27	<5	8	<4	<10	5	10	9
JUN									
24...	460	92	<5	<5	<4	150	89	50	7
AUG									
19...	650	160	<5	<5	4	140	63	<10	5

< Actual value is known to be less than the value shown.

PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	11.5	8.5	6.5	4.0	3.0	3.0	2.5	3.0	2.0	4.0	3.5
2	14.0	11.5	9.0	6.5	3.5	3.0	3.5	2.0	2.5	2.0	4.5	4.0
3	14.5	11.0	8.5	6.5	3.0	2.5	3.0	2.5	3.0	2.0	5.0	4.0
4	14.0	11.0	8.5	7.0	3.5	2.5	3.0	2.5	3.0	1.5	5.0	4.5
5	14.0	11.5	8.5	6.5	4.0	3.0	2.5	2.0	3.0	1.5	6.0	4.5
6	13.5	11.5	8.5	6.0	4.0	3.0	2.0	1.5	2.5	1.5	6.0	5.0
7	14.0	12.0	8.0	6.0	4.0	3.0	2.5	1.5	3.0	1.5	5.5	5.0
8	12.0	10.5	8.0	6.0	3.5	3.0	3.0	1.5	3.0	1.0	7.0	4.0
9	12.0	10.0	7.0	4.5	3.5	3.0	3.0	2.0	3.0	1.0	7.0	5.0
10	11.5	9.5	4.0	3.0	3.5	2.5	3.0	2.0	3.0	1.5	7.0	4.5
11	11.5	9.5	4.5	3.0	3.5	2.0	3.0	2.0	2.0	1.0	7.5	5.0
12	11.5	9.0	4.0	2.5	3.5	2.0	3.0	2.0	2.5	1.5	6.5	3.5
13	11.0	8.5	4.0	2.5	3.5	2.0	3.5	2.0	1.5	1.0	4.0	3.5
14	10.5	8.0	4.5	3.0	3.5	2.0	3.5	2.5	1.0	0.5	4.0	3.5
15	10.5	8.0	4.5	3.0	3.5	2.5	3.5	2.0	---	---	4.0	3.5
16	10.5	8.0	4.5	3.0	3.5	2.0	3.0	2.0	---	---	4.0	3.5
17	10.5	8.0	4.5	3.0	3.5	2.0	2.5	1.0	---	---	4.0	3.0
18	10.5	8.0	4.5	3.0	3.5	2.0	1.5	1.0	---	---	4.5	3.5
19	10.5	8.0	4.0	3.0	3.5	2.0	2.0	1.5	---	---	5.0	3.5
20	10.5	8.0	4.0	3.0	3.5	2.0	2.0	1.5	---	---	7.0	4.5
21	9.5	6.5	4.5	3.0	3.5	2.0	2.0	1.5	---	---	7.0	5.5
22	8.5	7.5	5.0	3.0	3.5	2.0	2.5	2.0	---	---	7.5	6.0
23	10.0	7.5	4.0	3.5	3.5	2.0	2.5	1.5	---	---	8.0	6.0
24	9.5	7.5	3.5	3.5	3.5	2.0	2.5	1.5	---	---	7.5	6.5
25	9.5	7.5	4.0	3.0	3.5	2.0	2.5	1.5	---	---	7.0	6.5
26	9.5	7.0	4.0	3.0	3.5	2.0	2.5	1.5	4.0	3.5	9.0	5.0
27	9.5	7.5	4.0	3.5	3.5	2.0	2.5	1.5	4.0	3.5	8.5	5.0
28	10.0	7.5	4.0	3.0	3.5	2.0	3.0	1.5	4.0	3.5	8.5	5.0
29	9.5	7.0	4.0	3.0	3.5	2.5	2.5	2.0	---	---	8.5	5.0
30	9.5	7.0	4.0	3.0	3.0	2.5	2.5	2.0	---	---	8.5	5.5
31	9.0	7.0	---	---	3.5	2.0	2.5	2.0	---	---	9.0	5.0
MONTH	14.5	6.5	9.0	2.5	4.0	2.0	3.5	1.0	---	---	9.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	4.5	10.5	8.5	13.0	11.5	17.5	16.5	17.5	15.0	18.0	15.5
2	8.0	5.0	10.5	8.5	13.0	11.5	18.5	16.5	17.5	15.0	18.0	15.5
3	8.5	5.0	10.0	9.0	13.5	11.5	20.0	17.0	17.5	15.0	18.0	15.5
4	8.0	5.5	10.5	8.5	13.0	11.5	19.5	17.5	18.0	15.0	18.0	15.5
5	8.0	5.5	10.0	8.0	13.5	12.0	18.0	17.5	18.0	15.5	18.5	16.0
6	8.0	5.5	10.5	8.5	13.5	12.0	18.0	17.0	18.0	15.5	18.5	16.0
7	8.0	5.0	10.5	9.0	13.5	12.0	18.5	17.0	18.0	15.5	18.5	16.0
8	7.0	6.0	11.0	9.0	14.0	12.0	19.5	17.5	18.5	16.0	18.5	16.0
9	9.0	6.0	11.0	9.0	14.0	12.5	18.5	17.5	18.5	16.0	17.5	15.0
10	8.0	6.0	11.0	9.0	14.0	12.5	18.0	17.5	18.5	16.0	17.0	15.0
11	8.5	6.0	11.0	9.0	13.0	11.5	18.5	17.5	18.5	16.0	17.0	14.5
12	8.0	6.0	11.0	9.0	12.5	11.5	20.0	17.5	18.5	16.0	16.5	14.0
13	8.5	6.0	11.0	9.0	12.5	12.0	20.5	18.0	18.5	16.0	16.0	14.0
14	8.0	6.0	11.0	9.5	13.5	12.0	21.0	18.5	18.5	16.0	15.0	13.0
15	8.5	6.5	11.0	9.5	14.5	12.5	21.0	19.0	19.0	16.0	14.5	13.0
16	7.5	6.5	11.0	9.5	14.5	12.5	19.5	18.5	18.5	16.0	13.0	12.0
17	8.0	6.5	11.5	9.5	15.0	12.5	19.5	18.0	18.5	16.0	13.0	11.5
18	9.0	6.5	11.5	9.5	16.5	13.5	19.0	17.5	18.5	16.0	13.5	11.5
19	9.0	7.0	11.0	10.0	15.5	13.5	20.0	17.5	18.5	16.0	12.5	11.0
20	9.5	7.0	11.5	10.0	15.5	14.5	20.5	18.0	18.0	16.5	12.5	10.5
21	9.5	7.0	11.5	10.0	16.0	14.5	19.5	18.0	19.0	16.5	12.0	10.0
22	9.5	7.5	12.0	10.0	16.0	14.5	18.0	16.0	19.0	16.5	11.5	10.0
23	9.0	7.5	11.5	10.5	16.0	15.0	16.0	15.0	19.0	16.5	11.5	9.5
24	9.0	7.5	12.0	10.0	16.0	15.0	16.5	15.0	18.5	16.0	11.5	10.0
25	9.0	7.5	12.5	10.5	16.5	15.5	16.0	14.5	19.0	16.0	11.5	10.0
26	9.5	7.5	12.5	10.5	16.5	15.5	16.0	14.5	18.0	16.0	10.5	9.5
27	10.0	8.0	12.5	10.5	17.5	15.5	17.0	14.5	19.0	16.0	10.5	9.0
28	10.0	8.0	12.5	11.0	19.0	16.0	16.5	14.5	18.5	16.0	10.5	8.5
29	10.0	8.0	12.5	11.0	18.0	16.5	16.5	14.5	18.5	16.5	11.0	9.0
30	10.0	8.0	13.0	11.0	17.5	16.5	17.0	14.5	18.5	16.0	11.0	9.5
31	---	---	13.0	11.5	---	---	17.0	15.0	18.0	15.5	---	---
MONTH	10.0	4.5	13.0	8.0	19.0	11.5	21.0	14.5	19.0	15.0	18.5	8.5

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
16...	1250	9.7	10.5	4	0.1
APR					
24...	1240	15	9.0	8	0.32
JUN					
24...	1235	96	15.5	6	1.6
AUG					
19...	1220	12	18.5	14	0.45

10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'48", long 120°08'12", in NW 1/4 SW 1/4 sec.30, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house on Prosser Creek Dam on Prosser Creek, 1.4 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--50.3 mi^2.

PERIOD OF RECORD.--January 1963 to current year. Prior to October 1976, published as "near Boca."

GAGE.--Nonrecording gage read three times weekly. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REVISED RECORDS.--WDR CA-76-3: 1975. WDR CA-79-3: Drainage area.

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Jan. 30, 1963. Usable capacity, 28,641 acre-ft between elevations 5,660.6 ft, top of inactive contents, and 5,741.2 ft, crest of spillway. Inactive contents, 1,201 acre-ft, includes 83 acre-ft dead contents below elevation 5,637.0 ft. Figures given represent total contents at 0800 hours. Reservoir is used for flood control, enhancement of fishery, and recreation.

COOPERATION.--Gage readings and capacity table were provided by U.S. Bureau of Reclamation.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 32,269 acre-ft, June 1, 1973, elevation, 5,744.33 ft; minimum since reservoir first filled, 66 acre-ft, Oct. 10-12, 1983, elevation, 5,635.75 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 30,486 acre-ft, July 16, elevation, 5,742.05 ft; minimum, 8,378 acre-ft, Mar. 21, elevation, 5,699.15 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	5,710.60	12,389	---
Oct. 31.....	5,704.75	10,193	-2,196
Nov. 30.....	5,703.90	9,899	-294
Dec. 31.....	5,702.40	9,399	-500
CAL YR 1985.....	--	--	-314
Jan. 31.....	5,701.50	9,107	-292
Feb. 28.....	5,703.33	9,706	+599
Mar. 31.....	5,702.30	9,365	-341
Apr. 30.....	5,724.58	19,062	+9,697
May 31.....	5,726.21	19,977	+915
June 30.....	5,740.08	29,008	+9,031
July 31.....	5,741.90	30,375	+1,367
Aug. 31.....	5,735.75	25,944	-4,431
Sept. 30.....	5,724.80	19,185	-6,759
WTR YR 1986.....	--	--	+6,796

10340500 PROSSER CREEK BELOW PROSSER CREEK DAM, NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'24", long 120°07'50", in NW 1/4 NE 1/4 sec.31, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 300 ft downstream from Station Creek, 0.5 mi downstream from Prosser Creek Dam, 0.9 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--52.9 mi^2.

PERIOD OF RECORD.--October 1902 to June 1903 (gage heights only), October 1942 to December 1950, June 1951 to current year. Prior to October 1976, published as "near Boca." Monthly discharge only for October 1942 to December 1950, published in WSP 1734. 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.
REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,602.31 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). See WSP 2127 for history of changes prior to September 1956. October 1956 to May 1976, water-stage recorder at site 0.8 mi downstream at datum 29.69 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Prosser Creek Dam since Jan. 31, 1963.

AVERAGE DISCHARGE (adjusted for change in contents in Prosser Creek Reservoir since 1963).--43 years (water years 1943-50, 1952-86), 91.4 ft^3/s, 66,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1943-86).--Maximum discharge, 4,560 ft^3/s Dec. 23, 1955, gage height, 10.13 ft, present datum, from rating curve extended above 910 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft from floodmarks, present datum, Nov. 20, 1950; minimum discharge, 0.4 ft^3/s, July 18, 1961, result of work on dam upstream. Maximum discharge since construction of Prosser Creek Dam in 1963, 1,790 ft^3/s, Feb. 20-22, 1986, gage height, 6.66 ft, from rating curve extended above 880 ft^3/s on basis of valve setting at Prosser Creek Dam; minimum daily, 0.02 ft^3/s, Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,790 ft^3/s, Feb. 20-22, gage height, 6.66 ft; minimum daily, 10 ft^3/s, Dec. 17-28, Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	98	13	11	58	301	356	18	352	14	38	117
2	109	94	33	10	58	302	357	19	353	14	37	117
3	108	94	43	28	58	303	356	19	353	14	35	116
4	78	46	54	40	58	303	286	19	270	14	34	116
5	11	14	63	41	58	303	243	19	219	16	33	116
6	11	14	92	61	58	303	243	19	98	21	32	118
7	11	14	110	75	58	443	204	61	16	28	31	117
8	11	30	109	89	58	117	173	90	16	32	40	110
9	11	41	108	99	58	99	134	143	16	35	44	105
10	11	42	109	99	58	461	109	177	15	37	42	105
11	11	41	80	98	58	1000	110	176	15	41	46	105
12	11	41	62	98	60	1370	111	176	15	44	48	105
13	11	25	49	82	64	1440	111	285	15	45	70	106
14	11	14	40	66	70	801	111	357	14	46	112	106
15	11	14	40	44	68	422	111	356	14	46	107	122
16	11	14	22	31	74	416	80	355	15	46	107	132
17	11	13	10	32	112	263	60	355	15	45	107	132
18	11	13	10	30	106	169	41	354	15	44	107	131
19	11	13	10	31	84	170	25	417	15	43	106	131
20	11	13	10	105	698	170	24	455	15	43	107	131
21	11	13	10	171	1790	170	23	454	15	43	106	131
22	11	13	10	179	1790	171	22	453	15	42	112	131
23	88	13	10	178	1720	172	21	453	15	41	117	131
24	111	14	10	148	1610	174	20	452	14	42	117	131
25	97	14	10	127	1100	176	19	452	14	41	116	130
26	96	13	10	127	516	195	19	452	13	42	116	130
27	96	13	10	100	304	208	19	453	14	43	116	131
28	101	13	10	58	303	240	18	453	14	41	116	130
29	105	14	11	42	---	261	18	453	14	40	116	130
30	105	13	11	30	---	264	18	390	14	39	116	129
31	104	---	11	46	---	319	---	351	---	38	116	---
TOTAL	1506	821	1180	2376	11107	11506	3442	8686	1998	1120	2547	3642
MEAN	48.6	27.4	38.1	76.6	397	371	115	280	66.6	36.1	82.2	121
MAX	111	98	110	179	1790	1440	357	455	353	46	117	132
MIN	11	13	10	10	58	99	18	18	13	14	31	105
AC-FT	2990	1630	2340	4710	22030	22820	6830	17230	3960	2220	5050	7220

CAL YR 1985	TOTAL	21456	MEAN	58.8	MAX	250	MIN	10	AC-FT	42560	MEAN a	58.0	AC-FT a	42260
WTR YR 1986	TOTAL	49931	MEAN	137	MAX	1790	MIN	10	AC-FT	99040	MEAN a	146	AC-FT a	105800

a Adjusted for change in contents in Prosser Creek Reservoir.

PYRAMID AND WINNEMUCCA LAKES BASIN

10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°27'24", long 120°17'10", in SW 1/4 NW 1/4 sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, on left bank 0.4 mi downstream from Independence Lake outlet, and 10.5 mi northwest of Truckee.

DRAINAGE AREA.--8.10 mi^2.

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

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,940 ft above National Geodetic Vertical Datum of 1929, from topographic map. July 1, 1904, to June 30, 1910, nonrecording gage 75 ft downstream from Independence Lake outlet; prior to July 1, 1904, nonrecording gage 600 ft downstream at approximately same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by dam at outlet of Independence Lake, usable capacity, 17,500 acre-ft.

AVERAGE DISCHARGE (unadjusted).--23 years (water years 1903-7, 1969-86), 28.3 ft^3/s, 20,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft^3/s, Dec. 20, 1981, gage height, 6.12 ft; no flow Sept. 28 to Nov. 10, 1905, June 1, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 219 ft^3/s, Feb. 19, gage height, 5.19 ft; minimum daily, 3.7 ft^3/s, Dec. 24-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.3	4.3	4.0	21	44	75	68	30	34	27	19
2	5.4	4.3	4.5	4.0	24	43	75	69	48	36	27	19
3	5.3	4.3	4.0	4.0	26	42	74	69	72	33	27	18
4	5.3	4.3	4.0	4.0	24	42	74	67	88	32	27	18
5	5.3	4.3	4.0	4.0	23	43	74	67	95	32	27	18
6	5.3	4.3	4.0	4.0	20	43	75	66	95	32	27	18
7	5.3	4.3	4.0	4.0	18	55	75	65	93	32	27	18
8	5.3	4.3	4.0	4.0	17	156	75	65	88	31	27	18
9	5.3	4.3	4.0	4.0	16	173	75	65	84	31	27	18
10	5.1	4.3	4.0	4.0	15	159	76	65	82	31	27	18
11	4.9	4.3	4.0	4.0	14	128	76	64	80	31	27	17
12	4.9	4.3	4.0	4.0	14	102	76	64	78	31	26	17
13	4.9	4.3	4.0	4.3	22	83	74	63	80	30	26	17
14	4.9	4.3	4.0	4.3	29	67	75	63	81	30	26	17
15	4.9	4.3	3.9	4.1	46	59	74	62	80	30	26	17
16	5.3	4.3	4.0	4.4	59	52	74	61	77	30	26	17
17	5.3	4.2	3.9	4.4	104	84	74	61	75	30	26	17
18	4.4	4.3	4.0	4.7	180	101	73	61	73	30	26	16
19	4.3	4.1	4.0	5.6	207	86	74	61	69	29	26	17
20	4.3	4.1	4.0	10	175	78	75	61	65	29	26	17
21	4.2	4.0	4.0	28	130	75	76	41	61	28	26	17
22	4.2	4.0	3.9	27	97	74	77	24	59	28	26	17
23	4.3	4.2	3.8	30	78	74	72	24	49	28	26	17
24	4.3	4.3	3.7	28	64	74	67	24	33	28	26	16
25	4.3	4.3	3.7	26	55	73	66	24	33	28	26	16
26	4.3	4.3	3.7	24	51	73	66	23	34	28	26	16
27	4.3	4.3	3.9	22	48	73	67	23	35	28	23	16
28	4.3	4.3	3.9	20	46	74	68	23	35	28	19	16
29	4.3	4.3	4.0	20	---	75	68	24	34	28	19	16
30	4.3	4.3	4.0	20	---	75	68	24	34	28	19	16
31	4.3	---	4.0	21	---	75	---	24	---	27	19	---
TOTAL	148.4	127.8	123.2	355.8	1623	2455	2188	1565	1940	931	786	514
MEAN	4.79	4.26	3.97	11.5	58.0	79.2	72.9	50.5	64.7	30.0	25.4	17.1
MAX	5.6	4.3	4.5	30	207	173	77	69	95	36	27	19
MIN	4.2	4.0	3.7	4.0	14	42	66	23	30	27	19	16
AC-FT	294	253	244	706	3220	4870	4340	3100	3850	1850	1560	1020

CAL YR 1985	TOTAL	3732.5	MEAN	10.2	MAX	60	MIN	3.7	AC-FT	7400
WTR YR 1986	TOTAL	12757.2	MEAN	35.0	MAX	207	MIN	3.7	AC-FT	25300

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°25'54", long 120°14'13", in NE 1/4 NE 1/4 sec.7, T.18 N., R.16 E., Nevada County, Hydrologic Unit 16050102, on left bank 2.2 mi upstream from bridge on State Highway 89, and 7.5 mi north of Truckee.

DRAINAGE AREA.--10.5 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,320 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 2, 1953, nonrecording gage at site 100 ft upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 11-13, 16-19, 28, 29, Dec. 12, 13, Feb. 7, 9. Records good. No storage or diversion upstream from station.

AVERAGE DISCHARGE.--33 years, 13.4 ft^3/s, 9,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s, Feb. 1, 1963, gage height, 4.64 ft from floodmarks, from rating curve extended above 160 ft^3/s on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 ft^3/s, Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 17	2330	342	*4.26	Apr 22	1745	82	2.94
Mar. 8	0700	*472	4.25	May 31	2115	83	2.95
Mar. 31	1745	69	2.83				

Minimum daily, 3.2 ft^3/s, Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.4	4.3	5.5	7.8	30	59	62	65	11	4.7	3.4
2	3.2	3.5	14	5.1	6.9	30	51	63	63	10	4.5	3.4
3	3.2	3.5	8.5	4.9	7.1	32	45	70	61	10	4.4	3.4
4	3.2	3.4	6.5	8.6	6.8	33	46	59	54	9.6	4.3	3.4
5	3.2	3.4	5.7	14	7.2	34	48	55	49	9.4	4.2	3.4
6	3.9	3.4	5.3	8.8	7.0	32	48	50	45	9.1	4.1	3.3
7	4.1	3.5	5.1	6.9	6.7	84	54	45	40	8.8	4.0	3.3
8	4.0	3.5	4.9	6.2	6.4	300	46	43	37	8.5	4.0	3.3
9	4.1	3.5	4.7	5.7	6.1	131	47	44	33	8.1	3.9	3.5
10	3.8	3.4	4.6	5.3	6.1	84	54	49	31	7.9	3.9	3.6
11	3.8	3.7	4.3	5.1	5.5	61	58	46	29	7.7	3.8	3.5
12	3.6	3.8	4.2	5.1	6.6	51	53	46	29	7.5	3.9	3.4
13	3.5	3.8	4.1	5.0	15	43	45	47	29	7.2	3.8	3.5
14	3.4	3.9	4.0	4.9	26	38	45	49	28	6.9	3.8	3.6
15	3.4	4.0	4.1	4.9	21	34	43	49	26	6.7	3.8	3.7
16	3.4	3.8	4.0	13	15	30	39	50	24	6.4	3.7	4.5
17	3.3	3.8	3.9	24	154	27	35	51	23	6.4	3.7	4.8
18	3.5	3.8	3.9	13	204	24	35	54	22	6.2	3.6	4.4
19	3.6	3.8	3.9	13	138	24	40	55	21	5.9	3.6	5.0
20	3.4	3.8	4.1	11	74	24	48	55	19	5.7	3.6	4.8
21	3.7	3.8	4.1	9.0	49	24	58	52	18	5.8	3.6	4.5
22	3.8	3.8	3.8	8.0	38	25	66	48	17	5.8	3.7	4.4
23	4.6	4.4	4.0	7.4	34	27	66	45	16	6.4	3.7	4.3
24	4.2	5.6	3.8	6.9	31	28	62	45	16	6.3	3.6	6.3
25	3.8	6.0	3.8	6.5	30	28	57	48	15	6.6	3.5	6.7
26	3.6	5.0	3.7	6.3	30	32	53	51	14	6.9	3.5	6.4
27	3.5	4.5	3.7	6.2	30	38	57	52	14	6.0	3.5	7.0
28	3.5	4.5	3.8	6.3	31	43	65	53	13	5.5	3.5	6.6
29	3.4	4.4	4.5	6.4	---	48	63	56	12	5.2	3.4	6.5
30	3.3	4.4	8.0	9.5	---	56	61	59	12	5.0	3.4	6.6
31	3.4	---	6.4	9.2	---	59	---	67	---	4.8	3.5	---
TOTAL	111.6	119.1	153.7	251.7	1000.2	1554	1547	1618	875	223.3	118.2	134.5
MEAN	3.60	3.97	4.96	8.12	35.7	50.1	51.6	52.2	29.2	7.20	3.81	4.48
MAX	4.6	6.0	14	24	204	300	66	70	65	11	4.7	7.0
MIN	3.2	3.4	3.7	4.9	5.5	24	35	43	12	4.8	3.4	3.3
AC-FT	221	236	305	499	1980	3080	3070	3210	1740	443	234	267

CAL YR 1985 TOTAL 3007.3 MEAN 8.24 MAX 51 MIN 2.5 AC-FT 5960
WTR YR 1986 TOTAL 7706.3 MEAN 21.1 MAX 300 MIN 3.2 AC-FT 15290

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to 1975 and 1981 to current year.
CHEMICAL DATA: Water years 1968 to 1972 and October 1985 to September 1986.
WATER TEMPERATURE: Water years 1970 to 1974.
SEDIMENT DATA: Water years 1968 to 1975 and 1981 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1969 to September 1974.

COOPERATION.--Suspended sediment samples were provided by University of California at Berkeley.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV										
07...	1110	3.5	122	8.10	3.5	605	15	10.5	100	K2
FEB										
03...	1115	7.3	92	7.90	0.0	600	2.8	11.5	100	K1
MAY										
13...	0945	45	50	7.80	3.5	605	250	11.1	105	K1
AUG										
20...	1000	3.6	136	7.90	11.5	610	0.50	9.1	105	88

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV									
07...	K9	55	0	14	4.8	6.0	19	0.4	2.0
FEB									
03...	K3	40	0	10	3.5	4.6	20	0.3	1.4
MAY									
13...	K1	21	0	5.4	1.9	2.4	19	0.2	0.80
AUG									
20...	94	51	0	13	4.6	5.6	18	0.4	2.1

DATE	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
NOV									
07...	87	71	71	1.6	0.40	<0.10	32	90	100
FEB									
03...	60	49	49	0.7	0.50	<0.10	27	74	78
MAY									
13...	26	22	22	1.7	0.50	<0.10	21	48	47
AUG									
20...	77	63	64	1.4	0.60	<0.10	31	97	96

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
NOV									
07...	0.12	<0.010	<0.100	0.020	0.010	<0.20	0.020	0.010	0.010
FEB									
03...	0.10	<0.010	<0.100	0.040	0.040	0.30	0.040	0.030	0.020
MAY									
13...	0.06	<0.010	0.240	0.021	0.021	0.30	0.021	0.010	<0.010
AUG									
20...	0.13	<0.010	<0.100	0.030	0.030	0.30	0.020	0.010	0.010

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
NOV											
07...	1110	60	<1	29	<0.5	<1	<1	<3	<1	110	<1
FEB											
03...	1115	70	<1	29	<0.5	<1	<1	<3	1	86	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV										
07...	<4	8	<0.1	<10	1	<1	1	150	<6	5
FEB										
03...	<4	6	<0.1	<10	<1	<1	<1	110	<6	8

DATE	TIME	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)
NOV									
07...	1110	<0.8	<0.7	2.4	<0.7	2.1	<0.6	0.04	0.52

< Actual value is known to be less than value shown.
K Results based on colony count outside the acceptable range (non-ideal colony count).

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
09...	1430	4.5	5.0	5	0.06
NOV					
07...	1110	3.5	3.5	2	0.02
18...	1015	4.0	0.0	5	0.05
DEC					
02...	1230	19	1.0	32	1.6
30...	1115	7.8	0.0	8	0.17
JAN					
20...	1000	11	1.0	5	0.15
FEB					
03...	1115	7.3	0.0	5	0.10
14...	1600	34	1.0	35	3.2
MAR					
31...	1550	66	5.0	7	1.2
APR					
21...	0925	45	4.0	1	0.12
MAY					
13...	0945	45	3.5	2	0.24
27...	0945	50	7.5	4	0.54
JUN					
02...	0930	61	9.0	4	0.66
09...	0920	34	6.5	3	0.28
16...	0940	25	9.0	3	0.20
23...	0850	17	9.5	2	0.09
30...	0745	12	7.0	2	0.06
JUL					
07...	0735	9.2	7.0	2	0.05
14...	0800	7.6	11.0	2	0.04
21...	0815	6.1	10.0	3	0.05
28...	0745	5.9	8.0	1	0.02
AUG					
20...	1000	3.6	11.5	1	0.01

PYRAMID AND WINNEMUCCA LAKES BASIN

10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'16", long 120°06'10", in NW 1/4 NW 1/4 sec.28, T.19 N., R.17 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, in control house near base of spillway of Stampede Dam on Little Truckee River, 0.2 mi upstream from Worn Mill Canyon, and 11.0 mi northeast of Truckee.
DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--August 1969 to current year. August 1969 to September 1977 (monthend elevations and contents only). Prior to October 1976, published as "near Boca."

GAGE.--Nonrecording gage read three times weekly. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Aug. 1, 1969. Total capacity, 226,500 acre-ft at elevation 5,948.7 ft, spillway crest. Inactive contents, 5,010 acre-ft, includes 660 acre-ft dead contents below elevation 5,798.3 ft. Figures given herein, including extremes, represent total contents at 0800 hours. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation.

COOPERATION.--Records and capacity table were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 254,493 acre-ft, June 1, 1983, elevation, 5,956.55 ft; minimum since reservoir first filled, 30,772 acre-ft, Jan. 31, Feb. 1, 1978, elevation, 5,853.60 ft.
EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 205,248 acre-ft, Apr. 11, elevation, 5,942.36 ft; minimum, 116,322 acre-ft, Nov. 22, elevation, 5,910.20 ft.

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

5,850	27,915	5,870	47,204	5,900	94,535	5,940	197,630
5,855	31,951	5,875	53,295	5,910	115,865	5,950	231,005
5,860	36,470	5,880	60,185	5,920	140,141	5,960	267,386
5,865	41,505	5,890	76,008	5,930	167,355		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118194	116733	117085	118275	122553	159925	204891	191106	167524	184927	184692	182682
2	117929	116733	117169	118275	122553	161229	205053	190598	168847	185182	184631	182637
3	117790	116733	117319	118275	122553	162532	204728	189819	170266	185213	184570	182591
4	118206	116733	117468	118414	122695	163946	204403	189040	171684	185243	184509	182531
5	118167	116641	117583	118553	122837	165359	204101	188260	172722	185253	184463	182470
6	118128	116550	117698	118692	122932	166830	203799	187012	173759	185263	184417	182369
7	118090	116722	117775	118773	123027	168301	203495	185764	174545	185273	184341	182268
8	118090	116894	117852	118854	123055	173818	203495	183996	175331	185258	184265	182167
9	118090	116856	117929	118773	123083	179271	203495	182228	176117	185243	184214	182001
10	118032	116818	117964	118692	123112	184723	204372	180488	176800	185243	184163	181834
11	117975	116779	117998	118707	123260	187112	205248	178748	177483	185243	184112	181804
12	117898	116814	118044	118722	123407	189500	204923	177007	178095	185181	184006	181774
13	117821	116848	118090	118738	123824	191110	204598	175339	178706	185120	183899	181713
14	117744	116860	117998	118796	124240	192719	204273	173671	179356	185059	183869	181653
15	117709	116871	117906	118854	125460	193518	203092	172445	180006	185059	183838	181592
16	117675	116756	117814	119109	126680	194317	201911	171219	180657	185059	183788	181441
17	117640	116641	118022	119364	127901	195117	200482	168173	181200	184983	183737	181290
18	117606	116527	118229	119729	134045	195943	199053	168065	181743	184906	183686	181290
19	117583	116699	118229	120094	141963	196769	198206	167957	182122	184885	183671	181290
20	117560	116871	118229	120460	146291	197591	197360	167399	182500	184865	183655	181270
21	117537	116596	118121	120665	148683	198414	196514	166840	182834	184845	183472	181250
22	117502	116322	118013	120870	150479	199354	196363	166100	183168	184845	183419	181230
23	117468	116505	117906	121075	151940	200294	196212	165359	183503	184845	183366	181230
24	117433	116688	117906	121281	153401	201235	196061	164614	183793	184830	183313	181230
25	117399	116871	117906	121437	154700	202317	195910	163869	184082	184814	183260	181275
26	117376	116722	117872	121593	155998	203398	195087	163123	184296	184793	183199	181320
27	117353	116573	117837	121751	157310	204176	194265	163279	184509	184773	183138	181370
28	117330	116745	117867	121786	158621	204468	193443	163434	184479	184753	183062	181420
29	117181	116917	117897	121822	---	204555	192783	164156	184448	184708	182986	181471
30	117032	117001	117929	121881	---	204642	192123	164877	184417	184662	182884	181471
31	116883	---	118102	121940	---	204728	---	166200	---	184677	182783	---
MAX	118206	117001	118229	121940	158621	204728	205248	191106	184509	185273	184692	182682
MIN	116883	116322	117085	118275	122553	159925	192123	163123	167524	184662	182783	181230
a	5910.45	5910.50	5910.93	5912.62	5926.90	5942.20	5938.26	5929.60	5935.77	5935.86	5935.23	5934.80
b	-1577	+118	+1101	+3838	+36681	+46107	-12605	-25923	+18217	+260	-1894	-1312

CAL YR 1985 b -74806
WTR YR 1986 b +63011

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

PYRAMID AND WINNEMUCCA LAKES BASIN

10344400 LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR TRUCKEE, CA

LOCATION.--Lat 39°26'09", long 120°05'00", in SW 1/4 SW 1/4 sec.3, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 1 mi upstream from Boca Reservoir, 1.5 mi upstream from Dry Creek, 3.0 mi downstream from Stampede Dam, and 5.5 mi northeast of Truckee.

DRAINAGE AREA.--146 mi^2.

PERIOD OF RECORD.--June 1903 to October 1910, September 1939 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734. Published as "at Pine Station", June 1903 to December 1907, as "at Starr", January 1908 to October 1910, and as "near Boca", September 1939 to September 1976.

REVISED RECORDS.--WSP 1564: 1903-4, 1906-7, 1910, drainage area at site used in 1903-7.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,618.67 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). June 1903 to October 1910, nonrecording gages at different sites and datums.

REMARKS.--Estimated daily discharges: Dec. 12-15. Records excellent including period of ice effect Dec. 12-15. Flow regulated by Independence Lake, capacity, 17,500 acre-ft, one transbasin diversion to Sierra Valley, and Stampede Reservoir (station 10344300) since 1969.

AVERAGE DISCHARGE (adjusted for change in contents in Stampede Reservoir since 1969).--54 years (water years 1904-10, 1940-86), 196 ft^3/s, 142,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft^3/s, Feb. 1, 1963, gage height, 9.00 ft, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft^3/s, Sept. 16-21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,510 ft^3/s, May 12, gage height, 3.06 ft; minimum daily, 17 ft^3/s, Dec. 16, Sept. 11-15, 17-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	40	40	39	41	81	956	1040	96	42	41	42
2	41	40	40	39	42	83	961	1040	79	42	41	42
3	41	40	21	38	41	89	952	1050	47	41	41	42
4	41	40	19	41	40	93	952	1040	46	41	41	42
5	41	40	19	43	40	92	955	1040	45	42	41	42
6	42	40	18	41	40	86	954	1190	45	42	41	42
7	41	40	19	40	41	114	878	1320	44	42	41	42
8	42	40	18	39	41	254	763	1310	44	42	41	42
9	41	40	18	38	42	131	572	1310	44	42	41	42
10	41	42	19	38	41	103	263	1310	43	42	41	33
11	41	40	18	38	39	86	549	1310	43	41	41	17
12	41	40	18	38	40	77	950	1380	43	41	41	17
13	41	40	18	38	53	70	943	1300	43	41	41	17
14	41	40	18	39	71	65	1060	1150	43	41	41	17
15	41	40	18	38	71	62	1170	1150	43	41	41	17
16	41	40	17	46	70	59	1170	1150	42	41	41	18
17	40	40	18	54	286	56	1160	1150	42	41	41	17
18	40	40	18	45	279	55	1060	1150	42	41	42	17
19	40	40	18	44	176	55	936	1010	42	41	42	17
20	39	40	25	44	106	58	936	843	42	41	42	17
21	41	40	42	41	81	61	889	843	42	43	42	24
22	40	40	41	40	75	63	834	843	42	43	42	42
23	40	40	41	40	73	65	835	842	42	42	42	42
24	40	42	41	40	74	69	834	841	42	43	42	44
25	40	41	39	40	77	69	932	840	42	42	42	44
26	40	40	39	40	79	170	1050	719	42	42	42	44
27	40	40	38	54	82	528	1050	492	42	42	42	44
28	40	41	37	92	85	716	1050	427	42	42	42	43
29	40	41	38	92	---	883	1040	427	42	41	42	42
30	40	40	41	93	---	887	1040	303	42	41	42	42
31	40	---	40	71	---	917	---	97	---	41	42	---
TOTAL	1258	1207	854	1463	2226	6197	27694	29917	1378	1290	1285	993
MEAN	40.6	40.2	27.5	47.2	79.5	200	923	965	45.9	41.6	41.5	33.1
MAX	42	42	42	93	286	917	1170	1380	96	43	42	44
MIN	39	40	17	38	39	55	263	97	42	41	41	17
AC-FT	2500	2390	1690	2900	4420	12290	54930	59340	2730	2560	2550	1970

CAL YR 1985	TOTAL	77392	MEAN	212	MAX	1330	MIN	17	AC-FT	153500	MEAN a	109	AC-FT a	78690
WTR YR 1986	TOTAL	75762	MEAN	208	MAX	1380	MIN	17	AC-FT	150300	MEAN a	295	AC-FT a	213300

a Adjusted for change in contents in Stampede Reservoir.

PYRAMID AND WINNEMUCCA LAKES BASIN

10344490 BOCA RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'20", long 120°05'43", in NE 1/4 NW 1/4 sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house at Boca Dam on Little Truckee River 1,800 ft upstream from mouth, and 6.3 mi northeast of Truckee.
DRAINAGE AREA.--172 mi^2.
PERIOD OF RECORD.--December 1938 to current year. Prior to October 1976 published as "at Boca." Monthend contents only for December 1938 to September 1957, published in WSP 1734.
REVISED RECORDS.--WSP 1634: Drainage area.
GAGE.--Pressure gage with mercury column read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,868 acre-ft between elevations 5,521 ft, outlet sill, and 5,605 ft, top of spillway gates. Elevation of spillway (gate open) is 5,589.01 ft. Dead contents, 241 acre-ft. Records, including extremes, represent usable contents at 0800 hours. Water is used for irrigation in the State of Nevada and for power development.
COOPERATION.--Records and capacity table were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR 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.
EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 40,624 acre-ft, Aug. 1, elevation, 5,604.75 ft; minimum, 22,153 acre-ft, Dec. 30, elevation, 5,583.05 ft.

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

5,548	4,352	5,576	17,359
5,552	5,636	5,580	20,002
5,556	7,112	5,585	23,589
5,560	8,778	5,590	27,488
5,564	10,627	5,595	31,699
5,568	12,671	5,600	36,128
5,572	14,915	5,605	40,868

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33867	26088	24802	22334	23439	31264	30446	31438	37895	39080	40624	39224
2	33778	25969	24841	22407	23477	31048	30574	31612	38084	39176	40575	39176
3	33689	25851	24841	22444	23514	30832	30531	31850	38178	39272	40575	39033
4	33600	25734	24841	22553	23514	30488	30488	32023	38272	39320	40575	38985
5	33511	25694	24726	22663	23477	30232	30488	32283	38320	39368	40527	38937
6	33423	25655	24572	22810	23439	29977	30531	32501	38367	39416	40478	38890
7	33335	25577	24496	22883	23402	29554	30574	32719	38462	39464	40429	38842
8	32982	25499	24382	22957	23365	30531	30403	32938	37520	39512	40381	38747
9	32544	25460	24306	23068	23328	31763	30232	33202	37613	39512	40332	38652
10	32109	25499	24154	23142	23290	32457	30232	33423	37707	39608	40284	38557
11	31936	25538	24002	23142	23328	32844	29977	33600	37801	39704	40284	38462
12	31893	25499	23889	23142	23365	33246	30062	33778	37895	39800	40235	38367
13	31763	25421	23776	23142	23514	32719	30147	34134	37989	39849	40187	38225
14	31264	25343	23701	23142	23664	32023	30317	34358	37989	39897	40187	38084
15	30746	25266	23589	23142	24268	31438	30746	34582	38084	39945	40139	37942
16	30232	25227	23514	23216	24956	30789	30832	34762	38178	39993	40139	37613
17	29808	25188	23365	23290	25655	30190	30832	35034	38225	39993	40090	37146
18	29302	25188	23216	23328	29428	29850	30832	35306	38272	40042	40042	36774
19	28843	25150	23068	23402	32066	29512	30660	35579	38320	40090	40090	36266
20	28305	25111	22920	23477	33644	29177	30488	35761	38367	40139	40090	35899
21	27895	25072	22810	23477	33644	28843	30488	35944	38462	40235	39993	35488
22	27407	25034	22736	23477	33246	28718	30360	36082	38557	40284	39945	35124
23	26923	24995	22626	23477	32982	28594	30275	36312	38604	40332	39849	34853
24	26683	24995	22553	23439	32544	28470	30317	36312	38699	40381	39752	34492
25	26603	24995	22480	23439	32326	28387	30403	36497	38794	40381	39656	34403
26	26523	24956	22407	23439	32109	28305	30617	36635	38890	40381	39608	34313
27	26444	24918	22334	23439	31763	28635	30832	36867	38937	40381	39560	34224
28	26364	24879	22262	23439	31481	29177	31004	36960	38985	40381	39464	34089
29	26285	24879	22225	23439	---	29554	31177	37146	39033	40478	39416	33956
30	26206	24879	22153	23439	---	29935	31264	37520	39033	40575	39320	34000
31	26127	---	22225	23439	---	30317	---	37754	---	40575	39272	---
MAX	33867	26088	24841	23477	33644	33246	31264	37754	39033	40575	40624	39224
MIN	26127	24879	22153	22334	23290	28305	29977	31438	37520	39080	39272	33956
a	5588.30	5586.70	5583.15	5584.80	5594.75	5593.40	5594.50	5601.75	5603.10	5604.70	5603.35	5597.65
b	-7829	-1248	-2654	+1214	+8042	-1164	+947	+6490	+1279	+1542	-1303	-5272

CAL YR 1985 b -769
WTR YR 1986 b +44

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

10344500 LITTLE TRUCKEE RIVER BELOW BOCA DAM, NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'13", long 120°05'40", in NE 1/4 NW 1/4 sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on right bank 800 ft upstream from mouth, 1,000 ft downstream from Boca Dam, and 6.2 mi northeast of Truckee.

DRAINAGE AREA.--173 mi^2.

PERIOD OF RECORD.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to current year. Prior to October 1976 published as "at Boca." Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

REVISED RECORDS.--WDR CA-79-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,500 ft above National Geodetic Vertical Datum of 1929, 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.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Boca Reservoir (station 10344490), Independence Lake, capacity, 17,500 acre-ft, one transmountain diversion to Sierra Valley, and Stampede Reservoir (station 10344300), since 1969.

AVERAGE DISCHARGE (unadjusted).--51 years (water years 1912-15, 1940-86), 193 ft^3/s, 139,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft^3/s, Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft^3/s, May 13, gage height, 5.09 ft; minimum daily, 0.56 ft^3/s, Jan. 2, 3, 7-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	77	60	.60	53	348	1030	1020	27	3.0	41	70
2	77	77	46	.56	53	333	1060	988	16	2.9	57	69
3	77	78	42	.56	53	319	1050	963	3.3	3.0	45	69
4	77	78	70	.63	53	310	1040	968	3.4	3.0	47	69
5	77	78	69	.65	53	303	1050	973	3.4	3.0	51	69
6	77	66	69	.57	53	390	1050	1120	34	3.2	52	68
7	121	60	69	.56	53	541	1070	1240	450	3.3	57	68
8	241	60	69	.56	53	7.0	973	1240	2.4	3.3	51	68
9	241	60	69	.56	53	7.6	647	1260	2.5	3.4	51	68
10	199	60	69	30	53	8.2	439	1260	2.5	3.6	51	67
11	84	60	69	54	53	101	616	1270	2.6	3.8	51	67
12	84	60	69	54	53	398	888	1350	2.5	3.9	51	67
13	208	60	69	54	53	536	964	1200	2.5	3.7	52	67
14	275	60	69	54	54	495	1010	1080	2.7	3.7	52	67
15	274	60	69	55	55	454	1120	1090	2.8	3.5	52	137
16	273	60	74	55	55	384	1180	1070	2.7	3.6	52	217
17	275	60	83	55	47	336	1210	1050	2.7	3.6	52	208
18	273	60	82	55	16	308	1200	1050	2.7	3.7	52	201
19	272	60	82	55	21	279	1090	923	3.0	3.8	52	200
20	271	60	82	55	257	254	1030	792	3.1	3.6	52	200
21	270	60	82	55	475	232	995	792	3.2	3.6	52	199
22	269	60	82	55	456	214	938	792	3.3	21	60	198
23	213	60	82	55	438	198	874	793	3.2	28	71	198
24	70	60	82	55	419	188	800	794	3.3	28	71	161
25	75	60	82	55	403	181	890	794	3.4	28	71	101
26	77	60	82	55	388	211	994	661	3.4	27	71	101
27	77	60	82	77	374	343	1000	423	3.4	26	70	101
28	77	60	82	116	360	543	1010	350	3.2	27	70	101
29	77	60	82	116	---	774	1010	282	3.0	26	70	63
30	77	60	37	116	---	907	1020	137	3.1	26	70	2.3
31	77	---	.65	83	---	973	---	28	---	26	70	---
TOTAL	4912	1894	2155.65	1419.25	4507	10875.8	29248	27753	604.3	335.2	1767	3341.3
MEAN	158	63.1	69.5	45.8	161	351	975	895	20.1	10.8	57.0	111
MAX	275	78	83	116	475	973	1210	1350	450	28	71	217
MIN	70	60	.65	.56	16	7.0	439	28	2.4	2.9	41	2.3
AC-FT	9740	3760	4280	2820	8940	21570	58010	55050	1200	665	3500	6630

CAL YR 1985 TOTAL 78618.58 MEAN 215 MAX 1310 MIN .39 AC-FT 155900
WTR YR 1986 TOTAL 88812.50 MEAN 243 MAX 1350 MIN .56 AC-FT 176200

PYRAMID AND WINNEMUCCA LAKES BASIN

10346000 TRUCKEE RIVER AT FARAD, CA

LOCATION.--Lat 39°25'41", long 120°01'59", in SE 1/4 NE 1/4 sec.12, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.5 mi upstream from Mystic Canyon, 0.7 mi downstream from Farad powerplant, 2.5 mi north of Floriston, 3.4 mi downstream from Bronco Creek, and 3.5 mi upstream from California-Nevada State line.

DRAINAGE AREA.--932 mi^2.

PERIOD OF RECORD.--March to October 1890 (monthly discharge only), September 1899 to current year. Monthly discharge only for January 1944 to July 1957, published in WSP 1734. 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.

REVISED RECORDS.--WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,153.21 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). See WSP 2127 for history of changes prior to Aug. 26, 1957.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Tahoe, Martis Creek Lake, Prosser Creek, Stampede, and Boca Reservoirs (stations 10337000, 10339380, 10340300, 10344300, and 10344490), Donner and Independence Lakes, and by several powerplants.

AVERAGE DISCHARGE.--87 years (water years 1900-86), 823 ft^3/s, 596,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft^3/s, Nov. 21, 1950, gage height, 14.5 ft present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 28 ft^3/s, Dec. 18, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,550 ft^3/s, Mar. 8, gage height, 10.60 ft; minimum daily, 219 ft^3/s, Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	408	343	444	396	4460	3850	2670	2090	698	485	497
2	381	400	474	432	393	4330	2920	2630	2150	694	497	494
3	377	400	399	390	379	4290	2740	2640	2330	677	484	493
4	367	410	345	401	370	4060	2620	2560	2700	649	478	495
5	365	378	371	623	387	3870	2560	2480	2780	634	479	493
6	377	372	376	501	384	3890	2560	2440	2570	620	471	490
7	400	364	409	407	365	4630	2630	2360	1920	604	473	489
8	397	375	404	373	398	7060	2430	2380	1290	489	490	481
9	383	385	392	359	397	3900	2120	2420	1160	486	498	480
10	356	409	381	360	399	3670	1890	2490	1090	480	492	480
11	224	392	397	378	395	4300	2060	2490	1150	478	492	476
12	219	396	414	379	413	5000	2340	2500	1500	479	495	474
13	313	382	416	392	687	5320	2340	2380	1530	474	494	473
14	415	365	395	368	879	4840	2340	2390	1530	467	516	476
15	414	365	378	385	1250	4510	2420	2440	1390	456	510	523
16	409	377	368	420	1090	4350	2510	2440	1080	471	504	490
17	407	375	382	1030	4320	4070	2680	2440	1010	472	501	481
18	406	370	387	666	6620	3680	2630	2510	738	465	500	471
19	403	361	386	572	5120	3380	2500	2510	682	477	499	459
20	407	363	387	607	3320	3300	2500	2340	631	477	499	455
21	416	362	384	608	5230	3260	2590	2300	632	480	499	453
22	407	360	384	579	5300	3220	2670	2220	642	476	504	451
23	430	370	384	563	5080	3210	2640	2250	649	507	504	449
24	445	398	383	505	5080	3210	2500	2250	648	495	504	452
25	426	418	383	460	4920	3210	2500	2400	642	494	502	474
26	411	394	382	447	4550	3230	2540	2420	783	509	502	468
27	409	381	383	435	4440	3400	2540	2250	869	484	502	482
28	412	389	383	421	4460	3720	2650	2180	986	473	500	466
29	417	403	391	407	---	4070	2690	2280	965	467	498	458
30	414	352	462	414	---	4320	2670	2250	895	480	497	450
31	414	---	411	437	---	4490	---	2210	---	478	497	---
TOTAL	12028	11474	12134	14763	67022	126250	76630	74520	39032	16090	15366	14273
MEAN	388	382	391	476	2394	4073	2554	2404	1301	519	496	476
MAX	445	418	474	1030	6620	7060	3850	2670	2780	698	516	523
MIN	219	352	343	359	365	3210	1890	2180	631	456	471	449
AC-FT	23860	22760	24070	29280	132900	250400	152000	147800	77420	31910	30480	28310

CAL YR 1985	TOTAL	228176	MEAN	625	MAX	1840	MIN	219	AC-FT	452600
WTR YR 1986	TOTAL	479582	MEAN	1314	MAX	7060	MIN	219	AC-FT	951300

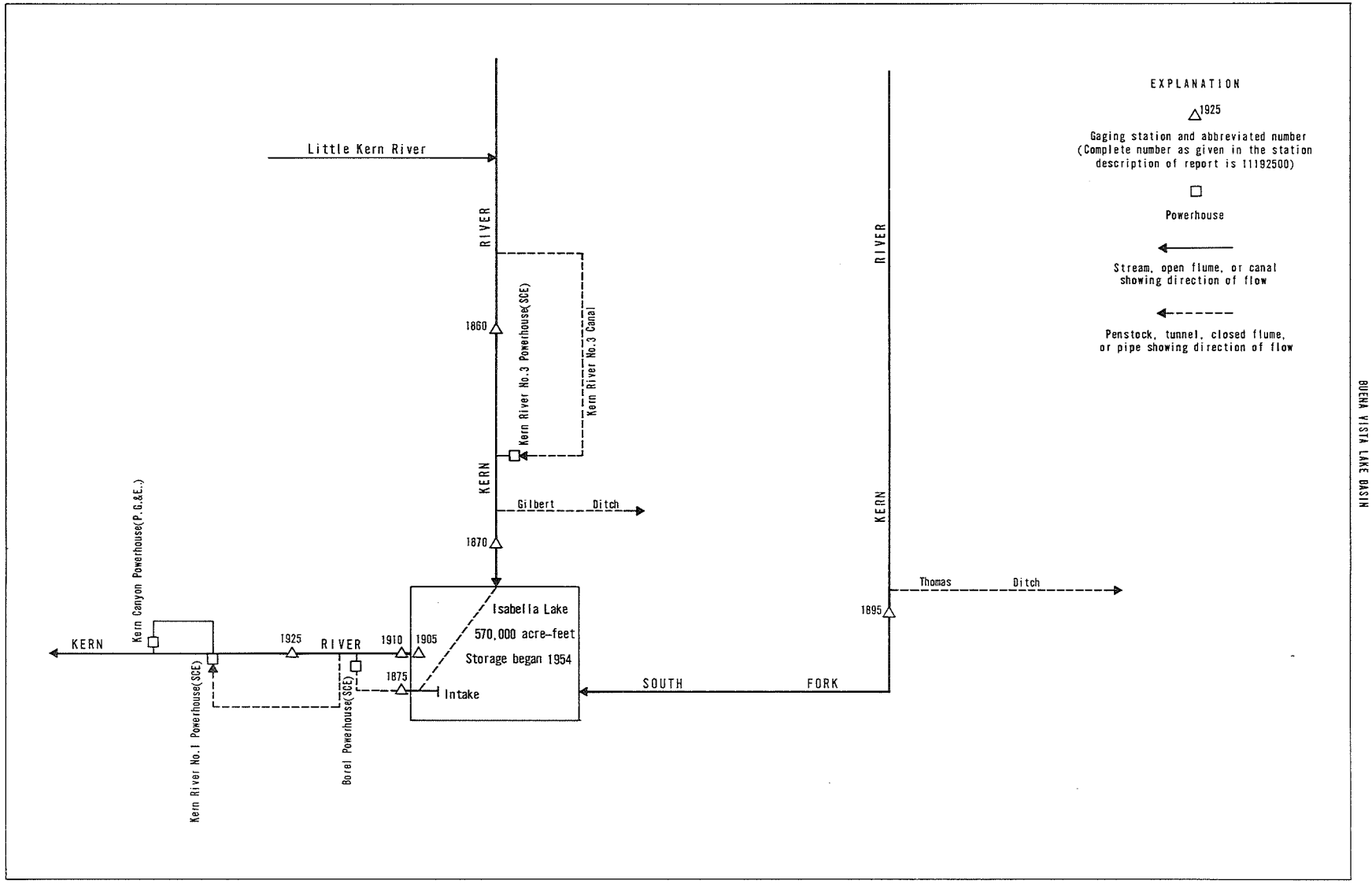

FIGURE 27. — Schematic diagram showing diversions and storage in Kern River basin.

PACIFIC SLOPE BASINS

BUENA VISTA LAKE BASIN

11186000 KERN RIVER NEAR KERNVILLE, CA

LOCATION.--Lat 35°56'43", long 118°28'36", unsurveyed, Tulare County, Hydrologic Unit 18030001, on left bank at Packsaddle Canyon Creek, 100 ft downstream from diversion dam, and 13.4 mi north of Kernville.
DRAINAGE AREA.--846 mi^2.
PERIOD OF RECORD.--January 1912 to current year. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. March 1921 to October 1953, records for river and canal published separately; combi3 to September 1960.
REVISED RECORDS.--WSP 1445: 1912, 1916(M). WSP 1930: 1914(M), 1918(M).
GAGE.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. Elevation of gage is 3,620 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 1, 1913, at site 1.4 mi 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 mi downstream at different datum.
REMARKS.--No estimated daily discharges. Since 1921 Kern River No. 3 Canal diverts up to 630 ft^3/s 100 ft upstream from station, from left bank of Kern River for power development; water is returned to river 15 mi downstream from station. See schematic diagram of Kern River basin. For records of combined discharge of river and canal, see following page.
COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.
AVERAGE DISCHARGE.--River only: 9 years (water years 1912-20), 790 ft^3/s, 571,900 acre-ft/yr; 59 years (water years 1921-53, 1961-86), 414 ft^3/s, 300,000 acre-ft/yr.
Combined river and diversion: 66 years (water years 1921-86), 769 ft^3/s, 557,100 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 60,000 ft^3/s, Dec. 6, 1966, gage height, 22.77 ft site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft^3/s on basis of computed flow over dam at gage height 17.55 ft, basic data for computation were provided by Southern California Edison Co., and slope-area measurement of peak flow; no flow many days in 1924, 1925.
Combined river and diversion: Maximum discharge, 60,000 ft^3/s, Dec. 6, 1966; minimum daily, 78 ft^3/s, Aug. 30, 31, Sept. 17, 19, 1924.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 6,850 ft^3/s, May 31, gage height, 9.21 ft; minimum daily, 38 ft^3/s, Dec. 13.
Combined river and diversion: Maximum discharge, 7,450 ft^3/s, May 31; minimum daily, 216 ft^3/s, Nov. 9.

BUENA VISTA LAKE BASIN

11186001 KERN RIVER NEAR KERNVILLE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER NO. 3 CANAL NEAR KERNVILLE, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	242	347	354	555	1740	2470	3300	6240	2550	1010	499
2	230	238	796	339	514	1780	2480	3480	6330	2750	1000	485
3	227	238	667	330	487	1640	2280	3630	6490	2740	981	476
4	224	233	457	430	443	1560	2210	3400	6560	2890	945	463
5	221	233	419	969	425	1610	2140	2930	5690	2840	914	503
6	219	231	382	738	427	1660	2080	2690	5120	2360	916	448
7	226	231	359	533	372	1690	1940	2420	4850	2120	904	447
8	243	226	348	457	373	4370	1860	2350	4490	1940	862	443
9	242	216	313	422	387	3450	1820	2340	4360	1820	828	436
10	239	223	297	399	361	2860	1880	2450	4440	1780	832	424
11	241	250	273	385	372	2480	1890	2540	4420	1820	916	412
12	242	242	269	374	973	2400	2000	2710	4480	1940	850	399
13	240	238	287	365	4140	2200	1930	2930	4440	2110	834	390
14	238	257	309	364	1850	1990	1880	3180	4540	2050	801	385
15	231	281	298	360	3050	1860	1860	3440	4310	1850	768	379
16	228	277	293	350	2230	1800	1830	3730	4140	1780	727	379
17	228	276	283	348	2390	1620	1720	3940	4050	1570	691	375
18	224	258	282	349	1110	1520	1690	4360	3860	1440	654	373
19	223	245	285	351	3520	1530	1680	4860	3540	1340	679	374
20	227	248	286	355	3220	1580	1900	5020	3290	1290	656	369
21	259	270	289	349	2200	1690	2180	4940	3200	1250	676	366
22	281	256	291	341	1860	1790	2540	4410	3240	1280	640	362
23	260	262	294	337	1690	1920	2630	4110	3200	1420	608	361
24	298	310	295	331	1600	1980	2660	4000	3170	1420	578	405
25	292	373	299	328	1640	2040	2580	4440	3350	1250	558	505
26	284	365	302	330	1690	2100	2530	4970	3190	1150	545	449
27	274	320	303	334	1680	2170	2590	5490	3330	1090	610	436
28	267	344	301	341	1710	2230	2930	6000	3040	1070	589	426
29	262	448	319	357	---	2290	3190	6300	2550	1020	559	425
30	254	373	391	760	---	2350	3170	6550	2410	996	531	414
31	249	---	386	691	---	2410	---	6870	---	1020	510	---
TOTAL	7603	8204	10720	13071	41269	64310	66540	123780	126320	53946	23172	12608
MEAN	245	273	346	422	1474	2075	2218	3993	4211	1740	747	420
MAX	298	448	796	969	4140	4370	3190	6870	6560	2890	1010	505
MIN	219	216	269	328	361	1520	1680	2340	2410	996	510	361
AC-FT	15080	16270	21260	25930	81860	127600	132000	245500	250600	107000	45960	25010

CAL YR 1985	TOTAL	258350	MEAN	708	MAX	2590	MIN	216	AC-FT	512400
WTR YR 1986	TOTAL	551543	MEAN	1511	MAX	6870	MIN	216	AC-FT	1094000

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 35°45'16", long 118°25'21", in NE 1/4 SW 1/4 sec.15, T.25 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 300 ft downstream from highway bridge at Kernville, 1.1 mi upstream from Caldwell Creek, 8.9 mi upstream from Isabella Dam, and 42 mi northeast of Bakersfield.
DRAINAGE AREA.--1,009 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1905 to December 1912, October 1953 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 2,621.57 ft above National Geodetic Vertical Datum of 1929. January 1905 to September 1912, nonrecording gage at two sites 3.5 mi downstream at different datums. October 1953 to Feb. 20, 1967, at present site and datum. Feb. 20, 1967, to Oct. 11, 1976, water-stage recorder 0.6 mi upstream at datum 2,634.57 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. 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 ft^3/s around station during irrigation season.
COOPERATION.--One discharge measurement was provided by Southern California Edison Co.
AVERAGE DISCHARGE.--40 years, 934 ft^3/s, 676,700 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft^3/s, Dec. 6, 1966, gage height, 22.2 ft, from floodmarks, present site, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 70 ft^3/s, Sept. 29, 1977.
EXTREMES OUTSIDE PERIOD OF RECORD.--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 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 13	0700	10,200	10.30	Mar. 8	1600	9,150	10.01
Feb. 19	1200	*15,400	*11.43	May 31	0715	7,110	9.33

Minimum daily, 190 ft^3/s, Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	247	388	408	714	1990	2860	3400	6000	2420	955	497
2	235	244	916	387	638	1960	2840	3510	6000	2570	948	476
3	232	244	999	372	602	1860	2580	3650	6170	2590	934	464
4	229	243	586	533	544	1810	2470	3520	6260	2710	908	449
5	225	243	510	1150	509	1800	2370	3100	5450	2690	885	436
6	223	242	452	1030	507	1810	2340	2900	4880	2300	883	429
7	229	241	414	705	437	1810	2190	2620	4630	2040	878	426
8	244	238	398	584	427	4760	2080	2480	4210	1880	849	425
9	246	256	357	527	447	4280	2030	2420	4010	1770	818	419
10	245	260	331	487	407	3730	2080	2500	4070	1740	816	407
11	247	276	310	462	422	3240	2090	2550	4050	1750	861	395
12	245	257	297	441	973	3000	2220	2620	4120	1860	844	380
13	245	257	316	426	6650	2650	2150	2800	4060	2020	815	370
14	243	270	339	421	2550	2360	2090	3100	4210	1980	796	368
15	237	290	328	414	3770	2200	2040	3370	3980	1810	771	362
16	234	292	326	397	3030	2150	2010	3600	3810	1740	743	358
17	234	293	315	394	2440	1990	1910	3830	3720	1510	699	355
18	232	278	310	394	5100	1860	1850	4160	3550	1360	655	352
19	232	265	314	397	7320	1830	1860	4640	3290	1280	685	354
20	228	267	315	399	4260	1880	1950	4850	3090	1250	656	354
21	190	287	318	393	2830	1980	2210	4840	3010	1230	668	350
22	274	277	323	381	2320	2100	2610	4270	3010	1240	638	347
23	252	279	325	373	2080	2190	2700	3890	3000	1390	607	347
24	278	322	326	368	1940	2180	2720	3750	2970	1410	576	395
25	285	435	329	366	1930	2220	2650	4110	3100	1260	549	542
26	277	409	331	364	1980	2310	2600	4630	3000	1140	542	462
27	268	345	330	368	1980	2440	2600	5180	3090	1080	602	451
28	260	367	330	374	1990	2540	2880	5590	2890	1050	592	425
29	257	547	346	389	---	2670	3200	5920	2490	1020	555	427
30	254	457	449	835	---	2770	3320	6090	2330	969	532	408
31	248	---	456	939	---	2780	---	6500	---	951	510	---
TOTAL	7570	8928	12384	15478	58797	75150	71500	120390	118450	52010	22770	12230
MEAN	244	298	399	499	2100	2424	2383	3884	3948	1678	735	408
MAX	285	547	999	1150	7320	4760	3320	6500	6260	2710	955	542
MIN	190	238	297	364	407	1800	1850	2420	2330	951	510	347
AC-FT	15020	17710	24560	30700	116600	149100	141800	238800	234900	103200	45160	24260

CAL YR 1985 TOTAL 269057 MEAN 737 MAX 2600 MIN 190 AC-FT 533700
WTR YR 1986 TOTAL 575657 MEAN 1577 MAX 7320 MIN 190 AC-FT 1142000

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.
CHEMICAL DATA: Water years 1975 to current year.
BIOLOGICAL DATA: Water years 1978-81.
WATER TEMPERATURE: Water years 1962 to current year.
SEDIMENT DATA: Water years 1967-74, 1978 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1962 to current year.

INSTRUMENTATION.--Temperature recorder since June 1962.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C, Aug. 20, 1972; minimum recorded, 0.0°C on several days in 1976, 1978-79, 1982, and Dec. 17, 1984.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, Aug. 10; minimum recorded, 0.5°C, Dec. 11-13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV , 1985												
20...	1215	268	138	7.90	6.0	700	--	11.6	102	K2	K4	42
JAN , 1986												
29...	1330	390	118	8.00	6.0	695	1.0	11.1	98	K3	K2	38
MAR												
13...	1315	2580	78	7.40	6.0	690	3.3	10.3	91	K3	K11	26
MAY												
21...	1245	4980	48	7.80	11.5	700	6.5	10.1	101	26	--	11
JUL												
16...	1400	1800	44	8.00	17.5	700	1.5	9.4	107	K7	K7	13
SEP												
24...	1400	374	111	7.80	12.0	695	0.40	10.0	102	K10	23	34

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WHOLE IT-FLD (MG/L)	CAR-BONATE WATER WHOLE IT-FLD (MG/L)	HY-DROXIDE WH WAT TOTAL FIELD MG/L AS OH	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
NOV												
20...	0	13	2.2	13	39	0.9	1.6	67	--	--	55	57
JAN												
29...	0	12	1.9	11	38	0.8	1.5	62	--	--	51	53
MAR												
13...	0	8.2	1.4	6.2	33	0.5	1.1	39	--	--	32	34
MAY												
21...	0	3.6	0.50	2.7	33	0.4	0.70	18	--	--	14	16
JUL												
16...	0	4.3	0.57	3.2	33	0.4	0.70	21	--	--	17	17
SEP												
24...	0	11	1.7	9.4	36	0.7	1.8	54	--	--	44	45

See footnotes at end of table.

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV												
20...	11	5.5	0.20	18	85	98	0.12	<0.010	<0.100	0.020	0.010	0.20
JAN												
29...	7.8	4.3	0.20	17	80	87	0.11	<0.010	<0.100	<0.010	<0.010	0.30
MAR												
13...	6.0	1.5	0.20	19	65	63	0.09	<0.010	<0.100	<0.010	<0.010	0.40
MAY												
21...	2.8	0.70	<0.10	9.8	34	30	0.05	<0.010	<0.100	0.030	0.030	0.30
JUL												
16...	2.8	1.1	<0.10	7.8	28	31	0.04	<0.010	<0.100	0.020	0.010	<0.20
SEP												
24...	7.3	3.3	0.20	16	91	78	0.12	<0.010	<0.100	0.040	0.030	0.80

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV												
20...	0.020	0.020	0.020	10	5	17	<0.5	<1	<1	<3	1	62
JAN												
29...	0.010	0.010	<0.010	--	--	--	--	--	--	--	--	--
MAR												
13...	0.030	0.020	0.020	70	2	17	<0.5	<1	<1	<3	<1	59
MAY												
21...	0.090	0.020	<0.010	40	1	9	<0.5	<1	<1	<3	1	39
JUL												
16...	0.040	0.030	0.020	--	--	--	--	--	--	--	--	--
SEP												
24...	0.030	<0.010	<0.010	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
20...	<1	23	4	0.2	<10	<1	<1	<1	95	<6	15
JAN											
29...	--	--	--	--	--	--	--	--	--	--	--
MAR											
13...	<1	10	3	<0.1	<10	<1	<1	<1	69	<6	24
MAY											
21...	<1	<4	4	<0.1	<10	<1	<1	<1	27	<6	17
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
SEP											
24...	--	--	--	--	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (nonideal colony count).
< Actual value is known to be less than the value shown.

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDED (MG/L)
MAR									
13...*	1130	82.0	78	7.50	6.0	690	10.2	91	28
13...*	1135	99.0	76	7.60	6.0	690	10.6	94	28
13...*	1140	115	75	7.70	6.0	690	10.5	93	28
13...*	1145	132	84	7.60	6.0	690	10.1	90	28
13...*	1150	149	79	7.60	6.0	690	10.3	91	28
13...*	1155	166	78	7.70	6.0	690	10.4	92	28
13...*	1200	183	79	7.70	6.0	690	10.2	91	28
13...*	1205	199	78	7.70	6.0	690	10.3	91	28
13...*	1210	216	79	7.60	6.0	690	10.2	91	28
13...*	1215	233	80	7.60	6.0	690	10.1	90	28

* Instantaneous streamflow at the time of cross-sectional measurements:
MAR 13; 2580 FT3/S

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	13.0	13.0	9.5	4.5	3.5	6.5	5.5	5.5	4.0	10.0	8.5
2	16.0	13.0	13.5	9.5	6.0	4.5	5.5	4.5	5.5	4.5	10.0	8.0
3	16.5	13.5	13.5	10.0	5.0	4.0	5.5	4.0	6.0	4.5	10.0	8.0
4	17.0	14.0	13.0	11.0	4.5	3.5	6.0	5.0	5.5	4.5	10.5	8.5
5	17.5	15.0	13.5	10.5	5.0	4.0	8.0	6.0	5.5	4.0	10.5	8.5
6	18.5	15.5	13.5	10.5	5.0	3.5	6.5	5.5	5.5	4.0	10.0	8.5
7	17.5	15.5	13.5	10.0	4.5	3.5	6.0	4.5	4.0	3.0	10.5	8.5
8	15.5	14.0	13.0	10.0	5.0	3.5	4.5	4.0	4.0	2.0	9.5	6.0
9	14.5	12.5	12.0	9.5	4.0	2.5	5.0	3.5	5.0	3.0	6.5	4.5
10	13.5	11.0	9.0	7.5	3.0	2.0	5.5	4.0	4.5	3.0	6.5	4.5
11	13.0	10.5	8.0	6.0	2.5	0.5	5.5	4.0	4.0	3.0	7.5	4.5
12	13.0	10.5	6.5	5.0	2.5	0.5	5.5	4.0	6.0	4.0	8.0	6.0
13	12.5	10.5	5.5	4.0	2.5	0.5	5.0	4.0	6.5	5.5	7.0	5.5
14	12.5	10.0	5.5	3.5	2.5	1.0	5.5	4.5	7.0	6.0	7.5	5.0
15	12.0	9.5	6.0	4.0	2.5	1.0	6.5	4.5	7.0	6.0	6.0	5.0
16	12.0	9.5	6.5	4.5	4.0	2.0	---	---	6.0	5.5	6.0	4.5
17	12.5	10.0	7.5	5.5	4.0	2.5	---	---	7.5	6.0	8.0	5.0
18	12.5	10.5	8.0	6.0	4.0	2.5	---	---	7.5	7.0	8.0	5.5
19	13.0	10.5	7.0	5.0	4.5	3.0	---	---	8.0	6.0	8.5	6.0
20	13.0	11.0	6.5	4.5	4.5	3.0	---	---	6.5	5.5	9.5	7.0
21	13.5	11.5	7.0	5.0	4.5	3.0	---	---	7.0	5.5	10.0	7.5
22	12.0	9.0	6.5	5.0	4.5	2.5	---	---	7.5	5.5	10.5	8.0
23	13.0	9.0	6.5	5.0	4.5	3.0	---	---	8.5	6.0	10.0	8.0
24	14.0	10.0	7.0	6.5	4.5	3.0	---	---	9.0	7.0	10.0	8.0
25	14.5	10.5	7.0	6.0	5.0	3.5	---	---	9.5	8.0	11.0	8.5
26	15.0	11.0	7.0	6.0	5.0	3.0	---	---	9.5	8.0	11.0	9.0
27	14.5	11.0	6.5	5.0	4.5	3.0	---	---	9.5	8.0	11.0	9.5
28	14.5	11.5	6.5	5.5	4.5	3.0	---	---	10.0	8.5	11.0	9.5
29	14.5	11.0	6.5	5.5	6.0	4.5	---	---	---	---	12.5	10.5
30	14.0	11.0	5.0	4.0	7.5	6.0	7.0	6.0	---	---	11.0	9.5
31	13.5	10.5	---	---	7.0	6.0	6.0	4.5	---	---	10.5	9.5
MONTH	18.5	9.0	13.5	3.5	7.5	0.5	---	---	10.0	2.0	12.5	4.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	9.5	11.5	10.5	12.5	11.5	17.0	14.5	19.5	16.5	19.0	17.0
2	9.5	8.0	11.5	10.5	13.5	12.0	17.5	15.0	19.5	16.0	19.0	17.0
3	9.0	7.0	11.5	10.5	13.5	12.5	18.0	15.5	19.5	16.0	19.5	17.5
4	9.5	8.0	10.5	9.5	13.5	12.0	18.0	15.5	19.5	16.5	19.5	17.5
5	9.0	8.0	10.5	9.0	12.5	12.0	17.0	14.5	20.0	17.0	20.0	17.5
6	9.5	8.0	10.5	8.5	13.5	12.0	17.0	14.0	20.5	18.0	19.5	17.5
7	10.0	7.5	9.5	7.5	13.0	12.0	17.5	14.5	20.0	17.5	20.0	17.5
8	11.5	8.5	11.0	8.5	13.0	12.0	17.5	14.5	20.0	17.5	19.5	17.0
9	11.5	8.5	12.0	9.5	14.0	12.5	17.5	14.0	20.0	17.5	18.0	15.5
10	11.5	10.0	12.5	10.5	14.0	12.5	18.5	14.5	21.0	18.0	16.5	14.5
11	12.0	9.5	12.5	10.5	14.5	12.5	19.0	15.5	20.5	18.0	16.0	13.5
12	12.0	9.0	12.5	10.5	14.0	13.0	19.5	16.5	20.5	18.0	16.5	14.0
13	9.5	8.0	13.0	11.5	14.5	12.5	19.5	17.0	21.0	18.5	16.5	14.5
14	9.5	8.0	13.0	12.0	14.5	13.5	18.5	16.0	20.5	18.0	16.5	14.0
15	10.5	8.5	12.5	12.0	14.5	13.0	18.5	16.0	20.0	17.5	15.5	13.0
16	10.5	8.5	12.5	11.5	14.5	13.0	18.0	15.5	19.5	17.0	15.0	12.5
17	10.0	8.0	12.5	12.0	14.5	13.0	17.5	14.5	19.5	17.0	15.0	12.5
18	10.5	8.0	13.0	12.0	15.0	13.0	17.5	14.5	19.0	17.0	16.0	13.5
19	12.0	9.0	13.0	12.0	14.5	12.5	18.5	14.5	19.5	17.0	15.0	12.5
20	12.5	10.0	12.5	12.0	14.5	12.5	19.0	15.0	20.0	18.5	14.0	11.5
21	13.5	11.0	12.0	11.0	15.0	12.5	17.0	15.5	20.0	18.0	14.0	11.5
22	13.0	11.0	11.0	10.0	16.0	13.0	18.0	15.0	20.0	17.5	13.0	11.0
23	12.0	10.5	11.5	10.0	16.0	13.5	17.5	15.5	19.0	17.0	13.0	10.5
24	11.0	9.5	12.5	10.5	16.5	14.0	18.5	15.0	19.0	16.0	11.5	10.5
25	11.5	10.0	13.0	12.0	16.0	14.0	18.5	15.5	19.5	17.0	11.5	9.5
26	11.0	10.0	13.5	12.5	16.5	14.0	18.5	15.0	20.0	17.5	11.5	9.0
27	12.0	9.5	13.5	12.5	16.0	14.0	18.5	15.0	20.0	18.0	12.0	10.0
28	12.5	11.0	13.5	12.5	16.5	14.0	19.0	16.0	20.0	17.5	11.5	10.0
29	12.0	11.0	13.5	11.5	15.5	13.0	18.5	15.0	19.5	17.5	12.5	10.0
30	11.5	10.5	12.5	11.0	16.5	13.5	18.5	15.0	19.0	17.0	13.0	11.0
31	---	---	13.0	11.0	---	---	19.5	16.0	19.0	17.0	---	---
MONTH	13.5	7.0	13.5	7.5	16.5	11.5	19.5	14.0	21.0	16.0	20.0	9.0

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV					
20...	1215	268	6.0	3	2.2
JAN					
29...	1330	390	6.0	4	4.2
MAR					
13...	1315	2580	6.0	28	195
MAY					
21...	1245	4980	11.5	57	766
JUL					
16...	1400	1800	17.5	9	44

BUENA VISTA LAKE BASIN

11187500 BOREL CANAL BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'32", long 118°28'09", in SW 1/4 NE 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 500 ft downstream from Isabella Dam, and 3 mi 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. Elevation of gage is 2,540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 29, 1952, at site 4 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from right bank of Kern River 5.5 mi upstream from Isabella Dam, and above South Fork Kern River. When contents of Isabella Reservoir are above 110,000 acre-ft, the diversion is at the dam. Canal is used to supply Borel powerplant of Southern California Edison Co., 6 mi downstream from station, at which point water is returned to the Kern River.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey. Thirteen discharge measurements were provided by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--65 years, 389 ft^3/s, 281,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 634 ft^3/s, Mar. 13, 14, 1952; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	528	274	432	424	592	579	532	574	591	590	583	582
2	531	274	456	425	592	581	511	577	590	585	579	585
3	535	274	522	425	570	579	509	575	592	581	575	582
4	475	274	560	425	523	578	509	575	587	581	582	580
5	426	267	566	509	496	578	511	575	585	583	582	579
6	446	264	567	579	469	578	512	577	584	580	585	577
7	474	279	467	579	445	577	513	578	583	579	584	579
8	495	297	431	576	431	575	515	576	589	579	584	581
9	508	289	407	579	429	577	511	575	586	578	582	577
10	463	296	397	497	428	575	509	575	585	577	580	575
11	413	307	397	446	427	577	508	575	585	581	584	575
12	387	316	385	433	428	578	508	574	585	582	590	580
13	430	302	370	434	524	577	508	575	586	580	586	575
14	460	296	372	427	582	576	512	575	586	583	584	580
15	475	294	372	423	578	576	556	577	588	581	584	580
16	476	296	388	423	581	573	573	583	586	576	586	582
17	400	296	414	425	581	576	567	582	586	571	586	581
18	367	295	431	425	580	578	569	582	590	571	583	581
19	368	295	414	424	578	579	571	582	588	563	586	579
20	367	307	403	425	581	578	569	581	586	565	587	578
21	338	315	403	428	581	576	568	581	586	572	584	577
22	314	317	403	430	582	577	568	581	583	578	588	574
23	314	317	415	427	582	579	569	586	584	574	589	574
24	314	327	431	424	580	579	571	586	589	576	585	577
25	307	399	436	424	580	572	572	586	594	576	585	575
26	301	430	427	425	580	567	573	588	591	573	584	575
27	317	430	425	425	582	567	573	592	591	572	581	581
28	325	431	425	426	581	566	575	589	591	579	583	581
29	313	431	425	426	---	568	576	589	591	581	585	579
30	298	432	425	490	---	571	572	587	591	580	586	540
31	289	---	425	571	---	571	---	590	---	586	586	---
TOTAL	12454	9621	13391	14199	15063	17838	16290	17998	17629	17913	18108	17321
MEAN	402	321	432	458	538	575	543	581	588	578	584	577
MAX	535	432	567	579	592	581	576	592	594	590	590	585
MIN	289	264	370	423	427	566	508	574	583	563	575	540
AC-FT	24700	19080	26560	28160	29880	35380	32310	35700	34970	35530	35920	34360

CAL YR 1985 TOTAL 192542 MEAN 528 MAX 618 MIN 264 AC-FT 381900
WTR YR 1986 TOTAL 187825 MEAN 515 MAX 594 MIN 264 AC-FT 372600

BUENA VISTA LAKE BASIN

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA

LOCATION.--Lat 35°44'22", long 118°10'33", unsurveyed, T.25 S., R.35 E., Kern County, Hydrologic Unit 18030002, on left bank 0.8 mi north of State Highway 178, 1.6 mi upstream from Canebrake Creek, and 5 mi northeast of Onyx.
DRAINAGE AREA.--530 mi^2.
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.
REVISED RECORDS.--WSP 1151: 1948(M). WSP 1445: Drainage area.
GAGE.--Water-stage recorder. Elevation of gage is 2,900 ft above National Geodetic Vertical Datum of 1929, 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 2.88 ft lower. Apr. 18, 1936, to September 1942, and October 1947 to Feb. 8, 1967, at datum 6.88 ft higher. Feb. 9, 1967, to May 31, 1972, at datum 2.00 ft higher.
REMARKS.--Estimated daily discharges: Nov. 13 to Dec. 2, Mar. 13-21. Records good, except for periods of estimated discharges, which are fair. Lowell and Thomas ditches divert above station for irrigation of 160 acres below station, combined capacity, 7 ft^3/s.

AVERAGE DISCHARGE.--62 years (water years 1912-13, 1920-25, 1927, 1930-42, 1947-86), 130 ft^3/s, 94,180 acre-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft^3/s, Dec. 6, 1966, gage height, 18.9 ft, from floodmarks, present datum, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; no flow for several days in 1929, 1934, 1960-61.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 30	2315	335	5.14	Apr. 2	0845	1,170	6.66
Feb. 13	0630	*2,090	*7.58	Apr. 30	1300	1,320	6.83
Mar. 8	1845	1,070	6.54				

Minimum daily, 29 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	42	146	63	132	385	989	1180	515	119	59	35
2	33	42	174	62	114	397	1030	1140	505	115	56	34
3	32	42	102	62	103	387	993	1150	470	113	54	34
4	30	42	83	71	95	381	926	1100	447	109	51	33
5	29	44	73	102	88	394	901	991	425	104	47	33
6	30	44	66	106	84	415	829	908	402	101	45	32
7	30	44	63	89	74	437	729	812	377	101	43	32
8	31	44	63	77	73	752	694	767	355	98	42	32
9	31	42	59	74	75	783	704	728	337	94	41	33
10	33	40	51	72	72	786	753	721	319	91	40	35
11	35	49	52	69	75	649	764	702	300	88	42	36
12	37	41	41	66	151	612	901	689	285	85	47	37
13	38	40	51	64	1190	550	851	684	273	81	48	37
14	38	42	60	64	483	495	825	691	258	78	44	38
15	38	45	59	64	700	470	806	695	245	78	41	38
16	37	46	60	62	488	465	773	699	233	83	39	39
17	38	46	55	61	385	440	723	697	220	80	38	39
18	38	44	56	61	773	420	721	700	211	76	38	39
19	38	42	57	61	1150	410	738	708	201	74	39	39
20	38	42	54	62	745	430	802	704	192	71	40	40
21	40	45	54	64	522	460	943	691	184	69	42	41
22	45	43	54	63	425	496	1090	654	174	76	40	41
23	45	43	53	63	375	536	1080	623	165	92	37	42
24	45	50	55	62	348	552	1070	590	157	98	36	47
25	48	68	57	60	344	576	1040	560	151	91	35	60
26	47	64	55	60	359	621	996	542	145	81	34	59
27	45	54	55	60	371	682	989	532	137	75	36	60
28	44	57	53	62	386	753	1080	530	131	70	48	58
29	42	85	58	64	---	838	1180	528	127	67	42	56
30	42	71	63	228	---	977	1200	526	123	64	39	54
31	42	---	67	212	---	1020	---	518	---	61	36	---
TOTAL	1172	1443	2049	2410	10180	17569	27120	22760	8064	2683	1319	1233
MEAN	37.8	48.1	66.1	77.7	364	567	904	734	269	86.5	42.5	41.1
MAX	48	85	174	228	1190	1020	1200	1180	515	119	59	60
MIN	29	40	41	60	72	381	694	518	123	61	34	32
AC-FT	2320	2860	4060	4780	20190	34850	53790	45140	15990	5320	2620	2450

CAL YR 1985	TOTAL	47943	MEAN	131	MAX	981	MIN	17	AC-FT	95090
WTR YR 1986	TOTAL	98002	MEAN	268	MAX	1200	MIN	29	AC-FT	194400

BUENA VISTA LAKE BASIN

11190500 ISABELLA LAKE NEAR LAKE ISABELLA, CA

LOCATION.--Lat 35°38'46", long 118°28'41", in SE 1/4 SW 1/4 sec.19, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, in main control tower near left abutment of main dam on Kern River, 1.5 mi north of town of Lake Isabella, and 2.8 mi upstream from Erskine Creek.
DRAINAGE AREA.--2,074 mi^2.
PERIOD OF RECORD.--October 1953 to current year. Prior to October 1968, published as Isabella Reservoir near Isabella. October 1968 to September 1970 published as "Isabella Reservoir."
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).
REMARKS.--Reservoir is formed by earthfill dam with sidehill spillway and auxiliary earthfill dam completed in 1954. Regulation began Apr. 15, 1954. Usable capacity, 567,891 acre-ft between elevations 2,470.0 ft, invert of main outlet and 2,605.5 ft, spillway crest. Dead storage 184 acre-ft. Surcharge flood control storage, 272,528 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 (station 11187500) through concrete conduit in auxiliary dam.
COOPERATION.--Records were provided by U.S. Corps of Engineers, not rounded by U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 630,825 acre-ft, July 6, 1983, elevation, 2,610.84 ft; minimum since reservoir first filled, 34,504 acre-ft, Dec. 14, 16, 1977, elevation, 2,524.35 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 562,134 acre-ft, June 16, 17, elevation, 2,604.98 ft; minimum, 189,823 acre-ft, Nov. 17, 22, 23, elevation, 2,563.62 ft.

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

2,500	6,154	2,515	19,161	2,540	74,802	2,590	403,846
2,505	9,345	2,520	26,226	2,550	114,845	2,620	746,024
2,510	13,612	2,530	45,919	2,570	233,425		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202842	191043	191688	195579	206331	318289	425322	455548	538781	551243	465601	372377
2	202174	190978	193304	195645	206736	321139	428119	458543	543817	550003	462065	370231
3	201510	190914	194733	195841	206871	323569	430524	461652	547750	548875	458336	367906
4	200978	190785	195059	196627	207275	326008	432734	464663	551356	548088	454723	365773
5	200447	190721	195124	198664	207411	328194	434748	466436	553732	547415	451229	364014
6	199786	190658	195059	199918	207614	330388	436564	467687	555656	545949	447438	362446
7	199058	190401	195059	200513	207750	332589	437980	468314	556902	544041	443764	360697
8	198466	190273	195189	200579	207817	341918	438890	468523	557469	541688	440107	358677
9	197873	190144	195189	200712	208021	350926	439295	468523	558492	539004	436766	356663
10	197281	190080	195320	200845	208224	359502	439701	468942	559175	536104	433036	354835
11	196823	190144	195320	201044	208428	366512	440209	469151	559741	533433	429822	353197
12	196364	190016	195254	201244	210197	372936	440920	469256	560311	531213	426818	351471
13	195906	189951	195254	201377	224032	378003	441527	470091	560425	528995	423825	349840
14	195385	189951	195320	201576	230172	382345	441832	471034	561792	526452	420845	348211
15	194863	189951	195385	201643	238463	386334	441730	473446	562020	523584	417971	346497
16	194277	189951	195450	201709	245352	389766	441425	475232	562134	520176	414910	344698
17	193888	189823	195516	201843	250310	392351	441123	477655	562134	516557	411957	343261
18	193498	189887	195385	201976	260164	394560	440513	481036	561336	512732	408918	341739
19	193174	189951	195385	201976	275070	396487	440006	484854	560425	509140	406086	340221
20	192850	189951	195385	202174	284803	398223	439600	489003	559403	505666	403262	338882
21	192461	189951	195320	202241	290929	399866	439803	493065	558606	502204	400448	337637
22	192269	189823	195320	202374	295550	401804	440920	495853	557810	498647	397643	336306
23	192140	189823	195320	202308	299374	403846	442442	498217	557242	495745	395041	334887
24	192010	190144	195254	202308	302720	405696	443461	500262	556788	492744	392447	333915
25	192010	190273	195189	200374	306004	407354	444784	502853	556788	489751	389862	332413
26	191881	190465	195189	202374	309220	409114	445804	506534	556450	486554	387189	331180
27	191817	190144	195124	202374	312371	410977	446415	510880	556450	483154	384433	330212
28	191623	190337	194993	202374	315450	413630	447745	515571	556110	479874	381685	329072
29	191430	191043	195124	202574	---	415699	450304	521163	554975	476391	379040	328019
30	191301	191494	195385	204246	---	418761	452768	526894	553166	472921	376593	326970
31	191236	---	195516	205724	---	421836	---	533100	---	469360	374623	---
MAX	202842	191494	195516	205724	315450	421836	452768	533100	562134	551243	465601	372377
MIN	191236	189823	191688	195579	206331	318289	425322	455548	538781	469360	374623	326970
a	2563.84	2563.88	2564.50	2566.04	2580.35	2591.83	2594.89	2602.40	2604.19	2596.49	2586.94	2581.68
b	-12274	+258	+4022	+10208	+109726	+106386	+30932	+80332	+20066	-83806	-94737	-47653
c	3280	1588	875	1116	1147	2399	4728	7439	10090	10924	10277	6355

CAL YR 1985 b -49463
WTR YR 1986 b +123460

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by Geological Survey.

BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'21", long 118°29'02", in SW 1/4 NW 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 200 ft downstream from highway bridge, 0.6 mi downstream from Isabella Dam, and 1.6 mi southwest of town of Lake Isabella.
DRAINAGE AREA.--2,074 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1945 to current year. Prior to October 1951, published as "below Isabella dam site."
REVISED RECORDS.--WSP 1515: 1956. WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 2,435.07 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 12, 1952, water-stage recorder at site 0.6 mi upstream at different datum. Mar. 12, 1952, to July 26, 1953, nonrecording gage at present site and datum.
REMARKS.--No estimated daily discharges. Records good. Flow regulated by Isabella Lake (station 11190500) beginning Apr. 15, 1954. Borel Canal (station 11187500) diverts above station. Diversion for irrigation of 3,500 acres between head of Isabella Lake and upstream stations. An additional 6,500 acres in the lake bed can be irrigated when the lake is low.
COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.
AVERAGE DISCHARGE (adjusted for diversion to Borel Canal since 1945 and for change in contents in and evaporation from Isabella Lake since 1954).--41 years, 1,017 ft^3/s, 736,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft^3/s, Nov. 19, 1950, gage height, 28.6 ft from floodmarks, present site and datum, from rating curve extended above 6,500 ft^3/s on basis of slope-area measurement of maximum flow; no flow at times in some years. Maximum discharge since construction of Isabella Dam in 1954, 7,300 ft^3/s, May 3, 1969, gage height, 17.67 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,960 ft^3/s, June 5, gage height, 13.84 ft; minimum daily, 3.5 ft^3/s, Dec. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	5.2	5.1	4.5	4.6	436	1670	2520	2920	2750	2160	997
2	8.5	5.2	5.8	4.5	5.0	526	1760	2530	3020	2710	2120	1040
3	8.3	5.2	5.2	4.6	4.8	542	1790	2530	3390	2550	2130	1090
4	8.0	5.1	5.1	5.0	4.5	565	1790	2540	3900	2420	2130	996
5	8.1	5.1	5.1	5.2	4.2	625	1790	2540	3900	2360	2040	783
6	8.1	5.0	5.0	5.0	3.9	649	1790	2530	3720	2370	2060	689
7	6.6	5.0	4.8	5.0	5.0	626	1790	2520	3620	2410	2030	704
8	6.1	5.0	4.7	5.0	6.0	469	1840	2520	3620	2440	1950	736
9	7.8	4.5	4.8	4.5	5.9	296	1960	2520	3450	2490	1870	705
10	7.6	5.2	4.8	5.0	6.0	279	2060	2520	3240	2510	1900	689
11	6.3	6.2	4.8	6.4	6.2	253	2100	2520	3330	2490	1860	634
12	4.8	6.3	4.9	6.4	6.8	253	2100	2520	3330	2420	1680	553
13	5.1	5.9	4.9	5.9	7.0	253	2150	2520	3330	2470	1630	478
14	5.3	5.9	4.4	5.8	6.9	253	2260	2520	3280	2550	1600	489
15	4.6	5.9	4.4	5.8	7.5	387	2310	2520	3100	2610	1540	523
16	5.5	5.9	4.1	5.7	7.1	589	2340	2510	3100	2640	1500	475
17	6.1	5.9	4.1	5.6	7.0	706	2370	2520	3150	2640	1490	438
18	6.1	5.9	3.8	5.4	7.1	795	2370	2520	3200	2600	1530	418
19	5.9	5.6	3.7	5.4	7.4	837	2370	2580	3180	2490	1530	409
20	5.5	5.1	3.7	5.2	7.3	970	2370	2670	3070	2390	1490	363
21	4.8	5.1	3.5	4.9	7.2	1160	2390	2670	2950	2440	1490	373
22	5.1	5.0	3.6	4.7	7.2	1160	2420	2670	2900	2490	1400	407
23	5.1	4.8	3.6	4.6	113	1220	2430	2670	2910	2370	1290	464
24	4.6	4.9	3.6	4.6	165	1340	2500	2660	2730	2300	1240	526
25	4.6	5.0	3.6	4.5	199	1420	2530	2660	2630	2220	1280	450
26	4.9	5.0	3.7	4.5	230	1470	2520	2660	2550	2080	1330	374
27	5.1	5.0	3.6	4.6	279	1570	2520	2720	2510	2050	1360	367
28	5.1	5.1	3.7	4.6	337	1630	2520	2820	2450	2090	1350	376
29	4.9	5.5	3.8	4.6	---	1640	2520	2860	2400	2070	1280	403
30	5.0	5.4	4.0	5.0	---	1640	2520	2900	2560	2070	1100	294
31	5.1	---	4.2	4.8	---	1650	---	2920	---	2110	970	---
TOTAL	187.1	159.9	134.1	157.3	1457.6	26209	65850	80880	93440	74600	50330	17243
MEAN	6.04	5.33	4.33	5.07	52.1	845	2195	2609	3115	2406	1624	575
MAX	8.5	6.3	5.8	6.4	337	1650	2530	2920	3900	2750	2160	1090
MIN	4.6	4.5	3.5	4.5	3.9	253	1670	2510	2400	2050	970	294
AC-FT	371	317	266	312	2890	51990	130600	160400	185300	148000	99830	34200
MEAN a	261	357	516	647	2586	3190	3337	4617	4209	1800	834	458
AC-FT a	16050	21240	31730	39780	143600	196100	198600	283900	250500	110700	51280	27250

CAL YR 1985 TOTAL 135896.0 MEAN 372 MAX 1560 MIN 3.5 AC-FT 269500 MEAN a 505 AC-FT a 365000
WTR YR 1986 TOTAL 410648.0 MEAN 1125 MAX 3900 MIN 3.5 AC-FT 814500 MEAN a 1983 AC-FT a 1370000

a Adjusted for change in contents and evaporation from Isabella Lake and diversion to Borel Canal. Evaporation adjustments provided by U.S. Army Corps of Engineers, not reviewed by U.S. Geological Survey.

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1971 to current year.
CHEMICAL ANALYSES: Water years 1956-66.
WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1971-86): Maximum recorded, 28.5°C, Aug. 24, 1981; minimum recorded, 4.0°C, Jan. 4, 1972, Feb. 1, 1973, Jan. 30, 31, 1979, Dec. 25, 1984.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 21.5°C for several days in October, August, and September; minimum recorded, 5.0°C for several days in December.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	18.5	17.0	13.5	9.5	7.5	9.0	6.0	11.0	7.5		
2	19.0	18.5	17.0	13.5	9.0	8.0	8.5	6.0	10.0	7.0		
3	19.0	18.5	17.0	13.5	10.0	8.0	8.5	6.0	10.5	7.5		
4	19.0	18.5	15.5	14.0	10.0	7.5	8.0	7.0	11.0	7.0		
5	21.5	18.5	16.5	13.5	9.0	7.0	9.0	7.0	9.5	7.5		
6	21.0	18.0	16.0	13.5	9.0	6.5	---	---	9.5	7.0		
7	21.0	17.5	16.5	13.0	9.0	6.5	---	---	9.0	6.5		
8	21.0	17.5	16.0	13.0	8.0	6.5	---	---	10.0	6.5		
9	21.0	17.5	15.0	12.5	9.0	6.0	---	---	10.5	7.5		
10	21.5	17.5	14.0	12.0	7.5	6.0	9.5	6.0	9.5	6.5		
11	21.0	17.5	14.5	11.0	8.5	6.0	9.5	7.0	9.0	7.0		
12	21.5	18.0	12.5	11.0	8.5	6.0	9.5	7.0	8.5	7.5		
13	21.0	18.0	13.0	10.0	8.5	6.0	9.0	6.5	11.0	8.0		
14	19.0	18.0	12.5	10.0	8.5	6.0	8.0	6.5	9.5	7.5		
15	20.5	17.5	12.0	9.5	7.5	5.5	9.0	6.5	---	---		
16	19.0	17.0	12.0	9.0	8.5	5.5	9.0	6.5	---	---		
17	20.0	17.0	10.0	9.5	8.0	5.0	10.0	6.5	---	---		
18	19.5	16.5	10.5	9.5	8.5	5.0	10.0	7.0	---	---		
19	19.0	16.0	11.5	8.5	8.5	5.5	9.5	7.0	---	---		
20	19.5	15.5	11.0	8.5	8.0	5.0	10.0	7.0	---	---		
21	19.5	15.5	11.0	8.5	8.0	5.0	9.5	7.0	---	---		
22	17.5	15.0	10.5	8.0	7.5	5.0	9.5	6.5	---	---		
23	18.0	14.5	10.0	8.0	8.0	5.0	10.0	6.5	---	---		
24	18.5	14.5	9.5	9.0	8.0	5.0	10.5	7.0	---	---		
25	17.5	14.0	11.0	8.5	8.5	5.5	11.0	7.0	---	---		
26	18.0	14.0	11.0	8.5	8.5	5.5	10.5	7.0	---	---		
27	17.5	14.0	10.5	8.0	8.5	5.5	11.0	7.0	---	---		
28	17.0	14.5	9.5	8.0	8.0	5.5	11.0	7.5	---	---		
29	17.5	14.5	9.5	8.5	8.0	6.5	9.0	7.5	---	---		
30	17.0	14.0	10.5	8.0	8.5	6.5	9.5	8.0	---	---		
31	17.0	14.0	---	---	9.0	6.5	8.5	7.5	---	---		
MONTH	21.5	14.0	17.0	8.0	10.0	5.0	11.0	6.0	---	---		

BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	13.5	13.5	15.0	14.0	17.0	16.0	19.5	18.5	21.5	20.0
2	---	---	13.5	13.0	15.0	14.0	17.0	16.0	19.5	18.5	21.0	20.0
3	---	---	13.5	13.0	15.0	14.0	17.5	16.0	20.0	18.5	21.5	20.0
4	---	---	13.0	13.0	15.5	14.0	17.5	16.5	20.0	18.5	21.5	20.5
5	---	---	13.5	13.0	15.0	14.5	18.0	16.5	20.0	18.5	21.0	20.0
6	---	---	13.5	13.0	15.5	14.5	18.0	16.5	20.0	19.0	21.0	20.0
7	---	---	13.5	13.0	15.5	14.5	17.5	16.5	20.0	19.0	21.0	20.0
8	---	---	13.5	13.0	16.0	15.0	17.5	16.5	20.0	19.0	21.0	20.0
9	---	---	13.5	13.0	16.5	15.0	17.5	16.5	20.5	19.0	20.5	20.5
10	---	---	13.5	13.0	15.0	14.5	18.0	16.5	20.5	19.0	21.0	20.5
11	12.0	11.0	13.5	13.0	15.5	15.0	18.0	17.0	20.5	19.0	21.0	20.5
12	11.0	10.5	13.5	13.0	15.5	15.0	18.0	17.0	20.5	19.0	21.0	20.0
13	12.0	11.0	14.0	13.0	16.5	15.0	18.0	17.0	20.5	19.0	21.0	20.0
14	12.5	11.5	13.5	13.0	16.0	15.0	18.0	17.0	20.5	19.5	21.0	20.5
15	12.0	11.0	13.5	13.0	16.0	15.0	18.0	17.0	20.5	19.5	20.5	20.5
16	11.5	11.0	14.0	13.0	16.5	15.0	17.5	17.0	20.5	19.5	21.0	20.5
17	12.0	11.5	14.5	13.0	17.0	15.0	18.5	17.5	21.0	19.5	20.5	20.0
18	12.0	11.5	14.0	13.5	16.0	15.0	18.5	17.0	21.0	19.5	20.5	20.0
19	12.5	12.0	14.0	13.5	17.0	15.5	19.0	17.5	20.5	19.5	20.0	20.0
20	12.5	12.0	13.5	13.5	17.5	15.5	18.5	17.0	20.5	20.0	20.0	19.5
21	12.5	12.0	13.5	13.0	17.0	15.5	18.5	17.5	20.5	19.5	19.5	19.0
22	12.5	11.5	14.5	13.5	17.0	15.5	18.5	17.5	21.0	19.5	19.5	18.5
23	12.0	11.5	14.5	13.5	16.5	15.5	18.5	18.0	21.0	19.5	19.0	18.5
24	12.0	12.0	14.5	13.5	16.5	16.0	18.5	18.0	21.0	20.0	18.5	18.5
25	12.5	12.0	14.5	13.5	17.0	16.0	19.5	18.0	21.0	20.0	18.5	18.0
26	12.5	12.0	14.0	13.5	17.0	16.0	20.0	18.0	21.5	20.0	18.5	17.5
27	13.0	12.5	14.5	13.5	17.5	16.0	19.5	18.0	21.0	20.0	18.0	17.0
28	13.0	12.5	15.0	13.5	16.5	16.0	19.5	18.0	21.0	20.0	17.5	17.0
29	13.0	12.5	15.0	14.0	17.0	16.0	19.5	18.5	21.5	20.0	17.5	17.0
30	13.5	13.0	15.0	14.0	17.5	16.0	19.5	18.5	21.0	20.0	17.0	16.0
31	---	---	14.5	14.0	---	---	20.0	18.5	21.0	20.0	---	---
MONTH	---	---	15.0	13.0	17.5	14.0	20.0	16.0	21.5	18.5	21.5	16.0
YEAR	21.5	5.0										

BUENA VISTA LAKE BASIN

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA

LOCATION.--Lat 35°31'15", long 118°40'34", in NE 1/4 SE 1/4 sec.6, T.28 S., R.31 E., Kern County, Hydrologic Unit 18030003, on left bank 1.0 mi southwest of Democrat Springs, and 2.1 mi upstream from Cow Creek.
DRAINAGE AREA.--2,258 mi^2.
PERIOD OF RECORD.--July 1950 to current year. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder on river; water-stage recorder for conduit diversion. Datum of gage is 1,837.7 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Estimated daily discharges: Oct. 10 to Nov. 4, Mar 2-5, 7, 8, 15, 16. Kern River No. 1 conduit diverts up to about 420 ft^3/s from left bank of Kern River 0.4 mi upstream from station in sec.13, T.28 S., R.30 E., for power development; water is returned to river 10 mi below station. Flow regulated by Isabella Lake 22 mi upstream beginning in 1954 (station 11190500). Many diversions above station for irrigation. See schematic diagram of Kern River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only, 36 years, 697 ft^3/s, 505,000 acre-ft/yr.
Combined river and diversion, 36 years, 1,034 ft^3/s, 749,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 40,000 ft^3/s, Nov. 19, 1950, gage height, 30.7 ft, from rating curve extended above 8,700 ft^3/s on basis of computation of peak flow over dam (basic data for computation provided by Southern California Edison Co.); minimum daily, 0.7 ft^3/s, Nov. 17-19, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft^3/s, Dec. 6, 1966, gage height, 18.55 ft; no flow May 26-28, 1977.
Combined flow: Maximum discharge, 40,000 ft^3/s, Nov. 19, 1950; minimum daily, 123 ft^3/s, Sept. 22, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft^3/s, Dec. 6, 1966; minimum daily, 10 ft^3/s, Dec. 17, 1968.

EXTREMES FOR CURRENT YEAR.--River only: Maximum daily discharge, 4,340 ft^3/s, June 5; minimum daily, 3.8 ft^3/s, Nov. 5, 9-10, 16-19.
Combined flow: Maximum daily discharge, 4,730 ft^3/s, June 5; minimum daily, 272 ft^3/s, Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	4.0	72	42	230	606	1830	2720	3170	2970	2380	1110
2	143	4.0	94	41	230	728	1880	2730	3240	3000	2390	1130
3	189	4.0	157	41	218	733	1940	2740	3510	2820	2300	1190
4	128	4.0	189	85	172	761	1930	2740	4290	2650	2370	1230
5	76	3.8	198	142	134	757	1940	2740	4340	2580	2230	967
6	17	4.0	197	233	117	836	1930	2720	4260	2550	2260	863
7	109	4.0	154	212	98	816	1940	2720	4090	2620	2240	820
8	111	42	63	202	78	816	1930	2720	4090	2620	2180	885
9	150	3.8	55	198	66	595	2080	2720	3960	2690	2060	842
10	40	3.8	31	168	64	780	2200	2720	3630	2700	2060	839
11	19	4.0	31	101	63	808	2240	2720	3720	2710	2090	799
12	4.0	4.0	29	85	81	660	2240	2720	3740	2630	2450	746
13	34	4.0	9.5	80	242	592	2270	2720	3750	2650	1820	667
14	68	4.0	9.8	77	313	560	2370	2710	3740	2740	1780	636
15	85	4.0	10	56	415	570	2450	2700	3460	2790	1730	707
16	87	3.8	15	53	407	767	2490	2700	3420	2830	1670	657
17	6.0	3.8	37	56	318	953	2530	2700	3500	2830	1660	595
18	4.0	3.8	69	57	307	1030	2530	2710	3560	2780	1690	592
19	4.0	3.8	68	55	314	1060	2550	2740	3570	2660	1740	606
20	4.0	4.0	34	55	305	1150	2550	2870	3430	2560	1640	552
21	4.0	4.0	32	60	280	1350	2550	2880	3310	2580	1690	533
22	4.0	4.0	32	65	258	1350	2590	2890	3170	2700	1580	586
23	4.0	4.0	38	60	315	1410	2600	2880	3270	2570	1450	595
24	4.0	4.0	60	52	405	1550	2650	2870	3050	2500	1330	707
25	4.0	37	76	50	438	1610	2710	2870	2920	2430	1370	664
26	4.0	66	76	49	464	1670	2710	2860	2830	2300	1400	555
27	4.0	40	60	47	459	1960	2710	2930	2770	2230	1480	558
28	4.0	44	41	50	569	1830	2710	3010	2740	2290	1480	544
29	4.0	99	42	51	---	1830	2720	3110	2630	2270	1430	598
30	4.0	99	44	151	---	1830	2730	3130	2790	2270	1250	563
31	4.0	---	44	205	---	1830	---	3170	---	2310	1080	---
TOTAL	1486	517.6	2067.3	2879	7360	33798	70500	87160	103950	80830	56280	22336
MEAN	47.9	17.3	66.7	92.9	263	1090	2350	2812	3465	2607	1815	745
MAX	189	99	198	233	569	1960	2730	3170	4340	3000	2450	1230
MIN	4.0	3.8	9.5	41	63	560	1830	2700	2630	2230	1080	533
AC-FT	2950	1030	4100	5710	14600	67040	139800	172900	206200	160300	111600	44300

CAL YR 1985 TOTAL 211311.3 MEAN 579 MAX 2140 MIN 3.8 AC-FT 419100
WTR YR 1986 TOTAL 469163.9 MEAN 1285 MAX 4340 MIN 3.8 AC-FT 930600

BUENA VISTA LAKE BASIN

11192501 KERN RIVER NEAR DEMOCRAT SPRINGS, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER NO. 1 CONDUIT NEAR DEMOCRAT SPRINGS, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	554	284	466	438	626	998	2220	3110	3560	3360	2770	1500
2	533	283	493	437	626	1120	2270	3120	3630	3390	2780	1520
3	578	282	553	438	615	1120	2330	3130	3900	3210	2690	1590
4	517	283	582	482	569	1140	2330	3130	4680	3040	2760	1630
5	464	281	591	541	531	1140	2340	3130	4730	2970	2620	1360
6	405	272	589	638	515	1230	2330	3110	4650	2940	2650	1260
7	497	274	543	617	495	1210	2340	3110	4480	3010	2630	1220
8	500	339	443	606	475	1210	2330	3110	4480	3010	2570	1280
9	539	298	434	602	463	992	2480	3110	4350	3080	2450	1240
10	428	304	408	569	460	1180	2600	3110	4020	3090	2450	1230
11	408	314	407	497	459	1200	2620	3110	4110	3100	2480	1190
12	392	335	404	479	477	1050	2620	3110	4130	3020	2840	1140
13	423	325	381	474	638	985	2650	3110	4140	3040	2210	1060
14	457	310	382	472	707	954	2760	3100	4130	3130	2170	1030
15	475	308	381	451	809	964	2840	3090	3850	3180	2120	1100
16	478	308	387	449	800	1160	2880	3090	3810	3220	2060	1050
17	396	309	413	452	710	1350	2920	3090	3890	3220	2050	988
18	376	308	447	453	699	1420	2920	3100	3950	3170	2080	985
19	374	308	446	451	705	1450	2940	3130	3960	3050	2130	999
20	374	309	410	451	695	1540	2940	3260	3820	2950	2030	945
21	371	323	408	456	672	1740	2940	3270	3700	2970	2080	926
22	321	329	408	461	655	1740	2980	3280	3560	3090	1970	979
23	323	328	415	456	711	1800	2990	3270	3660	2960	1840	988
24	322	329	439	448	795	1940	3040	3260	3440	2890	1720	1100
25	321	381	456	446	828	2000	3100	3260	3310	2820	1760	1060
26	308	450	456	445	857	2060	3100	3250	3220	2690	1790	948
27	311	437	447	443	837	2350	3100	3320	3160	2620	1870	951
28	322	441	437	446	949	2220	3100	3400	3130	2680	1870	937
29	322	498	439	448	---	2220	3110	3500	3020	2660	1820	991
30	308	493	441	548	---	2220	3120	3520	3180	2660	1640	952
31	308	---	441	601	---	2220	---	3560	---	2700	1470	---
TOTAL	12705	10043	13947	15195	18378	45923	82240	99250	115650	92920	68370	34149
MEAN	410	335	450	490	656	1481	2741	3202	3855	2997	2205	1138
MAX	578	498	591	638	949	2350	3120	3560	4730	3390	2840	1630
MIN	308	272	381	437	459	954	2220	3090	3020	2620	1470	926
AC-FT	25200	19920	27660	30140	36450	91090	163100	196900	229400	184300	135600	67730

CAL YR 1985	TOTAL	328622	MEAN	900	MAX	2140	MIN	272	AC-FT	651800
WTR YR 1986	TOTAL	608770	MEAN	1668	MAX	4730	MIN	272	AC-FT	1207000

TULARE LAKE BASIN

11197250 AVENAL CREEK NEAR AVENAL, CA

LOCATION.--Lat 35°51'15", long 120°07'34", in SW 1/4 NW 1/4 sec.10, T.24 S., R.17 E., Kings County, Hydrologic Unit 18030011, on right bank 550 ft downstream from road ford, 0.4 mi downstream from unnamed tributary, and 10 mi south of Avenal.

DRAINAGE AREA.--57.1 mi^2.

PERIOD OF RECORD.--October 1961 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 825 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 31 and Apr. 1. Records good. Minor diversions for stock above station.

AVERAGE DISCHARGE.--25 years, 3.70 ft^3/s, 2,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft^3/s, Feb. 24, 1969, gage height, 7.89 ft, from rating curve extended above 510 ft^3/s on basis of slope-area measurements at gage heights 5.72 ft and 7.54 ft; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	0030	*636	*4.15	Mar. 15	1515	339	3.59
Mar. 10	1145	553	4.00				

No flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	2.1	7.0	1.3				
2					0	1.8	6.8	1.3				
3					0	1.5	6.5	1.4				
4					0	1.2	6.1	1.7				
5					0	1.0	5.8	1.9				
6					0	.87	8.1	2.3				
7					0	.77	6.7	2.2				
8					0	28	5.7	1.9				
9					0	15	5.0	1.6				
10					0	174	4.3	1.2				
11					0	48	3.4	1.2				
12					44	39	3.0	1.2				
13					186	44	2.9	1.0				
14					215	35	2.6	.87				
15					87	86	2.2	.80				
16					58	178	2.3	.76				
17					88	68	2.3	.59				
18					125	31	2.0	.40				
19					133	33	1.6	.28				
20					45	27	1.4	.23				
21					31	21	1.2	.29				
22					19	20	1.2	.41				
23					14	15	1.5	.48				
24					9.6	14	1.5	.44				
25					7.0	13	1.5	.30				
26					5.3	11	1.5	.18				
27					3.9	9.7	1.5	.03				
28					2.7	9.0	1.4	0				
29					---	8.2	1.4	0				
30					---	8.1	1.5	0				
31					---	7.4	---	0				
TOTAL	0	0	0	0	1073.5	951.64	99.9	26.26	0	0	0	0
MEAN	0	0	0	0	38.3	30.7	3.33	.85	0	0	0	0
MAX	0	0	0	0	215	178	8.1	2.3	0	0	0	0
MIN	0	0	0	0	0	.77	1.2	0	0	0	0	0
AC-FT	0	0	0	0	2130	1890	198	52	0	0	0	0

CAL YR 1985	TOTAL	.17	MEAN	.000	MAX	.11	MIN	0	AC-FT	.3
WTR YR 1986	TOTAL	2151.30	MEAN	5.89	MAX	215	MIN	0	AC-FT	4270

TULARE LAKE BASIN

11199500 WHITE RIVER NEAR DUCOR, CA

LOCATION.--Lat 35°48'36", long 118°55'03", in NW 1/4 SE 1/4 sec.26, T.24 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi upstream from Tyler Gulch, and 9.0 mi southeast of Ducor.

DRAINAGE AREA.--90.6 mi^2.

PERIOD OF RECORD.--October 1942 to September 1953, February 1971 to current year. Monthly discharge only for October 1942 to September 1944, published in WSP 1315-A.

GAGE.--Water-stage recorder. Elevation of gage is 715 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1942 to September 1946, at site 3,800 ft downstream; October 1946 to September 1953, at site 4,300 ft downstream; and October 1971 to November 1978, at site 4,000 ft downstream, all at different datum.

REMARKS.--No estimated daily discharges. Records good. No storage or diversion above station.

AVERAGE DISCHARGE.--26 years (water years 1943-53, 1972-86), 11.0 ft^3/s, 7,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, estimated by U.S. Bureau of Reclamation, Mar. 9, 1943; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	1930	39	1.44	Mar. 10	2130	*548	*4.29
Feb. 19	1245	219	2.65	Apr. 1	1430	56	1.46

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.0	9.1	4.8	11	15	36	12	5.5	.71		
2	0	2.0	9.8	4.6	9.1	14	35	11	5.2	.46		
3	0	1.9	16	4.3	8.6	14	28	11	4.7	.29		
4	0	1.7	9.8	6.4	9.0	13	26	12	4.7	.16		
5	0	1.5	7.7	18	8.7	13	24	12	4.8	.06		
6	0	1.5	6.3	19	8.2	12	27	12	4.8	.30		
7	0	1.7	5.6	12	8.3	12	31	12	4.6	.47		
8	0	1.8	5.2	9.6	7.8	69	25	12	4.3	.46		
9	0	1.8	5.1	8.5	7.5	84	23	11	4.0	.26		
10	0	2.1	4.9	7.7	7.1	162	22	11	3.4	.13		
11	0	5.1	5.0	7.1	7.0	205	21	10	2.8	.07		
12	0	6.6	4.3	6.7	8.8	120	21	10	2.7	.05		
13	0	4.1	3.9	6.3	69	104	20	9.7	2.6	.01		
14	0	3.2	3.9	6.2	42	112	19	9.1	2.5	0		
15	0	3.0	3.9	5.8	54	101	18	8.7	2.6	0		
16	0	3.3	3.9	5.6	43	118	20	8.6	2.5	0		
17	0	3.3	3.8	5.6	41	90	19	8.0	2.4	0		
18	0	3.3	3.7	5.6	41	76	18	7.6	2.4	0		
19	0	3.1	3.6	5.6	95	65	18	7.2	2.9	0		
20	0	2.7	3.6	5.6	76	57	17	7.1	2.8	0		
21	0	2.7	3.6	5.6	46	51	16	7.3	2.5	0		
22	0	3.2	3.6	5.6	33	48	15	8.2	2.3	0		
23	0	3.0	3.6	5.2	27	44	15	8.0	2.1	0		
24	0	3.1	3.6	5.2	23	40	15	7.5	1.8	0		
25	0	4.3	3.3	5.2	20	38	14	6.8	1.5	0		
26	.64	4.0	3.3	5.2	19	37	14	6.3	1.4	0		
27	1.2	3.4	3.3	5.1	17	35	14	6.1	1.2	0		
28	1.4	3.1	3.3	4.9	16	32	13	5.9	1.1	0		
29	1.3	7.9	3.7	4.9	---	31	13	5.6	1.0	0		
30	1.6	17	4.7	8.9	---	31	12	5.6	.98	0		
31	1.9	---	5.2	10	---	30	---	5.7	---	0		
TOTAL	8.04	107.4	160.3	220.8	763.1	1873	609	275.0	88.08	3.43	0	0
MEAN	.26	3.58	5.17	7.12	27.3	60.4	20.3	8.87	2.94	.11	0	0
MAX	1.9	17	16	19	95	205	36	12	5.5	.71	0	0
MIN	0	1.5	3.3	4.3	7.0	12	12	5.6	.98	0	0	0
AC-FT	16	213	318	438	1510	3720	1210	545	175	6.8	0	0

CAL YR 1985	TOTAL	1746.18	MEAN	4.78	MAX	52	MIN	0	AC-FT 3460
WTR YR 1986	TOTAL	4108.15	MEAN	11.3	MAX	205	MIN	0	AC-FT 8150

TULARE LAKE BASIN

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA

LOCATION.--Lat 35°56'30", long 118°49'19", in SE 1/4 NE 1/4 sec.10, T.23 S., R.29 E., Tulare County, Hydrologic Unit 18030005, on left bank 1.0 mi upstream from Pothole Creek, 6.3 mi northeast of Fountain Springs, and 12 mi east of Terra Bella.

DRAINAGE AREA.--83.3 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No storage or diversion above station.

AVERAGE DISCHARGE.--18 years, 38.8 ft^3/s, 28,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft^3/s, Feb. 24, 1969, gage height, 9.85 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurements at gage heights 8.83 ft in gage well, 9.18 ft from floodmarks, and 12.54 ft from floodmarks; no flow for periods in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 6, 1966, reached a stage of 12.54 ft, from floodmarks, discharge, 5,330 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1830	194	4.22	Feb. 19	1045	800	6.17
Jan. 5	1515	175	4.12	Mar. 10	2015	*1,180	*6.91
Feb. 13	0930	754	6.07	Apr. 1	0730	256	4.51

Minimum daily, 1.3 ft^3/s, Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	6.3	27	14	32	58	143	50	25	11	5.7	1.9
2	4.2	6.3	80	13	22	56	113	48	24	11	5.7	1.3
3	3.5	6.3	70	13	24	55	99	47	24	11	5.3	2.1
4	3.3	6.3	37	26	24	53	92	49	24	10	3.9	2.1
5	3.3	6.3	28	93	22	51	87	48	24	10	2.9	1.9
6	3.3	6.3	24	59	21	49	98	50	24	10	3.3	1.7
7	3.3	6.3	21	36	20	47	97	50	24	10	3.9	1.6
8	3.6	6.3	20	28	19	283	88	46	23	10	4.2	1.8
9	4.5	6.3	19	24	19	202	83	45	21	10	4.2	1.8
10	4.8	6.3	18	22	19	452	81	43	21	9.8	4.2	2.1
11	4.9	17	17	20	18	426	79	42	19	8.4	3.6	2.1
12	4.9	18	16	19	89	292	76	41	19	8.3	2.9	2.1
13	4.9	13	15	18	431	248	75	40	19	8.3	2.9	2.5
14	4.9	12	15	18	161	227	72	38	19	7.8	2.9	2.7
15	4.9	12	15	17	170	208	68	38	18	7.4	2.9	3.4
16	4.7	13	15	17	159	205	76	37	18	6.6	3.4	3.8
17	4.5	13	14	17	158	196	71	36	18	6.0	3.3	4.1
18	4.5	14	14	17	211	170	69	33	18	6.5	3.2	4.2
19	4.5	12	13	16	354	153	67	31	19	6.9	3.8	5.0
20	4.5	11	13	15	208	142	63	28	19	6.9	3.3	5.4
21	5.1	13	13	15	145	140	60	28	17	6.9	2.9	5.4
22	11	14	13	15	116	139	59	32	16	7.3	2.4	5.2
23	7.7	12	12	14	99	135	58	32	14	9.7	2.4	4.4
24	6.9	12	12	14	86	127	57	32	14	10	2.3	5.0
25	6.4	29	12	14	77	122	57	31	14	9.7	2.3	20
26	6.3	23	12	14	71	118	57	27	13	9.5	2.1	12
27	6.3	18	12	13	67	114	56	26	12	9.2	1.9	8.8
28	6.3	19	12	13	62	108	54	25	12	6.4	2.4	8.7
29	6.3	59	12	13	---	105	53	25	12	5.4	2.4	8.7
30	6.3	49	14	28	---	103	52	25	12	5.4	2.4	8.2
31	6.3	---	14	25	---	100	---	25	---	5.7	2.6	---
TOTAL	161.0	446.0	629	680	2904	4884	2260	1148	556	261.1	101.6	140.0
MEAN	5.19	14.9	20.3	21.9	104	158	75.3	37.0	18.5	8.42	3.28	4.67
MAX	11	59	80	93	431	452	143	50	25	11	5.7	20
MIN	3.3	6.3	12	13	18	47	52	25	12	5.4	1.9	1.3
AC-FT	319	885	1250	1350	5760	9690	4480	2280	1100	518	202	278

CAL YR 1985 TOTAL 6680.82 MEAN 18.3 MAX 253 MIN 0 AC-FT 13250
WTR YR 1986 TOTAL 14170.7 MEAN 38.8 MAX 452 MIN 1.3 AC-FT 28110

TULARE LAKE BASIN

11201200 DEER CREEK DIVERSION NEAR TERRA BELLA, CA

LOCATION.--Lat 35°59'27", long 118°59'06", in NE 1/4 NE 1/4 sec.30, T.22 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from diversion structure, 3.8 mi northeast of Terra Bella.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 510 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 8-11. Records poor. Diversion receives water from Deer Creek 1,000 ft upstream. Water is used for ground-water recharge.

AVERAGE DISCHARGE.--16 years, 2.34 ft^3/s, 1,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 16 ft^3/s, Sept. 30, Oct. 2, 1983, Mar. 16, 18, 1985; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	8.2	4.5	7.5	0	.87	1.9	2.8	.34		
2		0	8.9	4.4	6.9	0	.34	1.9	2.2	1.0		
3		0	12	4.5	6.9	0	0	2.0	1.8	2.0		
4		0	8.8	4.8	6.8	0	0	2.3	2.0	1.3		
5		0	8.2	9.5	6.9	0	0	2.2	2.0	.92		
6		0	7.4	6.0	6.6	0	0	2.3	2.2	1.5		
7		0	6.8	1.5	6.8	2.1	0	2.6	1.9	2.2		
8		0	6.1	1.3	6.5	10	0	2.4	1.1	1.7		
9		0	5.7	6.2	6.4	15	0	2.3	.88	1.6		
10		0	5.3	8.7	6.4	15	0	2.2	.72	1.4		
11		0	4.9	7.0	6.2	7.1	0	2.1	.52	.67		
12		2.1	4.6	6.9	6.8	4.1	0	2.3	0	.09		
13		1.5	4.4	6.5	9.1	4.5	0	2.7	.01	0		
14		2.6	4.2	6.4	3.3	4.7	0	2.5	.06	0		
15		3.0	4.2	6.2	4.2	4.3	0	2.4	.14	0		
16		4.7	4.1	6.0	2.9	4.3	0	2.2	.37	0		
17		5.3	4.2	6.0	3.2	3.9	0	2.0	.53	0		
18		6.5	4.1	5.9	2.1	3.6	0	1.6	.43	0		
19		5.9	4.1	6.0	5.1	3.1	0	1.4	1.0	0		
20		5.5	4.0	6.0	4.6	2.6	0	1.1	.99	0		
21		5.5	3.9	5.8	2.4	2.3	0	1.0	.47	0		
22		8.0	3.9	5.8	.10	2.4	0	1.4	.30	0		
23		6.9	4.0	5.9	0	2.5	0	1.4	.31	0		
24		6.5	4.0	5.7	0	1.8	.84	1.3	.24	0		
25		8.4	4.0	5.7	0	.95	1.5	1.2	.30	.65		
26		10	4.1	5.7	0	.28	1.7	1.0	.18	.70		
27		9.3	4.1	5.7	0	.01	1.7	.76	.07	.55		
28		6.7	4.1	5.5	0	0	1.9	.62	.14	.05		
29		9.4	4.2	5.7	---	0	1.9	2.0	.42	0		
30		11	4.4	6.9	---	0	2.0	2.9	.58	0		
31		---	4.6	7.5	---	0	---	2.9	---	0		
TOTAL	0	118.8	165.5	180.2	117.70	94.54	12.75	58.88	24.66	16.67	0	0
MEAN	0	3.96	5.34	5.81	4.20	3.05	.42	1.90	.82	.54	0	0
MAX	0	11	12	9.5	9.1	15	2.0	2.9	2.8	2.2	0	0
MIN	0	0	3.9	1.3	0	0	0	.62	0	0	0	0
AC-FT	0	236	328	357	233	188	25	117	49	33	0	0

CAL YR 1985	TOTAL	1187.08	MEAN	3.25	MAX	16	MIN	0	AC-FT 2350
WTR YR 1986	TOTAL	789.70	MEAN	2.16	MAX	15	MIN	0	AC-FT 1570

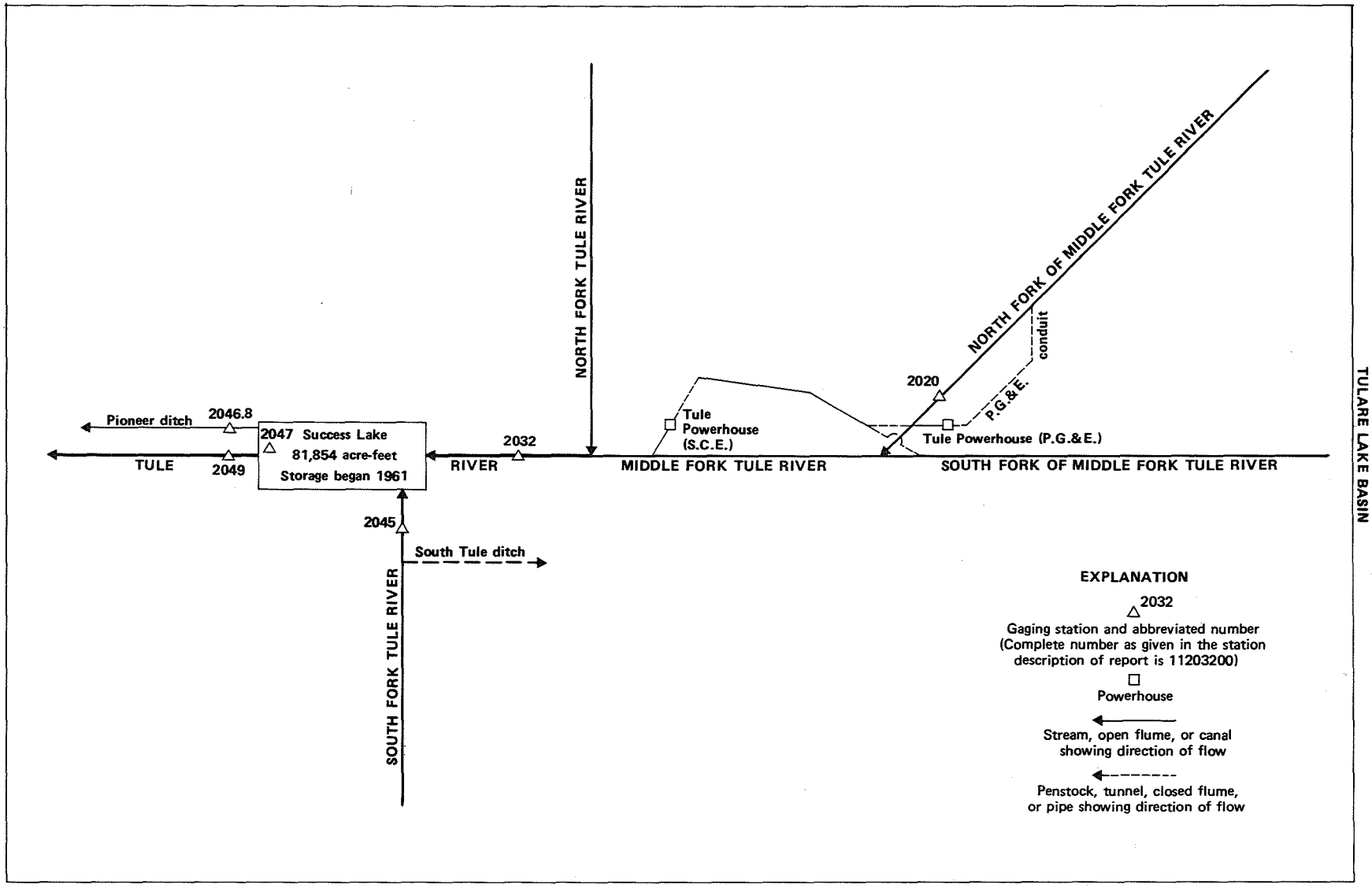

FIGURE 28. — Schematic diagram showing diversions and storage in Tule River basin.

TULARE LAKE BASIN

11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°10'29", long 118°41'41", unsurveyed, in T.20 S., R.30 E., Tulare County, Hydrologic Unit 18030006, on right bank 1.2 mi upstream from mouth, 2.2 mi downstream from Hossack Creek, and 7.4 mi northeast of Springville.

DRAINAGE AREA.--39.3 mi^2.

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 mi upstream, records not equivalent. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960. Prior to October 1982, combined flow consisted of river and Tule River conduit.

REVISED RECORDS.--WSP 1445: 1951.

GAGE.--Water-stage recorder. Concrete control on river since Aug. 6, 1958. Elevation of gage is 2,920 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. See schematic diagram of Tule River basin. For records of combined discharge of river and powerplant, see following page.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 47 years, 28.6 ft^3/s, 20,720 acre-ft/yr.
Combined river and diversion: 47 years, 61.3 ft^3/s, 44,410 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 16,900 ft^3/s, Dec. 6, 1966, gage height, 13.83 ft, from floodmarks, from rating curve extended above 1,820 ft^3/s on basis of critical-depth determinations at gage heights 9.67 ft and 12.47 ft; no flow Sept. 10, 11, 1955.
Combined flow: Maximum discharge, 16,900 ft^3/s, Dec. 6, 1966; minimum daily, 6.7 ft^3/s, Aug. 15, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum daily discharge, 852 ft^3/s, Feb. 19; minimum daily, 2.6 ft^3/s, Oct. 3-4.
Combined flow: Maximum daily discharge, 921 ft^3/s, Feb. 19; minimum daily, 17 ft^3/s, Nov. 1, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.4	5.2	3.6	6.1	133	182	117	108	7.6	5.8	4.3
2	2.7	3.2	124	3.4	5.3	122	167	117	107	7.3	5.7	4.3
3	2.6	3.2	27	3.3	5.5	110	147	119	109	7.0	6.0	4.1
4	2.6	3.7	7.1	16	5.5	101	132	107	99	6.9	5.8	4.0
5	2.8	3.3	6.7	175	4.9	96	124	90	84	8.1	5.7	3.9
6	2.8	4.6	6.8	45	4.9	93	114	80	74	7.5	5.8	3.9
7	3.4	3.3	5.8	13	4.6	88	103	65	65	7.1	5.9	3.8
8	3.5	3.3	4.7	6.8	4.4	628	98	58	57	6.8	5.8	3.9
9	3.1	4.5	4.2	5.8	4.3	356	89	54	53	6.3	5.9	3.9
10	3.0	4.5	4.0	5.2	4.1	326	87	55	50	6.2	5.8	3.9
11	3.0	9.6	3.7	4.8	4.0	257	88	56	47	6.7	16	3.7
12	2.9	7.5	4.1	4.5	119	245	90	60	44	6.3	24	3.5
13	3.0	4.3	4.1	4.2	759	208	81	68	41	6.8	23	3.6
14	2.8	4.1	4.0	4.1	218	179	77	80	39	8.3	22	3.6
15	2.8	4.5	3.7	4.0	241	158	72	88	35	6.1	24	3.7
16	2.7	4.5	3.6	3.9	211	145	78	93	29	5.4	24	3.7
17	2.7	5.1	3.5	3.7	220	122	65	100	25	5.3	24	3.7
18	2.7	4.7	3.4	3.7	650	110	62	109	22	5.7	24	3.8
19	2.7	4.3	3.4	3.6	852	105	59	118	19	6.3	23	3.7
20	2.7	4.4	3.3	3.6	419	106	64	121	15	5.7	22	3.7
21	4.6	5.1	3.3	3.6	258	115	80	119	12	6.5	23	3.6
22	6.4	4.4	3.3	3.4	195	130	97	102	11	7.1	11	3.7
23	3.6	3.1	3.3	3.4	166	137	98	89	8.9	7.8	5.1	3.8
24	3.4	6.5	3.2	3.3	152	134	97	83	7.7	7.0	4.9	5.8
25	3.3	8.8	3.2	3.3	149	139	95	93	7.1	6.3	4.8	6.6
26	3.3	4.3	3.2	3.3	147	152	92	105	6.5	6.2	4.7	4.0
27	3.4	3.4	3.1	3.2	144	164	91	117	6.4	6.3	4.6	4.1
28	3.8	5.0	3.1	3.2	140	168	101	123	7.0	6.3	4.5	3.7
29	3.4	12	3.7	3.3	---	178	111	120	8.7	6.1	4.5	4.2
30	3.3	11	4.3	15	---	181	114	114	8.0	6.1	4.5	5.1
31	3.5	---	3.9	8.0	---	177	---	116	---	5.9	4.4	---
TOTAL	99.2	153.6	269.9	370.2	5093.6	5363	2955	2936	1205.3	205.0	360.2	121.3
MEAN	3.20	5.12	8.71	11.9	182	173	98.5	94.7	40.2	6.61	11.6	4.04
MAX	6.4	12	124	175	852	628	182	123	109	8.3	24	6.6
MIN	2.6	3.1	3.1	3.2	4.0	88	59	54	6.4	5.3	4.4	3.5
AC-FT	197	305	535	734	10100	10640	5860	5820	2390	407	714	241

CAL YR 1985 TOTAL 5899.8 MEAN 16.2 MAX 124 MIN 2.6 AC-FT 11700
WTR YR 1986 TOTAL 19132.3 MEAN 52.4 MAX 852 MIN 2.6 AC-FT 37950

11202001 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF NORTH FORK OF MIDDLE FORK TULE RIVER AND PACIFIC GAS AND ELECTRIC CO. TULE RIVER POWERHOUSE NEAR SPRINGVILLE, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	26	39	53	201	250	185	175	56	30	22
2	19	19	169	33	50	190	235	185	173	54	32	21
3	19	18	92	31	48	178	215	187	176	53	30	22
4	18	18	50	68	46	169	200	175	165	51	30	21
5	18	18	46	243	44	164	192	158	151	48	29	20
6	18	19	39	114	42	161	182	148	141	49	27	20
7	20	18	36	81	40	156	171	133	131	47	28	21
8	22	18	38	68	38	695	166	126	123	46	27	22
9	20	19	31	60	37	424	157	122	119	45	28	22
10	20	21	30	51	34	394	155	121	116	43	27	22
11	20	26	29	50	35	325	156	124	106	43	26	22
12	19	17	28	47	172	313	158	129	112	41	24	22
13	19	22	28	44	791	276	149	127	109	41	23	22
14	19	21	27	41	286	247	139	146	104	38	22	22
15	19	25	28	39	311	226	140	156	101	40	24	22
16	19	25	26	38	280	213	146	145	94	38	24	22
17	19	24	26	37	288	190	133	168	91	37	24	22
18	19	23	26	36	709	178	130	176	87	36	24	22
19	19	21	28	38	921	173	127	184	85	37	23	23
20	18	22	29	37	488	174	132	188	80	37	22	23
21	23	24	29	36	326	183	148	178	77	38	23	23
22	21	22	30	33	263	198	164	170	76	40	20	22
23	21	23	31	32	234	205	165	153	73	39	23	22
24	20	40	29	32	220	185	162	151	71	38	23	42
25	20	54	30	32	217	206	160	161	68	37	22	47
26	19	35	30	32	215	220	159	172	66	35	23	29
27	19	29	30	32	212	232	152	184	63	35	23	29
28	19	36	29	33	208	236	169	189	62	34	22	29
29	18	26	36	33	---	246	179	187	59	33	21	29
30	19	40	51	78	---	249	182	181	57	32	22	29
31	19	---	41	60	---	245	---	183	---	32	22	---
TOTAL	601	740	1198	1628	6608	7452	4973	4992	3111	1273	768	736
MEAN	19.4	24.7	38.6	52.5	236	240	166	161	104	41.1	24.8	24.5
MAX	23	54	169	243	921	695	250	189	176	56	32	47
MIN	18	17	26	31	34	156	127	121	57	32	20	20
AC-FT	1190	1470	2380	3230	13110	14780	9860	9900	6170	2520	1520	1460

CAL YR 1985	TOTAL	18357	MEAN	50.3	MAX	182	MIN	15	AC-FT	36410
WTR YR 1986	TOTAL	34080	MEAN	93.4	MAX	921	MIN	17	AC-FT	67600

TULARE LAKE BASIN

11203200 TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°06'02", long 118°52'07", in NE 1/4 SW 1/4 sec.17, T.21 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 10 ft downstream from highway bridge, 3.5 mi southwest of Springville, and 4.1 mi upstream from Success Dam.
DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1984 published as "11203200 Tule River near Springville."
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 20, 1968, at site 1.9 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Apr. 29 to May 9. 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 mi downstream. Records since Mar. 20, 1968, include flow diverted to Tule River diversion ditch.
AVERAGE DISCHARGE.--29 years, 169 ft^3/s, 122,400 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft^3/s, 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 ft^3/s on basis of slope-area measurement of peak flow; no flow many days in 1961 and Aug. 16, 1977.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1955 reached a stage of 13.7 ft, previous site and datum, from floodmarks, discharge, 21,000 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1600	2,150	7.85	Feb. 19	1030	5,620	9.68
Jan. 5	0930	1,150	6.83	Mar. 8	1530	4,140	9.14
Jan. 30	1615	514	5.76	Apr. 1	0815	973	6.44
Feb. 13	0645	*11,900	*11.11				

Minimum daily, 16 ft^3/s, Oct. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	30	120	99	229	559	815	335	274	83	33	22
2	20	30	729	89	173	525	730	330	261	77	31	22
3	18	30	454	85	157	489	646	325	264	72	30	19
4	16	29	212	121	146	452	592	335	255	70	32	19
5	16	29	163	824	134	429	559	330	239	67	28	19
6	16	29	150	472	127	413	579	320	232	69	27	18
7	18	28	125	271	121	402	546	305	220	64	26	18
8	28	27	117	198	112	2010	528	295	204	61	26	18
9	29	28	107	163	108	1740	485	275	199	60	27	19
10	29	31	98	144	103	2070	471	263	184	59	28	19
11	28	101	90	133	99	1570	454	262	173	54	25	22
12	25	102	79	119	900	1320	456	261	167	53	23	22
13	25	70	79	112	4910	1200	432	266	164	53	22	22
14	25	55	77	106	1390	1090	415	280	161	48	20	23
15	24	53	74	101	1760	1020	397	289	158	46	21	23
16	23	53	74	96	1430	1040	428	289	154	45	20	24
17	23	52	71	91	1490	908	402	296	144	44	21	24
18	23	54	69	90	2570	802	380	301	137	45	22	26
19	24	52	68	90	3050	738	367	311	139	45	22	28
20	22	50	68	90	1770	710	352	311	131	45	22	29
21	28	52	72	89	1180	715	368	318	126	45	23	28
22	47	54	72	87	948	751	397	299	120	48	23	27
23	39	52	75	83	809	763	400	275	116	50	24	26
24	36	55	73	81	724	726	391	257	109	54	22	39
25	35	182	72	81	681	715	383	262	101	50	22	132
26	33	135	72	75	656	734	373	271	97	47	20	86
27	32	96	70	75	619	752	360	288	95	47	21	70
28	31	87	68	75	590	750	367	293	92	45	22	65
29	30	161	71	74	---	753	350	297	91	40	21	60
30	30	191	96	286	---	758	345	281	86	38	22	54
31	30	---	110	291	---	729	---	285	---	37	21	---
TOTAL	824	1998	3875	4791	26986	27633	13768	9105	4893	1661	747	1023
MEAN	26.6	66.6	125	155	964	891	459	294	163	53.6	24.1	34.1
MAX	47	191	729	824	4910	2070	815	335	274	83	33	132
MIN	16	27	68	74	99	402	345	257	86	37	20	18
AC-FT	1630	3960	7690	9500	53530	54810	27310	18060	9710	3290	1480	2030

CAL YR 1985 TOTAL 42965.4 MEAN 118 MAX 1050 MIN 9.2 AC-FT 85220
WTR YR 1986 TOTAL 97304 MEAN 267 MAX 4910 MIN 16 AC-FT 193000

11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1969 to current year.
CHEMICAL ANALYSES: Water years 1964-66.
WATER TEMPERATURES: Water years 1966-67, 1969 to current year.
PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1965 to September 1967, October 1968 to current year.
INSTRUMENTATION.--Temperature recorder October 1965 to September 1967, and since October 1968.
REMARKS.--Interruptions in record were due to malfunction of the recording instruments.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1966-67, 1969-86): Maximum recorded, 35.5°C, July 1, 1972; minimum recorded, 2.5°C, Jan. 5-8, 1971.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 29.5°C, Aug. 4-5, 11; minimum recorded, 4.0°C, Dec. 13-14.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.0	17.0	15.5	13.5	9.5	8.0	10.5	10.0	10.0	8.0	12.5	11.0
2	21.5	17.0	15.5	13.0	10.0	9.0	10.0	9.0	9.5	8.5	12.0	11.0
3	21.5	17.0	15.5	12.5	9.5	8.5	10.0	9.0	9.5	9.0	13.0	10.5
4	22.0	17.0	15.5	13.5	9.5	8.5	10.5	9.5	9.0	8.5	13.5	10.5
5	22.0	17.5	15.0	13.0	9.5	9.0	11.0	10.0	9.0	8.0	14.0	11.5
6	22.5	18.5	15.0	12.5	10.0	9.0	10.0	8.5	8.5	7.5	13.5	11.5
7	20.5	18.5	15.0	12.5	10.0	9.5	9.5	8.5	7.5	6.0	13.0	12.0
8	20.0	17.0	14.5	12.5	10.0	9.0	8.5	7.5	7.5	5.5	12.5	8.5
9	18.0	15.0	13.5	11.5	9.0	8.0	8.5	7.0	8.5	6.5	9.0	7.5
10	17.0	14.0	11.5	10.0	8.0	7.0	8.5	7.0	8.0	6.0	9.0	8.5
11	17.0	13.5	10.0	9.0	7.0	5.5	8.5	8.0	7.0	5.5	10.0	8.0
12	16.5	13.5	8.5	6.5	6.0	4.5	8.5	7.5	9.0	7.0	9.5	8.0
13	16.5	13.0	7.5	6.0	5.5	4.0	9.0	7.5	10.0	8.0	8.5	7.5
14	17.0	13.0	8.0	6.0	6.0	4.0	9.0	8.0	10.5	9.0	9.0	7.5
15	17.0	13.0	8.5	6.5	6.0	5.0	10.0	8.5	10.0	9.0	8.0	6.5
16	16.5	13.0	9.0	7.5	7.0	5.0	10.0	8.5	9.0	8.5	9.5	7.0
17	16.5	13.0	9.5	8.5	7.0	5.5	10.0	8.5	9.5	8.5	9.5	7.0
18	16.5	13.0	9.0	8.5	7.0	6.0	10.5	8.5	9.5	9.5	10.5	7.0
19	16.5	13.5	9.0	7.5	7.5	6.5	10.0	9.0	10.5	8.5	11.0	7.5
20	16.5	13.5	9.0	7.0	7.5	6.0	10.5	10.0	9.5	8.0	12.0	8.0
21	15.0	13.5	10.0	8.5	7.0	6.5	10.0	9.5	9.0	6.5	12.5	9.5
22	13.5	12.0	9.5	8.0	7.0	6.5	9.5	8.5	10.0	7.5	13.0	9.5
23	14.5	12.0	8.5	7.5	7.0	6.5	9.0	7.5	10.5	8.0	12.5	9.5
24	15.0	12.5	9.5	8.5	6.5	6.0	10.0	8.5	12.0	9.0	12.5	9.5
25	15.5	13.0	11.0	9.5	7.0	6.0	9.5	7.5	13.0	10.0	12.5	10.5
26	16.5	14.0	12.0	11.0	7.0	5.5	9.5	7.5	13.0	10.5	13.5	10.0
27	16.5	14.0	11.5	10.0	7.0	6.0	10.0	7.5	13.5	11.0	14.0	10.5
28	17.0	14.5	10.0	10.0	7.0	6.5	10.5	8.0	13.5	11.0	14.0	11.0
29	16.5	14.0	10.0	9.5	9.5	7.0	10.0	9.0	---	---	15.0	12.0
30	16.0	13.5	9.5	8.5	11.0	9.5	11.0	10.0	---	---	14.0	11.5
31	15.5	13.5	---	---	10.5	10.0	10.0	9.0	---	---	14.0	12.0
MONTH	22.5	12.0	15.5	6.0	11.0	4.0	11.0	7.0	13.5	5.5	15.0	6.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	11.5	15.0	12.0	19.0	16.0	24.5	20.5	28.0	22.0	27.0	21.5
2	11.5	9.5	15.0	12.0	20.0	16.5	24.5	21.0	28.0	22.0	27.5	21.5
3	11.0	8.0	14.0	12.5	20.0	17.0	25.5	21.0	28.5	22.5	28.0	22.0
4	11.5	9.0	13.0	11.0	18.5	16.5	25.0	21.5	28.5	23.0	28.0	22.5
5	10.5	9.5	12.5	9.5	19.5	16.0	24.0	20.5	29.5	23.5	28.5	23.0
6	10.5	9.5	11.5	10.0	19.0	15.5	24.0	20.0	29.5	23.5	28.5	23.0
7	11.5	9.5	12.0	8.0	19.0	16.0	24.5	20.5	29.0	23.0	28.0	22.5
8	11.5	10.0	13.5	9.0	18.5	14.5	25.0	20.5	28.5	23.0	27.5	22.0
9	12.5	10.0	15.0	11.0	20.0	16.0	25.0	21.0	28.5	23.0	25.5	21.0
10	13.0	11.0	15.5	12.0	20.5	16.5	25.0	20.5	28.5	23.5	25.0	19.5
11	14.5	12.0	15.0	12.0	21.0	17.0	26.0	21.0	29.0	23.5	24.5	19.0
12	14.0	11.0	15.5	12.0	21.0	17.0	27.0	22.5	29.5	24.0	24.5	20.0
13	12.0	9.0	16.5	12.5	21.0	17.5	27.0	23.0	29.0	23.5	23.5	19.0
14	12.0	9.5	16.5	13.5	21.5	18.0	27.5	22.5	29.0	23.0	23.0	18.5
15	12.5	10.5	16.0	13.5	21.5	18.0	27.0	22.5	28.5	23.0	22.5	17.5
16	11.5	9.5	16.5	13.0	21.5	17.5	25.5	21.5	28.0	22.0	22.5	17.5
17	10.0	9.0	17.5	14.0	22.0	18.0	25.0	20.0	28.0	22.0	22.5	17.5
18	12.0	8.0	18.0	14.5	20.0	18.0	24.5	19.5	26.0	22.0	22.0	19.0
19	14.0	10.0	18.0	14.5	20.0	16.0	25.5	20.5	28.5	22.5	21.5	18.0
20	15.0	11.5	17.5	14.5	21.0	17.0	26.0	21.0	25.0	24.0	20.5	16.5
21	16.0	13.0	15.5	12.0	21.5	17.5	24.0	22.0	28.0	22.0	20.5	16.0
22	16.0	13.5	13.5	11.0	22.5	18.5	24.5	21.0	28.5	22.5	20.5	16.0
23	15.5	13.0	14.0	11.5	23.5	19.5	25.5	21.5	28.0	22.5	---	---
24	14.0	12.0	16.0	12.0	24.0	20.0	26.5	22.0	28.0	22.0	---	---
25	14.0	11.5	17.5	14.0	24.5	20.5	26.0	22.0	27.5	21.5	---	---
26	13.5	10.5	19.0	15.0	24.0	20.5	26.0	21.5	28.0	22.0	---	---
27	14.5	11.0	19.0	16.0	23.5	20.5	26.5	21.5	28.0	22.5	---	---
28	15.5	12.0	19.5	16.5	23.5	20.5	26.5	21.5	28.0	22.0	---	---
29	15.5	12.5	18.0	16.5	23.5	19.5	26.5	21.5	27.5	22.5	---	---
30	14.5	11.5	19.0	16.0	24.0	19.5	27.0	21.5	27.0	22.0	---	---
31	---	---	19.5	16.5	---	---	27.5	22.0	27.0	21.5	---	---
MONTH	16.0	8.0	19.5	8.0	24.5	14.5	27.5	19.5	29.5	21.5	---	---
YEAR	29.5	4.0										

TULARE LAKE BASIN

11204500 SOUTH FORK TULE RIVER NEAR SUCCESS, CA

LOCATION.--Lat 36°02'33", long 118°51'24", in NW 1/4 SW 1/4 sec.4, T.22 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.5 mi upstream from Crew Creek, 4 mi southeast of Success, and 5 mi upstream from mouth.

DRAINAGE AREA.--109 mi^2.

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.

REVISED RECORDS.--WSP 1315-A: 1931-32(M). WSP 1445: 1952-53(P), drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 770 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 26, 1951, at site 0.4 mi downstream at different datum.

REMARKS.--Estimated daily discharges: June 23 to July 7. Records good except for estimated daily discharges, which are fair. Diversions for irrigation of about 640 acres above station.

AVERAGE DISCHARGE.--54 years, 46.6 ft^3/s, 33,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft^3/s, Dec. 6, 1966, gage height, 12.50 ft in gage well, 13.3 ft, from floodmarks, from rating curve extended above 4,300 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Dec. 2	1645	373	4.16	Feb. 13	0715	*2,340	*6.65
Jan. 5	1430	298	3.91	Mar. 8	1415	2,070	6.41

Minimum daily, 0.89 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	5.0	28	20	55	132	237	88	58	19	7.5	1.9
2	2.1	5.0	148	18	39	125	197	86	52	18	6.7	1.7
3	1.4	4.6	99	16	39	119	178	86	52	17	6.1	1.7
4	1.2	4.4	49	45	37	112	167	90	51	16	5.8	2.2
5	.89	4.3	37	179	31	106	162	86	51	15	5.4	1.5
6	.97	4.5	34	97	31	101	178	88	50	15	5.4	1.3
7	2.0	4.9	27	60	27	98	167	85	49	14	5.2	1.3
8	4.6	4.8	25	47	25	660	154	82	49	14	5.2	1.6
9	5.0	5.2	23	41	26	433	146	80	46	13	5.2	2.0
10	4.1	6.7	20	35	23	696	140	76	42	13	5.1	1.9
11	3.6	22	19	31	22	617	134	75	41	12	4.5	1.8
12	3.0	21	16	29	273	463	132	72	40	12	4.1	1.5
13	2.9	14	17	27	1240	409	127	71	39	12	3.9	1.6
14	2.8	13	17	25	337	363	122	69	39	11	4.1	2.2
15	3.0	14	16	24	535	338	117	69	39	11	3.9	2.6
16	3.0	14	16	23	513	354	128	68	38	10	3.9	3.1
17	3.1	15	15	23	427	325	121	67	38	10	4.2	3.1
18	3.5	15	15	22	733	289	117	66	37	11	4.3	3.6
19	3.9	13	15	21	989	260	114	69	38	10	4.2	5.1
20	4.3	12	15	21	517	241	107	70	35	10	4.1	5.5
21	6.4	15	15	20	337	234	104	69	33	11	4.6	5.2
22	16	14	15	20	264	236	102	72	32	11	4.2	4.6
23	8.6	12	15	19	221	230	101	69	31	11	3.8	4.9
24	6.9	15	15	18	192	218	100	66	29	13	3.3	7.9
25	6.8	50	14	18	173	213	100	63	28	11	3.0	33
26	6.7	34	14	17	161	212	99	61	26	10	3.0	16
27	6.9	21	14	17	150	209	95	61	24	10	2.6	12
28	5.1	22	14	17	141	204	92	60	24	9.8	1.9	10
29	4.1	59	17	16	---	200	92	58	25	9.9	1.9	9.4
30	4.4	51	25	66	---	195	91	58	22	8.9	2.0	8.8
31	4.7	---	23	50	---	186	---	59	---	8.1	2.0	---
TOTAL	134.66	495.4	832	1082	7558	8578	3921	2239	1158	376.7	131.1	159.0
MEAN	4.34	16.5	26.8	34.9	270	277	131	72.2	38.6	12.2	4.23	5.30
MAX	16	59	148	179	1240	696	237	90	58	19	7.5	33
MIN	.89	4.3	14	16	22	98	91	58	22	8.1	1.9	1.3
AC-FT	267	983	1650	2150	14990	17010	7780	4440	2300	747	260	315

CAL YR 1985	TOTAL	10203.5	MEAN	28.0	MAX	422	MIN	.48	AC-FT	20240
WTR YR 1986	TOTAL	26664.86	MEAN	73.1	MAX	1240	MIN	.89	AC-FT	52890

TULARE LAKE BASIN

11204680 PIONEER DITCH BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'34", long 118°55'22", in SW 1/4 NW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.1 mi downstream from Success Dam, and 5.5 mi 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Feb. 1, 1961, at site 0.5 mi downstream at different datum.

REMARKS.--No esimated daily discharges. Records good. Ditch receives water from Success Lake (station 11204700).

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE.--27 years, 6.94 ft^3/s, 5,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 29 ft^3/s, Apr. 15, 1961; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	7.8	.70	.70	0	.50	1.8	11	15	16	14	11
2	10	8.7	.70	.70	0	0	1.9	10	14	18	12	11
3	11	4.5	.80	.80	0	0	1.9	9.8	16	19	14	14
4	10	4.6	.80	.80	0	0	1.9	8.7	19	18	16	16
5	9.4	5.0	.70	.80	0	0	2.0	11	20	15	17	17
6	6.9	5.7	.70	.80	0	.40	1.0	13	14	12	19	12
7	7.3	5.3	.70	.90	.70	.70	1.0	13	7.3	12	20	12
8	7.6	4.3	.60	1.0	1.2	.70	1.5	8.9	11	11	17	13
9	7.2	3.5	.60	.90	1.2	.80	1.5	6.2	11	15	14	14
10	7.8	2.6	1.4	.90	1.2	.90	1.5	7.5	9.0	18	14	16
11	11	1.5	1.8	.90	1.2	.90	1.6	8.1	14	19	15	16
12	12	1.0	1.9	.90	1.2	.90	2.1	10	17	15	15	13
13	11	.80	3.0	1.0	1.2	.90	1.4	10	14	15	15	10
14	11	.80	4.9	.90	1.4	1.0	.80	12	13	17	15	11
15	8.1	.80	2.2	.90	1.3	2.5	2.2	13	15	17	12	13
16	6.2	.80	.80	.90	1.2	3.4	2.4	14	16	18	11	13
17	6.2	.80	.80	.90	1.0	3.4	1.0	11	16	19	14	13
18	9.1	.80	.80	1.0	.90	2.0	2.0	7.1	15	17	17	15
19	11	.80	.70	.90	.90	1.4	4.2	9.1	15	14	19	11
20	7.1	.80	.80	.90	1.0	1.4	4.7	12	12	15	19	10
21	3.9	.70	.80	.90	1.0	1.5	8.0	12	9.6	18	19	11
22	2.4	.70	.80	.90	1.1	1.5	9.5	12	9.1	16	17	12
23	1.4	.70	.80	1.0	1.2	1.5	6.3	11	11	17	14	13
24	1.1	.70	.70	.40	1.2	1.5	4.6	13	15	18	14	9.5
25	1.1	.80	.70	0	1.2	1.5	6.3	14	17	19	13	4.7
26	1.1	.80	.70	0	1.3	4.6	8.6	16	16	15	13	3.6
27	1.1	.70	.70	0	1.3	6.2	9.3	13	18	16	13	4.3
28	2.3	.70	.80	0	1.4	2.5	13	14	17	18	12	4.8
29	3.6	.70	.80	0	---	1.8	15	17	15	18	11	4.8
30	4.5	.70	.80	0	---	2.1	15	17	17	18	11	8.8
31	4.3	---	.70	0	---	1.7	---	16	---	18	14	---
TOTAL	203.3	68.10	33.70	20.70	25.30	48.20	134.00	360.4	428.0	511	460	337.5
MEAN	6.56	2.27	1.09	.67	.90	1.55	4.47	11.6	14.3	16.5	14.8	11.2
MAX	12	8.7	4.9	1.0	1.4	6.2	15	17	20	19	20	17
MIN	1.1	.70	.60	0	0	0	.80	6.2	7.3	11	11	3.6
AC-FT	403	135	67	41	50	96	266	715	849	1010	912	669

CAL YR 1985	TOTAL	2833.87	MEAN	7.76	MAX	19	MIN	0	AC-FT	5620
WTR YR 1986	TOTAL	2630.20	MEAN	7.21	MAX	20	MIN	0	AC-FT	5220

TULARE LAKE BASIN

11204700 SUCCESS LAKE NEAR SUCCESS, CA

LOCATION.--Lat 36°03'40", long 118°55'18", in SE 1/4 NW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030006, in control tower near right abutment of Success Dam on Tule River, 5 mi east of Porterville.
DRAINAGE AREA.--391 mi^2.
PERIOD OF RECORD.--November 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earthfill dam and dike. Storage began November 1961. Usable capacity, 81,734 acre-ft between elevations 559.0 ft, invert of outlet structure and 652.5 ft, spillway crest. Surcharge flood control storage, 120,413 acre-ft between ungated spillway crest and elevation 686.8 ft, maximum spillway design flood pool. Dead storage, 557 acre-ft. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 101,300 acre-ft, Dec. 7, 1966, elevation, 658.63 ft; minimum since reservoir first filled, 3,406 acre-ft, Oct. 17, 1972, elevation, 579.52 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 82,340 acre-ft, June 9, elevation, 652.52 ft; minimum, 8,593 acre-ft, Dec. 22, elevation, 591.91 ft.

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

575	2,975	620	29,183
580	4,241	640	56,084
585	5,813	660	102,684
590	7,747	690	217,100
600	12,902		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12847	11322	11779	9118	12480	47438	54295	65837	81231	78742	56276	31245
2	12696	11261	12933	9228	12558	46663	54686	66488	81600	78433	55268	30878
3	12540	11211	13609	9340	12594	45812	54873	67125	81969	78125	54244	30515
4	12397	11172	13673	9620	12594	44904	54942	67809	82142	77794	53220	30144
5	12250	11139	13565	11484	12558	43954	54942	68436	82068	77441	52198	29776
6	12109	11095	13358	12510	12504	42980	55045	69027	82068	77089	51145	29411
7	12010	11040	13092	13018	12457	41983	55234	69579	82167	76623	50097	29049
8	11970	10991	12805	13265	12516	45176	55545	70114	82315	75951	49052	28680
9	11970	10942	12492	13402	12600	47663	55753	70632	82340	75238	48010	28304
10	11975	10931	12132	13321	12726	51419	55944	71109	82217	74463	46989	27791
11	11975	11161	11757	13147	12872	53822	56118	71567	82142	73651	45958	27205
12	11970	11378	11350	13024	14652	55011	56206	72028	81945	72846	44918	26685
13	11964	11490	10997	13018	25382	55355	56293	72491	81649	72028	43870	26249
14	11958	11518	10662	12957	28062	55597	56416	72957	81502	71218	42815	25789
15	11952	11541	10329	12817	31505	54976	56768	73471	81403	70394	41781	25410
16	11952	11569	9998	12660	34136	54635	57318	73988	81354	69537	40729	25119
17	11958	11609	9690	12498	36545	54092	57872	74486	81379	68689	39685	24801
18	11946	11643	9403	12332	41152	53806	58468	74987	81403	67872	38662	24468
19	11917	11660	9118	12167	46960	54041	58997	75490	81428	67063	37660	24147
20	11889	11671	8871	12004	49532	53923	59548	75997	81354	66243	36837	23838
21	11831	11700	8648	11831	50507	53822	60142	76483	81182	65433	36219	23531
22	11797	11688	8593	11654	50778	53789	60609	76996	80987	64611	35669	23209
23	11757	11586	8616	11462	50666	53755	61250	77418	80792	63800	35125	22863
24	11705	11518	8625	11272	50349	53621	61955	77794	80572	62997	34564	22564
25	11671	11739	8634	11073	49908	53470	62609	78196	80330	62166	34101	22477
26	11626	11814	8639	10866	49408	53354	63055	78600	80087	61345	33575	22251
27	11580	11762	8643	10667	48805	53237	63524	79029	79822	60534	33110	21983
28	11529	11711	8643	10598	48147	53254	64036	79509	79581	59714	32718	21708
29	11484	11797	8662	10828	---	53320	64571	79991	79292	58887	32328	21428
30	11428	11894	8801	11586	---	53370	65191	80403	79029	58071	31964	21132
31	11378	---	8980	12203	---	53521	---	80841	---	57229	31592	---
MAX	12847	11894	13673	13402	50778	55597	65191	80841	82340	78742	56276	31245
MIN	11378	10931	8593	9118	12457	41983	54295	65837	79029	57229	31592	21132
a	597.39	598.30	592.74	598.83	635.13	638.50	644.86	651.91	651.16	640.65	622.27	611.38
b	-1567	+516	-2914	+3223	+35944	+5374	+11670	+15650	-1812	-21800	-25637	-10460
c	201	64	25	45	105	322	551	1148	1529	1453	960	470

CAL YR 1985 b -365
WTR YR 1986 b +8187

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'23", long 118°55'22", in NW 1/4 SW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from Success Dam, and 5 mi east of Porterville.
DRAINAGE AREA.--393 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to October 1960, at site 0.5 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Success Lake beginning Nov. 23, 1961 (station 11204700). Discharge records during periods of high flow include flow over spillway that bypasses the gaging station. Pioneer ditch (station 11204680) diverts above station for irrigation.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--33 years, 213 ft^3/s, 154,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft^3/s, Dec. 23, 1955, gage height, 21.65 ft, site and datum then in use, from rating curve extended above 1,400 ft^3/s on basis of upstream peaks; no flow at times in 1954-57, 1959-61. Maximum discharge since construction of Success Dam in 1961, 9,050 ft^3/s, Dec. 6, 1966 (includes flow through spillway); no flow at times in 1962, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 26 ft, from floodmarks, site and datum then in use, discharge, 32,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft^3/s, Mar. 14, gage height, 8.11 ft; minimum daily, 0.60 ft^3/s Jan. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	56	207	64	159	1040	713	97	89	188	501	185
2	86	56	208	62	184	1040	700	100	89	188	536	185
3	87	56	233	61	191	1030	700	95	89	188	537	184
4	81	49	248	38	198	1030	703	86	225	188	535	184
5	80	45	264	56	198	1020	704	78	267	203	534	184
6	80	50	297	73	198	1020	704	70	214	208	534	184
7	66	54	295	89	181	1020	602	70	161	283	543	184
8	39	54	293	136	120	1020	500	70	149	367	545	182
9	26	52	292	146	102	1030	500	70	194	395	543	182
10	20	54	302	235	74	1040	500	70	235	424	541	255
11	20	55	304	256	55	1060	499	71	205	438	544	288
12	20	43	301	221	58	1250	500	71	260	438	546	254
13	20	32	267	150	238	1500	499	70	292	438	543	239
14	20	56	252	170	417	1380	449	70	218	438	540	237
15	20	56	250	203	565	1750	283	70	185	439	544	176
16	20	56	248	203	659	1660	215	70	155	441	545	153
17	20	57	234	203	725	1500	207	76	117	441	545	172
18	24	57	225	203	921	1220	187	84	100	438	531	173
19	30	57	223	203	1020	860	175	84	100	438	518	173
20	30	57	209	202	1040	996	161	84	164	438	429	173
21	69	57	199	201	1050	996	131	85	195	436	324	173
22	77	82	121	201	1050	996	119	89	195	437	284	173
23	67	114	88	200	1050	996	119	94	195	438	282	187
24	66	115	91	200	1050	996	160	94	195	438	280	197
25	61	114	91	199	1050	996	189	94	192	438	275	200
26	60	141	91	198	1040	996	196	88	188	438	270	200
27	60	152	91	197	1040	996	171	85	188	438	233	200
28	58	152	91	132	1040	929	167	77	188	437	204	200
29	56	176	91	.70	---	902	153	79	188	434	194	198
30	56	207	69	.60	---	902	125	88	188	436	186	198
31	56	---	61	57	---	815	---	89	---	438	185	---
TOTAL	1543	2362	6236	4560.30	15673	33986	11031	2518	5420	11827	13351	5873
MEAN	49.8	78.7	201	147	560	1096	368	81.2	181	382	431	196
MAX	87	207	304	256	1050	1750	713	100	292	441	546	288
MIN	20	32	61	.60	55	815	119	70	89	188	185	153
AC-FT	3060	4690	12370	9050	31090	67410	21880	4990	10750	23460	26480	11650

CAL YR 1985	TOTAL	50331.6	MEAN	138	MAX	844	MIN	.40	AC-FT	99830	MEAN	a	152	AC-FT	a 110000
WTR YR 1986	TOTAL	114380.30	MEAN	313	MAX	1750	MIN	.60	AC-FT	226900	MEAN	a	341	AC-FT	a 246900

a Adjusted for change in contents and evaporation from Success Lake and diversion to Pioneer Ditch.

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-69, 1971 to current year.
CHEMICAL ANALYSES: Water years 1962-69, 1971-79.
WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

EXTREMES PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1971-86): Maximum recorded, 34.0°C, July 15, Sept. 9, 1977; minimum recorded, 3.0°C, Jan. 3, 1975.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.5°C, Sept. 11; minimum recorded, 8.5°C, Dec. 26-30 and Jan. 3.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.5	21.0	19.0	16.5	12.5	12.0	9.5	9.0	11.5	10.5	10.5	10.0
2	24.0	21.5	19.0	17.5	12.5	12.0	9.5	9.0	11.0	10.5	10.5	10.0
3	23.5	20.5	19.0	16.0	12.5	12.0	9.5	8.5	11.0	11.0	10.5	10.0
4	24.0	21.5	18.5	16.5	12.5	12.0	10.0	9.0	11.0	10.5	11.0	10.0
5	23.5	20.5	18.5	17.0	12.0	12.0	10.0	9.5	11.0	11.0	11.0	9.5
6	23.5	21.0	18.5	17.0	12.0	11.5	9.5	9.5	11.0	10.5	11.0	9.5
7	23.5	21.0	18.5	16.5	12.5	12.0	10.0	9.5	11.0	10.5	11.5	9.5
8	23.5	20.5	18.0	16.5	12.0	11.5	10.5	9.5	11.0	10.5	11.0	10.5
9	23.0	21.0	18.0	17.0	12.0	11.5	10.5	10.0	11.0	10.5	11.0	10.0
10	23.0	18.0	17.0	16.0	11.5	11.5	11.0	9.5	11.0	10.0	11.0	10.0
11	22.0	18.5	17.0	15.5	11.0	11.0	10.5	10.0	10.5	10.0	11.0	10.5
12	22.5	18.5	16.0	13.5	11.0	10.5	10.5	10.0	10.5	10.0	11.0	10.5
13	22.0	18.5	15.5	9.0	10.5	10.0	10.5	10.0	10.5	10.0	11.5	10.5
14	22.0	19.0	16.0	14.0	10.0	10.0	10.5	10.0	10.5	9.5	11.5	11.0
15	22.0	18.0	15.0	13.5	10.0	10.0	10.5	10.0	10.5	10.0	11.5	11.0
16	21.5	19.5	15.5	13.5	10.5	9.5	10.5	9.5	10.5	10.0	11.5	11.0
17	21.5	18.0	14.5	13.0	9.5	9.5	10.5	10.0	10.5	10.0	12.0	11.0
18	21.5	19.0	15.5	13.0	10.0	9.5	10.5	10.0	10.5	9.0	12.0	11.0
19	21.5	19.5	14.5	13.0	10.0	9.5	10.5	10.0	10.5	10.5	11.5	11.5
20	21.5	19.0	13.5	12.5	9.5	9.5	11.0	10.5	10.5	10.5	12.0	11.5
21	19.5	19.0	13.5	12.5	9.5	9.5	10.5	10.5	10.5	10.0	12.0	11.5
22	20.0	18.5	13.5	12.5	9.5	9.5	11.0	10.5	10.5	10.0	12.0	11.5
23	19.5	18.5	13.0	12.5	9.5	9.5	11.0	10.5	10.5	10.0	---	---
24	19.5	18.5	13.0	13.0	9.5	9.0	10.5	10.5	10.5	9.5	---	---
25	19.5	18.0	13.5	12.5	9.5	9.0	11.0	10.5	10.0	9.5	---	---
26	19.5	17.5	13.0	12.5	9.0	8.5	11.0	10.5	10.0	10.0	---	---
27	19.5	17.0	13.0	12.5	9.0	8.5	11.0	10.5	10.0	10.0	---	---
28	19.0	17.5	13.0	12.5	9.0	8.5	11.0	10.5	10.5	10.0	---	---
29	19.5	16.0	13.0	12.5	9.0	8.5	14.0	10.0	---	---	---	---
30	19.5	16.5	12.5	12.5	9.0	8.5	16.5	12.5	---	---	---	---
31	19.0	16.0	---	---	9.5	9.0	12.0	10.0	---	---	---	---
MONTH	24.0	16.0	19.0	9.0	12.5	8.5	16.5	8.5	11.5	9.0	---	---

TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	13.0	11.5	13.5	12.5	14.5	13.0	17.5	16.5	25.5	24.0
2	---	---	13.0	11.5	14.0	12.5	14.5	13.5	22.0	17.0	25.5	24.5
3	---	---	13.0	11.5	14.0	13.0	17.5	13.0	18.0	16.5	26.0	24.5
4	---	---	13.0	12.0	13.5	13.0	14.5	12.5	18.5	16.5	26.5	25.0
5	---	---	13.0	12.0	14.0	13.0	14.5	12.5	19.0	15.5	26.5	25.5
6	---	---	13.0	11.5	13.5	13.0	15.0	12.5	19.5	17.5	26.5	25.0
7	---	---	13.5	12.0	14.0	12.5	15.0	13.0	19.5	17.5	26.5	25.0
8	---	---	13.5	12.0	14.0	13.0	15.0	13.0	20.0	18.5	27.5	24.0
9	12.0	11.5	13.5	12.0	14.0	13.0	15.5	12.5	20.0	18.5	27.5	24.5
10	12.0	11.5	13.5	12.0	14.0	13.0	15.0	12.5	20.5	19.5	28.0	24.0
11	12.0	12.0	14.0	12.0	14.0	13.0	15.5	13.0	20.5	20.0	28.5	24.0
12	12.5	11.5	13.5	12.0	15.5	13.0	16.0	13.0	21.0	19.5	27.5	24.0
13	12.0	11.5	14.0	12.5	14.0	13.0	16.0	13.0	22.0	20.0	26.5	24.5
14	12.0	11.5	13.5	12.5	14.0	12.5	15.0	13.0	22.5	19.0	26.0	24.5
15	12.5	11.5	13.5	12.5	14.5	13.0	16.5	13.0	22.5	19.0	26.0	24.5
16	12.5	11.5	13.5	12.5	14.0	13.0	16.5	13.0	23.0	21.5	25.5	24.5
17	12.5	12.0	14.0	12.5	14.0	12.0	16.5	13.5	23.0	20.5	25.5	24.5
18	12.5	12.0	13.5	12.5	15.0	12.5	16.5	14.5	23.5	21.0	25.0	24.0
19	12.5	11.5	13.5	12.5	14.0	13.0	17.5	13.0	24.0	21.5	25.0	23.0
20	12.5	11.5	16.0	12.5	14.5	13.5	16.0	15.0	24.0	21.5	24.5	22.5
21	12.5	12.0	13.5	12.5	15.0	13.5	16.0	14.5	24.0	22.0	24.5	23.0
22	12.5	11.5	14.5	12.5	17.5	13.0	16.0	15.0	24.5	22.0	24.5	23.0
23	12.5	12.0	14.0	12.5	14.0	13.5	19.0	15.0	24.0	21.5	23.5	22.0
24	12.5	11.5	13.5	12.5	14.0	13.5	17.0	15.5	24.5	22.5	23.5	21.5
25	12.5	12.0	14.0	12.5	14.5	13.5	16.5	15.5	24.5	23.0	23.0	21.0
26	12.5	12.0	14.0	13.0	14.5	13.5	17.0	16.0	25.0	23.5	23.0	21.0
27	13.0	12.0	14.0	13.0	14.5	13.0	17.0	16.0	25.0	23.0	22.0	20.5
28	12.5	12.0	14.0	13.0	14.5	13.0	17.0	15.5	25.0	22.5	22.0	20.5
29	13.0	12.0	14.0	12.5	15.0	13.0	17.5	16.0	25.0	23.5	22.0	21.0
30	13.0	11.5	14.0	12.5	14.5	12.5	17.5	16.0	25.5	24.0	22.0	21.0
31	---	---	14.5	12.5	---	---	18.0	16.5	25.5	23.5	---	---
MONTH	---	---	16.0	11.5	17.5	12.0	19.0	12.5	25.5	15.5	28.5	20.5
YEAR	28.5	8.5										

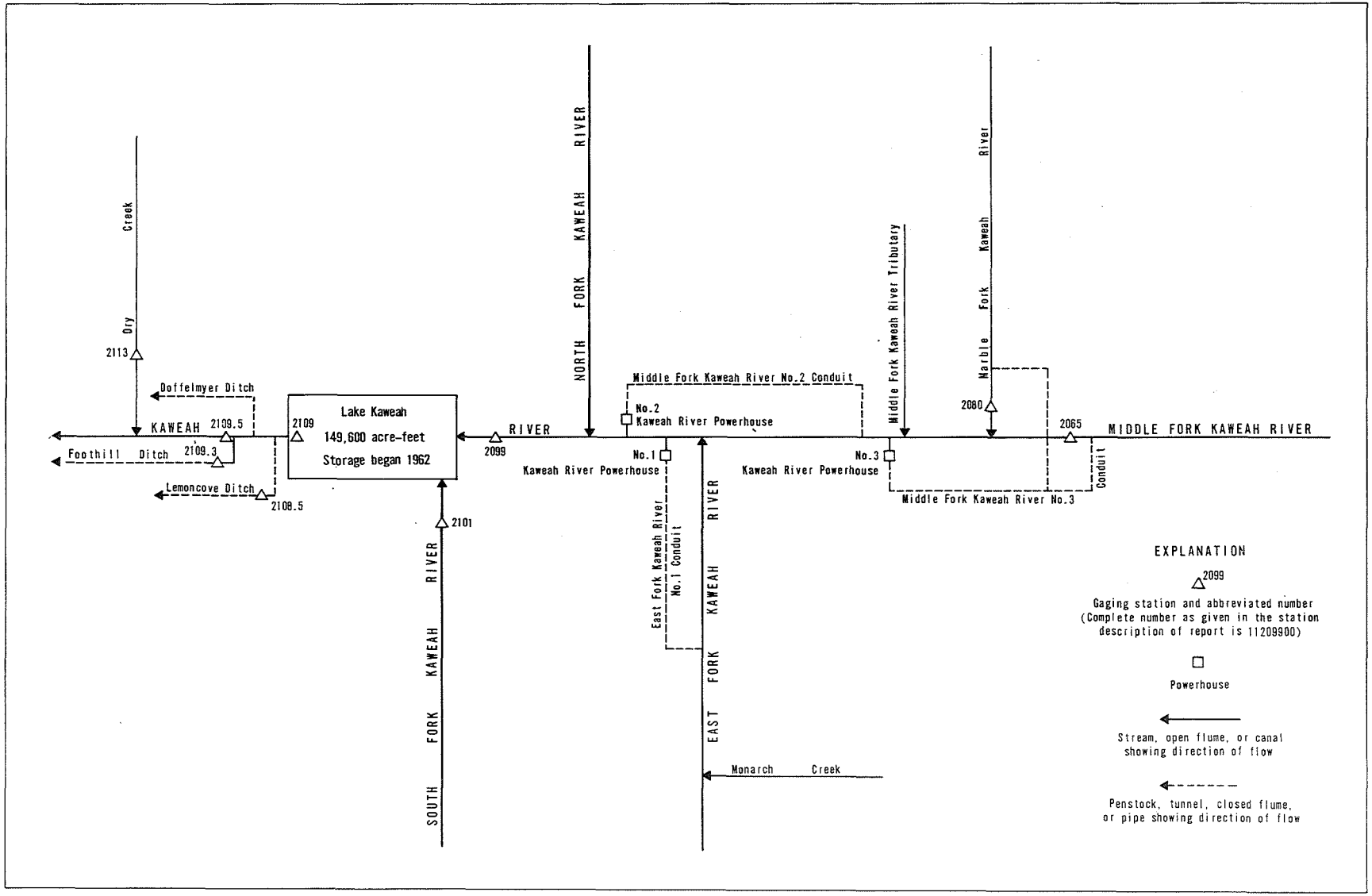

FIGURE 29. — Schematic diagram showing diversions and storage in Kaweah River basin.

TULARE LAKE BASIN

11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA

LOCATION.--Lat 36°30'48", long 118°47'27", unsurveyed, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on right bank 0.5 mi southeast of Potwisha Camp, and 0.7 mi upstream from confluence with Marble Fork Kaweah River.
DRAINAGE AREA.--102 mi^2.
PERIOD OF RECORD.--July 1949 to current year. Monthly discharge only for water years 1956-57, published in WSP 1735. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

GAGE.--Water-stage recorder and concrete control on river; water-stage recorder and concrete-lined channel for conduit diversion. Elevation of gage is 2,100 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1955, at datum 0.70 ft higher.

REMARKS.--No estimated daily discharge. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River, 0.1 mi upstream from station. 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 mi downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 37 years, 148 ft^3/s, 107,200 acre-ft/yr.
Combined river and diversion: 37 years, 190 ft^3/s, 137,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,800 ft^3/s, Dec. 23, 1955, gage height, 29.0 ft, from floodmarks, datum then in use, by slope-area measurement of peak flow; minimum daily, 0.1 ft^3/s, Nov. 12-15, 1949.
Combined flow, maximum discharge, 46,800 ft^3/s, Dec. 23, 1955; minimum daily, 7.7 ft^3/s, Oct. 4, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum daily discharge, 1,910 ft^3/s, Feb. 19; minimum daily, 7.2 ft^3/s, Sept. 11.
Combined flow, maximum daily discharge, 1,960 ft^3/s, Feb. 19; minimum daily, 20 ft^3/s, Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	9.7	86	48	96	437	710	608	986	403	94	12
2	10	9.4	664	42	85	404	447	628	1020	391	91	8.1
3	10	9.2	216	35	80	409	388	637	997	425	86	7.9
4	10	10	140	141	71	378	365	557	931	419	77	7.9
5	10	10	127	508	63	416	348	434	784	356	73	7.7
6	10	10	106	182	59	370	356	385	705	321	72	7.7
7	11	10	98	123	52	352	329	315	662	288	67	7.6
8	11	10	99	97	47	1600	339	300	600	262	62	7.6
9	9.7	9.7	89	82	44	840	305	288	628	255	61	7.6
10	10	11	77	74	40	842	318	310	645	257	58	7.6
11	11	11	64	68	37	679	310	345	645	278	58	7.2
12	11	11	69	63	535	623	334	412	645	315	57	8.1
13	11	11	70	58	1350	551	303	498	649	313	54	11
14	11	12	59	54	636	488	290	553	658	276	51	11
15	11	12	44	47	578	431	290	584	616	241	45	11
16	10	12	42	43	580	412	305	616	592	212	41	11
17	10	12	41	43	786	394	271	688	576	172	34	15
18	10	11	43	43	1680	422	239	765	509	160	26	12
19	10	10	46	47	1910	428	255	833	502	148	25	12
20	10	9.4	47	45	1010	457	308	838	484	154	25	12
21	12	9.2	53	41	693	409	415	779	474	155	23	11
22	12	9.7	55	36	549	373	520	670	461	160	18	11
23	11	11	54	32	475	376	491	604	481	185	16	11
24	12	79	39	29	459	379	441	612	505	189	14	25
25	13	92	31	29	462	382	447	632	488	127	13	52
26	12	46	31	32	430	412	447	873	481	120	12	19
27	12	34	29	35	438	441	461	969	461	103	12	18
28	11	63	27	39	445	457	546	1040	406	101	12	14
29	10	92	42	43	---	498	572	1070	350	101	12	17
30	9.7	95	82	218	---	491	572	1110	359	92	12	28
31	9.4	---	59	125	---	484	---	1050	---	93	12	---
TOTAL	330.8	741.3	2729	2502	13690	15635	11722	20003	18300	7072	1313	398.0
MEAN	10.7	24.7	88.0	80.7	489	504	391	645	610	228	42.4	13.3
MAX	13	95	664	508	1910	1600	710	1110	1020	425	94	52
MIN	9.4	9.2	27	29	37	352	239	288	350	92	12	7.2
AC-FT	656	1470	5410	4960	27150	31010	23250	39680	36300	14030	2600	789

CAL YR 1985	TOTAL	38408.0	MEAN	105	MAX	664	MIN	3.2	AC-FT	76180
WTR YR 1986	TOTAL	94436.1	MEAN	259	MAX	1910	MIN	7.2	AC-FT	187300

TULARE LAKE BASIN

11206501 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MIDDLE FORK KAWEAH RIVER AND MIDDLE FORK KAWEAH RIVER NO. 3 CONDUIT NEAR POTWISHA CAMP, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	34	87	105	155	484	768	670	1050	461	152	58
2	25	31	664	99	144	451	504	691	1080	449	149	52
3	23	29	216	92	139	456	445	697	1060	483	144	49
4	21	28	140	201	130	425	421	616	991	477	135	48
5	20	26	127	570	121	463	404	493	843	414	132	46
6	20	26	106	243	117	417	412	445	764	379	132	45
7	34	26	98	184	110	399	386	375	721	346	127	45
8	32	25	99	157	105	1640	397	359	659	320	122	44
9	42	25	89	142	101	884	363	347	687	313	121	44
10	39	33	77	134	97	890	377	369	704	315	118	43
11	40	44	65	128	94	727	369	405	705	336	118	41
12	35	44	69	123	592	673	393	472	705	373	117	37
13	34	44	70	118	1370	602	361	558	709	371	114	36
14	31	58	65	114	686	539	348	613	718	334	112	36
15	28	60	72	107	626	482	348	644	676	299	106	35
16	26	62	70	103	628	463	363	676	652	270	102	34
17	25	65	69	102	835	444	330	749	635	230	95	29
18	24	55	71	102	1730	472	297	826	568	218	86	40
19	23	48	74	106	1960	477	313	894	561	206	83	38
20	21	48	75	104	1060	506	367	900	543	212	86	36
21	43	54	81	99	741	458	475	841	533	213	86	34
22	46	49	83	94	596	422	580	729	520	218	79	32
23	48	55	85	90	523	425	551	665	540	244	76	32
24	62	139	77	86	507	439	501	673	564	248	73	70
25	64	155	87	86	510	450	507	694	546	185	69	105
26	55	104	89	89	478	480	507	935	540	178	67	75
27	49	85	87	93	485	507	521	1030	520	161	67	75
28	44	114	84	97	492	517	607	1100	465	160	66	69
29	41	125	102	101	---	556	634	1130	408	160	65	72
30	38	96	141	278	---	549	634	1170	417	151	64	86
31	35	---	115	185	---	542	---	1110	---	152	62	---
TOTAL	1094	1787	3434	4332	15132	17239	13483	21876	20084	8876	3125	1486
MEAN	35.3	59.6	111	140	540	556	449	706	669	286	101	49.5
MAX	64	155	664	570	1960	1640	768	1170	1080	483	152	105
MIN	20	25	65	86	94	399	297	347	408	151	62	29
AC-FT	2170	3540	6810	8590	30010	34190	26740	43390	39840	17610	6200	2950

CAL YR 1985	TOTAL	54294	MEAN	149	MAX	664	MIN	16	AC-FT 107700
WTR YR 1986	TOTAL	111948	MEAN	307	MAX	1960	MIN	20	AC-FT 222000

TULARE LAKE BASIN

11206700 EMERALD LAKE OUTFLOW NEAR GIANT FOREST, CA

LOCATION.--Lat 36°35'54", long 118°40'32", in NE 1/4 NE 1/4 sec.25, T.15 S., R.30 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank at outlet of Emerald Lake, and 5.9 mi northeast of Giant Forest.

DRAINAGE AREA.--0.44 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to to current year.

GAGE.--Water-stage recorder. Elevation of gage is 9,180 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges for missing and ice-affected periods: Nov. 10-14, Nov. 28 to Dec. 3, Jan. 10 to Apr. 10, June 10-13, Sept. 30. Records fair, except those for Jan. 10 to Apr. 10, which are poor. No storage or diversion above station.

COOPERATION.--Periodic observations of gage height were provided by U.S National Park Service for acid precipitation research study.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40 ft^3/s, July 3, 1986, gage height, 2.28 ft; minimum daily, 0.01 ft^3/s, on several days from January to April, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40 ft^3/s, July 3, gage height, 2.28 ft; minimum daily, 0.04 ft^3/s, Dec. 8-12, Sept. 23.

REVISIONS.--The maximum discharge for water year 1985 has been revised to 23 ft^3/s, June 7, 1985, gage height, 2.11 ft, superseding the figure published in the report for 1985.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.22	.16	.08	.10	.17	.24	6.3	26	17	5.7	.50
2	.15	.22	.13	.09	.11	.17	.27	6.0	28	17	5.4	.50
3	.15	.22	.13	.09	.10	.17	.31	7.3	27	23	4.8	.50
4	.15	.20	.13	.12	.08	.17	.36	4.1	23	20	4.4	.56
5	.15	.20	.09	.36	.09	.17	.44	1.8	17	14	4.1	.56
6	.08	.20	.11	.25	.08	.18	.52	1.4	16	9.8	4.4	.50
7	.12	.20	.09	.20	.08	.19	.62	1.2	15	8.5	3.9	.45
8	.26	.15	.04	.15	.07	.21	.76	1.0	14	8.5	3.6	.36
9	.37	.11	.04	.13	.06	.23	.87	.56	16	9.8	3.3	.33
10	.54	.09	.04	.13	.07	.25	.50	.45	20	11	3.9	.27
11	.67	.07	.04	.13	.09	.20	.50	.78	25	16	3.9	.27
12	.61	.06	.04	.12	.17	.16	.33	1.6	17	17	3.9	.22
13	.42	.07	.07	.12	.19	.13	.36	3.6	15	17	3.3	.20
14	.42	.09	.07	.14	.20	.11	.45	4.1	17	12	2.8	.17
15	.48	.12	.07	.15	.19	.10	.45	5.1	16	10	2.5	.13
16	.42	.11	.07	.17	.18	.12	.40	6.6	17	8.1	1.8	.12
17	.42	.07	.07	.15	.18	.11	.36	8.5	16	7.0	1.7	.11
18	.09	.05	.09	.15	.17	.10	.40	9.4	15	7.0	1.2	.15
19	.08	.07	.08	.16	.17	.11	.50	11	14	7.7	1.2	.17
20	.07	.07	.08	.15	.16	.13	.87	11	13	8.5	1.2	.12
21	.09	.09	.07	.14	.15	.13	2.2	8.9	14	7.7	1.6	.11
22	.15	.11	.08	.14	.14	.14	3.0	8.5	16	8.9	1.5	.08
23	.25	.09	.09	.14	.16	.15	2.0	7.7	17	6.0	1.2	.04
24	.56	.25	.08	.13	.17	.14	1.8	8.5	21	4.8	1.0	.09
25	.63	.45	.08	.13	.17	.13	3.0	14	20	4.8	.96	.22
26	.50	.18	.09	.14	.16	.17	3.3	19	19	4.1	.96	.18
27	.40	.13	.08	.14	.17	.19	3.9	22	17	3.6	.87	.15
28	.33	.18	.08	.15	.17	.20	4.4	25	11	3.9	.87	.13
29	.33	.20	.11	.14	---	.21	4.4	24	10	4.1	.78	.14
30	.27	.11	.13	.13	---	.22	5.4	29	14	4.8	.63	.20
31	.17	---	.09	.12	---	.23	---	25	---	5.4	.56	---
TOTAL	9.48	4.38	2.62	4.54	3.83	5.09	42.91	283.39	526	307.0	77.93	7.53
MEAN	.31	.15	.085	.15	.14	.16	1.43	9.14	17.5	9.90	2.51	.25
MAX	.67	.45	.16	.36	.20	.25	5.4	29	28	23	5.7	.56
MIN	.07	.05	.04	.08	.06	.10	.24	.45	10	3.6	.56	.04
AC-FT	19	8.7	5.2	9.0	7.6	10	85	562	1040	609	155	15

CAL YR 1985	TOTAL	347.35	MEAN	.95	MAX	11	MIN	.01	AC-FT 689
WTR YR 1986	TOTAL	1274.70	MEAN	3.49	MAX	29	MIN	.04	AC-FT 2530

11206700 EMERALD LAKE OUTFLOW NEAR GIANT FOREST, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	FILTER PORE SIZE (MICRO-METERS)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT											
15...	1100	--	0.22	4	6.50	9.5	0.1	0.62	0.05	0.79	0.09
NOV											
20...	1400	--	0.07	4	6.40	1.0	0.1	0.6	0.06	0.4	0.15
DEC											
11...	1600	E0.04	--	4	6.04	0.5	0.1	3.7	0.06	0.4	0.16
JAN											
14...	1400	E0.14	--	4	--	-1.0	0.1	0.6	0.05	0.4	0.16
FEB											
05...	1130	E0.09	--	4	6.05	2.0	0.1	0.6	0.06	0.5	0.21
APR											
01...	1410	E0.24	--	5	5.84	-1.0	0.1	0.7	0.06	0.4	0.17
MAY											
06...	1430	--	3.6	5	5.92	0.0	0.1	0.6	0.07	0.4	0.11
27...	1430	--	22	4	5.90	0.5	0.1	0.4	0.03	0.3	0.11
27...	1440	--	22	4	5.90	0.5	0.1	0.4	0.03	0.3	0.1
JUN											
10...	1515	E18	--	3	5.95	1.0	0.1	0.3	0.04	0.3	0.1
25...	1000	--	15	4	5.89	2.0	0.1	0.3	0.04	0.3	0.08
25...	1010	--	15	4	5.89	2.0	0.1	0.3	0.03	0.3	0.07
JUL											
08...	1330	--	7.6	3	6.08	4.0	0.1	0.3	0.03	0.3	0.13
22...	1450	--	8.1	3	6.02	4.0	0.1	0.3	0.03	0.4	0.22
22...	1500	--	8.1	3	6.02	4.0	0.1	0.3	0.02	0.3	0.11
AUG											
05...	1300	--	4.1	3	6.21	11.0	0.1	0.3	0.04	0.3	0.14
19...	1130	--	1.3	3	6.18	15.0	0.1	0.3	0.04	0.4	0.11
19...	1140	--	1.3	3	6.18	15.0	0.1	0.3	0.04	0.3	0.12
SEP											
02...	1145	--	0.39	3	6.00	11.0	0.1	0.3	0.06	0.3	0.15
17...	1200	--	0.01	4	6.20	12.5	0.1	0.3	0.03	0.3	0.22
17...	1210	--	0.08	4	6.20	12.5	0.1	0.3	0.03	0.3	0.14
30...	1200	E0.13	--	3	6.08	10.0	0.1	0.3	0.04	0.4	0.18

TULARE LAKE BASIN

11206700 EMERALD LAKE OUTFLOW NEAR GIANT FOREST, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT											
15...	0.7	0.16	0.03	0.01	1.7	0.011	0.001	20	10	3	1.2
NOV											
20...	0.4	0.26	0.02	<0.01	2.0	0.04	<0.001	20	12	<1	1.2
DEC											
11...	0.3	0.27	0.01	<0.01	1.8	0.022	0.003	20	9	4	1.6
JAN											
14...	0.3	0.2	<0.01	<0.01	2.5	0.009	0.002	30	7	3	--
FEB											
05...	0.3	0.2	<0.01	<0.01	2.6	--	<0.001	30	7	4	3.4
APR											
01...	0.4	0.29	0.03	0.01	2.9	0.028	0.009	30	12	4	1.0
MAY											
06...	0.4	0.24	0.02	0.01	2.2	0.014	0.003	30	5	2	1.2
27...	0.3	0.23	<0.01	<0.01	1.5	0.099	<0.001	30	7	<1	--
27...	0.3	0.21	0.01	<0.01	1.5	0.03	0.001	30	5	<1	--
JUN											
10...	0.3	0.19	0.01	0.01	1.5	0.008	<0.001	20	9	3	3.0
25...	0.3	0.16	0.01	<0.01	1.4	0.012	<0.001	30	15	4	1.7
25...	0.3	0.17	<0.01	<0.01	1.4	0.007	<0.001	20	13	4	1.0
JUL											
08...	0.2	0.15	0.02	<0.01	1.3	0.01	0.003	30	15	1	0.8
22...	0.3	0.19	<0.01	<0.01	1.2	0.023	0.002	30	6	<1	1.4
22...	0.3	0.14	<0.01	<0.01	1.2	0.006	0.002	30	9	<1	1.0
AUG											
05...	0.3	0.15	0.01	<0.01	1.3	0.002	0.001	20	6	1	--
19...	0.3	0.14	<0.01	0.01	1.4	0.03	<0.001	30	7	1	0.8
19...	0.3	0.13	0.01	0.01	1.4	0.013	<0.001	30	7	1	0.7
SEP											
02...	0.3	0.18	<0.01	0.01	1.5	0.019	<0.001	20	10	1	0.8
17...	0.2	0.12	0.01	<0.01	1.4	0.091	0.003	<20	11	6	0.5
17...	0.2	0.11	<0.01	<0.01	1.4	0.021	0.002	<1	9	6	0.5
30...	0.3	0.14	<0.01	<0.01	1.4	0.006	<0.001	20	13	7	1.5

TULARE LAKE BASIN

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA

LOCATION.--Lat 36°31'08", long 118°48'03", in NE 1/4 SW 1/4 sec.23, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank 0.1 mi north of Potwisha Camp, 0.3 mi upstream from confluence with Middle Fork Kaweah River, and 7.9 mi northeast of Three Rivers.

DRAINAGE AREA.--51.4 mi^2.

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 flow only, October 1954 to September 1960.

GAGE.--Water-stage recorder on river; water-stage recorder and concrete control for conduit diversion. Elevation of gage is 2,150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 23 to Nov. 9. Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mi above station. Water is returned to Kaweah River 2.7 mi downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 36 years, 82.4 ft^3/s, 59,700 acre-ft/yr.
Combined river and diversion: 36 years, 107 ft^3/s, 77,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 12,500 ft^3/s, Dec. 23, 1955, gage height, 13.4 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement of peak flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.
Combined flow, maximum discharge, 12,500 ft^3/s, Dec. 23, 1955; minimum daily, 0.82 ft^3/s, Oct. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum daily discharge, 1,040 ft^3/s, Feb. 19; minimum daily, 1.4 ft^3/s, for several days in October and November.
Combined flow, maximum daily discharge, 1,080 ft^3/s, Feb. 19; minimum daily, 8.9 ft^3/s, Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.6	32	16	63	271	300	431	656	230	36	5.1
2	1.7	1.4	162	12	58	253	271	450	706	230	34	2.6
3	1.7	1.7	83	9	52	240	235	444	689	230	30	2.1
4	1.7	1.8	55	40	43	232	228	375	632	255	27	2.0
5	1.6	1.7	47	514	39	232	232	291	535	209	24	2.6
6	1.7	1.7	41	171	37	235	228	255	492	175	23	4.8
7	2.6	1.5	39	96	29	200	209	220	464	158	19	4.0
8	3.7	1.9	37	74	30	974	207	192	427	143	16	3.3
9	1.8	1.9	33	60	27	563	196	185	440	141	16	2.8
10	2.3	1.6	31	51	25	399	207	198	454	139	16	2.6
11	1.7	1.7	25	46	24	330	216	230	369	141	15	2.3
12	1.4	1.7	27	42	90	291	220	291	457	160	15	1.9
13	1.4	1.7	28	38	723	255	196	349	460	155	14	2.6
14	1.4	1.8	14	35	355	228	192	363	467	143	14	4.2
15	1.8	7.5	1.9	31	381	214	194	384	434	119	13	4.5
16	3.0	3.0	2.6	30	288	209	192	415	408	103	15	4.5
17	2.1	1.7	6.4	29	352	185	171	471	408	70	12	6.0
18	1.8	1.5	7.1	30	927	177	162	549	408	76	13	5.4
19	1.8	1.4	9.0	34	1040	177	168	589	358	72	12	6.4
20	1.8	1.6	11	33	521	187	211	589	393	74	14	4.8
21	6.0	1.8	13	29	319	200	294	542	375	72	19	4.2
22	6.4	1.7	15	23	280	216	358	457	328	76	15	4.0
23	9.8	1.9	15	21	253	218	330	415	325	101	13	4.5
24	13	13	11	17	240	214	297	689	319	69	11	17
25	7.5	47	9.0	17	258	223	306	535	322	58	9.4	34
26	2.5	37	5.7	21	269	250	306	601	306	52	9.4	5.1
27	1.6	29	4.0	24	269	271	336	664	303	46	10	7.8
28	1.6	37	2.5	28	271	288	393	710	250	45	9.4	4.5
29	1.6	44	9.4	31	---	300	415	698	185	41	9.4	5.4
30	1.7	36	33	128	---	294	399	728	216	37	8.2	16
31	1.6	---	24	87	---	294	---	689	---	39	8.2	---
TOTAL	92.3	288.8	833.6	1817	7263	8620	7669	13999	12586	3659	500.0	177.0
MEAN	2.98	9.63	26.9	58.6	259	278	256	452	420	118	16.1	5.90
MAX	13	47	162	514	1040	974	415	728	706	255	36	34
MIN	1.4	1.4	1.9	9.0	24	177	162	185	185	37	8.2	1.9
AC-FT	183	573	1650	3600	14410	17100	15210	27770	24960	7260	992	351

CAL YR 1985	TOTAL	18981.0	MEAN	52.0	MAX	313	MIN	1.2	AC-FT	37650
WTR YR 1986	TOTAL	57504.7	MEAN	158	MAX	1040	MIN	1.4	AC-FT	114100

TULARE LAKE BASIN

11208001 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER NO. 3 CONDUIT AT POTWISHA CAMP, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	32	50	94	313	330	461	690	263	69	13
2	11	12	162	46	89	295	301	480	740	263	67	13
3	10	12	83	42	83	282	265	474	723	263	62	12
4	9.4	12	55	76	76	274	258	406	666	288	59	12
5	9.1	12	47	542	74	274	262	323	568	241	55	11
6	8.9	11	41	195	72	278	258	287	526	207	55	12
7	11	10	39	124	63	242	239	254	499	190	50	11
8	18	10	37	105	64	1020	237	226	462	175	46	10
9	20	10	33	92	61	601	226	218	474	174	43	10
10	24	10	31	83	59	438	237	231	489	172	43	10
11	23	11	25	80	58	368	246	263	404	174	41	9.9
12	20	12	27	76	121	330	250	323	492	193	40	9.4
13	18	13	28	72	759	294	226	381	494	188	39	9.7
14	15	15	24	69	378	267	222	395	501	175	37	11
15	13	23	29	65	420	252	224	416	468	151	33	11
16	12	21	26	64	327	245	222	447	442	136	32	11
17	11	22	27	63	389	222	201	502	442	103	28	11
18	10	20	28	64	960	216	192	580	442	109	28	13
19	9.8	17	30	68	1080	216	198	620	392	105	25	14
20	9.0	19	32	67	558	226	242	621	427	107	26	13
21	14	19	33	63	358	239	325	574	410	104	31	13
22	16	19	35	58	321	255	389	489	363	109	26	13
23	23	21	35	56	292	256	360	446	359	134	25	13
24	33	36	37	52	281	249	326	720	353	101	22	21
25	36	65	37	52	299	255	335	567	356	90	19	41
26	31	38	37	56	310	280	335	633	339	84	18	29
27	24	30	37	60	311	299	365	696	336	79	17	32
28	21	38	36	64	313	316	422	743	283	78	17	28
29	19	45	43	66	---	328	444	732	218	73	17	28
30	17	36	67	159	---	323	429	763	249	70	15	40
31	15	---	58	115	---	325	---	723	---	72	15	---
TOTAL	522.2	634	1291	2844	8270	9778	8566	14994	13607	4671	1100	485.0
MEAN	16.8	21.1	41.6	91.7	295	315	286	484	454	151	35.5	16.2
MAX	36	65	162	542	1080	1020	444	763	740	288	69	41
MIN	8.9	10	24	42	58	216	192	218	218	70	15	9.4
AC-FT	1040	1260	2560	5640	16400	19390	16990	29740	26990	9260	2180	962

CAL YR 1985	TOTAL	26438.5	MEAN	72.4	MAX	350	MIN	5.4	AC-FT	52440
WTR YR 1986	TOTAL	66762.2	MEAN	183	MAX	1080	MIN	8.9	AC-FT	132400

TULARE LAKE BASIN

11209900 KAWEAH RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°26'38", long 118°54'09", in SW 1/4 SW 1/4 sec.13, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank opposite schoolhouse in Three Rivers, 0.2 mi downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 809.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversions to 200 acres above station. Power is developed on the Middle and East Fork Kaweah River.

AVERAGE DISCHARGE.--28 years, 584 ft^3/s, 423,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s, Dec. 5, 1966, gage height, 16.69 ft in gage well, 19.0 ft, from floodmarks, from rating curve extended above 13,000 ft^3/s on basis of slope-area measurements at gage heights 13.68 ft and 16.69 ft; minimum daily, 14 ft^3/s, Sept. 29, Oct. 4, 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 17.9 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1415	4,710	7.92	Apr. 1	1000	2,030	6.60
Jan. 5	1015	5,670	8.28	May 2	0145	2,320	6.79
Feb. 13	0445	*15,800	*10.91	May 30	2145	4,160	7.70
Mar. 8	1130	13,000	10.34				

Minimum daily, 57 ft^3/s, Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	80	243	263	566	1730	1900	2100	3050	1030	300	98
2	68	77	1900	238	493	1610	1740	2160	3170	1030	290	94
3	65	75	913	220	459	1500	1500	2170	3160	1070	276	91
4	61	73	478	297	413	1450	1440	1970	2910	1070	254	88
5	59	71	388	3420	380	1420	1400	1580	2460	954	241	85
6	57	69	329	1210	364	1410	1460	1440	2210	844	240	84
7	68	68	280	735	327	1360	1350	1260	2110	781	230	83
8	91	67	267	581	314	6140	1380	1170	1890	728	217	83
9	99	66	240	493	303	3750	1250	1110	1930	709	206	83
10	104	77	214	441	287	4060	1280	1150	1970	708	202	83
11	104	173	189	406	283	3050	1270	1220	1950	716	209	81
12	94	129	177	378	1550	2740	1360	1400	1930	769	199	77
13	88	113	180	354	8050	2410	1230	1650	1920	781	193	75
14	81	114	180	332	2770	2150	1200	1780	1940	712	185	75
15	76	128	171	313	4000	1940	1190	1910	1820	633	177	77
16	72	134	167	297	3530	2000	1230	2000	1720	598	169	78
17	68	139	161	287	4350	1750	1120	2210	1670	512	161	73
18	67	130	161	287	8170	1590	1060	2420	1600	475	152	81
19	65	112	167	300	7830	1520	1050	2700	1480	450	147	88
20	63	110	174	299	4400	1510	1190	2750	1370	452	138	84
21	76	127	181	284	2860	1550	1500	2590	1350	447	149	81
22	120	117	188	268	2230	1620	1810	2210	1370	486	141	74
23	111	116	190	256	1960	1620	1760	2000	1340	528	135	76
24	131	193	195	246	1840	1530	1620	1970	1360	518	126	101
25	135	552	193	241	1840	1550	1610	2380	1340	428	119	269
26	124	319	197	242	1840	1640	1590	2720	1290	378	115	193
27	110	213	196	250	1790	1730	1650	3050	1240	352	111	169
28	99	226	193	261	1770	1770	1930	3320	1110	338	107	161
29	94	394	202	274	---	1830	2040	3310	936	324	106	156
30	88	321	335	929	---	1820	1990	3390	991	305	104	173
31	84	---	326	734	---	1810	---	3270	---	304	101	---
TOTAL	2695	4583	9375	15136	64969	63560	44100	66360	54587	19430	5500	3114
MEAN	86.9	153	302	488	2320	2050	1470	2141	1820	627	177	104
MAX	135	552	1900	3420	8170	6140	2040	3390	3170	1070	300	269
MIN	57	66	161	220	283	1360	1050	1110	936	304	101	73
AC-FT	5350	9090	18600	30020	128900	126100	87470	131600	108300	38540	10910	6180

CAL YR 1985 TOTAL 143512 MEAN 393 MAX 1900 MIN 42 AC-FT 284700
WTR YR 1986 TOTAL 353409 MEAN 968 MAX 8170 MIN 57 AC-FT 701000

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1968 to current year.
CHEMICAL ANALYSES: Water years 1964-66, 1977.
WATER TEMPERATURES: Water years 1966, 1968 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1965 to December 1966, January 1968 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to December 1966, and since January 1968.

REMARKS.--Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1966, 1968-86): Maximum recorded, 30.0°C, July 14, 15, 1972, July 15, 18, 1977; minimum recorded, 0.5°C, Jan. 7, 1971, Dec. 12, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 25.5°C, Sept. 5-6; minimum recorded, 4.5°C, Dec. 22, 27.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	8.5	8.0	---	---	10.5	8.5
2	---	---	---	---	8.0	7.0	9.0	7.0	10.0	6.5	10.5	9.0
3	---	---	---	---	7.5	6.5	10.5	7.0	8.0	6.5	11.0	9.0
4	---	---	---	---	8.0	6.0	8.5	7.5	---	---	11.5	9.0
5	---	---	---	---	8.0	6.5	9.0	8.0	---	---	11.5	9.0
6	---	---	---	---	---	---	8.0	7.0	---	---	11.0	6.0
7	---	---	---	---	8.5	7.0	8.0	6.5	---	---	10.5	10.0
8	---	---	---	---	8.5	7.0	---	---	---	---	10.5	7.0
9	16.5	12.5	---	---	7.5	5.5	---	---	---	---	7.5	6.0
10	---	---	---	---	---	---	11.0	5.5	---	---	8.0	7.0
11	---	---	---	---	---	---	7.5	6.0	---	---	8.5	6.5
12	---	---	---	---	---	---	---	---	---	---	8.5	7.5
13	---	---	---	---	---	---	8.0	6.0	8.5	7.5	7.5	7.0
14	---	---	---	---	---	---	7.5	6.5	9.0	8.0	---	---
15	---	---	---	---	---	---	9.0	7.0	8.5	7.0	---	---
16	---	---	---	---	---	---	9.0	7.5	8.0	7.0	---	---
17	---	---	---	---	---	---	10.0	7.5	9.0	8.0	---	---
18	---	---	---	---	---	---	10.0	7.5	8.5	7.5	---	---
19	---	---	---	---	---	---	10.0	7.5	9.0	7.5	10.0	6.5
20	---	---	---	---	---	---	9.5	8.0	8.5	6.5	10.5	7.0
21	---	---	---	---	---	---	11.0	7.5	---	---	11.0	8.0
22	---	---	---	---	6.0	4.5	---	---	9.0	6.5	11.5	6.5
23	---	---	---	---	---	---	---	---	9.5	7.5	10.5	8.5
24	---	---	8.0	6.5	---	---	---	---	11.0	8.0	11.0	8.0
25	---	---	9.0	7.5	---	---	---	---	11.0	8.5	11.0	9.5
26	---	---	9.5	8.0	---	---	---	---	11.0	8.5	12.0	9.0
27	---	---	9.0	7.5	6.5	4.5	---	---	11.0	8.5	---	---
28	---	---	9.0	8.0	---	---	---	---	11.0	8.5	---	---
29	---	---	8.0	7.0	8.0	6.0	8.5	7.5	---	---	---	---
30	---	---	---	---	9.5	8.0	9.5	8.0	---	---	---	---
31	---	---	---	---	9.5	8.0	7.5	7.0	---	---	12.0	10.0
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

TULARE LAKE BASIN

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	10.0	---	---	---	---	19.0	15.5	23.0	18.5	24.0	19.0
2	---	---	---	---	---	---	18.5	15.5	23.5	18.5	24.5	19.5
3	---	---	---	---	16.0	11.5	19.5	16.5	23.5	19.0	25.0	20.0
4	13.0	7.5	---	---	15.0	11.5	19.0	16.5	24.0	19.0	25.0	20.0
5	10.0	8.5	---	---	14.0	11.5	18.0	15.0	24.0	19.5	25.5	20.5
6	12.0	8.5	---	---	---	---	18.5	15.5	24.0	19.5	25.5	20.5
7	10.0	8.0	---	---	15.0	11.5	19.0	15.5	24.0	19.5	25.0	20.5
8	---	---	15.0	8.0	14.5	10.5	19.5	16.0	24.0	19.5	24.5	20.0
9	---	---	15.0	8.0	15.5	11.5	19.5	16.0	24.0	19.5	23.0	19.0
10	12.0	10.0	13.0	10.0	15.0	12.0	19.5	16.0	24.5	20.0	21.5	17.0
11	12.5	10.0	---	---	15.5	12.0	20.5	16.5	24.5	20.0	21.5	16.5
12	---	---	---	---	15.5	12.0	21.5	18.0	25.0	20.5	21.5	17.0
13	---	---	---	---	16.5	12.5	21.5	18.0	24.5	20.5	20.5	16.5
14	---	---	---	---	16.5	13.0	20.5	17.5	24.5	20.0	20.5	16.5
15	10.5	9.0	---	---	16.0	13.0	21.0	18.0	24.5	20.0	20.5	15.5
16	9.5	7.5	---	---	16.0	13.0	19.5	16.5	24.0	19.5	20.0	15.0
17	---	---	13.0	10.0	16.5	13.0	19.0	15.0	24.0	19.5	20.0	15.0
18	---	---	14.0	10.0	16.0	13.0	19.5	15.5	23.0	19.5	20.0	16.5
19	---	---	14.0	10.0	15.0	12.5	20.5	16.0	24.5	19.5	19.5	16.0
20	---	---	15.5	10.0	15.5	12.5	21.5	17.0	22.0	20.5	19.0	10.5
21	13.5	11.0	---	---	16.5	13.0	19.5	18.0	25.0	19.5	19.5	13.5
22	13.0	10.5	11.0	8.0	17.0	13.5	19.5	17.5	25.0	20.5	19.0	10.5
23	12.0	10.0	---	---	17.5	14.0	21.0	16.5	24.5	20.0	17.0	14.0
24	---	---	---	---	18.0	14.5	21.0	17.0	24.0	19.5	15.0	14.0
25	---	---	---	---	17.5	14.0	21.5	17.5	24.0	19.0	14.5	12.5
26	10.5	8.0	---	---	18.0	15.0	22.0	18.0	24.5	19.5	15.5	9.0
27	---	---	15.5	11.0	17.0	14.5	22.0	17.5	24.5	20.0	14.0	12.0
28	---	---	15.5	11.0	17.0	14.0	22.0	18.0	24.5	20.0	15.5	11.5
29	---	---	---	---	17.5	14.5	22.0	17.5	24.5	20.5	16.0	12.0
30	---	---	15.5	11.0	18.0	15.0	22.5	18.0	24.0	19.5	16.0	12.0
31	---	---	---	---	---	---	23.0	18.5	24.0	19.5	---	---
MONTH	---	---	---	---	18.0	10.5	23.0	15.0	25.0	18.5	25.5	9.0
YEAR	25.5	4.5										

TULARE LAKE BASIN

11210100 SOUTH FORK KAWEAH RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°25'00", long 118°54'48", in SW 1/4 SE 1/4 sec.26, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank 200 ft upstream from unnamed tributary, 0.5 mi upstream from mouth, and 1.8 mi southwest of Three Rivers.

DRAINAGE AREA.--86.7 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 807.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several small diversions above station for irrigation.

AVERAGE DISCHARGE.--28 years, 77.3 ft^3/s, 56,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s, Dec. 6, 1966, gage height, 9.30 ft in gage well, 10.4 ft from floodmarks, from rating curve extended above 2,600 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1960-62.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 9.5 ft from floodmarks, discharge, 10,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s	Gage height (ft)
Feb. 13	0500	*1,970	*5.13	May 28	2245	751	4.03
Mar. 10	1430	1,490	4.81				

Minimum daily, 1.6 ft^3/s, Sept. 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	5.9	27	23	82	158	247	311	467	69	9.9	2.3
2	3.1	5.7	198	21	60	151	227	321	489	64	8.9	2.2
3	2.7	4.7	99	20	54	144	196	324	511	61	8.4	2.0
4	2.4	4.1	53	29	48	133	182	281	455	58	7.9	2.0
5	2.2	3.8	43	212	43	127	177	209	384	52	7.3	1.8
6	2.0	5.0	37	111	41	128	181	183	363	46	6.8	1.6
7	3.7	4.8	32	67	36	128	165	158	334	43	6.8	1.6
8	8.8	4.8	29	51	35	578	162	143	302	39	6.6	1.6
9	8.0	5.0	27	43	34	490	147	137	308	36	6.5	1.7
10	6.8	7.7	25	38	31	758	151	158	303	34	6.1	2.0
11	5.7	25	22	34	31	472	151	182	290	32	5.8	2.3
12	5.1	17	21	32	370	413	169	223	283	29	5.4	2.2
13	4.6	13	20	30	1000	370	156	267	271	27	4.9	2.2
14	4.4	12	20	29	359	335	152	304	267	25	4.5	2.4
15	3.8	12	19	28	479	301	148	326	248	23	3.5	2.9
16	3.3	12	18	26	341	323	153	344	223	22	3.7	2.8
17	3.2	14	17	26	484	288	138	372	204	21	3.5	2.8
18	3.2	14	17	25	728	251	127	398	192	19	3.9	3.1
19	3.2	12	17	25	917	228	125	435	174	18	3.5	3.8
20	3.3	12	17	26	495	219	147	438	154	17	3.5	4.1
21	5.5	13	17	25	345	221	192	412	142	16	3.7	3.4
22	9.4	12	17	24	274	228	235	334	138	22	3.4	3.3
23	7.0	12	17	23	226	224	233	311	132	24	3.3	3.3
24	7.3	18	17	22	199	208	233	323	125	23	3.2	6.5
25	8.3	51	17	22	185	203	222	408	118	21	3.1	20
26	8.6	33	17	21	177	209	212	462	108	17	3.0	13
27	8.0	23	17	22	169	220	220	508	100	15	3.0	10
28	7.1	21	16	22	164	227	268	536	88	15	2.9	9.4
29	6.7	40	18	23	---	237	297	494	76	13	2.8	8.8
30	6.4	38	24	152	---	239	300	465	73	12	2.1	9.3
31	6.1	---	26	114	---	234	---	523	---	11	2.2	---
TOTAL	163.1	455.5	961	1366	7407	8445	5713	10290	7322	924	150.1	134.4
MEAN	5.26	15.2	31.0	44.1	265	272	190	332	244	29.8	4.84	4.48
MAX	9.4	51	198	212	1000	758	300	536	511	69	9.9	20
MIN	2.0	3.8	16	20	31	127	125	137	73	11	2.1	1.6
AC-FT	324	903	1910	2710	14690	16750	11330	20410	14520	1830	298	267

CAL YR 1985	TOTAL	18429.99	MEAN	50.5	MAX	254	MIN	.37	AC-FT	36560
WTR YR 1986	TOTAL	43331.1	MEAN	119	MAX	1000	MIN	1.6	AC-FT	85950

TULARE LAKE BASIN

11210850 LEMONCOVE DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'55", long 119°00'22", in SW 1/4 SW 1/4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, on left bank 250 ft downstream from outlet tunnel of Terminus Dam, and 2.4 mi 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Ditch receives water from Lake Kaweah (station 11210900), which is used for irrigation. At times up to 3 ft^3/s is diverted 200 ft upstream into Doffelmyer ditch for irrigation.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE.--24 years, 4.86 ft^3/s, 3,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.8 ft^3/s, May 5, 1970; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	4.8	1.9	1.7	1.5	1.7	1.6	4.7	7.9	7.4	7.2	8.4
2	5.9	4.8	1.9	1.7	1.5	1.7	1.6	4.7	7.9	7.4	7.2	8.4
3	6.3	4.8	1.9	1.7	1.6	1.7	1.6	4.7	7.9	7.3	7.2	8.4
4	7.2	4.9	1.9	1.7	1.6	1.7	1.6	4.7	7.9	7.4	7.2	8.4
5	7.2	5.0	1.9	1.7	1.6	1.7	1.6	4.7	7.9	7.3	7.2	8.4
6	7.2	4.9	1.9	1.7	1.6	1.7	1.6	4.7	7.9	7.3	7.3	8.4
7	7.2	4.9	1.9	1.7	1.6	1.6	1.6	4.7	7.9	7.3	7.3	8.4
8	7.2	4.9	1.9	1.7	1.6	3.2	1.6	4.7	7.9	7.3	7.3	8.4
9	7.2	4.9	1.9	1.6	1.6	4.0	1.5	4.7	7.9	7.3	7.3	8.4
10	6.6	4.9	1.9	1.5	1.6	1.5	1.6	4.7	7.9	7.3	7.3	8.4
11	6.0	4.9	1.9	1.5	1.6	.10	1.6	4.7	7.9	7.3	7.3	7.8
12	6.0	3.8	1.9	1.5	1.6	.10	1.7	4.7	7.9	7.4	7.3	7.2
13	5.1	3.2	1.9	1.5	1.6	.10	1.7	4.7	7.9	7.3	7.3	7.2
14	5.5	3.2	1.9	1.5	1.6	.10	3.5	5.5	7.9	7.3	7.3	7.2
15	5.9	2.6	1.9	1.5	1.7	0	6.7	6.0	7.9	7.3	7.3	7.2
16	6.0	1.9	1.9	1.5	1.7	0	3.8	6.6	7.5	7.3	7.2	7.2
17	6.0	1.9	1.7	1.5	1.7	0	2.1	7.0	7.3	7.3	7.1	7.2
18	6.0	1.9	1.7	1.5	1.7	0	2.1	7.0	7.3	7.3	7.1	7.2
19	6.0	1.9	1.7	1.5	1.7	0	2.1	7.0	7.3	7.2	7.1	7.2
20	6.0	1.9	1.7	1.5	1.7	0	2.1	7.4	7.3	7.2	7.1	7.2
21	6.0	1.9	1.7	1.5	1.7	0	2.8	7.7	7.3	7.2	7.1	7.2
22	6.0	2.0	1.7	1.5	1.7	0	4.4	7.7	7.3	7.2	7.1	7.2
23	6.0	2.0	1.7	1.5	1.7	0	5.0	7.8	7.3	7.2	7.1	7.2
24	5.6	2.0	1.7	1.4	1.7	.70	5.0	7.9	7.3	7.2	7.2	6.4
25	4.8	2.0	1.7	1.3	1.7	1.7	4.9	7.9	7.3	7.2	7.6	6.0
26	4.8	2.0	1.7	1.3	1.7	1.7	4.9	7.9	7.3	7.2	8.4	6.0
27	4.8	2.0	1.8	1.3	1.7	1.7	4.9	7.9	7.2	7.2	8.4	6.0
28	4.8	2.0	1.8	1.3	1.7	1.7	4.8	7.9	7.2	7.2	8.4	6.0
29	4.8	2.0	1.8	1.4	---	1.6	4.7	7.9	7.3	7.2	8.4	6.0
30	4.8	1.9	1.8	1.5	---	1.6	4.7	7.9	7.3	7.2	8.4	6.0
31	4.8	---	1.8	1.5	---	1.6	---	7.9	---	7.2	8.4	---
TOTAL	183.6	95.8	56.4	47.2	46.0	33.20	89.4	194.0	228.0	225.4	231.1	220.6
MEAN	5.92	3.19	1.82	1.52	1.64	1.07	2.98	6.26	7.60	7.27	7.45	7.35
MAX	7.2	5.0	1.9	1.7	1.7	4.0	6.7	7.9	7.9	7.4	8.4	8.4
MIN	4.8	1.9	1.7	1.3	1.5	0	1.5	4.7	7.2	7.2	7.1	6.0
AC-FT	364	190	112	94	91	66	177	385	452	447	458	438

CAL YR 1985	TOTAL	1802.6	MEAN	4.94	MAX	8.0	MIN	.10	AC-FT	3580
WTR YR 1986	TOTAL	1650.70	MEAN	4.52	MAX	8.4	MIN	0	AC-FT	3270

TULARE LAKE BASIN

11210900 LAKE KAWEAH NEAR LEMONCOVE, CA

LOCATION.--Lat 36°24'53", long 119°00'07", in SE 1/4 SW 1/4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 mi northeast of Lemoncove.
DRAINAGE AREA.--560 mi^2.
PERIOD OF RECORD.--October 1961 to current year. Fragmentary prior to March 1962.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 22, 1962, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam and earthfill auxiliary dam, completed in February 1962. Usable capacity, 142,931 acre-ft between elevations 520.0 ft invert of outlet structure, and 694.0 ft spillway crest. Dead storage, 33 acre-ft. Spillway design flood pool elevation, 745.1 ft, capacity, 256,167 acre-ft. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, (based on capacity table then in use, new capacity table put into use Oct. 1, 1978), 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 reservoir first filled, 7,559 acre-ft, Oct. 20, 1970, elevation, 568.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 142,677 acre-ft, June 18, elevation, 693.85 ft; minimum, 9,065 acre-ft, Dec. 19, elevation, 577.05 ft.

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

520	33	540	1,347	580	10,112	660	84,644
525	170	550	2,703	600	19,970	680	117,289
530	436	560	4,509	620	35,541	700	154,644
535	832	570	6,903	640	57,212	720	196,552

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10412	14112	18971	9701	15649	75030	69365	70681	119136	131798	62099	19453
2	10484	14228	21400	9665	15369	73378	68875	72720	121210	130086	59742	18766
3	10542	14326	22135	9629	15199	71579	68035	74859	123695	128475	57569	18075
4	10595	14428	21091	9740	15072	69679	66905	76570	126165	126891	55659	17323
5	10638	14532	19869	15811	14750	67429	65613	77506	128219	125135	53772	16584
6	10692	14621	18623	17176	14350	65203	64453	78142	130582	123156	51874	15848
7	10758	14705	17334	16842	13873	63056	63030	78373	133353	121175	50014	15123
8	10906	14800	16055	16759	13385	72692	62215	78693	135700	119065	48305	14473
9	11057	14890	14765	16793	12902	77332	61739	78999	137896	116816	46673	13935
10	11205	15057	13454	16776	12363	82502	61368	79451	139406	114602	45085	13445
11	11354	15482	12091	16727	11579	83817	61163	80139	140315	112270	43539	12942
12	11489	15775	10653	16611	13441	84027	61279	81198	140581	110011	42015	12463
13	11616	15991	10009	16453	30929	83383	61087	82711	140505	107773	40463	12032
14	11720	16205	9780	16296	34663	82086	60947	84478	141038	105505	38769	11625
15	11812	15448	9533	16141	42046	80374	60857	86309	141704	102978	37272	11342
16	11888	16727	9382	15986	49104	79436	60845	88527	141990	100333	36018	11109
17	11955	17003	9274	15833	57471	78243	60387	90945	142295	97510	34837	10848
18	12023	17272	9164	15633	71385	77462	59717	93693	142677	94756	33690	10707
19	12087	17487	9065	15425	83069	76700	59076	96513	142658	92212	32576	10642
20	12143	17687	9072	15215	86081	75741	58600	98965	142257	89841	31392	10572
21	12237	17941	9096	14956	86309	75243	58675	100709	141837	87422	30211	10496
22	12437	18174	9113	14650	85792	75101	59591	101561	141475	85006	29084	10072
23	12595	18380	9140	14423	84493	74916	60476	102038	141094	82696	27985	9683
24	12803	18695	9188	14238	82860	74265	61253	102499	140676	80432	26907	9686
25	13032	19546	9240	14045	81169	73547	62125	103873	140069	78142	25843	10172
26	13251	19651	9261	13859	79436	72986	62939	105906	139273	75927	24764	10500
27	13441	19380	9268	13754	77794	72455	63811	108381	138291	73729	23597	10758
28	13594	19086	9261	13707	76470	71829	65349	111087	137012	71676	22401	10997
29	13735	19111	9257	13679	---	71053	67187	113321	135233	69310	21466	11229
30	13868	19184	9505	15138	---	70172	68861	115454	133520	66905	20760	11485
31	13987	---	9697	15754	---	69474	---	117552	---	64505	20115	---
MAX	13987	19651	22135	17176	86309	84027	69365	117552	142677	131798	62099	19453
MIN	10412	14112	9065	9629	11579	63056	58600	70681	119136	64505	20115	9683
a	589.16	598.73	578.86	592.68	654.44	649.44	648.99	680.15	688.99	645.73	600.23	583.52
b	+3643	+5197	-9487	+6057	+60716	-6996	-613	+48691	+15968	-69015	-44390	-8630
c	174	82	23	51	122	299	444	915	1413	1325	836	279

CAL YR 1985 b +622
WTR YR 1986 b +1141

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, published as provided, not reviewed by U.S. Geological Survey.

TULARE LAKE BASIN

11210930 FOOTHILL DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'48", long 119°00'47", in NW 1/4 NW 1/4 sec.35, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.7 mi downstream from Terminus Dam, and 2.1 mi 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: May 15 to June 27. Records good. Ditch receives water from Lake Kaweah (station 11210900) which is used for irrigation.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE.--25 years, 16.1 ft^3/s, 11,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50 ft^3/s Apr. 7, 1979; no flow many days in 1975, 1978-85.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	5.7	.30	.60	1.3	.90	2.0	10	10	13	12	12
2	.60	5.5	.20	.60	1.2	.90	2.0	10	10	13	12	12
3	6.1	5.4	.30	.60	1.3	.80	2.0	10	10	13	12	12
4	8.6	5.2	.30	.60	1.3	.90	3.3	10	10	13	13	12
5	8.5	5.2	.30	.60	1.3	.90	4.1	10	9.8	13	12	12
6	8.3	5.2	.30	.80	1.3	.90	4.1	10	9.4	13	12	13
7	7.9	4.9	.40	.80	1.2	.80	4.1	10	9.0	13	12	13
8	9.6	5.5	.30	.80	1.1	.90	3.3	10	9.0	13	13	13
9	11	6.4	.40	.80	1.1	.80	2.5	10	9.2	13	13	12
10	11	6.1	.30	.80	1.0	.90	2.4	9.8	9.6	13	13	13
11	11	3.0	.30	.70	1.0	1.1	2.4	9.7	9.8	13	12	13
12	11	.90	.40	.80	.90	1.1	2.4	9.7	10	13	12	14
13	11	.70	.30	.80	.90	1.2	2.4	9.8	12	13	12	14
14	10	.70	.30	.90	.90	1.3	2.6	10	12	13	12	14
15	10	.50	.30	.90	.80	1.3	3.5	10	12	13	12	13
16	10	.50	.30	.90	.60	1.2	4.5	10	12	13	12	13
17	10	.50	.40	.90	.60	1.1	4.5	10	12	13	12	13
18	11	.50	.30	.90	.70	1.1	4.6	10	12	13	12	13
19	11	.40	.30	1.1	.70	1.1	4.6	10	12	13	12	13
20	11	.40	.40	1.3	.60	1.2	4.6	10	12	13	12	13
21	11	.40	.20	1.3	.60	1.3	4.5	11	12	13	12	13
22	11	.40	.30	1.3	.70	1.2	5.6	11	12	13	12	14
23	11	.30	.30	1.3	.70	1.1	7.7	10	12	13	12	14
24	11	.30	.40	1.3	.70	3.8	8.6	10	12	13	12	14
25	11	.40	.30	1.3	.90	5.4	8.5	10	12	13	12	14
26	11	.30	.40	1.3	.90	3.5	8.5	10	12	13	12	14
27	11	.30	.40	1.3	.90	2.5	8.5	10	13	13	12	14
28	11	.30	.50	1.2	1.0	2.4	8.4	10	13	13	12	14
29	11	.30	.50	1.2	---	2.3	9.6	10	13	13	12	14
30	11	.30	.70	1.2	---	2.2	10	10	13	13	12	14
31	7.7	---	.70	1.2	---	1.9	---	10	---	13	12	---
TOTAL	295.90	66.50	11.10	30.10	26.20	48.00	145.8	311.0	335.8	403	376	396
MEAN	9.55	2.22	.36	.97	.94	1.55	4.86	10.0	11.2	13.0	12.1	13.2
MAX	11	6.4	.70	1.3	1.3	5.4	10	11	13	13	13	14
MIN	.60	.30	.20	.60	.60	.80	2.0	9.7	9.0	13	12	12
AC-FT	587	132	22	60	52	95	289	617	666	799	746	785

CAL YR 1985	TOTAL	2872.8	MEAN	7.87	MAX	16	MIN	0	AC-FT 5700
WTR YR 1986	TOTAL	2445.40	MEAN	6.70	MAX	14	MIN	.20	AC-FT 4850

TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'51", long 119°00'42", in SE 1/4 SE 1/4 sec.26, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi downstream from Terminus Dam, and 2.2 mi northeast of Lemoncove.

DRAINAGE AREA.--561 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.
REVISED RECORDS.--WDR CA-71-2: 1963.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 495.90 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Kaweah (station 11210900). Lemoncove ditch (station 11210850) diverts water from Lake Kaweah for irrigation. Foothill ditch (station 11210930) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 ft^3/s above station for irrigation. At times some of this water is returned to the river above the station.

COOPERATION.--Records were provided by U.s. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--25 years, 724 ft^3/s, 524,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,610 ft^3/s, June 3, 1969, gage height, 8.77 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,390 ft^3/s, Feb. 21, gage height, 7.30 ft; minimum daily, 9.3 ft^3/s, Oct. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	15	405	312	758	2670	2410	1480	2580	1990	1530	377
2	27	13	516	303	736	2690	2330	1440	2450	1980	1490	383
3	21	13	899	282	644	2650	2250	1410	2270	1960	1380	384
4	18	12	1120	272	552	2640	2300	1410	2020	1960	1240	407
5	18	14	1110	285	614	2760	2360	1380	1770	1940	1210	408
6	18	13	1070	734	640	2740	2360	1340	1380	1910	1220	399
7	15	12	1030	1060	631	2650	2360	1350	1040	1840	1190	397
8	9.3	11	1020	725	632	2060	2090	1220	997	1850	1110	360
9	9.3	9.8	999	550	611	1930	1780	1140	1110	1890	1050	303
10	16	11	981	494	613	2410	1640	1110	1490	1880	1030	276
11	17	16	974	474	733	3010	1620	1100	1750	1930	1010	275
12	15	15	974	474	761	3150	1600	1120	2090	1960	993	265
13	13	16	583	472	605	3230	1610	1160	2220	1970	999	240
14	12	17	338	445	1200	3280	1540	1200	1950	1920	1060	227
15	15	16	331	426	733	3270	1490	1230	1730	1950	976	181
16	14	17	287	410	232	3130	1520	1290	1790	1980	832	154
17	13	17	250	402	497	2880	1610	1340	1730	1980	790	163
18	13	18	250	419	1780	2420	1630	1390	1610	1900	767	126
19	14	18	248	433	2860	2310	1620	1620	1690	1780	735	90
20	14	18	226	435	3160	2360	1680	1900	1740	1690	759	88
21	14	18	207	449	3090	2170	1750	2090	1720	1700	770	91
22	15	18	205	453	2830	2070	1680	2130	1710	1740	734	214
23	17	18	207	409	2860	2090	1650	2070	1700	1750	704	225
24	18	18	207	375	2880	2210	1560	2040	1720	1710	683	93
25	18	167	207	371	2890	2240	1500	2060	1800	1640	664	24
26	16	346	218	371	2900	2260	1500	2070	1840	1540	615	29
27	16	397	229	338	2790	2330	1500	2170	1870	1470	649	30
28	16	402	232	318	2610	2410	1450	2310	1890	1420	668	30
29	15	403	232	328	---	2540	1410	2510	1920	1530	540	25
30	14	405	243	338	---	2590	1440	2600	1950	1550	406	24
31	15	---	289	620	---	2490	---	2580	---	1530	369	---
TOTAL	496.6	2483.8	16087	13777	41842	79640	53240	51260	53527	55840	28173	6288
MEAN	16.0	82.8	519	444	1494	2569	1775	1654	1784	1801	909	210
MAX	31	405	1120	1060	3160	3280	2410	2600	2580	1990	1530	408
MIN	9.3	9.8	205	272	232	1930	1410	1100	997	1420	369	24
AC-FT	985	4930	31910	27330	82990	158000	105600	101700	106200	110800	55880	12470
MEAN a	93.6	177	367	546	2592	2463	1780	2477	2096	720	220	89.8
AC-FT a	5760	10530	22570	33570	144000	151400	105900	152300	124700	44270	13530	5340

CAL YR 1985	TOTAL	159968	MEAN	438	MAX	1940	MIN	9.3	AC-FT	317300	MEAN a	459	AC-FT a	332300
WTR YR 1986	TOTAL	402654.4	MEAN	1103	MAX	3280	MIN	9.3	AC-FT	798700	MEAN a	1124	AC-FT a	813800

a Adjusted for change in contents and evaporation from Lake Kaweah and for diversions to Lemoncove and Foothill ditches. Evaporation adjustments provided by U.S. Army Corps of Engineers, not reviewed by U.S. Geological Survey.

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.
CHEMICAL ANALYSES: Water years 1962-79.
WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction in recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1971-86): Maximum recorded, 30.0°C, Sept. 9, 1984; minimum recorded, 4.5°C, Feb. 26, 1986.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 27.0°C, Sept. 4, 9; minimum recorded 4.5°C, Feb. 26.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.5	19.0	17.5	15.0	11.0	10.0	7.5	6.5	10.0	9.0	9.0	9.0
2	23.5	19.0	17.5	14.5	11.5	9.5	8.0	6.5	9.5	9.0	9.5	9.0
3	24.0	19.0	17.0	14.5	10.5	9.5	8.0	7.0	9.5	9.0	10.0	9.0
4	23.5	18.5	17.0	15.0	10.0	9.0	9.0	7.0	9.5	9.0	10.0	9.5
5	23.5	19.0	17.0	14.5	10.0	9.0	8.5	8.0	9.5	9.0	10.0	10.0
6	23.0	20.0	17.0	14.5	10.0	9.5	9.0	8.5	9.5	8.5	10.0	9.5
7	22.5	19.5	17.0	13.5	10.0	9.5	9.0	8.5	9.5	9.0	10.5	10.0
8	21.5	19.0	16.0	14.0	10.0	9.5	9.0	8.5	9.5	7.0	10.5	9.5
9	21.5	17.5	15.5	13.5	10.0	9.5	9.0	8.5	9.0	8.5	10.0	9.5
10	21.5	17.0	14.5	11.0	10.0	9.0	8.5	8.5	9.5	8.5	9.5	9.0
11	21.5	17.0	13.5	10.5	10.0	9.0	8.5	8.5	10.0	7.0	9.5	9.0
12	20.0	16.5	12.5	10.0	10.0	7.0	8.5	8.5	9.5	8.5	9.0	6.5
13	20.0	16.5	12.0	8.0	9.0	8.0	9.0	8.0	10.0	7.5	9.0	8.5
14	21.0	16.0	12.0	9.5	8.5	7.5	8.5	8.0	9.0	6.0	9.5	8.5
15	20.5	15.5	12.0	9.0	9.0	7.5	9.0	8.0	9.0	8.5	9.0	5.5
16	20.0	15.5	11.5	10.5	9.5	7.0	8.5	7.5	9.0	8.5	9.0	7.0
17	20.0	15.5	12.0	11.0	8.0	6.0	9.0	8.5	9.0	8.5	10.0	5.5
18	20.0	16.0	12.0	10.0	7.5	6.5	9.0	6.5	9.0	8.5	11.0	6.0
19	19.0	16.0	11.5	9.5	8.0	6.5	9.0	8.5	9.0	8.5	9.5	5.0
20	19.5	16.0	11.0	9.5	8.0	6.0	9.0	8.5	10.0	7.0	9.5	8.5
21	17.5	16.5	12.0	10.5	7.5	7.0	9.0	8.5	9.0	7.0	10.5	5.0
22	18.0	15.0	11.5	10.0	7.5	7.0	9.5	9.0	8.5	8.0	9.5	9.0
23	18.0	15.0	11.0	9.5	7.5	7.0	9.5	9.0	9.5	7.5	9.5	9.5
24	18.0	15.0	11.0	10.5	7.5	7.0	9.5	9.0	9.0	7.0	10.0	9.5
25	18.0	15.0	11.5	11.0	7.5	6.5	10.0	9.0	10.5	6.5	10.0	10.0
26	18.5	16.0	11.0	10.5	7.5	6.5	10.0	9.0	9.5	4.5	10.5	10.0
27	18.5	15.0	11.0	10.5	7.5	6.5	10.0	9.0	9.0	5.0	10.5	10.5
28	18.0	15.5	11.0	10.5	7.0	6.0	10.0	9.0	9.0	6.5	11.0	10.0
29	17.5	15.0	11.0	11.0	7.0	6.5	10.0	9.0	---	---	11.5	11.0
30	17.0	15.0	11.5	10.5	7.5	7.0	10.0	9.5	---	---	12.0	11.0
31	17.5	15.0	---	---	7.0	6.5	10.0	7.5	---	---	12.0	11.5
MONTH	24.0	15.0	17.5	8.0	11.5	6.0	10.0	6.5	10.5	4.5	12.0	5.0

TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	11.0	12.5	12.0	13.5	13.0	15.5	15.5	21.0	20.5	26.0	24.5
2	11.5	11.0	13.0	11.0	13.5	13.0	16.0	15.5	21.5	20.5	26.0	25.0
3	11.5	11.5	12.5	12.0	13.5	13.0	16.0	15.5	21.5	21.0	26.0	25.0
4	11.5	11.0	13.0	12.0	14.0	13.5	16.0	15.5	21.5	21.0	27.0	25.0
5	11.5	11.0	12.0	12.0	14.0	13.5	16.0	15.5	22.0	21.0	26.5	25.0
6	11.5	11.0	12.0	11.5	14.0	13.5	16.5	16.0	22.0	21.5	26.0	25.0
7	11.5	10.5	12.0	11.5	15.0	13.5	16.5	16.0	22.5	22.0	26.0	25.0
8	11.5	10.5	12.0	11.5	15.0	13.5	16.5	16.0	22.5	22.0	26.0	25.0
9	11.5	11.0	12.0	11.5	15.0	13.0	16.5	16.0	23.0	22.0	27.0	25.0
10	11.5	11.0	12.0	11.5	15.0	13.0	16.5	16.0	23.0	22.5	26.0	24.5
11	12.0	11.5	12.5	11.0	14.5	12.0	17.0	16.5	23.5	23.0	25.0	24.0
12	---	---	12.5	11.5	15.5	13.0	17.0	16.5	24.0	23.0	25.5	24.0
13	---	---	12.5	12.0	14.5	14.0	17.0	16.5	24.5	23.5	25.0	23.5
14	---	---	12.5	12.0	14.5	14.0	17.0	16.5	24.5	23.5	24.5	23.5
15	11.5	11.0	12.5	12.0	14.5	14.0	17.5	17.0	24.5	24.0	25.0	22.5
16	11.5	11.0	12.5	11.5	14.5	14.0	17.5	17.0	24.5	24.0	24.0	22.5
17	12.0	11.5	13.5	12.0	14.5	14.0	17.5	17.0	25.0	24.5	23.5	22.0
18	11.5	11.0	13.0	12.0	14.5	14.5	18.0	17.5	25.5	24.5	23.5	22.0
19	11.5	11.0	13.0	12.0	14.5	14.5	18.0	17.0	25.0	24.5	23.5	21.5
20	12.0	11.5	13.5	11.5	15.0	14.5	18.0	17.0	26.5	25.0	23.0	21.0
21	12.0	11.5	13.0	11.0	15.5	14.5	18.5	17.5	26.5	25.0	23.0	20.5
22	12.0	11.0	12.5	11.5	15.0	14.5	18.5	17.5	26.5	25.0	22.5	20.0
23	12.0	12.0	13.0	12.0	15.0	14.5	19.0	17.5	26.0	25.0	21.5	20.5
24	12.5	12.0	12.5	12.0	15.0	15.0	19.0	18.5	26.0	25.0	21.0	19.5
25	12.5	12.0	13.0	12.0	15.0	15.0	19.0	19.0	26.0	25.5	22.5	19.0
26	13.0	11.0	13.0	11.5	15.5	15.0	19.5	19.0	25.5	25.0	21.5	17.5
27	12.5	12.0	13.0	12.5	15.5	15.0	20.0	19.0	25.5	25.0	20.5	17.5
28	12.5	12.0	13.0	12.5	15.5	15.0	20.0	19.5	26.0	25.5	21.5	17.5
29	12.5	12.0	13.5	12.5	15.5	15.0	20.0	19.5	25.5	25.0	21.5	17.0
30	13.5	12.0	13.5	13.0	15.5	15.0	20.5	20.0	26.5	25.0	22.0	17.0
31	---	---	13.5	12.5	---	---	21.0	20.0	26.0	25.0	---	---
MONTH	13.5	10.5	13.5	11.0	15.5	12.0	21.0	15.5	26.5	20.5	27.0	17.0
YEAR	27.0	4.5										

TULARE LAKE BASIN

11211300 DRY CREEK NEAR LEMONCOVE, CA

LOCATION.--Lat 36°26'51", long 119°01'38", in NE 1/4 SE 1/4 sec.15, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on right bank 0.5 mi downstream from Bequette Canyon, 2.9 mi upstream from mouth, and 4.4 mi north of Lemoncove.

DRAINAGE AREA.--75.6 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 570 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 8, 1969, 1.6 mi downstream at different datum.

REMARKS.--Estimated daily discharge: Feb. 17. Records good. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--27 years, 26.4 ft^3/s, 19,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft^3/s, Dec. 6, 1966, gage height, 7.30 ft in gage well, 8.94 ft from floodmarks, site and datum then in use; no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 6,070 ft^3/s from slope-area measurement. Flood of 1867 is believed to have exceeded that of December 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1900	145	2.72	Mar. 8	1700	1,550	5.48
Jan. 5	1300	470	3.79	Apr. 1	1245	172	2.95
Feb. 13	0530	*3,270	*7.49				

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	12	4.6	40	71	104	32	11	1.9	.20	
2		0	42	4.3	24	67	80	31	10	1.8	.16	
3		0	49	4.3	29	65	72	28	9.7	1.7	.13	
4		0	16	6.6	23	62	66	29	9.3	1.4	.08	
5		0	12	225	19	60	64	28	9.1	1.4	.05	
6		0	14	106	17	57	73	29	8.9	1.2	.01	
7		0	10	39	16	56	65	29	8.8	1.0	0	
8		0	8.8	25	15	625	68	27	8.5	1.0	0	
9		0	7.7	19	14	361	62	26	8.3	1.0	0	
10		0	7.3	15	12	562	60	25	7.8	.96	0	
11		6.8	7.0	13	12	473	58	24	7.1	.88	0	
12		7.6	6.4	11	222	366	55	24	6.4	.82	0	
13		4.5	6.1	9.9	1260	290	54	23	5.9	.70	0	
14		2.5	6.0	9.3	242	285	52	22	5.6	.63	0	
15		1.8	5.9	8.6	651	252	50	21	5.3	.55	0	
16		1.5	5.5	8.2	771	390	49	21	5.1	.49	0	
17		1.8	5.3	7.8	1010	303	50	21	5.1	.39	0	
18		2.0	4.8	7.6	1090	245	49	20	4.9	.38	0	
19		2.6	4.8	7.4	582	200	46	20	4.9	.40	0	
20		2.3	4.7	7.3	322	172	42	18	5.0	.40	0	
21		2.0	4.6	7.1	220	153	42	18	4.9	.40	0	
22		2.2	4.5	6.8	172	139	40	18	4.6	.49	0	
23		2.4	4.3	6.7	142	124	38	18	4.3	.77	0	
24		3.0	4.3	6.5	120	111	38	18	3.9	.80	0	
25		12	4.3	6.2	104	102	38	17	3.5	.67	0	
26		11	4.2	6.2	96	97	37	16	3.2	.56	0	
27		5.4	4.1	6.2	87	89	36	15	2.8	.46	0	
28		4.2	4.0	6.0	78	82	35	14	2.4	.39	0	
29		29	3.9	6.0	---	80	33	13	2.3	.33	0	
30		37	4.1	30	---	78	33	12	2.0	.27	0	
31		---	4.4	48	---	77	---	12	---	.23	0	
TOTAL	0	141.6	282.0	674.6	7390	6094	1589	669	180.6	24.37	0.63	0
MEAN	0	4.72	9.10	21.8	264	197	53.0	21.6	6.02	.79	.020	0
MAX	0	37	49	225	1260	625	104	32	11	1.9	.20	0
MIN	0	0	3.9	4.3	12	56	33	12	2.0	.23	0	0
AC-FT	0	281	559	1340	14660	12090	3150	1330	358	48	1.2	0

CAL YR 1985	TOTAL	3279.67	MEAN	8.99	MAX	264	MIN	0	AC-FT 6510
WTR YR 1986	TOTAL	17045.80	MEAN	46.7	MAX	1260	MIN	0	AC-FT 33810

TULARE LAKE BASIN

11211785 COTTONWOOD CREEK ABOVE COLLIER CREEK, NEAR ELDERWOOD, CA

LOCATION.--Lat 36°32'33", long 119°06'40", in NW 1/4 NE 1/4 sec.14, T.16 S., R.26 E., Tulare County, Hydrologic Unit 18030012, on left bank, 4.0 mi north of Elderwood, and 8.0 mi north of Woodlake, on State Highway 245.

DRAINAGE AREA.--52.3 mi^2.

PERIOD OF RECORD.--January 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage 600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft^3/s, Feb. 15, 1986, gage height, 5.81 ft; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base of 35 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	1300	108	2.71	Mar. 10	1415	615	4.03
Feb. 15	1615	*1,920	*5.81				

No flow Oct. 1.

CORRECTIONS.--Peak discharges greater than base for water year 1985 inadvertently not published.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 8	2245	117	2.83	Mar. 27	0730	*336	*3.45

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.1	6.2	4.2	11	27	38	14	5.9	2.8	.89	.28
2	.08	2.0	9.3	4.2	6.6	26	36	14	5.6	2.7	.66	.25
3	.15	1.8	9.9	4.2	8.0	25	36	14	5.5	2.5	.47	.23
4	.18	1.7	6.1	4.9	6.7	24	35	14	5.6	2.8	.46	.25
5	.17	1.6	6.0	50	6.0	23	35	13	5.7	2.2	.46	.28
6	.16	1.6	6.1	25	5.8	22	39	13	5.4	2.2	.35	.25
7	.17	1.8	5.5	15	5.7	22	34	13	5.4	1.9	.33	.28
8	.26	2.0	5.2	10	5.4	255	34	13	5.2	1.4	.43	.32
9	.87	2.0	5.0	6.7	5.2	141	32	13	5.2	1.1	.51	.40
10	.76	3.3	5.0	5.8	5.0	269	31	12	4.6	1.2	.55	.64
11	.63	14	4.9	5.4	4.8	180	29	12	4.4	1.4	.44	.70
12	.54	7.0	4.7	5.2	173	149	28	11	4.2	1.2	.44	.62
13	.54	5.0	4.5	4.9	445	130	26	11	4.2	.83	.36	.70
14	.54	3.7	4.4	4.9	104	143	24	11	4.1	.69	.36	1.5
15	.58	2.9	4.4	4.9	437	148	23	11	4.1	.66	.31	1.8
16	.54	2.5	4.4	4.8	481	267	23	10	4.2	.81	.33	1.9
17	.54	2.6	4.2	4.6	419	169	21	9.6	4.0	1.1	.37	2.3
18	.54	2.8	4.0	4.6	433	122	20	9.2	4.0	1.0	1.0	3.0
19	.60	2.5	4.2	4.6	217	99	19	8.7	4.1	.91	1.4	4.7
20	.70	2.1	4.2	4.6	128	87	18	8.2	4.0	.97	1.7	4.7
21	1.8	2.2	4.2	4.6	83	77	18	8.0	4.0	.98	2.2	4.4
22	3.4	2.1	4.2	4.5	62	72	17	8.4	3.7	1.6	.61	4.0
23	2.4	2.1	4.2	4.6	50	66	17	8.3	3.3	3.8	.28	3.9
24	2.0	2.8	4.2	4.4	44	59	17	8.2	3.1	3.8	.25	5.2
25	1.7	5.8	4.2	4.5	38	51	16	7.5	3.0	1.4	.19	10
26	1.7	4.5	4.2	4.6	36	47	16	7.1	3.0	1.5	.19	6.1
27	1.7	3.5	4.1	4.6	34	40	16	6.8	3.0	3.0	.13	4.5
28	1.7	4.1	4.1	4.7	30	32	15	6.6	2.9	2.1	.12	4.5
29	1.7	10	4.2	4.6	---	28	15	6.3	3.0	1.8	.18	4.3
30	1.8	12	4.4	13	---	26	14	6.1	2.9	1.4	.28	4.0
31	2.0	---	4.4	14	---	26	---	5.9	---	1.1	.28	---
TOTAL	30.45	114.1	154.6	246.6	3284.2	2852	742	313.9	127.3	52.85	16.53	76.00
MEAN	.98	3.80	4.99	7.95	117	92.0	24.7	10.1	4.24	1.70	.53	2.53
MAX	3.4	14	9.9	50	481	269	39	14	5.9	3.8	2.2	10
MIN	0	1.6	4.0	4.2	4.8	22	14	5.9	2.9	.66	.12	.23
AC-FT	60	226	307	489	6510	5660	1470	623	252	105	33	151

CAL YR 1985 TOTAL 1517.93 MEAN 4.16 MAX 110 MIN 0 AC-FT 3010
WTR YR 1986 TOTAL 8010.53 MEAN 21.9 MAX 481 MIN 0 AC-FT 15890

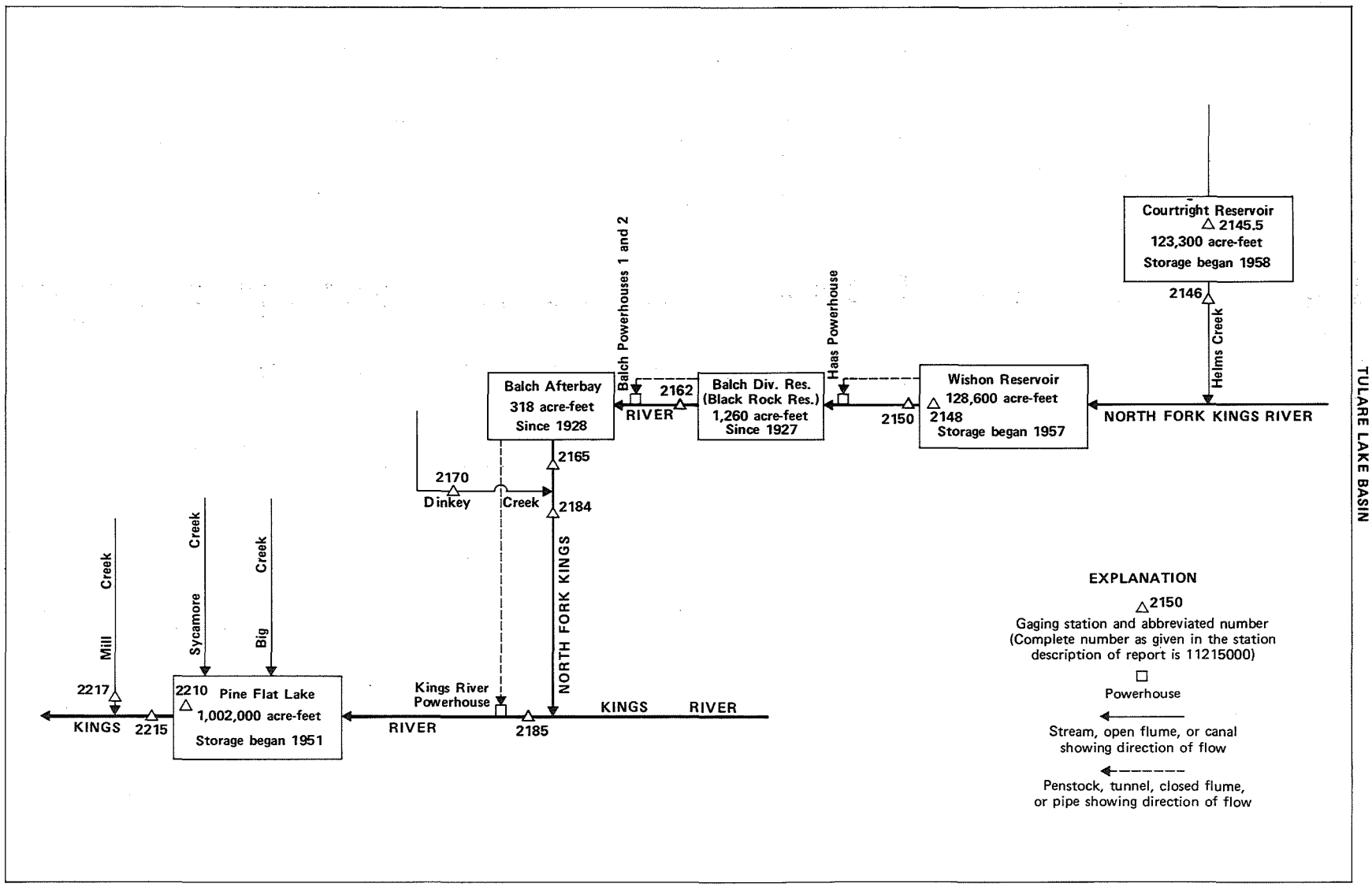

FIGURE 30. — Schematic diagram showing diversions and storage in Kings River basin.

TULARE LAKE BASIN

11214550 COURTRIGHT RESERVOIR NEAR NELSON MOUNTAIN, CA

LOCATION.--Lat 37°04'45", long 119°58'07", in NW 1/4 NW 1/4 sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, at left end of dam on Helms Creek 2.5 mi upstream from mouth, 4.6 mi east of Nelson Mountain, and 9.7 mi west of Blackcap Mountain.

DRAINAGE AREA.--39.7 mi^2.

PERIOD OF RECORD.--October 1958 to September 1982 (monthend elevation and contents only), October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,300 acre-ft between elevations 7,902 ft, invert of tunnel and 8,184 ft, elevation of spillway. Dead storage negligible. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 124,220 acre-ft, Sept. 26, 1982, elevation, 8,184.57 ft; no contents in 1961-62, 1968, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 122,977 acre-ft, June 29, July 3, elevation, 8,183.81 ft; minimum, 33,256 acre-ft, Apr. 25, elevation, 8,102.83 ft.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97095	60661	59854	54794	55390	59705	43906	46401	118059	121452	108939	104705
2	94662	62094	61546	54516	57008	65582	44707	49802	118408	122358	111888	104398
3	92997	63973	61103	52634	58320	63890	44010	59923	118091	122977	116041	102194
4	90981	64544	61103	52400	59567	62430	41750	66791	116010	122895	116937	98671
5	90386	63518	59754	54757	60621	57430	45262	66684	117615	122618	117663	95523
6	91405	63290	57286	56569	60621	57845	55250	61952	118471	122667	117980	95660
7	92326	59983	56989	57729	60621	54442	50378	61223	119140	122700	118122	97442
8	89399	56826	56096	56903	60641	58340	48236	58506	119715	120581	118091	95839
9	87244	56020	54813	54775	60661	64899	44123	55944	119251	120581	118249	92205
10	85684	54609	53223	53068	59034	62870	40567	61506	117584	117458	118218	91618
11	85582	52679	52526	54738	57430	59646	38903	67444	120373	117095	115135	89793
12	85557	54230	52328	56522	57008	53578	43753	67723	119603	119443	116481	87941
13	85532	55578	52328	56448	57152	51258	46435	67766	118822	121710	116261	87993
14	83832	55634	52077	56512	57372	50834	48305	68057	120710	120646	115760	87708
15	81543	56960	51205	56398	58995	49976	46726	69757	121613	119060	111980	85557
16	79890	58946	51152	56750	59211	52113	41758	71005	119987	119172	113922	84798
17	77693	61183	53223	56474	57950	52005	36819	76122	121837	119140	113891	84521
18	77093	61294	54202	57671	57123	50816	33452	81997	122879	118599	113813	84458
19	77093	60202	54083	57893	55709	48870	36032	86538	122099	116969	110392	83246
20	78310	59379	54138	59280	56199	48058	41245	90082	122099	119156	110392	84070
21	78226	59211	54692	59260	59231	48544	35691	93577	122407	117647	110332	86602
22	78191	58175	53789	58233	64805	53890	34709	96693	122667	117758	110301	87851
23	76262	58272	53168	56674	67648	52526	35493	99163	121905	117489	110271	87592
24	75149	59487	53817	55204	69100	49214	34585	102655	122618	117395	110225	86922
25	72684	60461	55176	55204	68480	47238	33256	105468	122911	117426	110134	87180
26	72673	60441	54202	55803	66663	44075	40491	106280	122863	119108	110104	88877
27	72459	58564	53068	53725	61496	43890	44804	108068	122635	118630	110073	88955
28	68936	58281	52095	52942	56826	41253	42464	111597	122814	118249	107888	89819
29	68708	59260	53150	52869	---	43336	43898	111627	122977	115525	105439	89767
30	66058	60241	52661	53232	---	50089	43761	114232	122067	110453	105351	90293
31	63198	---	52634	54295	---	47659	---	117032	---	109075	105365	---
MAX	97095	64544	61546	59280	69100	65582	55250	117032	122977	122977	118249	104705
MIN	63198	52679	51152	52400	55390	41253	33256	46401	116010	109075	105351	83246
a	8138.41	8135.49	8127.47	8129.29	8131.99	8121.77	8117.04	8180.10	8183.25	8174.94	8172.45	8161.63
b	-33053	-2957	-7607	+1661	+2531	-9167	-3898	+73271	+5035	-12992	-3710	-15072

CAL YR 1985 b -2551
WTR YR 1986 b -5958

a Elevation, in feet, NGVD, at end of month.
b Change in contents, in acre-feet.

TULARE LAKE BASIN

11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA

LOCATION.--Lat 37°04'35", long 118°58'04", in SW 1/4 NW 1/4 sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 500 ft downstream from Courtright Dam, 2.5 mi upstream from North Fork Kings River, and 17 mi southeast of town of Huntington Lake.

DRAINAGE AREA.--39.7 mi^2.

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

REVISED RECORDS.--WSP 1715: 1959. WSP 2130: 1959.

GAGE.--Water-stage recorder and broad-crested weir with trapezoidal notch. Elevation of gage is 7,836 ft above National Geodetic Vertical Datum of 1929, from photogrammetry survey.

REMARKS.--No estimated daily discharges. Periods of no gage-height record, Feb. 13 to May 7, July 20-29, and Aug. 15 to Sept. 1. Flow regulated since October 1958 by Courtright Reservoir (station 11214550) 500 ft upstream. No diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage).--27 years (1959-85), 86.8 ft^3/s, 62,890 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,340 ft^3/s, Aug. 29, 1969, gage height, 5.81 ft; maximum gage height, 7.70 ft, Aug. 23, 1978; no flow on several days in 1970.

EXTREMES FOR CURRENT YEAR.--Unknown, record incomplete.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	4.3	4.1	4.0	4.0			---	8.7	10	9.0	---
2	7.4	4.4	4.1	4.0	4.0			---	8.3	10	9.0	7.8
3	7.6	4.4	4.1	4.0	4.0			---	8.0	11	9.0	7.8
4	7.3	4.4	4.1	4.0	4.0			---	8.0	11	9.2	7.6
5	7.2	4.4	4.1	4.0	4.0			---	8.0	11	9.2	7.4
6	7.2	4.4	4.1	4.1	4.0			---	8.0	10	9.2	7.0
7	7.2	4.4	4.1	4.1	4.0			---	8.0	10	9.4	7.2
8	7.2	4.3	4.1	4.1	4.0			4.3	8.8	10	9.6	7.2
9	7.2	4.3	4.1	4.0	4.0			4.3	8.5	10	9.6	7.0
10	7.0	4.3	4.1	4.0	4.0			4.4	8.4	10	9.6	7.2
11	6.8	4.1	4.0	4.0	4.0			4.4	8.4	10	9.6	6.6
12	6.8	4.0	4.0	4.0	4.1			4.3	8.4	10	9.6	6.5
13	6.8	4.0	4.0	4.0	---			4.3	8.4	10	9.6	6.5
14	6.8	4.0	4.0	4.0	---			4.3	8.4	10	9.8	6.5
15	6.8	4.0	4.0	4.0	---			4.4	8.9	10	---	6.5
16	6.6	4.0	4.0	4.0	---			4.4	9.0	10	---	6.3
17	6.6	4.0	4.0	4.0	---			4.4	9.0	10	---	6.3
18	6.4	4.0	4.0	4.0	---			4.6	9.0	10	---	6.3
19	6.3	4.0	4.0	4.0	---			4.8	9.0	9.8	---	6.1
20	6.3	4.0	4.0	4.0	---			4.8	9.4	---	---	6.1
21	6.3	4.0	4.0	4.0	---			4.8	10	---	---	6.1
22	6.3	4.0	4.0	4.0	---			4.8	10	---	---	6.3
23	6.3	4.1	4.0	4.0	---			4.8	10	---	---	6.3
24	6.3	4.1	4.0	4.0	---			4.8	10	---	---	6.5
25	6.2	4.1	4.0	4.0	---			4.8	10	---	---	6.5
26	6.1	4.1	4.0	4.0	---			4.8	10	---	---	6.5
27	5.9	4.1	4.0	4.0	---			4.8	10	---	---	6.5
28	6.1	4.1	4.0	4.0	---			6.3	10	---	---	6.5
29	5.7	4.1	4.0	4.0	---			8.0	10	---	---	6.5
30	5.7	4.1	4.0	4.0	---			8.3	10	9.4	---	6.5
31	5.3	---	4.0	4.0	---			8.7	---	9.1	---	---
TOTAL	204.9	124.5	125.0	124.3	---			---	270.6	---	---	---
MEAN	6.61	4.15	4.03	4.01	---			---	9.02	---	---	---
MAX	7.6	4.4	4.1	4.1	---			---	10	---	---	---
MIN	5.3	4.0	4.0	4.0	---			---	8.0	---	---	---
AC-FT	406	247	248	247	---			---	537	---	---	---

CAL YR 1985 TOTAL 2008.5 MEAN 5.50 MAX 8.4 MIN 3.0 AC-FT 3980

11214800 WISHON RESERVOIR NEAR CLIFF CAMP, CA

LOCATION.--Lat 37°00'19", long 118°58'07", in NW 1/4 NW 1/4 sec.6, T.11 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right end of dam on North Fork Kings River, 1.2 mi north of Cliff Camp, and 20 mi southeast of Big Creek.

DRAINAGE AREA.--177 mi^2.

PERIOD OF RECORD.--December 1957 to September 1982 (monthend elevation and contents only), October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by rockfill dam completed in 1957. Capacity, 128,600 acre-ft between elevations 6,317 ft, bottom of slide gates and 6,550 ft, operating crest of spillway gates. Dead storage negligible. Water is diverted to Haas powerhouse for power. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 129,700 acre-ft, July 29, 1958, elevation, 6,551.1 ft; no contents in 1960.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 126,337 acre-ft, July 1, elevation, 6,547.77 ft; minimum, 42,838 acre-ft, May 4, elevation, 6,445.64 ft.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43281	55680	50126	54114	52650	59210	60214	59224	88391	126337	118039	96756
2	45045	54026	49841	54243	51406	54365	59348	57349	92621	125257	114565	95847
3	45886	51748	49964	56116	49770	54794	60061	48927	96604	124423	109865	96890
4	46980	50113	49596	56912	48174	55686	62291	42838	101283	124453	107951	99275
5	47024	50263	50542	55749	46578	60236	58374	43123	101029	124603	106182	101447
6	45520	50276	52337	54257	46011	59195	48034	47660	102512	124152	104971	101165
7	43817	52676	52397	52876	45193	61926	52198	47787	104842	123402	103821	99755
8	46023	55308	53010	53520	45255	60537	53433	50074	106814	124885	102777	99780
9	47351	55984	53979	54706	45354	54250	56618	52830	109762	123982	102047	101192
10	48028	57796	55335	56534	46710	56220	59558	48085	113587	126297	101574	101729
11	47168	59835	55535	55082	48041	58554	60875	43257	112794	125791	103629	102266
12	46722	57732	55376	53520	49184	63658	55811	44860	115722	122474	101120	102997
13	45961	56026	54863	53010	49977	64938	49505	47389	119119	119267	100123	102796
14	46816	55438	55123	51986	51432	64209	49764	50029	119740	119345	99726	103024
15	48136	53628	55935	51570	50895	63967	50263	51636	120955	119878	102759	103858
16	48972	51696	55797	50412	51538	60742	54040	53993	124012	118677	100766	103052
17	50217	49493	53797	50614	53608	59637	57477	52823	123551	117433	100811	101756
18	49984	48882	52897	49634	56415	59485	59427	51854	122943	116819	99780	100757
19	49402	49505	53131	49680	60581	60156	55811	52950	124162	118010	102211	100422
20	47610	49841	53184	48225	61096	59849	50419	54822	124252	115220	101011	98268
21	47118	49531	52756	47743	58303	58518	56702	55935	124062	115781	99708	95030
22	46110	50165	53763	48041	52670	52039	58950	56765	123902	114931	98457	92613
23	47250	50263	54243	49030	46809	52983	59166	57377	124965	114546	97820	92104
24	47553	49557	53505	50035	48365	55404	60720	57321	124885	113836	97274	92174
25	49017	48837	52284	50185	49158	56632	62763	59485	125015	113166	96435	91203
26	48531	49017	53453	49777	51091	59319	56158	64452	125458	111605	95349	88434
27	48276	51058	54754	52125	56401	59319	52943	69170	125913	112280	94145	87633
28	51170	51636	55894	53164	61244	61866	57335	72286	125610	111909	95234	86039
29	50490	50823	55150	53587	---	59878	58124	78734	125076	113951	97050	84474
30	52238	50126	55970	54087	---	53386	60214	82844	125832	118353	96925	83223
31	54128	---	56081	53426	---	56109	---	84152	---	118795	96925	---
MAX	54128	59835	56081	56912	61244	64938	62763	84152	125913	126337	118039	103858
MIN	43281	48837	49596	47743	45193	52039	48034	42838	88391	111605	94145	83223
a	6463.33	6457.29	6466.18	6462.29	6473.37	6466.22	6471.97	6502.11	6547.27	6540.20	6516.79	6501.01
b	+8828	-4002	+5955	-2655	+7818	-5135	+4105	+23938	+41680	-7037	-21870	-13702

CAL YR 1985 b +881
WTR YR 1986 b +37923

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

TULARE LAKE BASIN

11215000 NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CA

LOCATION.--Lat 36°59'38", long 118°58'49", in NE 1/4 NW 1/4 sec.12, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank at Cliff Camp bridge, 1 mi northwest of Cliff Camp, 1.2 mi downstream from Wishon Dam, and 2 mi downstream from Woodchuck Creek.

DRAINAGE AREA.--181 mi^2.

PERIOD OF RECORD.--August 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1951, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,143.95 ft above National Geodetic Vertical Datum of 1929 (levels by San Joaquin Light and Power Corp.). Prior to Nov. 24, 1922, at site 1 mi upstream at different datum.

REMARKS.--Flow regulated since Dec. 5, 1957, by Wishon Reservoir (station 11214800), 1.2 mi upstream, and since Oct. 17, 1958, by Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage and diversion).--65 years, 383 ft^3/s, 277,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon Reservoir).--Maximum discharge, 14,000 ft^3/s, Dec. 11, 1937, gage height, 18.0 ft, from floodmarks, from rating curve extended above 4,200 ft^3/s on basis of velocity-area studies; minimum, 0.6 ft^3/s, Dec. 30, 1930.
1957 to current year.--Maximum discharge, 5,110 ft^3/s, Sept. 5, 1978, gage height, 11.96 ft; minimum daily, 0.8 ft^3/s, Dec. 14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,550 ft^3/s, June 3-5; minimum daily, 17 ft^3/s, for many days in October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	20	25	29	57	47	470	987	29	29	26
2	17	18	106	23	27	51	38	467	1230	29	29	26
3	17	17	38	22	26	49	33	457	1550	29	28	26
4	17	17	25	46	24	49	31	438	1550	29	28	26
5	17	17	23	99	23	48	32	425	1550	29	28	26
6	17	17	22	37	22	46	36	432	767	29	28	27
7	17	17	22	27	21	43	67	442	240	28	28	27
8	17	17	22	25	21	287	140	440	242	28	27	27
9	17	18	21	25	20	59	170	302	372	28	27	27
10	17	18	21	24	20	41	173	194	546	29	27	27
11	17	18	20	24	20	39	176	188	548	30	27	27
12	17	18	20	23	24	37	175	185	397	30	27	27
13	17	18	20	22	225	34	167	189	227	30	27	27
14	17	18	20	22	212	31	259	192	228	29	27	27
15	17	18	19	22	112	29	446	195	229	29	27	27
16	17	18	19	22	46	28	451	197	398	29	27	27
17	17	18	19	23	46	27	459	197	523	29	27	27
18	17	17	19	23	218	27	464	196	524	29	27	27
19	17	17	20	23	281	31	464	102	524	29	27	27
20	17	17	20	22	59	35	457	25	524	29	27	27
21	18	18	20	21	41	40	457	25	524	29	27	27
22	17	18	20	21	39	42	469	24	524	29	27	26
23	17	18	21	21	42	40	472	25	401	29	26	26
24	17	24	21	21	50	39	471	24	252	29	26	27
25	17	33	21	21	57	42	475	24	251	29	26	27
26	17	22	21	21	56	46	470	24	253	29	26	26
27	17	20	21	21	56	47	458	25	250	28	26	26
28	17	24	21	21	57	46	461	25	247	28	26	25
29	17	22	27	25	---	47	466	76	167	28	26	26
30	17	20	55	87	---	47	469	447	44	28	26	26
31	17	---	29	36	---	42	---	979	---	29	26	---
TOTAL	528	570	793	895	1874	1526	8953	7431	16069	895	837	797
MEAN	17.0	19.0	25.6	28.9	66.9	49.2	298	240	536	28.9	27.0	26.6
MAX	18	33	106	99	281	287	475	979	1550	30	29	27
MIN	17	17	19	21	20	27	31	24	44	28	26	25
AC-FT	1050	1130	1570	1780	3720	3030	17760	14740	31870	1780	1660	1580

CAL YR 1985	TOTAL	8374	MEAN	22.9	MAX	106	MIN	17	AC-FT 16610
WTR YR 1986	TOTAL	41168	MEAN	113	MAX	1550	MIN	17	AC-FT 81660

TULARE LAKE BASIN

11216200 NORTH FORK KINGS RIVER BELOW BALCH DIVERSION DAM, CA

LOCATION.--Lat 36°54'10", long 119°03'00", in NE 1/4 sec.8, T.12 S., R.27 E., Fresno County, Hydrologic Unit 18030010, on right bank 2.0 mi downstream from Balch Diversion Dam (Black Rock Reservoir), 400 ft upstream from Weir Creek, and 4 mi east of Balch Camp.

DRAINAGE AREA.--238 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,830 ft^3/s, Nov. 24, 1983, gage height, 7.63 ft; minimum daily, 0.89 ft^3/s, Oct. 21, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,210 ft^3/s, Mar. 8; minimum daily, 2.9 ft^3/s, Dec. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.0	8.4	3.6	9.9	22	382	822	1540	118	6.4	7.2
2	6.0	6.0	43	3.4	8.8	21	341	829	1710	112	6.4	7.1
3	5.9	6.0	16	3.3	9.6	223	120	765	1980	108	6.3	7.4
4	5.9	6.0	12	9.5	8.1	459	116	746	1950	30	6.2	7.7
5	5.9	6.0	15	103	7.4	473	236	687	1930	9.9	6.2	7.6
6	6.3	6.5	7.0	17	7.3	534	268	673	1270	9.6	6.2	7.7
7	6.3	6.0	6.1	12	6.8	465	276	652	641	9.4	6.2	7.7
8	6.0	7.5	6.3	9.7	6.0	2210	333	639	612	9.0	6.2	7.7
9	6.0	6.3	5.6	8.6	5.8	918	363	510	702	8.9	6.2	7.5
10	6.0	9.4	4.2	7.7	5.5	752	376	398	910	8.9	6.2	6.4
11	6.0	8.7	3.7	7.1	5.4	621	401	430	906	9.0	6.2	5.5
12	6.0	7.6	3.6	6.6	57	532	395	457	782	9.0	6.1	6.5
13	6.0	6.9	3.5	6.3	1010	492	347	513	558	9.1	6.1	6.5
14	6.0	6.9	3.5	6.1	326	427	400	543	542	9.1	6.1	6.6
15	5.9	7.0	3.6	6.0	375	388	657	555	503	9.1	6.1	6.6
16	5.9	7.2	3.5	5.9	299	385	665	554	625	9.0	6.1	6.4
17	5.8	9.7	3.4	5.8	160	342	641	608	797	8.4	6.2	6.4
18	5.8	7.8	3.3	5.6	1330	335	638	614	769	8.1	6.2	6.0
19	5.9	10	3.3	5.3	1390	347	657	653	741	8.1	6.0	5.8
20	6.0	12	3.2	5.3	110	447	691	531	717	8.1	6.1	6.0
21	8.4	7.7	3.2	5.3	50	329	750	480	707	7.9	6.1	6.0
22	6.2	7.0	3.2	5.1	41	251	805	282	697	7.6	6.5	6.0
23	6.0	7.0	3.1	5.0	35	265	798	365	600	7.6	7.5	6.0
24	6.0	19	3.0	5.8	32	252	771	620	364	7.3	7.5	8.4
25	6.0	21	3.0	6.9	29	261	776	454	361	7.0	7.2	8.1
26	6.0	9.6	3.0	4.5	27	286	765	503	340	6.9	7.0	6.3
27	6.0	8.5	3.0	4.7	25	309	772	547	325	6.7	7.1	6.2
28	6.1	11	2.9	4.7	23	314	822	585	311	6.7	7.1	6.2
29	6.0	16	3.1	5.4	---	327	844	590	265	6.8	7.1	6.2
30	6.0	11	5.7	19	---	344	837	935	144	6.1	7.1	6.2
31	6.0	---	4.3	13	---	346	---	1520	---	6.4	7.2	---
TOTAL	188.3	267.3	195.7	317.2	5399.6	13677	16243	19060	24299	587.7	201.1	201.9
MEAN	6.07	8.91	6.31	10.2	193	441	541	615	810	19.0	6.49	6.73
MAX	8.4	21	43	103	1390	2210	844	1520	1980	118	7.5	8.4
MIN	5.8	6.0	2.9	3.3	5.4	21	116	282	144	6.1	6.0	5.5
AC-FT	373	530	388	629	10710	27130	32220	37810	48200	1170	399	400

CAL YR 1985	TOTAL	2111.9	MEAN	5.79	MAX	43	MIN	2.8	AC-FT	4190
WTR YR 1986	TOTAL	80637.8	MEAN	221	MAX	2210	MIN	2.9	AC-FT	159900

TULARE LAKE BASIN

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA

LOCATION.--Lat 36°54'12", long 119°07'14", in SE 1/4 NE 1/4 sec.10, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 12 ft downstream from bridge at Balch Camp, 300 ft upstream from Dinkey Creek, and 9.3 mi east of Trimmer.
DRAINAGE AREA.--250 mi^2.
PERIOD OF RECORD.--October 1919 to September 1930 (published as "above Dinkey Creek"), 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.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Apr. 15, 1966. Elevation of gage is 1,240 ft above National Geodetic Vertical Datum of 1929, from river-profile map. October 1919 to Sept. 30, 1930, and Mar. 24, 1960, to Apr. 14, 1966, at site 100 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 14-16 and June 21-24. Flow regulated by Courtright Reservoir (station 11214550) and Wishon Reservoir (station 11214800), Black Rock Reservoir, capacity, 1,260 acre-ft, Balch Afterbay, capacity, 318 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.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to storage and diversion).--11 years (water years 1920-30), 387 ft^3/s, 280,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 ft^3/s, June 4, 1922, gage height, 12.18 ft, site and datum then in use; minimum, 4 ft^3/s, Aug. 29 to Sept. 1, 1924.
1960 to current year: Maximum discharge, 14,000 ft^3/s, Feb. 1, 1963, gage height, 13.24 ft, site and datum then in use, backwater from Dinkey Creek, from rating curve extended above 890 ft^3/s; minimum daily, 0.30 ft^3/s, Nov. 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,710 ft^3/s, Mar. 8; minimum daily, 11 ft^3/s, on several days during December and January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	25	12	42	19	412	717	1880	121	17	17
2	17	17	24	12	31	18	366	718	1030	112	17	18
3	17	17	18	12	16	84	159	719	566	104	17	18
4	17	16	14	13	15	231	86	623	552	45	17	17
5	17	17	13	192	14	232	229	600	647	16	17	17
6	17	17	13	19	13	303	305	592	764	17	17	17
7	17	17	12	15	13	288	304	573	760	17	17	17
8	17	17	12	13	13	2710	350	562	648	17	17	16
9	17	17	12	13	13	774	414	507	523	17	17	17
10	17	17	11	12	13	639	394	396	513	17	17	17
11	17	17	11	12	12	512	392	400	490	17	17	17
12	17	18	11	11	12	440	393	433	602	17	17	17
13	17	17	11	11	172	413	354	467	684	17	17	17
14	17	24	12	12	175	366	362	496	676	17	17	17
15	17	26	12	13	535	335	552	510	691	17	17	17
16	17	16	12	13	456	356	561	522	629	17	17	17
17	17	17	12	13	397	303	541	546	620	17	17	17
18	17	18	12	13	1650	286	541	540	613	17	17	18
19	17	18	12	13	1800	290	555	422	516	18	17	17
20	17	20	12	13	167	299	589	379	434	18	17	17
21	17	21	12	13	60	262	634	441	474	17	17	17
22	17	31	12	12	51	307	696	482	448	16	17	18
23	17	27	12	12	32	322	697	519	416	17	17	18
24	17	20	12	15	21	307	666	539	387	17	17	18
25	17	16	12	15	19	312	667	567	373	17	17	18
26	17	16	12	13	20	335	664	930	366	17	17	17
27	17	18	12	31	20	351	661	1300	355	17	18	17
28	17	24	12	25	17	352	705	1350	342	18	17	18
29	17	23	12	23	---	361	723	1650	303	15	17	18
30	17	18	12	299	---	371	726	1930	156	17	17	18
31	17	---	12	52	---	368	---	1890	---	17	17	---
TOTAL	527	574	403	947	5799	12546	14698	22320	17458	840	528	519
MEAN	17.0	19.1	13.0	30.5	207	405	490	720	582	27.1	17.0	17.3
MAX	17	31	25	299	1800	2710	726	1930	1880	121	18	18
MIN	17	16	11	11	12	18	86	379	156	15	17	16
AC-FT	1050	1140	799	1880	11500	24880	29150	44270	34630	1670	1050	1030

CAL YR 1985	TOTAL	6071	MEAN	16.6	MAX	126	MIN	10	AC-FT	12040
WTR YR 1986	TOTAL	77159	MEAN	211	MAX	2710	MIN	11	AC-FT	153000

11217000 DINKEY CREEK AT DINKEY MEADOW, NEAR SHAVER LAKE, CA

LOCATION.--Lat 37°02'50", long 119°08'52", in SW 1/4 NW 1/4 sec.21, T.10 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 0.5 mi downstream from Dinkey Meadow, 2.0 mi south of Dinkey Creek Post Office, and 14.4 mi southeast of town of Shaver Lake.

DRAINAGE AREA.--50.7 mi^2.

PERIOD OF RECORD.--September 1910 to September 1915 (fragmentary records), published as "near Ockenden"; October 1921 to September 1935, published as "at Dinkey Meadow"; July 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,440 ft above National Geodetic Vertical Datum of 1929, from topographic map. September 1910 to September 1915, at site 1 mi upstream at different datum. October 1921 to September 1935, at present site at same datum.

REMARKS.--Estimated daily discharges: Dec. 22 to Jan. 24, July 25-28, Aug. 2-6, 14, 18, 19, 23-27, 29, 30, Sept. 21, 22. Records poor. No diversion or regulation above gage.

AVERAGE DISCHARGE.--23 years (water years 1922-35, 1978-86), 123 ft^3/s, 89,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft^3/s, Apr. 11, 1982, gage height, 12.07 ft; minimum recorded, 0.2 ft^3/s, Aug. 24-30, 1931, Sept. 7-9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1245	773	5.38	Mar. 8	0815	5,870	9.87
Jan. 5	Unknown	1,370	6.43	Mar. 30	1930	618	4.95
Jan. 30	0315	862	5.60	May 28	1930	1,150	6.13
Feb. 19	0515	*6,180	*10.03				

Minimum daily, 2.4 ft^3/s, Oct. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	4.6	33	64	140	466	528	640	846	120	17	9.8
2	2.6	4.4	432	62	122	433	441	656	811	114	16	9.6
3	2.5	4.2	191	61	107	411	364	629	774	110	16	9.6
4	2.4	4.1	93	94	95	422	346	501	687	104	15	9.7
5	2.4	4.1	69	666	87	419	332	410	610	94	15	9.7
6	2.7	4.0	55	210	81	416	343	350	566	86	15	9.7
7	9.6	3.9	51	124	72	381	321	295	520	79	14	9.6
8	5.2	3.9	46	103	67	2380	280	294	479	71	14	9.9
9	7.2	3.8	38	95	62	729	284	334	487	65	14	10
10	5.5	3.9	33	85	60	518	319	390	489	60	15	11
11	4.5	7.3	34	76	58	412	366	437	477	57	16	11
12	4.1	9.7	36	70	145	358	382	520	464	56	18	11
13	3.7	10	37	66	1250	304	306	597	464	55	17	11
14	3.6	12	34	61	1250	265	308	621	445	50	16	11
15	3.4	15	32	58	848	238	321	636	401	46	16	10
16	3.3	19	32	57	433	228	306	675	374	38	17	10
17	3.2	19	34	58	625	213	256	707	345	34	16	11
18	3.1	14	36	66	1720	207	244	789	322	32	15	20
19	3.0	12	39	70	2230	221	301	826	285	30	15	18
20	3.0	12	41	72	647	250	423	769	250	29	16	16
21	12	14	42	65	444	294	573	698	238	29	17	15
22	10	13	44	61	364	330	628	612	234	33	16	14
23	12	16	44	59	353	317	569	548	227	35	15	16
24	13	52	45	58	399	301	537	586	219	31	15	29
25	9.5	123	46	59	446	338	536	696	202	29	14	38
26	7.6	51	47	62	456	406	526	762	189	27	13	28
27	6.4	38	46	66	449	453	585	811	172	26	13	26
28	5.7	39	45	72	463	459	666	861	153	24	12	24
29	5.4	43	62	88	---	484	667	837	136	22	11	23
30	5.1	37	131	522	---	525	655	813	125	20	11	21
31	4.7	---	79	190	---	531	---	765	---	18	10	---
TOTAL	169.1	596.9	2027	3520	13473	13709	12713	19065	11991	1624	460	461.6
MEAN	5.45	19.9	65.4	114	481	442	424	615	400	52.4	14.8	15.4
MAX	13	123	432	666	2230	2380	667	861	846	120	18	38
MIN	2.4	3.8	32	57	58	207	244	294	125	18	10	9.6
AC-FT	335	1180	4020	6980	26720	27190	25220	37820	23780	3220	912	916

CAL YR 1985 TOTAL 27334.2 MEAN 74.9 MAX 565 MIN 2.0 AC-FT 54220
WTR YR 1986 TOTAL 79809.6 MEAN 219 MAX 2380 MIN 2.4 AC-FT 158300

TULARE LAKE BASIN

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA

LOCATION.--Lat 36°52'47", long 119°07'40", in NE 1/4 NW 1/4 sec.22, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 1.1 mi upstream from mouth, 1.7 mi south of Balch Camp, 2.1 mi downstream from Dinkey Creek, and 9 mi east of Trimmer.

DRAINAGE AREA.--387 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,035 ft above National Geodetic Vertical Datum of 1929, from river-profile map.

REMARKS.--Estimated daily discharges: June 9-16. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), Black Rock Reservoir, capacity, 1,260 acre-ft, Balch Afterbay, capacity, 318 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.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft^3/s, Feb. 1, 1963, gage height, 19.20 ft, from rating curve extended above 10,100 ft^3/s; minimum daily, 6.4 ft^3/s, Oct. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,850 ft^3/s, Mar. 8; minimum daily, 31 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	37	92	168	297	903	1510	1970	2830	289	62	39
2	32	37	861	140	274	856	1290	1960	2960	272	60	39
3	32	36	476	119	245	858	900	1980	3190	256	59	38
4	32	36	221	197	207	1040	786	1650	3040	202	58	37
5	31	36	167	1810	193	1040	901	1460	2900	162	57	36
6	32	36	129	605	183	1110	1030	1350	2240	151	55	36
7	38	36	114	336	157	1030	990	1230	1470	141	53	36
8	44	36	109	261	155	5850	969	1180	1350	130	52	35
9	40	36	92	222	142	2570	1030	1140	1340	121	52	36
10	42	45	87	209	142	2100	1060	1090	1330	114	50	36
11	39	55	74	196	138	1650	1110	1160	1330	109	50	37
12	37	51	76	185	476	1410	1170	1330	1320	104	49	36
13	36	49	76	170	3730	1270	990	1510	1310	100	48	37
14	35	57	76	159	1890	1120	984	1600	1300	95	47	37
15	35	75	75	152	2680	1020	1270	1640	1300	90	46	38
16	34	76	73	145	2340	1110	1280	1710	1290	86	46	38
17	34	63	72	151	2550	942	1160	1810	1280	83	45	38
18	34	55	74	169	5160	876	1120	1920	1240	81	44	47
19	33	48	78	181	5290	884	1190	2070	1170	79	44	43
20	33	47	81	182	1870	923	1420	1880	1140	76	44	41
21	44	54	85	163	1170	937	1740	1710	1050	75	46	41
22	57	51	87	144	935	1040	1950	1340	1030	77	44	42
23	49	58	89	134	837	1050	1860	1200	948	90	42	52
24	54	132	89	128	845	979	1740	1330	698	83	41	110
25	51	332	91	129	905	1010	1730	1630	665	78	41	84
26	46	136	94	134	922	1130	1700	1780	631	75	40	74
27	43	97	92	154	893	1220	1780	1900	595	73	40	70
28	40	102	88	160	895	1250	2000	2010	556	72	39	65
29	39	176	106	170	---	1280	2040	1990	499	66	39	65
30	38	113	353	1080	---	1360	2010	2260	337	66	39	66
31	38	---	248	421	---	1390	---	2760	---	64	39	---
TOTAL	1205	2198	4525	8574	35521	41208	40710	51550	42339	3560	1471	1429
MEAN	38.9	73.3	146	277	1269	1329	1357	1663	1411	115	47.5	47.6
MAX	57	332	861	1810	5290	5850	2040	2760	3190	289	62	110
MIN	31	36	72	119	138	856	786	1090	337	64	39	35
AC-FT	2390	4360	8980	17010	70460	81740	80750	102200	83980	7060	2920	2830

CAL YR 1985	TOTAL	55446	MEAN	152	MAX	942	MIN	30	AC-FT	110000
WTR YR 1986	TOTAL	234290	MEAN	642	MAX	5850	MIN	31	AC-FT	464700

TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA
(National stream-quality accounting network station)

LOCATION.--Lat 36°52'29", long 119°08'27", in SW 1/4 NE 1/4 sec.21, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, on right bank 0.8 mi downstream from North Fork, 2.4 mi southwest of Balch Camp, and 8.5 mi southeast of Trimmer.
DRAINAGE AREA.--1,342 mi^2.

WATER-DISCHARGE RECORDS

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. Records for 1962 to 1984 include flow diverted to Kings River powerplant.
REVISED RECORDS.--WSP 1930: Drainage area. WRD CA-72-2: Adjusted data for 1971.
GAGE.--Water-stage recorder. Datum of gage is 942.42 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).
REMARKS.--Estimated daily discharges: June 21 to July 10, backwater from Pine Flat Lake. Records good. Flow regulated by Courtright and Wishon Reservoirs (stations 11214550 and 11214800). This station measures inflow to Pine Flat Lake. See schematic diagram of Kings River basin. For records of combined discharge of river and powerplant, see following page.
COOPERATION.--Records of diversion to Kings River powerplant and contents for Courtright and Wishon Reservoirs were provided by Pacific Gas and Electric Co.
AVERAGE DISCHARGE (adjusted for diversion to Kings River powerplant and change in contents in Wishon and Courtright Reservoirs).--35 years, 2,385 ft^3/s, 1,728,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,200 ft^3/s, Dec. 23, 1955, gage height, 23.08 ft, from rating curve extended above 22,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum daily, 86 ft^3/s, Oct. 1, 1977.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 21.6 ft from floodmarks, discharge, 74,200 ft^3/s.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 25,900 ft^3/s, Feb. 19, gage height, 13.27 ft; minimum daily, 250 ft^3/s, Oct. 6.
Combined river and powerplant: Maximum daily discharge, 18,000 ft^3/s, May 31, June 3; minimum daily, 327 ft^3/s, Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	306	805	803	1360	3730	5460	8680	15400	6120	1860	709
2	277	296	3140	733	1270	3650	4970	8650	16600	6420	1890	669
3	268	286	2180	679	1220	3500	4140	8850	17100	6590	1860	638
4	259	279	1410	815	1160	3650	3820	7740	16700	7010	1780	617
5	252	273	1280	5530	1260	3670	3810	6440	14900	6450	1700	599
6	250	269	926	2680	1150	3780	4040	5760	12900	5460	1710	585
7	275	264	847	1800	880	3610	3750	5050	11600	5030	1670	574
8	310	259	796	1590	870	14100	3640	4730	10500	4700	1590	569
9	363	254	723	1380	818	7900	3610	4760	10000	4410	1530	560
10	356	272	658	1100	793	7140	3790	5170	10400	4260	1500	555
11	355	355	606	1030	775	5870	3920	5520	10500	4270	1620	499
12	347	308	568	972	2370	5190	4340	6210	10400	4580	1520	465
13	335	342	577	920	11100	4670	3850	7220	10300	5090	1480	443
14	319	367	572	877	5880	4200	3720	8020	10700	4710	1430	428
15	300	414	550	841	9400	3860	4030	8820	10300	3920	1370	413
16	286	421	537	800	8820	3990	4010	9570	9540	3620	1290	399
17	277	424	523	770	10300	3530	3670	10300	9860	3030	1210	386
18	269	398	514	782	16400	3210	3490	11400	9890	2740	1120	401
19	262	349	526	802	16700	3020	3590	12800	9200	2570	1070	423
20	256	343	541	812	8370	3080	4210	12900	8540	2570	1030	400
21	285	374	561	774	5720	3170	5600	12200	7850	2460	1200	381
22	351	356	574	735	4580	3370	7020	10200	8020	2390	1120	367
23	336	360	582	705	4200	3470	7190	9250	8000	2550	1040	358
24	400	723	586	680	3930	3370	6590	8840	7800	2580	958	419
25	445	1440	589	671	3970	3400	6480	11000	8270	2330	892	687
26	435	881	598	676	3960	3770	6380	12700	7970	2150	849	576
27	404	689	597	704	3840	4160	6570	14000	8250	2060	949	538
28	373	780	587	729	3700	4410	7920	15200	7380	2080	970	511
29	351	1070	617	772	---	4700	8710	15400	6060	1960	885	502
30	333	879	1080	2430	---	5040	8770	16800	5830	1830	814	513
31	319	---	981	1690	---	5210	---	17100	---	1830	756	---
TOTAL	9935	14031	25631	36282	134796	139420	151090	301280	310760	117770	40663	15184
MEAN	320	468	827	1170	4814	4497	5036	9719	10360	3799	1312	506
MAX	445	1440	3140	5530	16700	14100	8770	17100	17100	7010	1890	709
MIN	250	254	514	671	775	3020	3490	4730	5830	1830	756	358
AC-FT	19710	27830	50840	71970	267400	276500	299700	597600	616400	233600	80660	30120
MEAN a	336	563	1024	1437	5560	5144	6032	12280	12000	4101	1327	507
AC-FT a	20660	33500	62960	88360	308800	316300	358900	755100	714000	252200	81590	30170

CAL YR 1985 TOTAL 505298 MEAN 1384 MAX 5690 MIN 250 AC-FT 1002000 MEAN a 4182 AC-FT a 3028000
WTR YR 1986 TOTAL 1296842 MEAN 3553 MAX 17100 MIN 250 AC-FT 2572000 MEAN a 1673 AC-FT a 1211000

a Adjusted for diversion to Kings River powerplant and change in contents in Wishon and Courtright Reservoirs.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956 to current year.
CHEMICAL DATA: Water years 1956-66, 1968-70, 1973 to current year.
BIOLOGICAL DATA: Water years 1978-81.
WATER TEMPERATURE: Water years 1967 to current year.
SEDIMENT DATA: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

REMARKS.--Quality of water samples are obtained at the gaging station upstream from the powerplant. Temperature recorder located 1 mi downstream from gaging station. Temperature subject to fluctuation because of powerplant operation upstream. Temperature sensor inundated by Pine Flat Lake from Feb. 20 to Apr. 19 and Apr. 28 to Aug. 12 when lake elevation exceeded 903.0 ft. Interruption of record was due to malfunction of recording instruments. September samples collected subsequent to forest fire in watershed.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 26.5°C, Sept. 2, 1977; minimum recorded, 0.0°C on several days in 1966 and 1967.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 23.0°c, Oct. 1; minimum recorded, 3.0°C, Dec. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV , 1985												
21...	1030	398	41	7.50	7.0	745	0.30	10.7	90	K2	K3	16
JAN , 1986												
30...	1245	2750	28	7.40	9.0	735	4.3	11.0	99	54	68	10
MAR												
12...	1145	5080	40	7.38	8.0	740	2.4	11.6	101	K9	K13	15
MAY												
22...	1315	10500	14	[1]7.60	8.5	740	2.0	11.2	99	K3	--	6
JUL												
17...	1030	3200	26	[1]7.30	15.5	745	1.7	9.8	100	K1	K2	6
SEP												
25...	1245	718	106	7.80	14.0	740	0.50	9.9	99	1300	2100	47

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WHOLE IT-FLD (MG/L)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
NOV										
21...	0	5.3	0.70	3.2	29	0.4	1.0	24	20	21
JAN										
30...	0	3.3	0.53	2.2	29	0.3	1.0	13	11	13
MAR										
12...	0	4.6	0.83	2.5	25	0.3	0.90	24	20	22
MAY										
22...	0	1.9	0.20	1.1	28	0.2	0.50	8	7	8
JUL										
17...	0	2.0	0.24	1.0	24	0.2	0.60	11	9	9
SEP										
25...	3	16	1.6	3.2	12	0.2	2.9	49	40	44

See footnotes at end of table.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV												
21...	4.1	1.6	<0.10	11	33	37	--	<0.010	<0.100	0.020	0.020	0.30
JAN												
30...	3.3	1.0	<0.10	8.9	27	28	0.04	<0.010	<0.100	0.050	0.040	0.40
MAR												
12...	4.0	0.80	<0.10	14	38	41	0.05	<0.010	<0.100	<0.010	<0.010	0.40
MAY												
22...	1.6	0.30	<0.10	6.2	16	16	0.02	<0.010	<0.100	0.030	0.030	0.20
JUL												
17...	1.6	0.40	<0.10	4.3	18	16	0.02	<0.010	<0.100	0.010	0.010	<0.20
SEP												
25...	9.4	1.6	0.10	11	99	73	0.13	<0.010	0.190	0.270	0.230	2.1

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV												
21...	<0.010	<0.010	0.010	<10	1	11	<0.5	<1	<1	<3	<1	13
JAN												
30...	0.040	0.020	<0.010	--	--	--	--	--	--	--	--	--
MAR												
12...	0.020	0.010	<0.010	60	<1	13	<0.5	<1	2	<3	<1	34
MAY												
22...	0.060	0.010	<0.010	40	<1	8	<0.5	<1	<1	<3	<1	18
JUL												
17...	0.020	0.020	0.010	--	--	--	--	--	--	--	--	--
SEP												
25...	0.850	0.300	0.220	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
21...	<1	5	<1	<0.1	<10	<1	<1	<1	36	<6	7
JAN											
30...	--	--	--	--	--	--	--	--	--	--	--
MAR											
12...	<1	<4	<1	0.1	<10	<1	<1	<1	35	<6	4
MAY											
22...	<1	<4	2	<0.1	<10	<1	<1	<1	15	<6	21
JUL											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--

[1] Laboratory value.
K Results based on colony count outside the acceptable range (nonideal colony count).
< Actual value is known to be less than the value shown.

TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)
JAN									
30...*	1125	20.0	32	7.60	9.0	735	10.8	97	22
30...*	1130	40.0	33	7.70	9.0	735	11.2	100	22
30...*	1135	60.0	32	7.60	9.0	735	11.2	100	22
30...*	1140	80.0	33	7.70	9.0	735	11.3	101	22
30...*	1145	100	38	7.70	9.0	735	11.2	100	22
30...*	1150	120	33	7.70	9.0	735	11.2	100	22
30...*	1155	140	32	7.70	9.0	735	11.2	100	22
30...*	1200	160	31	7.70	9.0	735	11.2	100	22
30...*	1205	180	36	7.60	9.0	735	11.0	99	22
MAY									
22...*	1400	40.0	14	6.70	9.0	740	11.4	102	40
22...*	1410	80.0	13	6.70	9.0	740	10.8	96	64
22...*	1420	120	13	6.70	8.5	740	11.0	97	--
22...*	1430	160	13	6.90	8.5	740	11.4	100	84
22...*	1440	200	13	6.50	8.0	740	11.6	101	55
SEP									
25...*	1330	25.0	112	7.20	14.0	740	9.6	96	--
25...*	1340	45.0	103	7.90	14.0	740	9.9	99	--
25...*	1350	65.0	104	8.00	14.0	740	9.9	99	--
25...*	1400	85.0	103	8.10	14.0	740	9.9	99	--
25...*	1410	105	104	7.50	14.0	740	9.8	98	--

* Instantaneous streamflow at the time of cross-sectional measurements:
Jan 30: 2750 ft3/s
May 22: 10500 ft3/s
Sep 25: 718 ft3/s

TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
23.0	14.5	13.0	11.5	7.0	6.0	8.5	7.5	8.0	6.5		
22.5	14.5	13.5	11.5	8.0	7.0	8.0	7.0	7.5	6.5		
17.0	14.0	14.0	11.0	7.5	7.0	7.5	6.5	7.5	6.5		
17.5	14.0	13.0	11.0	7.5	7.0	8.0	7.0	7.0	6.0		
18.0	15.0	13.0	12.0	7.5	7.0	9.0	8.0	6.5	5.5		
19.0	15.0	13.0	12.0	7.5	7.0	8.5	7.5	6.0	5.5		
17.5	14.5	13.0	11.5	8.0	7.0	7.5	6.0	5.5	5.0		
17.5	14.5	13.0	12.0	8.5	7.5	7.5	6.0	6.0	4.5		
15.5	14.0	13.0	11.5	7.5	7.0	7.0	6.0	6.0	4.5		
15.0	13.5	11.0	9.0	6.5	6.0	7.0	6.0	5.5	4.0		
15.0	13.5	9.0	8.0	6.0	4.5	8.0	6.5	5.0	4.0		
15.0	13.0	9.5	7.0	5.0	4.0	7.5	6.0	6.5	4.5		
15.0	12.5	8.5	6.0	8.0	3.0	7.5	6.0	8.0	6.5		
14.5	12.5	12.0	3.5	5.0	3.5	6.5	6.0	8.0	7.0		
14.5	13.0	8.5	5.5	5.5	4.0	7.0	6.0	8.0	7.0		
14.5	12.5	8.0	6.5	6.5	5.0	7.5	6.5	7.0	7.0		
14.5	12.0	9.0	7.5	6.0	4.5	10.0	7.0	8.0	7.0		
14.5	13.0	9.0	7.5	6.5	4.5	9.5	7.0	8.0	7.5		
14.5	12.0	8.5	7.0	6.5	5.0	10.0	8.0	8.0	7.0		
14.5	13.0	8.0	6.5	6.5	5.0	9.5	8.0	---	---		
14.5	12.5	8.5	7.0	6.5	5.0	9.0	7.0	---	---		
13.5	12.0	8.5	7.5	7.0	5.5	7.5	6.0	---	---		
13.5	11.5	8.0	6.5	6.5	5.5	6.5	5.5	---	---		
14.0	12.0	8.5	7.5	6.5	5.0	7.0	5.0	---	---		
13.5	11.5	9.0	8.0	7.0	5.5	8.0	5.5	---	---		
13.5	11.5	9.5	8.0	7.5	5.5	8.0	6.0	---	---		
14.0	11.5	9.0	7.5	7.0	5.5	8.5	6.5	---	---		
13.5	12.0	9.5	8.0	7.0	5.5	9.5	7.0	---	---		
13.5	12.0	9.0	8.0	8.0	6.5	9.0	7.5	---	---		
13.0	11.5	8.0	6.5	8.5	7.5	9.0	8.5	---	---		
13.5	11.5	---	---	8.0	7.0	8.5	7.0	---	---		
23.0	11.5	14.0	3.5	8.5	3.0	10.0	5.0	---	---		

APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
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---	---							---	---		
---	---							---	---		
---	---							15.0	11.5		
---	---							14.5	12.5		
---	---							16.0	13.5		
---	---							15.5	13.5		
---	---							16.5	14.0		
---	---							16.5	15.0		
---	---							16.5	15.0		
---	---							16.5	14.0		
---	---							16.0	13.5		
10.5	8.5							---	---		
10.0	9.5							---	---		
10.0	9.5							---	---		
10.0	8.5							---	---		
10.0	9.0							---	---		
9.5	8.0							---	---		
10.0	8.0							---	---		
10.0	8.5							---	---		
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TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (FT^3/S)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV					
21...	1030	398	7.0	3	3.2
JAN					
30...	1245	2750	9.0	22	163
MAR					
12...	1145	5080	8.0	27	370
MAY					
22...	1315	10500	8.5	61	1730
JUL					
17...	1030	3200	15.5	10	86

TULARE LAKE BASIN

11218501 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KINGS RIVER BELOW NORTH FORK AND KINGS RIVER POWERPLANT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	714	821	967	929	1550	4430	6400	9680	16300	6950	2360	1120
2	754	361	3780	914	1460	4340	5910	9670	17500	7260	2170	1260
3	705	338	2800	853	1870	4220	5080	9830	18000	7430	2130	1240
4	719	796	1760	1030	1810	4460	4760	8780	17600	7820	2130	1220
5	500	676	1710	6290	1730	4550	4760	7450	15800	7140	2240	1120
6	531	720	1420	3020	1650	4740	5000	6750	13800	6190	2190	679
7	658	723	1120	2280	1440	4570	4690	6090	12500	5800	2370	650
8	756	513	1090	1900	986	15000	4610	5760	11400	5460	2160	1110
9	801	327	982	1850	1050	8580	4480	5790	10900	5180	1850	1060
10	828	373	904	1500	1010	7880	4660	6190	11300	5020	1790	1120
11	818	355	853	1160	984	6790	4980	6520	11400	5050	2200	1120
12	664	573	930	1070	2840	6100	5400	7250	11300	5350	2100	1040
13	627	519	894	1360	12100	5590	4870	8230	11200	5860	2080	554
14	776	638	682	1410	6830	5120	4740	9030	11600	5470	1900	428
15	795	663	673	1340	10400	4760	5050	9860	11200	4690	1830	1070
16	716	471	708	1300	9810	4920	5030	10500	10400	4340	1350	1160
17	750	424	597	1010	11200	4420	4680	11300	10700	3790	1210	1150
18	683	741	594	953	17500	4110	4530	12400	10700	3430	1670	993
19	491	606	608	887	17700	3920	4630	13800	10000	2900	1630	1100
20	488	672	628	1020	9360	3980	5230	13900	9270	3020	1670	976
21	726	617	626	1230	6530	4080	6660	13200	8670	3070	1850	684
22	870	602	672	1240	5290	4280	8040	11100	8840	2900	1750	953
23	802	456	776	1160	4980	4380	8210	10200	8810	3130	1370	876
24	829	1000	749	794	4630	4290	7590	9800	8620	3120	1280	828
25	1060	1680	681	1290	4730	4320	7510	11900	9080	2820	1340	1120
26	736	881	677	676	4730	4690	7400	13700	8790	2270	1390	1050
27	663	742	684	704	4610	5080	7490	14900	9060	2160	1520	1000
28	759	934	639	729	4470	5340	8930	16100	8190	2510	1550	780
29	813	1220	741	772	---	5630	9730	16300	6840	2400	1240	1070
30	804	953	1440	2430	---	5970	9780	17700	6660	2340	916	1190
31	789	---	1190	1960	---	6150	---	18000	---	2350	827	---
TOTAL	22625	20395	32575	45061	153250	166690	180830	331680	336430	137220	54063	29721
MEAN	730	680	1051	1454	5473	5377	6028	10700	11210	4426	1744	991
MAX	1060	1680	3780	6290	17700	15000	9780	18000	18000	7820	2370	1260
MIN	488	327	594	676	984	3920	4480	5760	6660	2160	827	428
AC-FT	44880	40450	64610	89380	304000	330600	358700	657900	667300	272200	107200	58950

CAL YR 1985 TOTAL 611363 MEAN 1675 MAX 6230 MIN 327 AC-FT 1213000
WTR YR 1986 TOTAL 1510540 MEAN 4138 MAX 18000 MIN 327 AC-FT 2996000

TULARE LAKE BASIN

11221000 PINE FLAT LAKE NEAR PIEDRA, CA

LOCATION.--Lat 36°49'58", long 119°19'29", in SE 1/4 NE 1/4 sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030010, near center of Pine Flat Dam on Kings River, 1.9 mi upstream from Mill Creek, 3.5 mi northeast of Piedra, and 16 mi northeast of Sanger.
DRAINAGE AREA.--1,545 mi^2.
PERIOD OF RECORD.--October 1951 to current year. Prior to October 1970, published as "Pine Flat Reservoir."
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 8, 1952, nonrecording mercury gage on dam at same datum.
REMARKS.--Reservoir is formed by gravity-type concrete dam; regulation of discharge from reservoir began Dec. 4, 1951. Total capacity, 1,001,055 acre-ft between elevations 565.5 ft, bottom of lower tier of river outlets, and 951.5 ft, gross pool elevation. No dead storage. Reservoir is used for flood control and conservation storage. Water is released down Kings River for diversion by the Kings River Water Association. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.
COOPERATION.--Records were provided by U.S. Army Corps of Engineers, not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,009,000 acre-ft, July 15, 1967, June 8, 9, 1974, elevation, 952.76 ft; minimum since gross pool elevation first obtained, 66,339 acre-ft, Sept. 12, 1977, elevation, 691.29 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,002,544 acre-ft, June 27, elevation, 951.75 ft; minimum, 221,498 acre-ft, Oct. 1, elevation, 767.84 ft.

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

690	64,528	740	154,021	820	383,196	920	823,775
700	74,248	760	201,186	840	457,481	950	992,146
710	95,542	780	255,055	860	538,559	960	1,052,445
720	113,424	800	315,716	890	673,065		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221498	264857	306465	370128	461218	809250	833362	748928	893691	995405	838073	623927
2	222881	265442	314692	371836	464382	812986	830320	752506	905818	994991	829094	620285
3	224190	265881	321154	373444	467637	815886	825155	756547	917930	995109	819904	616366
4	225555	267317	324850	375615	470864	817682	819322	758977	928313	996415	811300	612401
5	226576	268580	328437	389460	474418	818793	813407	758928	934817	996475	802435	608345
6	227545	269817	331420	395957	477788	819799	808409	757509	938022	994634	793000	603450
7	228678	271146	333725	400731	480692	819693	802696	754879	939225	992974	783525	598486
8	230058	272152	335939	404586	482566	843928	796954	751547	938594	991078	774474	594478
9	231552	272715	337993	408313	484364	851106	791131	748225	937219	988121	764921	590749
10	233078	273666	339789	411248	486246	859461	785540	745612	937621	984048	755637	587917
11	234609	274468	341456	413458	488092	865566	780330	743657	939512	979928	747421	585621
12	235871	275630	343294	415488	497656	869012	775807	742804	944969	976696	739203	583637
13	237026	276496	345003	418153	530312	870382	770226	743957	951772	974585	730987	580690
14	238571	277782	346246	420865	545126	870108	764667	746316	959593	971715	722180	577357
15	240093	278921	347458	423473	569807	870656	759637	750136	966517	966576	713578	575257
16	241426	279763	348840	426052	600273	876368	755031	755232	972067	960289	706444	573336
17	242846	280665	349819	427964	634462	877469	749684	761414	978399	953102	699253	571375
18	244131	281961	350800	429731	682021	876587	744258	769459	984639	945372	693402	569764
19	245084	283200	351817	431236	722870	874113	738903	780227	988594	936933	688204	568330
20	245981	284563	352835	433122	743506	871259	734616	791286	990900	928997	638121	566767
21	247528	285748	353820	435429	756194	868192	733024	800605	993152	920987	678393	564644
22	249222	286995	354977	437779	765278	865349	733869	805628	995583	912341	673587	563390
23	250780	287788	356375	439908	773244	862402	735213	808672	997663	904528	668421	562439
24	252400	289928	357673	442233	780433	858753	735412	810774	999149	897704	663419	561489
25	254597	293832	358803	433762	787349	854952	735412	816520	1000935	890966	658482	561446
26	255943	295810	359968	445100	794039	851214	735263	824731	1001590	883263	653752	561100
27	257264	297236	361067	446289	800239	847648	735213	834484	1002544	875432	648947	560885
28	258618	299194	362133	447478	805157	844036	737457	845490	1001590	869012	643836	560540
29	260206	302317	363476	448516	---	840756	741303	856363	998733	862129	638471	560626
30	261713	304545	366102	453876	---	837858	745160	869833	996415	854789	633037	561057
31	263254	---	368425	458142	---	835395	---	883593	---	846730	627946	---
MAX	263254	304545	368425	458142	805157	877469	833362	883593	1002544	996475	838073	623927
MIN	221498	264857	306465	370128	461218	809250	733024	742804	893691	846730	627946	560540
a	782.84	796.48	815.79	840.17	916.47	922.18	904.77	931.04	950.72	924.29	880.32	865.27
b	+43083	+41291	+63880	+89717	+347015	+30238	-90235	+138433	+112822	-149685	-218784	-66889
c	1029	432	225	389	395	980	1687	2735	4105	4605	4096	2328

CAL YR 1985 b -224853
WTR YR 1986 b +340886

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA

LOCATION.--Lat 36°49'50", long 119°20'07", in SW 1/4 NW 1/4 sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030012, on right bank 0.6 mi downstream from Pine Flat Dam, and 2.9 mi northeast of Piedra.

DRAINAGE AREA.--1,545 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year. Monthly and yearly discharges only and adjusted flow for some periods published in WSP 1735.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control since Sept. 1, 1956. Datum of gage is 556.97 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1956, at site 0.2 mi downstream at datum 3.48 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Pine Flat Lake (station 11221000) 0.6 mi upstream and Wishon and Courtright Reservoirs (stations 11214550 and 11214800). See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation).--33 years, 2,485 ft^3/s, 1,800,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft^3/s, June 3, 4, 8, 9, 1969, gage height, 10.73 ft; minimum daily, 1.1 ft^3/s, Feb. 26, 27, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,100 ft^3/s, June 4, gage height, 9.31 ft; minimum daily, 26 ft^3/s, Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	76	41	97	28	2750	7760	7510	10500	7360	7000	3210
2	74	78	47	91	28	2860	7890	7520	10700	7380	6930	3160
3	65	78	26	98	27	3100	8100	7510	11300	7270	7000	3270
4	49	76	32	97	35	3920	8140	7520	11800	7070	6900	3330
5	50	76	39	50	40	4350	8200	7540	12000	7030	6950	3240
6	50	76	44	30	40	4500	8090	7540	11700	7040	7230	3160
7	62	74	47	36	36	5050	8110	7540	11500	6570	7180	3150
8	71	74	55	65	92	4900	7980	7550	11500	6330	6980	3170
9	73	76	55	88	201	5900	7930	7550	11300	6590	6850	3020
10	74	74	58	90	142	5470	7920	7550	10800	6990	6700	2640
11	74	75	61	97	99	4850	7910	7540	10200	7110	6560	2350
12	48	57	65	97	65	5650	7880	7540	8380	7120	6490	2110
13	50	65	79	98	35	6080	7980	7540	7410	7110	6420	2050
14	50	68	79	102	32	6280	7850	7550	7370	7170	6520	2100
15	52	71	78	104	34	5910	7760	7560	7470	7550	6380	2200
16	51	49	78	105	40	4490	7650	7560	7410	7870	5010	2190
17	50	49	85	113	42	5240	7520	7570	7240	7780	4960	2220
18	59	49	92	113	45	5670	7510	7570	7270	7710	4680	1980
19	61	49	94	113	40	6080	7500	7540	7630	7450	4330	1890
20	51	47	95	113	64	6270	7490	7560	7640	7370	4330	1830
21	48	45	95	113	930	6410	7480	7820	7460	7480	4320	1770
22	49	45	95	113	1380	6460	7490	8250	7530	7610	4270	1540
23	51	45	95	113	1450	6530	7490	8440	7690	7400	4030	1360
24	51	47	95	113	1540	6660	7490	8450	7850	6870	3850	1370
25	52	34	95	113	1680	6870	7490	8480	8100	6530	3860	1290
26	52	34	95	47	1730	7120	7500	8720	8370	6360	3870	1230
27	52	43	95	104	1970	7410	7490	9230	8590	6280	4000	1160
28	52	40	95	175	2370	7640	7500	9740	8600	6050	4220	1020
29	63	32	95	134	---	7760	7510	10000	8200	6110	4080	1010
30	75	30	95	135	---	7840	7510	10100	7750	6320	3690	1010
31	75	---	96	51	---	7770	---	10500	---	6660	3420	---
TOTAL	1810	1732	2296	3008	14215	177790	232120	250590	271260	217540	169010	65030
MEAN	58.4	57.7	74.1	97.0	508	5735	7737	8084	9042	7017	5452	2168
MAX	76	78	96	175	2370	7840	8200	10500	12000	7870	7230	3330
MIN	48	30	26	30	27	2750	7480	7510	7240	6050	3420	1010
AC-FT	3590	3440	4550	5970	28200	352600	460400	497000	538000	431500	335200	129000
MEANa	382	642	1090	1546	6950	6010	6253	11960	11792	4332	1544	599
AC-FTa	23490	38200	67020	95060	386000	369500	372100	735400	701700	266400	94940	35640

CAL YR 1985	TOTAL	735282	MEAN	2014	MAX	7830	MIN	26	AC-FT	1458000	MEAN a	1726	AC-FT a	1250000
WTR YR 1986	TOTAL	1406401	MEAN	3853	MAX	12000	MIN	26	AC-FT	2790000	MEAN a	4400	AC-FT a	3186000

a Adjusted for change in contents and in Wishon and Courtright Reservoirs, Pine Flat Lake, and evaporation from Pine Flat Lake.

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1970 to current year.
CHEMICAL ANALYSES: Water years 1956-66.
WATER TEMPERATURES: Water years 1970 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1969 to current year.

INSTRUMENTATION.--Temperature recorder since October 1969.

REMARKS.--Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1970-86): Maximum recorded, 25.0°C, Sept. 21, 1976, and Sept. 4, 5, 1985; minimum recorded, 6.5°C on several days in January 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.0°C, Oct. 1, 2, 7; minimum recorded, 8.0°C on many days in December and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.0	18.5	20.5	16.5	---	---	11.5	11.0	---	---		
2	24.0	19.0	20.5	16.0	---	---	13.5	10.5	---	---		
3	23.0	19.0	20.5	16.0	---	---	13.5	11.0	---	---		
4	22.5	18.5	19.5	14.5	---	---	13.0	11.0	---	---		
5	22.5	19.0	---	---	---	---	14.0	12.0	---	---		
6	23.0	19.5	---	---	---	---	13.5	10.0	---	---		
7	24.0	19.0	---	---	---	---	14.5	11.0	---	---		
8	21.5	18.5	---	---	---	---	13.0	9.5	---	---		
9	22.5	17.5	---	---	---	---	12.5	9.0	---	---		
10	22.5	17.0	---	---	---	---	12.5	9.0	---	---		
11	22.5	17.0	---	---	---	---	12.0	10.0	---	---		
12	21.5	17.5	---	---	---	---	12.5	9.5	---	---		
13	22.5	17.0	---	---	14.0	10.5	12.5	9.0	---	---		
14	22.0	17.0	---	---	14.0	10.5	12.0	9.5	---	---		
15	22.0	17.0	---	---	13.5	10.5	12.5	10.0	---	---		
16	21.5	16.5	---	---	14.5	10.5	12.0	10.0	---	---		
17	22.0	17.0	---	---	14.0	10.5	13.0	10.0	---	---		
18	21.5	17.0	---	---	14.0	11.0	13.5	10.5	---	---		
19	21.0	16.5	---	---	13.5	11.0	12.0	10.0	---	---		
20	20.5	16.0	---	---	13.0	8.0	11.5	10.5	---	---		
21	19.0	16.5	---	---	12.5	10.0	11.0	10.0	---	---		
22	20.5	16.0	---	---	12.0	10.5	---	---	---	---		
23	21.0	16.0	---	---	12.0	9.5	---	---	8.5	8.0		
24	21.0	16.5	---	---	11.0	9.0	---	---	8.5	8.0		
25	21.0	16.5	---	---	12.0	9.0	---	---	8.5	8.0		
26	21.5	17.0	---	---	11.0	9.0	---	---	8.0	8.0		
27	21.5	16.0	---	---	12.5	8.0	---	---	8.5	8.0		
28	20.5	16.5	---	---	12.5	9.0	---	---	8.0	8.0		
29	21.0	16.5	---	---	12.0	9.5	---	---	---	---		
30	20.5	16.5	---	---	12.5	10.5	---	---	---	---		
31	20.5	16.5	---	---	12.0	10.5	---	---	---	---		
MONTH	24.0	16.0	---	---	---	---	---	---	---	---		

TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	10.0	9.5	11.0	11.0	11.5	11.0	13.0	13.0	14.0	14.0
2	---	---	10.0	10.0	11.0	10.5	11.5	11.5	13.5	13.0	14.0	14.0
3	---	---	10.0	10.0	10.5	10.5	11.5	11.5	13.5	13.0	14.0	14.0
4	---	---	10.0	10.0	10.5	10.5	11.5	11.5	13.5	13.5	14.5	14.0
5	---	---	10.0	10.0	10.5	10.5	11.5	11.5	13.5	13.5	14.5	14.0
6	---	---	10.0	10.0	10.5	10.5	11.5	11.5	13.5	13.5	14.5	14.0
7	---	---	10.0	10.0	10.5	10.5	11.5	11.5	13.5	13.5	14.5	14.0
8	---	---	10.0	10.0	11.0	10.5	11.5	11.5	13.5	13.5	14.5	14.0
9	---	---	10.0	10.0	11.0	11.0	11.5	11.5	13.5	13.5	14.5	14.0
10	---	---	10.0	10.0	11.0	11.0	11.5	11.5	13.5	13.5	14.5	14.5
11	---	---	10.0	10.0	11.0	11.0	11.5	11.5	13.5	13.5	14.5	14.5
12	9.5	9.5	10.0	10.0	11.0	10.5	12.0	11.5	13.5	13.0	14.5	14.5
13	9.5	9.5	10.0	10.0	11.0	10.5	12.0	11.5	13.5	13.0	15.0	14.5
14	10.0	9.5	10.0	10.0	11.0	10.5	12.0	12.0	13.0	13.0	15.0	14.5
15	9.5	9.5	10.0	10.0	11.0	10.5	12.0	12.0	13.5	13.0	15.0	14.5
16	9.5	9.5	10.0	10.0	11.0	10.5	12.0	12.0	13.5	13.0	15.0	14.5
17	9.5	9.5	10.5	10.0	11.0	11.0	12.0	12.0	13.5	13.0	15.0	14.5
18	9.5	9.5	10.5	10.5	11.0	11.0	12.0	12.0	13.5	13.0	15.0	14.5
19	9.5	9.5	10.5	10.5	11.0	10.5	12.0	12.0	13.5	13.0	15.0	14.5
20	9.5	9.5	11.0	10.5	11.0	11.0	12.5	12.0	13.5	13.0	15.0	14.5
21	9.5	9.5	10.5	10.5	11.0	11.0	12.5	12.5	13.5	13.5	15.0	14.5
22	9.5	9.5	11.0	10.5	11.0	11.0	13.0	12.5	13.5	13.5	15.5	14.5
23	9.5	9.5	11.0	10.5	11.0	11.0	12.5	12.5	13.5	13.5	15.5	14.5
24	9.5	9.5	11.0	10.5	11.0	11.0	12.5	12.5	13.5	13.5	15.0	14.5
25	9.5	9.5	11.0	10.5	11.0	11.0	12.5	12.5	13.5	13.5	15.0	14.5
26	9.5	9.5	11.0	11.0	12.5	11.0	13.0	12.5	14.0	13.5	15.5	14.5
27	9.5	9.5	11.0	10.5	11.5	11.0	13.0	12.5	14.0	13.5	15.5	15.0
28	9.5	9.5	11.0	11.0	11.5	11.5	13.0	12.5	14.0	13.5	15.5	15.0
29	9.5	9.5	11.5	11.0	11.5	11.5	13.0	13.0	14.0	14.0	15.5	15.0
30	9.5	9.5	11.5	11.0	11.5	11.0	13.0	13.0	14.0	14.0	16.0	15.0
31	---	---	11.0	11.0	---	---	13.0	13.0	14.0	14.0	---	---
MONTH	---	---	11.5	9.5	12.5	10.5	13.0	11.0	14.0	13.0	16.0	14.0
YEAR	24.0	8.0										

TULARE LAKE BASIN

11221700 MILL CREEK NEAR PIEDRA, CA

LOCATION.--Lat 36°49'07", long 119°20'27", in NE 1/4 NE 1/4 sec.10, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030008, on left bank 150 ft upstream from road bridge, 0.7 mi upstream from mouth, and 2.3 mi east of Piedra.

DRAINAGE AREA.--127 mi^2.

PERIOD OF RECORD.--October 1957 to current year. November 1938 to September 1957 in reports of Kings River Water Association.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 550 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 14, 1958, at site 150 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Some small diversions above station for irrigation. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--29 years, 48.4 ft^3/s, 35,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s, 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	1400	691	4.03	Mar. 10	2245	1,830	4.94
Feb. 13	0400	*4,860	*6.57				

No flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	26	9.8	55	114	129	41	12	2.2		
2		0	53	9.5	41	105	123	39	12	2.1		
3		0	85	9.2	61	96	114	39	11	1.8		
4		0	38	11	45	89	109	41	10	1.6		
5		0	27	307	36	83	109	39	10	1.4		
6		0	29	169	32	78	132	39	10	1.2		
7		0	21	70	30	76	112	38	10	1.3		
8		0	18	45	28	753	112	37	10	.86		
9		0	16	34	25	509	103	35	9.6	.81		
10		0	15	28	23	897	98	34	9.1	.88		
11		4.0	14	24	22	899	93	30	7.9	.60		
12		12	13	22	537	585	88	30	7.6	0		
13		8.4	12	20	2220	497	85	28	7.0	0		
14		6.1	11	18	505	517	79	27	6.6	0		
15		5.3	11	17	1150	551	74	26	6.4	0		
16		4.8	11	16	1750	1260	74	25	6.3	0		
17		4.2	11	16	2080	739	74	23	6.1	0		
18		4.6	9.9	15	2620	505	72	22	5.9	0		
19		5.2	9.8	15	1230	398	67	21	6.2	0		
20		5.1	9.7	14	630	332	62	19	6.3	0		
21		4.9	9.2	14	432	287	60	19	5.5	0		
22		4.9	9.1	14	322	256	56	20	5.0	0		
23		4.9	9.2	13	254	232	54	20	4.6	0		
24		6.2	9.2	13	204	207	54	19	4.4	0		
25		19	9.2	12	171	184	54	18	4.0	0		
26		20	8.7	12	154	173	52	17	3.4	0		
27		12	8.6	12	140	159	50	15	3.1	0		
28		11	8.6	12	126	145	46	14	2.8	0		
29		36	8.7	11	---	139	44	14	2.4	0		
30		64	9.5	26	---	132	42	13	2.3	0		
31		---	9.8	69	---	129	---	12	---	0		
TOTAL	0	242.6	540.2	1077.5	14923	11126	2421	814	207.5	14.75	0	0
MEAN	0	8.09	17.4	34.8	533	359	80.7	26.3	6.92	.48	0	0
MAX	0	64	85	307	2620	1260	132	41	12	2.2	0	0
MIN	0	0	8.6	9.2	22	76	42	12	2.3	0	0	0
AC-FT	0	481	1070	2140	29600	22070	4800	1610	412	29	0	0

CAL YR 1985	TOTAL	4834.3	MEAN	13.2	MAX	278	MIN	0	AC-FT	9590
WTR YR 1986	TOTAL	31366.55	MEAN	85.9	MAX	2620	MIN	0	AC-FT	62220

TULARE LAKE BASIN

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA

LOCATION.--Lat 36°12'53", long 120°28'11", in NW 1/4 SE 1/4 sec.5, T.20 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 50 ft downstream from highway bridge, 1.1 mi upstream from Nunez Canyon, 3.0 mi downstream from White Creek, and 8.1 mi northwest of Coalinga.

DRAINAGE AREA.--95.8 mi^2.

PERIOD OF RECORD.--May 1945 to current year. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1950. WSP 1735: 1952(M), 1956(M). WSP 1930: Drainage area. WDR CA-72-2: 1971(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,065.2 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 11, 1985, at site on right bank at datum 2.00 ft higher. Prior to Aug. 2, 1959, at site 100 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 15 to Dec. 2. Records fair. Minor diversion for irrigation and stock ponds.

AVERAGE DISCHARGE.--41 years, 6.00 ft^3/s, 4,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).--Maximum discharge, 4,360 ft^3/s, Feb. 24, 1969, gage height, 12.34 ft, present datum, in gage well, 13.30 ft from floodmarks, from rating curve extended above 800 ft^3/s on basis of slope-area measurement at gage height 12.34 ft, maximum gage height, 12.65 ft in gage well, 13.95 ft from floodmarks, Jan. 16, 1978; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	2030	1,750	7.19	Mar. 16	0230	1,750	7.19
Feb. 19	0515	*2,140	*7.82				

No flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.04	9.5	5.3	9.1	1.7	.47	.07		
2			.04	.04	2.6	4.7	8.7	1.7	.47	.06		
3			.46	.05	2.5	4.2	8.4	1.7	.46	.06		
4			.08	6.7	3.0	3.7	7.9	2.0	.49	.06		
5			0	14	1.6	3.3	7.9	2.1	.53	.06		
6			0	2.6	1.3	3.1	11	2.1	.54	.06		
7			0	1.1	1.1	3.1	10	1.9	.55	.06		
8			0	.83	.92	44	7.5	1.7	.51	.06		
9			0	.74	.80	18	6.9	1.5	.44	.05		
10			0	.64	.74	101	6.1	1.4	.39	.04		
11			0	.60	.69	50	5.5	1.3	.34	.03		
12			0	.55	147	56	5.0	1.3	.33	.02		
13			0	.53	311	64	4.8	1.2	.29	0		
14			0	.50	523	52	4.7	1.2	.28	0		
15			0	.50	472	281	4.4	1.1	.28	0		
16			0	.46	108	392	4.5	.99	.27	0		
17			0	.41	47	153	4.4	.88	.26	0		
18			0	.38	68	102	4.1	.82	.26	0		
19			0	.38	388	67	3.5	.73	.25	0		
20			0	.38	104	53	3.2	.72	.21	0		
21			0	.35	52	43	3.0	.75	.19	0		
22			0	.36	33	32	2.7	.81	.17	0		
23			0	.36	23	24	2.6	.86	.15	0		
24			0	.36	16	20	2.4	.81	.12	0		
25			0	.37	12	18	2.4	.71	.10	0		
26			0	.37	9.0	16	2.4	.65	.09	0		
27			.02	.37	7.2	14	2.3	.62	.08	0		
28			.03	.36	6.2	12	2.1	.60	.08	0		
29			.04	.37	---	11	2.0	.56	.08	0		
30			.04	3.7	---	10	1.9	.49	.07	0		
31			.04	14	---	10	---	.47	---	0		
TOTAL	0	0	0.75	52.40	2351.15	1670.4	151.4	35.37	8.75	0.63	0	0
MEAN	0	0	.024	1.69	84.0	53.9	5.05	1.14	.29	.020	0	0
MAX	0	0	.46	14	523	392	11	2.1	.55	.07	0	0
MIN	0	0	0	.04	.69	3.1	1.9	.47	.07	0	0	0
AC-FT	0	0	1.5	104	4660	3310	300	70	17	1.2	0	0

CAL YR 1985	TOTAL	74.18	MEAN	.20	MAX	2.8	MIN	0	AC-FT 147
WTR YR 1986	TOTAL	4270.85	MEAN	11.7	MAX	523	MIN	0	AC-FT 8470

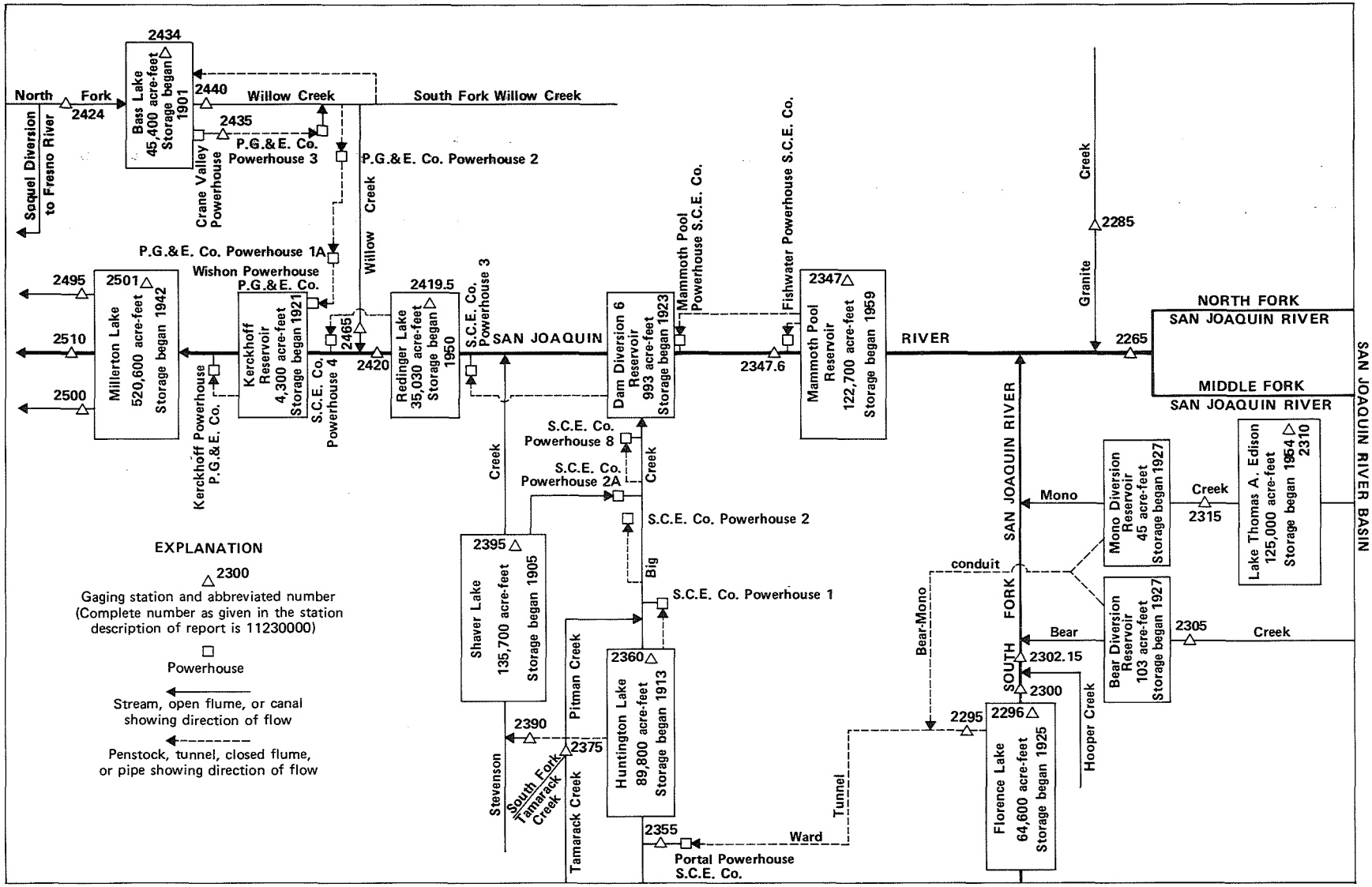

FIGURE 31. — Schematic diagram showing diversions and storage in San Joaquin River basin.

SAN JOAQUIN RIVER BASIN

11226500 SAN JOAQUIN RIVER AT MILLER CROSSING, CA

LOCATION.--Lat 37°30'38", long 119°11'47", in SE 1/4 NE 1/4 sec.11, T.5 S., R.25 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank at Miller Crossing, 2.4 mi downstream from North Fork San Joaquin River, 4.6 mi east of Clover Meadow Ranger Station, and 23 mi northeast of town of Bass Lake.

DRAINAGE AREA.--249 mi^2.

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.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,570 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 24, 1922, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--42 years, 630 ft^3/s, 456,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,600 ft^3/s, Dec. 23, 1955, gage height, 21.28 ft, from rating curve extended above 5,200 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 19 ft^3/s, Nov. 17, 1961.

EXTREMES FOR CURRENT YEAR:.--Maximum daily discharge, 6,090 ft^3/s, June 1; minimum daily, 59 ft^3/s, Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	115	215	272	298	1010	1310	2020	6090	1910	604	219
2	89	109	609	240	306	997	1100	1850	5390	2090	595	211
3	84	106	375	214	288	1020	945	1940	5140	2220	568	206
4	80	104	279	367	262	1030	916	1510	4630	2190	548	200
5	78	103	241	789	242	1000	854	1250	3980	1890	537	198
6	92	99	205	454	233	1010	832	1090	3560	1580	557	193
7	209	95	201	314	202	975	783	965	3260	1430	552	189
8	194	93	187	272	202	3460	697	973	2850	1340	510	184
9	189	85	165	253	186	1410	705	1130	2780	1290	490	177
10	165	70	151	250	183	1040	857	1340	2770	1280	494	160
11	172	59	140	246	179	847	982	1370	2940	1350	497	147
12	165	115	137	238	193	746	1090	1660	3040	1510	479	138
13	147	138	152	228	496	640	872	2020	3270	1550	465	133
14	128	151	152	215	1290	555	794	2310	3410	1390	444	130
15	118	152	152	207	1240	509	813	2470	3190	1240	441	124
16	113	152	140	207	790	502	731	2660	2990	1160	424	118
17	109	145	132	267	765	480	634	2750	2920	988	383	118
18	106	125	137	276	1910	450	611	3280	2890	880	344	142
19	102	110	149	274	3430	457	725	3750	2640	847	316	132
20	98	114	156	270	1330	513	1060	3670	2340	861	319	119
21	122	112	162	235	1000	591	1550	3080	2310	819	327	113
22	127	109	165	213	757	669	2000	2490	2470	785	322	109
23	164	117	169	198	741	698	1930	2360	2520	741	295	107
24	225	199	168	184	837	657	1530	2490	2530	801	269	125
25	225	273	178	185	886	696	1430	3390	2480	768	255	157
26	204	233	182	197	904	857	1340	3980	2490	699	248	149
27	180	194	178	216	944	1050	1560	4440	2480	649	262	145
28	157	211	171	229	978	1120	1960	4900	2300	657	290	136
29	144	263	210	243	---	1160	1980	5150	2000	624	262	148
30	134	214	572	457	---	1320	2060	5400	1850	592	246	161
31	122	---	339	347	---	1360	---	5350	---	599	225	---
TOTAL	4335	4165	6569	8557	21072	28829	34651	83038	93510	36730	12568	4588
MEAN	140	139	212	276	753	930	1155	2679	3117	1185	405	153
MAX	225	273	609	789	3430	3460	2060	5400	6090	2220	604	219
MIN	78	59	132	184	179	450	611	965	1850	592	225	107
AC-FT	8600	8260	13030	16970	41800	57180	68730	164700	185500	72850	24930	9100

CAL YR 1985	TOTAL	157463	MEAN	431	MAX	1870	MIN	59	AC-FT	312300
WTR YR 1986	TOTAL	338612	MEAN	928	MAX	6090	MIN	59	AC-FT	671600

SAN JOAQUIN RIVER BASIN

11228500 GRANITE CREEK NEAR CATTLE MOUNTAIN, CA

LOCATION.--Lat 37°31'36", long 119°15'28", in NE 1/4 sec.5, T.5 S., R.25 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.7 mi downstream from confluence of East and West Forks of Granite Creek, 1.6 mi northwest of Cattle Mountain, and 21 mi northeast of town of Bass Lake.

DRAINAGE AREA.--47.8 mi^2.

PERIOD OF RECORD.--October 1921 to September 1928, May 1952 to September 1986 (discontinued). No winter records May 1952 to September 1983, October 1985 to September 1986. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1445: Drainage area. WDR CA-80-3: 1975.

GAGE.--Water-stage recorder. Elevation of gage is 6,800 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 14, 1922, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Some regulation by manipulation of stoplogs in controls for fishwater purposes; no diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--7 years (water years 1922-28), 110 ft^3/s, 79,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 8,610 ft^3/s, Apr. 11, 1982, gage height, 11.55 ft, from rating curve extended above 1,100 ft^3/s; no flow at times in 1924 and 1926.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,750 ft^3/s, Feb. 19; minimum daily, not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	11			---	209	387	513	1430	272	25	2.7
2	3.6	10			---	217	307	508	1280	291	24	2.2
3	3.0	9.6			---	193	258	528	1220	283	25	1.8
4	2.5	9.1			---	201	253	355	1000	248	26	1.6
5	2.3	8.2			---	206	223	274	868	198	26	1.2
6	2.7	7.8			---	223	191	218	785	164	26	1.2
7	41	6.9			---	209	164	205	713	143	26	1.1
8	38	6.4			---	732	146	271	658	126	23	.91
9	37	6.0			---	398	153	384	694	117	21	.91
10	31	6.9			---	205	207	460	684	118	19	.77
11	28	9.4			---	152	271	492	746	134	19	.65
12	23	22			---	127	305	588	747	147	19	.65
13	19	---			---	112	217	697	747	136	16	.54
14	14	---			354	102	212	772	697	112	15	.54
15	11	---			502	96	228	813	592	91	13	.54
16	9.6	---			361	94	183	837	563	82	13	.54
17	7.8	---			351	91	153	877	530	64	12	.65
18	6.4	---			1030	88	163	1010	505	52	9.6	1.6
19	6.0	---			1750	90	251	1070	455	47	8.6	1.6
20	5.2	---			623	113	405	959	422	49	7.3	1.4
21	6.4	---			220	139	570	771	429	49	6.9	1.4
22	10	---			130	166	699	650	460	55	6.4	1.1
23	23	---			111	173	623	609	468	55	6.0	.91
24	57	---			121	154	476	756	457	62	4.8	1.8
25	56	---			140	165	469	1020	416	45	3.8	6.4
26	44	---			156	224	459	1110	399	39	3.0	6.5
27	33	---			179	286	540	1180	377	38	3.0	6.2
28	23	---			201	306	594	1240	342	33	3.3	6.3
29	19	---			---	319	568	1350	279	31	4.2	6.6
30	15	---			---	397	570	1380	260	28	3.8	16
31	14	---			---	399	---	1360	---	26	3.0	---
TOTAL	595.1	---			---	6586	10245	23257	19223	3335	421.7	76.31
MEAN	19.2	---			---	212	342	750	641	108	13.6	2.54
MAX	57	---			---	732	699	1380	1430	291	26	16
MIN	2.3	---			---	88	146	205	260	26	3.0	.54
AC-FT	1180	---			---	13060	20320	46130	38130	6610	836	151

SAN JOAQUIN RIVER BASIN

11229500 WARD TUNNEL INTAKE AT FLORENCE LAKE, CA

LOCATION.--Lat 37°16'27", long 118°58'23", in NW 1/4 sec.1, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, 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 1937-60.

REVISED RECORDS.--WSP 1515: 1931.

GAGE.--Water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--No estimated daily discharges. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake via Portal powerhouse. Water used again in Big Creek powerplants. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--61 years, 283 ft^3/s, 205,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,990 ft^3/s, Apr. 30, 1926; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	295	39	115	93	135	359	496	660	13	721	685	466
2	293	37	162	84	128	380	454	679	13	587	515	462
3	290	36	173	78	115	327	348	691	13	627	451	435
4	287	35	175	86	102	322	321	692	13	719	656	417
5	284	34	157	160	96	326	296	685	13	716	745	416
6	281	32	125	162	96	326	282	670	13	824	743	414
7	280	31	111	121	79	308	267	649	69	760	742	413
8	280	30	97	106	80	491	248	631	216	665	774	416
9	277	26	85	95	73	483	249	613	361	663	819	416
10	274	21	75	91	72	318	291	606	509	631	834	415
11	275	17	67	87	69	261	306	603	677	529	831	413
12	265	19	60	84	75	238	357	608	788	458	679	413
13	262	42	62	80	108	214	302	627	789	549	299	413
14	258	53	62	76	185	194	282	650	790	767	299	410
15	254	57	61	73	302	181	299	687	789	831	299	408
16	251	56	59	72	214	175	281	718	790	904	385	146
17	245	54	56	73	210	161	244	751	790	788	435	93
18	241	47	56	75	310	149	232	789	862	638	436	449
19	236	39	59	79	482	148	264	690	784	666	437	448
20	231	41	62	82	520	167	373	1150	697	701	468	447
21	231	40	65	76	528	197	504	975	768	737	483	444
22	286	41	68	72	517	227	542	1120	629	769	481	443
23	503	42	69	67	455	251	570	613	446	790	476	443
24	470	54	69	62	395	239	572	196	502	670	472	443
25	421	69	69	62	358	246	574	201	564	547	473	443
26	149	98	69	63	339	304	573	212	564	600	473	443
27	81	101	68	67	339	376	576	93	564	736	473	416
28	63	97	67	73	345	416	599	11	603	760	472	391
29	56	100	69	83	---	446	622	11	687	710	471	387
30	50	99	105	178	---	485	643	12	722	708	471	383
31	42	---	107	160	---	488	---	12	---	706	469	---
TOTAL	7711	1487	2704	2820	6727	9203	11967	17305	15038	21477	16746	12146
MEAN	249	49.6	87.2	91.0	240	297	399	558	501	693	540	405
MAX	503	101	175	178	528	491	643	1150	862	904	834	466
MIN	42	17	56	62	69	148	232	11	13	458	299	93
AC-FT	15290	2950	5360	5590	13340	18250	23740	34320	29830	42600	33220	24090

CAL YR 1985	TOTAL	87149	MEAN	239	MAX	592	MIN	17	AC-FT	172900
WTR YR 1986	TOTAL	125331	MEAN	343	MAX	1150	MIN	11	AC-FT	248600

SAN JOAQUIN RIVER BASIN

11229600 FLORENCE LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°16'26", long 118°58'23", in NW 1/4 sec.1, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of Ward tunnel intake near dam on South Fork San Joaquin River, 16 mi northeast of town of Big Creek.
DRAINAGE AREA.--171 mi^2.
PERIOD OF RECORD.--November 1925 to current year. Prior to October 1931, published in WSP 721. Maximum and minimum daily contents (water years 1926-39) summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.
REVISED RECORDS.--WDR CA-78-3: 1977.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).
REMARKS.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,406 acre-ft between elevations 7,220.94 ft, throat of Venturi tube in Ward Tunnel intake and 7,327.50 ft, top of spillway drum gates, NGVD. Additional storage of 168 acre-ft is not available for diversion. Water is diverted through Ward tunnel to Huntington Lake via Portal powerhouse and used for further power development in Big Creek powerplants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents at 2400 hours.
COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,990 acre-ft, July 3, 1932, elevation, 7,329.14 ft; minimum occurred during period of no record, Oct. 2-4, 1926, or Nov. 30 to Dec. 2, 1927.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 65,187 acre-ft, July 12, elevation, 7,328.31 ft; minimum, 1,073 acre-ft, Nov. 11, elevation, 7,231.18 ft.

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

7,220.94	0	7,235	1,774	7,260	11,608	7,290	31,966
7,222	63	7,240	2,976	7,265	14,580	7,300	39,851
7,224	201	7,245	4,666	7,270	17,755	7,310	48,284
7,227	495	7,250	6,648	7,275	21,097	7,320	57,312
7,230	887	7,255	8,950	7,280	24,588	7,330	66,826

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14202	1124	1228	1195	1246	1462	1605	5304	58964	64464	62243	51396
2	13603	1124	1294	1187	1232	1466	1483	5471	59800	64474	62205	50789
3	13052	1120	1289	1178	1221	1423	1425	5713	59922	64753	62328	50229
4	12501	1119	1285	1228	1210	1421	1410	5633	59640	64811	62090	49689
5	11965	1117	1255	1303	1209	1425	1391	5269	59734	64647	61568	49151
6	11475	1113	1230	1255	1192	1417	1382	4740	60337	64667	61037	48599
7	10998	1112	1216	1226	1190	1395	1370	4081	60224	64801	60489	48032
8	10508	1108	1200	1207	1178	1789	1353	3496	60857	64744	59819	47449
9	10028	1093	1181	1198	1175	1473	1377	3125	61312	64638	59029	46852
10	9543	1091	1173	1193	1171	1384	1400	3027	61881	64657	58243	46233
11	9066	1073	1159	1188	1168	1359	1434	3033	62386	65043	57535	45591
12	8604	1108	1156	1187	1185	1337	1434	3286	62881	65187	57016	44935
13	8131	1134	1159	1178	1217	1318	1391	3994	63168	65101	57312	44266
14	7634	1147	1158	1175	1441	1303	1393	4975	63360	64917	57591	43575
15	7197	1144	1154	1171	1359	1289	1397	6044	63350	64801	57824	42863
16	6743	1146	1154	1171	1319	1285	1371	7038	63264	64724	57852	42630
17	6295	1142	1149	1171	1371	1273	1350	8263	63130	64705	57656	42596
18	5849	1130	1151	1171	1417	1264	1348	10071	63427	64821	57433	41840
19	5377	1125	1156	1181	1870	1271	1406	12265	63609	64715	57071	41080
20	4926	1125	1159	1185	1715	1296	1569	14379	63446	64638	56812	40317
21	4504	1124	1163	1171	1713	1323	1889	15912	63772	64493	56488	39510
22	3976	1124	1164	1168	1645	1353	2367	16805	64185	64484	56165	38708
23	2942	1130	1166	1163	1485	1355	2595	18503	64301	64368	55768	37904
24	2005	1159	1164	1158	1473	1348	2634	21029	64744	64368	55308	37169
25	1386	1190	1164	1158	1447	1377	2649	24824	64753	64638	54803	36430
26	1216	1210	1164	1158	1440	1438	2634	29058	64849	64599	54318	35688
27	1175	1202	1163	1166	1445	1486	2822	34116	64821	64272	53915	35013
28	1161	1200	1161	1176	1451	1503	3572	39713	64599	63868	53532	34365
29	1149	1204	1175	1221	---	1556	4272	45276	64301	63475	53052	33720
30	1139	1219	1223	1287	---	1592	4923	51780	64339	63044	52536	33064
31	1127	---	1209	1266	---	1596	---	57053	---	62624	51978	---
MAX	14202	1219	1294	1303	1870	1789	4923	57053	64849	65187	62328	51396
MIN	1127	1073	1149	1158	1168	1264	1348	3027	58964	62624	51978	33064
a	7231.50	7232.04	7231.98	7232.30	7233.32	7231.09	7245.69	7319.72	7327.43	7325.64	7314.17	7291.43
b	-13639	+92	-10	+57	+185	+145	+3327	+52130	+7286	-1715	-10646	-18914

CAL YR 1985 b +36
WTR YR 1986 b +18298

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°18'30", long 118°57'40", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank, 0.2 mi downstream from Hooper Creek, 3.2 mi downstream from spillway of Florence Lake Dam, and 17 mi northeast of town of Big Creek.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1978 to current year. October 1946 to September 1978, operated as a low-flow station only, in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Datum of gage is 6,949.41 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Estimated daily discharges: May 31 to July 20 and periods of ice effect, Dec. 8-13, and Feb. 7-11. Flow regulated by Florence Lake (station 11229600), 3.2 mi upstream, and Hooper Creek diversion dam (capacity less than 2 acre-ft), 0.7 mi upstream. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (combined flow of South Fork San Joaquin River and Ward Tunnel at Intake).--8 years, 461 ft^3/s, 334,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft^3/s, Sept. 26, 1982, gage height, 11.42 ft, from rating curve extended above 1,300 ft^3/s on basis of spill flow at Florence Lake; minimum daily, 3.9 ft^3/s, Oct. 24, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,000 ft^3/s, June 3; minimum daily, 11 ft^3/s, Nov. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	15	16	18	23	50	49	33	2030	883	40	26
2	14	14	27	18	23	43	44	35	2880	1170	39	26
3	14	13	23	17	21	43	40	36	3000	1160	37	26
4	15	13	19	21	19	46	39	35	2990	1230	36	26
5	15	13	18	37	19	46	39	34	2480	1150	36	26
6	15	13	17	26	18	46	39	33	2100	682	36	26
7	16	12	17	21	17	44	40	32	2260	524	36	26
8	15	13	17	19	17	124	37	31	1390	618	35	26
9	15	13	16	18	17	57	32	31	1230	550	35	26
10	15	12	16	18	17	46	32	31	1180	488	35	26
11	15	13	19	18	17	39	30	31	1170	505	33	26
12	15	11	23	17	19	37	31	31	1130	899	28	26
13	15	11	19	17	53	35	28	32	1300	1000	27	26
14	15	11	16	17	85	32	26	33	1450	686	28	28
15	15	13	16	17	87	30	26	35	1500	438	27	28
16	14	14	16	17	42	30	25	36	1420	200	27	27
17	14	15	15	18	42	28	25	36	1350	101	27	27
18	15	15	15	18	80	27	24	39	1070	127	27	28
19	16	15	15	19	153	28	25	42	982	115	27	27
20	16	15	15	19	57	33	26	44	1070	99	27	27
21	17	15	15	18	41	36	28	44	784	62	27	27
22	16	15	16	17	36	39	28	44	955	54	27	27
23	16	15	16	17	37	39	29	45	1260	49	27	27
24	16	17	16	17	45	37	28	44	1180	43	27	27
25	16	18	16	17	50	41	28	46	1380	55	27	27
26	15	16	16	17	52	46	28	48	1340	105	27	26
27	15	16	16	17	52	51	28	53	1470	50	28	27
28	15	16	16	17	53	51	30	58	1410	41	27	27
29	15	16	16	18	---	51	31	58	1010	41	27	25
30	15	16	20	49	---	53	31	57	838	40	27	25
31	15	---	19	29	---	51	---	512	---	40	26	---
TOTAL	474	424	537	623	1192	1359	946	1699	45609	13205	940	795
MEAN	15.3	14.1	17.3	20.1	42.6	43.8	31.5	54.8	1520	426	30.3	26.5
MAX	19	18	27	49	153	124	49	512	3000	1230	40	28
MIN	14	11	15	17	17	27	24	31	784	40	26	25
AC-FT	940	841	1070	1240	2360	2700	1880	3370	90470	26190	1860	1580

CAL YR 1985	TOTAL	7587.5	MEAN	20.8	MAX	38	MIN	7.5	AC-FT	15050
WTR YR 1986	TOTAL	67803	MEAN	186	MAX	3000	MIN	11	AC-FT	134500

SAN JOAQUIN RIVER BASIN

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'18", long 118°58'23", unsurveyed, in SW 1/4 sec.12, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.2 mi upstream from diversion dam, 1.7 mi upstream from mouth, 2.1 mi south of Lake Thomas A. Edison, and 2.4 mi northeast of Mono Hot Springs.

DRAINAGE AREA.--52.5 mi^2.

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."

REVISED RECORDS.--WSP 611: 1922(M). WSP 1345: 1931-35. WSP 1515: 1922-30. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,366.94 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Estimated daily discharges: Periods of ice effect, Nov. 11, 12, Nov. 29 to Dec. 1, Dec. 7-23, and Feb. 4-10. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--65 years, 94.2 ft^3/s, 68,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft^3/s, Sept. 26, 1982, gage height, 8.35 ft, from rating curve extended above 570 ft^3/s; minimum daily, 1.2 ft^3/s, Sept. 29 to Oct. 5, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft^3/s, June 1, gage height, 6.76; minimum daily, 7.6 ft^3/s, Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	37	34	36	83	127	272	1180	387	128	44
2	14	16	46	30	33	76	105	242	959	417	131	42
3	13	15	63	26	31	72	90	232	949	450	129	39
4	13	15	70	27	24	75	89	184	877	456	122	39
5	12	15	46	40	24	75	83	154	706	398	115	38
6	13	14	37	36	21	77	82	127	597	313	114	38
7	21	13	30	32	21	70	75	107	543	286	109	37
8	22	13	27	30	18	115	70	109	468	265	103	36
9	22	9.0	23	28	17	78	73	128	432	254	99	34
10	20	7.6	23	29	20	68	87	157	455	257	108	32
11	22	8.6	19	29	23	63	91	171	492	281	123	31
12	22	11	22	28	38	60	99	207	489	338	105	29
13	20	19	27	26	42	57	79	260	517	358	100	27
14	18	22	31	25	66	55	80	305	551	313	95	26
15	17	22	37	24	47	49	83	344	562	275	89	24
16	17	23	39	23	44	49	73	365	544	231	81	24
17	16	21	38	24	63	47	65	394	522	190	74	23
18	16	20	40	25	141	46	64	488	513	169	71	31
19	15	22	45	28	179	46	84	559	452	160	64	30
20	14	21	47	28	135	54	138	523	400	171	63	27
21	14	23	47	26	108	63	213	422	405	156	68	25
22	19	23	48	24	118	73	239	385	429	162	66	25
23	25	21	49	23	81	77	205	371	429	164	62	24
24	30	25	56	23	72	70	173	410	422	157	57	27
25	28	41	57	22	72	77	176	549	417	170	53	33
26	25	66	56	24	73	104	168	650	467	147	52	33
27	24	52	51	25	77	125	210	718	489	134	55	32
28	22	40	46	27	83	133	288	765	435	132	55	30
29	21	34	42	29	---	140	293	790	362	122	51	32
30	20	30	50	33	---	155	288	841	362	119	47	33
31	18	---	42	35	---	143	---	752	---	122	45	---
TOTAL	588	679.2	1291	863	1707	2475	3990	11981	16425	7554	2634	945
MEAN	19.0	22.6	41.6	27.8	61.0	79.8	133	386	548	244	85.0	31.5
MAX	30	66	70	40	179	155	293	841	1180	456	131	44
MIN	12	7.6	19	22	17	46	64	107	362	119	45	23
AC-FT	1170	1350	2560	1710	3390	4910	7910	23760	32580	14980	5220	1870

CAL YR 1985	TOTAL	26294.2	MEAN	72.0	MAX	354	MIN	7.6	AC-FT	52150
WTR YR 1986	TOTAL	51132.2	MEAN	140	MAX	1180	MIN	7.6	AC-FT	101400

SAN JOAQUIN RIVER BASIN

11231000 LAKE THOMAS A. EDISON NEAR BIG CREEK, CA

LOCATION.--Lat 37°22'13", long 118°59'13", in sec.26, T.6 S., R.27 E., unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in outlet works of dam on Mono Creek at lower end of Vermilion Valley, 18.1 mi northeast of town of Big Creek.
DRAINAGE AREA.--90.0 mi^2.
PERIOD OF RECORD.--October 1954 to current year. Prior to 1960, maximum and minimum daily contents were published.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by earthfill dam; dam completed and storage began on Oct. 12, 1954. Usable capacity, 125,035 acre-ft between elevations 7,508.9 ft, invert of outlet works and 7,642.50 ft, top of gates in service spillway, NGVD. Dead storage negligible. 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 at 2400 hours.

COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 125,983 acre-ft, Sept. 26, 1982, elevation, 7,643.55 ft; minimum since appreciable storage was attained, 5,080 acre-ft, Mar. 27, 1969, elevation, 7,553.09 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 125,035 acre-ft, July 6, elevation, 7,642.50 ft; minimum, 10,022 acre-ft, Apr. 19, elevation, 7,560.65 ft.

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

7,508.9	0	7,535	513	7,560	9,521	7,610	68,616
7,515	18	7,540	928	7,570	18,137	7,620	85,006
7,520	64	7,545	1,833	7,580	28,515	7,630	102,367
7,525	156	7,550	3,567	7,590	40,454	7,640	120,424
7,530	297	7,555	6,147	7,600	53,769	7,644	127,820

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77673	64073	46984	49199	32268	23587	15358	19012	67272	121527	124350	121362
2	77228	63227	47305	49267	31558	23534	15449	19990	70530	122042	124220	121233
3	76784	62427	47399	49334	30854	23209	15278	20956	73867	122780	124109	121123
4	76342	62025	47506	49523	30125	23001	15019	21818	76948	123611	123943	121104
5	75868	61190	47586	49726	29401	22805	14697	22495	79577	124387	123777	120865
6	75541	60745	47666	49808	28627	22660	14351	23167	81900	125035	123592	120737
7	75132	60273	47746	49931	27906	22464	13984	23754	84228	124665	123371	120571
8	74742	59713	47773	49890	27179	22794	13497	24355	86163	124387	123168	120387
9	74256	58836	47813	49186	26425	23063	13104	24940	88041	124442	123038	120186
10	73851	58166	47840	48443	25691	22970	12753	25583	89929	124665	122725	120021
11	73462	57357	47867	47706	24972	22619	12418	26251	91844	124979	122485	119856
12	73027	56521	47893	46944	24472	22133	12226	27080	93680	124868	122245	119691
13	72593	55751	47947	46189	23817	21604	11933	28039	95681	124887	122116	119489
14	72175	54968	48000	45450	23324	20956	11623	29120	97851	124924	122208	119306
15	71773	54192	48040	44702	23032	20337	11330	30352	99980	124924	122245	119104
16	71359	53434	48080	43985	22960	19715	11142	31662	101942	124961	122245	118994
17	70928	52611	48121	43258	23022	18983	10728	33089	103895	124961	122337	118921
18	70514	51753	48187	42536	22774	18262	10332	34810	105839	124924	122337	118829
19	70100	50954	48228	41829	23104	17590	10022	36742	107611	124905	122226	118664
20	69406	50258	48281	41103	23387	16925	10122	38771	109191	124942	122208	118500
21	68742	49483	48335	40366	23733	16379	10712	40645	110757	124942	122171	118335
22	68131	48767	48389	39610	24006	15959	11468	42240	112365	124942	122153	118171
23	68053	48201	48443	38896	24248	15567	12209	43725	114015	124961	122097	118006
24	68006	47786	48511	38136	24451	15153	12907	45240	115706	124961	122024	117878
25	67803	47613	48578	37370	24259	14778	13608	47104	117348	124924	121969	117842
26	67241	47425	48632	36583	24027	14465	14281	49388	118701	124887	121895	117695
27	66404	47171	48686	35826	23807	14492	14992	51767	119471	124850	121822	117604
28	65972	47024	48767	35051	23608	14599	15922	54404	120076	124794	121766	117494
29	65632	46891	48875	34339	---	14751	16916	57141	120590	124683	121675	117366
30	65126	46878	49037	33732	---	14938	17967	60229	121012	124572	121583	117275
31	64607	---	49118	33019	---	15162	---	63106	---	124461	121472	---
MAX	77673	64073	49118	49931	32268	23587	17967	63106	121012	125035	124350	121362
MIN	64607	46878	46984	33019	22774	14465	10022	19012	67272	121527	121472	117275
a	7607.41	7594.95	7596.62	7583.93	7575.46	7566.78	7569.82	7606.42	7640.32	7642.19	7640.57	7638.28
b	-13527	-17729	+2240	-16099	-9411	-8446	+2805	+45139	+57906	+3449	-2989	-4197

CAL YR 1985 b -66115
WTR YR 1986 b +39141

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11231500 MONO CREEK BELOW LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°21'40", long 118°59'26", unsurveyed, in SW 1/4 sec.35, T.6 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 0.6 mi upstream from diversion dam, 1 mi downstream from Lake Thomas A. Edison Dam, and 1.9 mi northeast of Mono Hot Springs.

DRAINAGE AREA.--92.5 mi^2.

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."

REVISED RECORDS.--WSP 1011: 1943. WSP 1515: 1956.

GAGE.--Water-stage recorder. Elevation of gage is 7,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Beginning Oct. 12, 1954, flow regulated by Lake Thomas A. Edison (station 11231000) 1 mi upstream. No diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage).--65 years, 163 ft^3/s, 118,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft^3/s, Sept. 26, 1982, gage height, 8.87 ft; minimum daily, 0.3 ft^3/s, Nov. 11, 12, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 669 ft^3/s, July 7; minimum daily, 13 ft^3/s, Feb. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	293	15	14	403	118	159	23	18	469	263	124
2	247	424	16	14	399	177	203	22	18	478	263	124
3	247	420	15	14	399	264	276	22	18	388	263	124
4	244	174	15	14	403	232	337	23	25	311	263	124
5	244	424	15	15	403	227	345	20	31	315	263	121
6	244	188	15	15	390	214	390	18	23	266	263	124
7	247	174	15	14	399	241	382	19	21	669	263	124
8	247	242	15	159	390	93	373	17	20	551	263	124
9	247	428	14	369	390	66	365	18	18	356	263	124
10	241	424	15	390	390	231	353	18	18	307	263	124
11	247	424	16	386	399	299	353	19	18	297	263	121
12	253	424	16	390	390	341	298	19	18	618	263	124
13	238	424	15	386	382	369	325	18	18	550	190	121
14	235	428	14	386	369	424	349	18	18	444	121	121
15	235	412	14	382	261	428	313	18	19	495	124	126
16	235	412	14	382	99	428	273	18	20	362	121	44
17	235	408	14	382	130	428	341	18	20	276	121	85
18	235	428	14	373	257	424	341	19	20	283	121	105
19	235	444	14	369	57	420	308	20	20	273	121	111
20	390	309	14	369	14	412	181	20	20	270	124	111
21	394	444	14	373	14	354	32	19	20	215	124	111
22	280	386	14	373	14	304	22	18	20	244	124	115
23	87	322	14	365	13	307	20	17	19	335	124	115
24	87	307	14	373	67	307	20	17	20	260	124	115
25	151	156	14	399	210	307	20	17	20	310	124	115
26	304	128	14	403	205	266	20	17	202	260	124	115
27	420	159	14	403	203	166	20	18	448	260	124	113
28	175	172	14	403	205	157	23	18	461	260	124	113
29	156	157	14	403	---	157	23	18	461	263	124	113
30	165	33	15	403	---	157	23	17	465	263	124	113
31	227	---	14	403	---	157	---	18	---	263	121	---
TOTAL	7439	9568	450	9124	7255	8475	6488	581	2537	10911	5560	3444
MEAN	240	319	14.5	294	259	273	216	18.7	84.6	352	179	115
MAX	420	444	16	403	403	428	390	23	465	669	263	126
MIN	87	33	14	14	13	66	20	17	18	215	121	44
AC-FT	14760	18980	893	18100	14390	16810	12870	1150	5030	21640	11030	6830

CAL YR 1985 TOTAL 73046 MEAN 200 MAX 469 MIN 14 AC-FT 144900
WTR YR 1986 TOTAL 71832 MEAN 197 MAX 669 MIN 13 AC-FT 142500

SAN JOAQUIN RIVER BASIN

11234700 MAMMOTH POOL RESERVOIR NEAR BIG CREEK, CA

LOCATION.--Lat 37°19'45", long 119°19'40", in SW 1/4 sec.10, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of power tunnel intake near dam on San Joaquin River, 10 mi northwest of town of Big Creek.
DRAINAGE AREA.--995 mi^2.
PERIOD OF RECORD.--October 1959 to current year.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed by an earthfill dam; storage began Oct. 8, 1959. Usable capacity, 119,940 acre-ft between elevations 3,100.00 ft, invert of power tunnel and 3,330.00 ft, crest of spillway, NGVD. 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 mi downstream from dam. See schematic diagram of San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.

COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 126,503 acre-ft, June 2, 3, 1969; maximum elevation, 3,335.86 ft, June 3, 1969; minimum contents since appreciable storage was attained, 2,956 acre-ft, Feb. 6, 1982, elevation, 3,128.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,728 acre-ft, June 1, elevation, 3,334.29 ft; minimum, 24,555 acre-ft, Dec. 20, elevation, 3,207.07 ft.

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

3,100	0	3,130	3,114	3,180	14,060	3,260	56,381
3,105	417	3,140	4,605	3,190	17,414	3,280	72,109
3,110	861	3,150	6,402	3,200	21,400	3,300	89,781
3,115	1,355	3,160	8,618	3,220	31,109	3,320	109,336
3,120	1,900	3,170	11,165	3,240	42,787	3,336	126,661

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54205	46184	34874	30557	36408	121437	121481	121659	124728	121136	92655	71117
2	54420	45240	38244	30334	36787	121348	121804	121648	124536	121392	91462	69464
3	54614	44421	39391	30361	36810	121281	121659	121715	124514	121459	90508	68351
4	54793	43895	39293	31114	36094	121314	121592	121136	123929	121381	89559	67797
5	54291	43390	38882	35715	35727	121314	121503	120770	123379	121203	88845	67195
6	53685	42882	38220	37617	34969	121281	121526	120427	122999	120626	88292	67634
7	53806	42360	37522	38304	34175	121214	121437	120029	122931	120394	87354	68106
8	54048	41847	36617	38208	34415	124435	121281	119820	122283	120294	86246	67903
9	54312	42053	35418	37124	34030	122149	120327	120283	122283	119885	85109	67423
10	54449	42404	33551	35327	33473	121715	120648	120815	122205	119176	84150	66880
11	54915	41953	32192	34667	32500	121136	120660	120992	122283	118599	83951	66314
12	55384	41461	30643	34863	30986	120936	120859	121336	122261	119460	83617	65719
13	55544	41040	29405	33773	34600	120682	120416	121704	122540	120682	83220	65550
14	54757	40806	28619	32830	42316	120305	120217	121904	122574	120427	83960	65398
15	53949	40873	27720	32621	54141	120051	120206	122038	122372	119789	83653	64758
16	53154	40665	26714	32610	59329	119776	119853	122082	122339	118578	84032	64168
17	52505	41201	25638	32643	65976	119110	118892	122194	122171	116463	84367	63624
18	51551	40493	24788	32902	83743	118135	117789	122697	121149	114595	83761	63209
19	51390	38960	24732	33261	113697	117168	117125	122876	121782	113022	83085	62612
20	50764	38029	24555	33356	121848	116388	117564	122596	121626	111343	82483	63000
21	50355	36982	25260	33029	121537	116208	120228	122205	121488	109616	81848	63366
22	49769	35727	25966	32527	121047	116271	121793	121815	121592	107775	81419	62844
23	49611	34891	26354	31995	120881	117983	121726	121626	121804	105853	82116	62287
24	49666	35225	26433	31717	121092	117918	121370	121926	121693	103881	82744	61856
25	49563	35905	27253	32428	121281	117908	121292	122641	121748	104302	82188	60864
26	50134	35623	27182	33439	121270	118210	121169	122965	121815	103299	80538	60501
27	50583	35248	27313	33617	121281	119023	121292	123244	121748	101176	78994	60630
28	49721	36251	27848	33673	121381	120637	121737	123581	121514	98890	77935	60615
29	48944	36338	28536	33411	---	120981	121759	123548	121370	96460	76097	60441
30	48004	35424	29589	35316	---	121392	121804	123896	121136	95239	74474	60312
31	47085	---	30106	36320	---	121559	---	123660	---	94110	72841	---
MAX	55544	46184	39391	38304	121848	124435	121804	123896	124728	121459	92655	71117
MIN	47085	34891	24555	30334	30986	116208	117125	119820	121136	94110	72841	60312
a	3246.66	3227.79	3218.12	3229.35	3331.30	3331.46	3331.68	3333.34	3331.08	3304.61	3280.87	3265.26
b	-6892	-11661	-5318	+6214	+85061	+178	+245	+1856	-2524	-27026	-21269	-12529

CAL YR 1985 b -1296
WTR YR 1986 b +6335

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA

LOCATION.--Lat 37°19'00", long 119°19'37", in NW 1/4 SW 1/4 sec.14, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft upstream from Shakeflat Creek, 4,900 ft downstream from Mammoth Pool Dam, and 10 mi northwest of town of Big Creek.

DRAINAGE AREA.--1,003 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 2,865.50 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--No estimated daily discharges. Flow regulated by Mammoth Pool Reservoir (station 11234700) 4,900 ft upstream. Flow partly regulated by Florence Lake (station 11229600), Lake Thomas A. Edison (station 11231000) and diversions through Ward tunnel (station 11229500), and through Mono-Bear conduit to Ward tunnel. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s, June 3, 1969, gage height, 18.38 ft; minimum daily, 0.3 ft^3/s, Oct. 14, Dec. 5, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 10,600 ft^3/s, June 2; minimum daily, 9.2 ft^3/s, Jan. 13-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	15	13	12	9.6	1040	1640	2620	9680	1610	28	29
2	29	12	13	12	9.6	1040	2450	2090	10600	2210	28	29
3	29	12	12	12	9.6	824	2180	2820	10500	1980	28	29
4	29	12	12	12	9.6	858	2080	1600	9950	1800	28	29
5	29	12	12	12	10	839	1790	805	8290	1280	28	29
6	27	12	12	12	12	853	1700	359	6450	590	28	29
7	26	12	12	12	12	723	1660	96	6350	265	28	29
8	29	12	12	12	12	10100	1410	60	4950	291	26	29
9	29	12	12	12	12	5260	574	85	4200	87	25	29
10	30	12	12	12	12	2770	195	641	4100	60	25	29
11	30	12	12	12	12	1470	399	879	4210	60	25	29
12	30	12	12	9.8	28	926	702	1300	4240	26	25	29
13	30	12	12	9.2	44	547	386	2060	4500	364	25	29
14	30	12	12	9.2	39	226	116	2690	4970	624	25	29
15	30	12	12	9.2	39	69	85	3160	4780	86	25	29
16	29	12	12	9.2	54	33	59	3280	4320	29	25	29
17	29	12	12	9.2	71	37	58	3430	4130	29	25	29
18	29	12	12	9.2	75	59	58	4120	3770	29	29	29
19	29	12	12	9.2	93	57	57	5010	3140	29	29	29
20	30	13	12	9.2	506	57	57	5150	2310	29	29	29
21	30	13	12	9.2	2350	57	98	4100	1970	29	29	29
22	30	13	12	9.2	1270	57	2160	3020	1910	29	29	29
23	30	13	12	9.2	700	57	3050	2620	2450	28	29	29
24	30	13	12	9.2	624	57	1880	2220	2590	28	29	29
25	30	13	12	9.2	809	57	1530	3790	2480	27	29	29
26	30	13	12	9.2	929	57	1320	4890	2820	27	29	29
27	30	13	12	9.2	909	58	1470	5650	3090	27	29	29
28	30	13	12	9.2	994	108	2480	6730	2590	27	29	29
29	30	13	12	9.2	---	674	2520	7440	1700	27	29	29
30	30	13	12	9.2	---	1380	2640	7660	1320	27	29	29
31	30	---	12	9.2	---	1650	---	7740	---	27	29	---
TOTAL	911	374	374	316.6	9654.4	32000	36804	98115	138360	11781	853	870
MEAN	29.4	12.5	12.1	10.2	345	1032	1227	3165	4612	380	27.5	29.0
MAX	30	15	13	12	2350	10100	3050	7740	10600	2210	29	29
MIN	26	12	12	9.2	9.6	33	57	60	1320	26	25	29
AC-FT	1810	742	742	628	19150	63470	73000	194600	274400	23370	1690	1730

CAL YR 1985	TOTAL	7851.7	MEAN	21.5	MAX	33	MIN	4.2	AC-FT 15570
WTR YR 1986	TOTAL	330413.0	MEAN	905	MAX	10600	MIN	9.2	AC-FT 655400

SAN JOAQUIN RIVER BASIN

11235500 WARD TUNNEL OUTLET AT HUNTINGTON LAKE, CA

LOCATION.--Lat 37°15'25", long 119°09'38", in SE 1/4 SW 1/4 sec.5, T.8 S., R.26 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, at tunnel outlet at east end of Huntington Lake, 0.9 mi east of Lakeshore Post Office, and 6 mi northeast of Big Creek.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1960, published as Ward tunnel at outlet.

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 National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). May 24, 1956, to Sept. 30, 1968, no recorder, see REMARKS below.

REMARKS.--No estimated daily discharges. Daily discharge for the period May 24, 1956, to Sept. 30, 1968, computed as the sum of Ward tunnel at intake, Mono-Bear conduit, Camp Creek conduit, and corrected for change in contents of Portal Forebay. Tunnel diverts from Florence Lake to Huntington Lake via Portal powerhouse, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See record for station 11229500 Ward tunnel intake at Florence Lake.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--59 years, 499 ft^3/s, 361,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,080 ft^3/s, June 21, 1935; no flow at times many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	535	248	188	111	571	645	879	1220	135	745	924	639
2	549	413	231	116	589	741	795	1160	123	838	914	638
3	532	520	238	112	560	733	740	1180	114	771	1160	618
4	531	272	273	116	530	731	741	1120	102	672	1160	588
5	531	472	261	199	525	712	741	1050	93	878	1120	596
6	547	328	162	174	524	727	740	998	80	1370	1140	589
7	556	292	193	143	488	726	726	937	89	1410	1060	595
8	578	246	169	214	485	745	700	898	294	1290	863	590
9	571	413	172	500	483	747	673	896	437	1300	828	589
10	562	413	110	519	491	728	741	895	481	1260	812	563
11	525	414	53	519	475	743	743	927	693	1160	789	576
12	572	415	76	506	564	759	752	983	704	1100	789	534
13	565	436	84	505	534	759	725	1100	818	1170	599	521
14	548	445	95	487	586	759	719	1200	860	1390	473	565
15	550	447	116	490	694	759	735	1320	861	1390	475	555
16	533	443	101	486	632	759	735	1390	772	1400	558	286
17	499	439	68	482	654	723	733	1440	862	1260	597	226
18	499	430	77	479	732	690	713	1520	900	1150	631	575
19	479	420	95	483	777	667	731	1570	939	1130	612	566
20	638	420	92	499	801	716	735	1610	798	1110	601	558
21	650	417	96	476	726	694	816	1620	752	885	635	548
22	677	415	84	470	743	680	970	1600	856	879	614	539
23	607	414	106	459	636	727	964	1150	934	876	615	532
24	600	424	98	453	620	683	908	666	801	873	625	525
25	622	349	109	489	751	698	908	792	919	839	598	517
26	496	310	97	495	736	725	906	827	843	929	603	510
27	599	316	92	486	741	726	937	491	926	890	624	476
28	340	315	83	492	750	725	1090	185	870	812	555	443
29	297	343	101	523	---	734	1180	136	786	894	656	432
30	334	191	113	616	---	908	1200	148	748	912	636	421
31	294	---	129	641	---	877	---	174	---	918	636	---
TOTAL	16416	11420	3962	12740	17398	22746	24676	31203	18590	32501	22902	15910
MEAN	530	381	128	411	621	734	823	1007	620	1048	739	530
MAX	677	520	273	641	801	908	1200	1620	939	1410	1160	639
MIN	294	191	53	111	475	645	673	136	80	672	473	226
AC-FT	32560	22650	7860	25270	34510	45120	48940	61890	36870	64470	45430	31560

CAL YR 1985	TOTAL	223899	MEAN	613	MAX	948	MIN	53	AC-FT	444100
WTR YR 1986	TOTAL	230464	MEAN	631	MAX	1620	MIN	53	AC-FT	457100

SAN JOAQUIN RIVER BASIN

11236000 HUNTINGTON LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°14'03", long 119°12'41", in SW 1/4 sec.14, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gate tower of dam 1 on Big Creek, 2 mi northeast of town of Big Creek.
DRAINAGE AREA.--80.5 mi^2.
PERIOD OF RECORD.--April 1913 to current year. Prior to October 1926, monthly contents only, published in WSP 1315-A; 1926-31, published in WSP 721. Maximum and minimum daily contents (water years 1913-39) were summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). Prior to June 19, 1920, nonrecording gage at same site and datum.
REMARKS.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 89,166 acre-ft between elevations 6,819.90 ft, invert of outlet tunnel No. 1 and 6,950.00 ft, spillway crest at dam 1, NGVD. Additional storage of 600 acre-ft is not available for release. Huntington-Shaver conduit (station 11239000) has diverted water from Huntington Lake to Shaver Lake since Apr. 21, 1928. Water is used for power development in Big Creek powerplants. See schematic diagram of San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Records not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 90,491 acre-ft, May 31, 1926, elevation, 6,950.92 ft; minimum,g2,103 acre-ft, Nov. 6, 1937, elevation, 6,838.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,166 acre-ft, July 6, 7, elevation, 6,950.00 ft; minimum, 35,076 acre-ft, Apr. 19, 20, elevation, 6,904.68 ft.

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

6,819.90	0	6,835	1,552	6,870	11,293	6,920	50,812
6,820	8	6,840	2,354	6,880	16,370	6,930	62,555
6,822	142	6,845	3,324	6,890	22,882	6,940	75,344
6,825	382	6,850	4,480	6,900	30,861	6,950	89,166
6,830	899	6,860	7,427	6,910	40,216	6,951	90,606

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86374	83400	79996	55389	53749	55111	39272	46102	83665	89095	89080	88451
2	86360	83178	80091	54566	53978	54647	39144	47717	83777	88937	88909	88494
3	86275	83109	79791	53737	54127	54173	38898	49172	83763	88894	88480	88465
4	86190	82568	79490	53198	54231	53726	38633	50289	83372	89037	88251	88422
5	86120	82401	78934	53164	54288	53278	38339	51003	83220	89123	88151	88365
6	86120	81931	78120	52618	54258	52856	38086	51486	83275	89166	88079	88294
7	86134	81422	77365	51970	54346	52175	37757	51689	83331	89166	87951	88222
8	86120	80816	76519	51419	54335	52527	37360	51869	83567	88966	87865	88122
9	86148	80542	75691	51464	54566	52118	36938	52129	84154	88851	87850	88036
10	86078	80706	75331	51509	54902	51588	36766	52493	84685	88966	87879	87951
11	85937	80528	73690	51745	55192	50834	36613	53049	85500	89109	87979	87850
12	85866	80310	72862	51993	55985	50111	36518	53921	86360	89066	87865	87722
13	85782	80214	71934	52004	56640	49337	36308	55226	86998	89066	87922	88008
14	85683	80351	71024	51981	57502	48545	36081	56711	87509	89023	87722	88351
15	85571	80283	70144	51970	58595	47826	35902	58786	87822	89037	87523	88222
16	85430	80201	69283	51970	59145	47111	35732	60980	87993	89109	87452	87750
17	85261	80050	68311	52072	59770	46251	35478	63344	88036	89123	87452	86856
18	85120	79968	67345	52050	60932	45377	35235	66209	88051	89095	87438	86828
19	84937	79955	66461	52027	61870	44533	35076	69360	88165	89095	87410	86814
20	84993	79845	65532	52061	61405	43781	35076	72456	88551	89123	87438	87126
21	85219	80009	64608	52016	60726	43064	35449	75278	88823	89052	87523	87424
22	85402	80064	63714	51981	60023	42343	36270	77769	89052	89009	87637	87381
23	85543	80064	62839	51914	59085	41792	37130	79042	88952	89037	87765	87310
24	85613	80351	61956	51846	58131	41142	37834	79641	88952	89066	87879	87424
25	85754	80638	61053	51925	57502	40548	38575	80945	89066	88909	88079	87594
26	85627	80597	60168	51925	56865	40107	39232	82526	88966	88766	88165	87708
27	85796	80610	59278	51925	56277	39729	40017	83511	89023	88794	88251	87708
28	85345	80692	58369	51936	55786	39401	41436	84210	88966	88937	88222	87637
29	84797	80855	57549	52038	---	39124	43002	84266	89052	88937	88308	87566
30	84364	80406	56876	52629	---	39173	44797	83637	89109	88909	88351	87481
31	83888	---	56195	53256	---	39222	---	83303	---	88980	88408	---
MAX	86374	83400	80091	55389	61870	55111	44797	84266	89109	89166	89080	88494
MIN	83888	79845	56195	51419	53749	39124	35076	46102	83220	88766	87410	86814
a	6946.27	6943.75	6924.70	6922.16	6924.35	6909.00	6914.46	6945.85	6949.96	6949.87	6949.47	6948.82
b	-2543	-3482	-24211	-2939	+2530	-16564	+5575	+38506	+5806	-129	-572	-927

CAL YR 1985 b -31257
WTR YR 1986 b +1050

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA

LOCATION.--Lat 37°11'54", long 119°12'48", in NW 1/4 NW 1/4 sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 250 ft upstream from Huntington-Shaver conduit tunnel, 0.8 mi downstream from confluence of Tamarack Creek and South Fork Tamarack Creek, 1.4 mi upstream from mouth, and 1.9 mi east of town of Big Creek.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--October 1927 to current year. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WSP 931: 1940. WSP 1315-A: 1944. WSP 1395: 1928-29, 1938. WSP 1515: 1929.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Elevation of gage is 7,005 ft above National Geodetic Vertical Datum of 1929, from Southern California Edison Co. contour map. Prior to Sept. 29, 1940, at site 10 ft downstream at same datum.

REMARKS.--No diversion above station; practically all flow is diverted below station to Huntington-Shaver conduit. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--59 years, 42.5 ft^3/s, 30,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft^3/s, Dec. 23, 1955, gage height, 11.20 ft, from rating curve extended above 1,100 ft^3/s, on basis of slope-area measurement at gage height 10.77 ft; no flow Oct. 15-18, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 518 ft^3/s, Mar. 8; minimum daily, 0.30 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	1.1	2.9	15	29	125	201	366	303	24	4.0	.81
2	.37	1.0	5.7	14	27	124	179	383	278	22	3.6	.72
3	.34	1.0	8.9	11	25	117	155	347	259	21	3.4	.68
4	.32	1.0	12	13	25	126	149	262	219	19	3.1	.65
5	.30	.97	8.2	50	24	131	138	215	187	17	2.8	.63
6	1.3	.94	6.8	65	20	132	131	181	167	16	2.7	.60
7	3.5	.92	7.0	41	22	124	121	158	154	15	2.5	.59
8	1.7	.91	6.7	28	20	518	114	163	140	14	2.4	.60
9	1.8	.89	6.0	23	21	286	122	189	139	13	2.2	.62
10	1.5	.92	5.6	20	19	169	143	220	138	12	2.1	.64
11	1.2	2.0	4.9	19	18	123	169	251	132	12	2.0	.63
12	1.1	1.9	4.2	18	20	110	179	292	126	11	1.8	.60
13	.96	1.5	4.0	17	36	101	145	330	123	10	1.7	.63
14	.87	1.5	4.1	16	102	89	148	336	119	9.4	1.6	.71
15	.81	1.6	4.2	15	178	82	153	342	108	8.4	1.5	.76
16	.78	1.6	4.1	15	80	78	142	357	101	7.7	1.5	.79
17	.75	1.6	4.0	15	48	73	124	363	94	7.5	1.4	.99
18	.71	1.5	4.0	16	181	69	123	407	88	7.2	1.3	2.0
19	.69	1.5	4.0	19	472	70	150	413	78	6.9	1.3	1.4
20	.66	1.6	4.1	19	264	78	213	374	68	6.6	1.3	1.3
21	1.1	1.7	4.1	18	159	91	305	331	64	6.5	1.4	1.3
22	1.4	1.6	4.3	17	124	104	354	274	60	6.9	1.2	1.2
23	2.0	1.7	4.7	16	96	107	320	242	56	7.9	1.1	1.2
24	2.6	2.0	4.8	15	90	101	297	267	51	7.2	1.1	2.8
25	2.5	2.9	5.2	15	100	108	303	314	45	6.9	.96	5.4
26	2.0	3.7	5.6	15	111	128	299	336	41	6.4	.91	4.0
27	1.7	2.9	5.9	16	118	148	342	343	37	6.3	.87	4.2
28	1.5	3.0	5.9	17	123	160	363	363	32	5.7	.85	3.9
29	1.3	2.7	6.9	19	---	167	400	341	29	5.6	.86	3.3
30	1.2	3.0	15	48	---	184	380	319	26	5.1	.79	2.7
31	1.1	---	19	44	---	202	---	288	---	4.5	.82	---
TOTAL	38.45	51.15	192.8	689	2552	4225	6362	9367	3462	328.7	55.06	46.35
MEAN	1.24	1.70	6.22	22.2	91.1	136	212	302	115	10.6	1.78	1.54
MAX	3.5	3.7	19	65	472	518	400	413	303	24	4.0	5.4
MIN	.30	.89	2.9	11	18	69	114	158	26	4.5	.79	.59
AC-FT	76	101	382	1370	5060	8380	12620	18580	6870	652	109	92

CAL YR 1985	TOTAL	8760.90	MEAN	24.0	MAX	200	MIN	.16	AC-FT	17380
WTR YR 1986	TOTAL	27369.51	MEAN	75.0	MAX	518	MIN	.30	AC-FT	54290

SAN JOAQUIN RIVER BASIN

11239500 SHAVER LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'40", long 119°18'08", in SE 1/4 sec.13, T.9 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, near center of dam on Stevenson Creek, 6 mi southwest of town of Big Creek.
DRAINAGE AREA.--29.1 mi^2.
PERIOD OF RECORD.--November 1909 to current year. Prior to January 1927, monthly contents only, published in WSP 1315-A, January 1927 to September 1931, published in WSP 721. Maximum and minimum daily contents (water years 1928-39) were summarized in WSP 881. Prior to 1960, maximum and minimum daily contents were published.
REVISED RECORDS.--WSP 1565: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rockfilled dam a short distance upstream at different datum.
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, 135,568 acre-ft between elevations 5,225 ft, trash-rack foundation and 5,370.13 ft, crest of spillway, NGVD. Additional storage of 92 acre-ft is not available for release. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) through Huntington-Shaver conduit (station 11239000) and released for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Records, including extremes, represent contents at 2400 hours.
COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 135,897 acre-ft, July 5, 1946, Aug. 4, 1978; maximum elevation, 5,370.28 ft, Aug. 4, 1978; minimum contents, 652 acre-ft, Mar. 7, 1942, elevation, 5,249.38 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 135,765 acre-ft, July 9, elevation, 5,370.22 ft; minimum, 24,919 acre-ft, Dec. 1, elevation, 5,300.96 ft.

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

5,225	0	5,250	700	5,280	9,189	5,330	60,942
5,230	42	5,260	2,070	5,290	15,598	5,340	76,741
5,240	191	5,270	4,748	5,300	24,004	5,350	94,568
				5,310	34,455	5,360	114,220
				5,320	46,797	5,371	137,476

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46088	33595	24919	25416	26203	56874	83287	97468	131340	135415	135000	116469
2	45523	33562	25660	25162	26263	57681	83831	98503	132181	135458	134761	115507
3	44978	33528	25562	25123	26452	58506	84344	99484	132806	135480	134565	114629
4	44395	32900	25240	25123	26263	59245	84645	100293	133434	135480	134457	113733
5	44395	32254	25162	25543	26243	61527	85140	101068	133782	135480	134478	112413
6	44472	31529	25025	25679	26223	62323	85621	101786	133956	135568	134478	111585
7	43918	30897	24957	25660	26263	63155	86033	102427	134109	135634	134500	110960
8	43406	30262	25045	25562	26233	66007	86338	103111	134217	135700	134500	109812
9	42857	29593	25074	25562	26273	67544	86643	103795	134326	135765	134522	108910
10	42314	29151	25074	25533	26143	68864	86966	104541	134413	135656	134522	107870
11	41784	28362	25074	25474	25923	69754	87326	105627	134500	135415	134522	107034
12	41771	27745	25074	25533	26532	70618	87762	106557	134609	135393	134478	106338
13	41771	26882	25055	25611	28744	71326	88053	107591	134652	135393	133326	105469
14	41173	26343	25055	25640	29477	71956	88325	108709	134739	135415	132159	104601
15	40627	26353	25064	25689	31386	73081	88670	109852	135022	135458	130995	103698
16	40072	26373	25064	25728	31770	74001	88943	111040	134826	135568	130289	102916
17	39497	26442	25064	25718	33742	74611	89144	112292	134826	135634	129562	102057
18	38840	26442	25064	25767	37350	75206	89328	113611	134826	135502	128792	101223
19	38828	26413	25016	25816	40440	75790	89549	115037	134957	135371	127963	100004
20	38840	26442	25025	25855	45173	76361	89898	116407	135087	135349	127156	98714
21	38477	26442	25045	25874	47578	76977	90431	117704	135240	135393	126287	97468
22	37982	26462	25103	25884	49866	77668	91078	118922	135437	135458	125484	96206
23	37541	26512	25142	25874	51423	78291	91711	120247	135480	135480	124682	94987
24	37100	26973	25181	25874	52611	78801	92289	121476	135502	135458	124072	93869
25	36380	27013	25230	25845	53255	79261	92850	122771	135502	135546	123736	92737
26	36098	26682	25269	25894	54189	79756	93473	124177	135502	135393	122939	91506
27	35993	26283	25318	25923	55116	80286	94096	125336	135437	135305	122227	90358
28	35502	25993	25357	25963	56000	80872	94854	126054	135371	135305	121476	89108
29	34938	25884	25455	26063	---	81458	95692	127241	135349	135174	120226	87980
30	34892	25416	25650	26682	---	82047	96664	128899	135327	135131	118901	86804
31	34513	---	25562	26532	---	82658	---	130289	---	134935	117724	---
MAX	46088	33595	25660	26682	56000	82658	96664	130289	135502	135765	135000	116469
MIN	34513	25416	24919	25123	25923	56874	83287	97468	131340	134935	117724	86804
a	5310.05	5301.47	5301.62	5302.60	5326.65	5343.46	5351.10	5367.69	5370.02	5369.84	5361.71	5345.80
b	-12100	-9097	+146	+970	+29468	+26658	+14006	+33625	+5038	-392	-17211	-30920

CAL YR 1985 b -23991
WTR YR 1986 b +40191
a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11241950 REDINGER LAKE NEAR AUBERRY, CA

LOCATION.--Lat 37°08'42", long 119°26'58", in SW 1/4 sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on upstream face of dam No. 7 on San Joaquin River, 4.2 mi northeast of Auberry.
DRAINAGE AREA.--1,295 mi^2.
PERIOD OF RECORD.--November 1950 to current year. Prior to October 1965, monthend contents only, published in WSP 1930.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,120 acre-ft between elevations 1,320.00 ft, invert of tunnel and 1,403.00 ft, top of radial gates, NGVD. 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 at 2400 hours.

COOPERATION.--Records were provided by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 26,586 acre-ft, Aug. 5, 1978, elevation, 1,404.00 ft; minimum since appreciable storage was attained, 5,985 acre-ft, Nov. 22, 1981, elevation, 1,346.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,077 acre-ft, July 6, elevation, 1,402.91 ft; minimum, 23,053 acre-ft, Nov. 15, elevation, 1,396.17 ft.

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

1,320	0	1,330	2,014	1,355	8,196	1,380	16,455
1,322	384	1,335	3,116	1,360	9,651	1,385	18,396
1,324	778	1,340	4,282	1,365	11,203	1,390	20,427
1,326	1,180	1,345	5,515	1,370	12,858	1,400	24,748
1,328	1,592	1,350	6,809	1,375	14,610	1,405	27,058

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24938	24488	24911	24363	24291	25722	25666	25392	25740	25607	25492	25278
2	24757	24748	24762	24988	24149	25773	25119	25643	25438	25556	25694	24911
3	24627	24771	24399	24425	24256	25675	25374	25842	25269	25685	25456	24929
4	24524	24762	24884	24220	24158	25879	25860	25703	24920	25246	25114	24721
5	24748	24748	24381	24591	24207	25786	25685	25598	24897	25648	25092	24663
6	25200	24793	24399	24502	24618	25773	25616	25538	25209	26077	25019	24466
7	25451	24816	24278	24537	24640	25456	25429	25424	25429	25237	24956	24694
8	25291	24784	24300	24443	24363	25123	24730	25069	24825	25547	24942	24843
9	25223	24960	24327	24385	24367	24726	25552	24974	25511	25754	24956	24893
10	25182	24721	24632	24421	24331	25726	25777	25310	25401	25796	24947	24721
11	25128	24780	24309	24260	24074	25809	25902	25291	25547	25685	24861	24762
12	25264	24816	24300	24216	26064	25465	25657	25465	25566	25575	24866	24897
13	25264	24929	24287	24430	25888	25842	25515	25401	25625	25759	25055	24897
14	24879	24238	24254	24318	25680	25360	25488	25082	25323	25860	24721	24717
15	24947	23053	24322	24430	25846	25365	25754	25360	25282	25906	25620	25010
16	24893	23302	24322	24528	25837	25925	25675	25643	25534	25906	24762	24974
17	24888	23263	24385	24475	25773	25538	25552	25223	25374	25870	24929	24988
18	24578	23724	24394	24434	25137	25607	25406	25722	25287	25570	25177	24757
19	24614	24766	24376	24421	24582	25856	25273	24875	25392	25561	25588	24667
20	24600	24915	24394	24488	25351	25763	25123	25069	25259	25561	25575	24847
21	25078	24838	24176	24479	25643	25740	25046	25424	25465	25566	25511	25218
22	25078	24825	24202	24524	25740	25588	25465	25173	25796	25479	25543	24739
23	25630	24825	24269	24524	25474	24636	25511	25346	25301	25479	24843	24802
24	25648	24430	24269	24542	25814	25805	25488	25155	25570	25712	24829	24658
25	25689	24793	24225	24242	25680	25796	25438	25200	25740	25971	24717	25069
26	25223	24843	24229	23825	25749	25805	25524	24694	25657	25777	24802	24708
27	24893	25019	24256	24105	25694	25534	25620	24600	25694	25722	24564	24888
28	24793	24372	24140	24149	25666	25401	25483	25520	25264	25883	25337	24902
29	24712	24546	23994	24233	---	25731	25433	25419	25105	25731	25447	24748
30	24632	24870	24269	24457	---	25791	25611	25625	25460	24834	25024	24623
31	24694	---	24479	24056	---	25474	---	25374	---	25598	25110	---
MAX	25689	25019	24911	24988	26064	25925	25902	25842	25796	26077	25694	25278
MIN	24524	23053	23994	23825	24074	24636	24730	24600	24825	24834	24564	24466
a	1399.88	1400.27	1399.40	1398.45	1402.02	1401.60	1401.90	1401.38	1401.57	1401.87	1400.80	1399.72
b	-298	+176	-391	-423	+1610	-192	+137	-237	+86	+138	-488	-487

CAL YR 1985 b -500
WTR YR 1986 b -369

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11242000 SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CA

LOCATION.--Lat 37°08'40", long 119°27'13", in SW 1/4 SW 1/4 sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,000 ft downstream from Redinger Lake Dam, 0.4 mi upstream from Willow Creek, and 4.2 mi northeast of Auberry.

DRAINAGE AREA.--1,295 mi^2.

PERIOD OF RECORD.--March 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,175.54 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--No estimated daily discharges. 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.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--35 years, 506 ft^3/s, 366,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,200 ft^3/s, Dec. 23, 1955, gage height, 54.2 ft, from floodmarks, from rating curve extended above 7,000 ft^3/s, on basis of computed flow over dam; no flow Sept. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 11,300 ft^3/s, June 2, 3; minimum daily, 3.9 ft^3/s, Dec. 31, Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	10	3.9	5.0	1190	2100	3180	9640	1520	18	21
2	20	20	7.3	5.8	5.1	1190	1570	2190	11300	1920	19	22
3	20	20	4.6	13	5.1	1050	1010	2740	11300	2370	19	21
4	20	21	4.5	4.6	5.6	901	733	2270	11000	2500	19	21
5	20	21	4.5	4.5	5.8	984	875	1360	9020	1790	20	22
6	19	21	5.8	4.8	5.5	947	799	902	6730	1080	19	22
7	20	21	7.1	4.5	6.0	1030	852	663	6270	1080	20	22
8	19	21	7.1	4.5	5.8	4660	856	664	5810	553	19	20
9	19	20	8.3	4.5	6.0	7180	555	771	4310	435	20	39
10	19	21	10	4.3	6.0	4140	480	677	4680	364	19	29
11	19	16	11	4.2	6.3	2550	637	1060	4620	338	19	22
12	20	18	13	4.2	371	1970	1160	1440	4880	256	18	18
13	20	19	14	4.2	3430	1190	974	2290	5030	157	21	16
14	19	18	13	6.3	55	1180	636	3260	5720	856	20	16
15	23	18	13	6.8	1040	659	457	3210	5470	491	21	16
16	20	18	14	6.6	4440	659	598	3590	4890	358	21	15
17	20	18	14	5.9	5220	879	589	4080	4920	352	22	14
18	20	17	14	4.8	5060	626	592	4140	4560	124	22	14
19	19	17	14	6.6	4460	594	592	5730	3780	11	21	13
20	20	18	14	7.4	910	691	592	5510	2880	11	22	12
21	19	20	14	7.6	2600	645	592	4460	2260	12	22	14
22	19	18	14	8.4	1340	649	1920	3640	1970	12	21	15
23	18	19	14	9.2	799	371	3510	2920	3050	13	21	16
24	19	8.9	14	9.2	590	121	2410	2430	2820	16	22	16
25	20	5.0	14	9.5	1190	598	1930	3970	3130	15	22	8.1
26	20	6.8	14	9.7	1190	692	1700	5420	3440	15	22	9.8
27	20	12	14	10	1190	863	1700	5980	3580	16	23	15
28	20	13	14	10	1190	789	2950	6710	3740	16	22	15
29	20	6.8	14	9.5	---	1020	3040	8050	2820	16	22	16
30	20	5.0	6.5	5.0	---	1880	2920	8020	1580	17	22	16
31	20	---	3.9	4.3	---	2190	---	8510	---	18	21	---
TOTAL	611	497.5	339.6	203.8	35137.2	44088	39329	109837	155200	16732	639	535.9
MEAN	19.7	16.6	11.0	6.57	1255	1422	1311	3543	5173	540	20.6	17.9
MAX	23	21	14	13	5220	7180	3510	8510	11300	2500	23	39
MIN	18	5.0	3.9	3.9	5.0	121	457	663	1580	11	18	8.1
AC-FT	1210	987	674	404	69690	87450	78010	217900	307800	33190	1270	1060

CAL YR 1985	TOTAL	4982.7	MEAN	13.7	MAX	23	MIN	3.2	AC-FT	9880
WTR YR 1986	TOTAL	403150.0	MEAN	1105	MAX	11300	MIN	3.9	AC-FT	799600

SAN JOAQUIN RIVER BASIN

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA

LOCATION.--Lat 37°23'52", long 119°33'55", in SW 1/4 NE 1/4 sec.21, T.6 S., R.22 E., Madera County, Hydrologic Unit 18040006, on right bank at road bridge 0.6 mi downstream from Soquel Campground, 3.0 mi upstream from Chilkoot Creek, and 4.7 mi southeast of Sugar Pine.

DRAINAGE AREA.--16.9 mi^2.

PERIOD OF RECORD.--August 1965 to current year.

REVISED RECORDS.--WDR CA-85-3: 1983, 1984 (P).

GAGE.--Water-stage recorder. Elevation of gage is 5,200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 20-21, June 4 to July 14, Aug. 10-28. Records fair. No storage above station.

AVERAGE DISCHARGE.--21 years, 28.5 ft^3/s, 20,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft^3/s, Jan. 13, 1980, gage height, 7.41 ft, from rating curve extended above 1,100 ft^3/s on basis of a step-backwater survey; minimum daily, 0.29 ft^3/s, Sept. 11, Oct. 3-5, 12-17, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2045	230	4.18	Mar. 8	0745	1,910	6.18
Jan. 5	1500	147	3.97	May 27	1830	128	3.66
Feb. 19	0515	*1,980	*6.26				

Minimum daily, 2.8 ft^3/s, Oct. 2-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.8	13	24	33	102	138	82	84	23	8.8	5.7
2	2.8	3.8	133	19	34	98	129	83	82	21	8.4	5.7
3	2.8	3.7	70	18	31	91	118	90	89	21	8.1	5.6
4	2.8	3.2	31	51	29	89	114	84	87	20	7.8	5.2
5	2.9	2.9	27	116	27	87	112	81	84	19	7.5	5.1
6	8.0	2.9	21	64	25	88	115	80	82	19	7.4	5.0
7	7.8	2.9	21	42	23	92	119	80	79	18	7.2	5.0
8	5.3	2.9	18	35	22	742	110	79	75	18	7.1	4.9
9	6.0	2.9	15	30	23	256	104	78	73	18	7.5	4.9
10	5.0	6.5	13	28	21	210	102	78	71	17	6.9	5.0
11	4.2	9.6	14	26	20	180	96	78	68	18	7.3	4.9
12	4.1	6.0	12	24	84	169	86	80	66	18	6.8	4.7
13	3.8	4.9	12	22	221	156	82	82	63	18	6.1	4.9
14	3.8	5.1	11	21	233	141	82	82	61	17	5.7	5.0
15	3.8	5.5	9.9	21	314	134	82	82	59	15	5.7	5.3
16	3.5	5.7	9.6	21	250	130	82	84	55	15	5.8	5.3
17	3.5	6.0	9.4	24	558	122	80	88	53	14	6.0	5.6
18	3.5	5.1	9.2	23	992	119	80	96	49	14	6.0	6.4
19	3.2	4.6	9.2	22	842	121	80	103	46	13	6.0	5.9
20	3.2	4.6	9.3	22	237	123	80	98	42	13	6.0	5.7
21	11	5.1	9.3	20	161	126	83	90	39	12	6.0	5.5
22	6.5	4.6	9.4	19	130	128	87	84	38	12	6.0	5.3
23	6.2	5.1	9.4	18	115	127	85	83	37	12	6.0	5.2
24	6.3	48	8.8	18	113	123	82	85	34	12	5.7	11
25	5.8	62	9.4	18	113	124	82	93	32	11	5.7	16
26	5.3	19	9.4	17	112	126	80	99	31	11	5.4	9.9
27	4.5	13	8.8	17	109	131	81	106	29	11	5.4	9.7
28	4.2	17	8.8	17	107	134	82	104	27	10	5.3	8.7
29	4.2	29	16	18	---	136	82	105	25	9.9	5.1	7.9
30	4.1	17	64	68	---	138	83	96	24	9.6	5.1	7.9
31	3.8	---	33	41	---	135	---	84	---	9.2	5.4	---
TOTAL	145.0	312.4	653.9	924	4979	4678	2818	2717	1684	468.7	199.2	192.9
MEAN	4.68	10.4	21.1	29.8	178	151	93.9	87.6	56.1	15.1	6.43	6.43
MAX	11	62	133	116	992	742	138	106	89	23	8.8	16
MIN	2.8	2.9	8.8	17	20	87	80	78	24	9.2	5.1	4.7
AC-FT	288	620	1300	1830	9880	9280	5590	5390	3340	930	395	383

CAL YR 1985	TOTAL	6779.6	MEAN	18.6	MAX	133	MIN	1.8	AC-FT	13450
WTR YR 1986	TOTAL	19772.1	MEAN	54.2	MAX	992	MIN	2.8	AC-FT	39220

SAN JOAQUIN RIVER BASIN

11243400 BASS LAKE NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'33", long 119°31'43", in SE 1/4 NE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, at outlet tower at dam on North Fork Willow Creek, 2.2 mi southeast of town of Bass Lake, and 5 mi north of North Fork.

DRAINAGE AREA.--50.4 mi^2.

PERIOD OF RECORD.--January 1911 to September 1982 (monthend contents only), October 1982 to current year. Bass Lake was formerly called Crane Valley Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir formed by earthfill and rockfill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft between elevations 3,280.22 ft, invert of outlet conduit No. 3 and 3,376.40 ft, top of spillway gates. 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 is 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 ft^3/s from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) during October and March to July each year. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR 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.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,420 acre-ft, May 23, elevation, 3,376.41 ft; minimum, 22,116 acre-ft, Nov. 23, elevation, 3,353.14 ft.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26212	22678	22420	24372	26797	34073	34320	42547	45376	44582	38425	32053
2	26230	22561	23442	24329	26887	34021	34506	43041	45388	44402	38153	31758
3	26239	22578	23892	24364	26923	33980	34745	43546	45410	44342	37858	31454
4	23230	22603	23969	24831	26905	33959	35007	43913	45410	44390	37575	31151
5	23239	22620	23977	25765	26887	33908	35291	44139	45410	44450	37292	30850
6	26248	22628	23892	26212	26851	33887	35588	44270	45410	44498	37009	30542
7	26275	22669	23824	26536	26923	33918	35909	44342	45410	44426	36739	30379
8	26293	22678	23765	26797	27076	35834	36145	44438	45376	44234	36642	30369
9	26347	22678	23663	27032	27242	35144	36350	44510	45320	44044	36642	30350
10	26356	22896	23782	27251	27370	35186	36556	44606	45264	43841	36653	30331
11	26374	22913	23858	27416	27517	34797	36739	44702	45196	43652	36502	30321
12	26383	22913	23952	27582	28614	34745	36966	44810	45140	43451	36253	30331
13	26392	22947	24028	27591	30063	34578	37139	44936	45095	43239	35995	30321
14	26401	23064	24114	27545	30063	34392	37302	45072	45038	43041	35727	30302
15	26419	23115	24200	27462	33908	34340	37520	45242	44970	42775	35609	30293
16	26428	23182	24260	27397	35556	34371	37684	45287	44914	42501	35609	30283
17	26437	23224	24329	27342	36448	34268	37858	45287	44857	42251	35599	30273
18	26320	23157	24407	27296	36620	34176	38000	45309	44798	42004	35461	30283
19	26077	22930	24493	27223	37193	34134	38142	45332	44726	41751	35207	30273
20	25827	22737	24579	27160	35855	34083	38294	45376	44762	41510	34965	30273
21	25694	22528	24657	27078	35112	34073	38523	45388	44948	41259	34714	30273
22	25436	22321	24744	26978	34755	34062	38796	45410	45072	41019	34464	30283
23	25154	22116	24761	26878	34516	34052	39079	45420	45095	40780	34217	30283
24	24943	22362	24648	26779	34433	34083	39330	45410	44970	40551	34104	30341
25	24682	22711	24544	26680	34340	34083	39646	45410	44846	40289	34104	30561
26	24398	22636	24424	26572	34289	34165	40093	45410	44690	40027	33949	30619
27	24106	22478	24295	26455	34217	34186	40540	45410	44666	39766	33642	30677
28	23824	22404	24174	26347	34165	34186	41019	45410	44750	39504	33336	30715
29	23535	22636	24097	26248	---	34207	41499	45410	44834	39243	32991	30744
30	23232	22545	24321	26608	---	34207	41982	45410	44774	38970	32670	30782
31	22955	---	24372	26752	---	34207	---	45376	---	38698	32350	---
MAX	26437	23224	24761	27591	37193	35834	41982	45420	45410	44582	38425	32053
MIN	22955	22116	22420	24329	26797	33887	34320	42547	44666	38698	32350	30273
a	3354.15	3353.66	3355.82	3358.51	3366.21	3366.25	3373.45	3376.37	3375.84	3370.44	3364.42	3362.82
b	-3245	-410	+1827	+2380	+7413	+42	+7775	+3394	-602	-6076	-6348	-1568

CAL YR 1985 b -128
WTR YR 1986 b +4582

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11243500 PACIFIC GAS AND ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'21", long 119°31'44", in NE 1/4 SE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 1,000 ft downstream from Crane Valley powerhouse and dam, and 2.5 mi 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. Elevation of gage is 3,300 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passes through Crane Valley powerhouse, then to powerhouse No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverts 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.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--46 years, 72.5 ft^3/s, 52,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 167 ft^3/s, June 23, 24, 1965; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	142	118	99	119	142	161	0	157	125	155	153
2	0	65	98	48	119	142	160	3.1	158	125	158	153
3	0	.01	77	0	119	141	157	59	156	63	160	153
4	0	0	105	0	119	141	153	92	154	.03	154	153
5	0	.02	120	0	119	151	153	127	154	.02	154	154
6	0	.04	120	0	118	158	157	164	154	.92	153	154
7	0	.04	121	0	52	158	159	164	155	73	139	81
8	0	.12	121	0	0	142	160	164	156	125	55	4.8
9	0	4.3	107	0	0	126	160	164	157	125	.02	4.8
10	0	2.2	1.8	0	0	126	161	164	118	126	0	5.0
11	0	4.5	2.6	0	0	126	162	164	119	126	81	5.0
12	0	4.5	2.0	5.6	1.7	126	164	164	108	127	121	5.0
13	0	2.1	4.5	66	37	127	164	164	132	128	123	5.0
14	0	.01	4.5	117	79	126	166	164	132	128	125	5.0
15	0	0	4.7	117	113	127	166	165	132	148	58	5.2
16	0	0	2.5	117	131	127	166	166	132	156	.81	5.2
17	0	0	0	116	123	127	166	166	131	150	.81	5.2
18	58	61	0	116	73	127	165	166	131	149	76	5.2
19	117	114	2.4	116	118	128	164	166	131	149	125	3.4
20	117	114	3.2	116	126	128	164	166	71	150	125	.03
21	130	114	0	116	128	128	148	165	.03	151	125	.01
22	142	114	34	116	128	129	131	165	.02	152	125	0
23	144	114	98	116	128	129	131	165	74	153	125	0
24	121	114	97	116	127	130	131	165	124	157	49	0
25	144	102	97	115	127	150	87	165	124	158	.03	0
26	143	115	97	116	127	159	.03	166	124	157	77	0
27	143	119	97	117	135	157	.03	164	47	156	153	0
28	143	119	98	118	142	158	.01	162	.03	156	153	0
29	143	118	98	118	---	160	0	161	.01	156	153	0
30	143	118	98	119	---	160	0	158	74	156	153	0
31	142	---	98	119	---	159	---	157	---	155	153	---
TOTAL	1830	1660.84	1927.2	2319.6	2608.7	4315	3856.07	4545.1	3305.09	3880.97	3229.67	1059.84
MEAN	59.0	55.4	62.2	74.8	93.2	139	129	147	110	125	104	35.3
MAX	144	142	121	119	142	160	166	166	158	158	160	154
MIN	0	0	0	0	0	126	0	0	.01	.02	0	0
AC-FT	3630	3290	3820	4600	5170	8560	7650	9020	6560	7700	6410	2100

CAL YR 1985 TOTAL 19657.28 MEAN 53.9 MAX 144 MIN 0 AC-FT 38990
WTR YR 1986 TOTAL 34538.08 MEAN 94.6 MAX 166 MIN 0 AC-FT 68510

SAN JOAQUIN RIVER BASIN

11244000 NORTH FORK WILLOW CREEK NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'20", long 119°31'45", in SE 1/4 SE 1/4 sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft downstream from Bass Lake spillway, and 2.5 mi southeast of town of Bass Lake.

DRAINAGE AREA.--50.8 mi^2.

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 Dec. 21, 1961, to Jan. 16, 1969, and since Mar. 26, 1971. Elevation of gage is 3,200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Bass Lake (station 11243400) 1,500 ft upstream and by diversion into Pacific Gas and Electric Co. conduit No. 3 near Bass Lake (station 11243500). Soquel ditch diverts up to 50 ft^3/s from North Fork Willow Creek into Nelder Creek in Fresno River basin. Brown's Creek ditch diverted 20,970 acre-ft from South Fork Willow Creek into Bass Lake during the current year. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--46 years, 14.7 ft^3/s, 10,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,100 ft^3/s, Feb. 19, 1986; minimum daily, 0.1 ft^3/s, Nov. 13-16, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,100 ft^3/s, Feb. 19; minimum daily, 0.19 ft^3/s, Nov. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.23	.40	.28	.49	130	103	2.9	30	1.1	.58	.33
2	.32	.23	2.1	.27	.50	118	41	2.9	4.2	1.1	.56	.31
3	.31	.23	1.7	.26	.54	108	3.9	3.0	4.7	1.1	.55	.30
4	.31	.24	.65	.80	.45	99	2.4	3.0	5.4	1.1	.53	.28
5	.31	.25	.63	2.1	.39	78	2.5	3.0	5.4	1.1	.51	.27
6	.45	.22	.49	1.1	.39	57	2.6	3.0	5.5	1.1	.51	.26
7	.49	.20	.43	.57	.35	46	2.6	3.0	5.5	1.1	.49	.24
8	.52	.19	.40	.45	.35	632	2.5	3.0	5.7	1.0	.49	.24
9	.51	.19	.39	.39	.36	839	2.6	2.5	3.3	1.0	.49	.26
10	.47	.40	.34	.36	.34	681	2.6	2.5	34	1.0	.48	.28
11	.47	.37	.32	.33	.30	579	2.6	2.4	32	.99	.48	.27
12	.48	.29	.30	.31	2.8	443	2.6	2.5	33	.98	.48	.27
13	.48	.27	.30	.31	4.0	370	2.6	2.5	1.4	.96	.47	.28
14	.42	.26	.28	.31	2.2	283	2.5	2.5	1.4	.94	.47	.29
15	.30	.25	.28	.30	7.3	225	2.5	2.6	1.3	.91	.46	.30
16	.28	.26	.27	.30	603	239	2.5	51	1.3	.90	.45	.26
17	.31	.25	.27	.30	1480	209	2.6	94	1.3	.88	.45	.24
18	.27	.30	.26	.29	2000	169	2.6	92	1.3	.86	.46	.25
19	.20	.29	.25	.28	2100	148	2.6	85	1.3	.84	.47	.27
20	.20	.24	.25	.28	1560	136	2.5	76	1.3	.82	.52	.37
21	.35	.25	.25	.28	871	129	2.5	74	1.3	.79	.49	.38
22	.24	.24	.25	.27	547	124	2.5	43	1.3	.77	.47	.38
23	.22	.24	.24	.27	380	121	2.5	8.3	1.3	.75	.45	.40
24	.22	.70	.24	.27	294	126	2.5	7.9	1.3	.72	.43	.49
25	.23	1.2	.24	.26	241	132	2.5	8.8	1.2	.70	.40	.54
26	.23	.40	.24	.26	212	138	2.6	21	1.2	.68	.41	.44
27	.22	.31	.24	.25	179	148	2.7	134	1.2	.66	.41	.44
28	.22	.40	.24	.25	147	153	2.9	105	1.2	.64	.39	.43
29	.22	1.2	.25	.27	---	155	2.9	70	1.1	.63	.38	.42
30	.22	.61	.44	.98	---	157	2.9	70	1.1	.61	.36	.42
31	.22	---	.31	.63	---	156	---	64	---	.60	.34	---
TOTAL	10.02	10.71	13.25	13.58	10634.76	7128	217.8	1045.3	191.5	27.33	14.43	9.91
MEAN	.32	.36	.43	.44	380	230	7.26	33.7	6.38	.88	.47	.33
MAX	.52	1.2	2.1	2.1	2100	839	103	134	34	1.1	.58	.54
MIN	.20	.19	.24	.25	.30	46	2.4	2.4	1.1	.60	.34	.24
AC-FT	20	21	26	27	21090	14140	432	2070	380	54	29	20

CAL YR 1985	TOTAL	282.02	MEAN	.77	MAX	13	MIN	.19	AC-FT 559
WTR YR 1986	TOTAL	19316.59	MEAN	52.9	MAX	2100	MIN	.19	AC-FT 38310

SAN JOAQUIN RIVER BASIN

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA

LOCATION.--Lat 37°09'03", long 119°27'34", in SE 1/4 NE 1/4 sec.16, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 40 ft upstream from bridge, 0.4 mi upstream from mouth, 1.3 mi downstream from Whiskey Creek, and 4.3 mi northeast of Auberry.

DRAINAGE AREA.--130 mi^2.

PERIOD OF RECORD.--January 1952 to current year.

REVISED RECORDS.--WSP 2130: 1956-58(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 22, 1964. Datum of gage is 1,174.69 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--No estimated daily discharges. Flow regulated by Bass Lake (station 11243400) 10 mi upstream and diversion into Pacific Gas and Electric Co. conduit No. 1. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--34 years, 72.6 ft^3/s, 52,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s, Dec. 23, 1955, gage height, 28.5 ft, from floodmarks, from rating curve extended above 4,700 ft^3/s; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,800 ft^3/s, Feb. 18; minimum daily, 0.01 ft^3/s, Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.1	13	22	41	603	411	44	67	5.8	2.6	.30
2	3.0	2.1	274	17	37	557	307	42	25	5.1	2.5	.22
3	2.8	2.0	288	15	41	511	222	43	16	4.8	2.4	.19
4	2.6	2.0	38	28	39	493	187	51	15	5.0	2.2	.12
5	2.4	1.9	27	511	30	450	173	45	14	5.6	2.0	.07
6	2.4	2.0	21	173	27	402	230	95	14	5.6	1.7	.05
7	3.2	2.0	17	55	24	399	257	87	14	6.6	1.8	.03
8	4.2	2.0	17	40	22	3090	219	76	13	6.2	1.7	.01
9	5.0	2.0	15	33	21	1950	189	40	12	5.6	1.7	.03
10	4.3	3.4	13	28	20	1660	178	36	11	5.4	1.5	.07
11	3.1	8.0	11	25	20	1350	153	34	11	5.1	1.5	2.8
12	2.4	5.0	9.8	23	162	1060	128	33	10	4.5	1.4	4.5
13	2.2	5.7	10	22	1650	944	113	32	10	4.3	1.3	6.0
14	1.9	4.0	9.8	20	794	795	102	30	9.8	4.2	1.3	6.7
15	1.6	3.9	9.3	20	1830	713	94	29	9.8	3.7	1.2	7.3
16	1.7	4.1	9.0	19	3130	855	97	32	9.7	3.7	1.2	7.9
17	1.7	4.7	8.7	20	4850	690	92	91	9.7	3.7	1.2	8.5
18	1.6	4.8	8.3	19	5800	593	86	91	9.5	3.7	1.2	9.2
19	1.5	4.1	8.3	18	5280	528	92	86	9.0	3.7	1.1	10
20	1.5	3.6	8.2	17	3440	502	75	77	8.5	3.5	1.1	9.5
21	2.4	3.9	8.2	16	1890	484	79	74	8.0	3.5	.95	6.8
22	5.5	4.2	8.3	15	1260	481	77	72	7.7	3.5	.88	6.4
23	3.2	3.7	8.2	14	990	472	70	34	7.1	3.7	.74	7.3
24	2.8	13	8.0	14	867	426	57	29	6.7	4.3	.68	8.7
25	2.7	93	8.3	14	796	406	54	23	6.3	4.2	.58	26
26	2.5	24	8.5	13	743	418	52	24	6.2	3.9	.53	13
27	2.3	12	8.3	13	702	447	51	81	5.8	3.7	.48	7.4
28	2.1	12	7.9	13	645	458	49	120	5.6	3.6	.43	6.4
29	2.0	33	8.5	12	---	457	47	64	5.5	3.4	.30	5.8
30	2.0	23	47	113	---	458	45	60	6.4	3.1	.34	5.4
31	2.1	---	41	83	---	440	---	66	---	2.8	.34	---
TOTAL	81.8	291.2	977.6	1445	35151	23092	3986	1741	363.3	135.5	38.85	166.69
MEAN	2.64	9.71	31.5	46.6	1255	745	133	56.2	12.1	4.37	1.25	5.56
MAX	5.5	93	288	511	5800	3090	411	120	67	6.6	2.6	26
MIN	1.5	1.9	7.9	12	20	399	45	23	5.5	2.8	.30	.01
AC-FT	162	578	1940	2870	69720	45800	7910	3450	721	269	77	331

CAL YR 1985	TOTAL	4700.00	MEAN	12.9	MAX	288	MIN	.13	AC-FT	9320
WTR YR 1986	TOTAL	67469.94	MEAN	185	MAX	5800	MIN	.01	AC-FT	133800

SAN JOAQUIN RIVER BASIN

11249500 MADERA CANAL AT FRIANT, CA

LOCATION.--Lat 37°00'10", long 119°42'21", in NW 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Madera County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi northeast of Friant.

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for October 1943 to September 1950 published in WSP 1315-A. October 1954 to September 1966 published as Friant-Madera Canal at Friant.

REVISED RECORDS.--WSP 1151: 1944-48.

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 mi downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at right end of Friant Dam for irrigation between San Joaquin and Chowchilla Rivers.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation and reviewed by the U.S. Geological Survey.

AVERAGE DISCHARGE.--43 years, 341 ft^3/s, 247,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,330 ft^3/s, July 2, 1973, May 21, 1983; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	300				0	885	1170	1200	1250	1270	1280	878
2	297				0	894	1150	1210	1260	1270	1280	896
3	294				0	900	1140	1200	1280	1280	1280	916
4	276				117	939	1140	1180	1280	1280	1280	948
5	265				251	965	1140	1180	1280	1280	1280	928
6	262				300	965	1140	1180	1280	1280	1280	872
7	260				300	965	1140	1180	1280	1280	1280	837
8	259				300	933	1160	1180	1300	1280	1270	804
9	258				300	915	1210	1200	1300	1280	1270	771
10	182				300	915	1240	1200	1280	1280	1260	760
11	0				299	883	1240	1200	1280	1280	1200	742
12	0				300	842	1240	1200	1280	1280	1170	715
13	0				688	830	1240	1210	1280	1280	1140	684
14	0				1170	830	1260	1220	1280	1280	1120	644
15	0				1170	849	1260	1240	1280	1280	1110	630
16	38				1170	860	1260	1270	1270	1270	1070	643
17	0				995	860	1270	1280	1270	1270	1050	659
18	0				796	879	1260	1280	1270	1280	1040	665
19	0				813	890	1280	1280	1270	1280	1030	661
20	0				862	906	1280	1290	1270	1280	1020	638
21	0				882	1060	1130	1280	1270	1280	1040	618
22	0				1010	1140	1130	1280	1270	1280	1020	626
23	0				1160	1140	1140	1290	1270	1280	981	613
24	0				1160	1140	1150	1270	1270	1280	959	565
25	0				1160	1120	1140	1270	1270	1280	931	582
26	0				1160	1120	1140	1280	1270	1290	883	560
27	0				899	1120	1150	1290	1270	1290	850	605
28	0				885	1140	1180	1270	1270	1280	840	620
29	0				---	1150	1200	1270	1270	1280	830	594
30	0				---	1160	1200	1270	1270	1280	849	613
31	0				---	1170	---	1270	---	1280	860	---
TOTAL	2691	0	0	0	18447	30365	35780	38420	38240	39660	33753	21287
MEAN	86.8	0	0	0	659	980	1193	1239	1275	1279	1089	710
MAX	300	0	0	0	1170	1170	1280	1290	1300	1290	1280	948
MIN	0	0	0	0	0	830	1130	1180	1250	1270	830	560
AC-FT	5340	0	0	0	36590	60230	70970	76210	75850	78670	66950	42220

CAL YR 1985 TOTAL 103646 MEAN 284 MAX 1070 MIN 0 AC-FT 205600
WTR YR 1986 TOTAL 258643 MEAN 709 MAX 1300 MIN 0 AC-FT 513000

SAN JOAQUIN RIVER BASIN

11250000 FRIANT-KERN CANAL AT FRIANT, CA

LOCATION.--Lat 36°59'53", long 119°42'11", in SE 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi northeast of Friant.

PERIOD OF RECORD.--March 1949 to current year.

GAGE.--Discharge computed on basis of megawatt meter reading and efficiency of generator coefficient, and net head on turbines. 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 mi downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at left end of Friant Dam for irrigation in upper San Joaquin Valley.

COOPERATION.--Records of discharge were provided by U.S. Bureau of Reclamation and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE.--37 years, 1,432 ft^3/s, 1,037,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,330 ft^3/s, June 25, 1982; no flow for several months in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	391	0	0	515	1080	1180	3350	3160	4780	3550	2660
2	1470	314	0	0	619	1020	1240	3220	3540	4710	3370	2820
3	1510	322	0	126	635	1000	1300	3170	3590	4550	3440	2940
4	1490	392	0	0	755	1060	1430	3280	3610	4350	3600	2990
5	1350	438	0	0	962	1130	1320	3260	3990	4120	3770	2930
6	1290	421	50	116	1720	1250	1260	3200	4540	4150	3810	2650
7	1210	402	0	116	1850	1240	1220	3230	4540	4270	3780	2610
8	1130	366	0	0	1920	1010	1290	3390	4470	4360	3600	2680
9	1090	275	0	0	2040	913	1390	3370	4460	4390	3190	3130
10	1030	252	0	0	2010	810	1440	3270	4560	4380	3220	3480
11	963	203	80	0	1550	611	1420	3380	4620	4200	3460	3500
12	903	100	0	0	1390	500	1410	3550	4840	4020	3640	3360
13	890	0	0	0	719	601	1520	3790	5000	4120	3650	3180
14	939	0	0	188	550	934	1670	3960	5000	4160	3610	3240
15	1110	203	0	122	550	719	1780	4030	5010	4220	3500	3230
16	1030	0	0	0	550	795	1890	3700	4970	4400	3150	3230
17	820	127	0	134	588	875	2010	3310	5000	4460	3160	3340
18	737	0	115	147	1500	875	2050	3280	4940	4110	3300	3290
19	663	122	0	75	2320	959	1920	3350	4380	3690	3480	3080
20	684	110	0	75	2960	1020	2180	3540	3790	3820	3690	2830
21	681	122	0	104	2510	952	2390	3440	3360	4080	3630	2660
22	560	119	0	155	1630	850	2920	3090	3570	4110	3430	2800
23	451	0	125	940	932	878	3120	2840	3880	3980	3200	2790
24	386	0	0	615	952	861	3190	2580	4190	3820	3340	2650
25	328	187	0	622	1190	701	3110	2680	4360	3580	3380	2450
26	286	151	92	531	1280	654	3020	2730	4450	3300	3380	2080
27	289	0	109	371	1300	816	3050	2950	4260	3440	3410	1860
28	316	0	0	185	1200	891	3100	3200	3920	3640	3300	1880
29	341	0	0	232	---	934	3180	3310	4040	3820	3060	1790
30	378	0	0	249	---	1040	3360	3310	4440	3810	2630	1600
31	409	---	0	412	---	1100	---	3180	---	3680	2570	---
TOTAL	26194	5017	571	5515	36697	28079	61360	101940	128480	126520	105300	83730
MEAN	845	167	18.4	178	1311	906	2045	3288	4283	4081	3397	2791
MAX	1510	438	125	940	2960	1250	3360	4030	5010	4780	3810	3500
MIN	286	0	0	0	515	500	1180	2580	3160	3300	2570	1600
AC-FT	51960	9950	1130	10940	72790	55690	121700	202200	254800	251000	208900	166100

CAL YR 1985	TOTAL	443578	MEAN	1215	MAX	3380	MIN	0	AC-FT	879800
WTR YR 1986	TOTAL	709403	MEAN	1944	MAX	5010	MIN	0	AC-FT	1407000

SAN JOAQUIN RIVER BASIN

11250100 MILLERTON LAKE AT FRIANT, CA

LOCATION.--Lat 37°00'00", long 119°42'13", in SW 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, near center of Friant Dam on San Joaquin River just upstream from Cottonwood Creek, 0.9 mi northeast of Friant.
DRAINAGE AREA.--1,638 mi^2.
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 National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to May 29, 1944, nonrecording gage on left bank at same datum.

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944 and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 ft, invert of river outlet, and 578.0 ft, top of drum-type spillway gates. 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 were provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 528,700 acre-ft, June 12, 1973, elevation, 579.66 ft; minimum since lake first filled, 133,600 acre-ft, Apr. 11, 1969, elevation, 467.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 514,800 acre-ft, June 29, elevation, 576.83 ft; minimum, 156,600 acre-ft, Oct. 13, elevation, 477.90 ft.

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

400	36,400	460	117,500	500	215,600	560	436,500
420	57,000	480	161,700	520	279,400	580	530,400
440	83,300			540	353,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168900	185000	251300	339900	428100	470200	355000	208800	376000	512700	421200	271800
2	167100	186700	256800	342600	430700	470100	348600	211500	395300	511600	416800	269500
3	165200	188200	263400	345300	433100	469600	341200	213800	414300	511800	413100	265900
4	163700	190500	266400	348500	435600	468100	334300	217100	432900	512500	408400	261700
5	161900	191500	271000	353500	436400	466400	328100	218100	445500	512700	402900	257600
6	160000	193100	274600	358300	435600	462800	322100	218900	452000	511400	397800	253900
7	158900	194700	278300	361600	434700	458800	316300	219200	456400	509600	392800	248800
8	158900	196400	281600	364700	433400	477300	310300	218800	460700	506600	387900	244400
9	158200	198000	285200	369100	431300	487700	303400	218200	461800	503100	384100	239400
10	157800	199300	288600	374100	429300	489300	295800	217800	464500	500300	379500	233300
11	157800	201600	292400	377700	429400	490400	288700	218200	467800	497100	373900	227700
12	157100	204200	295700	379900	432000	488400	282700	218700	471200	493900	368900	221900
13	156600	206700	299200	383000	449800	484400	276900	220600	470800	490300	362900	216600
14	158000	209400	301800	386600	449200	479900	269000	223000	474100	488900	356900	211600
15	158500	212200	304500	388900	452800	475400	261500	225600	479100	486300	350200	206200
16	159100	214000	307300	391800	467200	473400	253900	229300	483100	483000	345400	201400
17	160000	215200	310000	394300	483100	469000	248000	235100	486900	479400	339500	196700
18	161300	216800	312300	396600	494000	463100	243200	241200	490400	476200	334300	191900
19	161700	218700	314400	398900	491600	455700	238400	250100	493400	472800	328700	188000
20	162600	220500	316500	401600	479200	448300	233100	258500	496400	469400	323100	182800
21	163800	222600	317900	404500	474900	440000	227400	265500	498700	464600	317400	177500
22	165600	225100	319300	407100	472200	431500	222500	271600	499900	461200	312100	174400
23	166300	227500	320100	408300	472700	422800	220200	276700	502000	457200	306300	170700
24	167800	230300	321900	410000	471500	412700	217900	281600	504200	453300	299900	168000
25	170300	233200	323200	410600	471500	404500	215300	286700	505400	447900	293900	166300
26	171900	235900	325400	411400	470900	396200	212200	295800	506700	444500	290000	164900
27	172800	238600	327300	413000	470600	388500	209100	306300	508900	441800	285700	163000
28	175400	240800	328700	415000	470400	381000	207200	317400	512600	438600	280800	161000
29	178000	244300	330500	417400	---	373500	207500	331400	514800	434700	277900	159300
30	180500	248100	333700	421100	---	366900	207600	345100	514000	430200	276100	158600
31	182700	---	337200	425600	---	361100	---	359700	---	425100	273900	---
MAX	182700	248100	337200	425600	494000	490400	355000	359700	514800	512700	421200	271800
MIN	156600	185000	251300	339900	428100	361100	207200	208800	376000	425100	273900	158600
a	488.22	510.57	535.94	557.52	567.48	542.06	497.22	541.70	576.67	557.42	518.41	478.72
b	+12100	+65400	+89100	+88400	+44800	-109300	-153500	+152100	+154300	-88900	-151200	-115300
c	730	360	140	360	780	960	1120	1930	3480	3650	2830	1280

CAL YR 1985 b +95000
WTR YR 1986 b -12000

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

SAN JOAQUIN RIVER BASIN

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA

LOCATION.--Lat 36°59'04", long 119°43'24", in SW 1/4 SW 1/4 sec.7, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040001, on left bank 0.5 mi west of Friant, 1.5 mi downstream from Cottonwood Creek, 2 mi downstream from Friant Dam, and at mile 268.1.
DRAINAGE AREA.--1,676 mi^2.
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.
REVISED RECORDS.--WSP 843: 1914(M).

GAGE.--Water-stage recorder. Datum of gage is 294.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 mi upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, water-stage recorder at site 2.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by reservoirs described in REMARKS for San Joaquin River below Kerckhoff powerhouse (station 11247000). Diversion for irrigation through Madera and Friant-Kern Canals (stations 11249500 and 11250000) began in 1944 and 1949, respectively. See schematic diagram of San Joaquin River basin.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern Canals).--79 years, 2,462 ft^3/s, 1,784,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft^3/s, Dec. 11, 1937, gage height, 23.8 ft, site and datum then in use; minimum, 38 ft^3/s, regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 15,500 ft^3/s, Feb. 18, 1986, gage height, 13.41 ft; minimum, 5.5 ft^3/s, Oct. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,500 ft^3/s, Feb. 18, gage height 13.41 ft; minimum daily, 25 ft^3/s, Feb. 8-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	92	72	60	32	3920	7100	1550	139	165	113	132
2	119	93	60	60	31	3920	7070	796	141	145	113	131
3	119	93	32	60	32	3920	6520	488	143	169	121	130
4	119	93	28	61	179	3920	5730	488	146	171	115	130
5	120	93	28	66	447	4340	5710	403	762	172	116	131
6	121	94	28	65	282	4910	5700	233	1560	172	116	130
7	121	96	28	64	26	5290	5680	232	1680	172	114	130
8	108	96	28	63	25	6320	5640	232	1720	170	116	129
9	91	95	28	59	25	7480	5630	232	1570	169	117	128
10	91	100	28	60	25	7650	5600	232	818	170	117	127
11	94	97	27	63	25	7250	5570	232	501	169	111	127
12	95	85	27	63	37	7390	5550	230	331	170	96	128
13	94	71	34	57	556	7390	5530	230	2170	172	95	130
14	94	72	55	55	3650	7250	5500	232	1150	170	103	129
15	95	71	56	61	4640	7100	5470	232	169	169	127	128
16	95	71	56	60	5700	6670	5200	173	169	170	136	127
17	95	72	71	65	8450	6840	4320	128	169	169	137	127
18	96	71	95	65	13900	6960	3860	128	169	169	135	128
19	96	69	94	66	14900	7170	3850	105	209	169	135	128
20	97	70	94	66	12700	7320	3840	79	256	169	135	128
21	101	70	92	65	7470	7430	3820	82	264	167	135	128
22	100	70	93	64	6080	7360	3800	110	265	167	134	128
23	100	70	93	64	3910	7360	3790	130	230	169	132	130
24	101	71	92	63	3930	7350	3530	130	167	168	132	95
25	100	71	91	63	3930	7310	3080	130	166	167	133	60
26	99	70	91	63	3930	7270	2900	131	166	168	133	59
27	99	69	79	62	3920	7240	2890	132	168	168	133	60
28	100	73	63	60	3920	7210	2680	132	169	157	132	60
29	101	74	61	51	---	7180	2130	133	169	164	133	62
30	101	73	60	61	---	7140	1950	135	170	315	134	63
31	96	---	60	46	---	7130	---	137	---	114	132	---
TOTAL	3177	2405	1844	1901	102752	202990	139640	8037	15906	5295	3831	3423
MEAN	102	80.2	59.5	61.3	3670	6548	4655	259	530	171	124	114
MAX	121	100	95	66	14900	7650	7100	1550	2170	315	137	132
MIN	91	69	27	46	25	3920	1950	79	139	114	95	59
AC-FT	6300	4770	3660	3770	203800	402600	277000	15940	31550	10500	7600	6790
MEAN a	1243	1353	1529	1683	6460	6671	5332	7292	8739	4146	2197	1699
AC-FT a	76430	80510	94020	103500	358800	410200	317300	448400	520000	254900	135100	101100

CAL YR 1985	TOTAL	34476	MEAN	94.5	MAX	169	MIN	27	AC-FT	68380	MEAN a	1746	AC-FT a	1264000
WTR YR 1986	TOTAL	491201	MEAN	1346	MAX	14900	MIN	25	AC-FT	974300	MEAN a	4006	AC-FT a	2900000

a Adjusted for change in contents and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern canals.

SAN JOAQUIN RIVER BASIN

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA

LOCATION.--Lat 36°24'08", long 120°25'57", in SE 1/4 SE 1/4 sec.34, T.17 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 9.2 mi southwest of town of Cantua Creek, and 19 mi north of Coalinga.

DRAINAGE AREA.--46.4 mi^2.

PERIOD OF RECORD.--Water years 1958-65 (annual maximum), October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1966, crest-stage gage at datum 2.00 ft lower.

REMARKS.--Estimated daily discharges: Feb. 6-10, 16, 17, 20-22, Apr. 1, Apr. 20 to Aug. 12. Records fair, except those for Apr. 20 to Aug. 12, which are poor. Some small dams for stock use above station.

AVERAGE DISCHARGE.--20 years, 3.49 ft^3/s, 2,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft^3/s, Mar. 1, 1983, gage height, 5.72 ft; maximum gage height, 6.60 ft, Feb. 24, 1969; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	2000	914	3.79	Apr. 6	1915	293	2.94
Mar. 15	1415	*923	*3.80				

No flow for many days

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.02	3.5	5.6	9.6	1.6	1.1	.65	.10	.03
2			3.2	.02	1.2	5.2	9.2	1.6	1.1	.62	.09	.02
3			3.6	.02	1.1	4.9	9.2	1.5	.98	.62	.08	.02
4			.21	3.4	1.3	4.6	8.9	1.5	.92	.61	.07	.01
5			0	12	1.1	4.2	12	1.6	.91	.57	.06	.01
6			0	1.7	.90	4.0	33	1.6	.92	.53	.06	0
7			0	.58	.74	3.8	13	1.5	.92	.52	.06	0
8			0	.27	.63	15	8.7	1.5	.97	.50	.05	0
9			0	.16	.56	9.3	6.2	1.5	.96	.52	.05	0
10			0	.14	.49	54	4.9	1.5	.97	.52	.06	.01
11			0	.12	.83	24	4.1	1.5	.98	.52	.09	0
12			0	.11	60	19	3.5	1.5	.88	.52	.10	0
13			0	.11	85	18	3.1	1.5	.83	.52	.07	.01
14			0	.10	199	16	3.0	1.5	.86	.48	.07	.02
15			0	.09	109	162	2.7	1.5	.83	.45	.08	.03
16			0	.06	35	177	2.6	1.4	.81	.43	.10	.04
17			0	.06	22	57	2.6	1.5	.81	.41	.09	.05
18			0	.06	38	38	2.4	1.4	.80	.39	.07	.05
19			0	.07	46	26	2.1	1.4	.81	.39	.06	.05
20			0	.07	30	25	2.0	1.4	.81	.41	.05	.05
21			0	.08	19	21	1.9	1.3	.79	.41	.03	.05
22			0	.08	15	19	1.9	1.2	.79	.35	.02	.05
23			0	.10	12	17	1.9	1.2	.81	.27	.02	.05
24			0	.09	10	15	1.8	1.2	.80	.27	.03	.06
25			.01	.08	9.0	14	1.7	1.3	.72	.22	.03	.05
26			.02	.08	8.2	13	1.7	1.3	.76	.20	.02	.05
27			.02	.09	7.3	12	1.7	1.2	.72	.18	.02	.14
28			.02	.09	6.3	12	1.6	1.2	.69	.18	.02	.18
29			.03	.09	---	11	1.6	1.2	.67	.17	.03	.18
30			.03	.11	---	11	1.6	1.2	.67	.11	.03	.15
31			.02	2.1	---	10	---	1.2	---	.10	.03	---
TOTAL	0	0	7.16	22.15	723.15	827.6	160.2	43.5	25.59	12.64	1.74	1.36
MEAN	0	0	.23	.71	25.8	26.7	5.34	1.40	.85	.41	.056	.045
MAX	0	0	3.6	12	199	177	33	1.6	1.1	.65	.10	.18
MIN	0	0	0	.02	.49	3.8	1.6	1.2	.67	.10	.02	0
AC-FT	0	0	14	44	1430	1640	318	86	51	25	3.5	2.7

CAL YR 1985	TOTAL	78.83	MEAN	.22	MAX	3.6	MIN	0	AC-FT	156
WTR YR 1986	TOTAL	1825.09	MEAN	5.00	MAX	199	MIN	0	AC-FT	3620

SAN JOAQUIN RIVER BASIN

11253500 JAMES BYPASS NEAR SAN JOAQUIN, CA

LOCATION.--Lat 36°39'09", long 120°10'49", in NE 1/4 SW 1/4 sec.1, T.15 S., R.16 E., Fresno County, Hydrologic Unit 18030012, on right bank 3.2 mi north of San Joaquin.

PERIOD OF RECORD.--October 1947 to current year. Published as "Fresno Slough bypass" in WSP 1315-A and 1735. Daily discharge for period October 1954 to September 1972 are in files of U.S. Bureau of Reclamation. Monthly totals published in WDR CA-72-2.

GAGE.--Water-stage recorder. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Diversion above station for irrigation. James Bypass carries overflow from Kings River to San Joaquin River.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, rounded to U.S. Geological Survey standards.

AVERAGE DISCHARGE.--39 years, 288 ft^3/s, 208,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,570 ft^3/s, June 7, 1969; no flow for all or most of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	194	4980	2110	3060	104		
2					0	613	4720	2080	3300	34		
3					0	604	4480	2090	3210	34		
4					0	549	4440	2110	3090	32		
5					0	670	4500	2220	3420	31		
6					0	1040	4600	2390	3910	30		
7					0	1390	4660	2530	4290	28		
8					0	1520	4660	2620	4360	52		
9					0	1950	4550	2680	4230	75		
10					0	2720	4480	2740	4040	14		
11					0	3330	4460	2770	3610	7		
12					0	3910	4460	2690	2660	0		
13					0	3820	4420	2500	1120	0		
14					0	3960	4310	2310	478	34		
15					83	4280	4330	2130	100	15		
16					252	4640	4200	1890	82	15		
17					327	4610	3950	1770	82	10		
18					895	4670	3700	1860	0	10		
19					1180	4580	3440	1820	0	0		
20					1140	4460	3240	1690	0	0		
21					455	4680	3040	1550	0	0		
22					143	4840	2780	1460	0	0		
23					88	4860	2560	1600	0	0		
24					176	4860	1940	1980	129	0		
25					148	4840	1820	2330	80	0		
26					154	4820	1820	2460	35	0		
27					157	4800	1870	2550	3	0		
28					140	4770	1930	2610	65	0		
29					---	4800	2070	2840	152	0		
30					---	4890	2140	2960	281	0		
31					---	4980	---	3020	---	0		
TOTAL	0	0	0	0	5338	106650	108550	70360	45787	525	0	0
MEAN	0	0	0	0	191	3440	3618	2270	1526	16.9	0	0
MAX	0	0	0	0	1180	4980	4980	3020	4360	104	0	0
MIN	0	0	0	0	0	194	1820	1460	0	0	0	0
AC-FT	0	0	0	0	10590	211500	215300	139600	90820	1040	0	0

CAL YR 1985	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0
WTR YR 1986	TOTAL	337210.0	MEAN	924	MAX	4980	MIN	0.0	AC-FT	668900

SAN JOAQUIN RIVER BASIN

11257500 FRESNO RIVER NEAR KNOWLES, CA

LOCATION.--Lat 37°14'14", long 119°46'26", in SE 1/4 NW 1/4 sec.15, T.8 S., R.20 E., Madera County, Hydrologic Unit 18040007, on left bank at Fresno Crossing, 0.1 mi downstream from Bean Gulch, and 6 mi northeast of Knowles.
DRAINAGE AREA.--133 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to August 1913, November 1915 to current year.
REVISED RECORDS.--WSP 1515: 1916-19, 1920(M), 1921-23, 1925-26(M), 1932(M), 1935-36(M).
GAGE.--Water-stage recorder. Datum of gage is 1,086.4 ft above National Geodetic Vertical Datum of 1929. 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.
REMARKS.--Estimated daily discharges: Oct. 1-2, Dec. 11-12, and Dec. 19 to Jan. 8. Records good except for periods of estimated daily record, which are fair. Diversions for irrigation of 160 acres above station. Diversions into Fresno River basin above station of up to 60 ft^3/s at times since 1888 from the Merced River basin. Diversions are for irrigation downstream from station.
AVERAGE DISCHARGE.--71 years (water years 1912, 1917-86), 86.2 ft^3/s, 62,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft^3/s, Dec. 23, 1955, gage height, 11.52 ft, from rating curve extended above 4,500 ft^3/s, on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 590 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	0530	760	3.44	Mar. 8	1215	5,170	7.83
Feb. 18	0315	*10,700	*10.55	Mar. 16	1300	1,240	4.27

Minimum daily, 4.20 ft^3/s, Oct. 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	19	148	45	109	300	254	117	117	27	9.9	5.8
2	4.2	19	168	36	82	282	247	115	116	23	11	5.5
3	4.2	18	480	30	104	268	237	123	114	22	12	5.0
4	4.6	18	183	32	88	249	230	180	72	21	12	4.7
5	4.7	18	130	168	75	240	228	135	64	22	11	4.6
6	5.5	19	129	220	68	232	299	147	64	22	9.5	4.9
7	14	20	87	126	62	257	286	143	62	21	9.1	4.6
8	17	24	83	80	58	2190	265	138	61	21	8.5	4.7
9	16	20	70	74	54	942	237	130	59	19	9.1	5.2
10	15	30	59	68	52	1270	222	121	57	18	9.0	5.5
11	14	70	53	62	52	1240	211	116	55	17	9.3	5.7
12	12	38	51	57	104	903	202	112	54	17	13	5.8
13	13	33	38	54	1350	736	195	110	54	17	12	5.6
14	14	29	40	51	412	625	191	108	53	16	12	5.5
15	14	29	42	51	1830	713	184	106	51	15	12	5.6
16	14	31	40	52	3020	1040	202	104	49	12	12	5.2
17	14	33	39	49	4440	699	194	100	48	9.9	11	5.4
18	14	36	37	51	4490	553	183	95	47	9.5	11	5.5
19	15	33	34	51	4010	503	177	92	46	9.9	11	6.0
20	14	31	34	49	2170	466	166	90	44	8.3	9.8	6.2
21	18	31	34	46	970	443	160	88	41	8.9	9.0	6.0
22	35	33	34	45	653	424	152	88	38	9.2	8.6	6.2
23	25	32	31	43	516	405	148	85	37	8.7	8.4	5.5
24	20	74	31	41	453	382	147	86	36	9.1	7.5	5.9
25	18	281	30	42	415	360	144	84	34	9.3	7.0	17
26	22	183	29	40	390	344	141	82	32	8.4	6.7	26
27	17	110	29	40	353	325	136	80	32	8.5	6.5	17
28	19	111	29	40	324	308	136	77	31	9.1	6.3	14
29	18	176	29	38	---	294	127	86	31	9.2	6.4	12
30	18	239	35	74	---	286	121	77	30	9.4	5.9	11
31	19	---	52	120	---	279	---	113	---	8.9	5.8	---
TOTAL	456.4	1838	2308	1975	26704	17558	5822	3328	1629	446.3	292.3	227.6
MEAN	14.7	61.3	74.5	63.7	954	566	194	107	54.3	14.4	9.43	7.59
MAX	35	281	480	220	4490	2190	299	180	117	27	13	26
MIN	4.2	18	29	30	52	232	121	77	30	8.3	5.8	4.6
AC-FT	905	3650	4580	3920	52970	34830	11550	6600	3230	885	580	451

CAL YR 1985	TOTAL	17538.88	MEAN	48.1	MAX	490	MIN	.03	AC-FT 34790
WTR YR 1986	TOTAL	62584.6	MEAN	171	MAX	4490	MIN	4.2	AC-FT 124100

NOTE.--Beaver activity affected stage-discharge relationship.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: July 1971 to current year.

INSTRUMENTATION.--Temperature recorder since July 1971.

REMARKS.--Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1972-86): Maximum recorded, 33.5°C, July 5, 1984; minimum recorded, 0.0°C, Jan. 5, 7, 1973, Dec. 8, 9, 1978.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 31.0°C, Aug. 12; minimum recorded, 2.0°C, Dec. 13-14.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.5	17.0			---	---	9.5	9.0	9.5	8.0	13.0	11.5
2	21.5	17.5			---	---	10.5	9.0	10.0	9.0	13.5	12.5
3	22.5	17.5			---	---	10.5	9.0	9.5	8.5	13.0	11.5
4	21.0	17.5			---	---	10.5	9.0	8.5	6.5	13.5	12.0
5	21.0	17.5			---	---	11.0	10.0	9.0	8.0	14.0	12.5
6	20.5	18.5			---	---	10.0	9.0	10.5	8.0	13.5	12.5
7	21.0	18.5			---	---	10.0	8.0	8.5	5.5	13.5	13.0
8	19.0	17.0			---	---	8.5	7.0	8.5	4.5	13.0	11.0
9	17.5	15.0			---	---	8.0	6.0	8.0	4.5	11.0	9.0
10	17.0	13.5			---	---	8.0	5.5	8.0	4.5	10.5	9.5
11	17.0	13.5			---	---	8.0	5.5	7.0	4.5	10.5	9.0
12	17.0	14.0			---	---	8.5	5.5	8.0	5.5	11.0	10.0
13	17.0	14.0			5.0	2.0	8.5	6.0	10.0	8.5	11.0	9.5
14	16.5	14.0			5.5	2.0	8.0	6.0	10.5	9.5	10.0	8.5
15	16.5	14.0			5.0	3.0	9.5	7.5	10.0	9.5	10.0	8.5
16	16.5	14.0			6.0	3.0	10.5	8.5	9.5	9.0	9.0	8.0
17	16.5	14.0			6.5	3.0	12.5	9.5	10.0	9.0	10.0	8.0
18	---	---			7.0	3.5	13.0	10.0	10.5	9.5	10.5	8.5
19	---	---			7.0	3.5	11.0	9.5	11.0	8.5	11.0	9.0
20	---	---			7.0	3.5	12.5	10.0	10.0	8.0	11.0	9.5
21	---	---			6.5	3.5	11.0	9.5	9.5	7.0	12.0	10.0
22	---	---			6.5	3.5	10.0	8.0	10.5	8.0	12.0	10.5
23	---	---			6.5	3.0	10.0	8.0	11.0	9.5	12.0	11.5
24	---	---			6.5	3.0	10.0	6.5	12.0	9.5	12.5	11.0
25	---	---			7.0	3.5	9.5	6.0	12.0	10.5	12.5	11.0
26	---	---			7.0	4.0	10.0	6.0	12.5	11.0	13.5	12.0
27	---	---			7.0	4.0	10.0	6.0	12.5	11.5	14.0	12.5
28	---	---			6.5	3.5	10.5	6.5	12.5	11.5	14.0	12.5
29	---	---			8.0	5.0	10.0	8.5	---	---	15.0	13.0
30	---	---			10.0	8.0	12.0	9.5	---	---	15.0	13.5
31	---	---			9.5	8.5	10.5	9.5	---	---	15.0	13.5
MONTH	---	---			---	---	13.0	5.5	12.5	4.5	15.0	8.0

SAN JOAQUIN RIVER BASIN

11257500 FRESNO RIVER NEAR KNOWLES, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	13.5	16.0	14.0	22.0	19.0	28.5	20.5	29.5	21.0	29.0	21.5
2	13.5	11.5	17.0	14.0	22.0	19.0	30.0	21.0	29.5	21.5	29.5	22.0
3	12.5	10.5	15.5	13.0	21.5	19.0	29.5	21.5	30.0	22.0	29.5	22.0
4	12.5	11.0	14.5	11.5	22.5	19.0	28.5	21.5	30.5	22.5	29.5	22.0
5	12.5	11.0	14.0	12.5	22.5	18.5	28.5	20.5	31.0	22.5	29.5	22.0
6	12.0	11.5	14.0	11.5	22.0	18.0	28.0	20.0	31.0	22.5	29.5	22.5
7	12.0	11.0	13.5	10.5	22.5	18.0	28.0	20.5	30.5	22.0	29.0	22.5
8	12.5	10.5	15.0	11.0	22.5	18.0	28.5	20.5	30.5	22.0	28.0	21.5
9	13.5	10.5	15.5	13.0	23.5	18.5	28.5	20.5	30.5	22.5	26.0	19.5
10	14.5	12.0	16.5	13.5	24.0	19.5	28.5	20.0	30.5	22.5	25.0	18.0
11	15.5	13.0	16.5	13.5	25.0	20.0	30.0	21.5	30.5	22.5	25.5	18.0
12	14.5	13.0	17.0	13.5	24.5	19.5	30.5	22.5	31.0	23.0	24.0	18.5
13	13.0	10.0	17.5	15.0	25.0	20.0	30.5	23.0	30.5	22.0	23.5	17.5
14	13.5	11.0	18.0	15.0	25.0	20.5	30.5	22.5	30.5	22.0	22.0	17.5
15	13.0	12.0	18.0	15.0	25.0	19.5	29.5	22.0	30.0	22.5	23.0	16.0
16	12.5	11.0	18.5	15.5	24.5	19.5	27.5	21.0	29.5	22.0	21.5	17.0
17	13.0	10.5	19.0	16.5	25.0	20.0	27.0	19.5	29.0	21.0	20.0	17.5
18	13.5	10.5	20.0	17.0	25.0	20.0	27.0	19.5	27.0	21.5	23.0	17.5
19	15.0	12.0	20.0	17.5	24.0	19.0	28.0	20.0	27.5	21.5	21.0	16.0
20	16.0	12.5	19.5	17.0	24.5	18.5	27.0	20.5	29.0	23.5	21.0	15.0
21	17.0	14.0	19.5	16.5	25.5	19.0	27.0	21.0	30.5	22.5	21.5	14.5
22	18.0	15.0	17.0	14.5	27.0	20.5	25.0	22.5	30.0	22.5	21.0	14.5
23	17.0	15.0	16.0	14.5	27.5	21.0	27.0	21.0	29.0	21.5	21.0	15.5
24	16.5	14.0	18.0	13.5	28.5	22.0	28.5	21.5	29.0	21.0	18.5	17.0
25	17.0	14.5	20.0	16.5	28.5	22.5	28.0	22.0	29.0	21.0	18.5	15.5
26	15.5	13.0	21.5	18.0	28.5	22.5	28.5	21.5	29.5	21.5	19.0	14.0
27	16.0	13.0	22.5	19.0	28.5	22.5	28.5	21.0	29.5	21.5	17.5	14.5
28	17.0	14.0	23.0	19.0	28.0	21.0	28.5	21.0	29.5	22.0	19.5	14.0
29	17.0	14.5	22.5	20.0	27.5	20.5	28.5	21.0	29.0	21.5	19.5	14.0
30	16.5	14.0	23.5	20.0	27.5	20.0	29.0	21.0	28.5	21.0	20.5	14.5
31	---	---	21.5	19.5	---	---	29.5	21.5	28.5	20.5	---	---
MONTH	18.0	10.0	23.5	10.5	28.5	18.0	30.5	19.5	31.0	20.5	29.5	14.0
YEAR	31.0	2.0										

SAN JOAQUIN RIVER BASIN

11257950 HENSLEY LAKE NEAR DAULTON, CA

LOCATION.--Lat 37°06'34", long 119°53'05", in NE 1/4 NW 1/4 sec.34, T.9 S., R.19 E., Madera County, Hydrologic Unit 18040007, in control tower at center of Hidden Dam on Fresno River, and 5.3 mi southeast of Daulton.
DRAINAGE AREA.--236 mi^2.

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earthfill dam. Storage began Oct. 1, 1975, usable capacity, 85,289 acre-ft, between elevations 448.0 ft, lowest outlet, and 540.0 ft, crest of spillway. Dead storage, 4,970 acre-ft. Records, including extremes, represent total contents at 2400 hours. Reservoir is used for flood control, irrigation, recreation, and wildlife enhancement.

COOPERATION.--Records provided by U.S. Army Corps of Engineers, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 89,509 acre-ft, June 6, 1979, elevation, 539.52 ft; minimum since reservoir first filled, 8,790 acre-ft, Sept. 30 and Oct. 1, 1984, elevation, 459.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 67,117 acre-ft, May 18, elevation, 524.19 ft; minimum, 9,693 acre-ft, Oct. 5, elevation, 461.17 ft.

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

435	2,134	470	14,138	510	49,115
445	4,173	480	20,569	520	61,525
455	7,217	490	28,556	530	75,247
460	9,185	500	38,094	540	90,259

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9697	9955	11485	14994	19730	46373	58373	63926	64914	54842	40118	30168
2	9697	9964	11594	15100	19948	45975	58923	64086	64754	54471	39812	29745
3	9697	9973	12362	15195	20182	45545	59449	64299	64580	54089	39591	29298
4	9697	9982	12671	15326	20382	45072	59926	64606	64366	53709	39413	28846
5	9693	9991	12856	15736	20548	44579	60418	64874	64112	53317	39235	28398
6	9706	10005	13044	16339	20728	44066	61159	65129	63872	52939	39057	27963
7	9701	10014	13173	16653	20844	43270	61773	65371	63647	52575	38880	27549
8	9710	10019	13288	16868	20982	46762	62351	65627	63514	52127	38703	27155
9	9719	10037	13402	17047	21099	46385	62865	65897	63461	51645	38537	26782
10	9728	10100	13479	17188	21216	45590	63328	66113	63408	51093	38331	26429
11	9732	10146	13562	17317	21297	45647	63673	66343	63302	50521	38104	26053
12	9741	10196	13634	17433	21578	44859	63899	66560	63090	49939	37785	25656
13	9746	10214	13683	17550	24406	44300	64166	66777	62812	49338	37336	25271
14	9750	10228	13745	17675	25410	43468	64379	66899	62470	48728	36838	24905
15	9750	10255	13795	17760	29691	43314	64687	66940	62088	48123	36375	24543
16	9754	10283	13862	17885	37407	44512	65089	67022	61708	47509	35964	24183
17	9759	10306	13924	17984	46237	45286	65398	67076	61198	46899	35576	23819
18	9763	10324	13980	18090	51669	46328	65681	67117	60638	46294	35191	23474
19	9768	10356	14019	18197	54830	47394	65843	67035	60068	45749	34836	23109
20	9772	10370	14081	18297	56412	48495	66005	66872	59578	45218	34504	22762
21	9803	10393	14127	18391	55239	49691	66072	66668	59128	44747	34192	22404
22	9821	10417	14183	18485	53000	50747	65870	66492	58705	44311	33844	22086
23	9843	10440	14229	18559	50449	51801	65546	66289	58335	43867	33478	21794
24	9861	10491	14275	18654	48169	52720	65237	66154	57953	43413	33134	21511
25	9875	10664	14332	18722	47348	53550	64914	66045	57509	42941	32820	21334
26	9893	10849	14383	18804	47221	54372	64620	65937	57029	42471	32451	21238
27	9906	10930	14424	18885	46957	55140	64366	65816	56550	42036	32093	21238
28	9915	11016	14475	18961	46739	55861	64126	65681	56062	41625	31757	21253
29	9929	11142	14545	19043	---	56550	63912	65492	55587	41216	31413	21275
30	9938	11366	14637	19160	---	57193	63833	65277	55189	40831	31026	21290
31	9947	---	14853	19430	---	57826	---	65076	---	40479	30595	---
MAX	9947	11366	14853	19430	56412	57826	66072	67117	64914	54842	40118	30168
MIN	9693	9955	11485	14994	19730	43270	58373	63926	55189	40479	30595	21238
a	461.74	464.76	471.24	478.39	507.95	517.13	521.75	522.68	515.03	502.28	492.28	480.99
b	+246	+1419	+3487	+4577	+27309	+11087	+6007	+1243	-9887	-14710	-9884	-9305
c	214	84	31	81	124	260	508	855	1085	1069	974	515

CAL YR 1985 b +1970
WTR YR 1986 b +11589

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

SAN JOAQUIN RIVER BASIN

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA

LOCATION.--Lat 37°06'16", long 119°53'13", in NE 1/4 SW 1/4 sec.34, T.9 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 350 ft upstream from Willow Creek, 2,000 ft downstream from Hidden Dam, and 5.2 mi southeast of Daulton.
DRAINAGE AREA.--237 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1975, published as "near Daulton."
GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 385 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WDR CA-75-3 for history of changes prior to Oct. 1, 1975.
REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Hensley Lake (station 11257950) since October 1975.
COOPERATION.--Records were provided by U.S. Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE.--45 years, 120 ft^3/s, 86,940 acre-ft/yr, adjusted for change in contents and evaporation from Hensley Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft^3/s, Dec. 23, 1955, gage height, 17.64 ft, site and datum then in use, from rating curve extended above 6,400 ft^3/s, on basis of slope-area measurement at gage height 17.60 ft, site and datum then in use; maximum gage height, 17.69 ft, Feb. 24, 1969, site and datum then in use; no flow at times most years. Maximum discharge since construction of Hidden Dam in 1975, 4,190 ft^3/s, Mar. 1, 1983, gage height, 8.83 ft; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 3, 1938, reached a discharge of 15,000 ft^3/s, provided by U.S. Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,290 ft^3/s, Feb. 17, gage height, 8.48 ft; minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	0	0	.10	0	488	8.7	72	201	190	173	201
2	.10	0	.10	.10	0	486	3.0	30	201	191	151	201
3	0	0	.10	.10	.10	486	3.1	15	201	191	112	209
4	0	0	.10	.10	0	488	3.5	6.7	201	191	87	213
5	0	0	.10	0	0	491	4.0	1.0	201	191	87	213
6	0	0	.10	0	0	491	4.6	.60	191	191	87	207
7	0	0	.10	0	.10	644	4.8	.10	185	191	86	200
8	0	0	.10	0	.10	986	2.9	0	144	223	86	183
9	0	0	.10	0	.10	1460	0	0	106	244	86	174
10	0	0	.10	.10	.10	1980	.60	0	96	269	92	167
11	0	0	.10	.10	.10	1990	39	0	117	285	108	176
12	0	0	.10	.20	.30	1780	86	0	157	289	131	185
13	0	.10	.10	.20	.30	1480	86	0	181	296	208	183
14	0	0	.10	.20	.10	1480	86	50	212	296	231	176
15	0	0	.10	.30	.20	1470	42	91	228	296	217	176
16	0	0	.10	.30	.50	1470	.80	91	228	296	187	173
17	0	.10	.10	.20	880	887	14	90	276	296	183	171
18	0	0	.10	.20	3080	394	63	88	310	296	178	171
19	0	0	.10	.20	3030	237	89	143	310	278	168	171
20	0	.10	.10	.20	2410	128	88	180	281	259	159	170
21	0	0	.10	.20	1970	2.4	131	188	259	237	153	170
22	0	.10	.10	.10	2020	2.7	244	195	245	224	161	156
23	0	0	.10	.10	2000	3.1	297	197	215	222	166	145
24	0	.20	.10	.10	1750	3.5	296	177	217	221	159	144
25	0	.40	.10	.10	940	4.6	296	157	243	231	151	100
26	0	.30	.10	.10	496	5.6	277	156	253	239	166	71
27	0	.20	.10	.10	492	6.2	263	156	253	206	168	29
28	0	.50	.10	0	491	6.8	246	163	253	195	162	2.6
29	0	.70	.20	0	---	7.5	233	189	253	201	162	3.1
30	0	.10	.30	0	---	8.2	158	201	215	185	177	3.4
31	0	---	.20	0	---	8.9	---	201	---	173	201	---
TOTAL	0.20	2.80	3.40	3.40	19561.00	19375.5	3070.00	2838.40	6433	7293	4643	4544.1
MEAN	.006	.093	.11	.11	699	625	102	91.6	214	235	150	151
MAX	.10	.70	.30	.30	3080	1990	297	201	310	296	231	213
MIN	0	0	0	0	0	2.4	0	0	96	173	86	2.6
AC-FT	.4	5.6	6.7	6.7	38800	38430	6090	5630	12760	14470	9210	9010

CAL YR 1985	TOTAL	12918.6	MEAN	35.4	MAX	227	MIN	0	AC-FT	25620	MEAN a	43.5	AC-FT a	31,490
WTR YR 1986	TOTAL	67767.80	MEAN	186	MAX	3080	MIN	0	AC-FT	134400	MEAN a	210	AC-FT a	152,000

a Adjusted for change in contents and evaporation from Hensley Lake.

NOTE.--Backwater from beaver dams Oct. 1 to Feb. 16 and Mar. 21 to Apr. 16.

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since Oct. 29, 1975.

REMARKS.--Water temperatures are affected by regulation from Hidden Dam.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURES (water years 1976-86): Maximum recorded, 32.0°C, June 15, 1976; minimum recorded, 3.5°C, Jan. 1, 1976, Nov. 26, 1980.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.5°C, Apr. 9-10; minimum recorded, 5.5°C, Dec. 12-14.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.5	18.0	---	---	---	---	10.0	9.0	---	---	11.0	11.0
2	---	---	---	---	12.0	11.0	10.5	10.0	---	---	11.5	11.0
3	---	---	---	---	12.0	11.5	10.5	10.0	12.5	12.0	11.5	11.0
4	---	---	---	---	12.0	11.0	11.5	10.5	---	---	11.5	11.0
5	---	---	---	---	12.5	11.5	---	---	---	---	11.5	11.0
6	---	---	---	---	12.5	11.0	---	---	---	---	11.5	11.0
7	---	---	---	---	12.0	11.5	---	---	11.0	10.0	11.5	11.0
8	---	---	---	---	12.0	10.5	---	---	10.0	9.5	11.5	11.5
9	---	---	---	---	11.0	9.0	---	---	9.5	9.0	12.0	11.5
10	---	---	---	---	9.0	8.0	10.5	9.5	9.0	8.5	12.0	12.0
11	---	---	---	---	8.5	6.5	10.0	9.5	8.5	8.5	12.0	12.0
12	---	---	---	---	6.5	5.5	9.5	9.5	9.5	9.0	12.5	12.0
13	---	---	9.5	8.0	6.0	5.5	9.5	9.0	11.0	9.5	12.5	12.0
14	---	---	---	---	6.0	5.5	9.5	9.0	12.0	11.0	12.5	12.0
15	---	---	---	---	6.5	6.0	10.5	10.0	12.5	12.0	12.5	12.0
16	---	---	---	---	6.5	6.0	11.5	10.5	12.5	12.5	12.5	11.5
17	---	---	9.5	8.5	6.5	6.0	12.0	11.5	12.5	11.0	11.5	11.0
18	---	---	---	---	7.0	6.5	12.5	12.0	11.0	11.0	11.5	11.0
19	---	---	---	---	7.0	7.0	12.5	12.5	11.0	11.0	11.5	11.0
20	---	---	8.0	8.0	7.0	7.0	13.0	12.5	11.0	10.5	14.5	11.0
21	---	---	---	---	7.0	7.0	13.0	12.5	11.0	10.5	17.5	11.5
22	---	---	9.0	8.5	7.0	7.0	12.5	11.0	11.0	10.5	19.0	14.0
23	---	---	---	---	7.0	6.5	11.0	11.0	11.0	11.0	19.0	15.5
24	---	---	10.0	9.0	6.5	6.5	11.0	9.5	11.0	11.0	20.5	15.5
25	---	---	11.5	10.0	6.5	6.5	10.5	10.0	11.0	11.0	20.0	15.5
26	---	---	12.5	12.0	6.5	6.5	10.0	9.5	11.0	11.0	21.0	16.5
27	---	---	13.0	12.5	6.5	6.5	10.0	9.5	11.5	11.0	22.0	17.5
28	---	---	13.0	12.5	6.5	6.5	---	---	11.0	11.0	23.0	19.0
29	---	---	12.5	12.0	7.0	6.5	---	---	---	---	23.0	20.5
30	---	---	11.5	10.0	8.0	7.0	---	---	---	---	22.5	20.0
31	---	---	---	---	9.0	8.0	---	---	---	---	23.0	19.5
MONTH	---	---	---	---	12.5	5.5	---	---	12.5	8.5	23.0	11.0

SAN JOAQUIN RIVER BASIN

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	18.0	14.0	12.0	13.5	13.0	14.5	14.0	17.0	16.0	19.5	18.5
2	20.5	16.0	15.5	11.5	13.5	13.0	14.5	14.0	17.0	16.0	19.5	19.0
3	21.0	15.5	15.0	12.0	13.5	12.5	15.0	14.0	17.0	15.5	20.0	19.0
4	21.0	16.0	19.0	11.0	13.5	13.0	15.0	14.0	17.0	15.5	20.0	19.5
5	20.0	16.5	19.5	14.5	13.5	13.0	15.0	14.0	17.0	15.5	20.5	19.5
6	18.5	16.0	20.5	13.5	13.5	13.0	15.0	14.0	17.0	15.5	20.5	19.5
7	21.5	16.5	---	---	13.5	13.0	15.0	14.0	17.5	15.5	20.5	20.0
8	23.5	16.5	---	---	14.0	13.0	15.0	14.0	17.5	15.5	20.5	20.0
9	24.5	17.0	---	---	14.5	13.0	15.0	14.5	17.5	16.0	21.0	20.0
10	24.5	18.0	---	---	14.5	13.0	15.0	14.5	17.5	16.0	21.0	20.0
11	20.5	12.0	---	---	14.0	13.0	15.0	14.5	17.5	16.0	21.5	20.0
12	13.0	11.5	---	---	14.0	13.0	15.5	14.5	17.5	16.0	21.5	21.0
13	13.0	11.5	---	---	14.0	13.0	15.5	14.5	17.5	16.5	22.0	21.0
14	13.0	11.5	---	---	14.0	13.0	15.5	15.0	17.5	17.0	22.0	21.5
15	16.0	11.5	14.5	12.0	14.0	13.0	15.5	15.0	17.5	17.0	22.5	21.5
16	18.5	12.0	14.0	12.0	14.0	13.0	15.5	15.0	17.5	17.0	22.5	22.0
17	16.0	11.5	14.0	12.0	14.0	13.5	15.5	15.0	18.0	17.0	22.5	22.0
18	13.0	11.0	14.0	12.5	14.0	13.5	15.5	15.0	17.5	17.0	23.0	22.5
19	13.0	11.5	13.0	12.5	14.0	13.5	16.0	15.0	17.5	17.0	23.0	22.5
20	13.0	11.5	13.5	12.5	14.0	13.5	16.0	15.0	18.0	17.0	23.0	22.0
21	13.0	12.0	13.0	12.5	14.0	13.5	16.0	15.0	18.0	17.0	23.0	22.0
22	12.5	12.0	13.0	12.5	14.0	13.5	16.0	15.5	18.0	17.0	22.5	22.0
23	12.5	12.0	13.0	12.0	14.5	13.5	16.0	15.5	18.0	17.5	22.5	21.5
24	12.5	12.0	13.5	12.5	14.5	13.5	16.0	15.5	18.5	17.5	22.0	21.5
25	12.5	12.0	13.5	12.5	14.5	13.5	16.0	15.5	18.5	17.5	22.0	21.0
26	12.5	12.0	13.5	12.5	14.5	13.5	16.5	15.5	18.5	17.5	22.0	21.0
27	12.5	12.0	13.5	12.5	14.5	13.5	16.5	15.5	18.5	18.0	21.0	20.0
28	12.5	12.0	13.5	12.5	14.5	14.0	16.5	15.5	18.5	18.0	20.0	18.0
29	12.5	12.0	13.5	12.5	14.5	14.0	16.5	15.5	19.0	18.0	18.5	17.0
30	13.0	12.0	13.5	12.5	14.5	14.0	16.5	16.0	19.0	18.0	17.5	17.0
31	---	---	13.5	13.0	---	---	16.5	16.0	19.0	18.5	---	---
MONTH	24.5	11.0	---	---	14.5	12.5	16.5	14.0	19.0	15.5	23.0	17.0
YEAR	24.5	5.5										

SAN JOAQUIN RIVER BASIN

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA

LOCATION.--Lat 37°16'23", long 119°52'49", in NE 1/4 NW 1/4 sec.3, T.8 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 0.9 mi upstream from Willow Creek, and 4.7 mi northeast of Raymond.

DRAINAGE AREA.--173 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1980 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: July 13-15. Records good. No storage or diversions above station.

AVERAGE DISCHARGE.--6 years, 146 ft^3/s, 105,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft^3/s, Feb. 18, 1986, gage height, 15.25 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 660 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	0545	738	6.77	Mar. 8	1045	5,570	11.11
Feb. 13	0445	3,520	9.80	Mar. 16	1545	1,420	7.87
Feb. 18	0245	*16,900	*15.25				

No flow Oct. 1-14 and Aug. 20 to Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1.5	31	22	62	218	173	69	21	3.7	.80	0
2	0	1.5	34	18	47	199	168	67	20	3.3	.67	0
3	0	1.6	357	15	69	184	158	69	19	3.2	.58	0
4	0	1.6	86	16	67	169	151	115	19	3.0	.51	0
5	0	1.6	45	84	49	159	147	87	18	2.7	.41	0
6	0	1.5	36	112	36	148	205	76	18	2.7	.34	0
7	0	1.2	27	63	32	143	220	74	18	2.7	.26	0
8	0	1.3	24	39	30	1980	179	67	17	2.6	.22	0
9	0	1.3	21	31	29	718	154	64	17	2.5	.14	0
10	0	3.3	19	27	27	977	144	60	16	2.5	.10	0
11	0	17	17	24	25	1060	138	57	14	2.3	.07	0
12	0	11	16	22	36	880	125	55	13	2.3	.05	0
13	0	6.8	15	20	1360	699	120	52	12	2.0	.05	0
14	0	4.9	14	20	327	617	116	50	12	1.9	.03	0
15	.42	4.0	13	19	2280	805	112	48	11	1.5	.02	0
16	.61	3.8	13	20	4660	1190	122	45	10	1.2	.02	0
17	.63	3.9	12	20	5290	764	121	42	10	1.2	.01	0
18	.49	4.0	12	20	6000	580	113	40	10	1.2	.01	0
19	.57	4.1	11	19	5050	498	106	38	10	1.2	.01	0
20	.61	3.9	11	19	2090	436	100	36	10	1.2	0	0
21	1.2	3.9	11	18	987	385	96	33	9.9	1.2	0	0
22	1.5	3.8	11	18	688	356	92	33	9.3	1.3	0	.34
23	1.6	3.8	10	18	544	327	89	33	7.6	1.3	0	.63
24	2.3	5.7	10	18	443	298	88	33	6.9	1.4	0	.87
25	2.0	43	9.9	17	368	276	86	31	6.7	1.4	0	1.7
26	1.8	41	9.6	16	319	258	83	30	6.1	1.6	0	4.1
27	1.7	20	9.4	16	280	235	80	28	5.0	1.5	0	4.6
28	1.6	16	9.3	15	247	212	77	26	4.5	1.3	0	3.6
29	1.6	25	9.6	16	---	198	74	24	4.1	1.2	0	3.2
30	1.5	77	13	18	---	188	72	24	3.8	1.0	0	2.9
31	1.5	---	26	37	---	182	---	23	---	.91	0	---
TOTAL	21.63	319.0	942.8	837	31442	15339	3709	1529	358.9	59.01	4.30	21.94
MEAN	.70	10.6	30.4	27.0	1123	495	124	49.3	12.0	1.90	.14	.73
MAX	2.3	77	357	112	6000	1980	220	115	21	3.7	.80	4.6
MIN	0	1.2	9.3	15	25	143	72	23	3.8	.91	0	0
AC-FT	43	633	1870	1660	62370	30420	7360	3030	712	117	8.5	44

CAL YR 1985	TOTAL	9183.95	MEAN	25.2	MAX	567	MIN	0	AC-FT 18220
WTR YR 1986	TOTAL	54583.58	MEAN	150	MAX	6000	MIN	0	AC-FT 108300

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: July 1980 to current year.

INSTRUMENTATION.--Temperature recorder since July 9, 1980.

REMARKS.--No temperatures shown for period of no flow Oct. 1-14 and Aug. 20 to Sept. 21. Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1981-86): Maximum recorded, 38.0°C, July 2, 1985; minimum recorded, 1.5°C, Dec. 10-14, 1980.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 33.5°C, Aug. 4-5; minimum recorded, 6.0°C, Feb. 9-11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	16.5	12.5	11.0	10.0	---	---	12.0	9.5	16.0	14.0
2	---	---	16.5	14.0	11.0	9.0	---	---	12.5	11.0	17.0	14.5
3	---	---	17.5	13.0	12.0	10.0	---	---	11.5	10.5	16.0	13.0
4	---	---	16.0	12.5	11.5	9.5	12.5	11.0	11.0	9.5	17.0	13.5
5	---	---	16.5	12.5	12.0	9.5	13.5	12.0	11.5	9.0	17.5	14.0
6	---	---	16.0	10.5	11.0	8.0	13.0	11.0	12.0	9.5	17.0	14.0
7	---	---	13.0	9.0	8.5	7.0	12.0	10.5	11.0	8.0	16.0	15.0
8	---	---	10.5	9.5	---	---	11.5	9.0	10.0	7.0	16.0	13.0
9	---	---	11.0	9.0	---	---	10.0	7.5	9.5	6.0	12.5	10.5
10	---	---	9.5	7.5	---	---	9.5	6.5	9.5	6.0	11.5	10.5
11	---	---	9.5	6.5	---	---	10.0	8.0	8.5	6.0	12.5	10.0
12	---	---	9.5	6.5	---	---	10.5	8.0	9.5	8.0	13.0	10.5
13	---	---	9.5	6.5	---	---	10.0	7.5	12.0	10.0	12.0	10.5
14	---	---	10.0	8.5	---	---	9.5	7.0	12.5	11.5	11.5	9.0
15	18.5	12.5	11.0	9.5	---	---	11.0	9.0	12.0	10.5	10.5	9.0
16	18.5	12.5	10.0	7.5	---	---	12.0	10.0	10.5	10.0	10.0	8.5
17	19.0	12.5	9.5	7.0	---	---	13.5	11.0	11.5	10.0	12.0	8.5
18	18.5	12.5	9.0	7.0	---	---	14.5	11.5	12.0	11.0	12.0	9.0
19	20.0	13.0	10.5	8.5	---	---	13.5	11.5	12.0	10.5	14.0	10.0
20	17.0	12.0	10.0	8.0	---	---	14.0	12.0	11.5	9.5	14.5	10.5
21	16.0	12.0	10.0	9.0	---	---	12.5	11.5	11.0	8.5	15.0	11.0
22	16.5	13.5	10.5	9.5	---	---	12.0	10.0	12.0	9.5	16.0	12.0
23	17.5	14.5	13.0	10.5	---	---	12.0	9.5	13.0	10.5	16.0	13.0
24	18.5	14.5	12.5	11.5	---	---	11.5	8.5	14.0	10.5	16.5	12.5
25	18.5	14.5	13.0	12.0	---	---	11.0	7.5	15.0	11.5	17.0	12.5
26	18.5	15.0	13.0	12.0	---	---	11.0	7.0	15.5	12.5	18.0	13.5
27	18.0	14.5	12.5	10.5	---	---	10.5	7.0	15.5	12.5	18.5	14.0
28	18.0	14.5	10.5	9.0	---	---	11.5	8.0	16.0	13.0	19.0	15.0
29	18.0	12.5	10.5	9.0	---	---	11.0	9.5	---	---	19.5	16.0
30	16.0	12.5	12.0	10.0	---	---	13.5	11.0	---	---	19.5	16.5
31	16.0	12.5	---	---	---	---	12.5	11.5	---	---	19.5	16.5
MONTH	---	---	17.5	6.5	---	---	14.5	6.5	16.0	6.0	19.5	8.5

SAN JOAQUIN RIVER BASIN

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	15.0	20.0	16.0	30.5	23.5	32.5	24.0	32.5	21.5		
2	16.0	12.5	20.5	15.5	30.0	23.0	32.5	24.0	32.5	21.5		
3	16.0	11.5	18.0	15.0	28.5	22.0	30.5	23.0	33.0	22.0		
4	15.5	12.0	18.0	13.0	28.5	21.0	30.0	22.5	33.5	22.5		
5	14.5	12.5	16.5	14.0	28.0	20.5	31.5	22.0	33.5	23.0		
6	14.0	11.5	18.0	13.5	28.0	20.5	30.5	22.5	32.5	22.5		
7	13.5	12.0	18.5	12.5	28.5	20.5	31.0	22.0	32.5	21.5		
8	15.0	11.0	20.0	14.0	29.5	20.5	---	---	32.5	21.0		
9	16.5	11.5	20.5	15.5	30.5	22.0	---	---	32.0	21.5		
10	18.0	13.0	21.5	16.0	30.5	22.5	---	---	32.0	21.5		
11	19.5	14.5	21.5	16.0	30.0	22.0	---	---	---	---		
12	17.0	14.5	22.5	16.5	30.5	23.0	---	---	---	---		
13	16.5	11.5	23.0	17.5	30.0	22.5	---	---	---	---		
14	17.0	12.0	23.5	18.0	29.5	21.5	---	---	---	---		
15	15.5	13.5	23.5	17.5	30.0	21.5	---	---	---	---		
16	15.0	12.0	24.5	18.0	30.0	22.0	---	---	---	---		
17	16.0	12.0	25.0	19.0	29.0	22.5	29.5	20.0	---	---		
18	16.5	11.5	24.0	19.5	29.0	20.5	30.0	20.0	---	---		
19	18.5	13.0	26.5	19.5	29.0	20.5	31.0	20.5	---	---		
20	20.0	14.5	25.0	19.0	30.5	21.0	30.5	21.5	---	---		
21	21.0	15.5	24.5	17.0	31.5	22.5	32.0	22.5	---	---		
22	21.5	17.0	23.5	17.0	32.5	23.0	28.5	23.5	---	---		
23	21.0	17.0	21.5	16.5	32.5	24.0	30.0	22.0	---	---		
24	20.5	16.0	24.5	18.5	33.0	24.5	31.5	23.0	---	---		
25	21.0	16.5	27.0	20.5	32.0	24.5	31.0	22.5	---	---		
26	19.5	15.0	28.0	21.0	32.0	24.0	30.5	22.5	---	---		
27	20.5	15.0	28.5	21.5	31.0	23.0	31.0	21.5	---	---		
28	21.5	16.5	29.0	22.5	30.5	22.0	31.0	22.0	---	---		
29	21.0	16.0	29.0	23.0	31.0	22.0	31.5	21.5	---	---		
30	20.0	15.5	29.0	22.0	32.0	23.0	31.5	21.5	---	---		
31	---	---	30.0	23.0	---	---	32.0	22.0	---	---		
MONTH	21.5	11.0	30.0	12.5	33.0	20.5	---	---	---	---		
YEAR	33.5	6.0										

SAN JOAQUIN RIVER BASIN

11258990 H. V. EASTMAN LAKE NEAR RAYMOND, CA

LOCATION.--Lat 37°13'00", long 119°59'04", in SW 1/4 SE 1/4 sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, in intake structure at center of dam on Chowchilla River, 4.4 mi west of Raymond.
DRAINAGE AREA.--235 mi^2.
PERIOD OF RECORD.--January 1976 to current year.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earth and rockfill dam. Dam was completed in December 1975, capacity, 150,604 acre-ft between elevations 410.0 ft, invert elevation to outlet tunnel, and 587.0 ft, crest of ungated spillway. Inactive pool, 10,150 acre-ft. Reservoir is used for flood control, irrigation, recreation, and fish and wildlife enhancement. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records were provided by U.S. Army Corps of Engineers, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 145,687 acre-ft, June 4, 5, 1979, elevation, 584.22 ft; minimum since initial season of normal operation, 1,978 acre-ft, Nov. 20, 1977, elevation, 440.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 131,235 acre-ft, May 17, 18, elevation, 575.74 ft; minimum, 10,393 acre-ft, Nov. 9, elevation, 466.50 ft.

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

438	1,519	460	7,485	480	18,213	560	106,476
442	2,197	465	9,673	490	25,520	580	138,394
446	3,043	470	12,190	500	34,039	600	174,809
450	4,069	475	15,038	520	54,354		
455	5,620			540	78,560		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10536	10418	11256	13301	15195	85591	125066	129682	129913	121904	110237	102777
2	10536	10418	11354	13346	15341	86037	125325	129764	129698	121521	109797	102674
3	10531	10413	12051	13380	15493	86431	124985	129764	129468	121171	109344	102571
4	10526	10413	12276	13431	15628	86797	124453	129896	129238	120790	108845	102469
5	10516	10408	12390	13550	15733	87151	124002	130028	128992	120425	108303	102381
6	10521	10408	12482	13808	15820	87465	123873	130144	128762	120045	107807	102279
7	10516	10403	12547	13946	15888	87833	124098	130276	128532	119681	107328	102161
8	10512	10398	12602	14039	15950	92436	124501	130424	128352	119318	106924	102088
9	10497	10393	12657	14108	16006	94176	124872	130540	128172	118940	106550	102045
10	10492	10452	12695	14166	16056	96529	125195	130639	127959	118547	106177	102015
11	10482	10472	12728	14219	16106	99804	125519	130738	127698	118169	105820	101989
12	10477	10487	12755	14266	16294	102323	125778	130838	127355	117777	105463	101957
13	10467	10502	12783	14283	19016	104352	126037	130920	126980	117354	105271	101913
14	10462	10512	12816	14383	19859	105924	126297	131003	126704	116886	105137	101869
15	10457	10516	12838	14442	24236	108589	126541	131069	126460	116371	104930	101840
16	10452	10526	12866	14477	34641	112065	126834	131152	126200	115920	104737	101825
17	10447	10531	12893	14525	46254	114200	127273	131235	125924	115485	104574	101781
18	10442	10541	12921	14572	59708	115640	127535	131235	125665	115113	104441	101708
19	10438	10546	12943	14607	71072	116839	127763	131119	125470	114741	104264	101679
20	10438	10556	12965	14643	76346	117887	127975	131053	125292	114385	104057	101650
21	10452	10561	12988	14679	78729	118782	128172	130970	125115	114000	103924	101635
22	10447	10566	13010	14715	80273	119602	128352	130920	124905	113599	103821	101606
23	10442	10586	13032	14750	81434	120362	128532	130854	124614	113184	103718	101577
24	10438	10620	13054	14786	82401	121044	128680	130804	124292	112831	103615	101562
25	10438	10695	13071	14810	83187	121680	128844	130804	123905	112539	103497	101562
26	10438	10790	13094	14840	83990	122287	128992	130788	123644	112294	103394	101548
27	10438	10845	13116	14894	84594	122830	129140	130722	123375	112049	103291	101489
28	10433	10905	13133	14924	85119	123327	129271	130556	123007	111729	103173	101446
29	10433	11012	13172	14960	---	123793	129402	130391	122639	111378	103071	101446
30	10428	11169	13200	15002	---	124244	129534	130226	122255	111012	102968	101431
31	10423	---	13250	15086	---	124695	---	130077	---	110617	102865	---
MAX	10536	11169	13250	15086	85119	124695	129534	131235	129913	121904	110237	102777
MIN	10423	10393	11256	13301	15195	85591	123873	129682	122255	110617	102865	101431
a	466.56	465.05	471.93	475.08	544.95	571.74	574.71	575.04	570.22	562.75	557.56	556.58
b	-123	+746	+2081	+1836	+70033	+39576	+4839	+543	-7822	-11638	-7752	-1434
c	188	71	33	54	166	291	593	999	1270	1373	1322	833

CAL YR 1985 b -11250
WTR YR 1986 b +90885

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

SAN JOAQUIN RIVER BASIN

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA

LOCATION.--Lat 37°12'56", long 119°59'25", in SE 1/4 SW 1/4 sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on left bank 1,800 ft downstream from Buchanan Dam, and 4.6 mi west of Raymond.
DRAINAGE AREA.--236 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1923, October 1930 to September 1972, October 1975 to current year. Prior to Oct. 1, 1962, published as "at Buchanan damsite."

GAGE.--Water-stage recorder and concrete control since October 1975. Elevation of gage is 420 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1921 to September 1923, at site 2.4 mi upstream at different datum. Oct. 30 to May 17, 1972, at site 0.3 mi upstream at datum 407.32 ft above National Geodetic Vertical Datum of 1929. May 18, 1972, to Sept. 30, 1972, at site 500 ft downstream at different datum. Oct. 1, 1975, to Mar. 2, 1982, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1, Nov. 8-18 and June 18 to July 18. Records good. Flow completely regulated by H. V. Eastman Lake (station 11258990) 1,800 ft upstream beginning Jan. 1, 1976.

COOPERATION.--Records were provided by U.S. Corps of Engineers and reviewed by U.S. Geological Survey.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from H. V. Eastman Lake since 1976).--55 years (water years 1922-23, 1931-72, 1976-86), 108 ft^3/s, 78,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Dec. 23, 1955, gage height, 16.50 ft, site and datum then in use, from rating curve extended above 6,000 ft^3/s, on basis of slope-area measurement at gage height 15.06 ft; no flow for part of each year except 1937-38, 1940-43. Maximum discharge since construction of Buchanan Dam in 1975, 5,020 ft^3/s, Mar. 1, 1983, gage height, 11.67 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 457 ft^3/s, Apr. 3, 4, gage height, 5.90 ft; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.10	.20	0	90	168	175	37
2					.10	.10	60	15	101	168	194	37
3					.20	.10	339	62	115	168	209	37
4					.10	.20	428	42	122	168	224	37
5					.10	.11	397	12	122	168	237	37
6					.10	.11	293	.10	122	168	225	37
7					.10	.11	119	.10	113	168	213	37
8					.10	.60	18	.10	100	168	190	17
9					0	.20	.20	.10	83	168	168	.10
10					0	.60	.10	0	120	181	165	0
11					.10	.80	.10	0	127	178	165	0
12					.20	1.0	.10	0	165	172	165	0
13					.20	1.0	.10	0	179	197	83	0
14					.20	.70	.10	0	132	213	44	0
15					.40	1.5	.10	0	112	212	80	0
16					.60	1.7	.10	0	121	196	87	0
17					.80	1.0	.10	0	127	184	69	0
18					.70	.70	0	24	115	164	57	0
19					.80	.50	0	79	95	166	79	0
20					.60	.40	0	51	88	166	92	0
21					.40	.40	0	51	88	179	57	0
22					.40	.30	0	51	104	188	37	0
23					.30	.30	0	51	144	188	37	0
24					.20	.30	0	51	149	164	37	0
25					.20	.20	0	32	151	125	37	0
26					.20	.20	0	21	148	111	37	0
27					.20	.20	0	53	148	111	37	0
28					.20	.20	0	98	159	143	37	0
29					---	.20	0	100	168	160	37	0
30					---	.10	0	100	168	168	37	0
31					---	.20	---	89	---	182	37	---
TOTAL	0	0	0	0	7.50	14.13	1655.20	982.40	3776	5260	3348	276.10
MEAN	0	0	0	0	.27	.46	55.2	31.7	126	170	108	9.20
MAX	0	0	0	0	.80	1.7	428	100	179	213	237	37
MIN	0	0	0	0	0	.10	0	0	83	111	37	0
AC-FT	0	0	0	0	15	28	3280	1950	7490	10430	6640	548

CAL YR 1985	TOTAL	14454.2	MEAN	39.6	MAX	589	MIN	0	AC-FT	28670	MEAN	a	29.2	AC-FT	a	21140
WTR YR 1986	TOTAL	15319.33	MEAN	42.0	MAX	428	MIN	0	AC-FT	30390	MEAN	a	177	AC-FT	a	128100

a Adjusted for change in contents and evaporation from H. V. Eastman Lake. Evaporation adjustments used as provided, not reviewed by U.S. Geological Survey.

SAN JOAQUIN RIVER BASIN

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-65, 1976 to current year.
CHEMICAL ANALYSES: Water years 1958-65. Published as "at Buchanan Damsite."
WATER TEMPERATURES: Water years 1976 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 1975.

REMARKS.--Water temperatures are affected by regulation from Buchanan Dam. Water temperatures for periods when flow was less than 1 ft^3/s are not reliable, and are not published. No record for April 2-8 and May 2-5 due to recorder failure.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURES (water years 1976-86): Maximum recorded, 33.5°C, June 7, 1977; minimum recorded, 0.0°C, Jan. 2, 4, 1976.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 14.5°C, Aug. 14; minimum recorded, 10.5°C, May 22.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
no flow	no flow	no flow	no flow	flow <1 ft^3/s	flow <1 ft^3/s

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1			---	---	12.5	11.5	12.5	12.0	13.0	12.0	14.0	12.5
2			---	---	12.0	11.0	12.5	12.0	12.5	12.0	14.0	12.5
3			---	---	12.0	11.5	12.5	12.0	12.5	12.0	14.0	12.5
4			---	---	12.0	11.5	12.5	12.0	12.5	12.0	14.0	12.5
5			---	---	12.0	11.5	12.5	12.0	12.5	12.0	14.0	12.5
6			---	---	12.0	11.5	12.5	12.0	12.5	12.0	14.0	12.5
7			---	---	12.5	11.5	12.5	12.0	12.5	12.0	14.0	12.5
8			---	---	12.5	11.5	12.5	12.0	13.0	12.5	---	---
9			---	---	12.5	11.5	12.5	12.0	13.0	12.0	---	---
10			---	---	12.5	11.5	12.5	12.0	13.0	12.0	---	---
11			---	---	13.0	11.5	12.5	12.0	13.0	12.5	---	---
12			---	---	12.0	11.5	12.5	12.0	13.0	12.0	---	---
13			---	---	12.0	11.5	12.5	12.0	14.0	12.0	---	---
14			---	---	12.5	11.5	12.5	12.0	14.5	12.5	---	---
15			---	---	12.5	11.5	12.5	12.0	13.0	12.5	---	---
16			---	---	12.5	11.5	12.5	12.0	13.0	12.5	---	---
17			---	---	12.5	11.5	12.5	12.0	13.5	12.5	---	---
18			---	---	12.5	11.5	12.5	12.0	13.5	12.5	---	---
19			12.5	11.0	12.5	11.5	13.0	12.0	13.0	12.5	---	---
20			12.5	11.0	12.5	11.5	13.0	11.5	13.0	12.5	---	---
21			12.5	11.0	12.5	11.5	13.0	11.0	14.0	12.5	---	---
22			12.5	10.5	12.5	11.5	12.5	12.5	14.0	12.0	---	---
23			12.0	11.0	12.5	11.5	12.5	12.5	14.0	12.0	---	---
24			12.5	11.0	12.5	11.5	13.0	12.5	14.0	12.5	---	---
25			14.0	11.0	12.5	11.5	13.0	12.5	14.0	12.5	---	---
26			14.0	11.0	12.5	11.5	13.0	12.5	14.0	12.5	---	---
27			12.5	11.0	12.5	11.5	13.0	12.0	14.0	12.5	---	---
28			12.0	11.0	12.5	12.0	13.0	12.0	14.0	12.5	---	---
29			12.5	11.5	12.5	11.5	13.0	12.5	14.0	12.5	---	---
30			12.0	11.0	12.5	11.5	13.0	12.5	14.0	12.0	---	---
31			12.5	11.5	---	---	12.5	12.0	14.0	12.5	---	---
MONTH			---	---	13.0	11.0	13.0	11.0	14.5	12.0	---	---
YEAR	14.5	10.5										

SAN JOAQUIN RIVER BASIN

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA

LOCATION.--Lat 37°14'52", long 120°51'04", in SE 1/4 SE 1/4, sec. 10, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, on right bank at bridge on Highway 165, and 5.5 miles south of Stevinson.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-9, 24, Feb. 20 to May 23. Records fair, except those for Feb. 20-26, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 810 ft^3/s, Feb. 20, 1986; minimum daily, 36 ft^3/s, Dec. 27, 1985.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	149	158	64	99	300	355	445	276	413	444	426
2	142	136	155	57	98	310	350	440	323	471	478	448
3	146	125	156	59	94	320	345	450	323	487	469	403
4	149	131	154	94	137	322	335	455	293	471	490	334
5	154	146	159	107	161	325	340	460	301	455	487	296
6	160	145	160	107	148	335	350	470	254	483	430	299
7	164	145	156	106	145	330	370	450	262	473	364	311
8	168	143	152	104	151	328	385	420	291	439	342	334
9	160	140	148	100	167	325	405	400	302	361	334	255
10	145	145	145	102	186	330	420	380	302	291	364	243
11	153	150	118	102	187	350	430	365	318	283	396	242
12	174	168	94	105	140	375	440	350	338	285	433	262
13	168	162	84	106	146	390	450	340	342	316	417	291
14	161	137	75	107	170	405	460	330	301	313	384	294
15	170	123	72	113	195	420	460	320	291	301	370	290
16	165	130	69	118	204	435	455	305	313	304	360	250
17	157	125	73	119	253	450	450	290	290	315	393	239
18	157	110	70	118	415	440	450	280	294	369	437	232
19	165	97	66	118	792	430	445	270	250	331	464	225
20	179	95	69	119	810	425	445	260	238	322	464	221
21	204	105	47	120	660	420	440	250	269	315	435	185
22	247	107	42	120	580	415	440	240	318	338	403	214
23	266	111	40	118	490	410	435	230	358	345	378	228
24	270	118	38	116	420	405	432	220	280	334	407	238
25	273	127	38	84	360	395	430	241	269	338	441	280
26	257	126	39	64	330	390	425	256	234	347	457	316
27	208	120	36	61	310	385	430	229	256	401	437	320
28	179	117	40	63	295	378	455	184	288	464	386	325
29	170	128	43	62	---	372	475	190	329	485	388	333
30	159	159	60	73	---	365	460	214	354	480	374	288
31	153	---	62	84	---	360	---	251	---	464	411	---
TOTAL	5563	3920	2818	2990	8143	11640	12562	9985	8857	11794	12837	8622
MEAN	179	131	90.9	96.5	291	375	419	322	295	380	414	287
MAX	273	168	160	120	810	450	475	470	358	487	490	448
MIN	140	95	36	57	94	300	335	184	234	283	334	185
AC-FT	11030	7780	5590	5930	16150	23090	24920	19810	17570	23390	25460	17100

WTR YR 1986 TOTAL 99731 MEAN 273 MAX 810 MIN 36 AC-FT 197800

NOTE.--Stage-discharge relationship affected by variable backwater from February to May.

SAN JOAQUIN RIVER BASIN

11261500 SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE, CA

LOCATION.--Lat 37°18'35", long 120°55'47", in NW 1/4 SE 1/4 sec.24, T.7 S., R.9 E., Merced County, Hydrologic Unit 18040001, on left bank 20 ft upstream from Fremont Ford bridge, 2.1 mi downstream from Salt Slough, 4.5 mi west of Stevinson, and 6.7 mi upstream from Merced River.

DRAINAGE AREA.--7,615 mi^2

PERIOD OF RECORD.--March 1937 to September 1970, October 1985 to September 1986. Monthly discharge only for some periods, published in WSP 1315-A. Prior to September 1970, records did not include flow bypassing station.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1970, at site 120 ft downstream at same datum. March 1937 to Oct. 1, 1959, at datum 3.77 ft lower.

REMARKS.--Estimated daily discharges: Feb. 20 to May 21 and May 29 to June 4. Records fair, except those for periods of estimated daily discharge, which are poor. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water from Delta-Mendota Canal (station 11313000). During periods of high flow, water bypasses this station; low flows consist mainly of return water from irrigated areas. Stage affected at times by backwater from the Merced River.

AVERAGE DISCHARGE.--33 years, (water years 1938-70), 810 ft^3/s, 586,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (October 1938 to September 1970).--Maximum discharge, 9,180 ft^3/s, Feb. 26, 1969, elevation, 68.05 ft; minimum, 9.5 ft^3/s, Oct. 30, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 18,100 ft^3/s, Mar. 18; maximum elevation, 67.65 ft, Mar. 18; minimum daily, 131 ft^3/s, Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	197	420	172	268	6200	11100	2960	970	470	540	597
2	342	187	423	181	287	5600	10800	2740	1000	509	553	617
3	302	168	388	182	315	5150	10800	2510	1080	576	557	615
4	285	165	417	193	354	4860	10700	2290	1200	577	544	643
5	248	172	443	219	452	4320	10500	2050	1330	562	562	605
6	210	179	407	233	436	4230	10400	1820	1370	545	523	555
7	193	174	380	235	379	3860	9880	1690	1310	526	464	548
8	222	171	357	233	358	2940	9420	1860	1420	559	417	573
9	230	165	324	225	350	4080	9460	1880	1650	555	424	545
10	222	171	282	214	347	5280	9420	1780	1910	518	415	470
11	230	173	252	212	340	7140	9460	1700	2110	441	439	443
12	260	191	215	214	315	10900	9050	1680	2190	428	504	479
13	247	211	203	225	297	13100	8830	1640	2030	397	522	516
14	229	186	189	277	577	14200	8720	1580	1600	396	491	531
15	228	164	179	285	997	13800	8600	1420	1130	431	467	539
16	262	164	169	274	1180	14700	8450	1150	869	393	453	569
17	258	166	163	255	1590	16900	8250	938	836	367	478	619
18	230	150	163	244	2560	18100	8160	792	984	371	508	676
19	232	138	158	245	3100	17400	7880	705	927	412	571	659
20	240	131	196	256	10800	15800	7090	648	684	432	571	640
21	260	136	197	271	17700	14600	6470	630	553	422	531	615
22	293	140	150	275	16600	13600	5910	620	506	451	523	578
23	320	140	140	284	14100	12800	5500	613	500	511	492	593
24	324	149	141	292	12100	12400	5180	588	564	523	501	612
25	321	164	138	281	10900	12200	4900	571	689	470	539	651
26	304	198	136	258	9660	12000	4220	575	620	450	570	689
27	263	225	136	249	8210	11800	3970	625	501	456	561	697
28	229	271	135	253	7110	11600	3620	914	449	503	521	708
29	218	306	134	264	---	11500	3290	1100	461	581	555	737
30	205	349	149	275	---	11300	3180	1000	464	626	546	734
31	199	---	158	267	---	11200	---	920	---	596	564	---
TOTAL	7961	5501	7342	7543	121682	323560	233210	41989	31907	15054	15906	18053
MEAN	257	183	237	243	4346	10440	7774	1354	1064	486	513	602
MAX	355	349	443	292	17700	18100	11100	2960	2190	626	571	737
MIN	193	131	134	172	268	2940	3180	571	449	367	415	443
AC-FT	15790	10910	14560	14960	241400	641800	462600	83290	63290	29860	31550	35810

WTR YR 1986 TOTAL 829708 MEAN 2273 MAX 18100 MIN 131 AC-FT 1646000

SAN JOAQUIN RIVER BASIN

11262900 MUD SLOUGH NEAR GUSTINE, CA

LOCATION.--Lat 37°15'45", long 120°54'20", in SE 1/4 SE 1/4 sec.6, T.8 S., R.10 E., Merced County, Hydrologic Unit 18040001, Kesterson National Wildlife Refuge, on right bank at footbridge 400 ft northwest of terminus of San Luis Drain, and 5.2 mi east of Gustine.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 19-27, Feb. 19 to Apr. 27, May 22, 26, May 30 to June 4, June 18-23. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 570 ft^3/s, Mar. 16, 1986; minimum daily, 2.1 ft^3/s, Sept. 10, 1986.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	58	99	85	150	117	325	185	125	113	134	33
2	33	62	131	78	153	112	315	88	125	49	122	36
3	31	55	146	68	144	110	310	68	122	33	126	30
4	30	52	108	58	97	110	300	57	118	45	127	20
5	31	51	101	64	67	108	290	50	116	31	127	8.8
6	31	41	114	68	56	107	285	47	127	25	113	5.9
7	31	32	107	69	46	120	280	47	136	19	97	7.1
8	31	33	108	64	39	150	275	48	146	22	95	13
9	31	34	101	60	47	200	270	61	155	10	95	4.4
10	31	33	119	60	51	350	265	114	161	41	103	2.1
11	32	33	154	63	61	420	255	89	165	59	109	8.2
12	30	36	144	82	121	450	250	92	168	65	108	19
13	30	36	131	87	142	475	245	112	159	86	70	16
14	31	35	122	97	160	500	240	114	122	69	62	6.7
15	31	34	116	97	187	530	240	126	114	60	62	28
16	31	35	111	102	208	570	235	147	125	75	57	19
17	32	36	109	95	239	540	230	161	132	94	52	16
18	33	36	104	90	295	500	225	165	143	112	57	14
19	33	36	104	87	390	465	220	161	146	132	62	15
20	33	35	100	90	360	435	210	143	108	134	68	12
21	32	34	111	93	300	410	200	127	105	138	64	12
22	37	32	109	93	250	395	190	114	111	147	43	9.3
23	51	31	104	91	225	390	180	111	122	145	49	5.6
24	64	31	105	114	200	380	170	107	127	136	59	3.3
25	70	30	104	158	170	370	155	110	131	138	65	2.6
26	57	30	104	161	160	370	145	120	134	157	62	2.3
27	53	37	102	154	140	365	135	127	132	177	55	3.2
28	49	46	90	143	120	350	122	126	126	183	48	4.6
29	52	57	86	137	---	340	139	117	102	145	48	6.0
30	54	90	93	133	---	335	183	121	97	126	45	6.8
31	55	---	89	128	---	325	---	124	---	126	36	---
TOTAL	1202	1221	3426	2969	4578	10399	6884	3379	3900	2892	2420	369.9
MEAN	38.8	40.7	111	95.8	164	335	229	109	130	93.3	78.1	12.3
MAX	70	90	154	161	390	570	325	185	168	183	134	36
MIN	30	30	86	58	39	107	122	47	97	10	36	2.1
AC-FT	2380	2420	6800	5890	9080	20630	13650	6700	7740	5740	4800	734

WTR YR 1986 TOTAL 43639.9 MEAN 120 MAX 570 MIN 2.1 AC-FT 86560

NOTE.--Stage-discharge relationship affected by variable backwater from February to April.

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA
(Hydrologic bench-mark station)

LOCATION.--Lat 37°43'54", long 119°33'28", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on right bank 10 ft downstream from footbridge at Happy Isles, 0.4 mi downstream from Illilouette Creek, and 2.0 mi southeast of Yosemite National Park Headquarters.

DRAINAGE AREA.--181 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1915 to current year.

REVISED RECORDS.--WSP 1215: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 4,016.58 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft lower.

REMARKS.--Estimated daily discharges for the following ice-affected period: Dec. 10-14. Records good. Up to 5 ft^3/s can be diverted above station for Yosemite Valley water supply.

AVERAGE DISCHARGE.--71 years, 356 ft^3/s, 257,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft^3/s Dec. 23, 1955, gage height, 12.73 ft, from rating curve extended above 4,000 ft^3/s on basis of contracted-opening measurements at gage heights 10.4 ft and 11.55 ft; minimum, 1.5 ft^3/s Sept. 30, 1926, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0615	2,470	6.59	May 31	0230	*4,040	*7.79
Mar. 8	0815	2,510	6.62				

Minimum daily, 24 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	57	99	140	143	581	973	1370	3700	940	244	73
2	34	52	190	124	141	561	802	1260	3390	1030	240	69
3	30	49	164	114	133	522	665	1410	3090	1080	229	65
4	26	47	135	157	121	554	640	1010	2820	1100	220	61
5	24	45	125	294	119	568	612	799	2420	927	213	60
6	30	44	112	230	114	581	575	699	2180	740	214	60
7	114	42	110	171	95	575	533	585	2050	635	218	60
8	141	40	98	149	101	1690	479	572	1760	567	205	58
9	127	37	82	137	92	964	466	674	1750	533	190	57
10	107	35	76	132	94	683	548	869	1770	524	185	54
11	93	35	68	128	89	561	625	978	1830	552	186	50
12	86	40	64	125	103	497	719	1160	1830	657	177	46
13	81	47	68	121	253	441	583	1400	1940	696	168	40
14	72	53	69	114	420	393	523	1560	2020	626	160	36
15	63	56	71	108	504	366	516	1650	1890	514	156	33
16	57	63	71	111	348	354	474	1810	1790	470	150	32
17	53	61	70	131	497	323	427	1900	1750	389	139	33
18	49	54	74	134	1140	310	412	2150	1640	327	126	38
19	47	48	80	134	1720	316	486	2420	1490	300	115	36
20	44	47	86	135	943	354	732	2360	1300	316	113	34
21	53	44	91	121	595	398	1110	1960	1270	321	114	31
22	61	44	95	113	481	439	1420	1660	1390	366	110	29
23	81	46	97	106	434	455	1430	1630	1460	367	108	28
24	118	65	97	98	450	430	1170	1630	1410	407	97	36
25	135	93	99	97	481	431	1090	2210	1390	339	87	55
26	122	88	101	98	506	509	1030	2560	1360	299	81	50
27	107	83	100	105	539	636	1120	2800	1300	276	80	48
28	93	90	96	111	567	737	1450	3020	1240	260	89	46
29	81	98	107	118	---	773	1430	3260	1040	252	93	43
30	71	93	192	178	---	874	1430	3460	929	239	85	43
31	63	---	164	162	---	952	---	3500	---	238	79	---
TOTAL	2301	1696	3151	4196	11223	17828	24470	54326	55199	16287	4671	1404
MEAN	74.2	56.5	102	135	401	575	816	1752	1840	525	151	46.8
MAX	141	98	192	294	1720	1690	1450	3500	3700	1100	244	73
MIN	24	35	64	97	89	310	412	572	929	238	79	28
AC-FT	4560	3360	6250	8320	22260	35360	48540	107800	109500	32310	9260	2780

CAL YR 1985	TOTAL	87872	MEAN	241	MAX	1380	MIN	24	AC-FT	174300
WTR YR 1986	TOTAL	196752	MEAN	539	MAX	3700	MIN	24	AC-FT	390300

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.
CHEMICAL DATA: Water years 1968 to current year.
BIOLOGICAL DATA: Water years 1973-81.
WATER TEMPERATURE: Water years 1966-77, 1979 to current year.
SEDIMENT DATA: Water years 1970-71, 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to September 1977, October 1978 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1977 and since October 1978.

REMARKS.--Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 20.0°C, July 15, 1979; minimum recorded, 0.0°C on many days during winter period most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 18.0°C on several days in July and August; minimum recorded, 0.0°C, Mar. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV , 1985												
18...	1215	53	21	7.40	2.0	665	0.80	11.8	98	K4	K7	7
JAN , 1986												
31...	1300	155	19	6.85	3.5	655	0.40	11.8	103	K2	<1	6
MAY												
23...	1330	1590	6	[1]6.70	7.5	--	1.3	--	--	K1	--	3
JUL												
18...	1145	323	9	6.60	12.5	670	1.0	9.3	99	K2	K11	3

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WHOLE IT-FLD (MG/L)	CAR-BONATE WATER WHOLE IT-FLD (MG/L)	HY-DROXIDE WH WAT TOTAL FIELD MG/L AS OH	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L CACO3)
NOV											
18...	0	2.3	0.20	1.9	37	0.3	0.40	8	--	--	7
JAN											
31...	0	2.1	0.20	1.8	36	0.3	0.60	7	--	--	6
MAY											
23...	0	1.0	0.11	1.0	39	0.3	0.40	--	--	--	--
JUL											
18...	0	1.0	0.06	0.60	29	0.2	0.30	5	--	--	4

DATE	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV											
18...	11	1.5	3.2	<0.10	6.0	21	22	0.03	<0.010	<0.100	0.020
JAN											
31...	6	1.3	2.7	<0.10	7.8	21	20	0.03	<0.010	<0.100	<0.010
MAY											
23...	[1]4	1.3	0.40	<0.10	4.2	8	11	0.01	<0.010	<0.100	0.030
JUL											
18...	5	0.9	0.60	<0.10	3.1	11	9	0.02	<0.010	<0.100	0.010

See footnotes at end of table.

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
NOV											
18...	0.020	0.30	0.030	0.070	0.070	20	<1	9	<0.5	<1	<1
JAN											
31...	0.010	0.20	<0.010	<0.010	<0.010	40	<1	7	<0.5	<1	<1
MAY											
23...	0.030	0.20	0.030	0.010	<0.010	--	--	--	--	--	--
JUL											
18...	0.010	<0.20	0.010	0.010	<0.010	--	--	--	--	--	--

DATE	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)
NOV											
18...	<3	<1	50	<1	8	<1	<0.1	<10	<1	<1	<1
JAN											
31...	<3	<1	32	<1	7	2	<0.1	<10	<1	<1	<4
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUL											
18...	--	--	--	--	--	--	--	--	--	--	--

DATE	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)
NOV											
18...	38	<6	18	--	--	--	--	--	--	--	--
JAN											
31...	38	<6	7	1.1	<0.8	1.5	<0.7	1.4	<0.7	0.03	1.3
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUL											
18...	--	--	--	--	--	--	--	--	--	--	--

[1] Laboratory value.
K Results based on colony count outside the acceptable range (nonideal colony count).
< Actual value is known to be less than value shown.

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	10.5	7.5	6.0	---	---	4.0	2.5	4.0	2.0	7.0	4.5
2	11.5	10.0	8.0	6.5	---	---	3.5	2.0	3.5	2.5	6.5	4.0
3	11.5	10.0	8.5	7.0	---	---	4.5	2.5	3.5	2.5	7.5	4.0
4	11.5	10.5	8.5	8.0	---	---	6.0	3.5	2.5	1.0	7.0	4.0
5	11.5	10.5	8.5	7.0	---	---	5.0	4.5	3.0	1.0	7.0	4.0
6	11.5	11.5	8.0	6.5	---	---	4.0	3.0	2.5	1.0	6.5	3.5
7	11.0	10.0	8.0	6.5	---	---	5.0	2.5	1.5	0.5	6.0	5.0
8	10.0	8.0	8.0	6.5	---	---	4.0	3.0	1.0	0.5	5.5	2.0
9	8.0	6.5	7.0	4.5	---	---	4.5	2.5	1.0	0.5	4.0	1.0
10	8.5	6.5	4.0	1.0	---	---	4.0	3.0	1.0	0.5	3.0	1.0
11	9.0	7.0	2.5	2.0	---	---	4.0	2.5	1.5	0.5	4.5	2.5
12	9.0	7.0	2.0	1.5	1.0	0.5	4.5	2.5	2.0	1.0	4.5	2.0
13	9.0	6.5	1.5	1.0	1.0	0.5	3.5	2.5	3.5	1.5	3.0	1.5
14	8.0	5.5	2.0	1.5	1.5	1.0	4.0	2.5	5.0	3.0	3.5	0.0
15	8.5	6.0	2.0	1.5	1.5	1.0	5.0	3.5	3.5	2.0	2.0	1.0
16	9.0	7.0	3.0	2.0	2.0	1.0	6.5	4.0	3.0	2.0	3.0	1.5
17	9.0	7.5	3.0	2.0	2.0	1.5	7.0	5.0	4.0	2.0	4.0	0.5
18	9.0	7.5	2.0	1.5	2.5	1.5	6.0	4.0	4.5	3.5	5.0	0.5
19	8.5	7.0	---	---	2.5	1.5	6.0	4.0	4.0	3.0	6.0	1.5
20	8.0	6.5	---	---	3.0	1.5	5.0	3.5	3.5	2.5	7.0	2.5
21	8.0	4.5	---	---	3.0	1.5	3.5	2.0	4.0	1.0	6.5	2.5
22	6.0	3.5	---	---	3.0	1.5	4.5	2.5	5.5	3.0	7.0	2.0
23	8.5	5.5	---	---	3.0	1.5	4.5	3.0	6.5	3.5	6.0	2.5
24	9.5	7.0	---	---	3.5	2.0	3.5	1.5	7.0	3.5	7.0	2.0
25	10.0	7.5	---	---	3.0	2.5	4.0	2.0	7.0	3.5	7.5	3.0
26	9.5	7.5	---	---	3.5	2.0	5.0	2.5	6.5	3.0	8.5	3.5
27	9.0	7.0	---	---	3.5	2.0	5.5	2.5	7.0	3.5	8.0	4.5
28	9.0	7.0	---	---	3.0	1.5	5.5	3.0	7.0	3.5	7.5	4.5
29	9.0	6.5	---	---	5.0	3.0	5.5	3.5	---	---	7.5	4.5
30	8.0	6.0	---	---	4.5	3.5	5.5	3.5	---	---	8.5	4.5
31	7.5	5.0	---	---	4.5	3.0	4.5	3.0	---	---	8.0	3.5
MONTH	12.5	3.5	---	---	---	---	7.0	1.5	7.0	0.5	8.5	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	3.5	8.0	4.5	11.0	7.5	15.0	11.5	17.0	13.0	16.0	13.0
2	5.5	1.5	9.0	4.5	12.0	7.5	15.5	12.0	17.0	12.5	16.0	13.5
3	6.5	1.0	6.5	4.0	12.0	7.5	15.5	12.0	17.5	12.5	16.5	13.5
4	7.0	3.0	7.0	3.5	11.5	7.0	14.5	11.5	17.5	13.0	16.5	13.5
5	6.0	3.5	5.5	3.5	11.5	7.0	14.5	11.0	18.0	13.5	16.5	14.5
6	6.0	4.0	4.5	3.0	11.5	6.5	14.5	11.0	18.0	14.0	16.0	13.5
7	5.0	3.5	7.5	1.0	11.0	7.0	14.5	10.5	17.5	13.5	15.5	13.0
8	6.5	4.0	9.0	3.5	11.5	7.0	14.5	10.5	17.5	13.0	15.0	13.0
9	8.5	3.5	9.5	4.0	12.0	7.0	14.5	10.5	18.0	14.0	13.5	11.0
10	8.0	4.5	8.5	5.0	12.0	7.0	15.5	11.5	18.0	14.5	13.5	9.0
11	8.5	3.5	9.5	4.0	12.0	8.0	17.5	12.5	18.0	14.5	12.0	10.0
12	5.0	2.5	10.5	4.5	12.0	8.0	18.0	14.5	18.0	14.5	11.5	9.5
13	6.5	1.0	10.0	5.5	12.5	8.5	17.5	14.5	17.5	14.5	11.0	9.0
14	7.0	2.5	10.0	5.5	12.5	8.5	16.0	13.0	18.0	14.5	10.5	9.0
15	6.0	4.0	10.0	5.5	12.5	6.5	16.5	13.0	18.0	15.0	9.5	7.0
16	3.5	2.0	10.5	5.0	13.0	8.0	14.5	12.0	17.0	14.0	8.5	7.5
17	6.0	2.0	11.0	6.0	13.0	8.0	15.0	10.5	17.0	13.0	9.0	8.0
18	7.5	2.0	11.0	6.0	12.0	8.0	15.5	11.0	16.5	13.5	9.0	8.5
19	8.5	3.5	10.5	6.5	11.5	7.0	16.5	11.5	16.5	13.5	9.0	7.5
20	9.5	4.5	9.5	6.5	12.0	7.0	17.0	13.0	17.5	16.0	7.5	5.5
21	9.5	4.5	8.5	6.0	12.5	8.5	15.5	13.0	17.5	15.0	7.0	5.5
22	8.5	4.5	9.5	3.5	13.5	9.5	15.0	13.5	17.0	14.0	7.0	5.5
23	7.0	4.5	9.0	5.5	13.5	10.0	14.0	12.0	16.0	13.0	7.5	6.5
24	7.5	4.0	11.5	6.0	13.0	10.0	15.0	12.0	16.0	12.5	8.0	7.5
25	7.5	4.5	11.5	6.5	13.5	9.5	15.0	12.0	16.0	12.5	7.5	5.5
26	7.5	2.5	11.5	6.5	14.0	10.5	15.5	12.5	16.5	13.5	7.0	5.0
27	9.5	4.0	12.0	7.0	13.5	10.5	16.5	12.0	17.0	14.0	8.5	6.5
28	8.5	4.5	11.5	7.0	13.0	10.0	16.0	12.5	16.5	14.0	8.5	6.5
29	8.5	4.5	11.0	7.5	13.5	9.5	16.0	11.0	16.5	13.5	8.0	6.0
30	8.5	4.5	11.0	7.5	14.0	10.0	17.0	13.0	15.5	12.5	8.5	7.0
31	---	---	11.5	7.5	---	---	17.0	13.5	15.5	13.0	---	---
MONTH	9.5	1.0	12.0	1.0	14.0	6.5	18.0	10.5	18.0	12.5	16.5	5.0

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (°C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV					
18...	1215	53	2.0	3	0.43
JAN					
31...	1300	155	3.5	2	0.84
MAY					
23...	1330	1590	7.5	7	30
JUL					
18	1145	323	12.5	6	5.2

SAN JOAQUIN RIVER BASIN

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA

LOCATION.--Lat 37°43'01", long 119°39'55", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on left bank 150 ft upstream from Pohono bridge, 0.4 mi upstream from Artist Creek, and 4.8 mi southwest of Yosemite National Park Headquarters.

DRAINAGE AREA.--321 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 5, 1918, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. No diversions between stations at Happy Isles bridge and Pohono bridge.

AVERAGE DISCHARGE.--70 years, 627 ft^3/s, 454,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,400 ft^3/s, Dec. 23, 1955, gage height, 21.52 ft from floodmarks in well, from rating curve extended above 17,000 ft^3/s on basis of computation of flow over diversion dam for Yosemite powerhouse, 1 mi downstream at gage heights 20.1 ft and 21.98 ft, present datum; minimum, 3.3 ft^3/s, Sept. 29, Oct. 1, 1924.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0815	6,750	10.26	May 3	0430	3,150	7.23
Mar. 8	1245	*6,930	*10.39	June 2	0345	6,280	9.91

Minimum daily, 37 ft^3/s, Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	88	195	309	322	1440	2120	2750	5820	1250	301	92
2	46	81	401	270	317	1420	1820	2520	5580	1320	296	86
3	43	75	390	242	300	1300	1540	2940	5110	1370	283	82
4	40	71	309	305	266	1380	1500	2290	4680	1370	271	79
5	37	69	277	803	265	1420	1440	1820	3900	1200	263	77
6	44	67	240	616	254	1440	1360	1580	3420	1000	261	76
7	184	64	231	422	205	1400	1280	1370	3210	874	263	75
8	206	61	211	352	223	4940	1170	1340	2740	790	251	73
9	204	59	175	318	197	2720	1120	1460	2680	735	233	72
10	179	62	166	302	203	1900	1290	1790	2700	708	224	69
11	151	57	149	292	198	1550	1490	1960	2770	721	224	66
12	136	59	141	283	258	1360	1670	2220	2700	817	216	61
13	124	68	148	269	565	1210	1380	2670	2850	858	205	56
14	110	80	148	254	978	1040	1250	2930	2940	788	196	55
15	95	90	143	242	1430	965	1240	3090	2740	666	188	52
16	84	103	140	241	1010	950	1160	3300	2520	610	181	49
17	77	113	139	325	1280	866	1060	3470	2460	521	171	50
18	73	99	145	341	2920	825	1020	3840	2320	442	157	53
19	69	83	155	325	5050	835	1160	4290	2110	403	145	51
20	65	83	164	325	2450	915	1570	4330	1870	404	140	49
21	76	78	172	285	1590	1000	2210	3660	1790	406	141	47
22	93	75	179	261	1290	1080	2820	3090	1880	443	138	45
23	130	77	183	244	1130	1110	2820	2980	1950	459	133	45
24	191	124	186	223	1130	1060	2340	2920	1870	517	123	50
25	208	187	190	219	1210	1060	2180	3810	1850	450	113	75
26	189	185	194	221	1250	1210	2110	4420	1790	392	105	74
27	165	169	191	234	1320	1450	2230	4810	1710	361	100	70
28	144	184	184	244	1380	1620	2820	5090	1640	336	103	73
29	125	211	197	258	---	1730	2830	5440	1420	323	114	72
30	110	187	428	392	---	1930	2770	5690	1270	306	106	74
31	99	---	376	377	---	2090	---	5710	---	299	98	---
TOTAL	3546	3009	6547	9794	28991	45216	52770	99580	82290	21139	5743	1948
MEAN	114	100	211	316	1035	1459	1759	3212	2743	682	185	64.9
MAX	208	211	428	803	5050	4940	2830	5710	5820	1370	301	92
MIN	37	57	139	219	197	825	1020	1340	1270	299	98	45
AC-FT	7030	5970	12990	19430	57500	89690	104700	197500	163200	41930	11390	3860

CAL YR 1985	TOTAL	155197	MEAN	425	MAX	2550	MIN	37	AC-FT	307800
WTR YR 1986	TOTAL	360573	MEAN	988	MAX	5820	MIN	37	AC-FT	715200

SAN JOAQUIN RIVER BASIN

11269500 LAKE McCLURE AT EXCHEQUER, CA

LOCATION.--Lat 37°35'02", long 120°16'09", in NW 1/4 SE 1/4 sec.13, T.4 S., R.15 E., Mariposa County, Hydrologic Unit 18040008, on left end of New Exchequer Dam on Merced River, 0.9 mi east of Exchequer, and 5.5 mi northeast of Merced Falls.
DRAINAGE AREA.--1,037 mi^2.
PERIOD OF RECORD.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to current year.
REVISED RECORDS.--WSP 881: 1926-32 (yearly summaries only). WSP 1345: 1951(M). WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerhouse at same datum. Oct. 1, 1964, to July 31, 1966, nonrecording gage at center of upstream face of dam at same datum.
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.

EXTREMES FOR 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, 1964-65 when reservoir was drained for inspection or construction. Minimum since construction of New Exchequer Dam in 1966, and since lake first filled, 72,200 acre-ft, Dec. 14, 1977, elevation, 593.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 951,300 acre-ft, June 25, 27, 28, elevation, 856.4 ft; minimum, 234,300 acre-ft, Nov. 22, elevation, 688.3 ft.

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

590	67,900	640	137,800	720	317,800	840	845,800
600	79,900	660	173,500	750	415,900	860	975,700
610	92,800	680	215,200	780	534,500	870	1,046,000
620	106,700	700	263,000	820	729,600		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240800	238200	242700	259800	294900	642500	770500	748500	866900	948600	870000	772200
2	239800	238400	244200	260200	296600	647000	771700	749600	877600	948000	867500	768200
3	239600	238600	248800	260800	298000	652000	771700	751800	887100	947300	863800	765400
4	239400	237700	249200	261500	298800	658000	771700	752900	895400	945900	860600	762500
5	239600	237700	249200	264600	300000	661500	771100	751800	901200	944600	856900	759100
6	239600	237900	250000	268500	300200	666100	770500	750100	905800	943300	853800	755800
7	239600	237000	249500	271100	301100	669700	769400	747900	909700	941300	850700	753500
8	239800	236500	249500	272900	302200	702600	767700	745100	912300	939900	847600	750100
9	239800	235500	249800	274200	303100	722000	764800	742300	915500	937900	844600	746800
10	240100	235800	250200	275500	303600	732900	762500	740700	919400	935300	840900	744000
11	239800	235800	250200	276800	303600	742300	760300	739500	922700	932000	837900	741200
12	240100	235800	250800	278100	305900	748500	759700	739500	925400	929300	834200	738400
13	240300	235500	251200	279100	321300	752900	757400	741800	929300	927300	831800	735700
14	240600	235500	251800	280500	328500	755200	754600	744500	934000	926000	828100	732400
15	239600	234800	251800	280500	351500	759100	752400	747900	937300	922700	825100	729600
16	239400	234800	252800	280200	388500	764800	749600	751800	939300	919400	822100	726900
17	239100	235000	252500	281000	446200	767100	746200	756900	941900	917500	818500	724100
18	238400	235300	252500	282400	494100	767700	743400	762000	944600	914900	815500	721400
19	238200	235000	252800	283700	551600	767700	740100	768800	946600	911600	812500	718700
20	238400	235000	252800	284500	578200	767700	738400	775700	947300	907700	809600	716500
21	238600	235000	253200	284800	590600	767700	737900	782000	947300	905100	806600	713800
22	238900	234300	253500	285300	600500	767100	739500	786100	948000	902500	803600	711700
23	237900	234600	253500	286400	608000	766500	741800	789600	950600	899300	800100	708500
24	238200	235300	254000	287200	614200	766000	742300	792500	950600	896100	797200	706900
25	238400	236700	254500	288100	621000	764800	742300	798300	951300	893500	793700	704700
26	238900	237700	255000	288300	625800	764200	742300	806000	950600	899700	790700	702600
27	239400	237900	254500	288300	631700	764200	742300	814300	951300	886500	787200	700500
28	239400	238600	255200	289100	637100	764800	744000	823300	951300	883300	784300	698300
29	238900	240800	255200	290000	---	765400	745700	834200	950600	880100	781400	696200
30	238600	241800	256200	290800	---	766500	747300	845200	950600	876300	778000	694600
31	238400	---	259000	293000	---	768800	---	855700	---	873200	775100	---
MAX	240800	241800	259000	293000	637100	768800	771700	855700	951300	948600	870000	772200
MIN	237900	234300	242700	259800	294900	642500	737900	739500	866900	873200	775100	694600
a	690.0	691.4	698.4	711.3	802.2	827.0	823.2	841.6	856.3	844.4	828.1	813.5
b	-3400	+3400	+17200	+34000	+344100	+131700	-21500	+108400	+94900	-77400	-98100	-80500

CAL YR 1985 b -206800
WTR YR 1986 b +452800

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

11270900 MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CA

LOCATION.--Lat 37°31'18", long 120°19'53", in SE 1/4 SW 1/4 sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on right bank 0.1 mi south of Merced Falls, 0.2 mi downstream from Merced Falls Dam, and 5.8 mi east of Snelling.

DRAINAGE AREA.--1,061 mi^2.

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; as "at Exchequer" 1916-64. Records at present site are about equivalent when adjusted for diversion to North Side Canal and change in contents in Lake McClure and McSwain Reservoir.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 310.55 ft above National Geodetic Vertical Datum of 1929. See WSP 1930 for history of changes prior to Oct. 1, 1964.

REMARKS.--No estimated daily discharges. 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 (station 11269500) since 1926, and McSwain Reservoir since 1966, capacity, 9,200 acre-ft.

AVERAGE DISCHARGE (adjusted for diversion to North Side Canal and change in contents in Lake McClure since 1965, and change in contents in McSwain Reservoir since 1969).--85 years, 1,380 ft^3/s, 999,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-86): Maximum discharge observed, 47,700 ft^3/s, 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 ft^3/s, Dec. 4, 1950, gage height, 22.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft^3/s, on basis of computation of peak flow over dam; minimum daily, 3.4 ft^3/s, Mar. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,030 ft^3/s, Apr. 13, gage height, 9.83 ft; minimum daily, 155 ft^3/s, Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	732	226	170	175	174	411	3140	3640	2820	2020	1950	1610
2	161	228	339	169	171	415	3130	3640	2830	2020	1950	1610
3	167	218	532	169	189	416	3130	3650	2770	2020	1940	1600
4	160	215	527	173	174	413	3130	3630	2860	2020	1900	1600
5	167	224	536	173	168	781	3130	3630	2830	2030	1880	1590
6	161	218	539	174	174	1010	3150	3620	2810	2020	1860	1550
7	159	215	529	170	171	1620	3370	3630	2810	1990	1850	1530
8	157	227	533	166	171	2040	3670	3640	2820	1980	1830	1490
9	155	222	309	165	171	2030	3680	3640	2520	2020	1820	1470
10	166	230	171	161	171	2560	3690	3650	2390	2040	1820	1460
11	167	224	166	158	168	2870	3680	3650	2430	2050	1800	1450
12	169	227	170	165	209	2890	3680	3500	2170	2040	1780	1450
13	171	221	168	156	200	3140	3680	3140	2020	2060	1770	1440
14	170	218	163	158	181	3210	3690	3140	2010	2040	1750	1450
15	167	219	165	157	226	3400	3690	3000	2010	2030	1750	1440
16	173	196	167	166	300	3400	3680	3140	2020	2040	1740	1390
17	167	183	164	173	254	3240	3690	3140	2030	2010	1700	1380
18	173	179	169	170	383	3190	3670	3110	2020	2020	1700	1350
19	174	169	173	168	575	3170	3640	3100	2010	2020	1680	1310
20	175	172	174	163	493	3170	3660	3000	2010	2040	1670	1300
21	175	168	174	170	435	3160	3660	2860	2030	2020	1680	1260
22	177	166	170	171	402	3150	3670	2850	2050	2020	1670	1240
23	172	166	168	168	396	3150	3660	2790	2020	2030	1680	1220
24	181	172	175	172	397	3150	3640	2820	2010	2020	1680	1180
25	174	165	172	165	398	3160	3650	2820	2020	1990	1680	1180
26	213	168	168	164	396	3150	3660	2820	2020	1970	1680	1170
27	223	164	169	168	401	3150	3650	2840	1990	1980	1670	1170
28	222	170	174	165	407	3150	3540	2670	1970	1970	1650	1170
29	221	180	171	169	---	3150	3650	2800	2000	1940	1620	1180
30	222	166	176	168	---	3150	3650	2800	2010	1940	1630	1140
31	222	---	170	173	---	3140	---	2820	---	1950	1620	---
TOTAL	6093	5916	7751	5182	7955	78036	106410	99180	68310	62340	54400	41380
MEAN	197	197	250	167	284	2517	3547	3199	2277	2011	1755	1379
MAX	732	230	539	175	575	3400	3690	3650	2860	2060	1950	1610
MIN	155	164	163	156	168	411	3130	2670	1970	1940	1620	1140
AC-FT	12090	11730	15370	10280	15780	154800	211100	196700	135500	123700	107900	82080

CAL YR 1985 TOTAL 366655 MEAN 1005 MAX 2030 MIN 155 AC-FT 727300 MEAN a 753 AC-FT a 545200
WTR YR 1986 TOTAL 542953 MEAN 1488 MAX 3690 MIN 155 AC-FT 1077000 MEAN a 2143 AC-FT a 1551000

a Adjusted for diversion to Northside Canal and change in contents in Lake McClure and McSwain Reservoir.

SAN JOAQUIN RIVER BASIN

11271290 MERCED RIVER AT SHAFFER BRIDGE, NEAR CRESSEY, CA

LOCATION.--Lat 37°27'15", long 120°36'28", in NW 1/4 SW 1/4 sec.36, T.5 S., R.12 E., Merced County, Hydrologic Unit 18040002, near center of span on downstream side of county road bridge, 0.6 mi upstream from Dry Creek, and 4.0 mi northeast of Cressey.

DRAINAGE AREA.--1,117 mi^2.

PERIOD OF RECORD.--October 1965 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 116.79 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Most water released from Lake McClure (station 11269500) 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 ft^3/s.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	--	--	--	189	192					192	153	142
2	--	--	--	192	196					--	158	137
3	176	--	--	189	--					192	142	129
4	170	--	--	192	--					192	153	131
5	153	--	--	192	--					--	142	137
6	147	--	--	196	196					--	140	150
7	145	--	--	192	196					--	127	142
8	142	--	--	189	196					150	127	145
9	142	--	--	192	192					142	142	150
10	142	--	--	182	189					140	145	150
11	147	--	--	179	186					147	147	147
12	150	--	--	179	192					147	131	156
13	147	--	--	182	--					153	116	156
14	147	--	196	179	--					167	116	153
15	140	--	192	170	--					145	116	158
16	140	--	192	176	--					140	131	161
17	145	--	192	179	--					153	142	156
18	142	--	189	189	--					158	153	182
19	142	196	192	189	--					142	150	186
20	150	186	192	186	--					145	145	186
21	176	186	196	179	--					161	161	196
22	179	179	196	182	--					156	161	192
23	179	173	192	186	--					147	158	182
24	182	189	189	186	--					167	150	192
25	182	--	196	182	--					164	153	--
26	179	--	192	176	--					167	147	--
27	--	200	189	179	--					156	156	--
28	--	--	189	182	--					176	147	--
29	--	--	192	182	---					173	147	--
30	--	--	200	186	---					170	142	--
31	--	---	200	189	---					156	142	---
TOTAL	3744	1309	3476	5722	1735	--	--	--	--	4298	4440	3816
MEAN	121	43.6	112	185	62.0	--	--	--	--	139	143	127
MAX	182	200	200	196	196	--	--	--	--	192	161	196
MIN	--	--	--	170	--	--	--	--	--	--	116	--
AC-FT	7430	2600	6890	11350	3440	--	--	--	--	8530	8810	7570
a	355	250	220	184	188	603	58880	96830	101300	109800	916800	72550

a Diversion, in acre-feet, to Main Canal near diversion dam, near Merced Falls, were provided by Merced Irrigation District.

SAN JOAQUIN RIVER BASIN

11271320 DRY CREEK NEAR SNELLING, CA

LOCATION.--Lat 37°33'18", long 120°27'44", in NE 1/4 SE 1/4 sec.30, T.4 S., R.14 E., Merced County, Hydrologic Unit 18040002, on left bank 650 ft downstream from Fields Road, and 2.8 mi northwest of Snelling.

DRAINAGE AREA.--67.6 mi^2.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 6-27 and Jan. 7-13. Records good, except for periods of estimated record, which are poor. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

AVERAGE DISCHARGE.--20 years, 22.8 ft^3/s, 16,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,710 ft^3/s, Jan. 21, 1969, gage height, 17.01 ft; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0445	*3,770	*13.22	Mar. 15	1445	3,500	12.81
Mar. 8	1915	3,640	13.03				

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	9.5	5.7	11	7.4	5.9	.73				0
2		0	8.7	4.1	8.8	6.9	5.8	.71				0
3		0	14	3.1	160	6.1	5.2	.77				0
4		0	9.1	2.9	75	5.8	4.6	.93				0
5		0	8.3	5.2	20	5.3	4.4	.84				0
6		0	5.6	13	14	4.8	5.1	.78				0
7		0	4.5	6.4	11	4.4	5.8	.68				0
8		0	8.4	4.3	8.7	786	5.6	.51				0
9		0	5.0	3.4	7.6	455	4.8	.49				0
10		0	2.6	2.7	6.8	269	3.8	.42				0
11		0	1.4	2.4	6.1	447	3.4	.38				0
12		0	1.2	2.1	202	309	3.1	.34				0
13		0	1.1	2.0	268	317	2.6	.27				0
14		0	1.0	1.8	114	89	2.3	.23				0
15		0	.93	2.3	166	885	1.8	.21				0
16		0	.86	7.6	921	757	2.0	.19				0
17		0	.80	12	669	103	2.4	.19				0
18		0	.74	9.3	622	45	3.0	.18				0
19		0	.70	6.8	864	28	3.1	.14				0
20		0	.64	5.6	79	19	2.6	.12				0
21		0	.63	4.3	38	15	2.3	.11				0
22		0	.58	3.2	23	13	2.3	.10				0
23		0	.52	2.8	17	12	2.8	.09				0
24		0	.50	2.3	14	11	2.9	.08				0
25		0	.49	1.9	11	9.4	2.0	.07				0
26		0	.48	1.6	9.8	8.6	1.1	.06				.05
27		0	.46	1.4	8.6	8.0	.96	.06				.17
28		0	.46	1.2	7.9	7.5	.87	.04				.11
29		91	.51	1.1	---	7.0	.87	.04				.08
30		25	1.1	1.6	---	6.4	.80	.03				.06
31		---	3.4	3.1	---	6.1	---	.01				---
TOTAL	0	116	94.20	127.2	4363.3	4653.7	94.20	9.80	0	0	0	0.47
MEAN	0	3.87	3.04	4.10	156	150	3.14	.32	0	0	0	.016
MAX	0	91	14	13	921	885	5.9	.93	0	0	0	.17
MIN	0	0	.46	1.1	6.1	4.4	.80	.01	0	0	0	0
AC-FT	0	230	187	252	8650	9230	187	19	0	0	0	.9

CAL YR 1985	TOTAL	1295.94	MEAN	3.55	MAX	369	MIN	0	AC-FT	2570
WTR YR 1986	TOTAL	9458.87	MEAN	25.9	MAX	921	MIN	0	AC-FT	18760

SAN JOAQUIN RIVER BASIN

11272500 MERCED RIVER NEAR STEVINSON, CA

LOCATION.--Lat 37°22'15", long 120°55'46", in SW 1/4 NE 1/4 sec.36, T.6 S., R.9 E., Merced County, Hydrologic Unit 18040002, on right bank 4.4 mi upstream from mouth, and 5.3 mi northwest of Stevinson.

DRAINAGE AREA.--1,273 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. October 1940 to Aug. 15, 1955, at datum 55.74 ft higher, Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

REMARKS.--Estimated daily discharges: Feb. 18 to Apr. 28. Records good, except for estimated daily discharges, which are fair. Practically entire flow is diverted above station for irrigation of 120,000 acres during low runoff years. Some return flow enters above station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft, the largest of which is Lake McClure (station 11269500).

AVERAGE DISCHARGE.--46 years, 737 ft^3/s, 534,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s, Dec. 5, 1950, elevation, 73.79 ft, present datum; no flow July 19 to Aug. 21, 1961, result of temporary dam.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,750 ft^3/s, Mar. 15; minimum daily, 181 ft^3/s, Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	320	248	298	229	214	470	3450	2330	1170	336	295	303
2	795	247	286	224	220	470	3400	2330	1160	316	266	298
3	522	244	263	220	220	470	3300	2270	1130	327	266	216
4	330	241	361	221	242	470	3200	2290	1070	341	279	213
5	269	237	461	217	376	880	3150	2270	1120	326	251	219
6	235	237	505	217	295	1000	3050	2240	1170	360	228	220
7	214	235	537	218	260	1590	3000	2180	1150	358	210	255
8	186	234	541	218	247	2790	2900	2200	1150	273	208	280
9	190	230	541	216	236	2460	2800	2210	1130	231	206	258
10	191	242	525	215	230	2810	2750	2170	970	247	263	276
11	202	255	376	214	227	3290	2800	2160	770	244	296	266
12	202	265	302	209	230	3170	2700	2170	750	244	268	283
13	204	257	276	207	253	3430	2600	2080	687	256	228	311
14	224	254	263	207	571	3270	2550	1740	532	263	210	340
15	199	254	253	206	443	4750	2500	1650	483	221	208	332
16	181	246	245	205	486	4650	2500	1540	469	213	244	334
17	206	249	243	203	865	4500	2500	1550	447	206	273	310
18	189	242	240	202	1120	3950	2500	1540	407	231	278	324
19	192	231	235	205	1480	3820	2450	1520	391	229	259	317
20	205	226	231	211	783	3760	2450	1420	390	264	258	326
21	226	219	232	211	594	3730	2400	1330	367	258	247	306
22	242	216	232	208	508	3680	2400	1170	350	230	262	316
23	242	214	232	205	474	3650	2380	1180	356	218	273	305
24	250	214	231	205	459	3620	2350	1120	343	221	267	345
25	270	220	229	208	449	3620	2320	1160	332	241	284	392
26	307	234	228	207	436	3620	2300	1180	337	257	275	424
27	234	228	227	204	435	3620	2300	1150	341	307	230	427
28	234	226	225	203	435	3620	2300	1170	349	327	240	448
29	237	228	226	205	---	3600	2310	1110	399	313	256	441
30	236	245	230	210	---	3590	2340	1060	385	306	264	360
31	244	---	227	211	---	3520	---	1130	---	288	285	---
TOTAL	7978	7118	9501	6541	12788	91870	79950	52620	20105	8452	7877	9445
MEAN	257	237	306	211	457	2964	2665	1697	670	273	254	315
MAX	795	265	541	229	1480	4750	3450	2330	1170	360	296	448
MIN	181	214	225	202	214	470	2300	1060	332	206	206	213
AC-FT	15820	14120	18850	12970	25360	182200	158600	104400	39880	16760	15620	18730

CAL YR 1985	TOTAL	108753	MEAN	298	MAX	1360	MIN	142	AC-FT	215700
WTR YR 1986	TOTAL	314245	MEAN	861	MAX	4750	MIN	181	AC-FT	623300

NOTE.--Stage-discharge relationship affected by variable backwater in March and April.

SAN JOAQUIN RIVER BASIN

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.--Lat 37°21'02", long 120°58'34", in NW 1/4 SW 1/4 sec.3, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft downstream from bridge on Hills Ferry Road, 650 ft downstream from Merced River, and 3.5 mi northeast of Newman.

DRAINAGE AREA.--9,520 mi^2.

PERIOD OF RECORD.--April 1912 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Mar.3, 1931, staff gage at various sites within 240 ft of bridge. 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. Since Aug. 10, 1960, at present site and datum.

REMARKS.--No estimated daily discharges. 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.

AVERAGE DISCHARGE.--74 years, 2,147 ft^3/s, 1,556,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river only), 30,700 ft^3/s, Mar. 4, 1983, elevation, 65.78 ft; river and Merced River Slough, 34,400 ft^3/s, Feb 26, 1969, elevation, 65.90 ft, present datum; minimum, 15 ft^3/s, Aug. 9, 10, 1924.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 2, 1868, reached a stage of 69.0 ft from floodmarks; flood of February 1886 reached a stage of 67.1 ft from floodmarks; and flood of 1911 reached a stage of 66.3 ft from floodmarks. All stages referred to current datum. Discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,100 ft^3/s, Mar. 18, elevation, 64.67 ft; minimum daily, 317 ft^3/s, Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	704	562	796	463	723	7000	14500	5520	2270	1150	1070	1060
2	1060	550	847	465	763	6370	14000	5380	2330	1150	1050	1070
3	935	526	813	460	784	5890	13900	5230	2390	1170	1050	1030
4	725	502	876	458	805	5580	13600	5020	2400	1180	1040	996
5	610	492	970	466	955	5430	13200	4680	2490	1160	1050	979
6	515	496	975	488	907	5450	13000	4400	2620	1130	1010	905
7	457	478	968	501	771	5650	12400	4130	2580	1130	951	895
8	424	461	974	508	705	5890	12100	3980	2630	1070	881	923
9	453	435	949	500	681	6750	11800	4160	2810	1030	868	921
10	445	422	892	479	672	8370	11700	4180	3000	991	894	882
11	457	455	769	475	671	10800	11900	4060	3180	957	959	837
12	496	488	672	473	673	14600	11300	3970	3360	927	970	825
13	500	508	630	503	737	17200	11000	3910	3320	950	970	881
14	499	497	592	573	1190	18200	10900	3590	2720	944	903	917
15	479	464	576	610	1580	19300	10700	3370	2040	939	871	946
16	469	445	555	612	1800	20100	10500	3120	1710	900	874	949
17	512	439	522	600	2220	22300	10400	2860	1620	872	909	959
18	469	426	511	575	3570	23000	10300	2730	1660	886	937	1010
19	447	387	501	569	5040	22100	9960	2590	1660	927	965	1020
20	477	361	499	581	12200	20400	9280	2440	1500	979	1020	1020
21	536	349	538	613	19200	19100	8670	2310	1350	995	971	1000
22	617	341	505	642	18000	18000	8240	2160	1260	980	942	969
23	711	317	481	650	15300	17100	7820	2100	1240	1010	911	945
24	721	319	472	642	13200	16500	7500	2040	1250	1030	901	955
25	721	355	468	654	11900	16300	7190	2020	1330	1030	935	1010
26	757	415	458	665	10600	15900	6730	2030	1320	997	987	1070
27	676	456	454	648	9080	15700	6310	2030	1230	1030	974	1100
28	598	493	447	634	7920	15500	5970	2220	1160	1100	942	1110
29	577	556	439	636	---	15300	5660	2270	1170	1140	954	1140
30	568	624	443	654	---	15000	5570	2160	1190	1160	982	1110
31	558	---	456	674	---	14700	---	2210	---	1120	1010	---
TOTAL	18173	13619	20048	17471	142647	429480	306100	102870	60790	32034	29751	29434
MEAN	586	454	647	564	5095	13850	10200	3318	2026	1033	960	981
MAX	1060	624	975	674	19200	23000	14500	5520	3360	1180	1070	1140
MIN	424	317	439	458	671	5430	5570	2020	1160	872	868	825
AC-FT	36050	27010	39770	34650	282900	851900	607100	204000	120600	63540	59010	58380

CAL YR 1985	TOTAL	256004	MEAN	701	MAX	1380	MIN	317	AC-FT	507800
WTR YR 1986	TOTAL	1202417	MEAN	3294	MAX	23000	MIN	317	AC-FT	2385000

SAN JOAQUIN RIVER BASIN

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA

LOCATION.--Lat 37°18'56", long 121°07'27", in NE 1/4 NE 1/4 sec.19, T.7 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 20 ft downstream from bridge at California Aqueduct siphon, 3 mi downstream from Oso Creek, and 5.5 mi west of Newman.

DRAINAGE AREA.--134 mi^2.

PERIOD OF RECORD.--January 1932 to current year.

REVISED RECORDS.--WSP 1445: 1932(M), 1938(P), 1940-41(M), 1945, 1951(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 216.01 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1958, at site 1,080 ft downstream at datum 24.14 ft lower. Oct. 1, 1958, to Aug. 13, 1969, at site 960 ft downstream at datum 27.14 ft lower. Aug. 13, 1969, to Feb. 6, 1984, at site 240 ft upstream, present datum.

REMARKS.--No estimated daily discharges. Records good. No storage or diversion above station except for minor stock ponds.

AVERAGE DISCHARGE.--54 years, 17.6 ft^3/s, 12,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Apr. 2, 1958, gage height, 6.57 ft site and datum then in use, from rating curve extended above 5,000 ft^3/s; no flow for all or parts of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	0345	125	4.14	Mar. 8	1045	1,470	6.51
Feb. 14	2030	3,270	7.58	Mar. 15	2315	1,130	6.19
Feb. 19	0415	*6,990	*9.12				

No flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	0	22	142	46	13	1.3			
2			0	0	22	132	42	13	.99			
3			1.9	0	17	125	38	12	.77			
4			.41	0	21	122	37	13	.63			
5			0	82	17	118	36	15	.47			
6			0	30	12	112	43	15	.34			
7			0	15	8.5	111	37	15	.28			
8			0	9.4	6.3	527	35	14	.16			
9			0	6.4	4.3	287	34	13	.05			
10			0	4.7	3.1	805	31	12	0			
11			0	3.3	2.0	541	30	11	0			
12			0	2.7	17	342	25	11	0			
13			0	1.8	492	243	24	11	0			
14			0	1.3	1100	197	24	11	0			
15			0	1.2	1060	431	23	9.9	0			
16			0	.80	721	702	23	9.1	0			
17			0	.68	1850	339	23	8.3	0			
18			0	.60	1900	223	22	7.6	0			
19			0	.80	2790	166	20	6.6	0			
20			0	.41	596	131	20	6.2	0			
21			0	.25	359	113	19	6.1	0			
22			0	.16	273	103	17	6.1	0			
23			0	.10	227	90	16	6.1	0			
24			0	0	202	79	15	5.8	0			
25			0	0	184	71	15	5.3	0			
26			0	0	170	65	15	4.5	0			
27			0	0	156	62	15	3.9	0			
28			0	0	148	57	14	3.2	0			
29			0	.18	---	52	13	2.6	0			
30			0	3.2	---	48	13	2.1	0			
31			0	8.1	---	46	---	1.4	---			
TOTAL	0	0	2.31	173.08	12380.2	6582	765	273.8	4.99	0	0	0
MEAN	0	0	.075	5.58	442	212	25.5	8.83	.17	0	0	0
MAX	0	0	1.9	82	2790	805	46	15	1.3	0	0	0
MIN	0	0	0	0	2.0	46	13	1.4	0	0	0	0
AC-FT	0	0	4.6	343	24560	13060	1520	543	9.9	0	0	0

CAL YR 1985	TOTAL	236.57	MEAN	.65	MAX	30	MIN	0	AC-FT	469
WTR YR 1986	TOTAL	20181.38	MEAN	55.3	MAX	2790	MIN	0	AC-FT	40030

SAN JOAQUIN RIVER BASIN

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA

LOCATION.--Lat 37°29'12", long 121°12'29", in SE 1/4 NW 1/4 sec.21, T.5 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 1.0 mi upstream from California Aqueduct crossing, and 4.4 mi west of Patterson.

DRAINAGE AREA.--72.6 mi^2.

PERIOD OF RECORD.--October 1958 to May 1965 (maximums only), June 1965 to current year.

REVISED RECORDS.--WSP 1930: 1959-60(M), drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 1965, crest-stage gage at site 1.0 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Mar. 19-29, May 1-9, 11-25, June 1-9, 16-19, July 20-22, 24-30, Aug. 19 to Sept. 12. Records poor. Some stock ponds and small diversions above station.

AVERAGE DISCHARGE.--21 years, 7.89 ft^3/s, 5,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s, Feb. 16, 1959, gage height, 14.68 ft, site and datum then in use, from rating curve extended above 690 ft^3/s; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s	Gage height (ft)
Feb. 18	0100	*1,520	*7.67	Mar. 15	1815	311	3.88
Mar. 10	1215	294	3.81				

No flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	1.2	8.0	13	24	9.0	3.0	.49	.06	0
2			0	1.1	6.1	11	22	8.9	2.6	.42	.05	0
3			0	1.0	7.8	10	21	8.7	2.3	.34	.05	0
4			0	2.2	16	9.3	20	8.6	2.1	.30	.05	0
5			0	4.0	8.7	8.3	20	8.8	1.9	.26	.04	0
6			0	2.9	6.1	7.5	22	8.9	1.8	.25	.04	0
7			0	2.2	4.9	7.2	20	8.5	1.8	.24	.04	0
8			0	2.0	4.3	49	19	8.3	2.0	.20	.04	0
9			0	1.7	3.9	27	18	8.1	1.8	.19	.04	0
10			0	1.4	3.3	182	16	7.8	1.8	.18	.04	0
11			0	1.2	2.9	130	16	7.5	1.7	.17	.03	.01
12			0	1.1	4.3	89	14	7.4	1.7	.14	.03	.02
13			0	1.2	57	67	15	7.2	1.6	.13	.03	.03
14			0	1.2	259	53	14	6.7	1.3	.13	.03	.04
15			0	1.1	379	128	15	6.0	1.4	.12	.03	.04
16			0	1.0	227	222	15	5.7	1.1	.12	.03	.04
17			0	1.0	599	121	14	5.5	1.1	.12	.03	.04
18			0	1.4	518	82	13	5.4	.92	.12	.03	.05
19			.13	1.5	775	72	12	5.2	.88	.13	.02	.05
20			.34	1.4	205	63	12	4.7	.86	.13	.02	.05
21			.47	1.2	98	54	11	4.4	.84	.13	.02	.06
22			.47	1.1	64	49	11	4.3	.83	.13	.02	.06
23			.54	1.1	46	46	11	4.7	.83	.12	.02	.06
24			.54	1.1	34	42	11	4.8	.76	.12	.02	.07
25			.54	1.0	27	39	11	4.3	.73	.11	.02	.09
26			.61	1.1	21	36	10	4.1	.72	.10	.01	.09
27			.61	1.2	18	34	10	3.8	.69	.09	.01	.09
28			.61	1.2	15	31	9.7	3.6	.65	.08	.01	.08
29			.79	1.3	---	29	9.2	3.4	.64	.08	.01	.08
30			1.5	4.2	---	27	9.1	3.3	.57	.07	.01	.07
31			1.7	7.0	---	26	---	3.3	---	.07	0	---
TOTAL	0	0	8.85	53.3	3418.3	1764.3	445.0	190.9	40.92	5.28	0.88	1.12
MEAN	0	0	.29	1.72	122	56.9	14.8	6.16	1.36	.17	.028	.037
MAX	0	0	1.7	7.0	775	222	24	9.0	3.0	.49	.06	.09
MIN	0	0	0	1.0	2.9	7.2	9.1	3.3	.57	.07	0	0
AC-FT	0	0	18	106	6780	3500	883	379	81	10	1.7	2.2

CAL YR 1985	TOTAL	382.99	MEAN	1.05	MAX	39	MIN	0	AC-FT 760
WTR YR 1986	TOTAL	5928.85	MEAN	16.2	MAX	775	MIN	0	AC-FT 11760

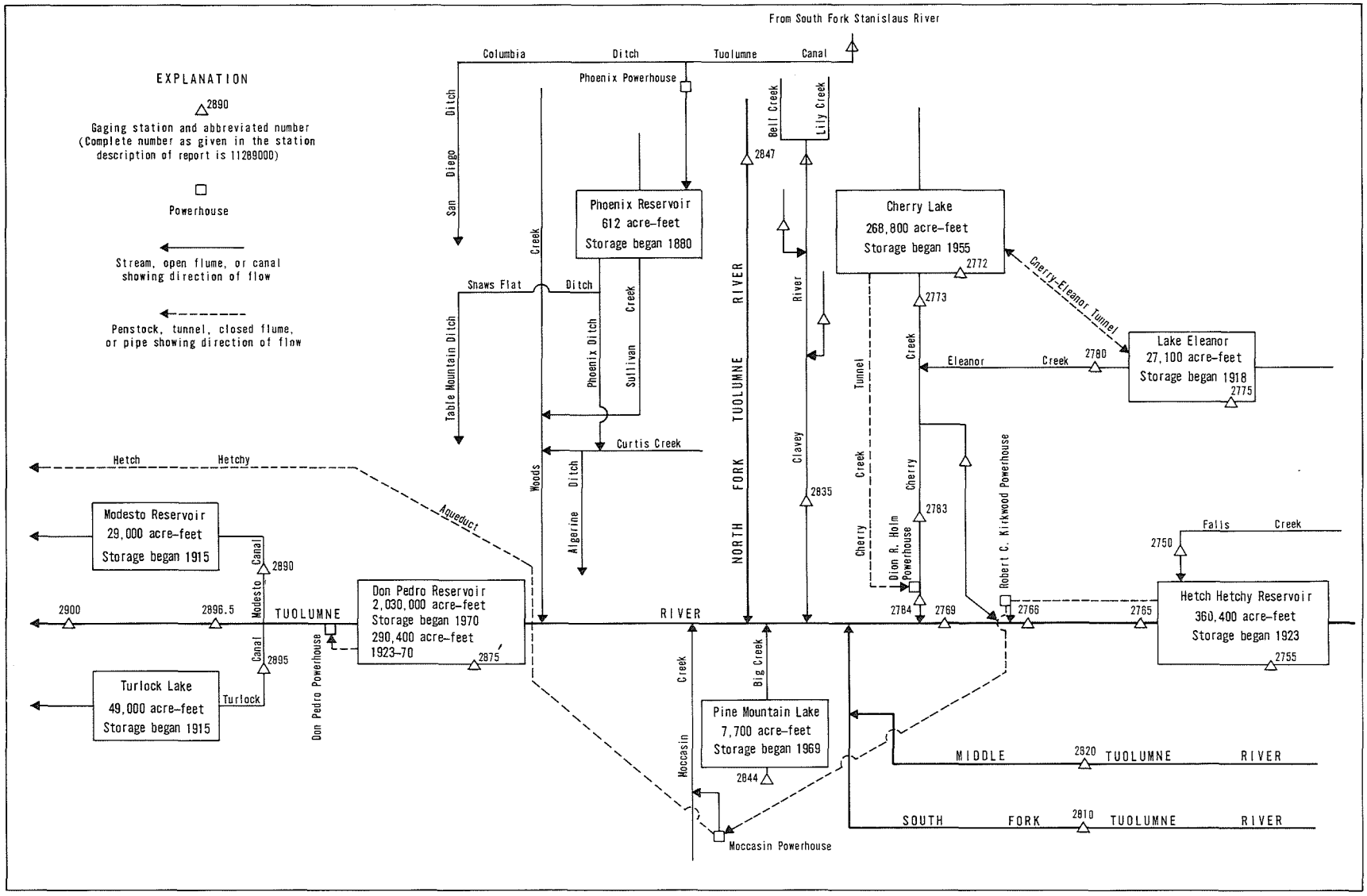

FIGURE 32. — Schematic diagram showing diversions and storage in Tuolumne River basin.

SAN JOAQUIN RIVER BASIN

11275500 HETCH HETCHY RESERVOIR AT HETCH HETCHY, CA

LOCATION.--Lat 37°56'52", long 119°47'13", in NW 1/4 NW 1/4 sec.16, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy, 1.5 mi downstream from Falls Creek.
DRAINAGE AREA.--455 mi^2.
PERIOD OF RECORD.--May 1923 to current year. Prior to October 1930 monthend contents, published in WSP 1315-A.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Nonrecording gage. Datum of gage is 1.84 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1927, nonrecording gage at same site and datum. Oct. 1, 1927, to July 9, 1972, water-stage recorder at same site and datum. Prior to October 1974, datum published as at mean sea level.
REMARKS.--Reservoir is formed by concrete gravity-type dam, completed to crest gage height 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. Capacity, 360,400 acre-ft between gage heights 3,512.0 ft, bottom outlet, and 3,806.0 ft, top of drum-type spillway gates. Water is diverted from reservoir through tunnel to Robert C. Kirkwood powerplant 15 mi downstream. Flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flows in excess of aqueduct capacity being spilled to the 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 (station 11287500) 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. Records, including extremes, represent contents at 0800 hours.
COOPERATION.--Record of gage heights were provided by city and county of San Francisco.
EXTREMES (AT 0800) FOR PERIOD OF RECORD.--Maximum contents, 369,100 acre-ft, Dec. 3, 1950, gage height, 3,810.4 ft; no contents at times in 1929-31.
EXTREMES (AT 0800) FOR CURRENT YEAR.--Maximum contents, 363,100 acre-ft, July 3, gage height, 3,807.4 ft; minimum, 165,100 acre-ft, Feb. 12, gage height, 3,693.3 ft.

Capacity table (gage height, 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 ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217900	197500	181500	179800	172000	220700	267700	258400	309300	361900	355800	317500
2	217000	196700	182300	179600	171600	222000	270900	259600	322100	362700	354900	316200
3	215800	196000	184700	179300	171200	223000	273000	261500	333900	363100	354100	314700
4	214700	195900	185000	179000	171000	224200	274200	263300	339900	362900	353300	313200
5	213600	195100	185300	179600	170300	225200	275500	262900	343200	362300	352300	311900
6	212600	194300	185300	181800	169700	226200	276400	260500	344300	361400	351300	310400
7	212100	193500	185000	182300	168900	227500	277600	256400	344100	361200	350400	305300
8	211600	192900	185300	182100	168300	233800	278400	250700	342400	360800	349400	307400
9	211000	192100	185500	182000	167600	242800	278600	245000	339900	361900	348400	306100
10	210500	191100	185300	181500	166700	245900	278600	240400	337400	362100	347400	304600
11	210000	190700	184900	181100	166000	248100	278000	236400	335200	362100	346500	303100
12	209400	190200	184400	180600	165100	249200	277300	233300	335000	362300	345500	301600
13	208700	189400	184000	180000	166100	250000	275500	231200	337400	362700	344300	300100
14	208200	188700	183500	179400	167000	250200	272800	230500	342200	362700	343200	298700
15	207800	187900	183100	178800	171600	250500	270000	230000	347400	362300	341800	297200
16	206800	187300	183100	178200	175200	250500	267000	230200	351500	362100	340800	295500
17	206000	186700	182600	178000	179100	250200	263300	231000	355800	361700	339300	294000
18	205200	186600	182100	178500	187900	250200	259900	233000	359000	361200	338100	292800
19	204400	185900	181700	178500	200800	249900	256400	236500	361500	361000	336600	291300
20	203500	185200	181200	178500	207900	249900	253100	242000	361700	360600	335400	289800
21	203200	184300	180900	178200	210000	249900	251800	245400	361200	360400	333900	288400
22	204100	183800	180600	177600	211500	250400	252400	246600	361700	360000	332600	286900
23	201700	183100	180600	177100	212600	250900	254400	246200	362300	359800	331200	285300
24	201100	182400	180300	176400	213600	251600	255400	245900	362300	359800	329700	284000
25	200800	182900	180000	175800	214700	252300	255200	247600	362300	360200	328300	282900
26	200500	182800	179700	175200	216500	252800	254700	252800	362700	360000	326800	281600
27	200200	182300	179400	174700	217800	253800	253800	259600	362700	359400	325300	280500
28	200200	182100	179100	173800	219200	255400	254200	266600	362300	359000	323600	279300
29	199700	182000	178800	173200	---	257500	255600	277100	361900	358400	322200	277800
30	198900	181800	179100	172600	---	260500	257000	286700	361000	357400	320500	276800
31	198100	---	180000	172300	---	264000	---	298300	---	356600	319200	---
MAX	217900	197500	185500	182300	219200	264000	278600	298300	362700	363100	355800	317500
MIN	198100	181800	178800	172300	165100	220700	251800	230000	309300	356600	319200	276800
a	3715.0	3704.5	3703.3	3698.2	3728.2	3754.5	3750.5	3773.5	3806.3	3804.1	3784.7	3761.7
b	-21300	-16300	-1800	-7700	+46900	+44800	-7000	+41300	+62700	-4400	-37400	-42400

CAL YR 1985 b +3800
WTR YR 1986 b +57400

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°56'15", long 119°47'50", in SW 1/4 SE 1/4 sec.17, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on left bank 0.9 mi downstream from O'Shaughnessy Dam at Hetch Hetchy, and 2.5 mi downstream from Falls Creek.

DRAINAGE AREA.--457 mi^2.

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.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder with concrete control since May 5, 1970. Elevation of gage is 3,480 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 1, 1915, water-stage recorder at site 1 mi upstream, at damsite, at different datum. Jan. 1, 1915, to Sept. 30, 1968, water-stage recorder, at same site and datum. Oct. 1, 1968, to May 4, 1970, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 1 mi upstream beginning in April 1923. Flow diverted above station through tunnel to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct beginning Apr. 26, 1967. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (prior to diversion to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct).--57 years (water years 1911-67), 999 ft^3/s, 723,800 acre-ft/yr; 19 years (water years 1968-86), 452 ft^3/s, 327,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft^3/s, June 1, 1943, gage height, 13.90 ft; no flow at times in 1968-70.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,740 ft^3/s, June 5, 6, gage height, 11.00 ft; minimum daily, 40 ft^3/s, Dec. 6, 7, 9-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	50	44	46	47	68	74	2050	3570	1760	148	145
2	48	50	56	46	51	67	76	2050	3680	2140	147	147
3	51	50	50	46	53	67	76	2070	4720	2600	147	148
4	51	50	42	46	53	68	76	2080	5640	2620	145	129
5	51	50	41	54	52	68	76	2310	5690	2270	143	120
6	52	50	40	50	52	68	78	2890	5700	1670	142	124
7	52	51	40	48	52	69	119	3310	5690	1300	144	124
8	51	52	41	48	52	113	272	3440	5660	548	148	124
9	51	51	40	47	52	82	431	3430	5620	578	147	124
10	51	52	40	47	52	83	770	3480	5570	692	146	124
11	51	54	40	47	52	83	1290	3490	5010	720	144	115
12	51	53	40	46	55	82	1790	3450	4030	897	143	104
13	51	50	40	46	65	78	1960	3420	2950	1070	143	109
14	51	50	40	46	70	77	1970	3570	2600	1030	147	109
15	51	50	40	46	93	75	1980	3630	2630	790	152	91
16	51	50	40	46	115	76	1970	3630	2690	587	150	80
17	51	50	42	46	156	76	1970	3590	2680	389	148	80
18	51	50	45	46	122	74	2000	3600	2710	246	146	80
19	51	50	45	46	129	74	2000	3610	3130	157	145	80
20	51	50	45	46	87	74	1970	3590	3260	137	147	80
21	52	50	45	46	72	73	1990	3610	2920	145	147	80
22	51	50	45	46	66	73	2000	3610	2890	143	147	80
23	51	50	45	46	64	72	2010	3600	3340	145	147	80
24	51	53	45	44	68	72	2030	3600	3470	149	147	81
25	51	55	45	42	70	72	2030	3630	3540	143	147	81
26	51	50	45	42	69	72	2030	3650	3460	148	147	79
27	51	50	45	42	69	72	2020	3710	3380	151	146	79
28	51	54	45	42	69	72	2020	3710	3170	151	145	79
29	51	62	45	43	---	70	2030	3720	2750	151	145	79
30	51	56	46	42	---	70	2030	3640	1780	150	145	78
31	51	---	46	42	---	71	---	3700	---	149	145	---
TOTAL	1585	1543	1348	1416	2007	2311	41138	102870	113930	23826	4530	3033
MEAN	51.1	51.4	43.5	45.7	71.7	74.5	1371	3318	3798	769	146	101
MAX	55	62	56	54	156	113	2030	3720	5700	2620	152	148
MIN	48	50	40	42	47	67	74	2050	1780	137	142	78
AC-FT	3140	3060	2670	2810	3980	4580	81600	204000	226000	47260	8990	6020

CAL YR 1985 TOTAL 27472 MEAN 75.3 MAX 117 MIN 40 AC-FT 54490
WTR YR 1986 TOTAL 299537 MEAN 821 MAX 5700 MIN 40 AC-FT 594100

SAN JOAQUIN RIVER BASIN

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'46", long 119°56'46", in SE 1/4 SW 1/4 sec.1, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.5 mi upstream from Early Intake, 2.4 mi upstream from Cherry Creek, and 5.0 mi west of Mather.

DRAINAGE AREA.--484 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 2-10 and June 1 to July 17. Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 12 mi upstream.

AVERAGE DISCHARGE.--16 years, 493 ft^3/s, 357,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s, July 7, 1983, gage height, 21.38 ft; minimum daily, 33 ft^3/s, Aug. 17, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943, reached a stage of 22.1 ft, discharge, 12,900 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,220 ft^3/s, June 5, gage height, 19.53 ft; minimum daily, 56 ft^3/s, Oct. 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	57	80	65	76	132	120	2060	3700	1800	157	152
2	60	57	177	63	84	126	123	2070	3750	2200	156	154
3	57	57	199	61	116	122	121	2110	4800	2600	155	159
4	57	58	93	68	106	120	120	2120	6180	2680	154	152
5	57	57	79	128	94	116	119	2280	6200	2400	152	124
6	57	57	73	135	89	113	130	2870	6200	1900	151	132
7	58	57	72	92	84	114	167	3290	6200	1410	150	132
8	58	59	80	81	82	667	283	3490	6150	570	156	131
9	58	58	72	76	79	393	432	3450	6050	580	155	131
10	57	71	66	72	77	363	676	3460	5950	710	154	131
11	57	70	63	70	76	386	1190	3500	5500	770	152	130
12	57	61	60	68	93	329	1700	3470	4400	930	150	107
13	57	60	60	67	167	274	1990	3450	3250	1080	152	115
14	57	59	59	66	237	246	1990	3560	2680	1080	151	115
15	57	60	59	67	546	230	2000	3640	2680	970	160	110
16	57	61	58	70	882	246	2000	3620	2750	620	158	86
17	57	61	57	85	1230	227	2010	3610	2750	450	156	87
18	56	62	60	79	1030	205	2010	3600	2750	306	153	87
19	56	60	60	73	1190	190	2020	3610	3300	201	155	85
20	56	60	60	72	587	181	2000	3600	3350	153	155	84
21	68	60	59	70	373	172	2000	3610	3350	155	155	84
22	61	60	59	68	266	164	2020	3610	3000	157	154	84
23	58	60	59	68	218	157	2030	3610	3350	156	154	84
24	58	77	58	68	192	150	2040	3550	3550	157	154	89
25	57	105	58	64	176	144	2040	3570	3600	159	154	94
26	57	74	57	62	160	139	2030	3600	3500	156	153	86
27	57	65	57	61	148	134	2020	3610	3500	164	153	86
28	58	83	57	60	138	131	2030	3820	3350	163	153	85
29	57	112	58	60	---	127	2040	3740	2900	161	153	84
30	57	105	76	65	---	124	2050	3550	2200	160	153	83
31	57	---	73	69	---	121	---	3620	---	159	152	---
TOTAL	1801	2003	2258	2273	8596	6343	41501	102750	120890	25157	4770	3263
MEAN	58.1	66.8	72.8	73.3	307	205	1383	3315	4030	812	154	109
MAX	70	112	199	135	1230	667	2050	3820	6200	2680	160	159
MIN	56	57	57	60	76	113	119	2060	2200	153	150	83
AC-FT	3570	3970	4480	4510	17050	12580	82320	203800	239800	49900	9460	6470

CAL YR 1985	TOTAL	34370	MEAN	94.2	MAX	199	MIN	56	AC-FT	68170
WTR YR 1986	TOTAL	321605	MEAN	881	MAX	6200	MIN	56	AC-FT	637900

SAN JOAQUIN RIVER BASIN

11276900 TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'54", long 119°58'09", in NW 1/4 SW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.6 mi upstream from Cherry Creek, 0.7 mi downstream from Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct, and 6.3 mi west of Mather.

DRAINAGE AREA.--487 mi^2.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 19 to June 13 and June 24-30. Records fair. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 13 mi upstream 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.

AVERAGE DISCHARGE.--20 years, 597 ft^3/s, 432,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s, June 4, 1969, gage height, 9.82 ft; minimum daily, 12 ft^3/s, Nov. 28-30, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,220 ft^3/s, June 5, gage height, 8.75 ft; minimum daily, 53 ft^3/s, Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	59	80	67	77	281	300	2510	4000	2010	258	218
2	63	61	153	63	82	252	308	2510	4250	2440	238	168
3	62	55	191	61	113	302	294	2550	5600	2980	210	164
4	63	54	96	66	104	304	284	2520	6200	3160	241	194
5	63	56	78	117	92	303	278	2770	6200	2790	257	167
6	56	61	74	138	87	300	253	3410	6200	2130	240	168
7	59	56	72	94	83	297	344	3760	6200	1660	239	138
8	58	56	79	82	81	767	444	3940	6100	970	239	146
9	59	60	73	76	79	535	616	3910	6100	702	233	141
10	57	67	67	74	78	552	853	3940	6050	848	216	135
11	58	70	64	72	76	579	1450	3930	5900	868	250	166
12	58	60	61	70	94	524	2040	3950	5100	1030	246	142
13	55	60	60	68	326	475	2340	3920	4200	1210	251	146
14	55	61	59	67	254	451	2370	4000	3070	1290	230	120
15	55	64	59	69	557	430	2380	3970	3130	1030	232	157
16	55	67	59	70	923	455	2370	4000	3180	786	231	130
17	58	59	58	84	1390	428	2370	3980	3170	629	205	95
18	59	58	59	82	1120	399	2370	3980	3190	459	254	92
19	59	59	58	75	1350	381	2390	3980	3430	361	245	123
20	55	63	58	69	614	385	2390	4000	3640	287	240	124
21	65	58	59	74	388	372	2390	4000	3420	331	235	94
22	60	58	59	71	277	336	2410	3980	3290	315	230	143
23	57	61	59	70	227	334	2430	3980	3660	315	231	103
24	56	80	56	70	202	335	2420	4000	3750	323	203	101
25	61	120	56	67	186	328	2410	4000	3800	315	266	103
26	63	74	58	59	170	321	2400	3980	3600	310	261	92
27	55	66	57	61	158	312	2430	3980	3600	327	245	123
28	54	83	56	64	150	303	2480	4100	3550	344	235	100
29	54	130	57	63	---	294	2500	4050	3300	333	245	105
30	53	111	72	66	---	298	2500	3950	2000	328	245	96
31	58	---	76	71	---	301	---	3980	---	300	223	---
TOTAL	1822	2047	2223	2300	9338	11934	50814	115530	128880	31181	7374	3994
MEAN	58.8	68.2	71.7	74.2	334	385	1694	3727	4296	1006	238	133
MAX	79	130	191	138	1390	767	2500	4100	6200	3160	266	218
MIN	53	54	56	59	76	252	253	2510	2000	287	203	92
AC-FT	3610	4060	4410	4560	18520	23670	100800	229200	255600	61850	14630	7920

CAL YR 1985	TOTAL	59466	MEAN	163	MAX	396	MIN	53	AC-FT	118000
WTR YR 1986	TOTAL	367437	MEAN	1007	MAX	6200	MIN	53	AC-FT	728800

SAN JOAQUIN RIVER BASIN

11277200 CHERRY LAKE NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'33", long 119°54'47", in SE 1/4 NW 1/4 sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 mi upstream from Eleanor Creek, 7 mi north of Early Intake, and 7.3 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--117 mi^2.

PERIOD OF RECORD.--August 1956 to current year. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.

GAGE.--Water-stage recorder. Datum of gage is 2.42 ft above National Geodetic Vertical Datum of 1929. Prior to October 1974, datum published as at mean sea level.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1956. Storage began in December 1955. Capacity, 274,300 acre-ft between gage heights 4,430 ft, bottom of sluice gates, and 4,703 ft, top of flashboard gates on concrete spillway. No dead storage. Installation of flashboard gates on top of concrete spillway completed in 1979. 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 Aug. 1, 1960. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 274,300 acre-ft, June 25-28, 1986, gage height, 4,703.0 ft; normal minimum since reservoir first filled, 7,660 acre-ft, Jan. 24, 1960, gage height, 4,502.1 ft. Reservoir drained for inspection in 1961 and 1964.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 274,300 acre-ft, June 25-28, gage height, 4,703.0 ft; minimum, 96,700 acre-ft, Nov. 22, 23, gage height, 4,588.9 ft.

Capacity table (gage height, in feet, and 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 ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128000	107200	98900	104100	101900	144600	179600	193100	241300	274100	263200	238000
2	126800	105500	101000	104100	102900	146400	180200	194400	244900	274100	262500	237200
3	125700	104700	102500	103900	102500	148000	180500	195800	248700	274100	261800	236300
4	124700	104100	103200	105000	101900	149500	180500	196500	251600	274100	260900	235400
5	123900	103300	103500	108100	101000	150900	180700	196200	253200	273900	260200	234600
6	123700	102500	103600	108200	100400	152100	180900	195700	254700	273700	259500	233600
7	123300	101900	103900	107300	99800	154900	181000	194900	256200	273500	258600	232900
8	122900	101300	104300	106200	99300	164700	180900	195800	257200	273500	257900	232100
9	122500	100900	104100	105000	99800	168500	180500	193400	258300	273300	257000	231200
10	122200	100900	103600	104700	98900	170300	180700	194400	259300	273000	256500	230400
11	121800	100900	103000	104100	98400	171200	181300	195100	260400	273000	255800	229600
12	121400	100600	102600	103200	98700	171700	181600	196000	261400	273000	255100	228700
13	121100	100000	102200	101700	99900	171900	181600	197100	263200	272800	254200	227700
14	120800	99600	102100	100300	103900	171900	181500	198600	264800	272600	253300	226900
15	120300	99200	102400	100200	107300	171900	181200	199700	266400	272100	252500	226100
16	119300	99200	101900	100700	110000	172000	180700	200800	267400	271700	251800	225100
17	118600	99300	101500	102200	118500	171900	180200	202200	268600	271400	250700	224200
18	117600	99100	101100	102900	126800	171600	179800	205200	269700	270800	250000	223600
19	116800	98500	100900	103700	135100	171200	179600	207900	270400	270100	249200	222700
20	116700	98000	100400	103600	136600	171100	180200	210400	270600	269500	248300	221900
21	116200	97500	100600	103500	137200	171200	181500	212000	270600	269000	247500	221000
22	115600	96700	100900	103000	137400	171600	183300	213000	271200	268300	246800	220000
23	114900	96700	100400	102800	137400	172200	184900	213800	272400	267900	245900	219200
24	114200	97600	100200	102400	137600	172300	185700	215100	273900	267600	245100	218900
25	113600	98100	100700	102200	139100	172500	186300	217200	274300	267400	244200	218700
26	113100	98100	100300	102600	140500	172600	186800	220400	274300	267100	243300	218000
27	113100	98100	100000	102200	141700	173400	187700	223400	274300	266700	242300	217500
28	112500	98000	100000	101800	143100	174200	189300	226900	274300	266000	241500	216900
29	111400	98100	101500	101500	---	175000	190800	230400	273900	265300	240800	216400
30	110300	98200	103600	102100	---	176500	192000	234100	273900	264600	239900	215700
31	108800	---	104000	102100	---	178100	---	237700	---	263900	238900	---
MAX	128000	107200	104300	108200	143100	178100	192000	237700	274300	274100	263200	238000
MIN	108800	96700	98900	100200	98400	144600	179600	193100	241300	263900	238900	215700
a	4597.8	4590.1	4594.3	4592.9	4622.2	4645.4	4654.3	4682.1	4702.8	4697.2	4682.8	4669.0
b	-20200	-10600	+5800	-1900	+41000	+35000	+13900	+45700	+36200	-10000	-25000	-23200

CAL YR 1985 b -45700
WTR YR 1986 b +86700

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11277300 CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'04", long 119°54'59", in SE 1/4 SW 1/4 sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.7 mi downstream from Cherry Valley Dam, 3.5 mi upstream from Eleanor Creek, 6.7 mi north of Early Intake, and 7.2 mi west of Hetch Hetchy.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--November 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,337.08 ft above National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Cherry Lake (station 11277200) 0.7 mi upstream. Diversion between Lake Eleanor (station 11277500) and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Dion R. Holm powerplant began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (since diversion to Dion R. Holm powerplant).--26 years (water years 1961-86), 34.1 ft^3/s, 24,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,210 ft^3/s, July 10, 1974, gage height, 10.53 ft; minimum daily, 1.6 ft^3/s, Apr. 10, 1957, Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 706 ft^3/s, June 26, gage height, 6.61 ft; minimum daily, 3.8 ft^3/s, Oct 3-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	5.5	5.7	5.8	6.5	8.2	7.2	5.5	5.2	235	15	14
2	4.0	5.5	11	5.7	7.8	7.8	7.2	5.5	5.2	287	15	14
3	3.8	5.3	7.8	5.5	8.0	7.4	7.2	5.9	5.3	317	15	14
4	3.8	5.4	6.5	6.3	7.4	7.0	7.0	5.7	5.3	299	15	14
5	3.8	5.5	6.1	7.5	7.2	6.6	6.8	5.6	5.2	243	15	14
6	3.8	5.5	5.9	6.7	7.1	6.3	7.2	5.6	5.2	201	15	14
7	3.9	5.5	6.0	6.4	6.8	7.7	7.6	5.5	5.2	127	15	14
8	4.4	5.4	5.8	6.1	6.8	36	7.0	5.5	5.2	66	15	14
9	4.8	5.2	5.8	6.1	5.8	15	6.8	5.5	5.2	31	15	14
10	4.6	5.4	5.7	6.4	5.0	17	6.7	5.5	5.1	15	15	14
11	5.0	5.2	5.6	6.3	4.9	14	6.4	5.4	5.9	11	15	14
12	5.5	5.2	5.5	6.1	10	14	6.5	5.4	5.8	9.3	15	14
13	4.9	5.2	5.5	6.1	14	13	6.4	5.3	5.4	11	15	14
14	4.2	5.2	5.5	6.1	12	11	6.4	5.2	5.4	16	15	14
15	4.9	5.2	5.5	6.2	22	11	6.4	5.2	5.4	16	15	14
16	5.5	5.2	5.5	6.5	40	10	6.4	5.2	5.5	16	15	14
17	5.5	5.2	5.5	7.1	127	10	6.4	5.2	5.6	16	15	14
18	5.5	5.2	5.5	6.5	79	9.5	6.1	5.2	5.6	16	15	14
19	5.5	5.2	5.5	6.4	75	9.2	6.0	5.2	5.5	16	15	14
20	5.5	5.2	5.5	6.5	30	8.9	5.8	5.2	6.1	16	15	14
21	6.0	5.2	5.5	6.4	19	8.7	5.8	5.2	6.2	16	15	14
22	5.5	5.2	5.5	6.4	15	8.3	5.8	5.2	6.4	16	15	14
23	5.5	5.2	5.5	6.5	13	8.0	5.8	5.2	6.3	16	15	14
24	5.5	8.8	5.5	6.4	11	7.6	5.8	5.2	27	16	15	14
25	5.5	7.3	5.5	6.4	10	12	5.8	5.1	457	16	15	15
26	5.5	5.7	5.5	6.2	9.9	9.9	5.7	9.0	660	16	15	15
27	5.7	5.5	5.5	6.1	9.3	8.5	5.6	14	645	15	15	14
28	5.6	6.5	5.5	6.1	8.7	8.2	5.5	9.1	635	15	15	14
29	5.5	7.2	5.6	6.1	---	7.8	5.5	5.2	520	15	15	14
30	5.5	6.1	6.4	6.4	---	7.5	5.5	5.2	274	15	15	14
31	5.5	---	5.8	6.6	---	7.4	---	5.2	---	15	14	---
TOTAL	158.8	168.9	183.2	195.9	578.2	323.5	190.3	181.9	3345.2	2135.3	464	422
MEAN	5.12	5.63	5.91	6.32	20.6	10.4	6.34	5.87	112	68.9	15.0	14.1
MAX	8.6	8.8	11	7.5	127	36	7.6	14	660	317	15	15
MIN	3.8	5.2	5.5	5.5	4.9	6.3	5.5	5.1	5.1	9.3	14	14
AC-FT	315	335	363	389	1150	642	377	361	6640	4240	920	837

CAL YR 1985	TOTAL	3015.4	MEAN	8.26	MAX	21	MIN	3.8	AC-FT	5980
WTR YR 1986	TOTAL	8347.2	MEAN	22.9	MAX	660	MIN	3.8	AC-FT	16560

SAN JOAQUIN RIVER BASIN

11277500 LAKE ELEANOR NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'27", long 119°52'48", in SE 1/4 NW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, 720 ft from left bank on downstream side of dam on Eleanor Creek, 1.7 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--78.1 mi^2.

PERIOD OF RECORD.--June 1918 to current year. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.

REVISED RECORDS.--WSP 1445: 1938(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.46 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1927, nonrecording gage on upstream side of dam at same site and datum.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,110 acre-ft between gage heights 4,620.9 ft, natural outlet of old lake and 4,660.0 ft, top of 5-ft flashboards. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of Tuolumne River basin.

COOPERATION.--Periodic observations of gage height were provided by city and county of San Francisco.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,000 acre-ft, Dec. 11, 1937, from capacity table then in use, gage height, 4,663.4 ft; no usable contents at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,200 acre-ft, Mar. 8, July 4, gage height, 4,661.1 ft; minimum, no usable contents for many days in October through December.

Capacity table (gage height, in feet, and contents, in acre-feet)

4,608	0	4,620	36	4,628	1,480	4,646	13,500
4,610	6	4,622	49	4,630	2,450	4,650	17,000
4,612	12	4,624	92	4,632	3,580	4,655	21,500
4,614	18	4,625	211	4,635	5,270	4,660	26,100
4,616	24	4,626	550	4,638	7,330	4,663	29,100
4,618	27	4,627	996	4,642	10,300		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	594	0	2060	4370	6440	22100	25800	25800	26300	26800	26100	23400
2	550	0	4140	4420	6370	21800	25600	25900	26200	26900	26100	23200
3	505	0	4080	4420	6300	21600	25500	26100	26100	27000	26100	23000
4	460	0	3350	5040	5960	21400	25200	25900	26000	27200	26100	22800
5	460	0	2620	7610	5610	21200	25100	25600	25900	27000	26100	22600
6	416	0	3240	8640	5100	21000	25100	25400	25800	26900	26100	22400
7	728	0	2840	9020	4650	21600	25100	25300	25800	26900	26100	22100
8	996	0	1430	9020	4200	27200	25000	25200	25900	26900	26100	22000
9	1330	0	1040	8640	3690	26300	24900	25400	26000	26800	26100	21700
10	1480	0	594	8290	3180	25400	24900	25500	26000	26800	26100	21600
11	1580	0	505	8020	2620	25000	25200	25600	26000	26800	26100	21300
12	1670	0	116	7740	2730	24700	25300	25700	26100	26900	26100	21000
13	1670	0	11	7470	4310	24200	25200	25900	26100	27000	26100	20900
14	1670	0	0	7190	7060	23900	25000	25900	26200	26900	26000	20600
15	1580	0	0	6920	9660	23600	24900	26000	26100	26900	25800	20400
16	1580	0	0	7060	10900	23400	24800	26100	26100	26800	25700	20200
17	1480	0	0	8360	17300	23100	24800	26100	26000	26700	25600	20100
18	1330	0	0	8870	23700	22800	24600	26100	26000	26600	25400	19800
19	683	0	0	9100	26500	22600	24600	26200	26000	26500	25300	19500
20	23	0	0	9180	25100	22500	24800	26100	25800	26500	25100	19300
21	0	0	0	9180	24400	22500	25500	26100	25900	26400	24900	19100
22	0	0	0	8950	24000	22600	25900	26000	26100	26400	24800	18900
23	0	0	0	8500	23800	22700	25900	25900	26400	26400	24700	18700
24	0	25	0	8160	23600	22700	25700	26000	26800	26400	24500	18600
25	0	116	0	7740	23200	22800	25600	26100	27000	26300	24400	18600
26	0	460	0	7400	22800	23000	25600	26200	27000	26300	24100	18400
27	0	594	0	6990	22500	23400	25700	26100	27000	26200	23900	18400
28	0	1090	0	6640	22200	23800	25800	26200	26900	26200	23900	18300
29	0	1770	38	6300	---	24600	25900	26200	26800	26100	23700	18300
30	0	1870	3580	6440	---	25400	25900	26200	26700	26100	23600	18400
31	0	---	4140	6510	---	25600	---	26200	---	26100	23400	---
MAX	1670	1870	4140	9180	26500	27200	25900	26200	27000	27200	26100	23400
MIN	0	0	0	4370	2620	21000	24600	25200	25800	26100	23400	18300
a	4606.0	4628.8	4633.0	4636.8	4655.8	4659.4	4659.7	4660.1	4660.6	4659.9	4657.1	4651.6
b	-594	+1870	+2270	+2370	+15690	+3400	+300	+300	+500	-600	-2700	-5000

CAL YR 1985 b +1410
WTR YR 1986 b +17806

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'09", long 119°52'52", in NW 1/4 SW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on right bank 0.5 mi downstream from Lake Eleanor Dam, 1.1 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 mi^2.

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.

REVISED RECORDS.--WSP 1315-A: 1923(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. November 1909 to November 1915, nonrecording gage and water-stage recorder at site 1 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Eleanor (station 11277500) 0.5 mi upstream beginning in 1918. Diversion from Lake Eleanor to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (prior to diversion to Cherry Lake).--50 years (water years 1910-59), 223 ft^3/s, 161,400 acre-ft/yr; 27 years (water years 1960-86), 92.7 ft^3/s, 67,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft^3/s, Nov. 19, 1950, gage height, 14.95 ft, from rating curve extended above 1,600 ft^3/s on basis of slope-area measurements at gage heights 9.94 ft and 12.24 ft; no flow at times in 1910, 1930-31, 1933, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,930 ft^3/s, Feb. 19, gage height, 9.34 ft; minimum daily, 4.7 ft^3/s, Mar. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	52	136	233	311	9.3	532	569	963	193	12	77
2	16	46	146	203	311	5.9	463	542	997	193	16	77
3	16	41	175	185	309	4.7	305	708	907	194	17	77
4	16	36	247	168	318	5.9	217	706	845	196	17	94
5	16	33	329	167	362	6.7	176	488	714	237	17	107
6	16	30	276	173	377	6.7	164	364	625	203	17	107
7	16	28	270	172	363	7.8	186	278	562	164	17	106
8	16	26	325	282	353	1690	168	223	424	164	17	105
9	16	24	290	402	343	1620	126	220	400	163	17	105
10	16	25	244	380	336	717	115	286	425	162	17	104
11	16	28	190	357	330	399	146	376	441	121	16	104
12	16	30	176	330	329	282	232	439	447	94	16	104
13	16	34	177	314	336	250	228	529	468	95	16	103
14	16	39	134	297	345	136	170	589	500	124	28	102
15	16	45	119	285	379	64	135	639	511	141	79	116
16	16	54	110	263	397	52	119	711	472	141	77	123
17	16	72	104	262	459	39	108	740	438	139	77	122
18	42	80	102	259	479	29	99	798	432	111	76	122
19	104	79	103	253	3870	22	94	890	410	91	77	122
20	161	76	108	250	2390	17	99	942	362	86	78	121
21	107	72	113	246	1230	16	174	812	235	83	78	121
22	90	68	117	310	823	17	462	700	207	82	78	121
23	85	66	121	402	650	19	603	618	156	81	77	120
24	92	100	124	381	575	21	523	583	99	81	77	120
25	99	183	129	350	352	22	442	677	235	80	77	120
26	99	221	134	339	35	25	408	817	339	80	77	120
27	93	208	135	330	26	34	393	887	343	80	78	121
28	84	183	133	320	16	51	493	922	345	79	78	121
29	75	167	135	315	---	76	576	975	343	79	78	75
30	66	150	230	312	---	123	572	1010	248	75	78	14
31	58	---	263	311	---	365	---	1000	---	33	77	---
TOTAL	1527	2296	5395	8851	16404	6133.0	8528	20038	13893	3845	1557	3151
MEAN	49.3	76.5	174	286	586	198	284	646	463	124	50.2	105
MAX	161	221	329	402	3870	1690	603	1010	997	237	79	123
MIN	16	24	102	167	16	4.7	94	220	99	33	12	14
AC-FT	3030	4550	10700	17560	32540	12160	16920	39750	27560	7630	3090	6250

CAL YR 1985	TOTAL	11967.2	MEAN	32.8	MAX	329	MIN	5.1	AC-FT	23740
WTR YR 1986	TOTAL	91618.0	MEAN	251	MAX	3870	MIN	4.7	AC-FT	181700

SAN JOAQUIN RIVER BASIN

11278300 CHERRY CREEK NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'40", long 119°57'42", in NW 1/4 SE 1/4 sec.35, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 1.2 mi upstream from mouth, 1.3 mi north of Early Intake, and 10.3 mi southwest of Hetch Hetchy.

DRAINAGE AREA.--226 mi^2.

PERIOD OF RECORD.--May 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,272.00 ft above National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Cherry Lake (station 11277200) 10 mi upstream and Lake Eleanor (station 11277500) 9.8 mi upstream. Diversion from Cherry Lake to Dion R. Holm powerplant began Aug. 1, 1960. Water is returned to creek 1.2 mi below station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (since diversion to Dion R. Holm powerplant).--26 years (water years 1961-86), 152 ft^3/s, 110,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft^3/s, Feb. 1, 1963, gage height, 14.50 ft, from rating curve extended above 4,600 ft^3/s; minimum daily, 0.30 ft^3/s, Apr. 5, 6, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,880 ft^3/s, Feb. 19, gage height, 11.37 ft; minimum daily, 20 ft^3/s, Oct. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	63	166	288	367	129	614	628	1030	452	24	96
2	22	57	256	250	381	116	562	593	1080	503	33	95
3	21	51	301	228	396	107	408	763	979	538	33	95
4	20	46	285	221	384	99	313	809	918	525	33	106
5	20	42	390	292	424	94	268	570	775	506	33	130
6	20	39	335	275	438	90	262	439	678	445	33	130
7	23	37	315	241	419	95	300	355	608	335	33	129
8	22	34	383	303	409	2260	282	293	480	264	33	129
9	25	32	347	458	395	2040	223	277	428	225	32	129
10	23	38	300	431	386	1080	196	330	455	198	32	127
11	22	40	234	407	379	700	215	419	470	160	32	127
12	23	38	215	379	414	553	301	481	479	115	31	127
13	23	41	208	362	618	489	316	569	497	112	31	127
14	22	46	177	344	528	370	256	638	528	139	31	127
15	22	52	149	336	775	277	210	688	543	171	89	134
16	23	61	139	319	1050	259	193	768	508	169	96	146
17	23	81	131	342	2240	229	180	801	473	169	96	149
18	30	94	127	323	1820	207	166	861	463	150	96	148
19	94	94	127	310	5280	193	156	958	445	117	96	146
20	172	91	131	305	3080	186	156	1020	403	113	99	145
21	151	87	136	298	1670	175	205	892	293	108	99	145
22	108	82	141	339	1150	165	484	770	233	107	97	145
23	101	79	145	452	906	156	665	675	211	109	96	145
24	105	131	148	433	787	147	594	633	126	107	96	153
25	114	223	152	398	588	146	505	719	665	106	96	155
26	115	258	157	385	202	136	469	876	1010	105	95	148
27	109	246	159	375	173	134	445	955	994	104	96	150
28	100	233	158	365	150	144	534	992	990	103	98	146
29	89	232	159	359	---	164	602	1050	885	103	97	130
30	80	190	276	363	---	199	632	1090	586	100	97	32
31	71	---	323	367	---	422	---	1090	---	80	96	---
TOTAL	1825	2838	6670	10548	25809	11561	10712	22002	18233	6538	2079	3891
MEAN	58.9	94.6	215	340	922	373	357	710	608	211	67.1	130
MAX	172	258	390	458	5280	2260	665	1090	1080	538	99	155
MIN	20	32	127	221	150	90	156	277	126	80	24	32
AC-FT	3620	5630	13230	20920	51190	22930	21250	43640	36170	12970	4120	7720

CAL YR 1985	TOTAL	20785	MEAN	56.9	MAX	390	MIN	14	AC-FT	41230
WTR YR 1986	TOTAL	122706	MEAN	336	MAX	5280	MIN	20	AC-FT	243400

SAN JOAQUIN RIVER BASIN

11278400 CHERRY CREEK BELOW DION R. HOLM POWERHOUSE, NEAR MATHER, CA

LOCATION.--Lat 37°53'24", long 119°58'08", in NE 1/4 NW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 600 ft upstream from mouth, 0.5 mi downstream from powerhouse, 0.8 mi northwest of Early Intake, and 6.2 mi west of Mather.

DRAINAGE AREA.--234 mi^2.

PERIOD OF RECORD.--March 1963 to current year. Prior to October 1965, published as "below Cherry powerhouse, near Mather."

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Sept. 15-30. Records good. Flow regulated by Cherry Lake (station 11277200) 11 mi upstream and Lake Eleanor (station 11277500) 10 mi upstream. Prior to May 1971, Cherry Creek Canal diverted 2 mi upstream from station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--23 years, 713 ft^3/s, 516,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft^3/s, Apr. 11, 1982, gage height, 15.36 ft, from rating curve extended above 4,400 ft^3/s on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm powerplant; minimum daily, 1.6 ft^3/s, June 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,910 ft^3/s, Feb. 19, gage height, 13.26 ft; minimum daily, 14 ft^3/s, Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	573	975	162	522	673	934	1570	1560	1970	855	449	515
2	565	956	599	577	388	677	1500	1530	2020	914	450	513
3	566	532	645	557	850	911	1350	1680	1920	955	452	512
4	562	409	619	457	867	905	1250	1760	1870	941	454	522
5	451	410	727	295	1050	901	1190	1510	1740	914	454	542
6	14	408	662	853	887	899	1190	1370	1640	732	453	541
7	566	404	473	1110	871	909	1230	1270	1560	731	454	509
8	566	405	386	1170	721	3470	1210	1200	1430	664	454	542
9	567	182	672	1280	398	2810	1160	1180	1360	628	454	541
10	564	34	627	790	834	1980	1130	1230	1400	606	454	539
11	563	193	565	887	823	1670	1140	1330	1410	573	451	538
12	448	407	547	1080	868	1500	1230	1400	1410	530	453	538
13	16	405	540	1220	1110	1430	1250	1500	1410	525	454	538
14	563	414	364	1150	1010	1300	1190	1570	1450	549	454	535
15	563	421	154	676	1140	1190	1140	1630	1320	577	504	549
16	563	214	512	659	1300	1030	1130	1710	1430	576	509	562
17	563	77	485	689	2980	1150	1120	1740	1400	572	509	565
18	571	459	468	558	2790	1130	1100	1640	1400	554	512	562
19	515	454	467	299	6950	1120	1100	1850	1320	525	512	561
20	163	452	475	643	4150	1110	938	1930	1310	523	514	559
21	697	450	292	633	2520	1100	1140	1770	1210	516	515	560
22	643	448	129	676	1910	1090	1440	1700	989	516	514	562
23	629	230	483	807	1570	774	1640	1620	1070	514	513	562
24	643	131	487	787	1530	1070	1580	1580	843	519	512	570
25	650	578	138	631	1380	1070	1480	1500	1110	518	513	571
26	535	601	493	386	1100	1070	1420	1820	1470	515	515	564
27	103	593	494	718	1070	1060	1220	1910	1450	374	514	564
28	643	381	314	705	1050	1080	1460	1940	1430	511	517	561
29	685	581	147	699	---	1090	1530	1960	1320	511	516	545
30	696	342	607	713	---	1130	1560	2030	998	511	516	447
31	714	---	654	713	---	1340	---	2030	---	500	515	---
TOTAL	16160	12546	14387	22940	42790	38900	38588	50450	42660	18949	15060	16289
MEAN	521	418	464	740	1528	1255	1286	1627	1422	611	486	543
MAX	714	975	727	1280	6950	3470	1640	2030	2020	955	517	571
MIN	14	34	129	295	388	677	938	1180	843	374	449	447
AC-FT	32050	24880	28540	45500	84870	77160	76540	100100	84620	37590	29870	32310

CAL YR 1985	TOTAL	195651	MEAN	536	MAX	975	MIN	14	AC-FT	388100
WTR YR 1986	TOTAL	329719	MEAN	903	MAX	6950	MIN	14	AC-FT	654000

SAN JOAQUIN RIVER BASIN

11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'18", long 120°00'43", in SE 1/4 SE 1/4 sec.29, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mi southwest of Oakland Recreation Camp, and 0.6 mi upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 mi^2.

PERIOD OF RECORD.--March 1923 to current year.

REVISED RECORDS.--WSP 1445: 1923, 1925(M), 1926-28, 1929-30(M), 1932(M), 1935-36(M), 1937-38, 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 22, 1931, at site 50 ft upstream at same datum. Nov. 22, 1931, to July 19, 1977, at present site, datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. No diversion above station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi upstream. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--63 years, 99.7 ft^3/s, 72,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft^3/s, Dec. 23, 1955, gage height, 11.9 ft from floodmarks, present datum, from rating curve extended above 3,300 ft^3/s on basis of slope-area measurements at gage heights 9.08 ft and 11.9 ft; minimum, 0.3 ft^3/s, Aug 23, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0445	*7,000	*10.89	Mar. 8	0845	3,710	9.37

Minimum daily, 2.8 ft^3/s, Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	9.3	36	72	102	348	354	250	235	38	16	7.5
2	7.2	9.3	340	35	94	331	323	241	219	34	15	7.1
3	6.8	9.1	229	37	109	306	290	307	214	30	15	6.9
4	6.4	9.0	106	74	100	307	277	271	191	18	14	6.9
5	6.1	8.9	74	156	79	305	263	227	171	24	14	6.5
6	6.2	8.9	38	171	43	295	279	206	159	29	13	6.4
7	8.1	8.9	44	106	58	290	289	188	147	29	13	6.4
8	8.8	8.8	60	92	60	2330	263	178	132	28	12	6.7
9	9.0	8.8	70	72	53	1180	243	177	126	27	12	7.1
10	6.1	15	41	61	54	963	241	192	122	26	12	7.5
11	5.3	16	30	43	52	757	250	200	117	25	11	7.6
12	5.6	13	29	40	149	638	262	209	111	24	11	7.5
13	5.5	36	31	51	762	539	241	239	103	23	10	7.4
14	5.6	14	31	49	619	463	224	239	101	23	10	22
15	5.5	4.1	31	76	1230	430	217	239	92	22	10	16
16	5.3	4.1	28	59	1710	418	222	250	84	22	10	9.3
17	2.8	12	26	50	2880	381	212	264	79	22	10	10
18	3.8	16	25	65	3070	357	202	281	55	22	9.8	13
19	6.8	13	25	66	3620	342	198	289	70	22	9.6	12
20	6.5	13	25	63	1470	341	220	274	64	21	9.5	11
21	13	13	25	57	910	339	258	239	60	21	9.4	11
22	16	13	25	52	617	339	294	220	59	20	8.8	10
23	12	13	26	73	491	334	276	209	56	17	8.5	10
24	12	103	26	54	434	321	246	212	53	17	8.5	14
25	12	150	26	28	407	313	229	252	50	23	8.2	30
26	10	58	27	34	386	317	229	267	47	21	7.9	20
27	11	18	26	44	373	331	233	271	45	20	7.9	17
28	10	60	25	44	362	344	267	276	45	19	7.7	18
29	9.7	94	28	45	---	345	260	272	49	18	7.3	16
30	9.9	78	105	87	---	349	249	263	46	17	7.6	14
31	9.4	---	105	109	---	355	---	246	---	16	7.3	---
TOTAL	249.7	837.2	1763	2065	20294	15008	7611	7448	3102	718	326.0	344.8
MEAN	8.05	27.9	56.9	66.6	725	484	254	240	103	23.2	10.5	11.5
MAX	16	150	340	171	3620	2330	354	307	235	38	16	30
MIN	2.8	4.1	25	28	43	290	198	177	45	16	7.3	6.4
AC-FT	495	1660	3500	4100	40250	29770	15100	14770	6150	1420	647	684

CAL YR 1985	TOTAL	18991.1	MEAN	52.0	MAX	340	MIN	2.8	AC-FT	37670
WTR YR 1986	TOTAL	59766.7	MEAN	164	MAX	3620	MIN	2.8	AC-FT	118500

SAN JOAQUIN RIVER BASIN

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'42", long 120°00'38", in SW 1/4 NW 1/4 sec.28, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.8 mi upstream from South Fork Tuolumne River, and 2.7 mi east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 mi^2.

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 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.

REVISED RECORDS.--WSP 1395: 1919(M), 1938(M), 1951(P). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation but small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--70 years, 79.7 ft^3/s, 57,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft^3/s, Dec. 23, 1955, gage height, 11.75 ft from flood profile, 11.05 ft from floodmarks inside gage well, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1924, 1931, 1934, 1961, and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0345	*2,930	*9.46	May 3	2130	417	4.20
Mar. 8	1130	2,230	8.47	May 29	0100	655	5.08

Minimum daily, 2.1 ft^3/s, Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	5.8	16	33	46	243	331	324	434	41	10	2.5
2	3.3	5.5	127	28	53	238	300	304	401	37	9.3	2.5
3	3.1	5.3	107	24	57	221	265	387	396	34	8.7	2.4
4	2.9	5.1	42	27	44	220	249	332	355	32	8.0	2.4
5	2.7	5.0	30	77	39	221	238	277	305	30	7.6	2.4
6	2.8	4.8	25	100	39	226	247	249	266	29	7.1	2.3
7	3.2	4.8	25	62	27	228	251	223	248	28	6.6	2.2
8	3.9	4.8	29	46	34	1330	237	211	213	27	6.2	2.2
9	5.9	4.7	21	37	28	748	221	215	207	26	6.1	2.1
10	5.6	9.3	16	33	30	599	225	242	198	24	5.7	2.1
11	4.9	7.3	13	31	29	477	234	256	192	23	5.5	2.2
12	4.6	6.0	13	29	96	412	250	279	180	21	5.2	2.2
13	4.3	6.1	14	28	272	360	233	322	167	20	4.8	2.2
14	3.9	7.1	15	27	273	313	214	337	163	19	4.5	2.3
15	3.7	7.3	15	29	596	295	207	352	148	17	4.4	2.5
16	3.5	7.6	14	28	673	301	208	363	132	16	4.3	2.6
17	3.3	9.1	13	41	1170	268	197	382	126	15	4.3	3.0
18	3.3	9.3	13	48	1260	249	188	415	119	15	4.1	4.1
19	3.2	6.4	13	40	1800	243	191	441	108	14	3.8	4.7
20	3.1	7.3	12	38	748	244	217	437	97	14	3.8	4.5
21	5.8	7.5	12	35	462	242	268	393	90	13	3.5	4.2
22	7.3	6.8	12	32	358	242	332	357	85	13	3.4	4.1
23	5.8	6.8	12	31	295	241	340	336	79	17	3.3	3.9
24	5.9	37	12	29	260	231	293	335	73	18	3.2	5.3
25	6.6	49	12	27	245	227	276	413	67	26	3.1	9.8
26	8.0	27	12	27	241	235	275	447	61	24	3.0	9.2
27	7.9	16	12	26	241	256	276	466	57	19	2.8	8.9
28	7.4	18	12	26	243	277	326	480	50	16	2.7	7.9
29	6.9	48	13	26	---	290	332	490	46	14	2.6	7.4
30	6.4	23	39	38	---	305	328	477	43	12	2.6	6.6
31	6.0	---	54	61	---	322	---	452	---	11	2.6	---
TOTAL	148.6	367.7	775	1164	9659	10304	7749	10994	5106	665	152.8	120.7
MEAN	4.79	12.3	25.0	37.5	345	332	258	355	170	21.5	4.93	4.02
MAX	8.0	49	127	100	1800	1330	340	490	434	41	10	9.8
MIN	2.7	4.7	12	24	27	220	188	211	43	11	2.6	2.1
AC-FT	295	729	1540	2310	19160	20440	15370	21810	10130	1320	303	239

CAL YR 1985	TOTAL	16731.7	MEAN	45.8	MAX	290	MIN	1.5	AC-FT 33190
WTR YR 1986	TOTAL	47205.8	MEAN	129	MAX	1800	MIN	2.1	AC-FT 93630

SAN JOAQUIN RIVER BASIN

11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA

LOCATION.--Lat 37°50'31", long 120°11'02", in SW 1/4 NE 1/4 sec.23, T.1 S., R.16 E., Tuolumne County, Hydrologic Unit 18040009, on right bank 500 ft upstream from Whites Gulch, and 2.5 mi east of Groveland.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--May 1969 to current year.

REVISED RECORDS.--WDR CA-85-3: 1980-84(P).

GAGE.--Water-stage recorder. Datum of gage is 2,561.79 ft above National Geodetic Vertical Datum of 1929 (levels by Boise-Cascade Corp.).

REMARKS.--No estimated daily discharges. Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--17 years, 10.7 ft^3/s, 7,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft^3/s, Feb. 17, 1986, gage height, 7.03 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement at gage height 6.51 ft; no flow many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1964 reached a stage of 6.4 ft from floodmarks, discharge, 1,850 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 13	0115	882	5.31	Mar. 8	1115	960	5.43
Feb. 17	2245	*2,620	*7.03	Mar. 16	0500	197	3.73

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	2.1	2.5	7.9	9.0	7.6	3.3	1.3	.05		
2		0	21	2.1	14	8.0	7.3	3.2	1.2	.05		
3		0	17	1.9	41	7.3	6.8	4.0	1.1	.04		
4		0	4.5	3.7	24	6.7	6.6	5.6	1.1	.04		
5		0	3.0	16	12	6.2	6.5	4.5	1.1	.03		
6		0	2.4	12	7.9	5.8	8.8	4.6	1.1	.03		
7		0	2.2	6.3	5.8	6.7	12	4.0	1.0	.03		
8		0	2.7	4.2	4.7	464	8.6	3.7	.94	.03		
9		0	1.9	3.3	4.0	152	7.1	3.5	.83	.02		
10		0	1.7	2.7	3.5	128	6.6	3.3	.74	.02		
11		.05	1.5	2.4	3.2	143	5.9	3.2	.64	.02		
12		.13	1.3	2.1	94	131	5.5	3.1	.57	.02		
13		.07	1.2	2.0	304	95	5.5	3.1	.52	.01		
14		.05	1.1	1.9	100	64	5.3	2.9	.48	.01		
15		.05	1.1	2.5	230	66	5.2	2.5	.44	.01		
16		.05	1.0	3.7	748	168	6.2	2.4	.41	0		
17		.05	.97	4.6	1340	87	6.4	2.3	.38	0		
18		.06	.96	3.6	792	52	5.3	2.3	.37	0		
19		.05	.91	3.0	727	37	4.8	2.2	.35	0		
20		.06	.90	2.7	159	29	4.5	1.9	.32	0		
21		.07	.86	2.5	80	23	4.2	1.8	.28	0		
22		.07	.85	2.3	46	20	4.1	1.8	.24	0		
23		.07	.85	2.7	31	17	3.9	2.0	.23	0		
24		6.0	.80	2.7	23	15	3.9	2.0	.18	0		
25		8.5	.79	2.3	18	13	3.8	1.9	.14	0		
26		1.5	.77	2.1	15	12	3.7	1.7	.12	0		
27		.76	.75	1.9	12	10	3.6	1.6	.11	0		
28		1.1	.77	1.7	10	9.5	3.4	1.5	.09	0		
29		8.1	1.0	1.7	---	8.7	3.4	1.5	.07	0		
30		5.5	6.5	2.7	---	8.1	3.4	1.4	.06	0		
31		---	3.9	7.2	---	7.9	---	1.3	---	0		
TOTAL	0	32.29	87.28	113.0	4857.0	1809.9	169.9	84.1	16.41	0.41	0	0
MEAN	0	1.08	2.82	3.65	173	58.4	5.66	2.71	.55	.013	0	0
MAX	0	8.5	21	16	1340	464	12	5.6	1.3	.05	0	0
MIN	0	0	.75	1.7	3.2	5.8	3.4	1.3	.06	0	0	0
AC-FT	0	64	173	224	9630	3590	337	167	33	.8	0	0

CAL YR 1985	TOTAL	1451.77	MEAN	3.98	MAX	257	MIN	0	AC-FT 2880
WTR YR 1986	TOTAL	7170.29	MEAN	19.6	MAX	1340	MIN	0	AC-FT 14220

SAN JOAQUIN RIVER BASIN

11284700 NORTH FORK TUOLUMNE RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'56", long 120°05'55", in NW 1/4 SW 1/4 sec.22, T.3 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.6 mi upstream from small tributary, 1.5 mi east of Long Barn, and 3.8 mi upstream from Wrights Creek.
DRAINAGE AREA.--23.1 mi^2.
PERIOD OF RECORD.--August 1962 to September 1986 (discontinued).

REVISED RECORDS.--WRD CA-81-3: 1963, 1980 (M).

GAGE.--Water-stage recorder. Elevation of gage is 4,650 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 19 to Apr. 16 and July 9-14. Records good except estimated daily discharges, which are fair. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--24 years, 32.3 ft^3/s, 23,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,760 ft^3/s, Feb. 19, 1986, gage height, 9.93 ft, from rating curve extended above 1,000 ft^3/s; minimum daily, 0.07 ft^3/s, July 29, 1976, and many days during 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 9.52 ft from floodmarks, discharge, 2,560 ft^3/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	1400	225	4.39	Mar. 8	1130	880	6.14
Feb. 19	0330	*2,760	*9.93				

Minimum daily, 0.58 ft^3/s, Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.1	17	27	45	139	82	45	20	5.1	2.1	.77
2	1.0	2.8	153	24	55	133	80	43	19	4.8	2.0	.74
3	.97	2.7	58	23	58	124	77	53	18	4.4	1.9	.76
4	.91	2.1	30	32	48	117	70	53	17	4.2	1.7	.73
5	.91	2.0	25	64	43	111	66	48	16	4.0	1.6	.69
6	1.1	2.0	22	57	39	106	64	46	15	3.8	1.6	.64
7	1.3	1.8	24	39	34	124	72	42	15	3.5	1.5	.59
8	1.6	1.8	24	32	31	640	69	39	14	3.6	1.5	.58
9	4.4	1.7	19	28	30	343	62	37	13	3.5	1.4	.63
10	3.0	12	19	25	28	283	62	36	13	3.4	1.3	.81
11	2.4	14	26	23	26	246	61	35	12	3.4	1.2	.74
12	2.2	9.1	48	22	75	223	60	35	11	3.3	1.2	.68
13	1.9	5.9	39	20	232	201	58	35	11	3.2	1.2	.76
14	1.8	5.8	13	20	379	176	57	35	10	3.2	1.1	.85
15	1.7	5.3	11	26	551	164	56	35	9.8	3.2	1.1	.91
16	1.6	6.4	11	35	580	153	55	35	9.5	2.7	1.1	.91
17	1.4	6.6	11	81	1450	140	53	34	9.2	3.0	1.1	1.3
18	1.3	5.2	10	56	1340	132	51	34	9.1	3.0	1.0	1.7
19	1.3	6.3	10	46	1460	125	49	34	8.2	2.9	.98	1.6
20	1.3	6.2	9.8	43	539	115	49	33	7.9	2.8	1.2	1.4
21	4.2	4.0	9.9	36	334	105	50	31	7.8	2.7	1.2	1.2
22	4.2	3.8	9.5	32	254	95	53	28	7.6	3.1	1.1	1.0
23	3.9	5.4	9.3	30	215	89	54	27	7.3	3.9	1.0	1.9
24	3.6	63	9.2	28	192	88	53	26	6.9	4.1	.91	4.0
25	3.1	70	8.5	25	177	88	51	25	6.5	3.5	.91	7.6
26	2.9	20	8.8	24	165	88	49	25	6.3	3.2	.89	5.4
27	2.6	13	8.8	23	156	87	47	24	5.8	3.1	.85	4.5
28	2.3	25	8.4	22	148	84	47	23	5.6	2.8	.85	3.6
29	2.2	40	11	21	---	84	47	22	5.4	2.5	.84	3.1
30	2.2	20	71	39	---	85	46	21	5.3	2.3	.79	2.7
31	2.2	---	37	47	---	84	---	20	---	2.1	.77	---
TOTAL	66.69	366.0	771.2	1050	8684	4772	1750	1059	322.2	104.3	37.89	52.79
MEAN	2.15	12.2	24.9	33.9	310	154	58.3	34.2	10.7	3.36	1.22	1.76
MAX	4.4	70	153	81	1460	640	82	53	20	5.1	2.1	7.6
MIN	.91	1.7	8.4	20	26	84	46	20	5.3	2.1	.77	.58
AC-FT	132	726	1530	2080	17220	9470	3470	2100	639	207	75	105

CAL YR 1985	TOTAL	5937.61	MEAN	16.3	MAX	153	MIN	.44	AC-FT 11780
WTR YR 1986	TOTAL	19036.07	MEAN	52.2	MAX	1460	MIN	.58	AC-FT 37760

SAN JOAQUIN RIVER BASIN

11287500 DON PEDRO RESERVOIR NEAR LA GRANGE, CA

LOCATION.--Lat 37°42'06", long 120°25'16", in NE 1/4 SW 1/4 sec.3, T.3 S., R.14 E., Tuolumne County, Hydrologic Unit 18040009, on left end of New Don Pedro Dam on Tuolumne River, 500 ft downstream from Mexican Gulch, and 3.4 mi northeast of La Grange.
DRAINAGE AREA.--1,533 mi^2.
PERIOD OF RECORD.--September 1923 to current year. Year-end contents only 1923-24 and October 1924 to September 1930 monthend contents, published in WSP 1315-A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, nonrecording gage at site 1.5 mi upstream at same datum. Feb. 2, 1941, to Nov. 3, 1970, water-stage recorder at site 1.5 mi upstream at same datum. Nov. 4, 1970, to Apr. 26, 1972, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam completed June 23, 1971. Storage began Nov. 3, 1970. Total capacity, 2,030,000 acre-ft at elevation 830.0 ft top of uncontrolled spillway, of which 309,000 acre-ft below elevation 600.0 ft, mutually agreed-upon minimum, is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 2.5 mi downstream, where it is diverted into Turlock and Modesto Canals (stations 11289500 and 11289000) for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Prior to June 1971, reservoir was formed by a concrete gravity-type dam completed Jan. 1, 1923, capacity, 290,400 acre-ft. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,025,000 acre-ft, Aug. 4-6, 13, 1983, elevation, 829.6 ft; minimum, 29,200 acre-ft, Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft, Sept. 1, 2, 1934. Minimum since reservoir first filled, 302,600 acre-ft, Oct. 14, 15, 1977, elevation, 598.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,868,000 acre-ft, July 7, 8, elevation, 817.1 ft; minimum, 1,194,000 acre-ft, Nov. 22, 23, elevation, 751.8 ft.

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

550	158,700	650	517,400	770	1,359,000
570	212,900	680	679,000	800	1,669,000
590	274,800	710	869,700	830	2,030,000
620	384,100	740	1,095,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1211000	1201000	1208000	1222000	1313000	1719000	1717000	1601000	1736000	1850000	1793000	1713000
2	1210000	1202000	1211000	1224000	1317000	1717000	1708000	1603000	1742000	1851000	1789000	1713000
3	1208000	1203000	1215000	1225000	1322000	1716000	1698000	1606000	1747000	1852000	1790000	1708000
4	1206000	1203000	1217000	1227000	1326000	1714000	1688000	1609000	1754000	1856000	1785000	1705000
5	1204000	1203000	1218000	1231000	1329000	1713000	1677000	1611000	1762000	1862000	1780000	1702000
6	1204000	1203000	1220000	1236000	1333000	1712000	1663000	1613000	1769000	1866000	1775000	1699000
7	1203000	1203000	1221000	1240000	1335000	1710000	1655000	1616000	1777000	1868000	1773000	1698000
8	1202000	1202000	1223000	1243000	1337000	1720000	1645000	1619000	1785000	1868000	1770000	1696000
9	1201000	1201000	1223000	1247000	1339000	1762000	1634000	1623000	1792000	1866000	1767000	1694000
10	1200000	1202000	1224000	1249000	1341000	1774000	1625000	1625000	1797000	1862000	1765000	1691000
11	1200000	1202000	1223000	1252000	1343000	1783000	1618000	1629000	1805000	1861000	1761000	1688000
12	1200000	1201000	1222000	1255000	1346000	1790000	1613000	1632000	1807000	1857000	1758000	1686000
13	1200000	1200000	1221000	1257000	1356000	1794000	1607000	1638000	1812000	1856000	1754000	1685000
14	1198000	1199000	1221000	1261000	1375000	1794000	1603000	1642000	1814000	1854000	1751000	1685000
15	1199000	1198000	1221000	1263000	1390000	1795000	1600000	1647000	1813000	1850000	1748000	1684000
16	1198000	1197000	1220000	1266000	1428000	1796000	1596000	1652000	1815000	1846000	1746000	1681000
17	1197000	1197000	1219000	1270000	1496000	1796000	1592000	1658000	1818000	1841000	1744000	1679000
18	1197000	1196000	1217000	1274000	1573000	1793000	1590000	1662000	1819000	1838000	1740000	1678000
19	1197000	1196000	1217000	1276000	1644000	1789000	1589000	1669000	1821000	1834000	1738000	1677000
20	1196000	1195000	1215000	1280000	1689000	1786000	1587000	1673000	1825000	1831000	1735000	1676000
21	1196000	1195000	1215000	1283000	1704000	1781000	1586000	1679000	1827000	1826000	1732000	1677000
22	1196000	1194000	1215000	1285000	1712000	1776000	1587000	1684000	1830000	1821000	1729000	1676000
23	1196000	1194000	1214000	1288000	1714000	1769000	1589000	1688000	1832000	1818000	1727000	1673000
24	1197000	1195000	1214000	1291000	1716000	1765000	1590000	1691000	1833000	1814000	1728000	1672000
25	1197000	1197000	1215000	1294000	1719000	1760000	1591000	1696000	1834000	1810000	1725000	1672000
26	1198000	1198000	1215000	1295000	1720000	1755000	1592000	1702000	1838000	1808000	1722000	1671000
27	1199000	1199000	1214000	1297000	1720000	1750000	1592000	1707000	1840000	1808000	1720000	1671000
28	1199000	1201000	1214000	1300000	1720000	1743000	1594000	1713000	1844000	1806000	1717000	1672000
29	1199000	1205000	1215000	1302000	---	1737000	1597000	1720000	1844000	1803000	1714000	1671000
30	1199000	1207000	1217000	1306000	---	1730000	1596000	1725000	1849000	1800000	1712000	1671000
31	1200000	---	1218000	1309000	---	1724000	---	1731000	---	1796000	1712000	---
MAX	1211000	1207000	1224000	1309000	1720000	1796000	1717000	1731000	1849000	1868000	1793000	1713000
MIN	1196000	1194000	1208000	1222000	1313000	1710000	1586000	1601000	1736000	1796000	1712000	1671000
a	752.5	753.3	754.6	764.7	804.5	804.9	793.3	805.5	815.5	811.1	803.8	800.2
b	-12000	+7000	+11000	+91000	+411000	+4000	-128000	+135000	+118000	-53000	-84000	-41000

CAL YR 1985 b -267000
WTR YR 1986 b +459000
a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11289000 MODESTO CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°40'04", long 120°27'26", in SE 1/4 SW 1/4 sec.17, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi northeast of La Grange, and 1.4 mi 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.

REVISED RECORDS.--WSP 1315-A: 1904-9 (monthly figures only).

GAGE.--Water-stage recorder. V-notch sharp-crested weir since Mar. 19, 1963. Datum of gage is 272.4 ft above National Geodetic Vertical Datum of 1929 (levels by Modesto Irrigation District). See WSP 1930 for history of changes prior to March 1932. March 1932 to Aug. 14, 1975, on right bank at same datum.

REMARKS.--No estimated daily discharges. Records good. 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.

AVERAGE DISCHARGE.--83 years, 415 ft^3/s, 300,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,820 ft^3/s, July 1, 1935; no flow at times most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	646	170	30		0	0	473	888	764	1130	959	126
2	747	165	286		0	0	476	885	762	1070	818	850
3	477	23	223		0	0	642	887	765	999	143	853
4	529	216	236		0	0	805	832	769	690	984	835
5	465	202	219		0	0	803	570	908	773	985	943
6	145	206	220		0	0	806	567	979	689	871	692
7	548	211	184		0	0	808	566	981	1020	892	126
8	442	183	24		0	.64	808	563	983	1090	858	710
9	390	170	308		0	0	807	558	832	1080	628	622
10	406	28	422		0	0	806	560	721	1120	132	776
11	389	19	418		0	0	562	559	725	1210	912	825
12	271	350	465		0	0	479	554	725	1130	945	522
13	163	324	437		0	0	478	553	727	693	894	129
14	373	351	262		0	0	537	550	726	1150	862	129
15	302	250	28		0	.48	581	673	1010	1130	736	560
16	203	176	650		0	0	580	758	1520	997	241	468
17	250	24	586		0	0	577	759	1460	971	127	350
18	167	294	581		0	0	579	757	1250	852	819	351
19	136	322	652		.06	0	575	760	1230	803	876	348
20	29	361	578		0	0	568	760	838	685	863	127
21	191	301	38		0	0	572	759	716	1200	849	128
22	172	256	32		0	0	706	761	654	1070	763	400
23	141	273	21		0	0	783	762	1180	1140	369	411
24	157	26	.38		0	0	851	762	1150	1110	126	311
25	164	276	.33		0	0	887	759	1120	1000	841	300
26	130	243	.31		0	0	884	759	1060	731	837	289
27	23	213	.32		0	0	887	760	986	683	830	132
28	196	23	.20		0	0	884	763	717	998	762	127
29	165	176	.03		---	0	885	760	682	1030	716	283
30	196	173	0		---	0	888	760	1110	1100	372	300
31	190	---	0		---	195	---	763	---	1140	87	---
TOTAL	8803	6005	6901.57	0	0.06	196.12	20977	21927	28050	30484	21097	13023
MEAN	284	200	223	0	.002	6.33	699	707	935	983	681	434
MAX	747	361	652	0	.06	195	888	888	1520	1210	985	943
MIN	23	19	0	0	0	0	473	550	654	683	87	126
AC-FT	17460	11910	13690	0	.1	389	41610	43490	55640	60470	41850	25830

CAL YR 1985 TOTAL 176969.69 MEAN 485 MAX 1140 MIN 0 AC-FT 351000
WTR YR 1986 TOTAL 157463.75 MEAN 431 MAX 1520 MIN 0 AC-FT 312300

11289500 TURLOCK CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'49", long 120°26'23", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 3,460 ft downstream from intake at La Grange Dam, and 1.2 mi east of La Grange.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1899-1908 (monthly figures only). WSP 1445: 1917-20, 1922.

GAGE.--Electromagnetic flow meter and concrete control. Datum of gage is 274.98 ft above National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). See WSP 1930 for history of changes prior to Apr. 17, 1924. Prior to May 17, 1984, water-stage recorder at site 0.2 mi upstream at datum 2.72 ft higher.

REMARKS.--Estimated daily discharge: Dec. 18-23, Jan. 8 to Feb. 5, Apr. 19-23, Sept. 1. Records good. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. Capacity of canal increased in March 1980 and in March 1984. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mi upstream from gage, passed through La Grange powerplant, and returned to river. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--88 years, 645 ft^3/s, 467,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,400 ft^3/s several days in May 1984; no diversion for irrigation during some periods in some years. Prior to 1939, unmeasured small discharge during winter called zero. No flow Jan. 27, 1984, to Mar. 14, 1984, when canal was drained for construction and installation of electromagnetic flow meter.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	502	183	31	26		0	1230	1710	1460	1890	1570	0
2	627	77	421	25		0	2110	1670	1590	1270	1970	1630
3	1180	16	305	23		196	1970	1670	1640	1340	987	1720
4	842	193	423	13		401	1820	1720	1640	16	1910	2100
5	618	187	368	12		424	1810	1750	1510	1010	1610	1680
6	45	169	390	8.7		388	1800	1440	1450	17	1590	1340
7	751	188	218	3.4		639	1800	1380	1440	1380	1530	14
8	491	157	30	0		858	1810	1370	1440	1490	1600	1360
9	440	52	544	0		871	1810	1300	1580	1580	1970	1280
10	412	30	656	0		867	1090	1190	1690	1960	1390	1160
11	308	29	670	0		821	612	1160	1690	2010	1970	1110
12	50	523	680	0		724	682	1160	1700	2220	1970	870
13	20	401	687	0		703	686	1160	1690	1440	1580	367
14	319	382	436	0		695	427	1160	1370	2240	1620	6.2
15	286	370	36	0		688	679	1260	588	2680	1590	1.0
16	30	164	689	0		684	1160	1410	24	2840	1760	1.0
17	290	42	662	0		693	1320	1440	22	2790	1400	9.7
18	178	373	654	0		656	1200	1440	567	2410	1960	11
19	365	391	641	0		694	1400	1600	2130	2460	2030	226
20	187	425	544	0		689	1530	1840	2600	2390	1510	320
21	425	334	494	0		685	1490	1910	2570	2420	1620	21
22	351	326	20	0		681	1580	1900	2580	2140	1550	734
23	188	157	596	0		676	1590	1900	2460	1970	1340	742
24	207	32	452	0		705	1660	1900	2460	1970	14	561
25	140	428	28	0		609	1700	1900	2610	1890	1600	670
26	103	326	610	0		539	1820	1900	2740	1150	1610	628
27	28	251	150	0		725	1820	1670	2770	18	1640	238
28	174	28	33	0		1090	1860	1500	2760	1400	1590	47
29	154	87	29	0		1090	1860	1500	1370	1510	1610	735
30	148	97	31	0		1090	1800	1500	2260	1590	1400	771
31	135	---	28	0		940	---	1500	---	1580	92	---
TOTAL	9994	6418	11556	111.1	0	20521	44126	47910	52401	53071	47583	20352.9
MEAN	322	214	373	3.58	0	662	1471	1545	1747	1712	1535	678
MAX	1180	523	689	26	0	1090	2110	1910	2770	2840	2030	2100
MIN	20	16	20	0	0	0	427	1160	22	16	14	0
AC-FT	19820	12730	22920	220	0	40700	87520	95030	103900	105300	94380	40370

CAL YR 1985	TOTAL	319408.9	MEAN	875	MAX	2780	MIN	1.2	AC-FT	633500
WTR YR 1986	TOTAL	314044.0	MEAN	860	MAX	2840	MIN	0	AC-FT	622900

SAN JOAQUIN RIVER BASIN

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'59", long 120°26'28", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi downstream from La Grange Dam, and 1.1 mi east of La Grange.

DRAINAGE AREA.--1,538 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 170.19 ft above National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District).

REMARKS.--No estimated daily discharges. Records good. Flow diverted into Modesto Canal (station 11289000) and Turlock Canal (station 11289500) at La Grange Dam. Flow regulated by Don Pedro powerplant, Don Pedro Reservoir (station 11287500), 4.5 mi upstream, Hetch Hetchy Reservoir (station 11275500), Cherry Lake (station 11277200), and Lake Eleanor (station 11277500). Tuolumne Canal (station 11297500) 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 335 ft^3/s was diverted during the current year. See schematic diagram of Tuolumne River basin. For records of combined discharge of river and Modesto and Turlock canals, see following page.

AVERAGE DISCHARGE (River only).--16 years, 1,123 ft^3/s, 813,600 acre-ft/yr.
(Combined river and canals).--16 years, 2,455 ft^3/s, 1,779,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 10,400 ft^3/s, Apr. 24, 1983, gage height, 15.09 ft; no flow for several days during September and October 1977.
Combined flow, maximum daily discharge, 13,800 ft^3/s, May 26, 1983; minimum daily, 0.45 ft^3/s, Nov. 2, 1970.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 6,960 ft^3/s, Apr. 14, gage height, 12.49 ft; minimum daily, 9.4 ft^3/s, Sept. 1.
Combined flow, maximum daily discharge, 9,410 ft^3/s, Apr. 8, 9; minimum daily, 135 ft^3/s, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	347	311	261	378	4520	6610	2140	2340	305	303	9.4
2	236	346	313	498	265	4570	6790	2190	2230	384	295	271
3	242	346	312	572	659	4320	6770	2190	2160	331	23	230
4	238	348	310	523	647	4190	6770	2190	2150	21	292	100
5	235	348	307	249	693	4190	6770	2410	2150	20	270	250
6	229	348	307	626	675	4190	6790	2760	2130	19	211	350
7	230	348	306	634	625	3990	6770	2850	2110	75	181	13
8	233	349	304	609	573	3910	6790	2850	2100	182	141	354
9	233	349	306	633	265	3810	6790	2930	2090	165	138	310
10	234	349	305	620	696	4280	6740	3030	2080	209	16	470
11	234	348	305	578	787	5970	6810	3030	2060	263	178	622
12	236	349	306	250	860	6280	6870	3040	2050	207	173	631
13	237	350	306	634	583	6280	6860	3030	2050	17	157	620
14	237	350	306	644	520	6240	6600	3030	2360	231	128	112
15	291	350	304	684	463	6290	6070	2820	2920	197	15	1410
16	1090	349	322	453	262	6260	5600	2560	2960	15	14	1480
17	350	348	320	444	263	6240	5070	2500	2680	15	13	1430
18	340	350	318	361	2280	6240	4600	2520	1680	15	139	1370
19	341	352	318	244	3110	6230	4100	2330	891	15	115	1110
20	339	351	310	363	4300	6220	3890	2050	326	14	37	648
21	341	351	464	508	4640	6220	3640	1960	320	255	116	115
22	342	352	304	512	4630	6220	3150	1950	320	105	85	607
23	341	351	613	421	4610	6220	2950	1960	431	13	15	700
24	341	351	498	378	4600	6240	2960	1960	409	110	12	697
25	347	352	309	402	4580	6340	2650	1940	253	13	145	697
26	347	351	592	264	4560	6400	2140	1940	126	13	182	687
27	345	351	1080	491	4550	6440	1970	2150	83	13	149	635
28	347	350	853	492	4580	6570	1980	2380	82	13	90	121
29	348	352	313	502	---	6550	1990	2370	81	118	13	595
30	348	351	790	479	---	6570	2040	2370	175	196	12	617
31	348	---	692	351	---	6520	---	2340	---	252	19	---
TOTAL	9848	10487	12704	14680	55654	174510	149530	75770	43797	3801	3677	17261.4
MEAN	318	350	410	474	1988	5629	4984	2444	1460	123	119	575
MAX	1090	352	1080	684	4640	6570	6870	3040	2960	384	303	1480
MIN	229	346	304	244	262	3810	1970	1940	81	13	12	9.4
AC-FT	19530	20800	25200	29120	110400	346100	296600	150300	86870	7540	7290	34240

CAL YR 1985 TOTAL 129169.9 MEAN 354 MAX 1860 MIN 9.3 AC-FT 256200
WTR YR 1986 TOTAL 571719.4 MEAN 1566 MAX 6870 MIN 9.4 AC-FT 1134000

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction of recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1971-86): Maximum recorded, 29.0°C, Sept. 27, Oct. 15, 1977; minimum recorded, 6.0°C, Feb. 6-8, 10, 1971.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 19.5°C, July 20, 27, 28; minimum recorded, 9.5°C on many days in February and March.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	11.0	12.0	11.5	12.0	11.5			---	---	10.0	10.0
2	12.5	11.5	12.0	11.5	12.0	11.5			---	---	10.0	10.0
3	14.0	11.5	12.0	11.5	12.0	11.5			---	---	10.0	10.0
4	12.5	11.5	12.5	11.5	12.0	11.5			---	---	10.0	10.0
5	13.0	11.5	12.0	11.5	12.0	11.5			10.5	10.0	10.5	10.0
6	12.5	11.5	12.0	11.5	12.0	11.5			10.5	10.0	10.0	10.0
7	12.5	11.5	12.0	11.5	12.0	11.5			10.5	10.0	10.0	10.0
8	12.0	11.5	12.0	11.5	11.5	11.0			10.5	9.5	10.5	10.0
9	12.5	11.5	12.0	11.5	11.5	11.0			10.5	9.5	10.0	10.0
10	12.5	11.0	11.5	11.0	11.5	11.5			10.0	9.5	10.0	10.0
11	12.5	11.0	11.5	11.0	12.0	11.5			10.5	10.0	10.0	10.0
12	12.5	11.0	11.5	11.0	12.0	11.5			10.5	10.0	10.5	10.0
13	12.5	11.5	11.5	11.0	12.0	11.5			11.0	10.5	10.0	10.0
14	12.0	11.5	12.0	11.0	11.5	11.5			11.0	10.5	10.0	10.0
15	13.0	11.5	12.0	11.5	11.5	11.0			10.5	10.5	10.0	10.0
16	12.0	11.5	12.0	11.5	11.5	11.0			10.5	10.5	10.0	9.5
17	12.5	11.5	12.0	11.5	11.5	11.0			11.5	10.5	10.0	9.5
18	12.5	11.5	12.0	11.5	11.5	11.5			11.5	10.5	10.0	9.5
19	12.0	11.5	12.0	11.5	11.5	11.5			10.5	10.0	10.0	10.0
20	12.0	11.5	12.0	11.5	11.5	11.5			10.5	10.0	10.0	10.0
21	12.0	11.5	12.0	11.5	11.5	11.0			10.5	10.0	10.0	10.0
22	12.0	11.5	12.0	11.5	11.5	11.0			10.5	10.0	10.0	9.5
23	12.0	11.5	12.0	11.5	11.0	11.0			10.5	10.0	10.0	9.5
24	12.5	11.5	12.0	11.5	11.0	11.0			10.5	10.0	10.0	9.5
25	12.5	11.5	12.0	12.0	---	---			10.5	10.0	10.0	9.5
26	12.5	11.5	12.0	12.0	---	---			10.5	10.0	10.0	9.5
27	12.5	11.5	12.0	12.0	---	---			10.5	10.0	10.0	9.5
28	12.5	12.0	12.0	12.0	---	---			10.0	10.0	10.0	9.5
29	12.5	11.5	12.0	12.0	---	---			---	---	10.0	9.5
30	12.0	11.5	12.0	11.5	---	---			---	---	10.0	9.5
31	12.0	11.5	---	---	---	---			---	---	10.0	9.5
MONTH	14.0	11.0	12.5	11.0	---	---			11.5	9.5	10.5	9.5

SAN JOAQUIN RIVER BASIN

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	11.0	10.0	11.5	11.0	13.0	11.5	14.0	12.0		
2	10.0	10.0	11.0	10.0	12.0	11.0	12.5	11.5	14.5	11.5		
3	10.5	10.0	10.5	10.0	12.0	10.5	12.5	11.5	17.5	12.0		
4	10.5	10.0	11.0	10.0	11.5	10.5	17.5	11.5	16.0	11.5		
5	10.5	10.0	11.0	10.0	11.5	11.0	18.5	14.0	13.5	11.5		
6	10.5	10.0	11.0	10.0	11.5	11.0	18.5	14.0	---	---		
7	10.5	10.0	11.0	10.0	11.5	10.5	18.5	12.0	---	---		
8	10.5	10.0	11.0	10.0	12.0	10.5	15.0	12.0	---	---		
9	10.5	10.0	11.0	10.5	12.0	11.0	15.5	12.0	---	---		
10	10.5	10.0	11.0	10.5	12.0	11.0	15.5	11.5	---	---		
11	10.5	10.0	11.0	10.5	12.0	11.0	14.0	11.5	---	---		
12	10.5	10.0	11.0	10.5	12.0	11.0	15.0	11.5	---	---		
13	10.5	10.0	11.0	10.5	12.0	11.0	17.5	12.0	---	---		
14	11.0	10.0	11.0	10.5	12.0	11.0	16.5	11.5	---	---		
15	10.5	10.0	11.5	10.0	12.0	11.0	14.0	12.0	---	---		
16	10.5	10.0	11.5	10.5	12.0	11.0	17.5	12.0	---	---		
17	11.0	10.0	11.5	10.5	12.0	11.0	18.5	14.0	---	---		
18	10.5	10.0	11.5	10.5	12.0	11.0	18.5	14.5	---	---		
19	11.0	10.0	11.5	10.5	12.5	11.0	19.0	14.5	---	---		
20	11.0	10.0	11.5	10.5	12.5	11.0	19.5	15.0	---	---		
21	11.0	10.0	11.5	10.5	12.5	11.0	17.5	12.0	---	---		
22	11.0	10.0	11.5	10.5	12.5	11.0	15.5	12.0	---	---		
23	11.0	10.0	11.0	10.5	12.5	11.0	17.5	12.0	---	---		
24	11.0	10.0	11.5	10.5	12.0	11.0	18.0	12.0	---	---		
25	11.0	10.0	11.5	10.5	14.0	11.5	18.0	12.5	---	---		
26	11.0	10.0	11.5	10.5	16.0	11.5	19.0	15.0	---	---		
27	11.0	10.0	11.5	10.5	17.0	12.0	19.5	15.0	---	---		
28	11.0	10.0	11.5	10.5	14.0	11.5	19.5	15.0	---	---		
29	11.0	10.0	11.5	10.5	14.0	11.5	19.0	12.0	---	---		
30	11.0	10.0	11.5	10.5	14.0	11.5	15.5	11.5	---	---		
31	---	---	12.0	11.0	---	---	14.0	11.5	---	---		
MONTH	11.0	9.5	12.0	10.0	17.0	10.5	19.5	11.5	---	---		
YEAR	19.5	9.5										

11289651 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF TUOLUMNE RIVER, MODESTO CANAL NEAR LA GRANGE, AND TURLOCK CANAL NEAR LA GRANGE, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1400	700	372	287	378	4520	8310	4740	4560	3330	2830	135
2	1610	588	1020	523	265	4570	9380	4750	4580	2720	3090	2750
3	1900	385	840	595	659	4520	9380	4750	4570	2670	1150	2800
4	1610	757	969	536	647	4590	9400	4740	4560	727	3180	3040
5	1320	737	894	261	693	4610	9380	4730	4570	1800	2870	2870
6	419	723	917	635	675	4580	9400	4770	4560	725	2670	2380
7	1530	747	708	637	625	4630	9380	4800	4530	2480	2600	153
8	1170	689	358	609	573	4770	9410	4780	4520	2760	2600	2420
9	1060	571	1160	633	265	4680	9410	4790	4500	2830	2740	2210
10	1050	407	1390	620	696	5150	8640	4780	4490	3290	1540	2410
11	931	396	1400	578	787	6790	7980	4750	4480	3480	3060	2560
12	557	1220	1460	250	860	7000	8030	4750	4480	3560	3090	2020
13	420	1080	1430	634	583	6980	8020	4740	4470	2150	2630	1120
14	929	1080	1000	644	520	6940	7560	4740	4460	3620	2610	247
15	879	970	368	684	463	6980	7330	4750	4520	4010	2350	1970
16	1320	689	1660	453	262	6940	7340	4730	4500	3860	2010	1950
17	890	414	1570	444	263	6930	6970	4700	4160	3780	1540	1790
18	685	1020	1560	361	2280	6900	6380	4720	3500	3280	2920	1730
19	842	1070	1610	244	3110	6920	6080	4690	4250	3280	3030	1680
20	555	1140	1430	363	4300	6910	5990	4650	3770	3090	2410	1100
21	957	986	996	508	4640	6910	5700	4630	3610	3880	2590	264
22	865	934	356	512	4630	6900	5440	4610	3550	3320	2400	1740
23	670	781	1230	421	4610	6900	5320	4620	4070	3120	1730	1850
24	705	409	950	378	4600	6950	5470	4620	4020	3190	152	1570
25	651	1060	337	402	4580	6950	5240	4600	3980	2900	2590	1670
26	580	920	1200	264	4560	6940	4840	4600	3930	1890	2630	1600
27	396	815	1230	491	4550	7170	4680	4580	3840	714	2620	1010
28	717	401	886	492	4580	7660	4720	4640	3560	2410	2440	295
29	667	615	342	502	---	7640	4740	4630	2130	2660	2340	1620
30	692	621	821	479	---	7660	4730	4630	3550	2890	1780	1690
31	673	---	720	351	---	7660	---	4600	---	2970	198	---
TOTAL	28650	22925	31184	14791	55654	195250	214650	145610	124270	87386	72390	50644
MEAN	924	764	1006	477	1988	6298	7155	4697	4142	2819	2335	1688
MAX	1900	1220	1660	684	4640	7660	9410	4800	4580	4010	3180	3040
MIN	396	385	337	244	262	4520	4680	4580	2130	714	152	135
AC-FT	56830	45470	61850	29340	110400	387300	425800	288800	246500	173300	143600	100500

CAL YR 1985	TOTAL	625654	MEAN	1714	MAX	3780	MIN	15	AC-FT	1241000
WTR YR 1986	TOTAL	1043404	MEAN	2859	MAX	9410	MIN	135	AC-FT	2070000

SAN JOAQUIN RIVER BASIN

11290000 TUOLUMNE RIVER AT MODESTO, CA

LOCATION.--Lat 37°37'38", long 120°59'11", in SE 1/4 SW 1/4 sec.33, T.3 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank at bridge on Ninth Street in Modesto, and 0.2 mi downstream from Dry Creek.

DRAINAGE AREA.--1,884 mi^2.

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 National Geodetic Vertical Datum of 1929 (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.

REMARKS.--Estimated daily discharges: July 24 to Aug. 12. Records good, except those for estimated daily discharges, which are fair. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (stations 11289000 and 11289500), there are diversions for irrigation of about 1,300 acres between station above La Grange Dam and at Modesto. See REMARKS for station 11289650 for Tuolumne River below La Grange Dam. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--46 years (water years 1896, 1941-86), 1,475 ft^3/s, 1,069,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1895-96, 1941-86).--Maximum discharge observed, 57,000 ft^3/s, Dec. 9, 1950, elevation, 69.19 ft; minimum, 56 ft^3/s, Aug. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,560 ft^3/s, Mar. 16, elevation, 55.25 ft; minimum daily, 278 ft^3/s, Sept. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	447	857	816	596	4510	6280	2480	2470	358	330	278
2	333	446	804	537	706	4470	6330	2580	2470	444	370	278
3	413	442	770	566	557	4490	6440	2650	2360	524	410	345
4	406	440	748	687	1150	4460	6420	2670	2300	545	330	449
5	421	502	770	619	1130	4550	6450	2640	2290	382	360	420
6	439	492	748	473	929	4550	6480	2940	2290	306	380	418
7	440	455	742	632	898	4470	6530	3210	2290	301	360	549
8	434	452	731	735	815	4440	6480	3260	2300	290	340	429
9	451	446	721	739	738	6010	6480	3250	2280	346	320	431
10	444	468	530	726	508	5000	6500	3300	2260	359	310	580
11	453	490	473	716	727	6080	6480	3380	2250	367	300	754
12	428	474	452	677	925	7640	6530	3380	2260	427	340	893
13	440	465	446	479	1400	7940	6580	3360	2240	427	384	1020
14	448	459	441	624	1600	7630	6590	3330	2260	384	387	1090
15	459	453	440	729	1130	7080	6360	3280	2600	355	375	800
16	471	452	435	801	1260	8830	5960	3050	2930	420	359	1370
17	933	452	436	624	2810	7780	5590	2870	2960	362	340	1770
18	581	451	444	574	4130	6920	5190	2820	2610	298	308	1810
19	465	449	444	549	4970	6700	4770	2820	2000	282	312	1740
20	446	449	442	447	5720	6620	4310	2610	1120	281	361	1630
21	535	449	440	454	4950	6580	4170	2380	689	285	356	1260
22	514	670	505	578	4920	6560	3870	2330	628	327	327	865
23	477	738	474	609	4870	6540	3460	2310	602	378	354	1020
24	449	815	610	556	4770	6490	3310	2290	642	400	348	1220
25	449	821	618	504	4700	6410	3320	2320	614	365	319	1310
26	448	798	496	512	4560	6460	3010	2320	502	330	297	1390
27	436	792	607	447	4490	6550	2630	2230	437	310	373	1360
28	492	821	1000	535	4510	6510	2500	2350	380	300	396	1180
29	493	845	989	600	---	6500	2440	2460	360	290	382	686
30	457	875	633	616	---	6450	2450	2480	352	290	342	793
31	445	---	800	656	---	6410	---	2480	---	295	290	---
TOTAL	14379	16808	19046	18817	70469	191630	153910	85830	51746	11028	10760	28138
MEAN	464	560	614	607	2517	6182	5130	2769	1725	356	347	938
MAX	933	875	1000	816	5720	8830	6590	3380	2960	545	410	1810
MIN	279	440	435	447	508	4440	2440	2230	352	281	290	278
AC-FT	28520	33340	37780	37320	139800	380100	305300	170200	102600	21870	21340	55810

CAL YR 1985	TOTAL	216615	MEAN	593	MAX	2930	MIN	217	AC-FT	429700
WTR YR 1986	TOTAL	672561	MEAN	1843	MAX	8830	MIN	278	AC-FT	1334000

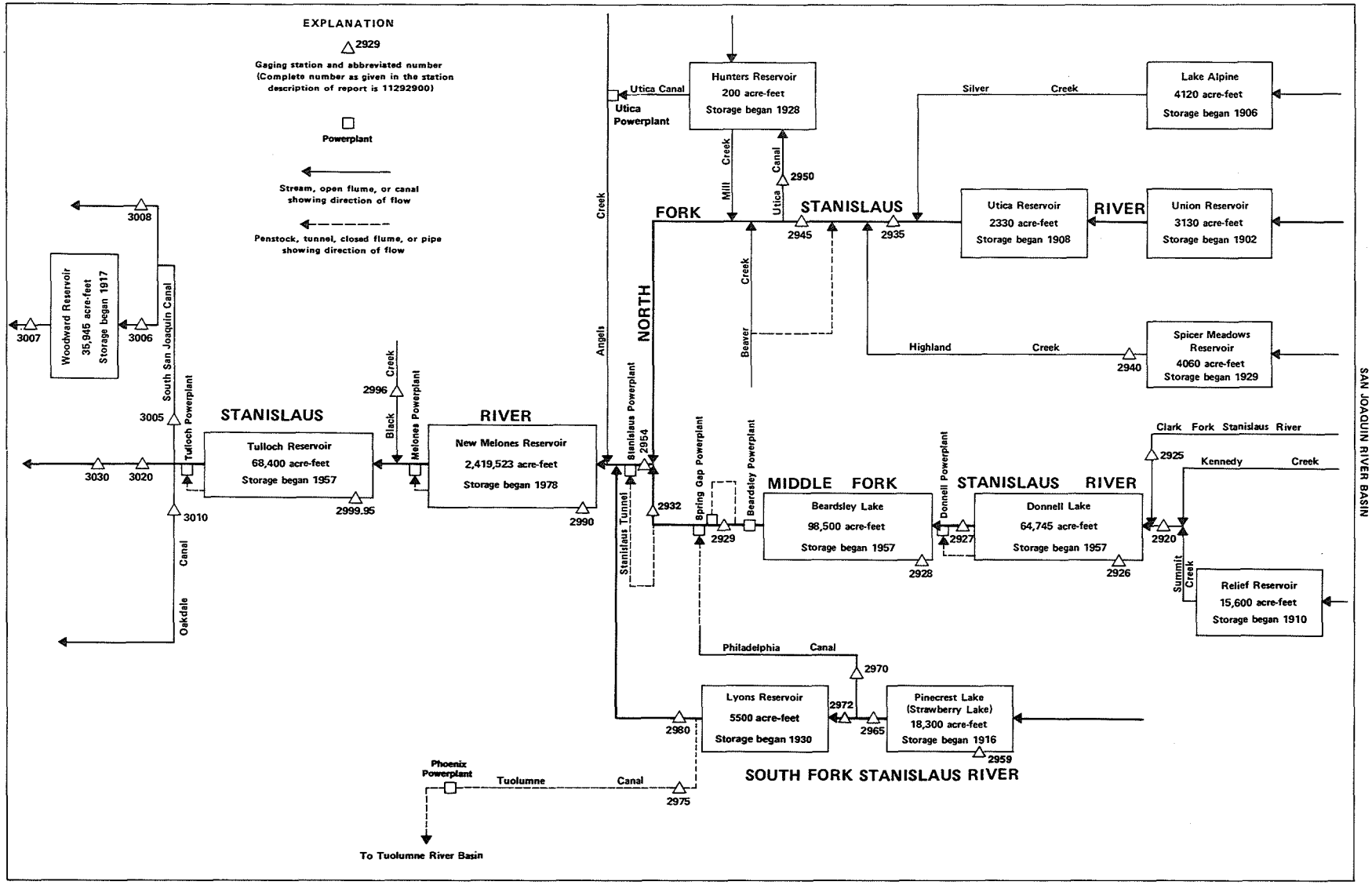

FIGURE 33. — Schematic diagram showing diversions and storage in Stanislaus River basin.

SAN JOAQUIN RIVER BASIN

11292000 MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CA

LOCATION.--Lat 38°17'51", long 119°44'25", in SW 1/4 NE 1/4 sec.11, T.5 N., R.20 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at upper end of Kennedy Meadows, 1.3 mi upstream from Deadman Creek, 1.6 mi downstream from Relief Reservoir, and 5.8 mi southwest of Dardanelle.

DRAINAGE AREA.--47.5 mi^2.

PERIOD OF RECORD.--October 1938 to current year. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1960, published as "at Kennedy Meadows."

REVISED RECORDS.--WSP 1315-A: 1939(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,326.3 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 9-14, Jan. 27 to Feb. 7, 13, Feb. 20 to Mar. 2. Low and medium flow regulated by Relief Reservoir 1.6 mi upstream, capacity, 15,600 acre-ft. Contents of Relief Reservoir, 748 acre-ft, Sept. 3, 1985, and 984 acre-ft, Sept. 29, 1986. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--(unadjusted) 48 years, 138 ft^3/s, 99,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,700 ft^3/s, Nov. 20, 1950, gage height, 6.66 ft; maximum gage height, 6.67 ft, May 29, 1983; minimum daily, 7.1 ft^3/s, Jan. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft^3/s, June 1, gage height, 6.12 ft; minimum daily, 17 ft^3/s, Oct. 5, Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	104	31	35	31	106	198	429	1140	413	176	232
2	19	100	38	32	32	98	172	447	1020	389	181	228
3	19	94	29	32	32	91	143	476	955	433	201	225
4	18	60	27	37	31	92	129	376	862	465	226	223
5	17	25	26	47	31	94	123	286	687	406	238	220
6	25	24	27	42	30	93	120	234	620	336	240	217
7	42	24	26	37	30	110	119	200	583	325	252	213
8	37	24	28	35	30	265	108	185	493	313	272	208
9	34	22	27	33	31	174	103	285	462	298	282	205
10	32	17	27	33	28	130	110	349	478	262	281	200
11	36	19	26	33	28	98	120	351	492	278	281	196
12	39	30	26	32	29	82	128	363	518	348	276	192
13	37	27	25	32	30	72	118	384	586	380	272	188
14	66	25	24	31	89	63	110	402	661	358	267	183
15	38	26	24	30	78	59	106	423	649	294	267	141
16	37	26	23	36	50	55	99	487	579	262	264	72
17	37	24	23	42	74	53	91	521	575	213	259	74
18	85	23	25	39	141	51	88	584	604	184	266	75
19	129	24	25	38	140	51	97	697	530	187	273	71
20	126	23	26	36	100	55	124	710	460	199	271	69
21	127	23	27	34	88	60	168	613	447	200	271	68
22	125	22	27	33	81	64	212	566	462	197	268	53
23	130	23	27	31	79	68	224	546	480	226	263	38
24	132	25	27	31	84	70	196	551	492	218	258	40
25	131	27	28	31	88	73	178	601	510	238	254	41
26	126	24	28	32	92	86	167	641	513	192	251	40
27	123	24	28	32	96	108	172	666	522	150	249	41
28	120	26	28	32	101	122	210	701	546	150	247	40
29	116	25	34	33	---	153	345	943	468	158	244	40
30	113	24	44	33	---	171	424	1000	405	149	240	40
31	109	---	38	31	---	199	---	1080	---	159	236	---
TOTAL	2245	984	869	1065	1774	3066	4702	16097	17799	8380	7826	3873
MEAN	72.4	32.8	28.0	34.4	63.4	98.9	157	519	593	270	252	129
MAX	132	104	44	47	141	265	424	1080	1140	465	282	232
MIN	17	17	23	30	28	51	88	185	405	149	176	38
AC-FT	4450	1950	1720	2110	3520	6080	9330	31930	35300	16620	15520	7680

CAL YR 1985 TOTAL 35353 MEAN 96.9 MAX 456 MIN 16 AC-FT 70120
WTR YR 1986 TOTAL 68680 MEAN 188 MAX 1140 MIN 17 AC-FT 136200

SAN JOAQUIN RIVER BASIN

11292500 CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CA

LOCATION.--Lat 38°21'50", long 119°52'13", in NE 1/4 NE 1/4 sec.22, T.6 N., R.19 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi upstream from mouth, and 2.6 mi northwest of Dardanelle.

DRAINAGE AREA.--67.5 mi^2.

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

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,507.3 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Estimated daily discharges: Periods with ice effect, Nov. 19-21, Dec. 10-19, Feb. 9-11, and periods of no gage-height record, Sept. 12-16, 20-23. Records good except estimated daily discharges, which are poor. No regulation or diversion above station. See schematic diagram of Stanislaus River Basin.

AVERAGE DISCHARGE.--36 years, 160 ft^3/s, 115,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft^3/s, Nov. 20, 1950, gage height, 11.88 ft, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 9.8 ft^3/s, Sept. 11-15, 26-30, 1977.

EXTREMES FOR CURRENT YEAR.-Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0300	802	5.64	May 2	2145	686	5.29
Mar. 8	0900	1,240	6.86	May 31	2000	*1,580	*7.61

Minimum daily, 22 ft^3/s, Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	32	33	48	57	246	438	562	1260	449	98	41
2	24	31	60	45	58	237	380	591	1190	457	93	40
3	24	31	41	43	56	247	332	592	1210	437	89	40
4	23	31	36	55	54	269	321	474	1110	402	85	39
5	23	31	35	96	52	277	310	404	1010	346	82	39
6	25	30	33	73	51	285	303	358	934	312	81	38
7	42	29	36	61	51	332	295	322	845	293	78	38
8	39	29	34	56	59	876	269	310	759	274	75	38
9	35	26	39	54	52	523	256	330	753	254	72	37
10	36	22	34	53	54	407	282	378	749	239	70	37
11	40	31	36	52	49	337	303	393	760	245	68	38
12	39	35	38	52	50	299	327	447	808	253	66	38
13	36	37	40	50	62	268	281	511	846	244	64	38
14	32	37	42	49	105	240	263	559	864	220	62	38
15	32	36	44	49	124	223	259	612	808	195	62	39
16	32	38	48	58	95	205	242	654	772	178	60	39
17	32	33	46	100	164	188	226	694	773	163	57	46
18	31	31	45	79	523	176	220	797	751	153	55	43
19	30	30	43	74	607	172	244	878	662	146	55	41
20	29	30	42	71	313	181	315	875	603	143	58	38
21	32	30	44	65	227	190	430	767	603	138	54	37
22	31	31	46	62	192	197	534	692	626	136	51	36
23	39	32	42	60	177	202	532	685	632	149	50	39
24	48	32	40	57	181	199	457	737	633	156	48	46
25	49	39	38	56	199	203	427	900	610	145	47	46
26	42	38	39	57	211	230	397	994	597	132	47	46
27	40	33	38	58	224	271	429	1060	591	121	47	47
28	37	34	38	58	240	307	527	1160	538	116	46	47
29	36	35	46	58	---	339	550	1220	466	110	45	48
30	34	35	69	61	---	402	556	1230	439	104	44	51
31	32	---	52	60	---	423	---	1320	---	100	42	---
TOTAL	1048	969	1297	1870	4287	8951	10705	21506	23202	6810	1951	1228
MEAN	33.8	32.3	41.8	60.3	153	289	357	694	773	220	62.9	40.9
MAX	49	39	69	100	607	876	556	1320	1260	457	98	51
MIN	23	22	33	43	49	172	220	310	439	100	42	36
AC-FT	2080	1920	2570	3710	8500	17750	21230	42660	46020	13510	3870	2440

CAL YR 1985 TOTAL 39494 MEAN 108 MAX 530 MIN 21 AC-FT 78340
WTR YR 1986 TOTAL 83824 MEAN 230 MAX 1320 MIN 22 AC-FT 166300

11292600 DONNELL LAKE NEAR DARDANELLE, CA

LOCATION.--Lat 38°19'46", long 119°57'37" unsurveyed, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 mi downstream from Niagara Creek, and 6.9 mi west of Dardanelle.

DRAINAGE AREA.--230 mi^2.

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1960, published as Donnells Reservoir near Dardanelle.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.84 ft above National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 64,745 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-mi tunnel to a powerplant and down the Middle Fork Stanislaus River to Beardsley Lake (station 11292800). Records, including extremes, represent total contents at 2400 hours, of which 2,150 acre-ft is below minimum operating head. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,900 acre-ft, May 8, 1963, gage height, 4,917.3 ft; minimum since reservoir first filled, 2,220 acre-ft, Apr. 15, 1983, gage height, 4,720.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,300 acre-ft, July 13, gage height, 4,915.9 ft; minimum, 10,600 acre-ft, Feb. 13, gage height, 4,759.2 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

4,720	2,150	4,740	5,830	4,780	16,200	4,850	38,700
4,725	2,850	4,750	8,220	4,790	19,100	4,880	49,800
4,730	3,730	4,760	10,800	4,800	22,100	4,917.3	64,900
4,735	4,730	4,770	13,400	4,820	28,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28000	27200	20600	16400	14200	37800	57500	60100	63800	64100	61100	61000
2	27400	27500	20600	16400	14200	38400	57300	60700	63500	64100	60800	60400
3	26700	27700	20200	16300	13600	39000	57300	61100	63800	64200	60600	60100
4	26100	27800	19800	16900	13000	39700	57200	60700	63500	64000	60400	59500
5	26200	27200	19300	18200	12800	40700	57200	60400	63500	64100	60200	58600
6	26200	27000	18700	18800	12500	41800	57200	60700	64200	64100	60100	57900
7	26100	26600	19000	18400	12200	50300	57100	61100	63800	64100	59900	58300
8	25700	26000	19100	18100	12500	53500	57100	61300	63900	64000	59800	57800
9	25100	26000	18600	17500	12800	55200	57100	61800	63900	64000	60500	57400
10	24500	26200	17800	17000	12200	56200	57100	62800	63900	64000	61300	57000
11	24700	26200	17100	16900	11300	56900	57200	63600	63900	64000	61100	56500
12	24900	25600	16200	16700	10700	57000	57200	63700	64100	64200	61000	56000
13	25100	25100	15500	16100	10600	57000	57100	63900	64100	64300	60700	55600
14	24500	24400	15400	15500	11700	57000	57000	64000	64100	64200	60500	55500
15	24000	23900	15000	15900	13300	56400	57100	63800	63900	64100	60300	55000
16	23400	24000	14700	16600	14600	56800	57000	63600	64000	63800	60900	54100
17	22900	24100	14900	17700	16300	56600	57000	63600	64000	63400	61500	53300
18	22300	23500	15000	18500	26100	56400	57000	63900	63900	62900	61300	52400
19	22600	22900	15200	19200	32600	56300	57200	64100	63900	62400	61100	51500
20	22900	22200	15400	18800	34200	56200	57700	63400	63900	61900	60900	50700
21	23300	21600	15600	18300	34800	56200	58300	62900	64000	61800	60700	50200
22	23600	21000	15700	18100	35100	56300	58600	62900	64000	62200	60400	49300
23	24000	21100	15400	17500	35400	56400	58600	63400	64100	62300	61100	48400
24	24400	21400	15400	17200	35500	56400	58400	63700	64100	62400	61600	47500
25	24900	20900	15600	17200	35900	56600	58200	63600	64100	62500	61400	46500
26	25300	20300	15300	17100	36300	57000	58100	63700	64100	62500	61100	45700
27	25600	19800	14900	16400	36700	57300	58200	64000	64100	62300	60800	45300
28	26000	20000	15200	15900	37200	57300	58500	64100	63900	62100	60500	45400
29	26300	20200	15500	15200	---	57400	59100	63800	64000	61900	60200	44600
30	26600	20400	15900	14700	---	57500	59700	63700	64000	61600	60700	43800
31	26900	---	16000	14200	---	57500	---	63800	---	61300	61200	---
MAX	28000	27800	20600	19200	37200	57500	59700	64100	64200	64300	61600	61000
MIN	22300	19800	14700	14200	10600	37800	57000	60100	63500	61300	59800	43800
a	4815.3	4794.4	4779.1	4772.8	4845.9	4899.6	4904.9	4914.7	4915.2	4908.8	4908.5	4864.0
b	-1700	-6500	-4400	-1800	+23000	+20300	+2200	+4100	+200	-2700	-100	-17400

CAL YR 1985 b +4500
WTR YR 1986 b +15200

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA

LOCATION.--Lat 38°14'50", long 120°02'01", in NW 1/4 NE 1/4 sec.31, T.5 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 200 ft upstream from Donnell powerplant, 800 ft downstream from Hells Half Acre bridge, 1.1 mi upstream from Cow Creek, and 4.7 mi northwest of Pinecrest.

DRAINAGE AREA.--287 mi^2.

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 National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Relief Reservoir since 1909, capacity, 15,600 acre-ft, by Donnell Lake (station 11292600), and by diversion around station through Donnell powerplant. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--30 years, 283 ft^3/s, 205,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Dec. 24, 1964, gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurement at gage height 12.20 ft; minimum daily, 3.3 ft^3/s, Nov. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, 23 ft, Dec. 23, 1955, from floodmarks, at present site, discharge, 26,600 ft^3/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,780 ft^3/s, Feb. 19, gage height, 12.99 ft; minimum daily, 37 ft^3/s, Oct. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	40	59	144	194	607	1480	1370	3630	513	51	48
2	39	40	228	125	205	589	1230	1470	3400	525	50	48
3	39	40	177	112	193	567	875	1650	3070	530	50	48
4	38	40	107	209	175	559	762	1600	2950	623	50	47
5	38	40	89	454	165	542	709	1150	2300	398	49	47
6	39	40	80	303	158	523	668	620	1670	289	49	47
7	44	40	92	209	146	876	688	428	1900	227	49	46
8	43	40	101	176	142	3800	588	428	1350	167	49	46
9	42	39	82	157	136	1220	492	430	1300	145	49	46
10	41	43	72	146	133	890	534	463	1330	73	48	46
11	40	43	67	139	129	711	614	586	1360	70	49	45
12	40	41	64	134	165	642	734	1050	1390	68	48	45
13	39	41	62	127	618	745	591	1250	1600	130	48	45
14	39	40	60	122	982	634	482	1410	1810	180	48	45
15	39	41	58	127	1170	559	464	1680	1720	123	48	45
16	38	44	57	200	1100	493	431	1910	1420	70	48	45
17	38	45	56	630	4510	411	330	1910	1390	68	48	46
18	38	43	56	325	5340	378	289	2120	1450	65	49	46
19	37	41	57	271	4450	375	283	2530	1180	61	49	45
20	37	41	58	253	1540	393	437	2920	916	57	49	45
21	44	40	59	216	1030	400	788	2410	862	55	49	45
22	41	40	59	191	851	406	1260	1800	935	55	48	44
23	40	44	60	181	730	407	1490	1480	973	56	48	45
24	41	74	61	168	695	402	1300	1640	977	55	49	53
25	41	102	63	157	693	409	1120	2330	990	55	49	56
26	41	66	64	151	670	426	1000	2540	959	54	49	50
27	41	53	63	147	648	489	934	2660	945	54	49	51
28	40	65	61	146	633	834	1190	2990	934	53	49	48
29	40	102	77	144	---	971	1230	3570	677	52	49	46
30	40	68	335	223	---	1220	1250	3480	526	51	49	45
31	40	---	187	222	---	1400	---	3580	---	51	49	---
TOTAL	1237	1476	2771	6309	27601	22878	24243	55455	45914	4973	1515	1404
MEAN	39.9	49.2	89.4	204	986	738	808	1789	1530	160	48.9	46.8
MAX	44	102	335	630	5340	3800	1490	3580	3630	623	51	56
MIN	37	39	56	112	129	375	283	428	526	51	48	44
AC-FT	2450	2930	5500	12510	54750	45380	48090	110000	91070	9860	3010	2780

CAL YR 1985	TOTAL	36257	MEAN	99.3	MAX	525	MIN	37	AC-FT	71920
WTR YR 1986	TOTAL	195776	MEAN	536	MAX	5340	MIN	37	AC-FT	388300

SAN JOAQUIN RIVER BASIN

11292800 BEARDSLEY LAKE NEAR STRAWBERRY, CA

LOCATION.--Lat 38°12'17", long 120°04'31", in SE 1/4 NW 1/4 sec.14, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 mi upstream from Spring Gap powerhouse, 3.9 mi west of Strawberry, and 4.7 mi west of Pinecrest.

DRAINAGE AREA.--309 mi^2.

PERIOD OF RECORD.--June 1957 to current year. Prior to October 1960, published as Lake Hartley near Strawberry.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

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 Beardsley powerplant and down Middle Fork Stanislaus River to Melones Reservoir (station 11299000). Records, including extremes, represent contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,700 acre-ft, June 27, 1957, gage height, 3,398.2 ft; minimum since reservoir first filled, 3 acre-ft, Sept. 23, 1976, gage height, 3,154.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 97,700 acre-ft, July 14-20, gage height, 3,396.9 ft; minimum, 29,000 acre-ft, Jan. 4, gage height, 3,281.4 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

3,154	2	3,190	1,370	3,240	11,600	3,350	66,400
3,160	41	3,200	2,373	3,260	19,500	3,370	79,200
3,170	267	3,210	3,790	3,290	33,100	3,398	98,500
3,180	693	3,220	5,720	3,320	48,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59600	41100	41000	29900	35100	78600	80300	84400	96300	97400	95200	84600
2	59400	40200	41300	29700	35200	78600	80700	85100	96100	97400	95200	84300
3	59200	39400	41600	29500	35800	78600	80400	85800	96400	97400	95100	84000
4	59000	39600	41600	29000	36400	78600	80200	85800	96300	97400	95000	83800
5	58200	40200	41600	29100	36500	78600	80000	86400	96500	97400	94900	83900
6	57300	40600	41600	29400	36700	78500	80000	86600	97400	97400	94800	84000
7	57000	41100	40800	29700	36800	79000	80000	86600	97300	97500	94700	82800
8	56800	41900	40100	29800	36300	79800	79800	86600	97200	97400	94700	82500
9	56600	42000	40100	30200	35900	79000	79600	86900	97400	97400	93800	82100
10	56400	42100	40200	30600	36900	78900	79600	87300	97400	97400	92900	81800
11	55700	42100	40300	30600	37500	78700	79800	88200	97400	97400	92800	81400
12	54700	42900	40600	30500	39100	78600	79900	90200	97400	97500	93100	81000
13	53800	43600	40600	30800	41200	78700	79800	92600	97500	97600	93400	80700
14	53700	44300	40000	31000	43700	78600	79600	95200	97400	97700	93400	79900
15	53500	45000	39700	30400	45400	78500	79500	96300	97400	97700	93300	79600
16	53300	45100	39500	29900	55400	78500	79400	96300	97400	97700	92400	79500
17	53200	45100	38600	30800	67400	78400	79300	96600	97400	97700	91400	79400
18	53000	45800	37800	30700	77800	78400	79200	96400	97300	97700	91300	79200
19	52100	46500	36900	30200	79000	78400	79100	96400	97300	97700	91200	79100
20	51200	46400	36100	30800	78800	78400	79200	96200	97400	97700	91000	78900
21	50400	46100	35300	31800	78800	78400	79800	96600	97400	97400	90900	78400
22	49600	45900	34600	32000	78800	78400	80600	96200	97500	96800	90800	78300
23	48800	45000	34100	32600	78800	78400	81000	96300	97500	96500	89800	78200
24	48000	44200	33600	32700	78800	78400	80900	96400	97400	96400	88700	78200
25	47100	44300	32700	32600	78700	78400	80600	96400	97400	96100	88500	78700
26	46300	44200	32400	32600	78700	78400	80400	96400	97400	95900	88400	78900
27	45400	44200	32100	32900	78700	78400	80300	96400	97400	95600	88200	78400
28	44500	43300	31200	33100	78700	78700	81700	96300	97400	95400	87900	77300
29	43700	42700	30300	33800	---	78800	82800	96300	97300	95400	87500	77100
30	42800	41800	30500	34500	---	79000	83500	96300	97400	95400	86300	76900
31	42000	---	30500	35200	---	79100	---	96300	---	95300	85100	---
MAX	59600	46500	41600	35200	79000	79800	83500	96600	97500	97700	95200	84600
MIN	42000	39400	30300	29000	35100	78400	79100	84400	96100	95300	85100	76900
a	3307.5	3307.2	3284.6	3294.1	3369.3	3369.9	3376.6	3395.0	3396.4	3393.5	3378.8	3366.5
b	-17800	-200	-11300	+4700	+43500	+400	+4400	+12800	+1100	-2100	-10200	-8200

CAL YR 1985 b -14300
WTR YR 1986 b +17100

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11292900 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA

LOCATION.--Lat 38°11'36", long 120°05'53", in NW 1/4 NW 1/4 sec.22, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi downstream from Beardsley Afterbay Dam, 1.5 mi downstream from Beardsley Dam, and 5.7 mi west of Pinecrest.

DRAINAGE AREA.--316 mi^2.

PERIOD OF RECORD.--December 1956 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,044.7 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--No estimated daily discharges. Records good. Diversion from Beardsley Afterbay Dam, 0.5 mi upstream, to J. W. Southern powerplant, at Sand Bar Flat 3 mi downstream, began May 31, 1986. Flow regulated by Relief Reservoir, capacity, 15,600 acre-ft, Donnell Lake since April 1957 (station 11292600), and by Beardsley Lake since January 1957 (station 11292800). See schematic diagram of Stanislaus River basin. For records of combined discharge for river and powerplant, see following page.

COOPERATION.--Records of diversion to J. W. Southern powerplant provided by Oakdale-South San Joaquin Irrigation Districts.

AVERAGE DISCHARGE (includes diversion to J. W. Southern powerplant).--29 years (water years 1958-86), 681 ft^3/s, 493,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft^3/s, May 30, 1983, gage height, 12.30 ft; minimum daily, 3.0 ft^3/s, Oct. 10, 11, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,210 ft^3/s, Mar. 8, gage height, 11.39 ft; minimum daily, 27 ft^3/s, Nov. 12-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	504	494	515	474	468	1470	1580	1600	3540	548	153	148
2	500	500	481	474	455	1400	1740	1660	3310	617	153	148
3	496	498	460	474	450	1380	1760	1980	2940	669	153	148
4	487	105	479	474	419	1390	1580	2240	2850	673	153	147
5	473	31	485	471	404	1360	1550	1510	2050	516	154	147
6	481	28	500	455	404	1340	1480	1240	1110	349	420	147
7	468	29	501	454	415	1420	1460	1160	1790	274	506	147
8	481	30	502	454	400	4890	1400	1080	1380	275	514	147
9	487	31	500	454	403	2540	1330	966	1230	247	513	147
10	487	33	500	452	406	1920	1270	938	1250	162	511	147
11	455	35	500	453	418	1700	1290	822	1260	151	288	147
12	485	27	492	464	404	1570	1380	672	1270	152	149	147
13	483	27	497	471	405	1580	1410	671	1440	151	145	147
14	483	27	495	474	479	1520	1320	696	1820	210	148	147
15	483	27	485	474	640	1420	1230	1750	1750	204	144	147
16	483	27	483	472	718	1350	1200	2470	1410	169	145	147
17	484	27	482	472	898	1250	1150	2370	1440	157	147	147
18	484	27	484	471	909	1180	1080	2820	1670	164	147	147
19	484	45	486	478	1080	1160	1040	3080	1230	164	147	147
20	484	427	484	479	2190	1180	1060	3600	1020	162	147	147
21	489	492	494	254	2240	1180	1200	2800	947	162	147	146
22	487	502	522	452	1960	1190	1540	2590	919	155	147	145
23	488	522	523	472	1750	1190	1960	1960	1020	153	147	145
24	488	513	521	475	1660	1180	2020	2140	1050	153	148	146
25	487	486	521	482	1630	1180	1910	2890	1010	153	147	145
26	487	481	524	476	1610	1190	1800	2960	1020	153	148	144
27	487	474	524	479	1560	1220	1680	3250	1010	152	150	145
28	483	512	523	466	1530	1470	1180	3550	1020	152	149	145
29	483	505	519	458	---	1660	1300	4090	832	152	148	145
30	483	510	519	466	---	1840	1530	3780	569	153	148	143
31	483	---	497	465	---	2050	---	3560	---	153	148	---
TOTAL	15017	7472	15498	14289	26305	48370	43430	66895	45157	7705	6464	4392
MEAN	484	249	500	461	939	1560	1448	2158	1505	249	209	146
MAX	504	522	524	482	2240	4890	2020	4090	3540	673	514	148
MIN	455	27	460	254	400	1160	1040	671	569	151	144	143
AC-FT	29790	14820	30740	28340	52180	95940	86140	132700	89570	15280	12820	8710

CAL YR 1985	TOTAL	163072	MEAN	447	MAX	990	MIN	27	AC-FT	323500
WTR YR 1986	TOTAL	300994	MEAN	825	MAX	4890	MIN	27	AC-FT	597000

SAN JOAQUIN RIVER BASIN

11292901 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MIDDLE FORK STANISLAUS RIVER AND
J. W. SOUTHERN POWERPLANT BELOW BEARDSLEY, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	504	494	515	474	468	1470	1580	1600	4140	1050	491	608
2	500	500	481	474	455	1400	1740	1660	3910	1120	495	623
3	496	498	460	474	450	1380	1760	1980	3430	1130	495	623
4	487	105	479	474	419	1390	1580	2240	3450	1180	495	622
5	473	31	485	471	404	1360	1550	1510	2650	1020	479	622
6	481	28	500	455	404	1340	1480	1240	1710	854	420	622
7	468	29	501	454	415	1420	1460	1160	2390	779	506	622
8	481	30	502	454	400	4890	1400	1080	1900	780	514	622
9	487	31	500	454	403	2540	1330	966	1690	752	513	622
10	487	33	500	452	406	1920	1270	938	1850	667	511	622
11	455	35	500	453	418	1700	1290	822	1860	656	495	622
12	485	27	492	464	404	1570	1380	672	1870	657	312	622
13	483	27	497	471	405	1580	1410	671	2000	656	383	622
14	483	27	495	474	479	1520	1320	696	2330	715	488	622
15	483	27	485	474	640	1420	1230	1750	2260	709	484	632
16	483	27	483	472	718	1350	1200	2470	1920	674	492	632
17	484	27	482	472	898	1250	1150	2370	1950	662	508	632
18	484	27	484	471	909	1180	1080	2820	2010	669	513	632
19	484	45	486	478	1080	1160	1040	3080	1740	669	507	632
20	484	427	484	479	2190	1180	1060	3600	1530	667	507	632
21	489	492	494	254	2240	1180	1200	2800	1450	657	507	631
22	487	502	522	452	1960	1190	1540	2590	1420	575	502	630
23	488	522	523	472	1750	1190	1960	1960	1520	573	513	630
24	488	513	521	475	1660	1180	2020	2140	1560	538	545	631
25	487	486	521	482	1630	1180	1910	2890	1520	573	541	460
26	487	481	524	476	1610	1190	1800	2960	1530	573	538	412
27	487	474	524	479	1560	1220	1680	3250	1510	572	540	615
28	483	512	523	466	1530	1470	1180	3550	1530	555	590	615
29	483	505	519	458	---	1660	1300	4090	1340	502	623	615
30	483	510	519	466	---	1840	1530	3780	1060	495	620	613
31	483	---	497	465	---	2050	---	4160	---	495	608	---
TOTAL	15017	7472	15498	14289	26305	48370	43430	67495	61030	22174	15735	18340
MEAN	484	249	500	461	939	1560	1448	2177	2034	715	508	611
MAX	504	522	524	482	2240	4890	2020	4160	4140	1180	623	632
MIN	455	27	460	254	400	1160	1040	671	1060	495	312	412
AC-FT	29790	14820	30740	28340	52180	95940	86140	133900	121100	43980	31210	36380

CAL YR 1985	TOTAL	163072	MEAN	447	MAX	990	MIN	27	AC-FT	323500
WTR YR 1986	TOTAL	355155	MEAN	973	MAX	4890	MIN	27	AC-FT	704400

SAN JOAQUIN RIVER BASIN

11293200 MIDDLE FORK STANISLAUS RIVER BELOW SAND BAR DIVERSION DAM, CA

LOCATION.--Lat 38°10'59", long 120°09'28", in NW 1/4 SE 1/4 sec.24, T.4 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 100 ft downstream from Sand Bar Diversion Dam, and 8.5 mi west of Strawberry.

DRAINAGE AREA.--332 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records for water years 1970, 1971, and 1976 to current year are available in the files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,700 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 30 to Feb. 13. No records computed above 30 ft^3/s, Oct. 1 to Feb. 13 or above 60 ft^3/s, Feb. 14 to Sept. 30. Flow regulated by Relief Reservoir, capacity, 15,600 acre-ft, Donnell and Beardsley Lakes (stations 11292600 and 11292800). Most of the water is diverted at Sand Bar Diversion Dam for use at Stanislaus powerplant. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	16	14	25	25						---	
2	26	11	---	25	25						---	
3	26	13	11	25	25						---	
4	26	---	12	25	25						---	
5	17	---	13	26	25						---	
6	17	20	14	27	25						---	
7	18	15	15	28	25						53	
8	15	21	15	27	25						---	
9	18	---	14	25	25						57	
10	17	---	14	25	25						58	
11	16	---	14	25	25						---	
12	16	---	15	25	25						---	
13	16	---	17	25	25						---	
14	16	22	17	25	---						58	
15	17	12	17	25	---						58	
16	19	13	14	25	---						---	
17	19	18	15	25	---						---	
18	19	19	13	25	---						---	
19	19	19	17	25	---						27	
20	19	16	19	25	---						27	
21	21	16	17	25	---						27	
22	19	16	13	25	---						28	
23	19	12	12	25	---						44	
24	21	15	12	25	---						---	
25	20	17	12	25	---						---	
26	19	12	13	25	---						59	
27	19	14	11	25	---						60	
28	18	18	11	25	---						---	
29	18	18	12	25	---						---	
30	18	14	12	25	---						---	
31	18	---	20	25	---						---	
TOTAL	592	---	---	783	---						---	
MEAN	19.1	---	---	25.3	---						---	
MAX	26	---	---	28	---						---	
MIN	15	---	---	25	---						---	
AC-FT	1170	---	---	1550	---						---	

SAN JOAQUIN RIVER BASIN

11293500 NORTH FORK STANISLAUS RIVER BELOW SILVER CREEK, CA

LOCATION.--Lat 38°26'22", long 120°00'53", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 270 ft downstream from Silver Creek, and 5.6 mi northeast of Big Meadows.

DRAINAGE AREA.--27.8 mi^2.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1930: 1954(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,677.3 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Estimated daily discharges: Dec. 9-15. Low and medium flow regulated by Lake Alpine, Union, and Utica Reservoirs, combined capacity, 9,580 acre-ft. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--34 years, 83.8 ft^3/s, 60,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,780 ft^3/s, Dec. 24, 1964, gage height, 11.16 ft, from floodmarks, from rating curve extended above 700 ft^3/s; minimum daily, 0.19 ft^3/s, Oct. 14, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.17 ft, from Pacific Gas and Electric Co. recorder chart, discharge, 2,790 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,220 ft^3/s, Mar. 8, gage height, 9.31 ft; minimum daily, 5.9 ft^3/s, Oct. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	40	42	26	22	188	394	378	558	33	12	23
2	12	40	46	20	20	192	315	465	557	31	12	19
3	28	39	48	16	17	212	208	474	464	30	11	14
4	28	39	45	33	16	218	202	269	429	27	11	15
5	28	39	44	108	15	211	195	190	329	24	11	17
6	29	39	32	52	13	209	207	161	282	22	11	17
7	29	48	13	26	13	345	205	143	258	19	11	17
8	29	68	12	20	12	1670	155	170	216	18	11	23
9	29	68	9.1	19	12	534	150	234	206	16	11	35
10	28	69	7.2	18	13	305	229	311	195	15	11	42
11	20	68	6.3	18	17	183	297	318	199	14	16	42
12	6.2	67	6.3	18	46	144	281	363	185	14	22	41
13	6.0	67	6.3	16	164	122	184	378	200	13	21	41
14	5.9	68	7.1	15	713	105	167	395	200	13	21	41
15	5.9	68	8.3	69	200	109	176	424	187	12	17	41
16	21	70	8.3	130	160	103	154	432	158	12	8.5	41
17	40	69	9.0	50	288	81	131	463	147	11	8.3	42
18	40	63	10	43	764	70	144	545	144	11	8.0	41
19	40	51	12	38	448	73	211	514	144	11	8.2	41
20	40	51	12	25	206	103	357	465	108	11	8.2	40
21	37	50	12	19	149	131	505	375	88	11	8.1	40
22	29	47	11	16	132	145	570	321	84	17	8.2	46
23	32	41	12	15	129	150	450	320	86	12	8.1	58
24	30	42	13	15	147	144	346	333	84	16	8.0	60
25	19	43	14	17	171	162	322	473	74	15	7.8	60
26	7.3	43	15	19	181	196	271	529	66	13	7.8	36
27	6.9	43	13	20	191	257	344	536	62	12	7.8	13
28	6.6	43	12	21	195	297	441	543	55	12	7.8	13
29	6.5	43	19	41	---	306	433	607	47	12	15	12
30	14	42	56	40	---	410	416	541	39	12	23	11
31	40	---	38	24	---	390	---	546	---	12	23	---
TOTAL	699.4	1568	598.9	1007	4454	7765	8460	12216	5851	501	374.8	982
MEAN	22.6	52.3	19.3	32.5	159	250	282	394	195	16.2	12.1	32.7
MAX	40	70	56	130	764	1670	570	607	558	33	23	60
MIN	5.9	39	6.3	15	12	70	131	143	39	11	7.8	11
AC-FT	1390	3110	1190	2000	8830	15400	16780	24230	11610	994	743	1950

CAL YR 1985 TOTAL 19761.2 MEAN 54.1 MAX 428 MIN 5.5 AC-FT 39200
WTR YR 1986 TOTAL 44477.1 MEAN 122 MAX 1670 MIN 5.9 AC-FT 88220

SAN JOAQUIN RIVER BASIN

11294000 HIGHLAND CREEK BELOW SPICER MEADOWS RESERVOIR, CA

LOCATION.--Lat 38°23'34", long 119°59'50", in NW 1/4 NE 1/4 sec.9, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 500 ft downstream from Spicer Meadows Reservoir dam, 5.8 mi upstream from mouth, and 7 mi east of Big Meadow.

DRAINAGE AREA.--42.4 mi^2.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1930: 1953.

GAGE.--Water-stage recorder. Datum of gage is 6,382.2 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Aug. 21 to Sept. 30. Estimated daily discharges computed by U.S. Geological Survey and are poor. Low and medium flows regulated by Spicer Meadows Reservoir 500 ft upstream, capacity, 4,060 acre-ft. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co. until Aug. 21, 1986, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--34 years, 129 ft^3/s, 93,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft^3/s, Jan. 31, 1963, gage height, 11.88 ft, from rating curve extended above 1,200 ft^3/s; no flow some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.50 ft, from Pacific Gas and Electric Co. recorder chart, discharge, 8,800 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,090 ft^3/s, Mar. 8, gage height, 8.99 ft; minimum daily, 4.6 ft^3/s, Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	5.2	23	90	103	302	574	552	1200	151	86	5.0
2	4.8	5.2	23	70	102	296	450	601	1010	155	85	7.0
3	10	5.2	24	58	89	329	337	686	964	146	84	10
4	17	5.1	24	142	75	348	331	455	829	134	83	10
5	17	5.1	24	389	68	355	319	335	703	118	82	10
6	17	4.9	15	193	64	352	322	281	613	103	81	10
7	17	4.9	5.7	110	58	665	309	239	530	96	80	10
8	17	4.8	5.8	88	59	2490	251	246	435	88	79	10
9	17	4.7	5.8	77	56	610	237	290	438	81	78	7.0
10	17	4.7	5.8	71	54	378	311	388	431	73	77	5.0
11	10	4.7	5.9	69	52	271	382	403	446	68	76	5.0
12	4.6	4.7	5.9	67	66	223	394	443	449	73	74	5.0
13	4.6	4.7	5.9	61	175	192	283	505	493	74	46	5.0
14	4.7	4.7	5.9	60	607	164	247	527	509	68	28	5.0
15	4.7	4.7	5.9	63	384	157	257	572	448	60	28	8.0
16	4.7	4.7	22	192	186	143	232	596	404	58	28	12
17	4.7	4.7	37	453	549	128	197	634	400	58	28	12
18	4.8	4.7	37	201	1340	120	193	751	406	65	22	12
19	4.8	4.7	37	159	1390	126	253	856	329	64	23	12
20	4.8	4.8	27	142	421	161	407	833	271	63	24	12
21	4.9	4.8	20	110	266	186	587	673	265	63	24	12
22	4.9	13	20	91	212	203	691	557	283	62	24	12
23	4.9	23	20	85	203	212	636	545	292	61	24	8.0
24	5.0	23	20	74	229	211	504	587	289	61	24	5.0
25	5.0	23	20	71	266	228	444	811	267	60	24	5.0
26	5.1	23	20	72	280	281	380	908	251	32	24	5.0
27	5.1	23	12	75	299	362	417	950	239	5.4	24	5.0
28	5.1	23	5.0	77	311	409	572	1040	213	5.3	24	5.0
29	5.1	23	5.2	80	---	444	584	1080	176	5.1	15	5.0
30	5.2	23	7.0	179	---	543	558	1090	154	4.9	5.0	5.0
31	5.2	---	107	137	---	553	---	1150	---	57	5.0	---
TOTAL	246.5	298.7	601.8	3806	7964	11442	11659	19584	13737	2212.7	1409.0	239.0
MEAN	7.95	9.96	19.4	123	284	369	389	632	458	71.4	45.5	7.97
MAX	17	23	107	453	1390	2490	691	1150	1200	155	86	12
MIN	4.6	4.7	5.0	58	52	120	193	239	154	4.9	5.0	5.0
AC-FT	489	592	1190	7550	15800	22700	23130	38840	27250	4390	2790	474

CAL YR 1985	TOTAL	30179.8	MEAN	82.7	MAX	622	MIN	4.6	AC-FT 59860
WTR YR 1986	TOTAL	73199.7	MEAN	201	MAX	2490	MIN	4.6	AC-FT 145200

SAN JOAQUIN RIVER BASIN

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA

LOCATION.--Lat 38°14'38", long 120°17'24", in SW 1/4 NE 1/4 sec.35, T.5 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 700 ft upstream from intake of Utica Canal, 3.3 mi upstream from Beaver Creek, and 5.1 mi northeast of Avery.

DRAINAGE AREA.--163 mi^2.

PERIOD OF RECORD.--July 1914 to September 1925, November 1928 to current year. Yearly discharge only for some years, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M). WSP 1515: 1915(M), 1932(M), 1936(M), 1938, 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 3,388.3 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to September 1922, nonrecording gage at same site at datum 0.05 ft lower.

REMARKS.--Estimated daily discharges: Mar. 30, 31, Apr. 22, 23, July 28 to Aug. 1, Aug. 19 to Sept. 5. Low and medium flows regulated by Lake Alpine, Spicer Meadows, Union, and Utica Reservoirs, combined capacity, 13,600 acre-ft. No upstream diversions this year. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--69 years, 435 ft^3/s, 315,200 acre-ft/yr .

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft^3/s, Jan. 31, 1963, gage height, 15.00 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 ft^3/s, Dec. 6, 7, 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,000 ft^3/s, Mar. 8, gage height, 12.90 ft; minimum daily, 21 ft^3/s, Oct. 1-3, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	52	125	348	542	1360	2000	1680	2040	214	61	29
2	21	56	467	280	521	1290	1460	1650	1920	210	94	30
3	21	56	315	226	459	1320	973	2110	1720	200	93	28
4	44	55	203	344	380	1370	945	1590	1580	181	92	28
5	52	55	176	1350	335	1310	916	1180	1330	163	91	28
6	53	55	163	892	314	1290	942	998	1180	142	90	30
7	65	55	163	476	264	2070	1020	883	1090	129	89	30
8	59	66	168	361	265	13400	877	882	912	120	88	30
9	68	83	111	301	239	3180	833	976	885	111	87	34
10	60	98	91	275	230	2040	997	1230	844	104	88	42
11	61	98	79	256	219	1530	1220	1310	856	97	85	48
12	51	92	73	245	284	1320	1320	1350	808	94	88	46
13	27	90	75	229	1190	1210	1010	1520	856	96	91	46
14	22	91	67	221	2940	1070	888	1510	863	94	67	47
15	21	93	64	249	2870	1030	900	1610	814	87	51	49
16	21	105	62	400	2130	1020	862	1680	698	80	50	55
17	24	109	72	2010	9060	946	801	1710	657	77	41	52
18	53	99	99	941	10900	881	758	1880	668	79	40	62
19	53	84	102	693	11200	885	874	2060	598	84	37	59
20	53	79	104	634	3020	989	1220	2020	469	83	33	57
21	70	80	94	482	1830	1070	1660	1650	411	82	32	58
22	65	76	90	390	1510	1120	2200	1430	421	81	34	58
23	51	80	91	351	1350	1150	2020	1370	435	96	33	65
24	60	161	93	315	1310	1110	1580	1340	427	88	33	81
25	55	212	97	283	1390	1190	1450	1710	396	86	34	97
26	48	141	100	274	1390	1270	1320	1920	361	85	33	89
27	30	119	97	276	1390	1490	1270	1960	343	66	32	69
28	26	144	87	280	1400	1720	1680	2000	317	34	31	40
29	25	234	84	289	---	1820	1760	2110	274	28	29	33
30	24	140	698	751	---	1900	1690	2000	236	27	30	28
31	23	---	417	789	---	1990	---	2040	---	26	30	---
TOTAL	1327	2958	4727	15211	58932	55341	37446	49359	24409	3144	1807	1448
MEAN	42.8	98.6	152	491	2105	1785	1248	1592	814	101	58.3	48.3
MAX	70	234	698	2010	11200	13400	2200	2110	2040	214	94	97
MIN	21	52	62	221	219	881	758	882	236	26	29	28
AC-FT	2630	5870	9380	30170	116900	109800	74270	97900	48420	6240	3580	2870

CAL YR 1985 TOTAL 99274 MEAN 272 MAX 1930 MIN 21 AC-FT 196900
WTR YR 1986 TOTAL 256109 MEAN 702 MAX 13400 MIN 21 AC-FT 508000

SAN JOAQUIN RIVER BASIN

11295000 UTICA CANAL NEAR AVERY, CA

LOCATION.--Lat 38°14'25", long 120°17'25", in NW 1/4 SE 1/4 sec.35, T.5 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 1,100 ft downstream from diversion dam on North Fork Stanislaus River, and 5 mi northeast of Avery.

PERIOD OF RECORD.--October 1985 to September 1986. Unpublished records for water years 1970, 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and wood control. Elevation of gage is 3,370 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Canal diverts from right bank of North Fork Stanislaus River to Utica powerplant of Pacific Gas and Electric Co.; tailrace empties into Angels Creek. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 88 ft^3/s, July 3, 4, 8, 1986; minimum daily, 12 ft^3/s, Dec. 3-6, 1986.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	47	38	74	52	57	62	73	84	86	55	25
2	15	51	28	73	52	60	60	74	79	87	86	27
3	14	51	12	73	50	64	63	78	80	88	85	24
4	41	50	12	71	53	65	67	66	80	88	85	21
5	49	50	12	66	61	65	66	66	78	87	85	23
6	50	50	12	68	77	64	66	67	77	85	85	25
7	60	50	42	65	75	62	67	69	80	86	85	26
8	56	42	60	70	79	53	64	72	80	88	83	26
9	63	54	58	73	80	33	62	74	81	86	81	30
10	56	76	57	74	79	29	65	76	80	84	84	39
11	57	74	56	75	79	32	62	76	80	86	80	45
12	48	75	54	74	78	37	61	76	82	87	82	43
13	24	74	55	73	59	36	63	78	86	87	86	43
14	17	74	57	75	52	35	65	78	86	87	62	44
15	16	74	60	76	54	35	66	78	86	83	47	46
16	16	76	58	81	62	34	65	74	82	78	45	50
17	16	77	62	52	42	33	63	74	81	75	35	48
18	47	76	72	60	33	53	65	72	81	75	34	57
19	48	74	75	74	26	74	70	67	82	80	33	54
20	48	73	76	80	16	77	75	69	83	79	29	53
21	39	75	74	80	15	65	67	70	81	79	29	53
22	39	73	73	78	15	64	70	69	82	78	30	54
23	48	72	74	78	15	65	69	66	82	85	29	61
24	43	76	74	77	15	64	67	75	82	83	29	71
25	50	75	75	75	15	66	70	71	83	82	30	67
26	45	76	76	74	15	68	72	74	84	81	29	69
27	27	49	77	77	16	72	73	79	86	60	28	61
28	22	38	75	81	36	44	76	82	86	30	27	36
29	21	22	76	73	---	55	75	77	86	24	25	29
30	20	21	57	52	---	67	74	84	86	22	26	24
31	19	---	67	52	---	63	---	84	---	21	26	---
TOTAL	1129	1845	1754	2224	1301	1691	2010	2288	2466	2327	1655	1274
MEAN	36.4	61.5	56.6	71.7	46.5	54.5	67.0	73.8	82.2	75.1	53.4	42.5
MAX	63	77	77	81	80	77	76	84	86	88	86	71
MIN	14	21	12	52	15	29	60	66	77	21	25	21
AC-FT	2240	3660	3480	4410	2580	3350	3990	4540	4890	4620	3280	2530

WTR YR 1986 TOTAL 21964.00 MEAN 60.2 MAX 88 MIN 12 AC-FT 43570

SAN JOAQUIN RIVER BASIN

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°08'29", long 120°22'19", in NW 1/4 SW 1/4 sec.6, T.3 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, on right bank 1,000 ft upstream from Stanislaus powerplant, and 3.6 mi south of Hathaway Pines.

DRAINAGE AREA.--629 mi^2.

PERIOD OF RECORD.--July 1967 to current year.

REVISED RECORDS.--WDR CA-80-3: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1,077.21 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to Oct. 1, 1982, published at datum 47.21 ft higher.

REMARKS.--Estimated daily discharges: Dec. 30 to Jan. 8, June 30 to July 16, July 25 to Aug. 15, Aug. 19-21, Sept. 25-30. Records good, except those for periods of estimated daily discharges, which are poor. Many diversions above station for hydroelectric powerplants. Small diversions for domestic water supply. Stanislaus tunnel diverts from left bank of Middle Fork Stanislaus River 13.7 mi upstream from station in SE 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 were provided by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--River only: 19 years, 971 ft^3/s, 703,500 acre-ft/yr.
Combined river and powerplant: 19 years, 1,444 ft^3/s, 1,046,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,200 ft^3/s, Feb. 19, 1986, gage height, 23.5 ft, from outside highwater mark, from rating curve extended above 10,000 ft^3/s on basis of computation of peak flow over a weir; minimum daily, 9.4 ft^3/s, Aug. 7, 1977.
Combined flow, maximum discharge, 46,700 ft^3/s, Feb. 19, 1986; minimum daily, 27 ft^3/s, July 20, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 46,200 ft^3/s, Feb. 19, gage height, 23.5 ft, from outside highwater mark; minimum daily, 34 ft^3/s, Nov. 3.
Combined flow, maximum discharge, 46,700 ft^3/s, Feb. 19; minimum daily, 35 ft^3/s, Nov. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	59	171	530	812	3170	3340	2880	5840	700	80	164
2	52	42	896	410	902	2970	3240	2860	5640	720	120	168
3	52	34	773	400	926	2930	2760	3770	4770	750	120	236
4	56	98	442	290	764	2960	2480	3550	4680	770	118	234
5	42	65	372	1650	653	2840	2380	2400	3690	780	112	232
6	36	50	387	1280	564	2780	2330	1880	2550	680	92	224
7	39	39	299	770	499	3590	2440	1590	2920	560	128	220
8	50	35	343	540	449	18900	2200	1520	2370	460	132	220
9	40	47	221	459	397	6920	1980	1510	2080	380	132	220
10	43	88	157	400	410	4760	2080	1710	2220	340	150	220
11	40	105	123	358	384	3830	2330	1820	2180	330	250	219
12	38	92	105	334	444	3240	2570	1700	2170	330	240	218
13	35	69	106	309	2480	2910	2220	1890	2260	330	290	219
14	40	88	109	289	4070	2730	1940	1860	2610	320	90	220
15	47	73	102	354	6050	2600	1870	2740	2540	370	63	218
16	47	48	88	502	7200	2440	1780	3680	2070	310	79	223
17	48	73	82	3010	20800	2150	1640	3630	2030	307	79	224
18	65	71	100	1400	21500	1940	1500	4270	2060	303	80	233
19	42	58	99	989	23600	1880	1550	4650	1890	305	70	229
20	39	73	108	909	9670	1970	1920	5250	1430	302	63	225
21	57	42	114	741	6620	2060	2590	3980	1340	301	58	225
22	68	42	98	586	5060	2110	3240	3810	1370	205	54	224
23	48	42	93	536	4180	2130	3670	2930	1420	185	52	222
24	44	162	94	479	3770	2060	3350	2990	1480	168	69	244
25	46	615	101	428	3710	2110	3100	4010	1410	175	80	310
26	46	250	108	398	3590	2200	2850	4640	1380	190	93	270
27	42	134	110	388	3470	2430	2620	4720	1360	160	82	240
28	46	157	102	379	3360	2840	2680	5010	1340	120	104	210
29	53	502	95	373	---	3130	2630	5840	1220	64	158	190
30	59	304	1200	834	---	3500	2810	5630	910	54	173	180
31	54	---	600	1040	---	3730	---	5720	---	53	174	---
TOTAL	1465	3557	7798	21365	136334	105810	74090	104440	71230	11022	3585	6681
MEAN	47.3	119	252	689	4869	3413	2470	3369	2374	356	116	223
MAX	68	615	1200	3010	23600	18900	3670	5840	5840	780	290	310
MIN	35	34	82	289	384	1880	1500	1510	910	53	52	164
AC-FT	2910	7060	15470	42380	270400	209900	147000	207200	141300	21860	7110	13250

CAL YR 1985	TOTAL	123947	MEAN	340	MAX	2590	MIN	30	AC-FT	245800
WTR YR 1986	TOTAL	547377	MEAN	1500	MAX	23600	MIN	34	AC-FT	1086000

SAN JOAQUIN RIVER BASIN

11295401 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF STANISLAUS RIVER AND STANISLAUS POWERPLANT AT STANISLAUS, NEAR HATHAWAY PINES, CA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	582	586	701	1060	1350	3700	3870	3410	6370	1220	608	691
2	583	573	1430	938	1440	3500	3770	3390	6170	1240	648	695
3	583	563	1300	927	1460	3460	3290	4300	5300	1270	648	762
4	587	254	972	818	1290	3490	3010	4080	5210	1290	646	759
5	571	65	902	2180	1160	3370	2910	2930	4210	1300	641	760
6	565	50	917	1810	1060	3310	2860	2410	3070	1200	620	749
7	568	39	829	1300	998	4120	2970	2120	3450	1080	653	744
8	579	35	873	1070	941	19400	2730	2050	2900	978	658	744
9	570	47	751	978	881	7450	2510	2040	2610	898	658	745
10	573	88	687	915	896	5290	2610	2240	2750	858	675	744
11	567	105	653	869	873	4360	2860	2350	2710	850	776	742
12	563	92	627	849	948	3770	3100	2230	2700	849	640	741
13	571	69	636	834	3020	3440	2750	2420	2790	850	636	742
14	575	88	639	813	4610	3260	2470	2390	3140	840	626	743
15	578	92	632	880	6590	3130	2400	3270	3070	890	597	741
16	579	92	618	1030	7740	2970	2310	4210	2590	831	611	746
17	581	108	615	3550	21300	2680	2170	4160	2550	828	612	747
18	598	108	630	1940	22000	2470	2030	4800	2580	824	612	756
19	574	95	630	1520	24100	2410	2080	5180	2410	826	601	752
20	571	497	640	1440	10200	2500	2450	5780	1950	824	594	748
21	591	572	644	1100	7150	2590	3120	4510	1860	823	589	748
22	602	572	626	1100	5590	2640	3770	4340	1890	727	586	748
23	580	572	621	1070	4710	2660	4200	3460	1940	706	583	746
24	576	692	622	1020	4300	2590	3880	3520	2000	690	599	767
25	577	1150	630	963	4240	2640	3630	4540	1930	701	610	753
26	578	780	637	933	4120	2730	3380	5170	1900	717	623	622
27	573	664	639	923	4000	2960	3150	5250	1880	687	611	776
28	575	687	631	912	3890	3370	3210	5540	1860	648	632	743
29	581	1030	624	903	---	3660	3160	6370	1740	591	685	721
30	586	834	1730	1370	---	4030	3340	6160	1430	581	701	710
31	581	---	1130	1570	---	4260	---	6250	---	580	702	---
TOTAL	17918	11199	24216	37585	150857	122210	89990	120870	86960	27197	19681	22185
MEAN	578	373	781	1212	5388	3942	3000	3899	2899	877	635	740
MAX	602	1150	1730	3550	24100	19400	4200	6370	6370	1300	776	776
MIN	563	35	615	813	873	2410	2030	2040	1430	580	583	622
AC-FT	35540	22210	48030	74550	299200	242400	178500	239700	172500	53950	39040	44000

CAL YR 1985 TOTAL 302816 MEAN 830 MAX 3120 MIN 35 AC-FT 600600
WTR YR 1986 TOTAL 730868 MEAN 2002 MAX 24100 MIN 35 AC-FT 1450000

SAN JOAQUIN RIVER BASIN

11295900 PINECREST LAKE AT PINECREST, CA

LOCATION.--Lat 38°11'59", long 119°59'11", in NE 1/4 SW 1/4 sec.15, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on south side of intake tower 400 ft upstream from dam on South Fork Stanislaus River and 0.7 mi north of Pinecrest.

DRAINAGE AREA.--26.5 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records for water years 1981-85 are available in the files of the U.S. Geological Survey.

GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1916; storage began in 1916. Capacity, 18,312 acre-ft between elevations 5,498.7 ft, outlet drain, and 5,617.5 ft, top of flash boards in spillway. Released water flows down South Fork Stanislaus River to diversion dam for Philadelphia Canal (station 11297000) for use at Spring Gap powerplant on Middle Fork Stanislaus River. Figures given herein, including extremes, represent total contents at about 1600 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 1600) FOR CURRENT YEAR.--Maximum contents, 18,312 acre-ft, July 1-16, elevation, 5,617.5 ft; minimum, 5,836 acre-ft, Dec. 22, elevation, 5,567.1 ft.

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

5,498.7	0	5,530.0	1,558	5,560.0	4,738	5,600.0	13,537
5,500.0	53	5,540.0	2,475	5,570.0	6,395	5,610.0	16,182
5,510.0	278	5,550.0	3,534	5,580.0	8,576	5,617.5	18,312
5,520.0	792			5,590.0	10,987		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 1600

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10987	7937	6600	6294	8117	14007	16811	18015	18133	18312	17433	15299
2	10862	7803	6746	6334	8117	14269	16811	17897	18133	18312	17319	15273
3	10688	7692	6893	6354	8117	14532	16728	18045	18163	18312	17233	15140
4	10515	7670	6914	6375	8117	14743	16700	17956	18163	18312	17148	15034
5	10294	7626	6914	6767	8072	15034	16700	17868	18104	18312	17007	14928
6	10172	7582	7169	6977	8072	15299	16700	17839	18015	18312	16895	14769
7	10123	7560	7191	7126	8027	15539	16700	17809	18015	18312	16783	14637
8	10074	7494	6956	7385	7959	16895	16673	17809	18015	18312	16673	14558
9	10026	7472	6956	7385	7937	16951	16673	17809	17986	18312	16535	14374
10	10001	7429	6935	7429	7892	16895	16700	17897	18045	18312	16453	14269
11	9904	7407	6872	7472	7847	16811	16673	17927	18163	18312	16344	14111
12	9808	7450	6621	7472	8004	16783	16728	17927	18163	18312	16236	14033
13	9567	7450	6642	7472	8004	16783	16700	18015	18163	18312	16161	13902
14	9447	7450	6559	7494	8254	16700	16700	18045	18163	18312	15967	13771
15	9281	7255	6497	7516	8997	16700	16673	18074	18163	18312	15833	13641
16	9210	7084	6354	7538	9281	16673	16673	17986	18163	18312	15726	13537
17	9138	7062	6234	7736	9759	16645	16673	17986	18222	18222	15646	13407
18	9281	6977	6156	7915	10491	16618	16673	18045	18222	18133	15592	13278
19	8879	6851	6078	8004	11868	16645	16673	18074	18252	18074	15566	13148
20	8786	6769	5984	8117	12301	16673	16728	18074	18163	17986	15566	13045
21	8692	6683	5872	8140	12685	16700	17148	18074	18133	17897	15539	12916
22	8599	6600	5836	8163	12813	16728	17606	18045	18193	17809	15539	12787
23	8553	6559	5872	8140	12839	16728	17868	17986	18193	17780	15512	12659
24	8553	6559	5872	8140	12967	16673	17868	17956	18282	17780	15459	12531
25	8530	6606	5891	8117	13200	16645	17809	18015	18282	17780	15432	12454
26	8483	6642	5891	8117	13278	16673	17780	18045	18282	17780	15406	12275
27	8391	6621	5872	8095	13537	16700	17868	18045	18252	17780	15379	12275
28	8299	6600	5891	8072	13719	16728	17927	18104	18222	17751	15379	12199
29	8208	6580	5909	8049	---	16728	18015	18133	18222	17664	15352	12097
30	8072	6621	6195	8072	---	16756	17986	18104	18252	17548	15352	11970
31	8004	---	6234	8095	---	16811	---	18104	---	17490	15326	---
MAX	10987	7937	7191	8163	13719	16951	18015	18133	18282	18312	17433	15299
MIN	8004	6559	5836	6294	7847	14007	16673	17809	17986	17490	15326	11970
a	5577.5	5571.1	5569.2	5577.9	5600.7	5612.3	5616.4	5616.8	5617.3	5614.7	5606.8	5593.9
b	-3108	-1383	-387	+1861	+5624	+3092	+1175	+118	+148	-762	-2164	-3356

CAL YR 1985 b +1139
WTR YR 1986 b +858

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA

LOCATION.--Lat 38°11'51", long 120°00'27", in SW 1/4 SW 1/4 sec.16, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.4 mi downstream from bridge on State Highway 108 at Strawberry, 0.6 mi downstream from Herring Creek, and 1.2 mi downstream from Pinecrest Lake.

DRAINAGE AREA.--44.8 mi^2.

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.

REVISED RECORDS.--WSP 1215: 1945(M). WSP 1515: 1916, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 5,235.1 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). October 1911 to January 1917, nonrecording gage at site 1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Low and medium flows regulated beginning in 1916 by Pinecrest Lake (station 11295900) 1.2 mi upstream. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--53 years (water years 1912-16, 1939-86), 131 ft^3/s, 94,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,900 ft^3/s, Nov. 21, 1950, gage height, 9.25 ft, from rating curve extended above 1,100 ft^3/s, on basis of contracted-opening measurement of peak flow at bridge 0.3 mi downstream from station; minimum, 1.3 ft^3/s, Nov. 22, 23, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft^3/s, Mar. 8, gage height, 5.42 ft; minimum daily, 9.8 ft^3/s, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	62	37	44	67	111	394	438	840	153	61	9.8
2	86	61	52	41	66	107	332	430	788	169	59	42
3	93	39	45	40	65	103	258	515	837	177	60	61
4	91	19	41	45	63	110	225	363	767	169	60	61
5	91	20	40	95	63	112	207	256	642	147	59	61
6	91	23	39	84	61	114	203	207	580	121	60	61
7	92	23	40	60	59	139	203	176	516	96	61	62
8	77	23	40	53	60	836	175	169	433	93	59	62
9	103	23	38	49	59	509	158	190	472	91	58	62
10	89	23	38	47	59	315	188	273	434	83	61	61
11	101	23	38	46	59	245	218	310	459	79	61	61
12	97	35	64	45	65	203	247	362	482	81	61	61
13	96	54	83	44	85	178	202	453	518	79	60	61
14	80	54	79	43	152	156	174	474	540	72	60	60
15	60	54	79	44	157	142	168	519	494	61	60	61
16	64	55	79	49	128	136	158	559	424	65	60	61
17	64	55	78	115	205	126	146	586	433	68	60	61
18	63	55	70	78	411	119	139	667	467	65	16	61
19	63	54	81	67	465	120	166	729	397	62	12	61
20	62	54	80	64	222	139	195	698	324	66	11	61
21	64	53	61	57	173	156	215	552	295	69	11	62
22	64	49	35	53	150	177	302	473	320	65	11	62
23	63	43	30	52	138	186	402	454	310	72	11	61
24	65	48	32	54	136	163	381	489	327	59	11	62
25	67	49	32	63	140	162	322	662	318	62	11	64
26	66	38	33	62	143	185	289	754	303	50	11	63
27	65	33	33	62	135	229	291	808	296	46	10	63
28	64	38	33	62	110	268	436	854	270	55	10	62
29	63	39	33	63	---	288	469	863	211	60	10	62
30	63	38	49	71	---	348	452	814	173	58	10	62
31	62	---	51	72	---	405	---	862	---	60	9.9	---
TOTAL	2347	1237	1563	1824	3696	6587	7715	15959	13670	2653	1174.9	1774.8
MEAN	75.7	41.2	50.4	58.8	132	212	257	515	456	85.6	37.9	59.2
MAX	103	62	83	115	465	836	469	863	840	177	61	64
MIN	60	19	30	40	59	103	139	169	173	46	9.9	9.8
AC-FT	4660	2450	3100	3620	7330	13070	15300	31650	27110	5260	2330	3520

CAL YR 1985 TOTAL 30259.8 MEAN 82.9 MAX 516 MIN 6.5 AC-FT 60020
WTR YR 1986 TOTAL 60200.7 MEAN 165 MAX 863 MIN 9.8 AC-FT 119400

SAN JOAQUIN RIVER BASIN

11297000 PHILADELPHIA CANAL NEAR STRAWBERRY, CA

LOCATION.--Lat 38°10'42", long 120°02'44", in NW 1/4 NW 1/4 sec.30, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 250 ft downstream from diversion dam on South Fork Stanislaus River, and 2.8 mi 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 National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--No estimated daily discharges. Canal diverts from right bank of South Fork Stanislaus River for power development at Spring Gap powerplant of Pacific Gas and Electric Co.; tailrace empties into Middle Fork Stanislaus River. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--47 years, 43.0 ft^3/s, 31,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 66 ft^3/s, June 16, 1984; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	47	18	46	59	59	59	58	59	59	60	1.1
2	51	40	35	42	60	59	58	59	59	60	59	32
3	55	22	34	40	60	59	56	59	59	59	59	60
4	55	1.1	22	44	60	59	57	57	58	58	58	60
5	55	.77	21	56	59	59	59	57	57	58	58	60
6	55	.77	19	58	59	59	59	58	57	59	59	60
7	55	.77	19	58	57	58	59	58	58	58	59	60
8	49	.77	19	54	58	56	59	59	58	60	59	61
9	55	.77	17	51	57	49	59	59	59	59	58	61
10	52	.75	18	47	57	44	60	60	57	59	60	60
11	59	5.7	19	46	57	47	59	59	59	60	60	60
12	59	12	34	46	59	54	59	58	60	60	60	60
13	60	15	57	45	60	56	58	59	59	60	59	60
14	57	19	57	44	56	56	58	59	59	59	60	60
15	55	30	57	46	53	57	59	59	59	57	59	60
16	59	26	57	48	54	56	59	59	58	57	59	60
17	59	27	57	57	45	57	58	59	59	60	59	60
18	58	27	41	58	41	58	59	59	60	60	11	60
19	57	30	59	59	30	59	60	60	58	59	.02	59
20	58	33	59	59	35	60	59	58	58	61	.02	59
21	58	33	31	58	51	59	59	58	59	61	.02	60
22	57	23	11	55	55	60	60	58	59	60	.02	60
23	58	15	9.4	54	56	60	60	59	59	60	.02	60
24	58	25	10	53	58	56	59	59	59	55	.02	60
25	57	33	11	59	58	59	59	59	59	56	.02	61
26	56	25	12	60	59	59	58	59	59	50	.02	61
27	56	14	13	60	58	60	59	59	59	46	.02	61
28	56	20	13	60	58	60	59	59	58	52	.02	60
29	56	24	14	60	---	59	59	59	58	58	.02	60
30	56	20	25	58	---	60	58	59	58	57	.02	60
31	56	---	40	59	---	60	---	59	---	58	.02	---
TOTAL	1735	571.40	908.4	1640	1529	1773	1763	1820	1757	1795	1016.26	1716.1
MEAN	56.0	19.0	29.3	52.9	54.6	57.2	58.8	58.7	58.6	57.9	32.8	57.2
MAX	60	47	59	60	60	60	60	60	60	61	60	61
MIN	48	.75	9.4	40	30	44	56	57	57	46	.02	1.1
AC-FT	3440	1130	1800	3250	3030	3520	3500	3610	3490	3560	2020	3400

CAL YR 1985 TOTAL 13336.80 MEAN 36.5 MAX 61 MIN 0 AC-FT 26450
WTR YR 1986 TOTAL 18024.16 MEAN 49.4 MAX 61 MIN .02 AC-FT 35750

SAN JOAQUIN RIVER BASIN

11297200 SOUTH FORK STANISLAUS RIVER NEAR STRAWBERRY, CA

LOCATION.--Lat 38°10'40", long 120°02'45", in NW 1/4 NW 1/4 sec.30, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on right bank 400 ft downstream from diversion dam, and 2.8 mi southwest of Strawberry.

DRAINAGE AREA.--48.5 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records for water years 1970, 1976-85 are available in the files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 4,915 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 50 ft^3/s. Flow regulated by Pinecrest Lake (station 11295900). Most of the water is diverted at diversion dam 400 ft upstream to Philadelphia Canal (station 11297000). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	17	24	3.3	15					---	6.4	9.4
2	31	23	28	3.9	15					---	6.1	6.7
3	33	22	18	3.8	13					---	6.9	5.8
4	32	21	22	5.0	9.9					---	6.8	5.7
5	32	22	23	39	9.6					---	6.7	5.4
6	32	26	24	30	8.6					---	7.2	5.6
7	33	25	26	9.2	7.2					---	7.6	6.3
8	25	25	24	4.3	7.2					46	6.8	6.3
9	40	25	24	3.3	6.3					45	5.8	6.3
10	32	27	24	4.1	6.2					37	6.7	6.1
11	36	21	24	4.6	6.2					31	6.9	5.9
12	33	21	---	4.0	14					33	7.1	5.9
13	32	31	---	3.7	43					31	6.9	5.8
14	23	28	24	3.7	---					23	6.5	5.5
15	7.1	20	24	3.7	---					11	7.1	5.4
16	6.8	24	23	5.7	---					15	7.4	5.6
17	6.4	24	23	---	---					17	6.9	5.8
18	6.9	23	28	28	---					13	12	5.6
19	7.4	23	23	15	---					9.8	13	6.1
20	6.4	23	22	12	---					12	13	7.0
21	8.6	23	33	5.8	---					17	13	7.1
22	9.3	28	29	4.1	---					13	13	6.7
23	8.1	31	25	3.6	---					22	13	7.0
24	10	30	26	5.8	---					13	13	8.0
25	13	24	26	9.1	---					14	13	9.3
26	13	20	25	7.5	---					6.3	13	7.7
27	12	23	24	7.1	---					6.4	13	7.5
28	11	24	24	7.3	---					7.5	13	7.0
29	11	22	24	8.3	---					6.9	12	6.8
30	10	22	31	21	---					6.4	12	6.8
31	9.7	---	16	22	---					6.4	12	---
TOTAL	599.7	718	---	---	---					---	293.8	196.1
MEAN	19.3	23.9	---	---	---					---	9.48	6.54
MAX	40	31	---	---	---					---	13	9.4
MIN	6.4	17	---	---	---					---	5.8	5.4
AC-FT	1190	1420	---	---	---					---	583	389

SAN JOAQUIN RIVER BASIN

11297500 TUOLUMNE CANAL NEAR LONG BARN, CA

LOCATION.--Lat 38°05'35", long 120°10'03", in SE 1/4 SW 1/4 sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 300 ft downstream from intake, 350 ft downstream from Lyons Reservoir on South Fork Stanislaus River, 2 mi west of Long Barn, and 15 mi 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 National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to June 1938, at site 200 ft downstream at different datum.

REMARKS.--No estimated daily discharges. 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.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--49 years, 28.7 ft^3/s, 20,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 59 ft^3/s, May 11, 1975; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	18	18	18	42	15	43	45	48	49	31	31
2	22	18	18	18	42	15	42	45	48	50	31	31
3	21	18	19	18	43	14	42	45	48	51	31	31
4	20	16	19	18	43	12	42	44	49	48	31	31
5	20	19	19	18	43	12	42	44	49	48	31	31
6	21	19	19	18	43	12	43	43	46	49	31	31
7	21	19	19	18	43	9.8	43	45	47	48	31	31
8	21	18	18	18	43	0	42	44	49	47	31	31
9	21	18	18	18	43	0	42	44	50	37	31	31
10	21	18	18	18	43	0	42	45	49	30	31	31
11	21	18	18	18	43	0	43	46	50	30	31	31
12	20	22	18	18	43	0	43	46	50	31	31	31
13	20	27	19	18	43	4.1	42	47	50	31	31	31
14	5.3	27	18	18	46	8.2	34	47	49	30	31	31
15	0	27	18	18	35	8.6	25	47	49	31	31	30
16	0	27	18	18	26	9.1	27	45	49	31	31	30
17	0	27	18	18	4.5	9.0	43	46	49	31	31	29
18	0	26	18	29	0	9.0	43	46	49	31	31	29
19	13	26	18	36	0	11	43	45	49	31	31	28
20	17	26	18	40	0	12	44	46	49	31	31	28
21	35	22	18	41	0	3.0	43	46	48	30	31	28
22	4.4	18	18	41	0	0	44	45	49	31	31	28
23	0	18	19	42	0	0	46	44	49	31	31	27
24	0	18	19	43	0	0	46	45	48	31	31	26
25	4.8	19	19	44	5.8	0	45	47	48	31	31	25
26	30	19	19	43	15	11	44	46	48	31	31	24
27	41	18	19	43	16	31	45	46	48	31	31	24
28	40	18	18	42	15	24	45	46	48	31	31	23
29	29	18	18	42	---	40	45	46	48	31	31	23
30	19	18	18	42	---	42	45	46	49	31	31	23
31	18	---	18	42	---	42	---	47	---	31	31	---
TOTAL	528.5	620	569	876	720.3	353.8	1258	1409	1459	1105	961	859
MEAN	17.0	20.7	18.4	28.3	25.7	11.4	41.9	45.5	48.6	35.6	31.0	28.6
MAX	41	27	19	44	46	42	46	47	50	51	31	31
MIN	0	16	18	18	0	0	25	43	46	30	31	23
AC-FT	1050	1230	1130	1740	1430	702	2500	2790	2890	2190	1910	1700

CAL YR 1985 TOTAL 11198.5 MEAN 30.7 MAX 50 MIN 0 AC-FT 22210
WTR YR 1986 TOTAL 10718.6 MEAN 29.4 MAX 51 MIN 0 AC-FT 21260

SAN JOAQUIN RIVER BASIN

11297700 LYONS RESERVOIR NEAR LONG BARN, CA

LOCATION.--Lat 38°05'38", long 120°09'59", in SW 1/4 NE 1/4 sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, on upstream side of dam near radial spill gates, and 1.6 mi west of Long Barn.

DRAINAGE AREA.--66.8 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records since the 1981 water year are available in the files of the U.S. Geological Survey.

GAGE.--Nonrecording gage read once daily. Datum of gage is 4,134 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by concrete arch dam, completed in 1930; storage began in 1930. Usable capacity, 5,504 acre-ft between gage heights 0.0 ft, invert of outlet, and 86.0 ft top of spillway gates. Dead storage, 4 acre-ft. Part of the released water is diverted to Tuolumne Canal (station 11297500) near the base of the dam. Figures given herein, including extremes, represent total contents. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 6,255 acre-ft, July 3-5, gage height, 90.2 ft; minimum, 1,677 acre-ft, Oct. 1, gage height, 55.4 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

20.0	210	60.0	2,070
25.0	309	70.0	3,153
30.0	437	80.0	4,541
40.0	786	90.0	6,219
50.0	1,299	92.5	6,680

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1677	1723	2617	3986	4093	4616	4737	4753	4894	6019	5337	3764
2	1692	1731	2617	3986	4093	4600	4721	4753	4863	6128	5269	3764
3	1707	1740	3031	3974	4197	4601	4690	4784	4894	6255	5218	3641
4	1723	1748	3116	3974	4197	4601	4675	4753	4878	6255	5167	3593
5	1723	1756	3150	4048	4242	4601	4660	4690	4910	6255	5117	3535
6	1764	1748	3202	4197	4242	4601	4646	4660	4878	6237	5051	3483
7	1789	1755	3251	4197	4242	4601	4660	4631	4941	6237	5000	3430
8	1814	1773	3300	4271	4247	4700	4660	4631	4878	6183	4944	3379
9	1839	1781	3353	4271	4197	4750	4616	4646	4894	6164	4894	3340
10	1850	1781	3370	4271	4197	4831	4631	4660	4878	6164	4850	3292
11	1847	1781	3418	4271	4177	4768	4660	4690	4894	6164	4800	3226
12	1922	1822	3434	4257	4078	4737	4660	4706	5099	6146	4750	3226
13	1997	1822	3483	4257	4078	4721	4660	4753	5099	6128	4706	3116
14	1967	1822	3496	4242	4511	4690	4646	4753	5286	6110	4656	3043
15	1989	1889	3496	4242	4753	4660	4646	4768	5371	6092	4586	3007
16	1999	1889	3561	4242	4831	4660	4631	4800	5317	6055	4541	2959
17	2005	1905	3581	4376	4957	4660	4616	4800	5269	6001	4481	2901
18	2011	1922	3587	4496	5004	4646	4601	4831	5525	5946	4421	2860
19	2051	1986	3603	4526	4900	4646	4616	4863	5665	5928	4421	2820
20	2032	1948	3641	4526	4800	4646	4660	4847	5578	5893	4331	2762
21	1986	1922	3641	4526	4750	4646	4646	4800	5613	5823	4331	2716
22	1967	1930	3697	4466	4721	4660	4675	4784	5918	5788	4242	2681
23	1975	1940	3724	4466	4690	4660	4737	4784	6110	5753	4182	2628
24	1983	2014	3754	4361	4690	4646	4737	4753	6128	5718	4138	2586
25	1983	2253	3752	4316	4690	4646	4706	4816	6183	5683	4093	2575
26	1986	2453	3775	4271	4650	4646	4690	4863	6128	5630	4058	2560
27	1922	2323	3779	4212	4660	4646	4675	4878	6183	5578	3989	2522
28	1852	2364	3807	4230	4631	4690	4721	4894	6183	5543	3937	2486
29	1806	2364	3827	4108	---	4690	4768	4878	6164	5473	3885	2469
30	1773	2364	3900	4100	---	4721	4768	4878	5893	5439	3848	2435
31	1734	---	3940	4048	---	4753	---	4894	---	5388	3806	---
MAX	2051	2453	3940	4526	5004	4831	4768	4894	6183	6255	5337	3764
MIN	1677	1723	2617	3974	4078	4600	4601	4631	4863	5388	3806	2435
a	56.6	63.0	76.0	76.7	80.6	81.4	81.5	82.3	88.2	85.3	75.0	63.7
b	+64	+630	+1576	+108	+583	+122	+15	+126	+999	-505	-1582	-1371

CAL YR 1985 b +1796
WTR YR 1986 b +765

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11298000 SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'33", long 120°10'04", in NE 1/4 NW 1/4 sec.25, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 600 ft downstream from Lyons Dam, 1.9 mi west of Long Barn, and 15 mi northeast of Sonora.

DRAINAGE AREA.--66.9 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M).

GAGE.--Water-stage recorder and masonry control. Datum of gage is 4,073.4 ft above National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--No estimated daily discharges. Flow regulated by Lyons Reservoir (station 11297700) 600 ft upstream and Pinecrest Lake (station 11295900). Tuolumne Canal (station 11297500) diverts at Lyons Dam; other diversions, see schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--49 years, 87.8 ft^3/s, 63,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft^3/s, Nov. 21, 1950, gage height, 9.3 ft, from rating curve extended above 2,400 ft^3/s, on basis of computation of peak flow over Lyons Dam; no flow at times in 1937-39, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,210 ft^3/s, Feb. 19, gage height, 7.96 ft; minimum daily, 1.4 ft^3/s, Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.1	2.1	2.1	2.2	110	418	438	902	6.4	2.1	2.2
2	2.3	2.1	2.2	2.1	2.1	99	360	394	836	3.0	2.2	2.2
3	2.3	2.1	2.1	2.1	2.3	88	264	529	883	68	2.3	2.2
4	2.3	2.2	2.1	2.1	2.2	84	211	410	832	79	2.3	2.1
5	2.3	2.1	2.1	2.2	2.1	83	180	250	687	60	2.3	2.1
6	2.1	2.1	2.1	2.2	2.1	83	173	178	568	27	2.2	2.1
7	2.1	2.0	2.1	2.1	2.1	89	190	125	537	9.9	2.1	2.1
8	2.1	2.1	2.1	2.0	2.1	1050	157	102	421	3.5	2.1	2.1
9	2.2	2.7	2.1	2.0	2.1	927	114	109	437	2.4	2.1	2.1
10	2.1	2.3	2.1	2.0	2.1	670	125	186	425	2.1	2.1	2.1
11	2.2	2.3	2.2	2.1	2.1	537	165	253	342	2.1	2.2	2.1
12	2.2	2.3	2.1	2.3	2.1	445	207	299	387	2.2	2.3	2.1
13	2.3	2.3	2.1	2.3	2.2	364	185	416	454	2.1	2.2	2.1
14	2.3	2.3	2.1	2.2	2.6	294	147	454	480	2.1	2.1	2.1
15	2.4	2.3	2.1	2.2	4.2	254	133	500	467	2.2	2.0	2.1
16	2.3	2.3	2.1	2.2	434	231	121	556	434	2.3	2.1	2.1
17	2.3	2.3	2.1	2.2	730	204	90	582	348	2.2	2.3	2.1
18	2.3	2.3	2.1	2.2	1300	180	72	673	322	2.1	2.3	2.1
19	3.3	2.3	2.1	2.8	2140	161	77	749	360	2.0	2.3	2.1
20	3.4	2.3	2.1	3.0	1050	169	140	775	282	2.1	2.3	2.1
21	2.7	2.3	2.1	2.0	628	199	129	592	136	2.3	2.3	2.1
22	1.9	2.3	2.1	2.1	442	220	230	483	134	2.3	2.3	2.1
23	2.5	2.6	2.1	2.1	334	247	357	440	215	2.3	2.3	2.1
24	1.4	2.2	2.1	2.1	274	226	378	436	231	2.2	2.1	2.2
25	4.9	2.3	2.1	2.1	234	201	308	639	261	2.1	2.2	2.1
26	7.5	2.4	2.1	2.1	202	198	268	776	249	2.1	2.1	2.1
27	2.5	2.2	2.1	2.1	182	214	228	848	217	2.1	2.1	2.1
28	2.5	2.1	2.1	2.1	133	271	375	902	230	2.1	2.1	2.1
29	2.4	2.5	2.2	2.1	---	276	460	939	223	2.1	2.1	2.1
30	2.1	2.3	2.2	2.2	---	320	445	866	93	2.1	2.1	2.1
31	2.1	---	2.1	2.2	---	413	---	923	---	2.1	2.1	---
TOTAL	79.6	68.0	65.5	67.6	8117.6	8907	6707	15822	12393	306.5	67.7	63.4
MEAN	2.57	2.27	2.11	2.18	290	287	224	510	413	9.89	2.18	2.11
MAX	7.5	2.7	2.2	3.0	2140	1050	460	939	902	79	2.3	2.2
MIN	1.4	2.0	2.1	2.0	2.1	83	72	102	93	2.0	2.0	2.1
AC-FT	158	135	130	134	16100	17670	13300	31380	24580	608	134	126

CAL YR 1985 TOTAL 8310.9 MEAN 22.8 MAX 392 MIN 1.4 AC-FT 16480
WTR YR 1986 TOTAL 52664.9 MEAN 144 MAX 2140 MIN 1.4 AC-FT 104500

11299000 NEW MELONES RESERVOIR NEAR SONORA, CA

LOCATION.--Lat 37°57'02", long 120°30'49", in NW 1/4 SE 1/4 sec.11, T.1 N., R.13 E., Tuolumne County, Hydrologic Unit 18040010, at right abutment of New Melones Dam on Stanislaus River, 0.1 mi downstream from the old Melones Dam, and 7.6 mi southwest of Sonora.
DRAINAGE AREA.--904 mi^2.
PERIOD OF RECORD.--1926 (year-end content only, published in WSP 1315-A), June 1927 to current year. Prior to October 1970, published as Melones Reservoir at Melones Dam. October 1970 to September 1978, published as Melones Lake near Sonora.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Feb. 28, 1961, nonrecording gage and Mar. 1, 1961, to Nov. 26, 1978, water-stage recorder at site on left side of old Melones Dam, at same datum.
REMARKS.--Reservoir is formed by earth and rockfill dam completed in November 1978. Dam is downstream from the original concrete dam which was completed in December 1926. Usable capacity 2,420,000 acre-ft between elevations 543.0 ft, invert entrance to outlet tunnel, and 1,088.0 ft, gross pool elevation. No dead storage. When elevation is above 808.0 ft, water is released through a powerplant to Tulloch Reservoir where it is used for irrigation. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,400,000 acre-ft, July 8-10, 1983, elevation, 1,086.42 ft; minimum since reservoir first filled in July 1983, 1,501,000 acre-ft, Oct. 14, 1985, elevation, 1,003.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,270,000 acre-ft, June 19, elevation, 1,075.72 ft; minimum, 1,501,000 acre-ft, Oct. 14, elevation, 1,003.20 ft.

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

700	53,900	760	160,500	880	611,500	1,000	1,471,000
710	66,950	780	212,300	900	723,000	1,020	1,662,000
720	81,800	800	272,800	920	846,500	1,040	1,867,000
730	98,530	820	342,400	940	982,600	1.060	2,087,000
740	117,200	840	421,800	960	1,132,000	1,088	2,420,000
750	137,800	860	511,200	980	1,295,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1507000	1516000	1534000	1566000	1636000	1997000	2041000	2094000	2222000	2252000	2161000	2027000
2	1507000	1517000	1538000	1569000	1641000	1999000	2044000	2096000	2231000	2250000	2157000	2023000
3	1506000	1519000	1541000	1572000	1645000	2003000	2046000	2100000	2238000	2248000	2153000	2019000
4	1507000	1519000	1543000	1574000	1648000	2005000	2046000	2106000	2244000	2246000	2149000	2016000
5	1506000	1519000	1544000	1579000	1650000	2007000	2047000	2108000	2249000	2244000	2144000	2012000
6	1506000	1518000	1545000	1583000	1651000	2008000	2050000	2108000	2251000	2240000	2140000	2008000
7	1505000	1518000	1547000	1585000	1652000	2010000	2051000	2108000	2253000	2237000	2135000	2005000
8	1504000	1516000	1548000	1587000	1653000	2053000	2053000	2108000	2254000	2233000	2131000	2001000
9	1503000	1516000	1550000	1589000	1654000	2065000	2054000	2108000	2254000	2230000	2126000	1997000
10	1503000	1517000	1550000	1590000	1655000	2073000	2054000	2108000	2255000	2226000	2122000	1993000
11	1502000	1517000	1551000	1591000	1656000	2079000	2056000	2108000	2256000	2222000	2119000	1989000
12	1502000	1517000	1552000	1593000	1659000	2081000	2055000	2108000	2256000	2220000	2114000	1985000
13	1502000	1517000	1553000	1596000	1667000	2082000	2058000	2109000	2257000	2217000	2110000	1982000
14	1501000	1517000	1554000	1596000	1678000	2080000	2059000	2110000	2259000	2215000	2105000	1979000
15	1502000	1516000	1555000	1597000	1698000	2080000	2059000	2112000	2262000	2212000	2101000	1975000
16	1502000	1516000	1556000	1599000	1727000	2080000	2059000	2116000	2263000	2209000	2096000	1972000
17	1504000	1515000	1557000	1607000	1797000	2077000	2059000	2120000	2267000	2206000	2092000	1968000
18	1504000	1514000	1558000	1611000	1851000	2072000	2058000	2127000	2269000	2204000	2088000	1969000
19	1506000	1514000	1559000	1614000	1923000	2066000	2059000	2134000	2270000	2201000	2083000	1966000
20	1506000	1515000	1559000	1617000	1947000	2061000	2061000	2143000	2267000	2198000	2079000	1963000
21	1508000	1516000	1559000	1618000	1968000	2054000	2064000	2149000	2266000	2196000	2075000	1959000
22	1510000	1517000	1559000	1618000	1971000	2049000	2068000	2153000	2265000	2193000	2070000	1956000
23	1510000	1518000	1560000	1621000	1974000	2045000	2073000	2156000	2264000	2190000	2066000	1955000
24	1512000	1520000	1560000	1626000	1980000	2039000	2077000	2159000	2263000	2187000	2062000	1954000
25	1512000	1523000	1561000	1624000	1984000	2036000	2081000	2164000	2261000	2183000	2057000	1953000
26	1513000	1524000	1561000	1625000	1988000	2032000	2083000	2171000	2259000	2180000	2052000	1950000
27	1514000	1525000	1561000	1626000	1992000	2030000	2085000	2178000	2258000	2177000	2048000	1950000
28	1515000	1528000	1561000	1626000	1995000	2030000	2087000	2185000	2257000	2174000	2042000	1949000
29	1516000	1530000	1562000	1627000	---	2031000	2089000	2195000	2256000	2171000	2038000	1948000
30	1514000	1532000	1565000	1629000	---	2034000	2091000	2204000	2254000	2168000	2034000	1948000
31	1515000	---	1567000	1633000	---	2037000	---	2213000	---	2164000	2031000	---
MAX	1516000	1532000	1567000	1633000	1995000	2082000	2091000	2213000	2270000	2252000	2161000	2027000
MIN	1501000	1514000	1534000	1566000	1636000	1997000	2041000	2094000	2222000	2164000	2031000	1948000
a	1004.73	1006.57	1010.28	1017.06	1051.78	1055.61	1060.42	1070.96	1074.37	1066.76	1055.02	1047.52
b	+7000	+17000	+35000	+66000	+362000	+42000	+54000	+122000	+41000	-90000	-133000	-83000
c	3420	1190	600	790	1540	2680	4300	7210	9240	10240	8930	5390

CAL YR 1985 b -318000
WTR YR 1986 b +440000

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet. Evaporation figures are published as provided and have not been reviewed by U.S. Geological Survey.

SAN JOAQUIN RIVER BASIN

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA

LOCATION.--Lat 37°57'40", long 120°36'51", in SE 1/4 SE 1/4, sec.2, T.1 N., R.12 E., Calaveras County, Hydrologic Unit 18040010, on left bank 100 ft upstream from O'Byrnes Ferry Road bridge, 1,300 ft upstream from Copper Creek, and 2.1 mi southeast of Copperopolis.

DRAINAGE AREA.--14.4 mi^2.

PERIOD OF RECORD.--August 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 746.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion above station. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft^3/s, Feb. 19, 1986, gage height, 9.10 ft, from rating curve extended above 2,500 ft^3/s on basis of contracted-opening measurement of peak flow; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1045	96	3.26	Feb. 19	0145	*5,200	*9.10
Jan. 17	0145	116	3.35	Mar. 8	0715	1,520	5.12
Feb. 2	1600	495	4.16	Mar. 15	1200	527	4.20

No flow for many days.

REVISIONS.--The maximum discharge for water year 1984 has been revised to 2,770 ft^3/s, Nov. 24, 1983, gage height, 6.34 ft, superseding the figure published in the report for 1984.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	3.2	1.7	58	15	10	3.3	.42			
2		.01	11	1.5	150	13	9.5	2.7	.41			
3		.03	6.6	1.4	81	12	9.0	3.2	.38			
4		.03	3.8	5.3	50	12	8.7	3.7	.43			
5		.03	3.3	12	27	11	8.6	3.3	.39			
6		.02	2.7	8.4	18	11	12	3.3	.53			
7		.03	5.0	5.8	13	18	16	3.0	.35			
8		.04	4.9	4.6	11	282	9.8	2.9	.33			
9		.04	3.6	3.7	9.1	51	8.5	2.7	.31			
10		.81	3.0	3.2	7.8	123	8.1	2.4	.22			
11		.63	2.5	2.9	7.1	160	7.5	2.3	.20			
12		.36	2.1	2.6	42	172	6.9	2.2	.19			
13		.19	1.9	2.4	112	113	6.5	1.8	.18			
14		.14	1.8	2.9	90	61	6.3	1.7	.19			
15		.14	1.6	8.2	280	155	6.3	1.7	.16			
16		.22	1.5	29	731	107	6.7	1.6	.14			
17		.21	1.4	51	1400	66	7.4	1.5	.12			
18		.17	1.3	16	387	45	6.0	1.5	.15			
19		.14	1.2	11	912	34	5.4	1.2	.11			
20		.16	1.1	8.1	122	27	5.1	1.1	.10			
21		.18	1.1	6.7	64	23	4.8	1.3	.09			
22		.16	1.0	6.0	43	21	4.6	1.2	.08			
23		.18	1.0	6.5	33	19	4.6	1.2	.08			
24		3.2	1.0	5.3	27	17	4.6	1.1	.06			
25		4.4	1.0	4.8	23	15	4.4	1.0	.05			
26		1.0	.96	4.4	20	14	3.9	.87	.04			
27		.64	.92	4.0	18	13	3.8	.88	.03			
28		6.5	.92	3.7	16	12	3.7	.69	.01			
29		28	1.1	3.7	---	11	3.5	.47	.02			
30		7.5	3.3	41	---	11	3.5	.43	.01			
31		---	2.0	98	---	11	---	.43	---			
TOTAL	0	55.16	77.80	365.8	4752.0	1655	205.7	56.67	5.78	0	0	0
MEAN	0	1.84	2.51	11.8	170	53.4	6.86	1.83	.19	0	0	0
MAX	0	28	11	98	1400	282	16	3.7	.53	0	0	0
MIN	0	0	.92	1.4	7.1	11	3.5	.43	.01	0	0	0
AC-FT	0	109	154	726	9430	3280	408	112	11	0	0	0

CAL YR 1985 TOTAL 1651.34 MEAN 4.52 MAX 548 MIN 0 AC-FT 3280
WTR YR 1986 TOTAL 7173.91 MEAN 19.7 MAX 1400 MIN 0 AC-FT 14230

SAN JOAQUIN RIVER BASIN

11299995 TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'12", in Rancheria Del Rio Estanislao Grant, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, in center of Tulloch Dam on Stanislaus River, 1.9 mi upstream from Goodwin Dam, and 5.3 mi northeast of Knights Ferry.
DRAINAGE AREA.--980 mi^2.

PERIOD OF RECORD.--November 1957 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

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. Dead storage, 11,560 acre-ft. Reservoir is used for irrigation and power. Water passes down Stanislaus River, some first passing through Tulloch powerplant at dam. Part of flow is diverted at Goodwin Dam to Oakdale Canal (station 11301000) and South San Joaquin Canal (station 11300500). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR 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.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 66,500 acre-ft, Sept. 6, elevation, 509.6 ft; minimum, 56,900 acre-ft, Jan. 13, elevation, 501.5 ft.

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

404	4,580	460	23,600
411	6,020	475	33,100
420	8,200	490	45,300
430	11,100	512	69,500
445	16,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65200	59500	58600	58700	59100	58700	58600	60900	64900	65700	65500	65800
2	65200	59000	58400	58300	58700	59300	58800	61400	64400	65600	65700	65800
3	65200	58500	58000	58300	58600	58200	58300	61800	64100	65000	65700	66100
4	65500	57900	57600	57900	58000	58500	58800	62000	63900	64500	65600	66100
5	65400	58300	57800	57600	57500	58600	59100	62100	64100	64500	65600	66300
6	65200	58300	57900	57700	57600	59300	57900	62100	64100	64500	65200	66500
7	65100	58600	58200	57800	58400	59300	58600	62100	64200	64700	65500	66300
8	65000	59100	57700	58000	58500	59300	58300	62200	64500	65000	66000	66200
9	64500	58500	57800	58200	58700	59400	58200	62600	65400	65200	65700	66300
10	64400	58200	58200	58300	59100	59600	58600	62700	65700	65800	65500	66200
11	64400	57700	58300	57800	59100	58700	59000	62800	66000	65800	65600	66200
12	64000	57700	58400	57400	59500	59100	59500	62900	66100	66100	65600	66100
13	63800	57700	58500	56900	59500	59300	59000	63200	66100	66200	65600	65800
14	64200	58000	57900	58800	59300	59200	58600	63400	65800	65800	65700	65600
15	63400	58400	57500	59000	60000	58800	58600	63500	65600	65600	65600	65500
16	62800	58700	57600	59300	62800	58400	59200	63900	65200	65600	65700	65200
17	62300	59200	58000	59200	66100	58500	60400	64000	65000	65500	66200	65100
18	61800	59300	58000	58800	60600	59100	61700	64200	64700	65600	66300	64900
19	61300	58700	58200	57800	59000	59100	61400	63500	64500	65700	66100	65000
20	60700	58200	58600	57900	58200	58600	61000	63000	64200	65700	66200	64700
21	60300	57700	58600	58400	58500	59500	60600	62900	64200	65700	66000	64200
22	59900	57500	58500	59100	58400	59500	60200	63400	64400	65700	65800	64100
23	59300	58000	58400	58600	58600	58700	60000	63600	64400	65600	65700	64100
24	59300	58500	58400	58300	58600	59500	59400	63800	64200	65500	65700	64500
25	59400	59000	58300	58500	58800	59000	59600	64000	65400	65500	65800	64600
26	59400	59100	58300	58300	59100	58400	60300	64400	65800	65500	66000	64500
27	58800	58500	58300	58800	59000	58800	60300	64700	65600	65500	66100	64500
28	58400	58300	58300	59100	58800	59500	60200	64200	65700	65500	66200	64200
29	57800	58800	58300	59200	---	59400	60700	64700	65700	65500	66300	63600
30	60200	59100	58400	59200	---	59100	61300	64500	65600	65700	66000	63000
31	60100	---	58800	59400	---	59100	---	64200	---	65800	65800	---
MAX	65500	59500	58800	59400	66100	59600	61700	64700	66100	66200	66300	66500
MIN	57800	57500	57500	56900	57500	58200	57900	60900	63900	64500	65200	63000
a	504.3	503.4	503.2	503.7	503.2	503.4	505.3	507.8	508.9	509.1	509.1	506.8
b	-5000	-1000	-300	+600	-600	+300	+2200	+2900	+1400	+200	0	-2800

CAL YR 1985 b +200
WTR YR 1986 b -2100

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'15", in Rancheria del Rio Estanislao Grant, T.1 S., R.12 E., on Calaveras-Tuolumne County line, Hydrologic Unit 18040010, temperature recorder in south corner of Tulloch powerplant at downstream side of Tulloch Dam, 5.2 mi northeast of Knights Ferry.

DRAINAGE AREA.--980 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1972 to current year.

INSTRUMENTATION.--Temperature recorder since June 1972.

REMARKS.--Water temperatures are affected by regulation from Tulloch Powerplant.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1973-86): Maximum recorded, 27.5°C, Aug. 30, 1977; minimum recorded, 5.0°C, Jan. 13, 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 13.0°C on many days in October and November; minimum recorded, 9.5°C on many days in March and April.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	12.5	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	10.5	10.0
2	12.5	12.5	12.5	12.5	12.0	12.0	10.0	10.0	10.5	10.5	10.5	10.0
3	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	10.5	10.5	10.5	10.0
4	12.5	12.5	12.5	12.5	12.0	12.0	10.0	10.0	10.5	10.5	10.5	10.0
5	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	11.0	10.5	10.0	10.0
6	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	11.0	10.5	10.0	10.0
7	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	11.0	10.5	10.0	10.0
8	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	11.0	10.5	10.0	10.0
9	13.0	12.5	12.5	12.5	12.0	11.5	10.0	10.0	11.0	10.5	10.0	10.0
10	13.0	12.5	12.5	12.5	12.0	12.0	10.0	10.0	11.0	11.0	10.0	10.0
11	13.0	12.5	12.5	12.5	12.0	11.5	10.0	10.0	11.0	11.0	10.0	10.0
12	13.0	12.5	12.5	12.5	11.5	11.5	10.0	10.0	11.0	11.0	10.0	10.0
13	13.0	12.5	12.5	12.5	11.5	11.5	10.0	10.0	11.0	11.0	10.0	10.0
14	13.0	12.5	12.5	12.5	11.5	11.5	10.0	10.0	11.0	11.0	10.0	10.0
15	13.0	12.5	12.5	12.5	11.5	11.5	10.0	10.0	11.0	11.0	10.0	10.0
16	13.0	12.5	12.5	12.5	11.5	11.0	10.0	10.0	11.0	11.0	10.0	10.0
17	13.0	12.5	12.5	12.5	11.0	11.0	10.0	10.0	11.0	11.0	10.0	10.0
18	13.0	12.5	12.5	12.5	11.0	11.0	10.0	10.0	11.5	11.0	10.0	9.5
19	13.0	12.5	12.5	12.5	11.0	11.0	10.0	10.0	11.5	11.0	10.0	9.5
20	13.0	12.5	12.5	12.5	11.0	11.0	10.0	10.0	11.5	11.5	10.0	9.5
21	13.0	12.5	12.5	12.5	11.0	10.5	10.5	10.0	11.5	11.5	10.0	9.5
22	13.0	12.5	12.5	12.0	10.5	10.5	10.5	10.0	11.5	11.5	10.0	9.5
23	13.0	12.5	12.5	12.0	10.5	10.5	10.5	10.0	11.5	11.0	9.5	9.5
24	13.0	12.5	12.0	12.0	10.5	10.5	10.5	10.0	11.0	11.0	9.5	9.5
25	13.0	12.5	12.5	12.0	10.5	10.5	10.5	10.0	11.0	10.5	9.5	9.5
26	13.0	12.5	12.0	12.0	10.5	10.5	10.5	10.5	10.5	10.5	9.5	9.5
27	13.0	12.5	12.0	12.0	10.5	10.5	10.5	10.5	10.5	10.5	9.5	9.5
28	13.0	12.5	12.0	12.0	10.5	10.0	10.5	10.5	10.5	10.5	10.0	9.5
29	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	---	---	10.0	9.5
30	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	---	---	10.0	9.5
31	13.0	12.5	---	---	10.0	10.0	10.5	10.5	---	---	10.0	9.5
MONTH	13.0	12.5	13.0	12.0	12.0	10.0	10.5	10.0	11.5	10.5	10.5	9.5

SAN JOAQUIN RIVER BASIN

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
2	10.0	9.5	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
3	10.0	9.5	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
4	10.0	10.0	10.0	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
5	10.0	10.0	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
6	10.0	10.0	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
7	10.0	10.0	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5
8	10.0	10.0	10.0	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
9	10.0	10.0	10.5	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
10	10.0	10.0	10.5	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
11	10.0	10.0	10.5	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
12	10.0	10.0	10.5	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
13	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
14	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
15	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
16	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
17	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
18	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
19	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
20	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
21	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
22	10.0	10.0	10.5	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
23	10.0	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
24	10.0	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
25	10.0	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
26	10.0	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
27	10.0	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
28	10.5	10.0	11.0	10.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
29	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
30	10.5	10.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
31	---	---	11.0	11.0	---	---	11.5	11.5	11.5	11.5	---	---
MONTH	10.5	9.5	11.0	10.0	11.0	11.0	11.5	11.0	11.5	11.5	11.5	11.5
YEAR	13.0	9.5										

SAN JOAQUIN RIVER BASIN

11300500 SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'16", long 120°38'14", in Rancheria Del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on left bank 0.8 mi downstream from headgate at Goodwin Dam, and 3.0 mi 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 National Geodetic Vertical Datum of 1929 (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.

REMARKS.--Estimated daily discharges: Oct. 1 to Feb. 16, Mar. 3-31, Aug. 11 to Sept. 30. Records fair. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--72 years, 441 ft^3/s, 319,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,320 ft^3/s, Aug. 10-17, 1978; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	0	.02	.05	.18	401	575	1060	1020	1150	1210	886
2	369	0	.24	.38	1.6	199	646	949	1060	1150	1210	755
3	366	3.3	0	.05	.49	3.2	715	900	1100	1150	1210	755
4	367	.04	0	.11	.13	2.2	737	901	1110	1150	1210	755
5	368	0	.15	.34	0	2.2	791	903	1110	1150	1210	751
6	369	0	0	.09	0	2.2	790	905	1110	1150	1190	751
7	371	0	.06	.03	.50	2.4	791	906	1110	1150	1170	751
8	372	.14	0	.03	.03	10	792	908	1120	1150	1170	750
9	517	.28	0	.03	.02	226	853	910	1080	1150	1170	750
10	418	.16	0	0	0	431	725	912	1040	1150	1170	750
11	316	.03	0	.02	0	430	736	915	1040	1140	1120	691
12	316	0	0	.02	3.0	406	737	917	1040	1140	1060	645
13	317	0	0	.48	1.4	347	707	919	1040	1140	1070	645
14	257	0	0	.24	1.0	318	683	922	1040	1170	1070	645
15	74	0	0	1.4	4.5	299	726	924	1040	1190	1070	643
16	0	4.0	0	2.6	16	8.8	723	924	1050	1190	1070	643
17	0	0	0	1.7	142	156	675	926	1080	1180	1070	642
18	0	0	0	.08	476	317	658	929	1110	1200	1030	617
19	0	0	0	.05	479	316	685	952	1140	1200	993	593
20	0	1.6	0	.69	471	316	715	1000	1150	1210	957	590
21	.77	8.8	0	.08	377	316	716	1000	1150	1210	930	589
22	.17	14	0	.58	306	316	753	1000	1150	1210	930	587
23	0	14	0	.06	386	316	797	1000	1150	1210	927	572
24	0	11	0	.03	387	362	845	1000	1150	1200	926	476
25	.87	.06	0	.03	406	423	876	1000	1150	1200	926	418
26	1.2	.18	0	.03	423	423	895	1000	1150	1200	925	387
27	0	9.9	0	.03	416	420	901	1000	1150	1200	925	387
28	0	17	0	.03	401	416	974	1010	1150	1210	926	388
29	0	11	.03	.05	---	416	1030	1010	1150	1200	924	387
30	.05	.04	.79	.24	---	416	1040	1010	1150	1210	924	409
31	0	---	.35	2.0	---	414	---	1010	---	1210	925	---
TOTAL	5170.06	95.53	1.64	11.55	4698.85	8431.0	23287	29622	33090	36520	32618	18608
MEAN	167	3.18	.053	.37	168	272	776	956	1103	1178	1052	620
MAX	517	17	.79	2.6	479	431	1040	1060	1150	1210	1210	886
MIN	0	0	0	0	0	2.2	575	900	1020	1140	924	387
AC-FT	10250	189	3.3	23	9320	16720	46190	58760	65630	72440	64700	36910

CAL YR 1985 TOTAL 200397.24 MEAN 549 MAX 1210 MIN 0 AC-FT 397500
WTR YR 1986 TOTAL 192153.63 MEAN 526 MAX 1210 MIN 0 AC-FT 381100

SAN JOAQUIN RIVER BASIN

11300600 SOUTH SAN JOAQUIN CANAL BELOW DIVISION POINT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°49'54", long 120°40'24", in Rancheria del Rio Estanislao Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft downstream from division point, and 0.85 mi north of Knights Ferry.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 325 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Canal diverts 600 ft upstream from South San Joaquin Canal (station 11300500) for irrigation in South San Joaquin Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 890 ft^3/s, Apr. 19, 1983; no flow for many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	0	.02	0	.14	388	524	767	641	756	804	503
2	138	0	.24	0	1.5	204	613	593	693	756	804	374
3	142	0	0	0	.45	2.7	671	537	745	756	804	374
4	151	0	0	.06	.12	2.2	723	537	747	757	806	374
5	158	0	.15	.28	0	2.2	784	547	748	756	807	391
6	159	0	0	.05	0	2.2	812	558	748	756	785	408
7	166	0	.06	0	0	2.3	812	551	749	756	762	409
8	179	0	0	0	0	5.0	809	546	749	755	762	413
9	326	0	0	0	0	226	810	544	706	755	762	410
10	234	.16	0	0	0	431	711	526	651	751	762	405
11	133	.03	0	0	0	430	602	528	651	745	712	348
12	133	0	0	0	2.9	406	597	529	646	742	662	300
13	133	0	0	0	1.4	347	592	530	640	742	664	300
14	65	0	0	.14	.97	318	500	531	638	777	664	300
15	2.3	0	0	.22	2.4	299	502	531	638	794	664	305
16	0	.58	0	.42	1.5	8.8	498	528	653	793	664	311
17	0	0	0	.21	136	155	441	527	686	791	664	311
18	0	0	0	0	478	317	382	525	725	795	624	306
19	0	0	0	0	501	316	387	572	759	805	588	300
20	0	0	0	0	473	316	406	616	758	804	553	298
21	.65	0	0	0	368	316	406	615	757	804	526	298
22	.17	4.5	0	0	276	316	435	615	756	804	526	298
23	0	14	0	0	368	316	509	616	757	805	526	295
24	0	11	0	0	367	362	557	616	758	804	526	287
25	0	.06	0	0	392	423	606	618	758	804	526	284
26	0	.18	0	0	416	423	609	618	758	805	525	281
27	0	4.7	0	0	406	420	611	634	758	805	525	283
28	0	17	0	0	388	416	699	638	757	806	526	283
29	0	11	.03	.02	---	416	762	637	757	804	533	282
30	0	.04	.14	.19	---	416	766	639	756	804	538	282
31	0	---	0	1.9	---	414	---	640	---	804	540	---
TOTAL	2258.12	63.25	0.64	3.49	4580.38	8416.4	18136	18009	21543	24191	20134	10013
MEAN	72.8	2.11	.021	.11	164	271	605	581	718	780	649	334
MAX	326	17	.24	1.9	501	431	812	767	759	806	807	503
MIN	0	0	0	0	0	2.2	382	525	638	742	525	281
AC-FT	4480	125	1.3	6.9	9090	16690	35970	35720	42730	47980	39940	19860

CAL YR 1985 TOTAL 137230.53 MEAN 376 MAX 854 MIN 0 AC-FT 272200
WTR YR 1986 TOTAL 127348.28 MEAN 349 MAX 812 MIN 0 AC-FT 252600

SAN JOAQUIN RIVER BASIN

11300700 SOUTH SAN JOAQUIN CANAL BELOW WOODWARD RESERVOIR, NEAR OAKDALE, CA

LOCATION.--Lat 37°51'38", long 120°52'45", in Eight Square Leagues On Stanislaus River Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank 500 ft downstream from Woodward Reservoir, and 7.0 mi north of Oakdale.

PERIOD OF RECORD.--July 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 175 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from right bank of Stanislaus River 500 ft downstream from Woodward Reservoir for irrigation in South San Joaquin Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 934 ft^3/s, July 15, 1984; no flow at times each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	0	0	0	.19	364	319	540	632	746	667	326
2	99	0	0	0	1.4	275	388	538	596	639	709	408
3	121	0	0	0	.13	1.5	438	516	641	649	726	438
4	211	0	0	0	.08	.95	459	491	613	679	725	436
5	197	0	.01	0	.05	.95	500	523	640	689	724	432
6	225	0	0	0	.03	1.0	466	562	630	664	695	397
7	356	0	0	0	.01	1.2	372	587	616	693	685	367
8	414	0	0	0	0	136	365	558	498	673	666	374
9	410	0	0	0	0	247	363	486	539	681	649	349
10	388	0	0	0	0	276	358	488	650	707	602	348
11	357	0	0	0	0	276	360	493	653	710	545	320
12	214	0	0	0	.06	324	362	541	647	708	540	307
13	214	0	0	0	.17	327	368	518	648	726	619	348
14	297	0	0	0	.81	346	504	506	646	732	618	347
15	339	0	0	0	1.2	244	546	553	648	734	583	355
16	285	0	0	0	1.7	127	502	561	679	720	577	344
17	96	0	0	.01	6.2	304	423	553	635	679	519	367
18	6.4	0	0	0	2.3	315	420	579	599	680	448	303
19	6.4	0	0	0	7.3	316	420	567	522	699	440	278
20	6.4	0	0	0	1.9	316	421	531	570	723	438	223
21	6.5	0	0	0	155	317	482	574	614	679	441	223
22	6.5	0	0	0	226	319	548	613	558	652	418	267
23	6.7	0	0	0	269	320	607	588	633	673	462	275
24	4.8	.01	0	0	328	321	631	620	727	679	484	243
25	.40	0	0	0	367	319	682	619	745	677	487	220
26	.17	0	0	0	367	317	684	595	692	644	508	222
27	.08	0	0	0	374	318	683	586	696	629	573	222
28	.05	.01	0	0	371	316	618	588	704	671	545	223
29	.03	.16	0	0	---	316	566	527	703	671	506	222
30	.02	0	0	0	---	317	545	549	719	670	402	285
31	.01	---	0	.57	---	318	---	622	---	663	327	---
TOTAL	4410.46	0.18	0.01	0.58	2480.53	7696.60	14400	17172	19093	21239	17328	9469
MEAN	142	.006	.000	.019	88.6	248	480	554	636	685	559	316
MAX	414	.16	.01	.57	374	364	684	622	745	746	726	438
MIN	.01	0	0	0	0	.95	319	486	498	629	327	220
AC-FT	8750	.4	.02	1.2	4920	15270	28560	34060	37870	42130	34370	18780

CAL YR 1985	TOTAL	111045.36	MEAN	304	MAX	919	MIN	0	AC-FT	220300
WTR YR 1986	TOTAL	113289.36	MEAN	310	MAX	746	MIN	0	AC-FT	224700

SAN JOAQUIN RIVER BASIN

11300800 NORTH MAIN CANAL BELOW DIVISION POINT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°50'01", long 120°40'21", in Rancheria del Rio Estanislao Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank at Parshall flume, 600 ft downstream from division point, and 1.0 mi north of Knights Ferry.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 310 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Canal diverts 600 ft upstream from South San Joaquin Canal (station 11300500) for irrigation in Oakdale Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 410 ft^3/s, June 18, 19, 1984; no flow for many days in 1983 and 1986.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	0	0	.05	.04	0	.09	351	380	392	403	383
2	231	0	0	.38	.06	0	.11	369	381	392	407	381
3	224	3.3	0	.05	.04	.54	.16	374	379	393	407	381
4	216	.04	0	.05	.01	.02	.22	375	379	393	407	381
5	210	0	0	.06	0	.02	.22	366	379	396	407	360
6	210	0	0	.04	0	.02	.24	359	379	397	405	343
7	205	0	0	.03	.50	.13	.25	364	380	397	405	342
8	193	.14	0	.03	.03	5.3	.24	370	381	397	404	337
9	191	.28	0	.03	.02	.01	54	375	381	397	404	340
10	184	0	0	.02	0	.14	81	391	382	397	401	345
11	183	0	0	.02	0	.01	105	391	382	396	403	343
12	183	0	0	.02	.12	.18	123	394	387	393	402	345
13	184	0	0	.48	.01	.05	123	395	391	392	401	345
14	192	0	0	.10	.03	0	123	394	391	392	401	345
15	72	0	0	1.2	2.1	.38	199	394	391	392	401	338
16	0	3.4	0	2.2	14	.01	199	395	389	393	404	332
17	0	0	0	1.5	25	.52	214	395	391	394	406	331
18	0	0	0	.08	.24	0	225	395	391	404	406	311
19	0	0	0	.05	41	0	238	393	391	404	405	293
20	0	1.6	0	.69	0	0	277	391	391	404	404	292
21	.12	8.8	0	.08	0	0	277	391	391	404	404	291
22	0	9.5	0	.58	0	0	276	391	391	405	404	289
23	0	0	0	.06	0	0	277	391	394	405	401	277
24	0	0	0	.03	0	.01	275	391	395	405	400	189
25	.87	0	0	.03	0	.02	276	393	395	405	400	134
26	1.2	0	0	.03	0	.02	295	395	395	404	400	106
27	0	5.2	0	.03	0	.03	302	381	395	402	400	104
28	0	0	0	.03	0	.05	301	377	393	402	400	105
29	0	0	0	.03	---	.05	320	378	392	402	391	105
30	.05	0	.65	.05	---	.05	339	379	392	402	386	127
31	0	---	.35	.08	---	.05	---	379	---	403	385	---
TOTAL	2912.24	32.26	1.00	8.11	83.20	7.61	4900.53	11877	11629	12354	12454	8595
MEAN	93.9	1.08	.032	.26	2.97	.25	163	383	388	399	402	286
MAX	232	9.5	.65	2.2	41	5.3	339	395	395	405	407	383
MIN	0	0	0	.02	0	0	.09	351	379	392	385	104
AC-FT	5780	64	2.0	16	165	15	9720	23560	23070	24500	24700	17050

CAL YR 1985 TOTAL 64239.31 MEAN 176 MAX 398 MIN 0 AC-FT 127400
WTR YR 1986 TOTAL 64853.95 MEAN 178 MAX 407 MIN 0 AC-FT 128600

SAN JOAQUIN RIVER BASIN

11301000 OAKDALE CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'32", long 120°37'56", in SW 1/4 SE 1/4 sec.10, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 0.3 mi downstream from headgate at Goodwin Dam, and 3.4 mi 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. Elevation of gage is 350 ft above National Geodetic Vertical Datum of 1929, 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.

REMARKS.--Estimated daily discharges: Oct. 16 to Nov. 15, Nov. 26 to Feb. 16, and Feb. 19 to Mar. 7. Records good except for periods of estimated daily discharges, which are poor. Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mi upstream for irrigation in Oakdale Irrigation District. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--72 years, 170 ft^3/s, 123,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 556 ft^3/s, July 8-11, 1967; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	284	0	0	0	.10	0	0	448	475	98	515	464
2	278	0	.10	0	.10	0	0	455	477	211	516	464
3	275	0	.10	0	.10	0	0	456	478	357	516	458
4	275	0	0	.10	.10	0	0	455	478	454	517	453
5	275	0	.10	0	.10	0	0	456	478	476	518	447
6	269	0	0	0	.10	0	0	454	478	491	517	441
7	265	0	0	0	0	0	9.5	426	478	502	513	436
8	265	0	0	0	0	.10	83	421	478	504	509	433
9	265	0	0	0	0	.10	109	424	478	517	509	433
10	264	.10	0	.01	0	.10	118	456	478	521	508	433
11	252	.10	0	0	0	.10	158	456	478	521	508	433
12	252	0	0	0	.10	.10	158	456	481	521	508	433
13	252	0	0	0	.10	.10	162	456	487	522	501	433
14	240	0	0	.10	.10	.10	207	455	488	522	498	433
15	77	5.5	0	.10	.10	.10	251	454	489	521	491	433
16	0	9.9	0	.10	8.3	.10	270	453	489	514	487	422
17	0	9.9	0	0	12	0	270	439	468	507	487	396
18	0	9.9	0	0	13	0	321	425	474	506	488	382
19	0	9.9	0	0	.10	0	337	428	485	506	489	373
20	0	10	0	0	0	0	354	461	489	505	489	372
21	.10	10	0	0	0	0	357	470	489	504	489	372
22	.10	10	0	0	0	0	385	468	489	504	489	372
23	0	10	0	0	0	0	397	468	488	503	489	366
24	0	11	0	0	0	0	405	467	492	502	489	297
25	0	11	0	0	0	0	395	466	496	502	479	223
26	0	3.7	0	0	0	0	383	466	496	502	467	171
27	0	0	0	0	0	0	384	466	496	502	463	171
28	0	.10	.10	0	0	0	385	473	496	502	459	171
29	0	.10	.10	.10	---	0	386	475	466	502	454	211
30	0	0	.10	.10	---	0	388	475	79	503	454	251
31	0	---	0	.10	---	0	---	475	---	511	460	---
TOTAL	3788.20	111.20	0.60	0.71	34.40	0.90	6672.5	14103	14091	14813	15276	11177
MEAN	122	3.71	.019	.023	1.23	.029	222	455	470	478	493	373
MAX	284	11	.10	.10	13	.10	405	475	496	522	518	464
MIN	0	0	0	0	0	0	0	421	79	98	454	171
AC-FT	7510	221	1.2	1.4	68	1.8	13230	27970	27950	29380	30300	22170

CAL YR 1985 TOTAL 78661.12 MEAN 216 MAX 511 MIN 0 AC-FT 156000
WTR YR 1986 TOTAL 80068.51 MEAN 219 MAX 522 MIN 0 AC-FT 158800

SAN JOAQUIN RIVER BASIN

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'06", long 120°38'13", in Rancheria del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on right bank 250 ft upstream from Owl Creek, 0.9 mi downstream from Goodwin Dam, and 2.9 mi northeast of Knights Ferry.

DRAINAGE AREA.--986 mi^2.

WATER-DISCHARGE RECORDS

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.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 252.83 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by New Melones Reservoir (station 11299000) since 1978 and Tulloch Reservoir (station 11299995). South San Joaquin Canal (station 11300500) and Oakdale Canal (station 11301000) divert at Goodwin Dam. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--29 years, 819 ft^3/s, 593,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s, Dec. 24, 1964, gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks; minimum daily, 0.12 ft^3/s, Feb. 8, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 37.7 ft, from floodmarks, discharge, 62,900 ft^3/s, by computation of flow over Goodwin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,620 ft^3/s, Mar. 15, gage height, 14.74 ft; minimum daily, 175 ft^3/s, Jan. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	235	239	357	703	2630	2600	1110	979	992	570	1240
2	220	233	243	237	722	2640	2610	1140	1160	1010	859	1240
3	223	230	228	238	718	2670	2600	1160	1240	997	859	1250
4	224	233	232	229	714	2690	2360	1150	1240	1000	974	1260
5	224	233	232	231	713	2710	2130	1100	1240	1010	1030	1270
6	224	236	232	229	712	3890	2120	1050	1240	993	1030	1280
7	222	233	232	229	504	4220	2130	1080	1240	984	1030	1280
8	221	227	232	220	467	4320	1880	1080	1240	986	1050	1280
9	222	225	227	233	446	5160	1690	1080	1240	981	1050	1280
10	226	234	221	220	447	5380	1680	1050	1230	779	1040	1280
11	231	241	227	214	449	6180	1730	1050	1240	525	1020	1270
12	230	240	226	213	464	6230	1730	1050	1240	415	999	1260
13	229	242	224	215	466	6270	1750	1060	1050	415	1020	1250
14	226	242	222	218	464	6250	1780	1060	942	425	1020	1250
15	235	235	222	381	469	6300	1750	1060	935	419	1010	1240
16	235	217	219	531	803	6210	1370	1070	968	418	1010	1260
17	233	229	220	530	3780	6290	1130	1090	970	444	1020	1280
18	232	229	221	526	4840	6330	1140	1100	988	432	1220	1270
19	232	229	221	525	3710	6280	1140	1080	999	428	1330	1140
20	234	224	328	524	2470	6260	1120	1000	990	426	1300	947
21	240	220	524	525	2490	6250	1120	981	990	437	1290	944
22	235	213	527	516	2660	6230	1110	980	989	443	1280	942
23	235	214	529	228	2590	6200	1090	989	991	443	1280	929
24	235	228	525	175	2600	5740	1080	992	991	439	1280	959
25	233	236	525	509	2600	5210	1100	989	988	442	1290	883
26	230	234	528	514	2600	5150	1100	992	1010	441	1310	773
27	231	218	525	514	2620	4400	1110	999	1010	440	1310	735
28	233	222	525	566	2630	3570	1090	996	1000	440	1320	726
29	233	239	526	719	---	3690	1080	984	1040	440	1290	655
30	233	240	526	730	---	3630	1140	990	1010	441	1270	531
31	235	---	525	736	---	3060	---	982	---	437	1250	---
TOTAL	7116	6911	10433	12032	44851	152040	47460	32494	32390	18922	34611	32904
MEAN	230	230	337	388	1602	4905	1582	1048	1080	610	1116	1097
MAX	240	242	529	736	4840	6330	2610	1160	1240	1010	1330	1280
MIN	220	213	219	175	446	2630	1080	980	935	415	570	531
AC-FT	14110	13710	20690	23870	88960	301600	94140	64450	64250	37530	68650	65270

CAL YR 1985	TOTAL	207193	MEAN	568	MAX	1340	MIN	162	AC-FT	411000
WTR YR 1986	TOTAL	432164	MEAN	1184	MAX	6330	MIN	175	AC-FT	857200

SAN JOAQUIN RIVER BASIN

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February 1966 to current year.

INSTRUMENTATION.--Temperature recorder since February 1966.

REMARKS.--Temperature recorder located 2,300 ft upstream from gaging station. Water temperatures are affected by regulation from Goodwin Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1967-86): Maximum recorded, 30.5°C, July 25, 1974; minimum recorded, 5.5°C, Feb. 3, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 13.05°C, on many days in October, November and December; minimum recorded, 9.5°C, Jan. 12-14.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	12.0	12.5	12.0	11.5	11.5	10.0	10.0	11.0	11.0	12.0	12.0
2	13.0	12.5	12.5	12.0	11.5	11.5	10.0	10.0	11.0	11.0	12.5	11.5
3	13.0	12.0	12.5	12.5	12.0	11.5	10.5	10.0	11.0	11.0	12.0	11.5
4	13.0	12.5	13.0	12.5	12.0	11.5	10.5	10.5	11.0	11.0	12.0	11.5
5	13.0	12.5	12.5	12.0	12.0	11.5	10.5	10.5	11.0	11.0	12.0	11.5
6	13.0	12.5	12.5	12.0	12.0	11.5	10.5	10.5	11.0	11.0	12.0	11.5
7	13.0	12.5	12.5	12.0	11.5	11.5	10.5	10.5	11.0	11.0	12.0	11.5
8	12.5	12.0	12.0	12.0	11.5	11.0	10.5	10.0	11.0	11.0	12.0	11.0
9	12.0	12.0	12.0	12.0	11.5	11.0	10.0	10.0	11.0	11.0	11.5	11.0
10	12.0	11.5	12.0	12.0	11.0	11.0	10.0	10.0	11.0	11.0	11.5	11.0
11	12.0	12.0	11.5	11.5	11.0	10.5	10.0	10.0	11.0	11.0	11.5	11.0
12	12.5	12.0	11.5	11.0	10.5	10.5	10.0	9.5	11.0	11.0	11.5	11.0
13	12.5	12.0	11.0	11.0	10.5	10.5	10.0	9.5	11.5	11.0	11.0	11.0
14	12.5	11.5	11.5	11.0	10.5	10.0	10.0	9.5	12.0	11.5	11.0	10.5
15	12.5	12.0	11.5	11.0	10.5	10.0	10.0	10.0	12.0	12.0	10.5	10.5
16	12.5	12.0	12.0	11.5	10.5	10.0	10.5	10.5	12.0	11.5	11.0	10.5
17	12.5	12.0	12.0	12.0	10.5	10.0	10.5	10.5	11.5	11.5	10.5	10.5
18	13.0	12.5	12.0	11.5	10.0	10.0	10.5	10.5	12.0	11.5	10.5	10.5
19	13.0	12.5	11.5	11.0	10.0	10.0	10.5	10.5	12.5	12.0	10.5	10.5
20	12.5	12.5	11.5	11.0	10.0	10.0	10.5	10.5	12.5	12.5	10.5	10.5
21	12.5	12.5	11.5	11.0	10.0	10.0	10.5	10.5	13.0	12.5	10.5	10.5
22	12.5	12.0	11.5	11.5	10.0	10.0	10.5	10.5	13.0	12.5	10.5	10.5
23	12.5	12.0	11.5	11.5	10.0	10.0	11.0	10.5	13.0	12.5	10.5	10.5
24	13.0	12.5	11.5	11.5	10.0	10.0	10.5	10.0	12.5	12.5	10.5	10.5
25	13.0	12.5	12.0	11.5	10.0	10.0	10.5	10.5	12.5	12.5	10.5	10.5
26	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	12.5	12.5	10.5	10.5
27	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	12.5	12.0	11.0	10.5
28	13.0	12.5	12.0	12.0	10.0	10.0	10.5	10.5	12.5	12.0	11.0	10.5
29	13.0	12.5	12.0	11.5	10.0	10.0	11.0	11.0	---	---	11.0	10.5
30	13.0	12.5	11.5	11.5	10.0	10.0	11.0	11.0	---	---	11.0	10.5
31	12.5	12.0	---	---	10.0	10.0	11.0	11.0	---	---	11.0	10.5
MONTH	13.0	11.5	13.0	11.0	12.0	10.0	11.0	9.5	13.0	11.0	12.5	10.5

SAN JOAQUIN RIVER BASIN

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.5										
2	11.0	10.0										
3	11.0	10.5										
4	11.0	10.5										
5	11.0	10.5										
6	11.0	10.5										
7	11.0	10.5										
8	11.0	10.5										
9	11.0	10.5										
10	11.5	10.5										
11	11.5	10.5										
12	11.0	10.5										
13	11.0	10.5										
14	11.0	10.5										
15	11.0	10.5										
16	---	---										
17	---	---										
18	---	---										
19	---	---										
20	---	---										
21	---	---										
22	---	---										
23	---	---										
24	---	---										
25	---	---										
26	---	---										
27	---	---										
28	---	---										
29	---	---										
30	---	---										
31	---	---										
MONTH	---	---										
YEAR	13.0	9.5										

SAN JOAQUIN RIVER BASIN

11302500 STANISLAUS RIVER AT OAKDALE, CA

LOCATION.--Lat 37°46'38", long 120°51'07", in Eight Square Leaques on Stanislaus River Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank at State Highway 120 bridge at Oakdale.

DRAINAGE AREA.--1,032 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: September 1985 to September 1986.

INSTRUMENTATION.--Water-temperature recorder since Aug. 28, 1985.

REMARKS.--Water-temperature probe vandalized, no record Nov. 3-26. Timer stopped, no record July 4-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum daily, 18.0°C, Sept. 23-27, 1985; minimum daily, 9.0°C on several days during December 1985, March and April, 1986.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 17.5°C, Oct. 5-7, Aug. 1; minimum recorded, 9.0°C on several days during December, March and April.

EXTREMES FOR PERIOD AUGUST TO SEPTEMBER 1985 (NOT PREVIOUSLY PUBLISHED).--
WATER TEMPERATURES: Maximum recorded, 18.0°C, Sept. 23-27; minimum recorded, 13.5°C, Aug. 30.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	15.0	14.0	13.0	13.0	12.0	11.5	11.0	12.0	11.0	12.0	11.5
2	17.0	15.0	14.5	13.0	13.0	12.5	12.0	11.5	12.0	11.5	12.0	11.0
3	17.0	15.0	---	---	13.5	13.0	12.0	11.5	12.0	11.5	12.0	10.5
4	17.0	15.5	---	---	13.0	12.5	12.5	11.5	11.5	11.0	12.0	11.0
5	17.5	15.5	---	---	13.0	12.5	13.0	12.0	11.5	10.5	12.0	10.5
6	17.5	16.0	---	---	12.5	12.0	12.5	12.0	11.5	10.5	12.0	10.5
7	17.5	16.0	---	---	12.5	12.0	12.0	11.5	11.5	10.5	11.5	11.0
8	16.0	15.5	---	---	12.0	11.0	11.5	11.0	11.0	10.0	11.5	10.5
9	15.5	14.0	---	---	11.5	11.0	11.5	11.0	11.0	9.5	11.0	10.0
10	15.0	13.0	---	---	11.0	10.5	11.0	11.0	11.0	10.0	11.0	10.0
11	15.0	13.5	---	---	11.0	10.0	10.5	10.5	11.0	10.0	11.5	10.5
12	15.0	14.0	---	---	10.5	9.5	10.5	10.5	11.5	10.5	11.0	10.5
13	15.0	13.5	---	---	10.0	9.5	11.0	10.5	13.0	11.5	10.5	10.0
14	14.5	13.0	---	---	10.0	9.0	11.0	10.5	13.0	12.5	10.5	10.0
15	15.0	13.0	---	---	10.0	9.5	11.5	10.5	13.0	12.5	10.0	9.5
16	15.0	13.5	---	---	10.0	9.5	11.5	11.0	12.5	12.0	10.0	9.5
17	15.0	13.5	---	---	10.0	9.5	12.5	11.5	12.0	11.5	10.5	9.5
18	15.0	14.0	---	---	10.0	9.5	12.0	11.5	12.5	12.0	10.0	9.5
19	15.0	14.0	---	---	10.0	9.5	12.0	11.5	13.0	12.0	10.5	9.5
20	14.5	14.0	---	---	10.0	10.0	12.0	11.0	12.5	11.5	10.5	9.0
21	14.5	14.0	---	---	10.0	9.5	11.5	11.0	12.5	11.5	10.5	9.5
22	14.5	13.0	---	---	10.0	10.0	11.0	10.5	13.0	12.0	10.5	9.5
23	15.0	13.5	---	---	10.0	10.0	12.0	10.5	12.5	12.0	10.0	9.0
24	15.0	14.0	---	---	10.0	10.0	12.0	11.0	13.0	11.5	10.5	9.0
25	15.5	14.0	---	---	10.0	10.0	11.0	10.5	13.0	11.5	10.5	9.0
26	15.5	14.0	---	---	10.0	10.0	11.0	10.0	12.5	11.5	10.5	9.0
27	15.5	14.0	14.0	13.5	10.0	10.0	11.5	10.5	12.5	11.0	11.0	9.5
28	15.5	14.0	13.5	13.5	10.0	10.0	11.5	10.5	12.5	11.5	11.0	9.5
29	15.0	14.0	13.5	13.0	10.5	10.0	11.5	11.0	---	---	11.0	9.5
30	14.5	13.5	13.0	12.5	11.0	10.5	12.0	11.0	---	---	11.0	9.5
31	14.0	13.0	---	---	11.0	11.0	12.0	11.5	---	---	11.0	9.5
MONTH	17.5	13.0	---	---	13.5	9.0	13.0	10.0	13.0	9.5	12.0	9.0

SAN JOAQUIN RIVER BASIN

11302500 STANISLAUS RIVER AT OAKDALE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.5	12.0	11.0	14.5	12.5	15.0	12.5	17.5	15.0	14.5	13.0
2	10.5	9.0	13.0	10.5	14.0	12.5	15.0	12.5	16.0	13.5	14.5	13.0
3	11.0	9.5	12.0	11.0	14.5	12.0	15.0	12.5	16.0	14.0	14.5	13.0
4	11.0	9.0	12.5	10.0	14.0	12.0	---	---	15.5	14.0	14.5	13.0
5	10.5	9.5	12.0	10.5	14.5	12.0	---	---	16.0	13.5	14.5	13.0
6	11.0	9.5	11.5	10.0	14.0	12.0	---	---	15.5	13.5	14.5	13.0
7	10.5	9.5	12.5	10.0	14.0	12.0	---	---	15.5	13.5	14.5	13.0
8	11.5	9.5	13.0	10.5	14.5	12.0	---	---	15.5	13.5	14.0	12.5
9	11.5	9.5	13.0	11.0	14.5	12.0	---	---	15.5	13.5	14.0	12.5
10	12.0	10.0	13.0	11.0	14.5	12.5	---	---	15.5	13.5	14.0	12.5
11	12.0	10.0	13.0	10.5	14.0	12.5	---	---	15.5	13.5	14.0	12.5
12	11.0	10.0	13.0	11.0	14.5	12.0	---	---	15.5	13.5	14.0	12.5
13	11.0	9.5	13.5	11.0	14.5	12.5	---	---	15.5	13.5	13.5	12.5
14	11.0	10.0	13.0	11.5	14.5	12.5	---	---	15.0	13.5	13.5	12.5
15	11.0	10.0	13.5	11.0	14.5	12.5	---	---	15.0	13.5	14.0	12.5
16	10.5	9.5	13.5	11.5	14.5	12.5	---	---	15.0	13.0	13.5	12.5
17	11.5	10.0	13.5	11.5	15.0	12.5	---	---	15.0	13.0	13.5	12.5
18	11.5	9.5	14.0	11.5	14.5	12.5	---	---	15.0	13.0	13.5	12.0
19	12.0	10.0	13.5	12.0	14.5	12.0	---	---	14.5	13.0	13.5	12.5
20	12.5	10.5	13.0	11.5	15.0	12.5	---	---	14.0	13.0	13.5	12.5
21	13.0	10.5	13.5	11.5	15.0	12.5	---	---	15.0	12.5	13.5	12.0
22	12.5	10.5	13.5	11.0	15.0	13.0	---	---	15.0	13.0	13.5	12.0
23	12.0	10.5	12.5	11.5	15.5	13.0	---	---	14.5	12.5	13.5	12.5
24	12.0	10.5	13.5	11.5	15.5	13.0	---	---	14.5	12.5	13.0	12.5
25	12.5	10.5	14.5	12.0	15.0	13.0	---	---	15.0	13.0	13.0	12.5
26	12.5	10.5	14.5	12.5	15.0	13.0	---	---	14.5	13.0	13.5	12.0
27	13.0	10.5	14.5	12.5	15.0	13.0	---	---	15.0	13.0	13.5	12.5
28	13.0	11.0	14.5	12.5	14.5	12.5	---	---	14.5	13.0	13.5	12.0
29	12.5	10.5	14.5	12.5	15.0	12.5	---	---	14.5	13.0	14.0	12.0
30	12.5	10.5	14.5	12.5	15.0	12.5	---	---	14.5	12.5	14.0	12.5
31	---	---	14.0	12.5	---	---	17.0	14.5	14.5	12.5	---	---
MONTH	13.0	9.0	14.5	10.0	15.5	12.0	---	---	17.5	12.5	14.5	12.0
YEAR	17.5	9.0										

SAN JOAQUIN RIVER BASIN

11303000 STANISLAUS RIVER AT RIPON, CA

LOCATION.--Lat 37°43'47", long 121°06'34", in NW 1/4 SE 1/4 sec.29, T.2 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 15 ft downstream from railroad bridge, 1.1 mi southeast of Ripon, and 15 mi upstream from mouth.

DRAINAGE AREA.--1,075 mi^2.

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 National Geodetic Vertical Datum of 1929. October 1940 to Nov. 17, 1953, at site 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by reservoirs and powerplants above station (see REMARKS for station 11302000). South San Joaquin and Oakdale Canals (stations 11300500 and 11301000) divert at Goodwin Dam 34 mi upstream. Diversions for irrigation of 57,250 acres in vicinity of Oakdale. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--46 years, 1,050 ft^3/s, 760,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,500 ft^3/s, Dec. 24, 1955, gage height, 63.25 ft; minimum daily, 0.11 ft^3/s, Aug. 4-6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 12, 1938, reached a stage of 64.4 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,760 ft^3/s, Mar. 16, gage height, 55.33 ft; minimum daily, 304 ft^3/s, Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	435	557	509	604	889	2760	3500	1380	1220	1120	640	1360
2	431	559	494	525	892	2760	2960	1340	1220	1100	722	1320
3	417	558	503	392	893	2650	2830	1320	1270	1070	949	1320
4	414	553	479	368	949	2500	2770	1380	1340	1100	986	1340
5	418	508	457	354	916	2480	2610	1410	1310	1120	1060	1320
6	414	449	452	365	840	2510	2410	1300	1320	1180	1130	1330
7	425	380	442	361	800	2640	2410	1280	1310	1140	1090	1380
8	409	353	439	340	677	3410	2410	1270	1360	1130	1150	1390
9	422	342	434	328	601	3930	2290	1320	1360	1130	1160	1460
10	405	337	411	325	565	4250	2120	1330	1300	1120	1220	1410
11	403	347	368	320	551	4880	2050	1290	1310	1010	1220	1370
12	413	348	341	309	551	5640	2030	1300	1330	857	1120	1400
13	415	338	331	305	657	6400	1980	1220	1330	754	1080	1340
14	400	342	322	304	780	6550	1960	1210	1250	705	1150	1370
15	414	342	318	309	764	6500	1970	1210	1190	673	1140	1400
16	408	340	315	397	827	6620	1970	1220	1170	676	1170	1370
17	436	336	312	566	1210	6590	1740	1220	1140	699	1190	1350
18	416	331	312	612	2790	6490	1580	1230	1180	675	1200	1410
19	391	334	316	599	3730	6450	1520	1270	1180	658	1260	1440
20	370	334	312	593	4170	6370	1490	1240	1160	648	1350	1370
21	378	329	340	599	3070	6330	1460	1160	1170	686	1370	1230
22	416	328	504	601	2550	6320	1400	1140	1180	683	1390	1190
23	382	415	542	598	2650	6310	1370	1180	1160	655	1350	1190
24	366	452	555	459	2630	6250	1340	1170	1120	680	1380	1180
25	357	479	559	338	2680	6030	1310	1190	1140	726	1400	1290
26	370	479	563	497	2700	5540	1340	1240	1150	717	1330	1240
27	565	464	567	567	2710	5320	1390	1150	1130	706	1360	1120
28	582	449	568	578	2740	4920	1370	1170	1150	721	1380	1050
29	568	471	574	604	---	4190	1380	1160	1190	718	1370	1010
30	557	547	598	726	---	3990	1370	1170	1220	693	1370	941
31	555	---	616	806	---	3900	---	1160	---	660	1340	---
TOTAL	13352	12401	13853	14649	45782	151480	58330	38630	36860	26210	37027	38891
MEAN	431	413	447	473	1635	4886	1944	1246	1229	845	1194	1296
MAX	582	559	616	806	4170	6620	3500	1410	1360	1180	1400	1460
MIN	357	328	312	304	551	2480	1310	1140	1120	648	640	941
AC-FT	26480	24600	27480	29060	90810	300500	115700	76620	73110	51990	73440	77140

CAL YR 1985 TOTAL 265036 MEAN 726 MAX 1420 MIN 312 AC-FT 525700
WTR YR 1986 TOTAL 487465 MEAN 1336 MAX 6620 MIN 304 AC-FT 966900

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA
(National stream-quality accounting network station)

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, San Joaquin County, Hydrologic Unit 18040003, on left bank 12 ft downstream from Durham Ferry highway bridge, 2.6 mi downstream from Stanislaus River, and 3.2 mi northeast of Vernalis.

DRAINAGE AREA.--13,536 mi^2, includes about 2,100 mi^2 in James Bypass.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-water records only).

REVISED RECORDS.--WSP 831: 1936. WSP 931: 1940. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. See WSP 2130 for history of changes prior to Nov. 30, 1967.

REMARKS.--Estimated daily discharges: Feb. 14-16, May 28-30. 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.

AVERAGE DISCHARGE.--58 years (water years 1924, 1930-86), 4,798 ft^3/s, 3,476,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft^3/s, Dec. 9, 1950, elevation, 32.81 ft present datum, including flow through breaks in levee; maximum elevation, 34.55 ft Jan. 27, 1969; minimum discharge, 19 ft^3/s, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,900 ft^3/s, Mar. 19, elevation, 29.86 ft; minimum daily, 1,630 ft^3/s, Nov. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	2120	2500	2360	2670	18100	26200	10900	7220	3780	2550	3600
2	1970	2100	2580	2330	2730	16900	25300	10800	7310	3490	2610	3510
3	2280	2080	2620	1980	2780	15800	24800	10700	7290	3420	2990	3450
4	2420	2060	2600	1950	2820	14700	24500	10700	7370	3580	3250	3540
5	2250	2040	2580	2000	3330	13900	24200	10600	7310	3710	2970	3580
6	2220	2010	2650	1920	3260	13500	23800	10300	7210	3660	3000	3550
7	2140	1940	2670	1810	3060	13300	23600	10200	7320	3610	3040	3560
8	2090	1840	2660	1920	2820	13600	23400	10000	7410	3480	2980	3790
9	1960	1800	2660	2010	2510	14600	22900	9860	7500	3250	3080	3650
10	1890	1790	2610	1990	2300	16400	22300	9920	7460	3210	3150	3620
11	1850	1790	2380	1960	2080	17300	22000	9930	7490	3170	3250	3660
12	1830	1800	2200	1930	2280	19800	21800	9940	7630	2860	3210	3840
13	1820	1810	2040	1870	2550	24100	21700	9720	7780	2760	3010	4040
14	1940	1810	1950	1740	3740	27700	21500	9470	7830	2780	3070	4190
15	1950	1810	1880	1910	4460	30600	21200	9240	7510	2540	3070	4370
16	1910	1780	1840	2060	5000	33000	20900	9010	7240	2420	3100	4100
17	1950	1760	1830	2240	5320	35800	20400	8640	6920	2320	3230	4640
18	2250	1740	1820	2200	8110	36400	19500	8350	6730	2250	3310	4980
19	1990	1710	1800	2190	11400	36600	18900	8180	6290	2220	3160	5200
20	1880	1670	1770	2130	13900	36000	18300	7970	5790	2290	3210	5160
21	1890	1630	1750	2040	15300	34600	17600	7540	5070	2410	3380	4920
22	2090	1630	1780	2060	16000	33000	16700	7130	4680	2490	3390	4550
23	2110	1790	1930	2190	19900	31800	15700	7000	4550	2380	3390	4110
24	2100	2000	1960	2190	22900	30800	14800	7010	4310	2440	3490	4320
25	2100	2150	2070	2000	22700	29900	14000	6960	4180	2640	3520	4730
26	2110	2170	2100	1920	21300	29300	13500	6990	4060	2780	3300	4900
27	2210	2170	2040	2050	20400	28800	13000	6810	3980	2850	3280	4840
28	2320	2190	2070	2030	19200	28400	12300	6690	3820	2870	3340	4700
29	2300	2280	2380	2130	---	27800	11700	6840	3820	2750	3390	4410
30	2240	2400	2440	2260	---	27000	11200	7140	3920	2700	3450	3910
31	2170	---	2200	2480	---	26600	---	7140	---	2600	3510	---
TOTAL	64230	57870	68360	63850	244820	776100	587700	271680	187000	89710	98680	125420
MEAN	2072	1929	2205	2060	8744	25040	19590	8764	6233	2894	3183	4181
MAX	2420	2400	2670	2480	22900	36600	26200	10900	7830	3780	3520	5200
MIN	1820	1630	1750	1740	2080	13300	11200	6690	3820	2220	2550	3450
AC-FT	127400	114800	135600	126600	485600	1539000	1166000	538900	370900	177900	195700	248800

CAL YR 1985	TOTAL	902220	MEAN	2472	MAX	5100	MIN	1280	AC-FT	1790000
WTR YR 1986	TOTAL	2635420	MEAN	7220	MAX	36600	MIN	1630	AC-FT	5227000

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951 to current year.
BIOLOGICAL DATA: Water years 1974-81.
SPECIFIC CONDUCTANCE: Water years 1951-63, 1973-81, June 1985 to current year.
WATER TEMPERATURE: Water years 1951 to current year.
SEDIMENT DATA: Water years 1957 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: March 1951 to May 1963.
SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981, June 1985 to current year.
WATER TEMPERATURE: March 1951 to current year.
SUSPENDED-SEDIMENT DISCHARGE: November 1956 to current year.

INSTRUMENTATION.--Conductivity recorder January 1973 to October 1981. Temperature recorder October 1961 to September 1963, and since December 1972. Mini-monitor recorder since June 1985.

REMARKS.--Mean daily specific conductance records January 1973 to October 1981, furnished by Bureau of Reclamation. Maximum and minimum specific conductance values, June 1985 to current year, are available in District Office files.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,350 microsiemens, Aug. 11, 1961; minimum daily, 60 microsiemens, June 21, 1953.
WATER TEMPERATURE: Maximum recorded, 30.0°C, July 7, 1970, July 30, 1977; minimum recorded, 3.0°C, Jan. 24, 1962.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,590 mg/L, Dec. 25, 1964; minimum daily mean, 9 mg/L, Jan. 4, 1960, Nov. 18, 1961.
SEDIMENT LOAD: Maximum daily, 54,100 tons, Dec. 25, 1964; minimum daily, 2 tons, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 26.5°C, July 14, Aug 1-3; minimum recorded, 6.5°C, on several days in December.
SEDIMENT CONCENTRATION: Maximum daily mean, 574 mg/L, Feb. 18; minimum daily mean, 24 mg/L, Dec. 16.
SEDIMENT LOAD: Maximum daily, 16,900 tons, Feb. 19; minimum daily, 118 tons, Dec. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV , 1985												
19...	1215	1700	768	7.80	10.5	775	0.90	9.3	82	K17	190	180
JAN , 1986												
28...	1225	2030	913	7.70	11.0	750	11	8.8	81	600	390	200
MAR												
11...	1410	17300	204	7.71	13.0	765	36	9.4	89	>2000	950	54
MAY												
20...	1330	7510	335	7.85	19.0	760	10	8.3	90	260	K96	80
JUL												
15...	1415	2190	653	7.60	26.0	765	52	7.7	95	320	84	140
SEP												
23...	1130	4080	324	7.80	17.5	760	17	8.8	92	210	110	79

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WHOLE IT-FLD (MG/L)	CAR-BONATE WATER WHOLE IT-FLD (MG/L)	HY-DROXIDE WH WAT TOTAL FIELD MG/L AS OH	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3
NOV												
19...	54	38	20	90	52	3	3.1	151	--	--	123	124
JAN												
28...	79	43	22	110	54	3	3.8	145	--	--	119	119
MAR												
11...	9	12	5.8	18	41	1	2.0	53	--	--	44	45
MAY												
20...	26	18	8.4	35	48	2	2.0	66	--	--	54	55
JUL												
15...	60	31	16	70	51	3	3.0	123	--	--	101	102
SEP												
23...	8	18	8.3	31	45	2	2.2	86	--	--	70	72

See footnotes at end of table.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV												
19...	90	110	0.10	21	432	460	0.59	0.070	2.00	0.410	0.430	1.4
JAN												
28...	170	130	0.10	17	714	580	0.97	0.070	2.40	0.410	0.410	1.4
MAR												
11...	18	15	<0.10	11	112	100	0.15	0.030	0.340	0.100	<0.010	0.90
MAY												
20...	46	39	0.10	13	198	190	0.27	0.030	0.720	0.100	0.090	0.80
JUL												
15...	87	83	0.10	16	385	370	0.52	0.040	1.80	0.050	0.030	0.90
SEP												
23...	29	31	<0.10	14	240	180	0.33	0.020	1.30	0.060	<0.010	1.1

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV												
19...	0.280	0.270	0.160	<10	2	66	<0.5	<1	<1	<3	1	18
JAN												
28...	0.360	0.280	0.240	--	--	--	--	--	--	--	--	--
MAR												
11...	0.230	0.110	0.080	70	2	30	<0.5	<1	<1	<3	4	74
MAY												
20...	0.180	0.450	0.120	20	1	39	<0.5	2	<1	<3	4	27
JUL												
15...	0.320	0.110	0.120	--	--	--	--	--	--	--	--	--
SEP												
23...	0.160	0.050	0.040	--	--	--	--	--	--	--	--	--

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
19...	<1	11	53	<0.1	<10	1	1	<1	460	<6	12
JAN											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
11...	1	5	23	<0.1	<10	2	<1	1	140	<6	<5
MAY											
20...	<1	6	20	<0.1	<10	<1	<1	<1	200	<6	8
JUL											
15...	--	--	--	--	--	--	--	--	--	--	--
SEP											
23...	--	--	--	--	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (nonideal colony count).
< Actual value is known to be less than the value shown.
> Actual value is known to be greater than the value shown.

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)
JAN									
28...*	1135	125	946	7.60	11.5	750	9.0	84	--
28...*	1140	150	928	7.50	11.5	750	8.8	82	--
28...*	1150	175	926	7.70	11.5	750	8.8	82	--
28...*	1155	200	907	7.70	11.0	750	8.8	81	--
28...*	1200	225	902	7.70	11.0	750	8.8	81	--
28...*	1205	250	895	7.80	11.0	750	8.9	82	--
28...*	1210	275	890	7.70	11.0	750	8.9	82	--
28...*	1215	300	883	7.70	11.0	750	8.8	81	--
28...*	1220	325	880	7.70	11.0	750	8.9	82	--
28...*	1222	350	877	7.70	11.0	750	8.8	81	--
MAR									
11...*	1445	143	191	7.60	13.0	765	9.6	91	86
11...*	1450	184	197	7.60	13.0	765	9.4	89	107
11...*	1455	224	203	7.60	13.0	765	9.4	89	117
11...*	1500	277	205	7.70	13.0	765	9.3	88	141
11...*	1505	335	198	7.80	13.0	765	9.2	87	106

* Instantaneous streamflow at the time of cross-sectional measurements:
Jan. 28: 2030 ft^3/s
Mar. 11: 17300 ft^3/s

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	18.0	14.5	13.5	11.5	12.0	11.0	14.0	11.5	16.0	14.5
2	---	---	18.0	15.0	15.0	11.0	13.0	11.5	13.5	11.0	16.0	14.0
3	---	---	18.0	15.5	16.5	13.0	14.0	12.0	12.5	10.0	16.0	14.0
4	---	---	18.5	16.0	15.0	12.5	14.5	12.0	13.5	10.5	16.0	14.5
5	---	---	18.5	16.0	15.5	12.5	16.0	13.5	12.5	9.5	16.5	14.5
6	---	---	18.0	15.5	15.0	12.0	15.5	13.0	12.5	9.5	16.0	15.0
7	---	---	18.0	14.5	15.5	11.5	14.0	12.0	12.0	9.0	15.5	15.0
8	---	---	17.5	14.5	15.0	11.5	14.0	12.0	12.0	8.5	16.5	13.5
9	---	---	16.5	14.0	13.0	10.5	13.0	11.0	11.5	8.0	14.0	11.5
10	18.5	16.5	14.0	11.5	11.0	9.5	11.5	10.5	12.0	7.0	14.0	11.0
11	18.5	15.5	13.5	10.0	11.0	7.5	11.0	10.0	10.5	8.0	14.0	11.5
12	19.0	16.0	13.0	10.5	9.5	7.5	10.5	10.0	10.5	8.5	14.0	12.0
13	18.5	16.0	12.5	9.5	9.5	7.0	10.5	10.0	13.0	10.0	13.0	11.0
14	18.5	15.5	12.5	10.0	9.5	7.5	11.0	9.5	14.5	12.0	14.0	12.0
15	18.5	15.0	12.0	10.0	8.5	7.0	13.0	9.5	14.5	11.0	12.5	9.0
16	18.5	15.5	12.0	10.5	8.5	7.0	13.5	11.0	13.0	11.5	12.0	10.5
17	19.0	16.0	14.0	11.5	9.0	7.5	---	---	13.5	12.0	13.0	11.0
18	18.5	16.0	14.0	11.5	8.5	7.0	---	---	---	---	13.5	11.0
19	18.5	16.0	12.0	10.0	8.5	7.0	---	---	---	---	14.0	12.0
20	17.0	15.5	11.5	10.0	8.0	7.0	---	---	---	---	15.0	12.5
21	17.5	14.5	13.0	11.0	8.0	7.0	---	---	---	---	15.5	13.5
22	17.5	15.0	12.0	10.5	8.0	7.0	---	---	---	---	16.5	14.0
23	18.5	16.0	10.5	8.5	7.5	6.5	14.5	11.5	---	---	16.0	14.5
24	19.0	16.5	10.5	8.5	7.5	6.5	14.0	11.0	---	---	16.0	14.5
25	19.5	16.5	11.0	10.5	8.0	7.0	13.5	10.5	---	---	16.0	14.0
26	20.0	17.0	13.5	7.5	7.5	6.5	14.0	10.5	---	---	16.5	14.5
27	19.5	17.0	14.0	11.5	7.5	6.5	13.0	10.5	---	---	17.0	15.0
28	19.5	17.0	14.0	11.5	7.5	6.5	11.5	10.5	---	---	17.5	15.5
29	19.0	16.5	13.5	11.5	8.5	7.5	12.0	10.5	---	---	18.0	16.5
30	18.5	16.0	13.5	11.5	10.5	8.0	14.5	11.0	---	---	18.0	16.5
31	18.0	15.5	---	---	11.0	10.0	14.5	11.5	---	---	18.0	16.0
MONTH	---	---	18.5	7.5	16.5	6.5	---	---	---	---	18.0	9.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	15.5	18.5	16.5	22.0	19.0	23.5	19.5	26.5	22.0	22.0	18.0
2	16.5	14.5	19.5	15.5	21.5	19.0	24.0	20.5	26.5	22.0	22.0	18.5
3	16.0	14.0	17.5	15.0	21.0	18.0	24.5	20.5	26.5	22.0	22.0	18.5
4	16.0	14.0	18.0	14.0	21.0	18.0	23.0	19.5	25.5	21.5	22.0	18.5
5	15.0	14.0	16.5	14.0	22.0	18.0	23.0	20.0	25.5	22.0	22.5	19.0
6	16.0	14.0	16.0	14.0	19.5	16.5	22.5	19.0	24.5	20.5	22.5	19.0
7	15.0	14.5	16.0	13.5	20.5	16.0	23.0	18.5	24.5	20.5	22.0	18.0
8	16.0	14.0	17.5	14.5	22.5	17.5	23.5	18.5	24.5	19.5	21.0	17.5
9	16.5	15.0	18.5	15.5	20.5	17.0	23.5	18.5	24.5	19.0	20.0	16.5
10	18.0	15.5	19.0	15.5	21.5	18.5	24.0	18.5	24.5	18.5	20.0	16.5
11	18.0	16.0	19.5	15.0	20.5	18.5	25.0	19.5	23.5	18.5	19.5	16.0
12	18.0	15.0	21.0	15.0	21.0	18.0	26.0	20.0	23.5	20.0	19.0	16.0
13	17.0	15.0	22.0	16.0	21.0	18.5	26.0	20.5	23.5	20.0	18.0	15.5
14	16.5	14.0	20.5	17.5	20.5	18.5	26.5	20.5	23.0	20.0	17.5	14.5
15	16.0	14.5	21.0	17.0	20.5	18.5	25.5	20.5	22.5	19.5	17.5	14.5
16	15.5	14.5	22.0	17.5	20.0	17.5	24.0	19.0	21.5	18.5	18.0	15.0
17	16.0	14.5	24.0	17.5	19.5	17.5	24.0	18.5	21.5	18.0	17.5	14.0
18	16.5	15.0	24.0	18.0	19.0	17.0	23.5	18.0	22.0	18.0	16.5	13.0
19	18.0	15.5	21.5	17.5	20.0	17.0	24.5	18.0	21.5	19.0	16.0	13.5
20	19.5	16.5	21.0	17.0	20.5	17.0	26.0	18.0	21.0	18.5	17.0	13.0
21	20.5	18.0	20.0	16.0	22.0	17.5	26.0	20.0	21.0	17.5	17.0	13.0
22	21.0	19.0	20.5	16.0	23.5	19.0	24.5	21.0	21.5	17.5	17.5	13.5
23	20.5	19.0	20.0	15.5	24.0	20.0	25.0	21.0	20.5	17.5	17.5	14.5
24	20.0	18.0	21.5	14.5	24.0	20.5	24.5	20.5	21.0	18.0	---	---
25	19.0	17.5	23.5	16.5	24.0	20.5	24.5	19.5	21.0	18.0	---	---
26	18.5	17.0	23.5	18.0	23.5	20.5	25.0	19.0	22.0	18.0	---	---
27	18.5	16.5	22.5	18.5	23.0	20.0	24.5	19.0	21.5	18.0	---	---
28	19.0	17.5	22.5	19.0	22.5	19.5	24.5	18.5	21.0	18.0	---	---
29	18.5	17.0	22.5	19.0	22.5	19.0	24.0	19.0	21.0	17.5	---	---
30	19.5	16.0	23.0	19.5	22.5	19.0	25.0	20.0	20.5	17.5	---	---
31	---	---	22.5	19.5	---	---	26.0	21.0	21.0	17.5	---	---
MONTH	21.0	14.0	24.0	13.5	24.0	16.0	26.5	18.0	26.5	17.5	---	---

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	2000	83	448	2120	58	332	2500	82	554
2	1970	83	441	2100	52	295	2580	84	585
3	2280	91	560	2080	55	309	2620	86	608
4	2420	88	575	2060	52	289	2600	82	576
5	2250	89	541	2040	49	270	2580	82	571
6	2220	79	474	2010	49	266	2650	90	644
7	2140	71	410	1940	47	246	2670	95	685
8	2090	64	361	1840	40	199	2660	81	582
9	1960	62	328	1800	41	199	2660	70	503
10	1890	49	250	1790	43	208	2610	55	388
11	1850	46	230	1790	35	169	2380	51	328
12	1830	50	247	1800	34	165	2200	48	285
13	1820	57	280	1810	36	176	2040	33	182
14	1940	77	403	1810	31	151	1950	26	137
15	1950	77	405	1810	31	151	1880	29	147
16	1910	46	237	1780	37	178	1840	24	119
17	1950	48	253	1760	39	185	1830	26	128
18	2250	68	413	1740	36	169	1820	28	138
19	1990	66	355	1710	32	148	1800	28	136
20	1880	66	335	1670	34	153	1770	26	124
21	1890	74	378	1630	41	180	1750	25	118
22	2090	74	418	1630	37	163	1780	26	125
23	2110	60	342	1790	60	290	1930	29	151
24	2100	57	323	2000	70	378	1960	31	164
25	2100	74	420	2150	71	412	2070	28	156
26	2110	100	570	2170	71	416	2100	27	153
27	2210	87	519	2170	74	434	2040	29	160
28	2320	81	507	2190	76	449	2070	30	168
29	2300	89	553	2280	79	486	2380	41	263
30	2240	84	508	2400	78	505	2440	42	277
31	2170	72	422	---	---	---	2200	49	291
TOTAL	64230	---	12506	57870	---	7971	68360	---	9446
DAY		JANUARY			FEBRUARY			MARCH	
1	2360	97	618	2670	129	930	18100	71	3470
2	2330	106	667	2730	124	914	16900	73	3330
3	1980	46	246	2780	140	1050	15800	78	3330
4	1950	44	232	2820	150	1140	14700	76	3020
5	2000	54	292	3330	172	1550	13900	80	3000
6	1920	62	321	3260	142	1250	13500	81	2950
7	1810	49	239	3060	98	810	13300	80	2870
8	1920	59	306	2820	96	731	13600	84	3080
9	2010	58	315	2510	81	549	14600	85	3350
10	1990	48	258	2300	52	323	16400	107	4740
11	1960	41	217	2080	43	241	17300	107	5000
12	1930	41	214	2280	59	363	19800	101	5400
13	1870	35	177	2550	79	544	24100	83	5400
14	1740	31	146	3740	204	2060	27700	61	4560
15	1910	57	294	4460	376	4530	30600	69	5700
16	2060	144	801	5000	321	4330	33000	72	6420
17	2240	116	702	5320	305	4380	35800	73	7060
18	2200	114	677	8110	574	12600	36400	57	5600
19	2190	111	656	11400	549	16900	36600	56	5530
20	2130	56	322	13900	446	16700	36000	51	4960
21	2040	42	231	15300	205	8470	34600	45	4200
22	2060	44	245	16000	190	8210	33000	41	3650
23	2190	49	290	19900	170	9130	31800	38	3260
24	2190	43	254	22900	101	6240	30800	38	3160
25	2000	42	227	22700	84	5150	29900	38	3070
26	1920	37	192	21300	72	4140	29300	40	3160
27	2050	48	266	20400	65	3580	28800	43	3340
28	2030	52	285	19200	62	3210	28400	45	3450
29	2130	121	696	---	---	---	27800	41	3080
30	2260	101	616	---	---	---	27000	44	3210
31	2480	120	804	---	---	---	26600	48	3450
TOTAL	63850	---	11806	244820	---	120025	776100	---	125800

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	26200	46	3250	10900	104	3060	7220	95	1850
2	25300	48	3280	10800	87	2540	7310	94	1860
3	24800	51	3410	10700	92	2660	7290	90	1770
4	24500	52	3440	10700	92	2660	7370	89	1770
5	24200	50	3270	10600	96	2750	7310	99	1950
6	23800	52	3340	10300	83	2310	7210	90	1750
7	23600	46	2930	10200	82	2260	7320	89	1760
8	23400	51	3220	10000	82	2210	7410	95	1900
9	22900	48	2970	9860	81	2160	7500	101	2050
10	22300	50	3010	9920	89	2380	7460	104	2090
11	22000	49	2910	9930	90	2410	7490	107	2160
12	21800	47	2770	9940	78	2090	7630	121	2490
13	21700	52	3050	9720	80	2100	7780	118	2480
14	21500	54	3130	9470	87	2220	7830	113	2390
15	21200	57	3260	9240	92	2300	7510	108	2190
16	20900	57	3220	9010	90	2190	7240	106	2070
17	20400	53	2920	8640	97	2260	6920	98	1830
18	19500	52	2740	8350	100	2250	6730	104	1890
19	18900	59	3010	8180	89	1970	6290	88	1490
20	18300	65	3210	7970	89	1920	5790	85	1330
21	17600	68	3230	7540	93	1890	5070	91	1250
22	16700	72	3250	7130	89	1710	4680	98	1240
23	15700	85	3600	7000	89	1680	4550	94	1150
24	14800	86	3440	7010	88	1670	4310	88	1020
25	14000	86	3250	6960	92	1730	4180	91	1030
26	13500	87	3170	6990	88	1660	4060	95	1040
27	13000	86	3020	6810	86	1580	3980	92	989
28	12300	87	2890	6690	87	1570	3820	94	970
29	11700	97	3060	6840	84	1550	3820	95	980
30	11200	118	3570	7140	84	1620	3920	89	942
31	---	---	---	7140	90	1740	---	---	---
TOTAL	587700	---	94820	271680	---	65100	187000	---	49681
DAY		JULY			AUGUST			SEPTEMBER	
1	3780	80	816	2550	109	750	3600	79	768
2	3490	82	773	2610	109	768	3510	76	720
3	3420	86	794	2990	107	864	3450	77	717
4	3580	96	928	3250	106	930	3540	92	879
5	3710	102	1020	2970	105	842	3580	81	783
6	3660	90	889	3000	105	851	3550	74	709
7	3610	94	916	3040	105	862	3560	75	721
8	3480	94	883	2980	100	805	3790	71	727
9	3250	89	781	3080	99	823	3650	70	690
10	3210	92	797	3150	99	842	3620	66	645
11	3170	95	813	3250	90	790	3660	72	712
12	2860	89	687	3210	93	806	3840	66	684
13	2760	90	671	3010	92	748	4040	61	665
14	2780	92	691	3070	85	705	4190	68	769
15	2540	95	652	3070	81	671	4370	68	802
16	2420	100	653	3100	86	720	4100	67	742
17	2320	104	651	3230	84	733	4640	75	940
18	2250	107	650	3310	90	804	4980	77	1040
19	2220	103	617	3160	81	691	5200	75	1050
20	2290	106	655	3210	81	702	5160	69	961
21	2410	108	703	3380	85	776	4920	67	890
22	2490	107	719	3390	79	723	4550	69	848
23	2380	104	668	3390	86	787	4110	65	721
24	2440	105	692	3490	95	895	4320	73	851
25	2640	122	870	3520	83	789	4730	72	920
26	2780	130	976	3300	75	668	4900	68	900
27	2850	121	931	3280	76	673	4840	63	823
28	2870	113	876	3340	82	739	4700	64	812
29	2750	113	839	3390	78	714	4410	62	738
30	2700	112	816	3450	75	699	3910	58	612
31	2600	110	772	3510	74	701	---	---	---
TOTAL	89710	---	24199	98680	---	23871	125420	---	23839
YEAR	2635420		569064						

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PARTICLE-SIZE DISTRUBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
MAY									
20...	1230	7980	19.5	274	1590	84	87	89	100

11308600 CALAVERAS RIVER ABOVE NEW HOGAN LAKE, NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°11'48", long 120°43'18", in NW 1/4 SW 1/4 sec. 13, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, on right bank 600 ft below confluence of the North and South Forks of the Calaveras River, and 2.3 mi west of San Andreas.

DRAINAGE AREA.--307 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

REMARKS.--Interruption in record was due to probe damage caused by high flows on Feb. 17.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.5°C Aug. 8, 9, 1978; minimum recorded, 2.0°9 Jan. 7, 1973, Jan. 4, 1976.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	13.0	10.5	10.0	9.5	9.0	8.5	11.0	10.5
2	---	---	13.5	11.0	10.5	10.0	9.5	9.0	11.0	10.5
3	---	---	13.5	11.0	10.5	10.0	10.0	9.5	11.0	10.5
4	---	---	13.5	12.0	10.5	10.0	10.5	10.0	10.5	9.5
5	---	---	13.5	12.0	10.0	10.0	11.0	10.5	10.0	9.0
6	21.0	17.0	13.5	11.5	10.0	10.0	11.0	10.5	10.0	9.5
7	21.0	17.5	13.0	11.5	10.5	10.0	10.0	9.5	9.5	8.5
8	19.0	16.0	12.5	11.0	10.0	9.0	9.5	9.0	8.5	8.0
9	18.5	14.0	12.0	11.0	9.0	8.0	9.0	8.5	8.0	7.5
10	18.0	12.5	11.5	10.5	8.0	7.0	8.0	7.5	8.0	7.0
11	17.5	12.0	10.5	10.0	7.0	6.0	8.0	7.5	7.5	7.0
12	17.5	12.5	10.0	9.0	6.0	5.0	8.0	7.5	8.5	7.5
13	17.5	12.5	9.0	8.0	5.5	4.5	8.0	7.0	10.5	9.0
14	17.0	10.5	9.0	7.5	5.0	4.5	8.0	7.0	11.5	10.5
15	17.0	11.0	8.5	7.0	5.0	4.5	8.5	8.0	11.5	10.5
16	17.0	11.0	9.0	8.5	5.5	4.5	10.0	8.5	10.5	10.5
17	---	---	10.0	9.0	5.5	4.5	11.0	10.0	---	---
18	16.5	11.5	9.5	8.5	5.5	4.5	10.5	10.0	---	---
19	16.0	11.5	8.5	7.5	5.5	4.5	11.0	10.5	---	---
20	14.5	12.0	8.0	7.0	5.5	4.5	11.0	11.0	---	---
21	13.5	12.5	9.0	7.5	5.0	4.5	11.0	10.5	---	---
22	13.0	11.5	9.0	8.0	5.0	4.5	10.5	10.0	---	---
23	14.5	12.5	9.0	8.5	5.5	5.0	10.5	10.0	---	---
24	15.0	12.5	9.5	9.0	5.5	5.0	10.0	9.5	---	---
25	15.0	12.5	10.5	9.5	5.5	5.0	9.5	9.0	---	---
26	15.0	12.5	11.0	10.5	5.5	4.5	9.0	8.5	---	---
27	15.5	12.0	11.0	11.0	5.0	4.5	9.0	8.5	---	---
28	15.0	12.0	11.0	11.0	5.0	4.5	9.5	8.5	---	---
29	14.5	12.0	11.0	10.0	6.0	5.0	10.0	9.5	---	---
30	14.0	12.0	10.0	9.5	7.5	6.0	11.0	10.0	---	---
31	13.0	11.0	---	---	8.5	7.5	11.0	11.0	---	---
MONTH	---	---	13.5	7.0	10.5	4.5	11.0	7.0	---	---

SAN JOAQUIN RIVER BASIN

11308700 NEW HOGAN LAKE NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°09'01", long 120°48'45", in SW 1/4 SW 1/4 sec.31, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, in control house at New Hogan Dam on the Calaveras River, 3.0 mi south of Valley Springs.
DRAINAGE AREA.--362 mi^2.
PERIOD OF RECORD.--December 1963 to current year. Prior to October 1971, published as "New Hogan Reservoir."

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by an earthfill dam and four earthfill dikes. Storage began Dec. 20, 1963. Total capacity, 317,055 acre-ft between elevations 534.5 ft, invert of outlet valve, and 713.0 ft, top of spillway gates. Elevation of spillway crest is 679.5 ft. No dead storage. The reservoir is operated for flood control according to existing downstream channel conditions. Reservoir releases limited, insofar as possible, to amounts that will not cause flows greater than 6,000 ft^3/s at Bellota. Records, including extremes, show contents at 2400 hours.
COOPERATION.--Records provided by U.S. Corps of Engineers, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 278,798 acre-ft, May, 15-16, 1982, elevation, 703.75 ft; minimum since initial season of normal operation, 9,360 acre-ft, Oct. 27, 1964, elevation, 576.81 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 252,639 acre-ft, Feb. 20, elevation, 696.95 ft; minimum, 93,848 acre-ft, Nov. 23, elevation, 642.70 ft.

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

545	588	600	26,851
550	1,117	610	38,252
555	1,892	630	68,795
560	2,960	650	110,300
570	6,149	670	163,134
580	11,013	700	264,177
590	17,835	713	317,123

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100516	95274	96668	99268	110677	186775	196293	202004	194034	179081	161907	144657
2	100226	95165	96952	99313	113292	186586	196682	201774	193488	178589	161325	144191
3	99914	95078	97589	99357	115893	186555	197136	201675	193007	178066	160685	143699
4	99602	94949	97831	99512	117645	186681	197493	201675	192494	177514	160134	143236
5	99291	94862	98095	99824	118601	186743	197819	201609	192014	176932	159584	142800
6	98980	94732	98250	100337	119289	186743	198372	201478	191534	176321	159064	142338
7	98670	94646	98404	100673	119857	187217	199219	201379	191055	175772	158545	141849
8	98382	94538	98626	100852	120227	194743	199741	201281	190609	175223	157998	141443
9	98117	94430	98758	100964	120574	191151	200200	201150	190259	174646	157423	141037
10	97875	94495	98891	101054	120846	190800	200592	200986	189750	174069	156821	140686
11	97655	94473	98935	101099	121095	191854	200920	200822	189241	173524	156248	140281
12	97501	94409	98957	101099	121493	190131	201215	200691	188798	172919	155677	139851
13	97347	94365	98980	101166	123743	187975	201511	200527	188260	172345	155107	139393
14	97172	94301	98980	101301	126094	185957	201807	200331	187753	171803	154538	138964
15	96974	94236	98980	101526	137281	187753	202036	200102	187248	171202	153970	138509
16	96777	94193	98980	102202	161412	190004	202267	199905	186775	170631	153375	138108
17	96510	94128	98980	104199	207504	188925	202465	199709	186240	170031	152782	137707
18	96405	94085	98957	105046	223903	187722	202695	199481	185737	169493	152246	137387
19	96274	94042	98957	105528	249960	187975	202860	199187	185266	168986	151682	137175
20	96165	93977	98935	105873	252639	188956	203058	198860	184796	168479	151120	136962
21	96209	93913	98913	106103	244689	189782	203223	198600	184295	167913	150560	136696
22	96100	93870	98913	106357	234200	190354	203289	198306	183764	167349	150000	136484
23	96035	93848	98869	106542	222651	190864	203355	197981	183233	166815	149469	136245
24	95969	94063	98847	106727	211733	191247	203223	197689	182735	166282	148911	136245
25	95926	94430	98825	106865	202761	191918	203124	197396	182237	165721	148383	136085
26	95860	94603	98803	106958	195195	192718	203058	197039	181678	165190	147883	135979
27	95795	94624	98781	107074	189210	193488	202893	196617	181182	164630	147357	135874
28	95730	94776	98758	107144	186901	194131	202761	196197	180655	164042	146776	135741
29	95621	95621	98913	107283	---	194710	202531	195711	180099	163515	146224	135635
30	95599	96384	99046	107678	---	195292	202234	195195	179574	162988	145673	135503
31	95426	---	99179	108938	---	195808	---	194582	---	162461	145123	---
MAX	100516	96384	99179	108938	252639	195808	203355	202004	194034	179081	161907	144657
MIN	95426	93848	96668	99313	110677	185957	196293	194582	179574	162461	145123	135503
a	643.43	643.87	645.14	649.42	677.82	680.61	682.58	680.23	675.47	669.77	663.65	660.08
b	-5381	+958	+2795	+9759	+77963	+8907	+6426	-7652	-15008	-17113	-17338	-9620
c	857	277	111	201	329	590	867	1359	1830	2076	1846	1148

CAL YR 1985 b -36007
WTR YR 1986 b +34696

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

SAN JOAQUIN RIVER BASIN

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°08'53", long 120°49'26", in NW 1/4 NE 1/4 sec.1, T.3 N., R.10 E., Calaveras County, Hydrologic Unit 18040011, on right bank at county road bridge, 0.5 mi upstream from Cosgrove Creek, 0.8 mi downstream from New Hogan Dam, and 3.0 mi south of Valley Springs.

DRAINAGE AREA.--363 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 519.8 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Auxiliary nonrecording gage 300 ft downstream at different datum used May 1, 1962, to Jan. 26, 1963.

REMARKS.--No estimated daily discharge. Records good. Flow regulated by New Hogan Lake (station 11308700). Some seepage of North Fork Stanislaus River water enters basin from diversion canals and reservoirs, normally not over 1.5 ft^3/s. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--(adjusted for change in contents in and evaporation from New Hogan Lake).--25 years, 259 ft^3/s, 187,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft^3/s, Jan. 22, 1980, gage height, 10.52 ft; no flow many days in 1961-65, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,160 ft^3/s, Feb. 22, gage height, 8.70 ft; minimum daily, 16 ft^3/s, Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	52	37	39	43	484	28	216	308	237	250	221
2	157	52	37	39	45	483	28	202	298	230	267	208
3	157	52	37	39	45	343	28	190	274	230	286	218
4	157	52	37	39	44	245	34	161	261	248	256	221
5	157	52	37	39	43	245	49	154	251	263	243	205
6	157	52	37	38	21	247	49	160	244	256	231	195
7	157	52	37	26	16	251	50	158	244	256	222	197
8	136	52	37	39	21	1520	50	165	244	256	239	189
9	123	52	37	39	21	3750	42	165	236	260	256	170
10	123	53	37	38	21	3610	35	164	236	267	269	161
11	102	53	40	38	27	3620	36	164	251	271	264	177
12	75	45	42	39	32	3940	30	164	254	271	257	192
13	73	37	42	39	26	3370	26	163	252	270	257	190
14	73	37	42	40	23	2710	36	171	249	260	245	190
15	82	37	42	42	35	2370	65	176	238	251	240	190
16	91	37	42	42	57	2360	86	172	245	251	262	190
17	91	37	42	42	242	2510	84	172	249	250	266	196
18	79	37	42	42	2410	1930	74	172	233	249	261	164
19	70	37	42	42	3760	914	73	182	228	248	260	113
20	70	37	43	42	5820	291	69	187	251	247	261	100
21	55	37	42	42	6860	291	60	172	267	247	254	101
22	54	37	42	42	6920	291	76	174	263	247	247	103
23	48	37	42	42	6910	291	88	189	256	247	246	104
24	36	37	42	42	6270	291	174	210	248	247	246	88
25	33	37	42	42	5080	117	164	220	232	235	237	81
26	33	37	41	42	4230	27	143	225	231	235	225	84
27	32	37	40	42	3440	28	193	235	231	253	241	81
28	33	37	40	42	1660	27	176	253	243	258	257	63
29	39	37	40	42	---	28	196	277	259	249	258	49
30	41	37	41	42	---	28	231	292	253	241	251	65
31	52	---	40	43	---	29	---	308	---	239	245	---
TOTAL	2743	1285	1241	1246	54122	36641	2473	6013	7529	7769	7799	4506
MEAN	88.5	42.8	40.0	40.2	1933	1182	82.4	194	251	251	252	150
MAX	157	53	43	43	6920	3940	231	308	308	271	286	221
MIN	32	37	37	26	16	27	26	154	228	230	222	49
AC-FT	5440	2550	2460	2470	107400	72680	4910	11930	14930	15410	15470	8940

CAL YR 1985	TOTAL	47983.6	MEAN	131	MAX	309	MIN	8.6	AC-FT	95180	MEAN	a 98.2	AC-FT	71110
WTR YR 1986	TOTAL	133367.0	MEAN	365	MAX	6920	MIN	16	AC-FT	264500	MEAN	a 429	AC-FT	310700

a Adjusted for change in contents and evaporation from New Hogan Lake.

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1971 to current year.
CHEMICAL DATA: Water years 1964-66.
WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

REMARKS.-- Interruptions in record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 24.0°C Aug. 10,28,29, 1977; minimum recorded, 5.5°C Dec. 17, 1971, Jan. 1, 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 14.0°C Oct.24-28, Aug. 12, Sept. 28; minimum recorded, 9.0°C Dec. 26-29, Feb. 7, 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	12.0	13.0	11.5	12.5	11.5	9.5	9.5	11.0	10.0	11.0	11.0
2	13.0	12.0	13.0	11.5	12.5	12.0	10.0	9.5	11.0	10.5	11.0	11.0
3	13.0	11.5	13.0	12.0	13.5	12.0	10.0	9.5	11.0	10.5	11.5	11.0
4	13.5	11.5	13.0	12.0	13.0	11.5	10.0	9.5	11.5	10.0	11.5	10.5
5	13.5	11.5	13.0	11.5	12.5	11.5	10.5	9.5	11.0	10.0	11.5	10.5
6	13.0	11.0	13.0	12.0	12.5	11.5	10.5	9.5	12.0	10.0	11.0	10.5
7	13.5	11.5	13.0	11.0	12.5	11.5	11.0	9.5	11.5	9.0	11.0	10.5
8	13.0	12.5	13.0	12.0	12.5	11.0	10.5	9.5	11.5	9.5	11.5	11.0
9	13.0	12.0	13.0	11.5	12.0	11.0	10.5	9.5	11.5	9.0	12.5	11.5
10	13.0	12.0	12.5	11.5	12.0	11.0	10.0	9.5	11.5	9.5	12.5	12.0
11	13.0	12.0	12.5	11.5	11.5	10.5	10.0	9.5	10.5	9.5	12.0	11.5
12	13.0	11.5	12.5	11.5	11.5	10.5	10.0	9.5	10.5	10.0	12.0	11.5
13	13.0	12.0	13.0	11.5	11.5	10.5	10.5	9.5	12.0	10.0	12.0	11.5
14	13.0	11.0	13.0	11.5	11.5	10.0	10.0	9.5	11.5	10.5	12.0	11.5
15	13.0	12.0	12.5	11.5	11.0	10.0	10.5	9.5	12.0	10.5	11.5	11.0
16	13.0	11.5	12.5	12.0	11.0	10.0	10.5	10.0	11.5	11.0	11.5	11.0
17	13.0	11.5	13.0	12.0	11.0	9.5	11.0	10.0	12.5	11.0	11.5	11.0
18	13.0	11.0	13.5	11.5	10.5	9.5	11.0	10.0	11.0	11.0	11.5	11.0
19	13.0	11.5	13.0	11.5	10.0	9.5	11.0	10.0	11.0	11.0	11.5	10.5
20	12.5	11.5	13.0	12.0	10.0	9.5	10.5	10.0	11.0	11.0	11.5	10.5
21	12.5	11.5	13.0	12.0	10.0	9.5	10.5	10.0	11.5	11.0	11.5	10.5
22	13.0	11.5	13.0	12.0	10.0	9.5	10.5	10.0	11.0	11.0	11.5	10.5
23	13.5	11.5	12.5	12.5	10.0	9.5	11.0	9.5	11.5	11.0	11.0	10.0
24	14.0	12.0	12.5	12.5	10.0	9.5	11.0	9.5	11.5	11.0	11.0	10.5
25	14.0	11.5	13.0	12.5	10.0	9.5	11.0	9.5	11.5	11.0	13.0	10.5
26	14.0	11.5	13.0	12.5	10.0	9.0	11.0	9.5	11.5	11.0	13.0	10.0
27	14.0	12.0	13.0	12.5	9.5	9.0	11.0	10.0	11.5	11.0	12.5	10.0
28	14.0	11.5	12.5	12.5	9.5	9.0	11.0	10.0	11.5	11.0	12.5	10.0
29	13.5	11.5	12.5	12.0	10.0	9.0	10.5	10.0	---	---	12.5	10.0
30	13.5	12.0	13.0	12.0	10.0	9.5	11.5	10.5	---	---	12.0	10.0
31	13.0	12.0	---	---	10.0	9.5	11.0	10.0	---	---	12.0	10.0
MONTH	14.0	11.0	13.5	11.0	13.5	9.0	11.5	9.5	12.5	9.0	13.0	10.0

SAN JOAQUIN RIVER BASIN

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

WATER-QUALITY RECORDS

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	10.0							13.0	12.0	13.0	11.0
2	12.0	9.5							13.5	11.0	13.0	10.5
3	12.0	9.5							14.0	10.5	13.0	11.5
4	12.0	9.5							13.5	11.0	13.5	11.0
5	11.0	10.0							14.0	11.0	13.5	10.5
6	11.5	10.0							13.0	11.5	13.0	11.0
7	10.5	10.0							13.0	10.0	13.0	11.0
8	11.5	10.0							13.0	11.5	13.5	11.0
9	12.0	9.5							13.5	12.0	13.5	11.5
10	12.5	10.0							13.5	10.5	13.0	11.0
11	12.0	10.0							13.5	11.0	13.5	10.5
12	11.0	10.0							14.0	11.0	13.5	10.5
13	12.5	9.5							13.5	10.5	13.5	11.5
14	12.0	9.5							13.5	11.5	13.0	11.0
15	11.0	10.0							13.5	12.0	13.0	11.0
16	10.5	10.0							13.0	11.5	13.0	12.5
17	11.0	10.0							13.0	11.5	12.5	12.5
18	11.5	9.5							13.5	11.0	13.0	12.5
19	11.5	10.0							13.0	12.5	13.0	12.0
20	11.5	10.0							13.5	12.0	13.0	11.5
21	12.0	10.0							13.5	11.0	13.0	12.0
22	11.5	9.5							13.5	11.5	13.0	11.5
23	10.5	10.0							13.0	11.5	13.5	12.0
24	10.5	9.5							13.0	10.5	13.5	12.0
25	11.0	9.5							13.5	10.5	13.0	12.0
26	11.0	9.5							13.5	12.0	13.0	12.5
27	11.0	10.0							13.5	11.0	13.5	12.5
28	---	---							13.0	10.5	14.0	12.0
29	---	---							13.0	10.0	13.5	12.0
30	---	---							13.0	10.5	13.5	12.0
31	---	---							13.0	9.5	---	---
MONTH	---	---							14.0	9.5	14.0	10.5

SAN JOAQUIN RIVER BASIN

11313000 DELTA-MENDOTA CANAL AT TRACY PUMPING PLANT, NEAR TRACY, CA

LOCATION.--Lat 37°47'49", long 121°35'03", in SW 1/4 SW 1/4 sec.31, T.1 S., R.4 E., Alameda County, Hydrologic Unit 18040003, at Tracy pumping plant at intake to canal, 6 mi southeast of Byron, and 10 mi 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

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.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, rounded to U.S. Geological Survey standards.

AVERAGE DISCHARGE.--35 years, 2,385 ft^3/s, 1,728,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,935 ft^3/s, Aug. 11, 1969; no flow many days in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3930	3440	3930	3790	3980	3930	2060	2970	3340	4610	4540	4000
2	3920	3490	3930	3790	3990	3650	1730	3040	3330	4500	4530	3990
3	3920	3500	3940	3770	3990	3070	2290	3040	3320	4490	4540	3970
4	3930	3730	3930	3760	3990	3220	3040	3040	3340	4490	4530	3980
5	3940	3720	3920	3780	3990	3220	3250	3040	2590	4560	4410	3970
6	3950	3620	3910	3780	3990	3730	3240	3190	2440	4590	4330	3980
7	3950	3410	3910	3750	3980	4070	2840	3300	2450	4450	4470	3980
8	3920	3030	3920	3780	3990	3930	2450	3300	2450	4540	4340	3980
9	3940	3060	3930	3850	3980	3900	2070	3300	2460	4520	4520	3980
10	3910	3240	3910	3930	3970	3930	1780	3310	2450	4520	4490	3990
11	3930	3340	3920	3950	3960	3940	2160	3310	3080	4480	4430	4150
12	3920	3610	3920	3930	3940	3620	2390	3300	3330	4500	4490	4070
13	3920	3660	3650	3930	3910	1900	2370	3170	3330	4490	4400	4030
14	3900	3730	3930	3930	3820	2500	2440	3060	3320	4470	4560	4010
15	3920	4040	3890	3940	3880	3300	2550	3070	3320	4480	4540	4030
16	3920	3970	3850	3910	3860	3280	3010	2690	3310	4390	4580	4010
17	3940	3960	3800	3950	3880	1330	3310	2540	3330	4480	4530	3990
18	3940	3940	3870	3940	3860	199	2830	2530	3320	4500	4290	3980
19	3940	3920	3880	3950	3880	186	2530	2530	3320	4510	4370	4000
20	3930	3900	3890	3950	3900	616	2540	2540	2790	4500	4460	4000
21	3930	3910	3850	3950	3900	833	2550	2430	2560	4380	4450	4000
22	3910	3910	3850	3930	3890	838	3020	2550	2570	4050	4390	3990
23	3890	3910	3860	3910	3860	835	3310	2560	2580	4230	4410	4020
24	3740	3930	3870	4030	3960	839	3300	2910	2560	4210	4430	4010
25	3920	3940	3870	4030	3970	1330	3300	3080	2580	4280	4420	4020
26	3620	3840	3840	3980	4050	1710	3310	3060	3170	4310	4400	4020
27	4030	3850	3800	3950	4030	1740	3300	3080	3390	4310	4070	4070
28	4030	3960	3810	3980	3930	2280	3300	3210	3280	4400	4000	3990
29	4040	3960	3800	3970	---	2520	3370	3220	3230	4590	4020	4030
30	4040	3930	3790	3960	---	2520	4000	3340	3220	4590	3990	4030
31	3870	---	3810	4010	---	2510	---	3220	---	4560	4000	---
TOTAL	121590	111550	119980	121060	110330	75476	83640	92930	89760	137980	135930	120270
MEAN	3922	3718	3870	3905	3940	2435	2788	2998	2992	4451	4385	4009
MAX	4040	4040	3940	4030	4050	4070	4000	3340	3390	4610	4580	4150
MIN	3620	3030	3650	3750	3820	186	1730	2430	2440	4050	3990	3970
AC-FT	241200	221300	238000	240100	218800	149700	165900	184300	178000	273700	269600	238600

CAL YR 1985 TOTAL 1408430 MEAN 3859 MAX 4670 MIN 2390 AC-FT 2794000
WTR YR 1986 TOTAL 1320496 MEAN 3618 MAX 4610 MIN 186 AC-FT 2619000

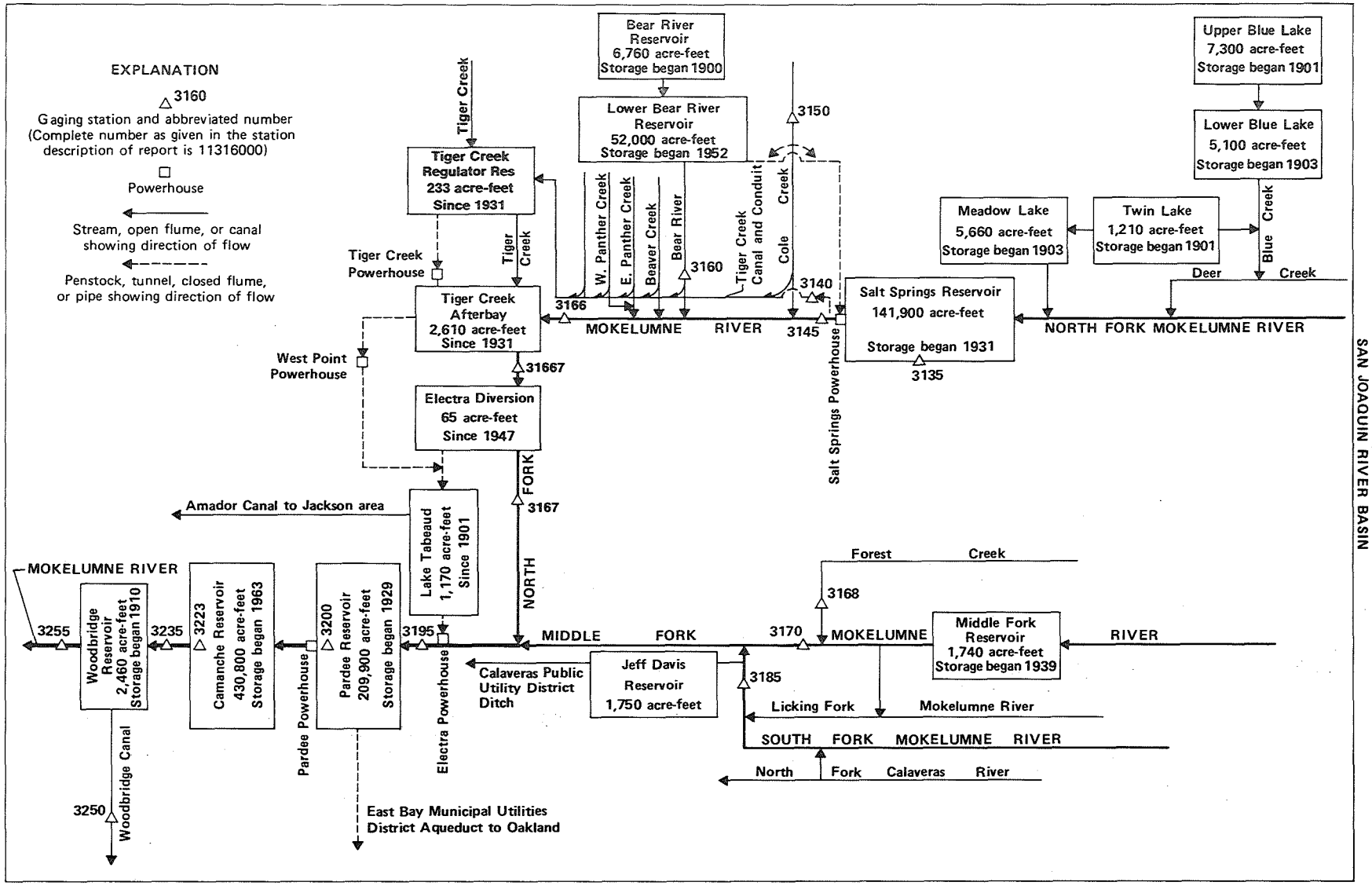

FIGURE 34. — Schematic diagram showing diversions and storage in Mokelumne River basin.

SAN JOAQUIN RIVER BASIN

11313500 SALT SPRINGS RESERVOIR NEAR WEST POINT, CA

LOCATION.--Lat 38°29'55", long 120°12'52", in NW 1/4 SE 1/4 sec.33, T.8 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Eldorado National Forest, near center of Salt Springs Dam on North Fork Mokelumne River, 1.8 mi upstream from Cole Creek, and 18 mi northeast of West Point.
DRAINAGE AREA.--169 mi^2.
PERIOD OF RECORD.--March 1931 to current year. Prior to October 1964, records published as usable contents.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1931; storage began in March 1931. Capacity, 141,857 acre-ft between elevations 3,667.75 ft, outlet drain, and 3,958.0 ft, top of radial gates. Storage of 1,860 acre-ft available for release to river only. Water is released through Salt Springs powerplant just downstream from dam and discharged into Tiger Creek powerhouse conduit (station 11314000). Figures given herein, including extremes, represent total contents at 1400 hours. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 1400) FOR PERIOD OF RECORD.--Maximum contents, 141,857 acre-ft, several days during June or July of most years, elevation, 3,958.0 ft; no contents at times in 1932-33, 1945, 1962.
EXTREMES (AT 1400) FOR CURRENT YEAR.--Maximum contents, 141,857 acre-ft, June 27, elevation, 3,958.0 ft; minimum, 26,801 acre-ft, Dec. 29, elevation, 3,797.3 ft.

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

3,667.75	45	3,720.0	3,519	3,740.0	7,324	3,800	28,017
3,700.0	1,251	3,725.0	4,324	3,750.0	9,799	3,850.0	54,852
3,705.0	1,679	3,730.0	5,229	3,760.0	12,689	3,900.0	90,786
3,710.0	2,199	3,735.0	6,230	3,780.0	19,632	3,958.0	141,857
3,715.0	2,812						

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 1400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75979	59616	36241	28017	35532	86067	121914	136985	137080	140897	127282	108599
2	75831	58630	36342	27881	35431	86846	123633	137080	136796	141088	126274	108168
3	75389	57590	37213	27699	35431	87785	124541	137080	136796	140897	125269	107735
4	74874	56625	37471	27338	35331	88807	125087	136606	136891	140416	124723	107139
5	74287	55988	37471	28337	35030	90627	125543	136791	137460	139938	124177	106711
6	73702	55292	37368	29862	34780	90946	126000	136891	137460	139460	123723	106199
7	73120	54726	37574	29629	34333	91983	126457	136891	137276	138887	123270	105602
8	72539	54039	37989	29165	33790	103064	126824	136891	137460	138315	122004	105177
9	72167	53110	37368	29536	33397	108168	126824	136891	137840	138125	122004	104499
10	71743	52190	36853	29304	32910	110326	127007	137080	138125	137935	121130	104160
11	71095	51388	36598	29396	32329	111804	127558	136985	138410	137840	120295	103569
12	70664	50554	36342	29165	31897	112502	128570	137080	138506	137175	119757	103064
13	70019	49598	35886	28934	32571	113114	129124	137080	138982	136701	119399	102727
14	69591	48181	34980	29396	33937	113377	129490	137080	139078	136133	118952	102224
15	69093	47365	34085	30096	39299	113640	130049	137080	139078	135944	118327	101805
16	68667	46443	33202	29862	42797	113640	130328	137080	138982	135378	117437	101387
17	67960	45530	32619	32474	48592	113377	130513	136985	139269	135189	116638	100969
18	67186	44571	32329	34036	57914	113377	130513	137080	140897	134813	115841	100470
19	66626	44012	31849	34880	67326	112939	130420	137080	140897	134907	115488	100137
20	65929	43402	31276	35431	70951	112939	130699	136796	140800	134284	115047	99722
21	65512	42907	30565	36292	73484	112939	131909	136796	141184	133592	114695	99391
22	64985	42196	30189	36444	75684	113114	134342	136701	141665	133029	114342	98977
23	64407	41274	29489	36546	77091	113289	136891	136796	141568	132655	113903	98482
24	63995	40361	29257	36444	78884	113377	136891	136891	141665	132375	113377	98317
25	63448	40201	28704	35987	81072	113464	136701	136985	141472	132002	112414	98482
26	63039	39669	28245	35482	83208	113727	136701	136796	141568	131164	111891	97823
27	62427	38773	27790	35030	84131	114254	136796	136701	141857	130420	111281	97248
28	61886	38198	27293	35030	84980	115311	137080	137080	141665	129309	110760	96593
29	61415	37730	26801	35987	---	116461	137270	137080	141472	129032	110326	96185
30	60678	37110	27293	35633	---	118060	137080	137080	141088	128478	109807	95777
31	60212	---	28017	35835	---	120205	---	137080	---	127926	109202	---
MAX	75979	59616	37989	36546	84980	120205	137270	137080	141857	141088	127282	108599
MIN	60212	37110	26801	27338	31897	86067	121914	136606	136796	127926	109202	95777
a	3858.3	3818.8	3800.0	3816.3	3892.6	3934.7	3953.0	3953.0	3957.2	3943.2	3922.2	3906.2
b	-15841	-23102	-9093	+7818	+49145	+35225	+16875	0	+4008	-13162	-18724	-13425

CAL YR 1985 b +5905
WTR YR 1986 b +19724

a Elevation, in feet, at end of month.
b Change in contents in acre-feet.

SAN JOAQUIN RIVER BASIN

11314000 TIGER CREEK POWERHOUSE CONDUIT BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'45", long 120°13'11", in SE 1/4 SW 1/4 sec.33, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft downstream from Salt Springs Dam and powerplant, and 18 mi northeast of West Point.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Auxiliary nonrecording gages in stilling wells upstream and downstream from control.

REMARKS.--No estimated daily discharges. Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs powerplant to forebay of Tiger Creek powerplant. Since December 1952, records include Bear River and Cole Creek diversion to Salt Springs No. 2 powerplant (station 11313510). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--55 years, 366 ft^3/s, 265,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 577 ft^3/s, June 22, 1945; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	547	490	525	528	218	218	153	562	552	559	559
2	378	551	319	536	525	218	218	455	561	549	561	561
3	551	550	305	492	521	218	217	550	562	544	562	555
4	550	550	351	379	526	218	217	551	562	543	560	555
5	550	551	428	361	526	218	217	555	562	539	560	554
6	552	551	317	214	527	218	217	561	562	539	561	555
7	552	551	1.6	394	531	218	217	561	562	536	561	555
8	551	550	174	393	531	218	78	560	562	531	561	555
9	550	551	500	392	534	218	.60	559	562	527	561	555
10	549	551	546	304	536	219	.44	559	555	525	561	555
11	548	552	551	211	455	219	8.2	560	562	520	560	522
12	547	550	551	391	521	217	10	560	562	516	557	554
13	547	551	550	294	449	217	8.1	560	562	514	514	545
14	547	551	552	216	336	217	6.7	561	562	510	550	544
15	548	551	551	338	215	217	5.5	561	561	507	544	544
16	549	551	550	440	218	217	4.9	561	561	508	539	541
17	549	551	551	331	302	217	4.1	560	561	508	534	535
18	532	551	551	326	321	217	2.5	561	562	323	534	524
19	551	552	551	396	302	217	5.8	562	563	83	529	516
20	552	552	496	391	252	216	7.2	562	563	531	520	513
21	553	552	400	288	223	217	5.0	562	563	552	515	512
22	553	551	398	474	224	216	.26	563	563	559	515	506
23	552	549	495	492	224	216	0	562	562	561	140	485
24	550	493	473	525	224	217	0	562	562	561	547	134
25	549	340	386	530	218	218	0	562	560	561	559	529
26	548	497	385	535	222	218	0	561	562	561	559	559
27	549	550	382	535	218	218	0	561	562	560	560	544
28	548	521	378	312	216	218	0	562	562	558	559	543
29	548	408	376	322	---	218	0	563	561	560	560	538
30	545	437	293	521	---	218	0	562	558	562	561	538
31	551	---	408	515	---	218	---	562	---	562	560	---
TOTAL	16601	15913	13259.6	12373	10425	6744	1668.30	16854	16846	16062	16623	15785
MEAN	536	530	428	399	372	218	55.6	544	562	518	536	526
MAX	553	552	552	536	536	219	218	563	563	562	562	561
MIN	302	340	1.6	211	215	216	0	153	555	83	140	134
AC-FT	32930	31560	26300	24540	20680	13380	3310	33430	33410	31860	32970	31310
a	13000	4430	6500	8850	11920	13630	13090	13710	13250	9850	8670	12580

CAL YR 1985 TOTAL 155233.30 MEAN 425 MAX 553 MIN 0 AC-FT 307900
WTR YR 1986 TOTAL 159153.90 MEAN 436 MAX 563 MIN 0 AC-FT 315700

a Inflow, in acre-feet, through Salt Springs No. 2 powerplant, provided by Pacific Gas and Electric Co.

SAN JOAQUIN RIVER BASIN

11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'37", long 120°13'12" (revised), in NE 1/4 NW 1/4 sec.4, T.7 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Stanislaus National Forest, on left bank 0.5 mi downstream from Salt Springs Dam, 1.3 mi upstream from Cole Creek, and 18 mi northeast of West Point.

DRAINAGE AREA.--170 mi^2.

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.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,590 ft above National Geodetic Vertical Datum of 1929, 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.

REMARKS.--No estimated daily discharges. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 0.5 mi upstream. Water is imported from Bear River and Cole Creek to Salt Springs No. 2 powerplant (station 11313510) upstream from the station since December 1952. Then most of the water is diverted through Tiger Creek powerhouse conduit (station 11314000). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit minus Bear River and Cole Creek diversion).--60 years, 487 ft^3/s, 352,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft^3/s, Nov. 21, 1950, gage height, 17.20 ft, from rating curve extended above 3,900 ft^3/s on basis of computations of flow over dam and discharge through powerplant; minimum daily, 0.3 ft^3/s, Mar. 31, Apr. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,390 ft^3/s, May 29, gage height, 10.15 ft; minimum daily, 21 ft^3/s, Nov. 7, 10, 11, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	25	23	24	155	622	703	1790	3660	221	35	34
2	37	23	26	24	122	625	710	1460	2950	200	31	34
3	34	24	24	23	117	627	714	2180	3240	310	34	33
4	36	23	23	23	111	628	716	1270	2620	327	33	34
5	36	22	23	26	123	630	717	622	2070	265	34	33
6	36	22	24	24	139	631	719	507	2090	298	33	34
7	36	21	24	22	172	637	722	472	1660	319	34	34
8	36	23	23	22	179	677	815	415	1150	161	34	34
9	35	25	22	22	126	677	939	483	1330	38	33	34
10	34	21	23	24	121	683	940	749	1280	39	33	33
11	35	21	23	24	275	685	934	1030	1330	39	33	34
12	36	23	22	22	125	685	934	1060	1030	40	34	34
13	35	23	23	22	27	684	937	1290	1450	40	34	33
14	35	22	24	22	33	683	741	1410	1600	42	34	33
15	35	23	24	25	53	683	722	1720	1560	40	35	32
16	35	23	23	25	62	684	942	1870	1250	40	35	32
17	36	23	23	25	230	683	706	1850	649	40	32	33
18	35	23	23	25	467	680	944	1960	550	43	33	33
19	36	23	23	24	527	677	939	2690	1180	45	33	32
20	37	22	23	25	239	676	937	2620	581	43	32	33
21	37	22	24	29	43	676	941	1950	357	40	33	34
22	37	21	23	22	38	677	950	1560	535	39	33	33
23	37	22	22	24	35	677	1290	1530	798	40	39	33
24	38	24	25	124	30	677	1930	1510	781	41	33	36
25	37	26	26	184	26	678	1800	2350	690	40	33	33
26	36	24	23	193	302	679	1490	3030	422	39	32	34
27	36	23	23	147	615	682	1350	2900	668	38	32	34
28	36	23	23	22	615	685	1900	2960	434	38	33	33
29	36	25	23	27	---	689	2150	3760	364	38	34	32
30	36	23	24	95	---	694	2070	3390	366	38	33	32
31	35	---	24	164	---	700	---	3570	---	39	34	---
TOTAL	1112	688	726	1504	5107	20771	32302	55958	38645	3020	1038	1000
MEAN	35.9	22.9	23.4	48.5	182	670	1077	1805	1288	97.4	33.5	33.3
MAX	38	26	26	193	615	700	2150	3760	3660	327	39	36
MIN	34	21	22	22	26	622	703	415	357	38	31	32
AC-FT	2210	1360	1440	2980	10130	41200	64070	111000	76650	5990	2060	1980

CAL YR 1985	TOTAL	9119.8	MEAN	25.0	MAX	234	MIN	5.8	AC-FT	18090
WTR YR 1986	TOTAL	161871.0	MEAN	443	MAX	3760	MIN	21	AC-FT	321100

SAN JOAQUIN RIVER BASIN

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°31'09", long 120°12'42", in SW 1/4 NE 1/4 sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 200 ft downstream from bridge, 0.3 mi upstream from diversion dam, 1.4 mi north of Salt Springs Dam, 3.2 mi upstream from mouth, and 6.5 mi southwest of Mokelumne Peak.

DRAINAGE AREA.--21.0 mi^2.

PERIOD OF RECORD.--July 1927 to November 1942, October 1943 to current year. Prior to October 1958, published as Cold Creek near Mokleumne Peak. October 1958 to September 1960, published as "near Mokelumne Peak."

REVISED RECORDS.--WSP 1515: 1928, 1930-31, 1938(M), 1944, 1947. WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control since Oct. 30, 1974. Elevation of gage is 5,920 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 30, 1974, at site 0.4 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 7-9, 11-13, Feb. 7, 9. Occasional pumping upstream from station for domestic use in summer-home tract began in September 1961. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--58 years, 66.4 ft^3/s, 48,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft^3/s, Dec. 23, 1964, gage height, 10.21 ft, site and datum then in use, from rating curve extended above 900 ft^3/s on basis of slope-area measurement at gage height 9.69 ft, site and datum then in use; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,800 ft^3/s, Mar. 8, gage height, 5.67 ft, from rating curve extended above 480 ft^3/s on basis of routing downstream discharge at old site at gage height 3.87 ft; minimum daily, 0.11 ft^3/s, Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	2.6	17	51	46	162	259	234	490	27	1.2	.18
2	.18	2.2	66	41	43	161	184	264	425	26	1.1	.15
3	.14	2.0	45	33	38	179	142	316	406	23	.96	.14
4	.16	1.9	31	111	39	184	139	190	309	19	.82	.13
5	.21	1.8	25	302	35	178	127	140	270	16	.69	.11
6	.16	1.6	24	123	33	166	134	115	238	13	.59	.13
7	.34	1.5	23	63	31	471	128	106	189	12	.52	.13
8	.76	1.3	22	46	30	1600	103	117	170	11	.46	.12
9	3.3	1.2	21	40	29	419	100	140	193	9.4	.43	.12
10	5.8	1.5	20	37	28	208	129	186	192	8.2	.41	.12
11	9.2	2.6	18	36	27	138	166	199	178	7.1	.36	.12
12	6.2	3.2	17	36	28	111	171	227	173	6.8	.33	.12
13	4.1	4.7	17	33	117	94	115	250	201	6.4	.30	.13
14	3.2	5.9	17	32	396	91	99	259	209	6.1	.28	.13
15	1.8	9.0	15	32	198	74	106	278	201	5.0	.27	.14
16	1.3	16	15	176	93	69	89	295	172	3.9	.28	.19
17	1.1	21	17	454	647	70	83	313	170	3.2	.28	.34
18	1.0	16	20	134	1280	62	88	372	173	2.7	.26	.55
19	.93	13	24	97	758	66	115	409	120	2.5	.23	.33
20	.84	9.7	26	79	241	91	207	321	84	2.3	.24	.29
21	1.3	7.8	26	54	153	104	319	253	81	2.0	.24	.27
22	3.3	7.2	26	44	126	111	363	226	96	1.8	.23	.26
23	15	11	26	40	116	111	318	225	97	2.2	.22	.26
24	26	16	27	36	134	105	242	278	87	8.4	.21	.46
25	23	18	29	34	152	117	214	392	73	6.4	.18	1.1
26	12	23	33	36	159	145	198	425	60	5.5	.19	1.2
27	8.5	18	27	38	165	188	223	421	54	3.5	.17	1.7
28	6.5	16	25	38	168	209	283	472	44	2.7	.17	1.3
29	5.0	19	54	38	---	258	260	513	33	2.3	.18	2.5
30	4.0	18	210	87	---	342	252	490	28	1.8	.18	10
31	3.2	---	74	64	---	277	---	491	---	1.5	.18	---
TOTAL	148.73	272.7	1037	2465	5310	6561	5356	8917	5216	248.7	12.16	22.72
MEAN	4.80	9.09	33.5	79.5	190	212	179	288	174	8.02	.39	.76
MAX	26	23	210	454	1280	1600	363	513	490	27	1.2	10
MIN	.14	1.2	15	32	27	62	83	106	28	1.5	.17	.11
AC-FT	295	541	2060	4890	10530	13010	10620	17690	10350	493	24	45

CAL YR 1985 TOTAL 15496.05 MEAN 42.5 MAX 345 MIN .09 AC-FT 30740
WTR YR 1986 TOTAL 35567.01 MEAN 97.4 MAX 1600 MIN .11 AC-FT 70550

SAN JOAQUIN RIVER BASIN

11316000 BEAR RIVER NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'36", long 120°17'18", in NE 1/4 NW 1/4 sec.2, T.7 N., R.15 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 mi upstream from mouth, and 4 mi west of Salt Springs Dam.

DRAINAGE AREA.--48.0 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 3,727 ft above National Geodetic Vertical Datum of 1929, from photogrammetric map.

REMARKS.--Estimated daily discharges: Mar. 6-31, June 2, 3. Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 4 mi upstream, capacity, 49,100 acre-ft. Water diverted for power since December 1952 from Lower Bear River Reservoir through tunnel to Salt Springs powerplant No. 2 (station 11313510) on North Fork Mokelumne River. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--35 years, 57.1 ft^3/s, 41,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s, Dec. 24, 1964, gage height, 10.11 ft in gage well, 11.8 ft from flood profile, from rating curve extended above 560 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.53 ft^3/s, Sept. 7, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1950 reached a stage of 11.2 ft, from floodmarks, discharge, 10,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft^3/s, Feb. 19, gage height, 3.85 ft; minimum daily, 2.8 ft^3/s, Nov. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.6	8.6	24	38	114	425	413	623	6.4	5.4	4.6
2	4.6	3.1	68	21	40	104	400	436	600	6.3	5.3	4.7
3	4.5	2.9	28	18	38	96	307	393	51	6.2	5.4	4.7
4	4.5	2.9	16	41	34	88	256	324	12	6.1	5.3	4.7
5	4.5	2.9	15	83	31	78	247	255	28	6.0	5.6	4.6
6	4.6	2.9	12	52	29	74	227	221	239	5.9	5.2	4.6
7	5.5	2.8	24	35	26	88	201	191	306	6.0	5.2	4.6
8	8.9	2.8	19	28	24	460	186	183	221	6.1	5.1	4.6
9	5.8	2.9	13	24	23	270	195	200	245	6.1	5.1	4.6
10	5.0	4.5	11	21	22	225	211	222	232	6.0	5.1	4.6
11	4.8	5.2	9.8	19	21	198	196	246	312	6.0	5.0	4.6
12	4.7	4.4	8.7	17	42	174	170	278	190	5.9	5.0	4.6
13	4.7	4.2	8.5	16	150	154	154	324	85	6.1	5.0	4.6
14	4.6	4.5	8.0	16	197	143	135	368	371	5.9	5.0	4.6
15	4.8	4.6	7.7	19	260	132	102	410	329	5.8	5.0	4.7
16	4.8	7.6	7.6	71	334	124	75	455	204	5.8	4.9	5.0
17	4.7	5.6	7.5	135	1010	120	62	501	8.2	5.8	4.9	5.6
18	4.7	5.1	7.7	76	783	120	93	525	7.9	5.8	4.9	5.5
19	4.7	4.1	8.0	60	715	120	174	547	8.5	28	4.9	4.9
20	4.6	3.9	8.4	54	287	120	246	516	8.3	5.8	5.0	4.8
21	8.7	4.8	8.7	41	199	120	319	506	7.7	5.7	4.9	4.8
22	6.1	4.1	9.0	35	170	120	351	493	7.4	5.7	4.8	4.8
23	5.9	7.1	9.3	35	152	123	346	479	7.2	6.0	4.8	4.7
24	5.6	18	9.9	29	148	130	337	508	7.1	5.9	4.8	7.7
25	5.2	30	10	27	144	133	318	521	7.0	5.8	4.8	10
26	5.0	8.8	10	25	138	138	342	543	6.8	5.7	4.8	8.7
27	4.9	6.8	9.8	24	132	140	370	574	6.8	5.7	4.7	13
28	4.8	21	9.3	22	123	145	380	595	6.7	5.6	4.7	6.1
29	4.7	27	15	21	---	160	387	609	6.5	5.5	4.7	5.8
30	4.7	12	58	46	---	185	374	624	6.5	5.5	4.7	5.6
31	4.7	---	29	40	---	218	---	621	---	5.4	4.7	---
TOTAL	160.0	221.1	474.5	1175	5310	4614	7586	13081	4150.6	204.5	154.7	166.4
MEAN	5.16	7.37	15.3	37.9	190	149	253	422	138	6.60	4.99	5.55
MAX	8.9	30	68	135	1010	460	425	624	623	28	5.6	13
MIN	4.5	2.8	7.5	16	21	74	62	183	6.5	5.4	4.7	4.6
AC-FT	317	439	941	2330	10530	9150	15050	25950	8230	406	307	330

CAL YR 1985 TOTAL 5436.9 MEAN 14.9 MAX 104 MIN 2.8 AC-FT 10780
WTR YR 1986 TOTAL 37297.8 MEAN 102 MAX 1010 MIN 2.8 AC-FT 73980

SAN JOAQUIN RIVER BASIN

11316600 NORTH FORK MOKELUMNE RIVER ABOVE TIGER CREEK, NEAR WEST POINT, CA

LOCATION.--Lat 38°26'48", long 120°29'21", in SW 1/4 NE 1/4 sec.24, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 0.4 mi upstream from Tiger Creek and Tiger Creek powerplant, 3.9 mi northeast of West Point, 18.3 mi downstream from Salt Springs Dam, and at mile 106.4.

DRAINAGE AREA.--333 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,337.50 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Estimated daily discharges: June 5-8, 13, 17-22, 26, 27, July 26 to Aug. 23, and Sept. 2, 3. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 18.3 mi upstream. Some water is diverted from Bear River and Cole Creek to Salt Springs powerplant upstream from the station. Part of the water is then diverted through Tiger Creek powerhouse conduit (station 11314000). Additional water is diverted out of the Bear River and several smaller tributaries into Tiger Creek powerhouse conduit. All the water enters the North Fork Mokelumne River at Tiger Creek powerplant (station 11316610) 0.4 mi downstream. Records of daily discharge since October 1969 are available in files of the U.S. Geological Survey. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,900 ft^3/s, Feb. 19, gage height, 8.98 ft, from rating curve extended above 7,700 ft^3/s; minimum daily, 50 ft^3/s, Nov. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	60	89	102	348	1390	1770	2300	4410	374	60	60
2	58	52	281	95	310	1350	1740	1950	3840	206	60	59
3	58	51	181	89	319	1310	1660	2540	3610	324	60	58
4	58	51	115	105	276	1280	1580	2100	2870	412	60	57
5	58	51	106	260	254	1250	1520	1320	2300	313	60	58
6	59	51	100	243	263	1220	1510	1110	2400	327	60	59
7	64	50	125	137	277	1400	1540	998	2100	369	60	61
8	69	50	143	120	290	6520	1450	884	1600	325	60	61
9	74	51	98	112	281	4030	1420	861	1520	135	60	60
10	59	72	88	105	154	2970	1390	995	1490	122	60	59
11	57	65	83	100	366	2640	1380	1300	1590	113	60	59
12	59	58	90	95	328	2370	1410	1350	1350	107	60	59
13	58	56	90	92	621	2120	1400	1570	1580	100	60	59
14	56	54	78	92	736	1920	1060	1690	1840	94	60	59
15	57	55	75	115	1760	1800	1150	2000	1850	89	60	59
16	59	64	74	174	2670	1700	1310	2190	1570	85	60	61
17	59	67	71	831	7910	1560	1090	2250	1050	81	60	64
18	59	62	70	331	8100	1420	1230	2300	880	77	60	69
19	58	55	67	218	8170	1350	1210	3110	1370	75	60	64
20	59	55	68	196	3950	1320	1220	3250	1100	74	60	62
21	79	56	68	173	2060	1400	1330	2560	780	71	60	61
22	72	53	68	153	1300	1430	1420	2190	740	68	60	61
23	68	54	68	154	946	1430	1710	2030	872	65	60	62
24	76	113	68	163	690	1430	2350	1950	799	62	60	72
25	70	239	71	278	1140	1430	2260	2600	787	60	59	96
26	64	92	68	278	1180	1440	1990	3420	600	60	59	85
27	62	73	67	288	1510	1470	1790	3590	760	60	58	97
28	61	98	66	126	1450	1530	2220	3470	580	60	57	78
29	61	208	69	102	---	1570	2470	4400	434	60	59	68
30	61	112	184	212	---	1710	2470	4230	430	60	59	66
31	62	---	118	289	---	1730	---	4260	---	60	61	---
TOTAL	1934	2228	3007	5828	47659	57490	48050	70768	47102	4488	1852	1953
MEAN	62.4	74.3	97.0	188	1702	1855	1602	2283	1570	145	59.7	65.1
MAX	79	239	281	831	8170	6520	2470	4400	4410	412	61	97
MIN	56	50	66	89	154	1220	1060	861	430	60	57	57
AC-FT	3840	4420	5960	11560	94530	114000	95310	140400	93430	8900	3670	3870
a	32220	31220	27030	26870	19700	0	192	34170	32840	30990	31480	29840

CAL YR 1985 TOTAL 31315 MEAN 85.8 MAX 379 MIN 26 AC-FT 62110
WTR YR 1986 TOTAL 292359 MEAN 801 MAX 8170 MIN 50 AC-FT 579900

a Diversion, in acre-feet, to Tiger Creek powerplant, provided by Pacific Gas and Electric Co.

11316670 NORTH FORK MOKELUMNE RIVER BELOW TIGER CREEK RESERVOIR, NEAR WEST POINT, CA

LOCATION.--Lat 38°26'25", long 120°30'14", in SE 1/4 SE 1/4 sec.23, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, on right bank 500 ft downstream from Tiger Creek Reservoir Dam, and 3.1 mi northeast of West Point.

DRAINAGE AREA.--357 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records of daily discharge since February 1982 are available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: July 19-24. No records computed above 50 ft^3/s. Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 20 mi upstream. Most of the water is diverted at Tiger Creek Reservoir to West Point powerplant. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	15	11	11						---	21	21
2	21	11	---	11						---	21	21
3	22	11	11	11						---	21	21
4	22	11	11	11						---	21	21
5	21	11	11	11						---	21	21
6	21	11	11	11						---	21	21
7	49	10	10	11						---	21	21
8	22	11	10	11						---	21	21
9	21	11	10	11						23	21	21
10	21	11	10	11						21	21	21
11	21	10	10	11						21	21	21
12	21	10	10	11						21	21	22
13	21	10	10	11						21	21	22
14	21	10	11	11						21	21	22
15	21	10	12	11						21	21	22
16	21	10	11	---						21	21	22
17	21	10	11	---						21	21	22
18	21	10	11	---						21	21	22
19	21	10	12	---						21	21	22
20	21	10	12	---						21	21	22
21	21	9.9	11	11						23	21	22
22	20	9.9	10	11						21	21	22
23	20	11	10	---						21	21	22
24	20	11	11	---						21	21	22
25	20	11	11	---						21	21	22
26	20	11	10	---						21	21	22
27	21	11	10	---						21	21	21
28	20	11	11	33						21	21	21
29	21	11	11	10						21	21	21
30	21	11	11	---						21	21	21
31	20	---	11	---						21	21	---
TOTAL	674	320.8	---	---						---	651	645
MEAN	21.7	10.7	---	---						---	21.0	21.5
MAX	49	15	---	---						---	21	22
MIN	20	9.9	---	---						---	21	21
AC-FT	1340	636	---	---						---	1290	1280

11316700 NORTH FORK MOKELUMNE RIVER BELOW ELECTRA DIVERSION DAM, NEAR WEST POINT, CA

LOCATION.--Lat 38°25'18", long 120°32'56", in SW 1/4 NE 1/4 sec.33, T.7 N., R.13 E., Amador County, Hydrologic Unit 18040012, on right bank 300 ft downstream from Electra Diversion Dam and 2.0 mi northwest of West Point.

DRAINAGE AREA.--365 mi^2.

PERIOD OF RECORD.--October 1985 to September 1986. Records of daily discharge since February 1982 are available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 50 ft^3/s. Flow regulated since 1931 by numerous reservoirs and diversions upstream. Most of the water is diverted at Electra Diversion Dam to Electra powerplant. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas and Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	10	13	---					---	13	15
2	17	10	11	13	---					---	13	15
3	17	10	11	13	---					20	13	15
4	17	10	10	13	---					20	13	15
5	17	10	10	15	---					15	13	15
6	17	10	10	14	---					15	13	15
7	18	10	10	14	---					---	13	14
8	12	10	10	14	---					---	13	15
9	18	10	10	13	---					14	13	15
10	20	16	10	13	---					14	13	15
11	20	14	9.8	13	18					14	13	15
12	20	11	9.9	13	---					14	13	15
13	20	11	9.8	12	---					14	13	15
14	20	10	9.5	13	---					14	13	15
15	20	10	11	14	---					14	13	15
16	20	11	12	15	---					14	13	15
17	20	11	11	---	---					14	13	15
18	20	11	11	---	---					14	13	15
19	20	10	11	---	---					14	13	15
20	20	10	11	---	---					14	13	15
21	24	10	11	16	---					14	15	15
22	21	10	11	15	---					14	16	15
23	20	11	11	---	---					14	16	15
24	20	16	11	---	---					14	15	15
25	20	13	11	---	---					14	15	16
26	20	7.8	11	---	---					13	15	16
27	20	10	11	---	---					13	15	16
28	20	10	11	25	---					13	15	16
29	20	11	13	13	---					13	15	16
30	20	10	15	---	---					13	15	16
31	20	---	14	---	---					13	15	---
TOTAL	595	330.8	338.0	---	---					---	427	455
MEAN	19.2	11.0	10.9	---	---					---	13.8	15.2
MAX	24	17	15	---	---					---	16	16
MIN	12	7.8	9.5	---	---					---	13	14
AC-FT	1180	656	670	---	---					---	847	902

SAN JOAQUIN RIVER BASIN

11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW 1/4 NW 1/4 sec.4, T.6 N., R.14 E., Calaveras County, Hydrologic Unit 18040012, on left bank 1.0 mi downstream from Lion Creek, 1.8 mi upstream from mouth, and 4 mi northeast of Wilseyville.

DRAINAGE AREA.--20.8 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,950 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 22 to May 26, July 26 to Sept. 17. Records fair except for periods of estimated discharge, which are poor. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--26 years, 25.8 ft^3/s, 18,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s, Feb. 19, 1986, gage height, 8.12 ft, from rating curve extended above 500 ft^3/s on basis of slope-area measurement at gage height 7.41 ft; minimum daily discharge, 0.11 ft^3/s, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 19	0230	*2,020	*8.12	Mar. 8	0645	448	4.78

Minimum daily, 2.5 ft^3/s, Sept. 5-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	4.0	12	13	34	100	70	27	14	5.5	4.9	2.6
2	3.1	4.0	44	12	38	93	68	26	13	6.2	4.7	2.6
3	2.7	3.7	27	11	45	86	64	32	12	6.5	4.6	2.6
4	2.7	3.8	17	15	35	80	61	33	13	6.3	4.5	2.6
5	2.7	3.8	16	29	30	75	58	30	12	6.1	4.3	2.5
6	3.1	3.8	14	29	29	71	65	29	11	6.4	4.2	2.5
7	3.8	3.8	18	22	25	86	71	28	12	5.0	4.1	2.5
8	5.6	3.8	19	18	23	284	64	27	12	5.5	4.0	2.5
9	5.6	3.8	15	16	21	170	59	26	11	5.3	3.9	2.5
10	4.2	6.2	12	15	20	174	55	25	11	5.2	3.8	2.5
11	3.9	5.3	11	14	19	191	51	24	9.8	5.3	3.7	2.5
12	3.7	5.6	9.9	13	27	159	49	23	8.8	4.5	3.6	2.5
13	3.8	5.1	10	12	85	146	49	23	8.4	4.3	3.5	2.8
14	3.6	5.0	9.8	13	125	134	46	22	9.1	4.3	3.5	3.2
15	3.6	5.1	9.4	17	359	130	44	21	9.7	4.3	3.4	3.5
16	3.7	7.4	9.0	52	632	126	44	21	9.2	5.0	3.3	4.0
17	3.6	6.9	8.7	88	1180	113	42	20	9.1	5.3	3.2	4.3
18	3.6	6.0	8.4	44	909	102	40	20	10	4.3	3.2	4.8
19	3.8	4.9	8.2	34	1250	95	37	19	10	5.1	3.1	4.7
20	3.7	5.1	8.0	30	600	91	35	19	9.5	5.1	3.1	4.4
21	7.1	5.4	7.9	27	270	87	34	18	9.5	4.8	3.0	4.1
22	5.5	5.0	7.7	24	216	84	34	18	9.9	4.8	2.9	3.9
23	4.9	5.6	7.6	26	176	82	33	18	9.0	6.7	2.9	3.7
24	4.9	17	7.5	26	154	81	32	17	8.7	10	2.8	6.3
25	4.8	31	7.5	21	144	80	31	17	8.3	7.1	2.8	8.5
26	4.6	11	7.5	19	133	78	30	16	8.0	6.8	2.7	7.2
27	4.4	8.9	7.3	18	122	77	29	16	7.6	6.2	2.7	7.5
28	4.3	15	7.2	17	110	75	29	15	7.6	5.8	2.6	5.7
29	4.3	32	8.2	17	---	74	28	15	6.9	5.5	2.7	4.8
30	4.3	17	20	29	---	75	27	15	6.5	5.3	2.7	4.6
31	4.1	---	14	30	---	72	---	14	---	5.0	2.7	---
TOTAL	126.8	245.0	388.8	751	6811	3371	1379	674	296.6	173.5	107.1	118.4
MEAN	4.09	8.17	12.5	24.2	243	109	46.0	21.7	9.89	5.60	3.45	3.95
MAX	7.1	32	44	88	1250	284	71	33	14	10	4.9	8.5
MIN	2.7	3.7	7.2	11	19	71	27	14	6.5	4.3	2.6	2.5
AC-FT	252	486	771	1490	13510	6690	2740	1340	588	344	212	235

CAL YR 1985 TOTAL 4093.9 MEAN 11.2 MAX 56 MIN 1.7 AC-FT 8120
WTR YR 1986 TOTAL 14442.2 MEAN 39.6 MAX 1250 MIN 2.5 AC-FT 28650

SAN JOAQUIN RIVER BASIN

11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA

LOCATION.--Lat 38°23'23", long 120°31'32", in SE 1/4 NE 1/4 sec.10, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 200 ft downstream from highway bridge, 0.6 mi south of West Point, and 4.5 mi upstream from South Fork Mokelumne River.
DRAINAGE AREA.--68.4 mi^2.
PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for October 1911, published in WSP 1315-A.

REVISED RECORDS.--WSP 1515: 1919-20, 1927-28(M), 1936(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,450 ft above National Geodetic Vertical Datum of 1929, 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.

REMARKS.--No estimated daily discharges. Records good except for periods affected by swimmers dams, Oct. 1-30, June 26 to Sept. 30, which are fair. Flow slightly regulated by Middle Fork Reservoir, capacity, 1,740 acre-ft, 6 mi above station, since January 1940. Several small diversions above station. At times water diverted 4 mi above station to South Fork Mokelumne River via Middle Fork ditch, capacity, 10 ft^3/s and Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--75 years, 65.5 ft^3/s, 47,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft^3/s, Feb. 19, 1986, gage height, 9.19 ft, from rating curve extended above 3100 ft^3/s; no flow many days in 1931, and Sept. 9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	0415	429	3.35	Mar.8	0915	2,090	6.46
Feb. 19	0545	*4,920	*9.19				

Minimum daily, 8.8 ft 3/s, Nov. 2, 3, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	9.0	25	43	119	290	210	96	57	25	18	11
2	9.3	8.8	79	38	136	264	203	91	38	18	18	10
3	9.1	8.8	90	35	156	240	186	106	57	16	16	11
4	23	8.9	58	42	127	221	176	114	36	16	24	12
5	9.4	8.8	48	99	105	205	163	103	55	17	40	14
6	15	9.1	42	103	97	189	194	102	36	18	22	19
7	24	9.2	51	73	85	234	226	96	54	21	12	24
8	53	22	66	59	78	1400	185	91	26	23	14	23
9	106	9.0	48	51	71	775	168	86	32	23	15	23
10	64	19	38	46	66	812	160	84	57	22	20	23
11	20	34	32	42	62	906	152	82	51	22	20	20
12	15	12	27	39	80	707	148	79	35	15	21	20
13	15	10	27	36	338	591	148	79	53	13	21	17
14	14	10	27	37	429	485	139	78	56	24	20	17
15	14	10	25	64	1320	453	131	76	53	34	21	20
16	14	12	23	107	1990	454	131	72	47	29	22	21
17	14	13	22	315	3480	385	131	71	50	29	22	22
18	14	11	21	153	2600	338	128	72	39	27	20	24
19	14	10	21	115	3610	309	121	72	48	20	19	21
20	14	20	20	100	1870	298	117	71	45	18	14	20
21	51	54	20	85	1140	279	116	70	46	23	11	20
22	67	9.9	20	75	835	269	113	67	25	17	9.8	20
23	11	10	20	79	656	263	111	66	39	23	10	19
24	10	27	19	69	533	258	111	65	49	20	11	26
25	10	65	19	62	454	247	108	62	52	19	11	33
26	9.9	21	19	57	398	249	105	62	47	19	11	29
27	9.8	15	19	53	355	240	102	60	44	18	11	30
28	9.9	23	19	50	321	235	100	60	44	18	11	26
29	9.9	71	20	47	---	229	99	58	32	17	11	23
30	9.5	39	62	85	---	233	94	40	28	15	11	25
31	8.9	---	56	110	---	220	---	57	---	15	11	---
TOTAL	677.2	589.5	1083	2369	21511	12278	4276	2388	1331	634	517.8	623
MEAN	21.8	19.7	34.9	76.4	768	396	143	77.0	44.4	20.5	16.7	20.8
MAX	106	71	90	315	3610	1400	226	114	57	34	40	33
MIN	8.9	8.8	19	35	62	189	94	40	25	13	9.8	10
AC-FT	1340	1170	2150	4700	42670	24350	8480	4740	2640	1260	1030	1240

CAL YR 1985	TOTAL	12823.9	MEAN	35.1	MAX	217	MIN 4.9	AC-FT 25440
WTR YR 1986	TOTAL	48277.5	MEAN	132	MAX	3610	MIN 8.8	AC-FT 95760

SAN JOAQUIN RIVER BASIN

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA

LOCATION.--Lat 38°22'06", long 120°32'40", in SE 1/4 SE 1/4 sec.16, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 500 ft upstream from highway bridge, 2.4 mi southwest of West Point, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--75.1 mi^2.

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1315-A: 1934(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,950 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1933 to Sept. 19, 1957, at site 1,100 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 10 to Jan. 29. 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.

AVERAGE DISCHARGE.--53 years, 88.0 ft^3/s, 63,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft^3/s, Feb. 19, 1986, gage height, 12.48 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	Unknown	648	5.22	Mar. 8	0800	2,220	7.91
Feb. 19	0415	*7,300	*12.48				

Minimum daily, 2.6 ft^3/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	11	47	72	134	309	233	87	48	21	10	3.6
2	3.6	10	154	48	170	282	225	85	47	20	10	2.7
3	3.6	10	106	44	206	257	206	103	45	19	8.4	2.8
4	3.6	10	64	50	160	236	195	109	45	19	7.3	2.9
5	3.0	8.3	58	180	127	218	185	97	44	19	7.2	2.7
6	4.6	4.9	52	190	110	204	199	95	42	19	6.9	2.6
7	9.4	5.1	67	100	96	255	222	91	39	18	6.9	2.7
8	13	4.9	73	72	88	1420	192	88	39	18	6.8	2.7
9	13	4.9	56	62	81	787	177	85	37	17	6.4	7.5
10	11	30	46	55	76	871	168	81	37	16	6.7	7.8
11	10	25	38	50	72	933	159	79	34	16	6.4	7.7
12	9.6	19	33	47	97	767	154	77	35	16	9.0	7.5
13	9.5	14	33	44	464	652	153	73	35	15	6.5	7.7
14	9.2	11	32	45	564	539	146	71	33	15	6.8	7.7
15	9.2	12	31	80	1650	525	139	70	33	14	6.7	8.3
16	9.1	17	29	150	2840	527	140	68	32	15	6.7	9.6
17	9.2	20	27	550	5780	451	138	66	33	15	6.7	11
18	8.9	16	26	250	3170	397	131	65	33	15	6.6	14
19	8.9	11	25	150	4430	359	124	63	30	15	5.4	12
20	8.6	9.9	24	120	1830	339	119	61	29	14	5.4	12
21	22	10	24	105	1100	324	115	61	28	13	5.7	11
22	20	12	24	95	804	315	112	59	27	14	4.1	11
23	15	16	24	95	642	310	108	57	26	15	4.5	10
24	14	63	23	85	547	304	105	57	25	15	4.5	23
25	13	134	23	75	478	300	102	56	24	13	3.4	35
26	13	49	23	70	425	293	99	55	24	12	3.6	30
27	12	33	23	65	380	290	95	53	23	12	3.6	27
28	11	43	23	62	343	284	94	53	22	12	3.7	24
29	11	138	24	56	---	273	92	52	22	11	4.0	18
30	11	68	110	99	---	262	89	49	22	11	4.0	17
31	11	---	95	120	---	247	---	49	---	11	3.6	---
TOTAL	314.2	820.0	1437	3286	26864	13530	4416	2215	993	475	187.5	341.5
MEAN	10.1	27.3	46.4	106	959	436	147	71.5	33.1	15.3	6.05	11.4
MAX	22	138	154	550	5780	1420	233	109	48	21	10	35
MIN	3.0	4.9	23	44	72	204	89	49	22	11	3.4	2.6
AC-FT	623	1630	2850	6520	53280	26840	8760	4390	1970	942	372	677

CAL YR 1985 TOTAL 13346.9 MEAN 36.6 MAX 366 MIN 1.8 AC-FT 26470
WTR YR 1986 TOTAL 54879.2 MEAN 150 MAX 5780 MIN 2.6 AC-FT 108900

SAN JOAQUIN RIVER BASIN

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.--Lat 38°18'46", long 120°43'09", in SW 1/4 SW 1/4 sec.1, T.5 N., R.11 E., Calaveras County, Hydrologic Unit 18040012, on downstream side of bridge 1.2 mi northwest of Mokelumne Hill, and 8 mi downstream from confluence of North and South Forks of Mokelumne River.

DRAINAGE AREA.--544 mi^2.

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.

REVISED RECORDS.--WSP 1445: 1903-4, 1928(M), 1936(M), 1938(M), 1940(M), 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.88 ft above National Geodetic Vertical Datum of 1929 (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 mi upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water-stage recorder at site 40 ft upstream at datum 5.00 ft higher. Aug. 27, 1952, to Oct. 14, 1977, at present site at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Salt Springs Reservoir (station 11313500) beginning in 1931, several smaller reservoirs, and four powerplants. Diversion above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--60 years (water years 1904, 1928-86), 1,022 ft^3/s, 740,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft^3/s, Dec. 3, 1950, gage height, 23.5 ft, present datum; minimum observed, 5 ft^3/s, Aug. 13-15, 17, 18, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,500 ft^3/s, Feb. 18, gage height, 21.98 ft; minimum daily, 256 ft^3/s, Dec. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	382	552	754	729	1230	2220	2500	2770	5290	1070	674	594
2	323	638	872	819	1380	2050	2290	2830	4710	1010	670	609
3	302	647	1010	729	1380	1930	2290	3460	4500	935	608	612
4	579	628	683	639	1330	1920	2180	3180	3660	993	602	639
5	599	536	638	886	1260	1900	2220	2260	2760	977	668	613
6	609	567	701	899	1180	1800	2020	1990	2990	958	675	583
7	553	666	382	772	1090	1990	2270	1900	2810	1000	652	643
8	623	563	256	699	1110	10900	2060	1710	2250	1020	610	565
9	712	610	763	696	1140	6580	2080	1750	2220	653	664	637
10	745	671	620	654	1080	5500	1910	1770	2270	829	696	624
11	549	581	777	370	952	5500	1820	2150	2250	637	630	665
12	609	703	694	669	1110	4690	1830	2190	2210	554	596	602
13	571	564	741	494	2240	4100	1940	2400	1990	577	631	476
14	679	700	717	373	2000	3520	1740	2550	2540	770	545	671
15	512	627	667	617	6310	3300	1660	2850	2580	588	710	591
16	660	591	718	785	11700	3300	1730	3100	2400	615	490	632
17	594	602	687	2210	22700	2920	1560	3100	1720	648	583	669
18	485	702	661	1340	19100	2590	1600	3180	1250	466	628	588
19	645	587	588	992	20800	2350	1600	4120	1790	266	577	625
20	585	704	685	1130	10800	2310	1630	4190	1620	601	620	539
21	708	575	633	736	5530	2330	1670	3400	1150	652	542	567
22	692	691	459	834	3800	2310	1860	3040	1170	666	596	602
23	616	615	522	773	3050	2330	1970	2890	1470	646	289	548
24	597	651	617	955	2610	2370	2580	2730	1420	652	524	287
25	685	895	493	897	2300	2130	2730	3480	1590	684	613	621
26	641	740	522	1290	2110	2320	2450	4310	1250	695	623	743
27	625	616	507	971	2470	2360	2140	4390	1270	642	611	775
28	620	734	512	895	2300	2330	2690	4270	1300	682	614	628
29	626	908	489	358	---	2090	2870	5360	1120	676	626	640
30	619	753	689	990	---	2450	2890	5080	1070	625	616	646
31	560	---	607	1180	---	2380	---	5110	---	653	603	---
TOTAL	18305	19617	19664	26381	134062	96770	62780	97510	66620	22440	18786	18234
MEAN	590	654	634	851	4788	3122	2093	3145	2221	724	606	608
MAX	745	908	1010	2210	22700	10900	2890	5360	5290	1070	710	775
MIN	302	536	256	358	952	1800	1560	1710	1070	266	289	287
AC-FT	36310	38910	39000	52330	265900	191900	124500	193400	132100	44510	37260	36170

CAL YR 1985 TOTAL 223154 MEAN 611 MAX 1250 MIN 99 AC-FT 442600
WTR YR 1986 TOTAL 601169 MEAN 1647 MAX 22700 MIN 256 AC-FT 1192000

SAN JOAQUIN RIVER BASIN

11320000 PARDEE RESERVOIR NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°15'25", long 120°50'59", in NW 1/4 SW 1/4 sec.26, T.5 N., R.10 E., Amador County, Hydrologic Unit 18040012, at Pardee Dam on the Mokelumne River, 4.5 mi north of Valley Springs.
DRAINAGE AREA.--578 mi^2.
PERIOD OF RECORD.--October 1961 to current year. March 1929 to September 1930 (lake elevation only), October 1930 to September 1933, published in reports of the U.S. Geological Survey. October 1933 to September 1961, in files of East Bay Municipal Utility District.
REVISED RECORDS.--WSP 1930: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District).
REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929. Storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 ft, diversion tunnel invert, and 567.65 ft spillway crest. 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 0800 hours. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records provided by East Bay Municipal Utility District.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 219,300 acre-ft, Dec. 23, 1955, Feb. 19, 1986, elevation, 571.72 ft; minimum, 47,000 acre-ft, Mar. 25, 1977, elevation, 454.98 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 219,300 acre-ft, Feb. 19, elevation, 571.72 ft; minimum, 177,100 acre-ft, Jan. 1, elevation, 552.20 ft.

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

450	43,400	500	92,900	550	172,700
460	50,900	510	105,700	560	193,200
470	59,500	520	120,400	570	215,300
480	69,200	530	136,500	580	239,100
490	80,100	540	153,800		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193800	185400	185200	177100	186000	211100	194100	193600	211800	201300	195300	194600
2	193200	185000	186100	177500	187900	211100	193400	192800	211900	200000	195900	195000
3	191800	184500	186400	178200	187800	210900	193400	192400	211300	199900	196100	194500
4	190700	185100	186600	179100	187600	210600	193600	194800	211000	200500	196200	194100
5	190200	184500	186500	179500	187100	210700	193500	193200	209600	201600	195200	193900
6	190700	183900	186300	180800	186400	210700	193400	192700	211000	201200	195300	193700
7	191200	183600	186400	181800	185500	210700	193400	193600	211600	201200	195300	194200
8	190600	183200	185400	182500	184600	212900	193600	193100	211400	201000	195300	194600
9	190000	182900	185400	183300	183700	213700	193200	192800	211200	200400	195100	193900
10	189500	182600	185400	183700	182700	212000	193300	193400	211200	199300	195300	193100
11	189000	183400	185200	184100	181500	212400	193200	192700	211100	198900	195800	193000
12	188200	184000	185100	184200	180400	211900	193000	194000	211200	197900	195900	192600
13	187800	184100	185000	184600	180200	211300	193500	192600	210700	197300	195700	192500
14	187100	184300	185000	184800	181500	210800	194100	192700	211000	196500	195100	192700
15	186200	184500	184700	185000	184500	210400	192800	193000	211500	196600	195200	193000
16	185400	184500	185300	184800	197500	210700	192300	193200	211400	196600	195100	192500
17	185000	184600	184800	186200	214600	210500	193000	193300	210900	196500	195300	192100
18	184200	184600	184100	188900	219100	211300	192700	193300	210100	196400	195900	191700
19	183600	184600	183400	189100	219300	211200	193100	194600	209000	195700	195400	191100
20	183000	186000	182800	188900	215400	211500	193300	197000	209700	195200	195200	190800
21	183800	186000	182000	189300	212600	211700	193500	198200	209300	195600	195200	191300
22	184200	187200	181400	188300	212700	211600	194100	198000	208300	195600	194900	191600
23	184300	186700	181600	187800	212300	209800	193500	196900	207300	195400	194600	191100
24	184300	185600	180800	187300	211900	208000	194000	195500	207100	195300	194100	190700
25	184300	185000	180500	186700	211600	206600	193900	194500	206700	195100	194400	190200
26	184500	184300	180700	186500	211400	204400	193700	197100	206400	195000	194400	191000
27	184600	183600	179500	186300	209700	202800	193000	199900	205200	195300	194100	190900
28	185200	183700	178300	186000	211000	201100	193800	201300	204700	195700	194100	190200
29	185200	184500	177400	185100	---	199400	193700	203500	203700	195700	193900	190700
30	185200	184800	177900	183900	---	197300	193900	207300	202400	195500	194000	190300
31	185400	---	177300	184200	---	195800	---	210300	---	195300	194100	---
MAX	193800	187200	186600	189300	219300	213700	194100	210300	211900	201600	196200	195000
MIN	183000	182600	177300	177100	180200	195800	192300	192400	202400	195000	193900	190200
a	556.28	556.02	552.30	555.73	568.11	561.22	560.36	567.79	564.28	561.02	560.44	558.65
b	-8500	-600	-7500	+6900	+26800	-15200	-1900	+16400	-7900	-7100	-1200	-3800
c	479	157	51	98	173	353	552	1032	1400	1468	1318	673
d	18579	17504	17984	15463	12255	7230	17953	19108	21946	23810	19995	18062

CAL YR 1985 b -2800
WTR YR 1986 b -3600
a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.
d Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

SAN JOAQUIN RIVER BASIN

11322300 CAMANCHE RESERVOIR NEAR CLEMENTS, CA

LOCATION.--Lat 38°13'31", long 121°01'17", in NE 1/4 SE 1/4 sec.6, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, at Camanche Dam on the Mokelumne River, 4.3 mi northeast of Clements.
DRAINAGE AREA.--621 mi^2.
PERIOD OF RECORD.--December 1963 to current year.
REVISED RECORDS.--WDR CA-85-3: 1984.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District).
REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft between elevations 104.00 ft, invert of emergency valve release, and 235.50 ft, spillway crest. 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 0800 hours. Prior to July 1, 1984, records, including extremes, represent total contents at 0800 hours. See schematic diagram of Mokelumne River basin.
COOPERATION.--Records were provided by East Bay Municipal Utility District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 439,100 acre-ft, Feb. 22, 1986, elevation, 236.57 ft; minimum since reservoir first filled, 234,700 acre-ft, Jan. 16, 1984, elevation, 205.78 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 439,100 acre-ft, Feb. 22, elevation, 236.57 ft; minimum, 246,100 acre-ft, Oct. 1, elevation, 207.81 ft.

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

120	4,970	120	82,600
130	13,600	190	156,200
140	25,000	220	320,900
150	38,900	235.5	430,900
160	57,100	240	465,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246100	256900	267600	285500	303800	410800	335500	299100	361500	411800	390000	358900
2	246400	257400	267700	285700	303400	405400	333300	301200	368200	412900	388700	357500
3	247100	257900	268200	285800	305400	399700	329700	303400	373500	412900	387400	356900
4	247900	258000	268800	285800	307200	394200	326900	304300	378400	411500	386200	356500
5	248600	258200	269400	286100	308900	388300	324500	306800	382400	409700	386000	355800
6	248200	258800	270100	286200	310600	382400	322000	307300	383200	409400	385000	355000
7	247700	259400	271000	286000	312200	376200	319900	306400	385100	408900	384100	353500
8	247900	260000	271400	286000	313700	373300	317600	305900	387500	408500	382900	351900
9	248100	260600	270900	285800	315100	385200	316000	305900	388600	408400	382100	351300
10	248900	261200	271500	285900	316700	388600	314100	305000	389900	408600	381000	351000
11	249900	260900	271900	285700	318100	392500	312200	305500	391300	408600	379700	350600
12	250600	260400	272400	285600	319500	395000	310400	304800	392300	408300	378600	349900
13	251000	260400	272700	285400	321400	395500	308100	306600	393900	407800	377600	349000
14	251700	260500	273200	285500	323200	394700	305500	308200	395000	406900	377100	347400
15	252900	260500	273800	285600	324900	392800	304500	309300	396700	405900	376100	345800
16	253400	260800	273500	286500	329700	392100	302600	311500	398900	404800	375200	346000
17	254100	260900	274400	287000	335100	389900	300400	314300	400400	403500	373700	345500
18	254900	260500	275300	287700	373000	385400	298500	317100	402300	402200	372100	345000
19	255600	260700	276400	289100	401000	381200	297200	319500	402300	401800	371500	344700
20	256100	260300	277200	290400	429400	375800	295800	321400	402900	401500	370900	344100
21	256100	259900	278300	291500	438800	370200	294300	324500	403800	401000	370000	342600
22	256300	259500	279200	292800	439100	364800	292900	327500	404900	399900	369100	341100
23	256400	260200	278800	294300	437400	361200	292700	331100	405600	399000	368300	340900
24	256700	261800	279600	295300	434600	357300	292500	334300	406200	398100	367200	340600
25	256900	263700	280300	296500	430600	353700	293400	337600	406900	397300	365600	340100
26	257000	265000	279900	297600	425800	350600	293600	340000	407700	396200	364700	338600
27	257100	266200	281100	298500	422200	347800	294600	342700	408600	395100	363900	338200
28	256700	266900	282000	299900	416200	345000	294300	346700	409300	393600	363300	338000
29	256800	266600	282800	301000	---	342300	295600	350200	410000	392800	362300	337000
30	256800	267500	283100	302500	---	339900	297000	353000	410800	391800	361600	336600
31	256800	---	284600	303800	---	337600	---	356400	---	391000	360400	---
MAX	257100	267500	284600	303800	439100	410800	335500	356400	410800	412900	390000	358900
MIN	246100	256900	267600	285400	303400	337600	292500	299100	361500	391000	360400	336600
a	209.67	211.47	214.29	217.35	233.56	222.50	216.29	225.25	232.83	230.13	225.83	222.36
b	+10600	+10700	+17100	+19200	+112400	-78600	-40600	+59400	+54400	-19800	-30600	-23800
c	2174	1303	229	467	1492	1594	2293	4348	5170	5930	5222	3385

CAL YR 1985 b -13800
WTR YR 1986 b +90400

a Elevation, in feet NGVD, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet.

SAN JOAQUIN RIVER BASIN

11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, CA

LOCATION.--Lat 38°13'14", long 121°02'19", in NW 1/4 NW 1/4 sec.7, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, on left bank 0.7 mi downstream from Murphy Creek, 1.0 mi downstream from Camanche Dam, and 3.4 mi northeast of Clements.

DRAINAGE AREA.--627 mi^2.

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."
REVISED RECORDS.--WSP 751: Drainage area. WSP 881: 1905-9 (yearly summaries only). WSP 1445: 1911, 1917(M), 1925(M).

GAGE.--Water-stage recorder. Datum of gage is 82.71 ft above National Geodetic Vertical Datum of 1929. See WSP 1930 for history of changes prior to Oct. 1, 1961.

REMARKS.--Estimated daily discharges: June 6 to Sept. 11. Records good except for periods of estimated discharges, which are fair. Flow regulated by Camanche Reservoir (station 11322300) 1 mi upstream beginning December 1963, Salt Springs Reservoir (station 11313500) beginning March 1931, Pardee Reservoir (station 11320000) beginning March 1929, several small reservoirs, and four powerplants. East Bay Municipal Utility District aqueducts are the largest of several diversions above the station. Maximum capacity is 511 ft^3/s with Pardee Reservoir full. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--24 years (water years 1905-28), 1,111 ft^3/s, 804,300 acre-ft/yr; 58 years (water years 1929-86), 849 ft^3/s, 615,100 acre-ft/yr, adjusted for change in contents in and evaporation from Camanche Reservoir since 1963. Storage and diversion by East Bay Municipal Utility District began in March 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft^3/s, Nov. 21, 1950, gage height, 24.40 ft, site and datum then in use; no flow on several days in 1924.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,060 ft^3/s, Feb. 19, gage height, 11.21 ft; minimum daily, 185 ft^3/s, Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	188	192	199	305	5360	3940	1790	1490	705	697	700
2	239	187	191	197	304	5330	3740	1790	1490	697	674	700
3	246	185	197	195	303	5330	3520	1760	1490	705	697	700
4	250	186	191	201	356	5330	3310	1750	1490	705	705	700
5	237	188	195	209	396	5330	3230	1790	1490	712	705	700
6	235	188	196	202	396	5320	3230	1790	1405	712	705	700
7	236	188	197	198	453	5380	3140	1790	1345	712	689	700
8	220	188	195	195	505	5370	2900	1790	1345	712	697	700
9	202	186	193	195	505	5330	2740	1700	1340	712	697	700
10	202	190	192	195	505	5420	2640	1580	1340	712	705	700
11	202	192	189	195	564	5340	2550	1580	1260	712	705	700
12	203	191	208	195	621	5310	2510	1550	1090	712	700	702
13	202	191	208	195	633	5300	2510	1500	1002	712	700	697
14	202	192	193	195	763	5270	2510	1490	1002	712	700	697
15	202	194	192	196	1100	5410	2500	1490	1002	712	700	697
16	202	193	194	198	2140	5310	2370	1490	1002	712	700	688
17	202	195	195	207	5070	5250	2170	1490	1002	712	700	691
18	202	193	195	199	5750	5240	2030	1500	919	685	700	689
19	204	192	195	198	5750	5230	2000	1500	847	697	700	689
20	206	190	195	195	5470	5230	1990	1500	847	697	700	690
21	208	190	195	195	5140	5220	1940	1490	847	697	700	689
22	206	189	195	195	4930	5200	1790	1490	847	697	700	689
23	196	189	195	195	4990	5190	1790	1500	847	697	700	693
24	195	190	195	247	5170	5100	1790	1490	760	705	700	644
25	189	198	194	300	5360	4870	1790	1490	705	705	700	677
26	188	193	195	300	5370	4680	1790	1490	705	705	700	674
27	188	192	195	291	5380	4620	1790	1470	705	705	700	673
28	188	198	195	292	5390	4560	1790	1440	705	705	700	674
29	189	201	201	291	---	4350	1790	1460	705	705	700	674
30	189	204	229	326	---	4260	1790	1490	705	697	700	674
31	188	---	203	309	---	4190	---	1500	---	697	700	---
TOTAL	6457	5741	6095	6900	73619	158630	73580	48930	31729	21862	21676	20701
MEAN	208	191	197	223	2629	5117	2453	1578	1058	705	699	690
MAX	250	204	229	326	5750	5420	3940	1790	1490	712	705	702
MIN	188	185	189	195	303	4190	1790	1440	705	685	674	644
AC-FT	12810	11390	12090	13690	146000	314600	145900	97050	62930	43360	42990	41060

CAL YR 1985 TOTAL 101507 MEAN 278 MAX 629 MIN 102 AC-FT 201300 MEAN a 302 AC-FT a 218700
WTR YR 1986 TOTAL 475920 MEAN 1304 MAX 5750 MIN 185 AC-FT 944000 MEAN a 1475 AC-FT a 1068000

a Adjusted for change in contents and evaporation from Camanche Reservoir.

SAN JOAQUIN RIVER BASIN

11325000 WOODBRIDGE CANAL AT WOODBRIDGE, CA

LOCATION.--Lat 38°09'07", long 121°18'00", in NE 1/4 SE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, at point of diversion from Woodbridge Reservoir.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 32.18 ft above National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mi downstream at different datum.

REMARKS.--Records fair. Discharge computed from records of gate openings and effective head as shown by differential recorder. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--60 years, 130 ft^3/s, 94,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 482 ft^3/s July 8, 1953; no flow at times in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85						0	120	217	238	244	137
2	79						0	116	205	276	241	146
3	73						0	116	187	303	226	157
4	72						0	107	180	299	219	154
5	71						0	104	194	291	215	140
6	71						0	88	199	278	218	138
7	75						0	81	191	269	238	137
8	85						0	85	179	269	243	147
9	95						0	86	177	259	243	172
10	85						0	106	194	259	240	179
11	74						0	113	214	264	250	166
12	80						0	123	240	259	255	157
13	73						0	129	239	267	253	154
14	71						0	119	238	268	251	151
15	81						0	120	239	272	236	152
16	79						0	130	221	280	221	149
17	75						0	129	214	292	206	133
18	68						0	118	218	299	189	129
19	65						0	108	215	290	184	125
20	62						0	114	195	257	180	121
21	49						0	131	186	257	187	108
22	52						0	138	182	243	189	108
23	44						0	143	187	251	185	111
24	36						0	141	214	262	178	91
25	28						0	145	228	263	166	78
26	30						0	151	228	259	154	76
27	30						20	171	223	258	145	70
28	10						40	185	230	262	160	66
29	0						84	197	234	268	152	63
30	0						122	210	229	264	145	60
31	0						---	230	---	258	149	---
TOTAL	1798	0	0	0	0	0	266	4054	6297	8334	6362	3775
MEAN	58.0	0	0	0	0	0	8.87	131	210	269	205	126
MAX	95	0	0	0	0	0	122	230	240	303	255	179
MIN	0	0	0	0	0	0	0	81	177	238	145	60
AC-FT	3570	0	0	0	0	0	528	8040	12490	16530	12620	7490

CAL YR 1985 TOTAL 38320.00 MEAN 105 MAX 316 MIN 0 AC-FT 76010
WTR YR 1986 TOTAL 30886.00 MEAN 84.6 MAX 303 MIN 0 AC-FT 61260

SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 38°09'31", long 121°18'09", in NW 1/4 NE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, 0.4 mi downstream from county highway bridge, and 0.5 mi downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year (low-water records only 1924-25).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). See WSP 2130 for history of changes prior to July 26, 1968.

REMARKS.--Estimated daily discharges: Apr. 10, 11. Records good. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam (station 11323500). Between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (station 11325000). Nearest diversion is 0.5 mi upstream. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE (since start of diversion through East Bay Municipal Utility District aqueduct).--57 years (water years 1929-86), 636 ft^3/s, 460,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft^3/s, Nov. 22, 1950, gage height, 29.58 ft, from rating curve extended above 6,200 ft^3/s on basis of contracted-opening measurement of maximum flow; minimum daily, 0.23 ft^3/s, Nov. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,340 ft^3/s, Mar. 8, gage height, 23.19 ft; minimum daily, 41 ft^3/s, Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	147	165	169	271	5040	4010	1640	1210	381	350	490
2	79	149	188	163	260	4920	3850	1650	1230	334	351	476
3	95	146	185	159	261	4810	3680	1650	1260	332	367	468
4	105	148	169	175	266	4980	3440	1640	1240	351	424	476
5	109	146	173	176	317	5000	3190	1670	1220	366	395	501
6	97	146	170	179	338	5020	3090	1690	1200	363	380	493
7	92	146	173	165	362	5080	3130	1690	1120	425	346	494
8	68	142	166	158	395	5240	3010	1680	1110	384	379	480
9	41	138	164	157	414	4750	2860	1670	1100	380	374	442
10	84	172	163	155	422	4710	2700	1520	1060	383	375	472
11	81	153	160	154	442	4760	2670	1480	1040	385	358	478
12	67	139	158	154	516	4770	2540	1460	917	370	353	489
13	66	135	179	155	546	4730	2510	1390	786	366	373	497
14	79	134	168	156	553	4390	2440	1380	716	352	373	508
15	61	133	157	157	732	4600	2440	1370	730	337	398	509
16	59	137	157	164	1060	4750	2450	1360	742	330	425	517
17	67	140	156	167	2270	4740	2330	1340	715	314	436	501
18	83	140	155	167	3750	4690	2230	1340	698	319	455	529
19	89	135	156	156	4550	4690	2080	1360	714	332	444	548
20	84	137	156	152	4630	4680	2030	1350	635	348	442	549
21	141	136	154	151	4830	4680	1820	1340	613	367	428	554
22	102	138	154	151	4750	4750	1850	1320	608	374	435	550
23	95	141	154	151	4570	4750	1800	1320	602	354	447	546
24	92	187	154	151	4570	4740	1790	1310	547	344	449	602
25	108	170	155	210	4730	4720	1790	1300	469	350	463	579
26	101	155	155	235	4870	4590	1770	1280	417	363	454	590
27	99	151	155	239	4950	4460	1760	1240	411	361	447	595
28	538	171	155	240	4960	4370	1680	1210	403	353	438	592
29	305	182	172	258	---	4320	1680	1200	401	341	459	593
30	159	171	206	266	---	4210	1620	1160	428	335	476	581
31	150	---	193	290	---	4100	---	1200	---	336	471	---
TOTAL	3470	4465	5125	5580	60585	146040	74240	44210	24342	11030	12765	15699
MEAN	112	149	165	180	2164	4711	2475	1426	811	356	412	523
MAX	538	187	206	290	4960	5240	4010	1690	1260	425	476	602
MIN	41	133	154	151	260	4100	1620	1160	401	314	346	442
AC-FT	6880	8860	10170	11070	120200	289700	147300	87690	48280	21880	25320	31140

CAL YR 1985	TOTAL	38537	MEAN	106	MAX	640	MIN 16	AC-FT	76440
WTR YR 1986	TOTAL	407551	MEAN	1117	MAX	5240	MIN 41	AC-FT	808400

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951 to current year.
BIOLOGICAL DATA: Water years 1975-81.
SPECIFIC CONDUCTANCE: Water years 1952-58, 1975-77.
WATER TEMPERATURE: Water years 1951-58, 1961 to current year.
SEDIMENT DATA: Water years 1975-83.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: March 1951 to September 1958.
SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1974 to September 1977.
WATER TEMPERATURE: March 1951 to September 1958, November 1960 to current year.

INSTRUMENTATION.--Temperature recorder since November 1960.

REMARKS.--Unpublished records of specific conductance of daily samples available in files of district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C, July 17, 1951; minimum recorded, 1.5°C, Jan. 29, 30, 1954.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 19.5°C, June 22, 23, 24, 30; minimum recorded, 7.5°C, Dec. 13, 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT												
23...	1020	95	55	6.90	14.0	770	2.4	9.1	87	K3000	440	20
DEC												
17...	1015	157	49	7.30	7.0	770	15	11.8	96	K35	280	19
MAR												
19...	1155	4670	43	7.20	12.0	770	15	11.1	102	83	--	17
JUN												
11...	0920	1080	45	7.40	15.0	760	5.1	9.7	96	K28	64	16
SEP												
04...	1250	471	41	7.00	16.5	760	1.7	9.4	96	K50	K32	15

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WHOLE IT-FLD (MG/L)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L CACO3)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT												
23...	0	5.2	1.6	2.8	23	0.3	1.1	25	21	21	5.7	2.2
DEC												
17...	0	5.0	1.6	2.5	21	0.3	1.0	25	21	21	3.7	2.0
MAR												
19...	0	4.3	1.4	2.3	22	0.3	1.0	21	17	18	4.1	1.7
JUN												
11...	0	4.1	1.3	2.1	22	0.2	0.80	21	17	18	3.7	1.3
SEP												
04...	0	4.0	1.3	2.1	22	0.2	0.90	21	17	17	2.9	1.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT											
23...	<0.10	9.7	45	41	0.06	<0.010	<0.100	0.030	0.030	0.40	0.030
DEC											
17...	<0.10	9.5	29	38	0.04	<0.010	<0.100	0.030	0.030	0.30	0.020
MAR											
19...	<0.10	11	36	37	0.05	<0.010	<0.010	0.030	0.020	0.40	0.050
JUN											
11...	<0.10	11	42	35	0.06	<0.010	<0.100	0.020	0.020	0.20	0.020
SEP											
04...	<0.10	11	33	34	0.05	<0.010	<0.100	0.020	<0.010	0.20	0.020

See footnotes at end of table.

SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT											
23...	0.010	0.010	<10	<1	21	<0.5	<1	<1	<3	1	33
DEC											
17...	0.010	0.010	20	<1	22	<0.5	<1	<1	<3	2	28
MAR											
19...	0.010	0.010	70	<1	54	<0.5	<1	<1	<3	1	71
JUN											
11...	0.010	<0.010	70	<1	15	<0.5	1	<1	<3	1	62
SEP											
04...	<0.010	<0.010	30	<1	18	<0.5	<1	<1	<3	1	23

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT											
23...	2	4	7	0.2	<10	1	<1	<1	51	<6	15
DEC											
17...	<1	<4	7	--	<10	1	<1	<1	52	<6	9
MAR											
19...	<1	<4	10	<0.1	<10	<1	<1	<1	46	<6	22
JUN											
11...	<5	<4	5	<0.1	<10	1	<1	<1	43	<6	9
SEP											
04...	<5	<4	4	<0.1	<10	<1	<1	<1	42	<6	9

K Results based on colony count outside the acceptable (non-ideal colony count).
< Actual value is known to be less than the value shown.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	14.5	14.0	10.0	12.0	11.0	---	---	13.0	10.0	---	---
2	18.0	14.0	14.5	10.5	12.5	9.5	---	---	13.0	9.0	---	---
3	18.5	14.0	15.0	10.5	13.0	10.5	---	---	12.0	9.0	---	---
4	18.5	15.0	15.0	11.5	13.0	11.0	---	---	12.0	11.5	14.0	12.5
5	19.0	15.5	15.0	11.5	13.0	10.5	---	---	12.5	11.5	14.0	13.0
6	19.0	15.5	14.0	10.5	13.0	10.0	---	---	12.5	12.5	13.5	13.0
7	18.5	15.0	14.0	11.0	13.0	10.5	---	---	12.5	11.5	13.5	13.0
8	18.0	14.5	13.5	10.5	12.0	10.5	9.0	9.0	11.5	11.5	14.0	13.5
9	17.5	13.0	13.0	9.5	11.0	10.0	9.0	9.0	11.5	11.5	14.0	14.0
10	16.0	12.5	12.5	10.0	10.0	9.5	9.0	9.0	11.5	11.5	14.0	14.0
11	16.5	12.5	11.0	8.0	9.0	8.0	11.5	9.0	11.5	11.5	14.0	14.0
12	15.5	12.0	10.0	9.0	8.5	8.5	11.5	10.5	11.5	11.5	14.0	14.0
13	15.5	11.5	9.5	8.5	8.5	7.5	12.0	11.5	11.5	11.5	14.0	14.0
14	15.5	11.5	9.5	8.5	8.0	7.5	12.0	11.0	11.5	11.5	14.0	14.0
15	16.0	11.5	10.5	9.0	8.0	8.0	13.0	9.0	11.5	11.0	14.0	14.0
16	15.5	11.5	11.5	10.0	---	---	12.5	10.0	11.5	11.0	14.0	14.0
17	16.0	12.0	12.0	11.5	---	---	13.5	8.5	11.5	11.5	14.0	13.5
18	16.0	12.0	12.0	10.5	---	---	13.0	8.5	11.5	11.0	13.5	13.0
19	15.5	12.0	10.5	9.0	---	---	12.5	11.0	11.5	11.0	14.0	13.0
20	15.5	12.0	9.0	9.0	---	---	11.5	9.0	11.5	11.0	14.0	14.0
21	15.5	11.5	9.0	9.0	---	---	12.0	10.5	11.5	11.5	14.0	14.0
22	15.5	11.5	9.5	9.0	---	---	12.0	10.5	---	---	14.0	14.0
23	15.0	11.5	9.5	9.5	---	---	12.0	12.0	---	---	14.0	14.0
24	15.0	12.5	11.5	9.0	---	---	12.0	10.5	---	---	14.0	14.0
25	15.5	12.0	12.5	9.5	---	---	10.5	10.5	---	---	14.0	13.5
26	16.0	14.5	12.5	9.5	---	---	11.0	10.5	---	---	13.5	13.5
27	16.0	14.5	12.5	10.5	---	---	11.0	11.0	---	---	13.5	13.5
28	16.0	13.0	12.5	10.0	---	---	11.0	10.5	---	---	13.5	13.5
29	15.5	11.0	12.5	10.0	---	---	11.0	10.0	---	---	13.5	13.5
30	14.5	10.5	12.5	11.0	---	---	11.5	11.0	---	---	13.5	13.5
31	14.0	11.0	---	---	---	---	12.5	11.5	---	---	13.5	13.5
MONTH	19.0	10.5	15.0	8.0	---	---	---	---	---	---	14.0	12.5

SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	13.5	13.0	13.0	16.5	15.0	19.5	18.0	19.0	18.0	19.5	18.0
2	13.5	13.5	13.0	13.0	16.5	15.0	19.5	18.5	19.0	18.0	19.5	18.0
3	13.5	13.5	13.0	13.0	16.5	15.0	19.5	18.5	19.0	18.0	19.0	18.0
4	13.5	13.5	13.0	13.0	16.5	15.0	19.5	18.5	19.0	17.5	19.0	18.5
5	13.5	13.5	13.0	13.0	16.5	15.5	19.0	18.0	19.0	18.0	19.5	18.0
6	13.5	13.5	13.0	13.0	16.5	15.0	19.0	18.0	19.0	18.0	19.0	18.0
7	13.5	13.5	13.0	13.0	16.5	16.0	19.0	18.0	19.0	17.5	19.0	18.0
8	13.5	13.5	13.0	13.0	17.0	16.0	19.0	18.0	18.5	17.5	19.0	17.5
9	13.5	13.5	15.0	13.0	17.0	16.0	19.0	18.0	19.0	17.5	18.5	17.5
10	13.5	13.5	15.0	14.0	17.5	16.0	19.0	18.0	19.0	17.5	18.5	17.5
11	13.5	11.5	14.5	14.0	17.0	16.0	19.5	18.0	19.0	18.0	18.5	17.0
12	12.0	12.0	15.0	14.0	17.0	16.0	19.5	18.5	19.0	18.0	18.5	17.0
13	12.0	12.0	15.0	14.5	18.0	16.5	19.5	18.5	19.0	18.0	18.0	17.0
14	12.0	12.0	15.0	14.5	18.0	16.5	19.5	18.5	19.0	17.5	18.0	16.5
15	12.0	12.0	15.0	14.0	18.0	16.5	19.0	18.0	18.5	17.5	18.0	16.5
16	12.0	12.0	15.5	14.5	18.0	16.5	19.0	18.0	18.5	17.0	18.0	17.0
17	12.0	12.0	15.5	14.5	18.5	16.5	18.5	17.5	18.5	17.5	18.0	18.0
18	12.0	12.0	16.0	14.5	18.5	17.0	18.5	17.5	18.5	17.5	17.5	16.0
19	12.0	12.0	15.5	15.0	18.0	16.5	19.0	17.5	19.0	17.5	17.5	17.0
20	12.0	12.0	15.0	14.5	18.5	16.5	19.0	18.0	19.0	18.0	17.0	16.5
21	12.0	12.0	15.0	13.5	19.0	16.5	19.5	18.0	19.0	17.5	18.0	16.5
22	12.0	12.0	15.0	14.0	19.5	17.0	19.5	18.0	18.5	17.5	18.0	17.5
23	12.0	12.0	15.0	14.5	19.5	17.0	19.0	18.0	18.5	17.5	18.0	17.5
24	12.0	12.0	15.5	14.0	19.5	17.0	19.0	18.0	19.0	17.5	18.0	17.0
25	12.0	12.0	16.5	15.0	19.0	17.5	19.0	18.0	19.0	17.5	17.5	15.5
26	12.0	12.0	16.5	15.0	19.0	18.0	19.0	18.0	18.5	17.5	17.0	16.5
27	12.0	12.0	16.5	15.0	19.0	17.5	18.5	17.5	19.0	17.5	17.5	16.5
28	13.0	12.0	16.5	15.5	19.0	18.0	18.5	18.0	19.0	17.5	17.0	16.5
29	13.0	13.0	16.5	15.5	19.0	18.0	18.5	17.5	19.0	17.5	17.0	17.0
30	13.0	13.0	16.5	15.5	19.5	18.0	19.0	17.5	19.0	18.0	---	---
31	---	---	16.5	15.0	---	---	19.0	18.0	19.0	17.5	---	---
MONTH	13.5	11.5	16.5	13.0	19.5	15.0	19.5	17.5	19.0	17.0	19.5	15.5

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
OCT								
23...*	1130	5.0	52	6.9	14.5	770	9.1	88
23...*	1135	10	52	6.9	14.0	770	9.2	88
23...*	1140	18	54	6.9	14.0	770	9.1	87
23...*	1145	26	53	6.9	14.0	770	9.3	89
23...*	1150	36	54	6.9	14.0	770	9.2	88
23...*	1155	46	55	6.9	13.5	770	9.2	87
23...*	1200	56	55	6.9	14.0	770	9.2	88
23...*	1210	70	55	6.9	14.5	770	9.1	88
23...*	1220	85	53	6.9	14.0	770	9.3	89
23...*	1225	93	55	6.9	14.0	770	9.2	88
MAR								
19...*	1010	135	43	7.3	12.0	770	11.0	101
19...*	1015	125	45	7.2	12.0	770	11.1	102
19...*	1025	110	42	7.2	12.0	770	11.1	102
19...*	1035	95	43	7.2	12.0	770	11.1	102
19...*	1040	80	43	7.2	12.0	770	11.0	101
19...*	1043	65	42	7.2	12.0	770	11.0	101
19...*	1045	50	43	7.2	12.0	770	10.9	100
19...*	1047	35	43	7.2	12.0	770	11.1	102
19...*	1049	20	43	7.2	12.0	770	11.0	101
19...*	1052	5.0	43	7.2	12.0	770	11.1	102

* Instantaneous streamflow at the time of cross-sectional measurements:
Oct. 23; 102 ft3/s
Mar. 19; 4620 ft3/s

SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT						
23...	1020	95	14.0	9	2.3	--
DEC						
17...	1015	157	7.0	2	0.85	--
MAR						
19...	1030	4620	12.0	75	936	51
JUN						
11...	0920	1080	15.0	5	15	--
SEP						
04...	1230	450	16.5	4	4.9	--

SAN JOAQUIN RIVER BASIN

11329500 DRY CREEK NEAR GALT, CA

LOCATION.--Lat 38°14'53", long 121°13'33", in NE 1/4 NE 1/4 sec.32, T.5 N., R.7 E., San Joaquin County, Hydrologic Unit 18040005, on left bank of main channel 35 ft downstream from county road bridge, 2 mi downstream from Coyote Creek, and 4 mi east of Galt.

DRAINAGE AREA.--324 mi^2.

PERIOD OF RECORD.--October 1926 to September 1933, October 1944 to current year. Monthly figures only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WDR CA-78-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 42.83 ft above National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 mi downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, on left bank at datum 13.00 ft higher. Oct. 1, 1945, to June 14, 1966, on right bank and June 15, 1966, to Dec. 4, 1978, on left bank both at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records good except for those below 50 ft^3/s, which are poor. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft.

AVERAGE DISCHARGE.--49 years, 138 ft^3/s, 99,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,300 ft^3/s, Feb. 17, 1986, gage height, 26.02 ft, from rating curve extended above 16,000 ft^3/s; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 17	2045	*30,300	*26.02	Mar. 11	0715	5,050	22.83
Mar. 8	2000	8,900	24.38	Mar. 16	0430	6,780	23.77

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	111	123	785	439	250	63	33	26	3.6	.56
2		0	116	75	574	400	237	66	32	22	1.3	.04
3		0	372	58	869	367	225	64	27	9.3	.59	.97
4		0	219	119	687	346	218	90	24	12	2.0	1.7
5		0	142	523	469	324	210	87	34	5.3	1.6	3.2
6		0	180	455	368	292	207	74	37	5.2	0	1.3
7		0	127	229	296	291	299	67	32	15	0	.05
8		0	145	128	243	4730	289	62	32	1.5	.48	0
9		0	99	92	202	2560	220	57	39	1.6	.03	0
10		0	71	77	173	2110	205	57	45	4.0	0	0
11		0	57	67	156	3500	191	49	29	2.0	1.6	0
12		10	46	57	154	2530	175	48	30	1.6	3.0	0
13		11	43	52	625	1750	170	51	34	2.8	1.8	0
14		5.2	38	48	566	1340	164	51	46	3.8	2.9	0
15		3.4	34	103	3090	2570	132	52	29	1.9	1.2	0
16		1.5	31	157	8440	4940	128	49	13	1.2	.03	0
17		.35	29	638	18900	1920	128	47	11	.73	0	0
18		.01	26	419	18600	1110	114	45	17	1.8	2.5	0
19		0	25	244	10900	851	104	44	17	2.8	2.9	0
20		1.1	23	169	6680	707	91	39	18	3.0	.98	1.1
21		.34	23	133	2080	595	84	37	29	2.6	4.1	1.3
22		.01	21	109	1320	535	81	21	22	4.7	2.8	.25
23		0	20	104	990	475	79	28	17	4.3	1.3	0
24		.48	19	117	819	451	78	25	13	2.7	8.5	.41
25		66	18	97	675	422	73	32	8.1	2.8	3.5	.27
26		72	18	86	588	391	66	29	13	3.1	1.6	1.6
27		32	18	74	514	359	65	33	14	2.0	3.1	3.2
28		26	18	66	477	328	65	29	11	.56	1.6	3.3
29		110	19	64	---	298	63	25	16	2.0	2.7	3.7
30		314	413	504	---	274	61	34	23	1.2	2.2	2.4
31		---	279	680	---	263	---	33	---	.99	2.4	---
TOTAL	0	653.39	2800	5867	80240	37468	4472	1488	745.1	150.48	60.31	25.35
MEAN	0	21.8	90.3	189	2866	1209	149	48.0	24.8	4.85	1.95	.85
MAX	0	314	413	680	18900	4940	299	90	46	26	8.5	3.7
MIN	0	0	18	48	154	263	61	21	8.1	.56	0	0
AC-FT	0	1300	5550	11640	159200	74320	8870	2950	1480	298	120	50

CAL YR 1985 TOTAL 18717.97 MEAN 51.3 MAX 1450 MIN 0 AC-FT 37130
WTR YR 1986 TOTAL 133969.63 MEAN 367 MAX 18900 MIN 0 AC-FT 265700

SAN JOAQUIN RIVER BASIN

11333000 CAMP CREEK NEAR SOMERSET, CA

LOCATION.--Lat 38°39'26", long 120°39'46", in SW 1/4 SW 1/4 sec.4, T.9 N., R.12 E., El Dorado County, Hydrologic Unit 18040013, on right bank 0.2 mi upstream from mouth, 1.3 mi northeast of Somerset, and 5.6 mi south of Camino.

DRAINAGE AREA.--62.6 mi^2.

PERIOD OF RECORD.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,820 ft above National Geodetic Vertical Datum of 1929, from topographic map. Feb. 1 to May 31, 1924, nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records excellent prior to August, fair thereafter. 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 for irrigation downstream from station.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion from Jenkinson Lake).--32 years (water years 1955-86), 90.5 ft^3/s, 65,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,680 ft^3/s, Feb. 16, 1982, gage height, 14.50 ft, from rating curve extended above 5,000 ft^3/s; no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,790 ft^3/s, Feb. 19, gage height, 13.86 ft; minimum daily, 4.9 ft^3/s, Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	6.1	13	9.9	21	289	199	57	7.6	6.1	9.0	5.9
2	5.3	5.6	21	8.6	24	251	191	56	7.7	13	8.8	5.9
3	5.1	5.3	28	8.0	42	220	163	79	7.5	13	8.6	5.9
4	5.1	5.3	15	15	41	205	148	108	7.3	13	8.6	5.7
5	5.0	5.3	14	39	29	195	143	91	7.3	13	7.0	5.7
6	5.0	5.3	12	30	25	175	134	89	7.3	13	6.9	5.7
7	6.6	5.3	20	19	21	271	154	76	7.3	13	6.9	5.7
8	7.3	5.2	26	14	18	1460	146	64	7.2	13	6.7	5.7
9	7.5	4.9	16	12	16	938	134	56	6.9	12	6.7	5.7
10	7.7	14	12	11	15	825	122	51	6.7	12	6.6	5.7
11	7.3	9.9	9.8	9.5	14	884	112	48	6.4	12	6.5	5.7
12	6.8	7.1	8.2	8.7	17	780	110	44	6.3	12	6.4	5.7
13	6.4	6.2	7.4	8.2	43	681	108	41	6.2	12	6.4	5.7
14	6.3	5.9	7.2	8.2	96	538	97	40	6.1	11	6.3	5.7
15	6.0	5.9	7.1	17	535	464	86	39	6.1	11	6.3	5.8
16	5.9	7.3	6.8	22	851	425	89	36	6.1	9.9	6.4	6.1
17	5.8	7.3	6.6	92	4080	364	110	34	6.2	10	6.3	7.2
18	5.8	7.1	6.4	32	3320	319	113	34	12	10	6.3	9.1
19	5.7	5.9	6.3	22	5640	286	99	34	22	9.9	6.4	8.6
20	5.7	5.6	6.1	20	2840	270	93	31	15	9.7	6.2	9.0
21	11	5.8	6.0	17	1430	259	76	29	6.8	9.6	6.3	8.8
22	9.8	5.5	5.9	16	975	251	46	26	6.6	9.4	6.4	8.0
23	7.9	5.8	5.8	21	729	246	62	23	6.5	9.4	6.2	7.5
24	7.3	12	5.7	16	619	240	70	20	6.3	9.7	6.0	9.8
25	7.1	28	5.7	15	477	228	72	19	6.2	9.4	5.7	20
26	7.0	11	5.6	14	390	216	74	12	6.1	9.3	5.6	17
27	6.8	7.8	5.5	13	346	217	72	9.4	6.1	9.1	6.1	26
28	6.6	15	5.5	12	319	216	70	8.6	6.1	8.8	6.3	17
29	6.3	38	6.1	11	---	210	65	8.3	6.1	8.9	6.3	12
30	6.3	22	22	18	---	210	59	8.0	6.1	9.7	6.4	11
31	6.3	---	13	19	---	206	---	7.6	---	9.4	6.2	---
TOTAL	204.0	281.4	335.7	578.1	22973	12339	3217	1278.9	228.1	331.3	206.8	263.3
MEAN	6.58	9.38	10.8	18.6	820	398	107	41.3	7.60	10.7	6.67	8.78
MAX	11	38	28	92	5640	1460	199	108	22	13	9.0	26
MIN	5.0	4.9	5.5	8.0	14	175	46	7.6	6.1	6.1	5.6	5.7
AC-FT	405	558	666	1150	45570	24470	6380	2540	452	657	410	522
a	-1952	-185	+1727	+6230	+14961	-110	-117	-504	-2820	-4631	-4540	-2923
b	1901	1352	1280	1161	914	999	1239	2485	3990	4483	4428	3068
c	75	16	12	18	22	122	115	195	274	282	286	134

CAL YR 1985	TOTAL	3922.5	MEAN	10.7	MAX	89	MIN 3.4	AC-FT	7780	MEAN d	42.4	AC-FT d	30680
WTR YR 1986	TOTAL	42236.6	MEAN	116	MAX	5640	MIN 4.9	AC-FT	83780	MEAN d	163	AC-FT d	117800

a Change in contents, in acre-feet, in Jenkinson Lake, provided by U.S. Bureau of Reclamation.
b Diversion, in acre-feet, from Jenkinson Lake, provided by U.S. Bureau of Reclamation.
c Evaporation, in acre-feet, from Jenkinson Lake, provided by U.S. Bureau of Reclamation.
d Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

SAN JOAQUIN RIVER BASIN

11333500 NORTH FORK COSUMNES RIVER NEAR EL DORADO, CA

LOCATION.--Lat 38°35'20", long 120°50'38", in NE 1/4 SW 1/4 sec.35, T.9 N., R.10 E., El Dorado County, Hydrologic Unit 18040013, on downstream side of left abutment of county road bridge, 0.8 mi north of Nashville, 2.6 mi upstream from mouth, and 6 mi south of El Dorado.

DRAINAGE AREA.--205 mi^2.

PERIOD OF RECORD.--August 1911 to December 1941, October 1948 to current year.

REVISED RECORDS.--WSP 1315-A: 1914(M), 1925(M), 1928(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 840 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1933, nonrecording gage at site 1.5 mi upstream at different datum. October 1933 to December 1941, water-stage recorder at site 1,000 ft upstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 9 and Aug. 13-25. Records fair. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. Camino conduit above the station diverts water out of the basin. See REMARKS for Camp Creek near Somerset (station 11333000). Numerous small diversions above station for irrigation and domestic use.

AVERAGE DISCHARGE.--68 years, 211 ft^3/s, 152,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft^3/s, Dec. 23, 1955, gage height, 14.8 ft, from rating curve extended above 7,500 ft^3/s on basis of slope-area measurement of peak flow; no flow for part of 1924, 1926, 1931, 1933-34, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 17	1330	*12,600	*13.07	Mar. 8	1215	6,690	10.33

Minimum daily, 7.6 ft^3/s, Oct. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	14	116	116	368	803	582	159	84	31	17	14
2	8.2	13	149	103	405	730	551	152	80	31	20	15
3	8.4	13	391	94	539	657	489	190	76	31	17	14
4	8.2	13	190	147	480	603	440	353	73	31	17	15
5	7.8	13	146	446	326	564	413	253	69	31	17	14
6	7.6	13	131	438	297	518	400	234	65	31	17	14
7	7.6	12	145	248	236	803	497	209	62	33	16	13
8	10	12	222	184	205	4340	446	182	58	32	14	14
9	14	22	149	150	180	2670	395	164	55	31	14	14
10	16	68	119	128	161	2300	366	153	52	30	16	14
11	14	56	101	115	147	2710	334	146	50	30	17	14
12	13	35	89	104	163	2290	320	141	48	30	16	15
13	12	24	82	97	750	1800	316	137	45	31	15	16
14	11	21	79	93	831	1430	287	135	44	30	14	16
15	10	20	74	129	3480	1360	254	133	43	26	14	17
16	10	23	70	201	6060	1400	245	130	42	22	13	19
17	9.8	32	67	1150	11100	1150	258	128	42	22	13	24
18	9.8	32	65	555	9770	968	277	127	40	23	13	26
19	10	28	62	367	10200	856	238	131	39	21	13	26
20	14	22	61	306	6840	799	224	130	38	20	12	26
21	19	23	59	245	3930	757	219	123	36	21	12	22
22	25	24	58	206	2570	729	173	114	35	22	12	20
23	20	24	58	225	1890	714	190	106	34	23	12	19
24	17	60	57	186	1500	692	202	99	37	22	12	23
25	17	232	57	160	1260	681	196	99	36	21	12	35
26	16	138	58	144	1080	652	197	96	35	20	12	36
27	16	86	62	132	965	646	186	94	34	20	13	45
28	15	98	61	123	878	641	184	92	33	19	13	45
29	14	305	63	116	---	627	177	91	33	19	13	28
30	14	215	195	196	---	639	166	90	31	17	13	26
31	14	---	165	306	---	615	---	88	---	17	14	---
TOTAL	396.4	1691	3401	7210	66611	36144	9222	4479	1449	788	443	639
MEAN	12.8	56.4	110	233	2379	1166	307	144	48.3	25.4	14.3	21.3
MAX	25	305	391	1150	11100	4340	582	353	84	33	20	45
MIN	7.6	12	57	93	147	518	166	88	31	17	12	13
AC-FT	786	3350	6750	14300	132100	71690	18290	8880	2870	1560	879	1270

CAL YR 1985 TOTAL 27965.6 MEAN 76.6 MAX 1060 MIN 3.6 AC-FT 55470
WTR YR 1986 TOTAL 132473.4 MEAN 363 MAX 11100 MIN 7.6 AC-FT 262800

SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA

LOCATION.--Lat 38°30'01", long 121°02'39", in NW 1/4 SE 1/4 sec.36, T.8 N., R.8 E., Sacramento County, Hydrologic Unit 18040013, on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 mi southwest of Latrobe, and 12 mi downstream from confluence of North and Middle Forks of Cosumnes River.

DRAINAGE AREA.--536 mi^2.

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 331: 1911-12. WSP 1315-A: 1908-9, 1911(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 168.09 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1930, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. See REMARKS for Camp Creek near Somerset (station 11333000) for diversion out of basin. Numerous small diversions above station for irrigation and domestic use.

AVERAGE DISCHARGE.--79 years, 509 ft^3/s, 368,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,100 ft^3/s, Feb. 17, 1986, gage height, 14.76 ft, from rating curve extended above 34,000 ft^3/s, on basis of area-velocity study of peak flow; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907 reached a stage of 16.3 ft, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 17	2330	*45,100	*14.76	Mar. 8	1415	14,400	9.69

Minimum daily, 17 ft^3/s, Oct. 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	30	317	378	1400	1880	1380	505	281	71	38	20
2	18	31	319	308	1350	1730	1310	492	268	71	36	20
3	19	30	1170	270	1820	1570	1190	500	257	68	35	20
4	19	30	636	504	1570	1450	1090	790	244	67	35	19
5	18	29	453	1210	1080	1360	1030	680	226	65	33	19
6	17	29	399	1270	924	1270	1000	602	214	64	31	19
7	17	29	380	755	765	1650	1240	562	203	64	30	19
8	17	28	585	581	666	9440	1160	508	191	64	29	19
9	26	28	437	471	596	6270	1010	472	179	64	28	18
10	33	55	328	395	528	5500	946	444	169	63	27	18
11	38	140	265	342	477	6530	886	427	157	61	25	18
12	30	94	218	304	520	5810	844	418	149	59	24	18
13	27	65	186	276	1960	4430	843	409	142	58	24	19
14	26	52	184	317	2190	3550	795	404	133	56	24	20
15	24	46	168	417	8050	4090	739	399	128	55	23	20
16	23	46	156	568	14900	4630	722	392	124	53	23	20
17	22	50	146	2650	34400	3390	717	387	121	50	23	22
18	22	68	137	1540	32200	2660	718	386	115	48	23	26
19	22	63	130	1050	32300	2280	669	386	112	47	23	33
20	22	54	127	862	15600	2070	633	391	108	46	23	39
21	31	47	125	712	8500	1910	619	389	104	39	23	42
22	42	49	123	612	5750	1820	592	376	101	40	22	42
23	58	49	121	617	4300	1760	592	356	99	42	22	39
24	45	78	121	565	3440	1700	613	340	93	42	21	37
25	38	407	122	483	2920	1670	596	321	88	44	21	41
26	37	335	123	434	2540	1600	584	314	83	44	21	70
27	37	172	124	396	2270	1560	566	311	78	42	21	98
28	36	160	126	363	2060	1530	549	308	76	41	20	116
29	33	596	143	343	---	1480	541	304	75	40	20	104
30	32	707	761	832	---	1510	524	297	73	39	20	75
31	31	---	601	1290	---	1460	---	290	---	39	20	---
TOTAL	878	3597	9231	21115	185076	89560	24698	13160	4391	1646	788	1090
MEAN	28.3	120	298	681	6610	2889	823	425	146	53.1	25.4	36.3
MAX	58	707	1170	2650	34400	9440	1380	790	281	71	38	116
MIN	17	28	121	270	477	1270	524	290	73	39	20	18
AC-FT	1740	7130	18310	41880	367100	177600	48990	26100	8710	3260	1560	2160

CAL YR 1985 TOTAL 77906.3 MEAN 213 MAX 2990 MIN 7.7 AC-FT 154500
WTR YR 1986 TOTAL 355230.0 MEAN 973 MAX 34400 MIN 17 AC-FT 704600

SAN JOAQUIN RIVER BASIN

11336580 MORRISON CREEK NEAR SACRAMENTO, CA

LOCATION.--Lat 38°29'55", long 121°27'06", in SW 1/4 SE 1/4 sec.32, T.8 N., R.5 E., Sacramento County, Hydrologic Unit 18020109, on right bank 750 ft upstream from Florin Road, 1.6 mi upstream from Elder Creek, and 3.8 mi south of State Capitol Building in Sacramento.

DRAINAGE AREA.--53.4 mi^2.

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

REVISED RECORDS.--WDR CA-72-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.60 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1960, 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.

REMARKS.--Estimated daily discharges: Apr. 20 to May 12 and Aug. 25 to Sept. 30. Records fair below 100 ft^3/s and poor above. Periods of estimated record are poor. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

AVERAGE DISCHARGE.--27 years, 21.6 ft^3/s, 15,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,730 ft^3/s, Feb. 17, 1986, gage height, 10.40 ft; no flow at times in 1960, 1962, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 24	1315	974	5.82	Feb. 2	0730	500	4.28
Nov. 29	0930	415	3.93	Feb. 17	1945	*2,730	*10.40
Dec. 29	2145	429	3.99	Mar. 10	1530	424	3.97
Jan. 30	1845	978	5.86				

Minimum daily, 0.96 ft^3/s, Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	1.6	26	17	168	38	4.6	5.3	6.5	5.9	5.3	5.2
2	3.7	1.5	127	9.4	208	16	6.2	5.4	6.4	6.1	5.4	5.2
3	4.3	1.3	47	6.8	129	7.4	5.1	5.5	6.4	5.8	5.2	5.2
4	4.3	3.8	18	92	68	6.7	4.8	5.6	7.0	6.0	5.1	5.2
5	3.0	4.1	83	88	32	7.7	6.0	5.7	7.0	6.1	5.0	5.1
6	1.6	4.4	30	38	23	7.9	12	5.8	6.9	6.2	5.0	5.1
7	2.7	4.6	33	21	17	64	68	5.9	6.8	6.5	5.0	5.1
8	3.1	4.0	15	13	12	206	20	6.0	6.9	6.6	4.7	5.1
9	2.6	4.3	11	11	9.9	65	10	6.2	7.9	6.5	4.8	5.1
10	2.6	85	9.2	10	10	278	7.1	6.3	8.1	6.4	4.8	5.1
11	2.5	72	7.4	8.2	9.8	175	5.7	6.5	8.1	6.3	4.7	5.1
12	1.6	31	6.8	7.2	72	97	4.8	6.6	8.0	6.4	4.5	5.0
13	1.0	16	6.4	7.3	111	44	4.3	6.7	7.2	6.1	4.5	5.0
14	1.0	9.0	3.1	15	128	27	4.4	6.6	7.1	6.4	4.4	5.0
15	.96	7.4	1.6	12	462	161	4.8	6.5	6.8	6.1	4.5	5.0
16	4.0	10	5.2	63	621	142	4.3	6.9	6.9	6.4	4.4	5.0
17	2.0	2.2	5.7	69	1830	63	4.3	6.5	6.8	6.1	4.3	5.0
18	1.8	4.9	5.4	30	1720	28	4.2	6.8	7.2	6.0	4.5	5.0
19	1.4	6.3	5.7	21	1740	19	4.3	6.2	7.2	6.0	4.9	5.0
20	1.1	7.5	6.1	14	1110	13	4.3	5.9	7.0	6.0	6.0	5.0
21	49	6.4	2.6	12	955	11	4.4	5.5	7.2	6.0	5.6	4.9
22	3.4	5.1	1.5	11	706	9.4	4.5	5.9	7.0	6.0	5.6	4.9
23	1.7	6.9	1.5	14	487	8.0	4.6	6.0	6.3	5.7	5.4	4.9
24	1.7	389	1.5	9.9	346	7.8	4.6	5.7	6.5	5.8	5.3	4.9
25	2.0	128	1.4	8.4	260	7.3	4.7	5.1	6.1	5.5	5.2	4.9
26	1.6	25	1.4	7.5	189	7.0	4.8	6.5	6.0	5.6	52	4.9
27	1.1	12	1.5	7.2	124	6.2	4.9	6.9	5.9	5.5	5.2	4.9
28	1.3	55	1.3	7.0	74	5.3	5.0	6.9	6.0	5.5	5.2	4.9
29	1.8	101	81	140	---	4.7	5.1	6.9	6.0	6.0	5.2	4.9
30	1.9	30	99	369	---	4.5	5.2	6.9	5.8	5.5	5.2	4.9
31	1.6	---	31	415	---	4.7	---	6.8	---	5.5	5.2	---
TOTAL	116.96	1039.3	676.3	1553.9	11621.7	1541.6	237.0	192.0	205.0	186.5	202.1	150.5
MEAN	3.77	34.6	21.8	50.1	415	49.7	7.90	6.19	6.83	6.02	6.52	5.02
MAX	49	389	127	415	1830	278	68	6.9	8.1	6.6	52	5.2
MIN	.96	1.3	1.3	6.8	9.8	4.5	4.2	5.1	5.8	5.5	4.3	4.9
AC-FT	232	2060	1340	3080	23050	3060	470	381	407	370	401	299

CAL YR 1985 TOTAL 3769.66 MEAN 10.3 MAX 389 MIN .96 AC-FT 7480
WTR YR 1986 TOTAL 17722.86 MEAN 48.6 MAX 1830 MIN .96 AC-FT 35150

SAN JOAQUIN RIVER BASIN

11337000 CONTRA COSTA CANAL NEAR OAKLEY, CA

LOCATION.--Lat 37°59'44", long 121°42'03", in NW 1/4 NE 1/4 sec.25, T.2 N., R.2 E., Contra Costa County, Hydrologic Unit 18040003, at pumping plant No. 1, 0.7 mi east of Oakley, and 2.6 mi northwest of Knightsen.

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

GAGE.--Recording flowmeters on pumps. Prior to Jan. 1, 1953, water-stage recorder at site 3.2 mi downstream at datum 121.72 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumps lift 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 were provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--36 years, 105 ft^3/s, 76,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 291 ft^3/s, July 15, 16, 1984; minimum daily, 1.0 ft^3/s, Jan. 19, 26, 1983, Feb. 29, 1984, Jan. 8, 1985.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	170	87	144	134	27	66	140	216	211	222	218
2	166	162	91	137	130	30	71	157	215	207	215	224
3	187	170	86	142	136	35	71	139	214	205	216	220
4	197	173	92	134	126	37	67	138	215	209	253	220
5	197	172	90	133	105	36	64	141	219	206	226	221
6	196	172	93	141	104	45	66	133	218	223	224	218
7	195	171	89	138	104	60	61	141	218	219	231	218
8	190	170	91	125	99	58	58	152	221	236	231	214
9	206	158	93	142	97	59	67	158	223	242	227	202
10	195	163	93	137	108	60	76	158	224	241	231	172
11	200	162	99	133	92	60	77	157	223	247	224	168
12	199	157	97	128	77	60	77	169	218	246	217	157
13	191	159	97	149	10	58	80	177	220	246	219	157
14	202	157	95	160	24	60	85	178	220	248	219	160
15	197	143	92	161	56	56	86	182	227	246	220	169
16	194	98	95	165	53	58	83	161	226	237	212	112
17	192	97	93	165	59	62	81	183	218	237	216	220
18	192	94	100	163	59	63	83	203	178	234	221	218
19	187	84	101	164	45	70	85	200	212	233	225	210
20	198	88	114	165	51	71	89	201	221	236	226	208
21	191	98	127	152	54	71	90	201	217	237	229	206
22	169	98	119	144	57	71	67	216	223	233	223	205
23	162	91	129	150	51	69	102	217	235	236	223	205
24	149	78	124	143	51	69	99	218	242	231	229	197
25	178	88	116	138	40	71	99	199	244	225	225	190
26	170	88	126	134	37	67	95	198	246	227	229	189
27	171	89	134	146	35	62	97	208	240	228	228	184
28	170	86	136	146	33	62	107	218	224	227	225	182
29	169	87	138	145	---	60	119	218	229	225	219	197
30	167	86	142	133	---	59	145	223	221	219	217	168
31	173	---	141	134	---	76	---	205	---	217	216	---
TOTAL	5715	3809	3320	4491	2027	1802	2513	5589	6667	7114	6938	5829
MEAN	184	127	107	145	72.4	58.1	83.8	180	222	229	224	194
MAX	206	173	142	165	136	76	145	223	246	248	253	224
MIN	149	78	86	125	10	27	58	133	178	205	212	112
AC-FT	11340	7560	6590	8910	4020	3570	4980	11090	13220	14110	13760	11560

CAL YR 1985	TOTAL	60310	MEAN	165	MAX	273	MIN	1.0	AC-FT	119600
WTR YR 1986	TOTAL	55814	MEAN	153	MAX	253	MIN	10	AC-FT	110700

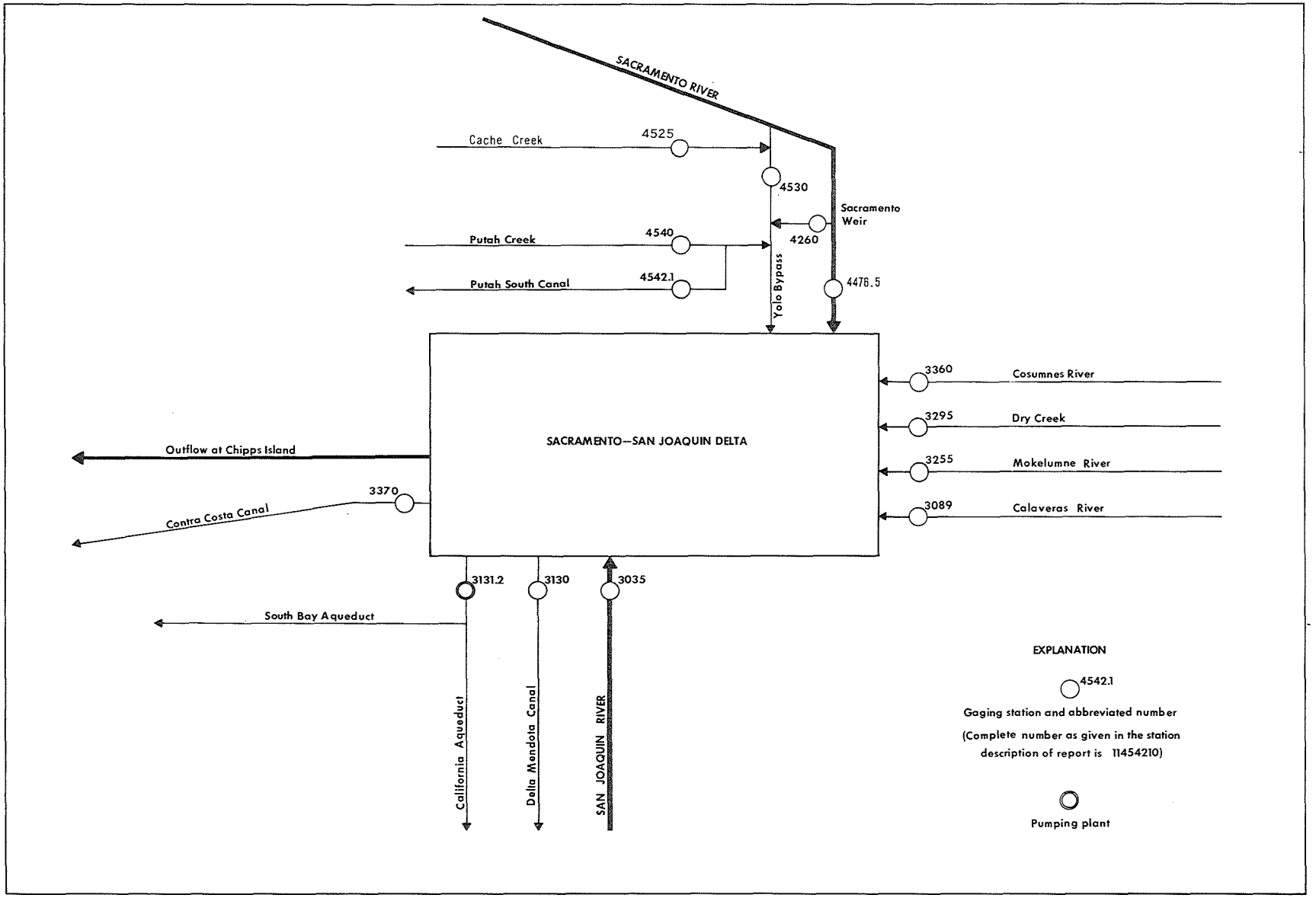

FIGURE 35. — Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.

SACRAMENTO-SAN JOAQUIN DELTA, INFLOWS AND DIVERSIONS

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971 can be obtained from published records for stations tabulated below.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals provided by U.S. Bureau of Reclamation; California Aqueduct and Sacramento Weir spill by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
Inflows, in thousands of acre-feet												
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
127.4	114.8	135.6	126.6	485.6	1539	1166	538.9	370.9	177.9	195.7	248.8	5227
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
5.44	2.55	2.46	2.47	107.4	72.68	4.91	11.93	14.93	15.41	15.47	8.94	264.6
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
6.88	8.86	10.17	11.07	120.2	289.7	147.3	87.69	48.28	21.88	25.32	31.14	808.5
11329500 DRY CREEK NEAR GALT												
0	1.3	5.58	12.01	152.6	72.26	8.65	2.92	1.51	.30	.12	.05	257.3
11335000 COSUMNES RIVER AT MICHIGAN BAR												
1.74	7.13	18.31	41.88	367.1	177.6	48.99	26.10	8.71	3.26	1.56	2.16	704.5
11426000 SACRAMENTO WEIR SPILL												
0	0	0	0	1329	173.8	0	0	0	0	0	0	1503
11447650 SACRAMENTO RIVER AT FREEPORT												
597.1	619.9	990.4	1228	3826	4611	1537	784.7	703.3	1038	929.3	1079	17944
11453000 YOLO BYPASS NEAR WOODLAND[1]												
0	0	9.64	6.19	4957	3224	43.12	0	0	0	0	0	8240
11454000 PUTAH CREEK NEAR WINTERS												
15.11	6.60	6.57	7.12	108.5	200.1	40.09	37.10	38.55	39.17	37.29	22.72	558.5
TOTAL												
753.7	761.1	1179	1433	11453	10360	2996	1489	1186	1296	1205	1393	35505
Diversions, in thousands of acre-feet												
11313000 DELTA-MENDOTA CANAL												
241.2	221.3	238.0	240.1	218.8	149.7	165.9	184.3	178.0	273.7	269.6	238.6	2619
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
219.7	206.5	363.2	306.5	112.2	44.64	119.7	184.4	178.5	239.8	330.6	374.8	2681
11337000 CONTRA COSTA CANAL												
11.35	7.56	6.58	8.91	4.02	3.57	4.98	11.09	13.22	14.11	13.76	11.56	110.7
11454210 PUTAH SOUTH CANAL												
13.05	4.08	4.05	4.55	5.54	7.52	14.20	32.09	32.86	33.42	32.48	19.92	203.8
TOTAL												
485.3	439.4	611.8	560.1	340.6	205.4	304.8	411.9	402.6	561.0	646.4	644.9	5614

1. Flow not computed below 1,000 ft^3/s.
NOTE.--Minor inflow streams and diversions are not included.

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CALENDAR FOR WATER YEAR 1986

1985

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1986

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

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