

Water Resources Data California Water Year 1990

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-90-3
Prepared in cooperation with the California Department of
Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

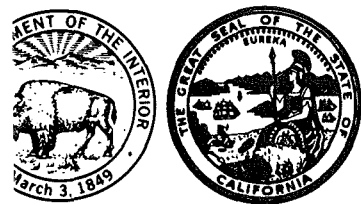
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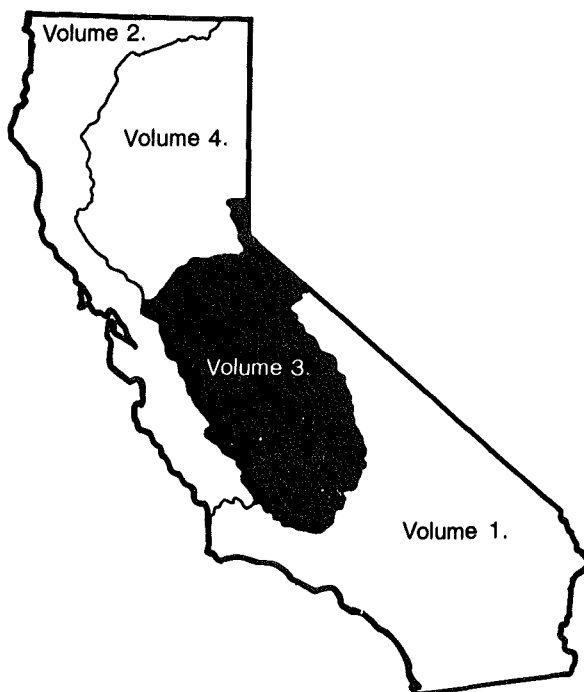


Water Resources Data California

Water Year 1990

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

by T.C. Hunter, J.R. Mullen, and S.W. Anderson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-90-3
Prepared in cooperation with the California Department of
Water Resources and with other agencies

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

IX

[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 1990

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

FROM WALKER RIVER TO TRUCKEE RIVER

By T.C. Hunter, J.R. Mullen, and S.W. Anderson

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 volume of the report includes records on surface water in the State. Specifically, it contains (1) discharge records for 181 streamflow-gaging stations and 3 crest-stage partial-record streamflow stations; (2) stage and contents records for 52 lakes and reservoirs; and (3) water-quality records for 36 streamflow-gaging stations. Records included for stream stages are only a small fraction of those obtained during the water year.

The 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 Section, Box 25425, Building 810, Federal Center, Denver, CO 80225.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has 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-90-3." 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 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, James Baetge, Executive Director.
 East Bay Municipal Utility District, C.T. Way, Chief Engineer.
 Madera Irrigation District, Robert L. Stanfield, General Manager-Chief Engineer.
 Merced, City of, Stevan M. Stroud, City Engineer.
 Merced Irrigation District, Tom Reta, Chief Engineer.
 Modesto Irrigation District, William Kitscher, Senior Civil Engineer.
 San Francisco, City and County, Hetch-Hetchy Water and Power, Andrew B. Moran, General Manager of Public Utilities.
 Tulare County Flood Control District, Herb Knierem, Flood Control Engineer.
 Turlock Irrigation District, Paul S. Brown, Controller.
 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, U.S. Department of Agriculture; and Bureau of Reclamation, U.S. Department of Interior.

The following organizations aided in collecting records: Calaveras County Water District; Pacific Gas & Electric Co.; Southern California Edison Co.; Tuolumne County; and Merced and Oakdale-South San Joaquin Irrigation Districts.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1990 water year in the area covered by this volume was 30 percent of the 1951-80 median (based on five representative streamflow records). Total runoff, in percent of median, at selected stations in California is shown in figure 1. Runoff ranged from 57 percent of median at Bear Creek near Lake Thomas A. Edison (station 11230500) to 0 percent at Orestimba Creek near Newman (station 11274500). In figure 2, monthly mean discharge during the 1990 water year is compared to the 1951-80 median, maximum, and minimum monthly mean discharge at four representative gaging stations. In addition, a comparison of monthly precipitation in the 1990 water year and the long-term average is shown in figure 2. No streams in the area covered by this volume exceeded the peak discharge bases, and none had peaks of record. A comparison of peak discharge for 1990 water year with the peak discharge for period of record is shown in table 1. A comparison of low flows is shown in table 2. Annual departure from 1951-80 mean discharge for four selected gaging stations is shown in figure 3.

Table 1. Comparison of peak discharge for 1990 water year with those for period of record for selected stations

| Station No. | Station name | Peak discharge (ft ³ /s) | 1990 water year | Peak discharge (ft ³ /s) | Period of record (water year) |
|-------------|---|-------------------------------------|-----------------|-------------------------------------|-------------------------------|
| 11186001 | Kern River near Kernville | 542 | May 8 | 60,000 | 1966 |
| 11224500 | Los Gatos Creek above Nunez Canyon, near Coalinga | 2,090 | Sept. 23 | 4,360 | 1969 |
| 11230500 | Bear Creek near Lake Thomas A. Edison | 341 | May 6 | 3,660 | 1982 |
| 11266500 | Merced River at Pohono Bridge, near Yosemite | 1,850 | Apr. 28 | 23,400 | 1955 |

Table 2. Comparison of 7-day low flow for 1990 water year to 7-day, 10-year low flow and minimum daily flow for 30-year base period 1951-80 at selected stations

| Station No. | Station name | 7-day low flow (ft ³ /s) | | 1-day low flow (ft ³ /s) | | Period of record | |
|-------------|---|-------------------------------------|---------------------|-------------------------------------|---------------------|------------------------------------|------------|
| | | 1990 water year | Base period 10-year | 1990 water year | Base period 1951-80 | Minimum daily (ft ³ /s) | Water year |
| 11186001 | Kern River near Kernville | 84 | 103 | 83 | 85 | 78 | 1924 |
| 11224500 | Los Gatos Creek above Nunez Canyon, near Coalinga | 0 | 0 | 0 | 0 | 0 | Many |
| 11230500 | Bear Creek near Lake Thomas A. Edison | 5.23 | 3.09 | 5.2 | 1.8 | 1.2 | 1924 |
| 11266500 | Merced River at Pohono Bridge, near Yosemite | 17.1 | 10.2 | 17 | 5.4 | 3.3 | 1924 |



Figure 1. Runoff, in percent of median, for the 1990 water year.

WATER RESOURCES DATA -- CALIFORNIA, WATER YEAR 1990

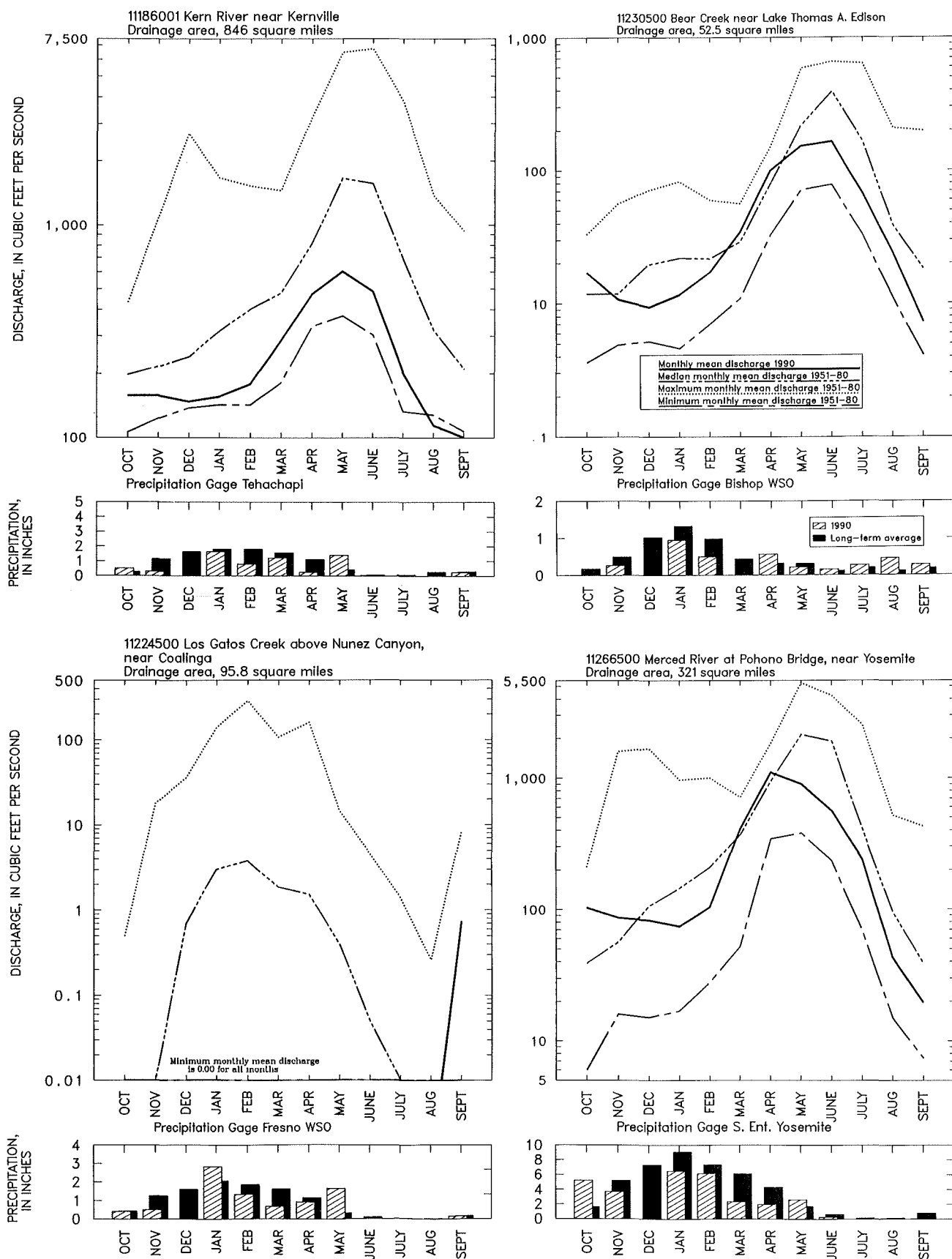


Figure 2. Discharge and precipitation during water year 1990 and long-term statistics at four representative gaging stations. Precipitation data from National Oceanic and Atmospheric Administration, 1990, Climatological data, annual report: vol. 94.

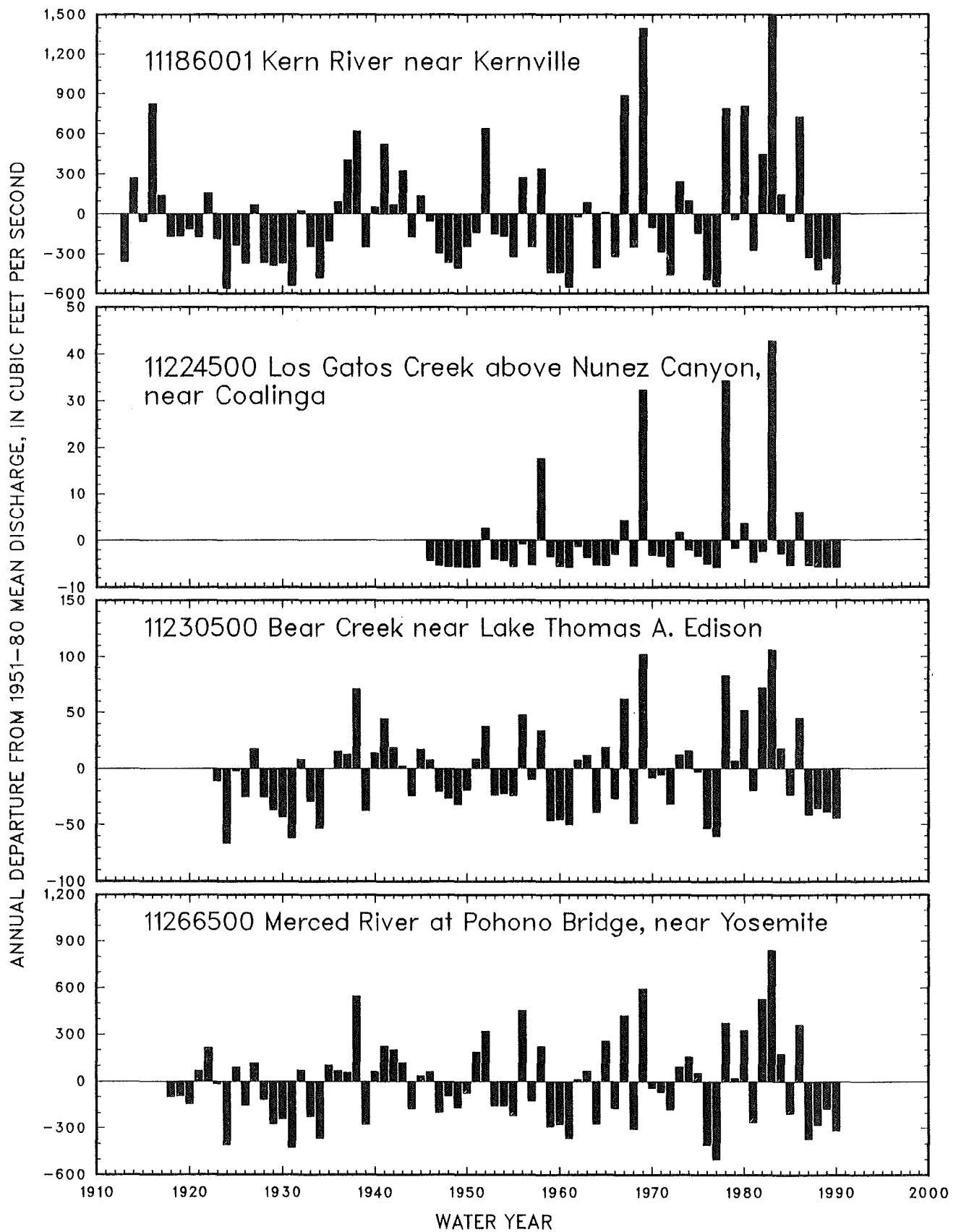


Figure 3. Annual departure from 1951-80 mean discharge for period of record at selected gaging stations.

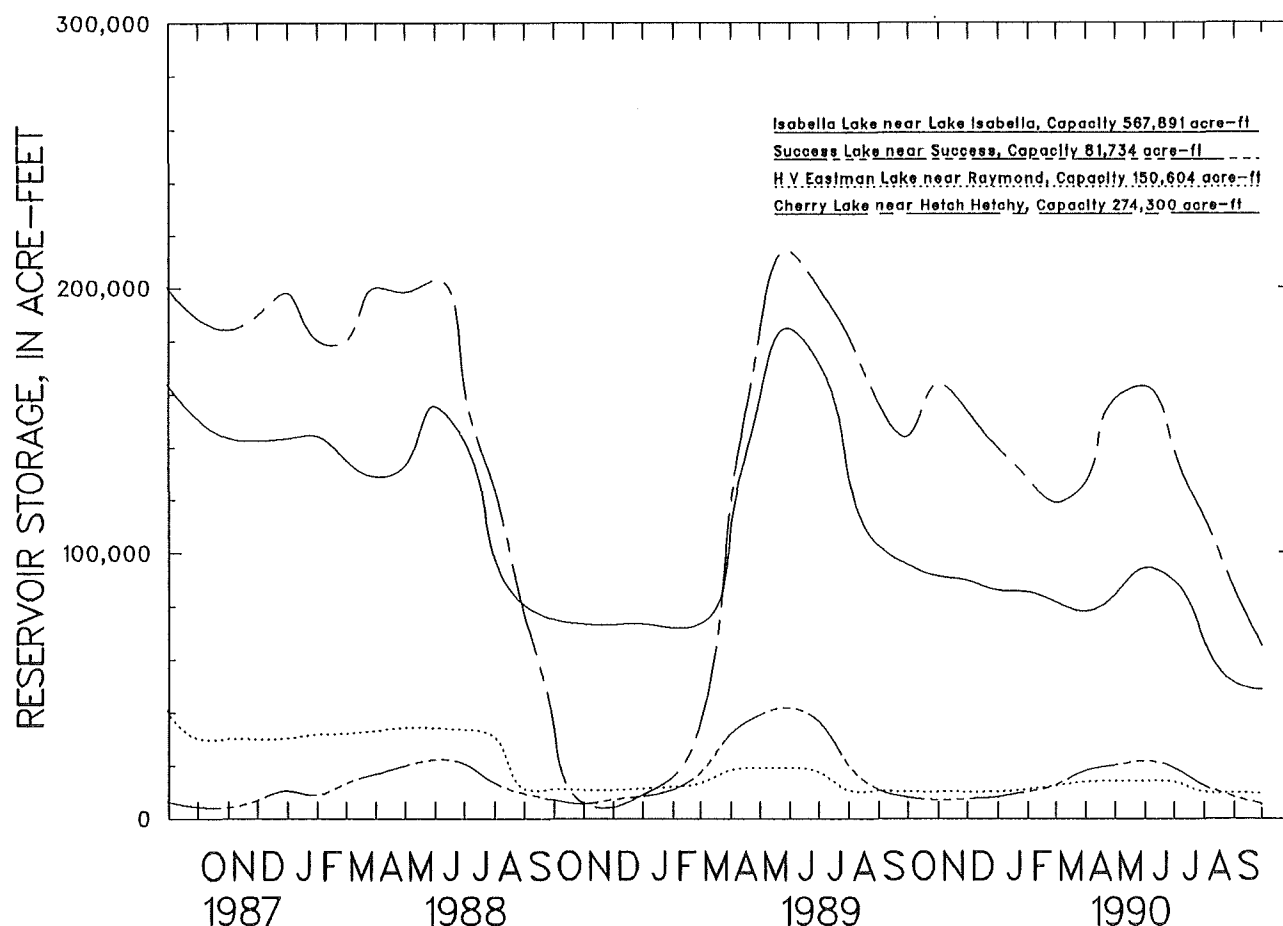


Figure 4. Storage in selected reservoirs, water years 1987-90.

Precipitation in the area covered by this volume (based on 10 representative rain gages) was 70 percent of the long-term average. The average April 1 water content of the Sierra Nevada snowpack was 45 percent of average. There were no significant storms, however, locally heavy runoff from thunderstorms occurred July through September.

The water year began with many reservoir levels below average. In anticipation of a fifth consecutive water year of less-than-normal precipitation, many water agencies limited reservoir releases to maximize storage. By the end of the water year, storage in major reservoirs was about 37 percent of the average. Many small to moderate-sized reservoirs were less than 50 percent of capacity. A summary of storage in all the major reservoirs in the area covered by this volume is shown in table 3. Storage in selected reservoirs for water years 1987-90 is shown in figure 4. Both mandatory and voluntary water-conservation programs were kept in force by those agencies serving metropolitan water districts that rely on water imported from Sierra Nevada reservoirs. The State Water Project cut deliveries to agricultural customers by 50 percent, and the Central Valley Project cut deliveries to most customers by 25 to 50 percent. The drought was severe in the southern part of the San Joaquin Valley, but the impact was not as severe in many areas because ground water was available.

Table 3. Summary of storage in major reservoirs

[Data from California Department of Water Resources, 1990, Drought conditions in California: 68 p. Values are in thousands of acre-feet]

| Area | Number of reservoirs | Long-term average | 1977 | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------|----------------------|-------------------|-------|-------|-------|-------|-------|-------|
| San Joaquin Basin | 33 | 6,926 | 1,654 | 8,498 | 5,097 | 3,868 | 3,958 | 3,621 |
| Tulare Lake Basin | 6 | 799 | 216 | 1,257 | 453 | 263 | 254 | 179 |

11187000 Kern River at Kernville, CA

11303500 San Joaquin River near Vernalis, CA

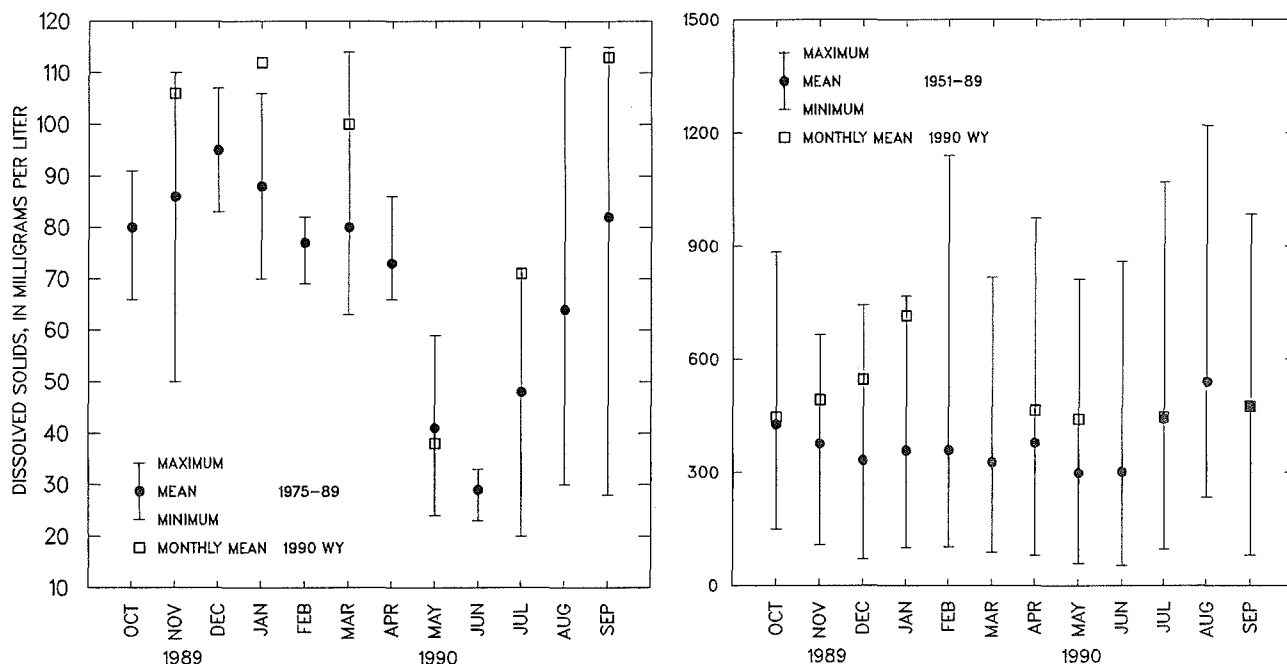


Figure 5. Comparison of monthly mean dissolved-solids concentrations during water year 1990 with long-term dissolved-solids concentrations at two selected stations.

Water Quality

Water samples collected at four NASQAN and two Hydrologic Benchmark stations reported in this volume were analyzed for water-quality constituents. Median dissolved-solids concentrations of samples collected from these stations were slightly smaller when compared to the 1989 values. The monthly mean dissolved-solids concentrations during water year 1990 are compared in figure 5 with long-term dissolved-solids concentration at two selected stations. The largest densities of fecal-coliform bacteria (230 colonies per 100 milliliters) and fecal-streptococcus bacteria (3,200 colonies per 100 milliliters) were in water samples collected from the San Joaquin River near Vernalis (station 11303500).

Sediment

Suspended-sediment discharge and concentration were monitored daily at six stations and periodically at eight stations in the area covered by this volume. Five of the daily stations monitor sediment transport into Lake Tahoe (station 10337000). 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 resulted 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 1990 water year, sediment discharge for all stations in the area was significantly less than normal. Sediment discharge for four stations in the Lake Tahoe basin ranged from 4 to 14 percent of the mean sediment discharge for the 1981-89 water years. Sediment discharge for the San Joaquin River near Vernalis (station 11303500) was 27 percent of the long-term mean (1957-89).

Sediment discharge for the daily stations ranged from 30 tons per year for General Creek near Meeks Bay (station 10336645) to 97,700 tons per year for the San Joaquin River near Vernalis. Annual sediment discharge per square mile of drainage area ranged from a minimum of 2.0 tons per square mile for Trout Creek near Tahoe Valley (station 10336780) to a maximum of 13 tons per square mile for Blackwood Creek near Tahoe City (station 10336660).

Most sediment transport in the Lake Tahoe basin was the result of snowmelt runoff in April and May. 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 56 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 drainage basins 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 408 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.

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1990 water year that began October 1, 1989, and ended September 30, 1990. 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 following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic 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 11218500, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "218500." 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 (fig. 6). 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.

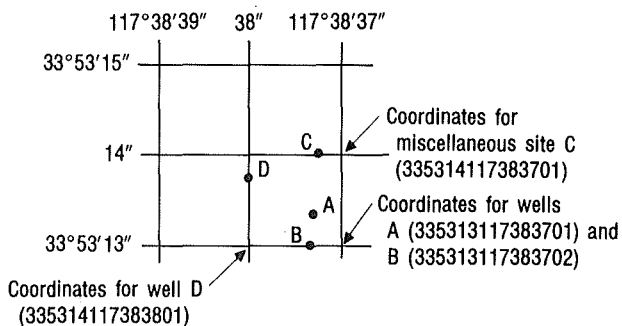


Figure 6. System for numbering miscellaneous sites (latitude and longitude).

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 7 through 26.

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 relation 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 relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. 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 relations, 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 with 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.

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 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 measured 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 $1 \text{ ft}^3/\text{s}$, to the nearest tenth between 1.0 and $10 \text{ ft}^3/\text{s}$, to whole numbers between 10 and $1,000 \text{ ft}^3/\text{s}$, and to three significant figures for more than $1,000 \text{ ft}^3/\text{s}$. 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 measured 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 various 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 7 through 26.

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; and Book 5, Chapters A1, A3, and A4. All these references are listed on page 21 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 California District office.

Water Temperature

Water temperatures are measured at the water-quality stations. In addition, water temperatures are taken at the 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 measured 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-Sectional Data

Cross-sectional 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-sectional variations 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's National Water-Quality Laboratory in Arvada, Colorado. 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 laboratory 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 recorder, 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 to 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.

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 various 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 $35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ 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°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 are expressed in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°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.

Cell volume determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell numbers of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements on cell dimensions (that is, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (that is, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } 4/3 \pi r^3 \qquad \text{cone } 1/3 \pi r^2 h \qquad \text{cylinder } \pi r^2 h.$$

From cell volume, total algal biomass expressed as biovolume ($\pi\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Cells per volume (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 56 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

$$I = I_0 e^{-\lambda L},$$

where I_0 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

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0}.$$

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, $\mu\text{g/g}$) 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, $\mu\text{g/L}$) 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 408 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:

| <u>Classification</u> | <u>Size (mm)</u> | <u>Method of analysis</u> |
|-----------------------|------------------|---------------------------|
| 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 with 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 [$\text{mg C}/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg C}/(\text{m}^3 \cdot \text{time})$ 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 than 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 [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$ 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 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 dissolved-solids concentration 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 emerged 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, 1990, is called the "1990 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-D2. Application of seismic-refraction techniques to hydrologic studies, by F.P. Haeni: USGS--TWRI book 2, Chapter D2 1988. 86 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.
- 2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 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 discharge by moving-boat method, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. Fluorometric procedures for dye tracing, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 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-A16. Measurement of discharge using tracers, by F.A. Kilpatrick and E.D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
- 3-A18. Determination of stream reaeration coefficients by use of tracers, by F.A. Kilpatrick, R.E. Rathbun, N. Yotsukura, G.W. Parker, and L.L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

- 3-A19. Levels of streamflow gaging stations, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 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-B4. Regression modeling of ground-water flow, by Richard L. Cooley and Richard L. Naff: USGS--TWRI: Book 3, Chapter B4. 1990. 232 pages.
- 3-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. The principle of superposition and its application in ground-water hydraulics, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 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: USGS--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.
- 6-A1. A modular three-dimensional finite-difference ground-water flow model, by M.G. McDonald and A.W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 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. Shaffranek, 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 or converted to partial record stations. Daily records were collected and are stored in WATSTORE for the period of record shown for each station.

| Station No. | Station name | Drainage area (mi ²) | Period of record |
|-------------|--|----------------------------------|------------------------------------|
| 10295200 | WEST WALKER RIVER AT LEAVITT MD, NEAR COLEVILLE | 73.4 | 1945-64 |
| 10303000 | SILVER KING CREEK NEAR COLEVILLE | 31.8 | 1947-51 |
| 10303500 | EAST FORK CARSON RIVER AT SILVER KING VALLEY, NEAR MARKLEEVILLE | -- | 1947-51 |
| 10336600 | UPPER TRUCKEE RIVER NEAR MEYERS | 33.1 | 1961-86 |
| 10336759 | EDGEWOOD CREEK NEAR STATELINE, NV | 3.20 | 1983-87 |
| 10338000 | TRUCKEE RIVER NEAR TRUCKEE | 553 | 1945-61, 1977-82 |
| 10342000 | LITTLE TRUCKEE RIVER NEAR HOBART MILLS | 37.1 | 1947-72 |
| 11185000 | GRAYSON CREEK NEAR HOOKSTON | 1.96 | 1955-60 |
| 11185100 | GRAYSON CREEK NEAR PACHECO | 4.35 | 1954-58 |
| 11185300 | GOLDEN TROUT CREEK NEAR CARTAGO | 23.6 | 1957-67, 1969 |
| 11185350 | KERN RIVER NEAR QUAKING ASPEN CAMP | 530 | 1961-71, 1973-74 |
| 11185400 | LITTLE KERN RIVER NEAR QUAKING ASPEN CAMP | 132 | 1957-69 |
| 11185600 | PACKSADDLE CANYON CREEK NEAR FAIRVIEW | 4.05 | 1960-66 |
| 11186340 | SALMON CREEK TRIBUTARY B NEAR FAIRVIEW | .46 | 1963-69 |
| 11186360 | SALMON CREEK TRIBUTARY CREEK NEAR FAIRVIEW | .30 | 1963-69 |
| 11186380 | SALMON CREEK TRIBUTARY EAST NEAR FAIRVIEW | .23 | 1963-69 |
| 11186500 | SALMON CREEK NEAR KERNEVILLE | 25.8 | 1922-23 |
| 11188000 | KERN RIVER AT ISABELLA | 1,068 | 1911, 1926-35 |
| 11188200 | SOUTH FORK KERN NEAR OLANCHA | 146 | 1956-67, 1969 |
| 11189700 | KELSO CREEK NEAR WELDON | 101 | 1958-66 |
| 11190000 | SOUTH FORK KERN RIVER AT ISABELLA | 982 | 1929-52 |
| 11193000 | KERN RIVER BELOW KERN CANYON POWERHOUSE, NEAR BAKERSFIELD | 2,307 | 1954-64 |
| 11194000 | KERN RIVER NEAR BAKERSFIELD | 2,407 | 1894-76 |
| 11194200 | WAGON WHEEL CREEK NEAR REWARD | 1.38 | 1966-71 |
| 11195500 | SAN EMIGDIO CREEK AT SAN EMIGDIO RANCHHOUSE | 48.8 | 1959-81 |
| 11195600 | PASTORIA CREEK NEAR LEBEC | 27.5 | 1965-71 |
| 11196000 | TEJON CREEK AT TEJON RANCHHOUSE | 48.7 | 1895-96 |
| 11196400 | CALIENTE CREEK ABOVE TEHACHAPI CREEK, NEAR CALIENTE | 165 | 1962-83 |
| 11196420 | TEHACHAPI CREEK NEAR TEHACHAPI | 53.2 | 1963-85 |
| 11197250 | AVENAL CREEK NEAR AVENAL | 57.1 | 1962-86 |
| 11197800 | POSO CREEK NEAR OILDALE | 230 | 1959-85 |
| 11199000 | WHITE RIVER NEAR ORNIA HOT SPRINGS | 14.0 | 1911-13 |
| 11200000 | DEER CREEK AT ORNIA HOT SPRINGS | 16.8 | 1911-15, 1917-34 |
| 11201200 | DEER CREEK DIVERSION NEAR TERRA BELLA | -- | 1971-87 |
| 11201500 | PACIFIC GAS & ELECTRIC CO. CONDUIT NEAR SPRINGVILLE | -- | 1940-54, 1966-67, 1969-71, 1976-83 |
| 11201800 | NORTH FORK OF MIDDLE FORK TULE RIVER BELOW HOSSACK CREEK, NEAR SPRINGVILLE | 33.8 | 1909-13 |
| 11202750 | MIDDLE FORK TULE RIVER ABOVE SPRINGVILLE | 92.4 | 1979-88 |
| 11203000 | BEAR CREEK NEAR SPRINGVILLE | 13.5 | 1911-16 |
| 11203100 | NORTH FORK TULE RIVER AT SPRINGVILLE | 97.6 | 1975-67 |
| 11203190 | TULE RIVER DIVERSION DITCH NEAR SPRINGVILLE | -- | 1968-88 |
| 11203200 | TULE RIVER NEAR SPRINGVILLE | 247 | 1958-68 |
| 11203220 | TULE RIVER AT HIGHWAY 190, NEAR SPRINGVILLE | 247 | 1968-90 |
| 11203500 | TULE RIVER NEAR PORTERVILLE | 253 | 1902-60 |
| 11204000 | SOUTH FORK TULE RIVER NEAR PORTERVILLE | 80.3 | 1911-23, 1925, 1928-32 |
| 11204500 | SOUTH FORK TULE RIVER NEAR SUCCESS | 109 | 1930-54, 1956-90 |
| 11204680 | PIONEER DITCH BELOW SUCCESS DAM | -- | 1959-90 |
| 11204900 | TULE RIVER BELOW SUCCESS DAM | 393 | 1953-90 |
| 11205000 | TULE RIVER AT WORTH BRIDGE, NEAR PORTERVILLE | 395 | 1954-60 |
| 11208500 | MIDDLE FORK KAWEAH RIVER TRIBUTARY NEAR HAMMOND | 1.90 | 1967-70, 1972-73 |
| 11208610 | MONARCH CREEK NEAR HAMMOND | 1.89 | 1968-73 |
| 11208620 | EAST FORK KAWEAH RIVER BELOW MOSQUITO CREEK, NEAR HAMMOND | 16.0 | 1968-73 |
| 11208625 | EAST FORK KAWEAH RIVER AT SEQUOIA NATIONAL PARK BOUNDARY, NEAR HAMMOND | 23.7 | 1968-71 |
| 11208720 | EAST FORK KAWEAH RIVER NO 1 CONDUIT NEAR THREE RIVERS | -- | 1975-78 |
| 11208730 | EAST FORK KAWEAH RIVER NEAR THREE RIVERS | 85.8 | 1952-55, 1958-78 |
| 11209500 | NORTH FORK KAWEAH RIVER NEAR THREE RIVERS | 129 | 1911-60, 1980-81 |
| 11209900 | KAWEAH RIVER AT THREE RIVERS | 418 | 1959-90 |
| 11210000 | SOUTH FORK KAWEAH RIVER NEAR THREE RIVERS | 66.5 | 1912-24 |
| 11210100 | SOUTH FORK KAWEAH RIVER AT THREE RIVERS | 86.7 | 1959-90 |
| 11210500 | KAWEAH RIVER NEAR THREE RIVERS | 519 | 1904-18, 1921-61 |
| 11210850 | LEMONCOVE DITCH BELOW TERMINUS DAM | -- | 1962-90 |
| 11210930 | FOOTHILL DITCH BELOW TERMINUS DAM | -- | 1962-90 |
| 11210950 | KAWEAH RIVER BELOW TERMINUS DAM | 561 | 1962-90 |
| 11211500 | KAWEAH RIVER AT MCKAY POINT, NEAR LEMONCOVE | 647 | 1919-21, 1974 |
| 11211790 | COTTONWOOD CREEK NEAR ELDERWOOD | 60.4 | 1971-85 |
| 11212500 | SOUTH FORK KINGS RIVER NEAR CEDAR GROVE | 408 | 1951-57 |
| 11213000 | KINGS RIVER NEAR HUME | 835 | 1922-36, 1952-58 |
| 11213500 | KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER | 952 | 1927-28, 1932-82 |
| 11214000 | NORTH FORK KINGS RIVER BELOW MEADOWBROOK | 37.7 | 1922-35, 1957-81 |

DISCONTINUED GAGING STATIONS--Continued

| Station No. | Station name | Drainage area (mi ²) | Period of record |
|-------------|--|----------------------------------|---------------------------------|
| 11214200 | FLEMING CREEK NEAR BLACKCAP MOUNTAIN | 15.0 | 1957-65 |
| 11214400 | POST CORRAL CREEK NEAR BLACKCAP MOUNTAIN | 27.9 | 1957-65 |
| 11214500 | HELMS CREEK AT SAND MEADOWS | 34.7 | 1923-31, 1956-58 |
| 11215500 | RANCHERIA CREEK NEAR SMITH MEADOWS | 21.3 | 1925-31 |
| 11215800 | TEAKETTLE CREEK TRIBUTARY NO. 3 NEAR DINKEY CREEK | .86 | 1958-69, 1977-83 |
| 11215810 | TEAKETTLE CREEK TRIBUTARY NO. 7 NEAR PATTERSON MOUNTAIN | .11 | 1958-63 |
| 11215820 | TEAKETTLE CREEK TRIBUTARY NO. 2 NEAR DINKEY CREEK | .85 | 1958-69, 1977-83 |
| 11215830 | TEAKETTLE CREEK TRIBUTARY NO. 2A NEAR DINKEY CREEK | .27 | 1958-69, 1977-83 |
| 11215840 | TEAKETTLE CREEK TRIBUTARY NO. 1 NEAR DINKEY CREEK | .77 | 1958-69, 1977-83 |
| 11216000 | NORTH FORK KINGS RIVER BELOW RANCHERIA CREEK | 229 | 1927-50 |
| 11216800 | ROCK CREEK AT DINKEY CREEK | 7.60 | 1961-70 |
| 11217000 | DINKEY CREEK AT DINKEY MEADOW, NEAR SHAVER LAKE | 50.7 | 1922-35, 1977-87 |
| 11217500 | DEER CREEK BELOW EAST FORK, NEAR SHAVER LAKE | 19.0 | 1924-31 |
| 11218000 | DINKEY CREEK AT MOUTH, NEAR TRIMMER | 132 | 1920-37 |
| 11219000 | BIG CREEK NEAR TOLLHOUSE | 19.8 | 1911-13 |
| 11220000 | BIG CREEK ABOVE PINE FLAT LAKE, NEAR TRIMMER | 70.0 | 1954-73 |
| 11220500 | SYCAMORE CREEK ABOVE PINE FLAT LAKE, NEAR TRIMMER | 56.1 | 1953-73 |
| 11221500 | KINGS RIVER BELOW PINE FLAT DAM | 1,545 | 1954-90 |
| 11222000 | KINGS RIVER AT PIEDRA | 1,693 | 1896-59 |
| 11225000 | LOS GATOS CREEK NEAR COALINGA | 105 | 1932-41 |
| 11226000 | NORTH FORK SAN JOAQUIN RIVER BELOW IRON CREEK | 35.5 | 1922-28, 1959-69 |
| 11227000 | WEST FORK GRANITE CREEK NEAR TIMBER KNOB | 26.4 | 1922-25 |
| 11227500 | MIDDLE FORK GRANITE CREEK NEAR CATTLE MOUNTAIN | 2.25 | 1922-23 |
| 11228000 | EAST FORK GRANITE CREEK NEAR CATTLE MOUNTAIN | 14.6 | 1922-25 |
| 11228500 | GRANITE CREEK NEAR CATTLE MOUNTAIN | 47.8 | 1922-28, 1966-86 |
| 11230000 | SOUTH FORK SAN JOAQUIN RIVER NEAR FLORENCE LAKE | 171 | 1922-81, 1984 |
| 11230650 | BOLSILLO CREEK ABOVE DIVERSION DAM, NEAR BIG CREEK | 1.3 | 1986 |
| 11232000 | SOUTH FORK SAN JOAQUIN RIVER NEAR HOFFMAN MEADOW | 424 | 1922-28 |
| 11232500 | JACKASS CREEK NEAR BASS LAKE | 12.1 | 1922-28, 1961-68 |
| 11234500 | CHIQUITO CREEK NEAR BASS LAKE | 60.1 | 1922-28, 1956-70 |
| 11235000 | SAN JOAQUIN RIVER ABOVE BIG CREEK | 1,050 | 1913-15, 1922-62 |
| 11236080 | HUNTINGTON-SHAVER CONDUIT AT HUNTINGTON LAKE | -- | 1975-83 |
| 11238000 | PITMAN CREEK AT BIG CREEK | 23.7 | 1910-16, 1922-27 |
| 11239000 | HUNTINGTON-SHAVER CONDUIT NEAR SHAVER LAKE | -- | 1929-85 |
| 11242350 | SOQUEL DIVERSION NEAR SUGAR PINE | -- | 1923, 1970-77 |
| 11245000 | SOUTH FORK WILLOW CREEK NEAR NORTH FORK | 39.8 | 1910-17 |
| 11245500 | WHISKEY CREEK NEAR NORTH FORK | 11.6 | 1911-16 |
| 11246000 | CASCADE CREEK NEAR NORTH FORK | 3.31 | 1910-12 |
| 11247000 | SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER | 1,480 | 1910-14, 1937, 1943-82, 1988-89 |
| 11247200 | BIG SANDY CREEK TRIBUTARY NEAR TOLLHOUSE | .46 | 1969-71 |
| 11247500 | BIG SANDY CREEK NEAR AUBERRY | 27.3 | 1947-51 |
| 11248000 | FINE GOLD CREEK NEAR FRIANT | 92.7 | 1937-58 |
| 11250500 | COTTONWOOD CREEK NEAR FRIANT | 35.6 | 1942-51 |
| 11251500 | LITTLE DRY CREEK NEAR FRIANT | 57.9 | 1942-56 |
| 11251600 | LITTLE DRY CREEK AT MOUTH, NEAR FRIANT | 77.4 | 1957-61 |
| 11252500 | SAN JOAQUIN RIVER AT HERNDON | 1,802 | 1895-1901 |
| 11253000 | SAN JOAQUIN RIVER NEAR BIOLA | 1,811 | 1953-61 |
| 11254000 | SAN JOAQUIN RIVER NEAR MENDOTA | 3,940 | 1940-54 |
| 11255500 | PANOCHÉ CREEK BELOW SILVER CREEK, NEAR PANOCHÉ | 293 | 1950-53, 1959-70 |
| 11255550 | LITTLE PANOCHÉ CREEK TRIBUTARY NO. 1, NEAR PANOCHÉ | .33 | 1959-64 |
| 11256000 | SAN JOAQUIN RIVER NEAR DOS PALOS | 4,669 | 1941-54 |
| 11257100 | MIAMI CREEK NEAR OAKHURST | 10.6 | 1961-80 |
| 11257500 | FRESNO RIVER NEAR KNOWLES | 133 | 1911-13, 1915-90 |
| 11257700 | PICAYUNE CREEK NEAR COARSEGOLD | 8.17 | 1965-68 |
| 11258000 | FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON | 237 | 1942-90 |
| 11258800 | EAST FORK CHOWCHILLA RIVER NEAR AHWAHNEE | 57.8 | 1958-68 |
| 11258900 | WEST FORK CHOWCHILLA RIVER NEAR MARIPOSA | 33.6 | 1958-80 |
| 11258920 | NORTH FORK CHOWCHILLA RIVER NEAR NIPPINNAWASSEE | 13.6 | 1959-67 |
| 11258960 | CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND | 173 | 1980-90 |
| 11258980 | CHOWCHILLA RIVER NEAR RAYMOND | 201 | 1972-80 |
| 11259000 | CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND | 236 | 1922-23, 1931-72, 1976-90 |
| 11259300 | CHOWCHILLA RIVER BELOW RAYNOR CREEK, NEAR RAYMOND | 254 | 1973-75 |
| 11259900 | CHAMERLAIN SLOUGH NEAR EL NIDO | -- | 1940-49 |
| 11260000 | SAN JOAQUIN RIVER ABOVE SAND SLOUGH, NEAR EL NIDO | 6,447 | 1940-49 |
| 11260000 | SAN JOAQUIN RIVER NEAR EL NIDO | 6,443 | 1940-49 |
| 11260001 | SAN JOAQUIN RIVER PLUS CHAMERLAIN SLOUGH, NEAR EL NIDO | 6,450 | 1940-49 |
| 11260200 | BEAR CREEK NEAR CATHEYS VALLEY | 24.9 | 1958-69 |
| 11260225 | BURNS CREEK AT HORNITOS | 26.7 | 1965-69 |
| 11260480 | MARIPOSA CREEK NEAR CATHEYS VALLEY | 65.7 | 1959-80 |
| 11261000 | SALT SLOUGH NEAR LOS BANOS | -- | 1941-68 |
| 11261500 | SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE | 7,615 | 1937-70, 1986-89 |
| 11262800 | LOS BANOS CREEK NEAR LOS BANOS | 159 | 1959-66 |
| 11263000 | SAN LUIS CREEK NEAR LOS BANOS | 84.6 | 1950-63 |
| 11265000 | TENAYA CREEK NEAR YOSEMITE | 46.9 | 1912-58 |

DISCONTINUED GAGING STATIONS--Continued

| Station No. | Station name | Drainage area (mi ²) | Period of record |
|-------------|--|----------------------------------|------------------------|
| 11265500 | MERCED RIVER AT YOSEMITE | 236 | 1912-17 |
| 11266000 | YOSEMITE CREEK AT YOSEMITE | 42.7 | 1912-16, 1918 |
| 11267300 | SOUTH FORK MERCED RIVER AT WAWONA | 100 | 1959-68 |
| 11267500 | SOUTH FORK MERCED RIVER NEAR WAWONA | 132 | 1912, 1914-15, 1918-21 |
| 11268000 | SOUTH FORK MERCED RIVER NEAR EL PORTAL | 241 | 1951-75 |
| 11268200 | MERCED RIVER NEAR BRICEBURG | 691 | 1966-74 |
| 11268500 | MERCED RIVER AT BAGBY | 911 | 1923-30, 1932-66 |
| 11269300 | MAXWELL CREEK AT COULTERVILLE | 17 | 1960-74, 1976-80 |
| 11270000 | MERCED RIVER AT EXCHEQUER | 1,037 | 1901-14, 1916-64 |
| 11271500 | MERCED RIVER NEAR NEAR LIVINGSTON | 1,258 | 1922-24, 1926-44 |
| 11273000 | MERCED RIVER SLOUGH NEAR NEWMAN | 1,276 | 1942-72 |
| 11274600 | DEL PUERTO CREEK TRIBUTARY NO. 1 NEAR PATTERSON | .71 | 1964-69 |
| 11274610 | DEL PUERTO CREEK TRIBUTARY NO. 2 NEAR PATTERSON | .024 | 1959-63 |
| 11274710 | MACLURE CREEK BELOW MACLURE GLACIER, NEAR TUOLUMNE MEADOWS | .37 | 1967-72 |
| 11274800 | TUOLUMNE RIVER AT HETCH HETCHY CABIN, NEAR SEQUOIA | 404 | 1911-16 |
| 11275000 | FALLS CREEK NEAR HETCH HETCHY | 46 | 1916-83 |
| 11277000 | CHERRY CREEK NEAR HETCH HETCHY | 111 | 1910-55 |
| 11278500 | JAWBONE CREEK NEAR TUOLUMNE | 19.1 | 1911 |
| 11279500 | SOUTH FORK TUOLUMNE RIVER AT ITALIAN FLAT, NEAR SEQUOIA | 64.9 | 1925-30, 1932-33 |
| 11280000 | SOUTH FORK TUOLUMNE RIVER NEAR SEQUOIA | 68.3 | 1914-17 |
| 11281500 | MIDDLE TUOLUMNE RIVER NEAR MATHER | 52.4 | 1925-29, 1932-33 |
| 11282500 | SOUTH FORK TUOLUMNE RIVER NEAR BUCK MEADOWS | 164 | 1912, 1914, 1917-21 |
| 11283000 | TUOLUMNE RIVER NEAR BUCK MEADOWS | 924 | 1908, 1911-36 |
| 11283100 | LILY CREEK NEAR PINECREST | 11.9 | 1964-74 |
| 11283200 | BELL CREEK NEAR PINECREST | 9.11 | 1964-79 |
| 11284500 | BIG CREEK NEAR GROVELAND | 25 | 1932-33, 1960-74 |
| 11284700 | NORTH FORK TUOLUMNE RIVER NEAR LONG BARN | 23.1 | 1962-86 |
| 11285000 | NORTH FORK TUOLUMNE RIVER ABOVE DYER CREEK, NEAR TUOLUMNE | 69.2 | 1959-66 |
| 11286500 | WOODS CREEK NEAR JACKSONVILLE | 97.2 | 1926-68 |
| 11288000 | TUOLUMNE RIVER ABOVE LA GRANGE DAM, NEAR LA GRANGE | 1,532 | 1896-1970 |
| 11288500 | TUOLUMNE RIVER AT LA GRANGE | 1,539 | 1896-1911 |
| 11289501 | COMBINED FLOW MODESTO CANAL PLUS TURLOCK CANAL | -- | 1971, 1974-79 |
| 11291500 | RELIEF CREEK NEAR BAKER STATION | 24.4 | 1912-23, 1917-18 |
| 11292680 | CASCADE CREEK NEAR PINECREST | 4.97 | 1963-65 |
| 11293000 | MIDDLE FORK STANISLAUS RIVER AT SAND BAR FLAT, NEAR AVERY | 325 | 1906-66 |
| 11293500 | NORTH FORK STANISLAUS RIVER BELOW SILVER CREEK | 27.8 | 1953-88 |
| 11294300 | NORTH FORK STANISLAUS RIVER BELOW GANN'S DAMS, NEAR BIG MEADOW | 111 | 1961-67 |
| 11295000 | UTICA CANAL NEAR AVERY | -- | 1970, 1976-89 |
| 11299500 | STANISLAUS RIVER BELOW MELONES POWERHOUSE, NEAR SONORA | 905 | 1931-67 |
| 11299501 | STANISLAUS RIVER BELOW MELONES POWERHOUSE, NEAR SONORA | -- | 1931-60 |
| 11300000 | STANISLAUS RIVER NEAR KNIGHTS FERRY | 980 | 1916-33 |
| 11300600 | SOUTH SAN JOAQUIN MAIN CANAL BELOW DIVERSION POINT, NEAR KNIGHTS FERRY | -- | 1983-89 |
| 11300700 | SOUTH SAN JOAQUIN MAIN CANAL BELOW WOODWARD RESERVOIR, NEAR OAKDALE | -- | 1982-89 |
| 11300800 | NORTH MAIN CANAL BELOW DIVERSION POINT, NEAR KNIGHTS FERRY | -- | 1983-89 |
| 11304000 | CORRAL HOLLOW CREEK NEAR TRACY | 61.6 | 1959-66 |
| 11305000 | SAN DOMINGO CREEK NEAR SAN ANDREAS | 26.2 | 1950-62 |
| 11305500 | SAN ANTONIO CREEK NEAR SAN ANDREAS | 48.0 | 1950-59 |
| 11306500 | CALAVERITAS CREEK NEAR SAN ANDREAS | 53 | 1950-66 |
| 11307000 | ESPERANZA CREEK NEAR MOKELUMNE HILL | 16.6 | 1951-59 |
| 11307500 | JESUS MARIA CREEK NEAR MOKELUMNE HILL | 34.6 | 1950-59 |
| 11308000 | NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS | 85.2 | 1950-79 |
| 11308500 | MURRAY CREEK NEAR SAN ANDREAS | 23.6 | 1950-59 |
| 11308900 | CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS | 363 | 1961-90 |
| 11309000 | COSGROVE CREEK NEAR VALLEY SPRINGS | 21.6 | 1930-69 |
| 11309500 | CALAVERAS RIVER AT JENNY LIND | 393 | 1907-08, 1909-66 |
| 11310500 | CALAVERAS RIVER NEAR STOCKTON | -- | 1926, 1944-50 |
| 11311000 | STOCKTON DIVERTING CANAL AT STOCKTON | -- | 1944-53 |
| 11311500 | BEAR CREEK NEAR CLEMENTS | 42.2 | 1927 |
| 11312000 | BEAR CREEK NEAR LOCKEFORD | 47.4 | 1931-85 |
| 11312500 | BEAR CREEK AT HARMONY SCHOOL, NEAR LOCKEFORD | 51.1 | 1927-31 |
| 11315500 | BEAR RIVER AT PARDOE CAMP | 33 | 1928-51 |
| 11316000 | BEAR RIVER NEAR SALT SPRINGS DAM | 48 | 1952-87 |
| 11316500 | NORTH FORK MOKELUMNE RIVER NEAR WEST POINT | 273 | 1924-32 |
| 11317500 | SOUTH FORK MOKELUMNE RIVER NEAR RAILROAD FLAT | 38.7 | 1912-34 |
| 11318000 | LICKING FORK MOKELUMNE RIVER NEAR RAILROAD FLAT | 6.32 | 1912-13, 1915-16 |
| 11321000 | MOKELUMNE RIVER AT LANCHA PLANA | 587 | 1926-63 |
| 11321500 | CAMANCHE CREEK NEAR CAMANCHE | 5.19 | 1933-34 |
| 11322000 | RABBIT CREEK NEAR CAMANCHE | 8.55 | 1932-34 |
| 11326300 | DRY CREEK ABOVE SUTTER CREEK, NEAR IONE | 70.9 | 1960-70 |
| 11326500 | SUTTER CREEK NEAR VOLCANO | 29.8 | 1024-27 |
| 11327000 | SUTTER CREEK NEAR SUTTER CREEK | 48.1 | 1922-41, 1961-80 |
| 11327500 | SUTTER CREEK AT SUTTER CREEK | 50.7 | 1922-36 |
| 11328000 | DRY CREEK NEAR IONE | 266 | 1912, 1926-32 |
| 11329000 | GOOSE CREEK NEAR ELLIOTT | 8.26 | 1928-33 |

DISCONTINUED GAGING STATIONS--Continued

| Station No. | Station name | Drainage area (mi ²) | Period of record |
|-------------|--|----------------------------------|---------------------------------|
| 11329500 | DRY CREEK NEAR GALT | 324 | 1927-33, 1945-87 |
| 11330000 | NORTH FORK COSUMNES RIVER AT COSUMNES MINE | 38.7 | 1949-53 |
| 11331000 | CAMP CREEK NEAR SLY PARK | 8.59 | 1924 |
| 11331500 | CAMP CREEK NEAR CAMINO | 32.4 | 1949-56 |
| 11332500 | SLY PARK CREEK NEAR POLLACK PINES | 18.2 | 1947-55 |
| 11333500 | NORTH FORK COSUMNES RIVER NEAR EL DORADO | 205 | 1884, 1912-41, 1949-83, 1985-87 |
| 11334200 | MIDDLE FORK COSUMNES RIVER NEAR SOMERSET | 107 | 1958-71 |
| 11334300 | SOUTH FORK COSUMNES RIVER NEAR RIVER PINES | 64.3 | 1958-80 |
| 11334500 | COSUMNES RIVER NEAR PLYMOUTH | 436 | 1952-60 |
| 11335700 | DEER CREEK NEAR SLOUGHHOUSE | 46 | 1961-66, 1968-77 |
| 11336000 | COSUMNES RIVER AT MCCONNELL | 724 | 1942-82 |
| 11336500 | HADSELVILLE CREEK AT CLAY | 18.1 | 1931 |
| 11336580 | MORRISON CREEK NEAR SACRAMENTO | 53.4 | 1959-87 |
| 11454100 | PLEASANTS CREEK NEAR WINTERS | 15.9 | 1960-68 |

DISCONTINUED LAKES AND RESERVOIRS

The following continuous-record lake stations in California have been discontinued. Daily records were collected and are stored in WATSTORE for the period of record shown for each location.

| Station No. | Station name | Drainage area (mi ²) | Period of record |
|-------------|------------------------------------|----------------------------------|------------------|
| 11190500 | ISABELLA LAKE NEAR LAKE ISABELLA | 2,074 | 1954-90 |
| 11197000 | TULARE LAKE IN KINGS COUNTY | -- | 1969-82 |
| 11204700 | SUCCESS LAKE NEAR SUCCESS | 391 | 1962-90 |
| 11210900 | LAKE KAWEAH NEAR LEMONCOVE | 560 | 1962-90 |
| 11221000 | PINE FLAT LAKE NEAR PIEDRA | 1,545 | 1952-90 |
| 11257950 | HENSLEY LAKE NEAR DAULTON | 236 | 1976-90 |
| 11258990 | H.V. EASTMAN LAKE NEAR RAYMOND | 235 | 1976-90 |
| 11308700 | NEW HOGAN LAKE NEAR VALLEY SPRINGS | 362 | 1964-90 |

DISCONTINUED WATER-QUALITY STATIONS

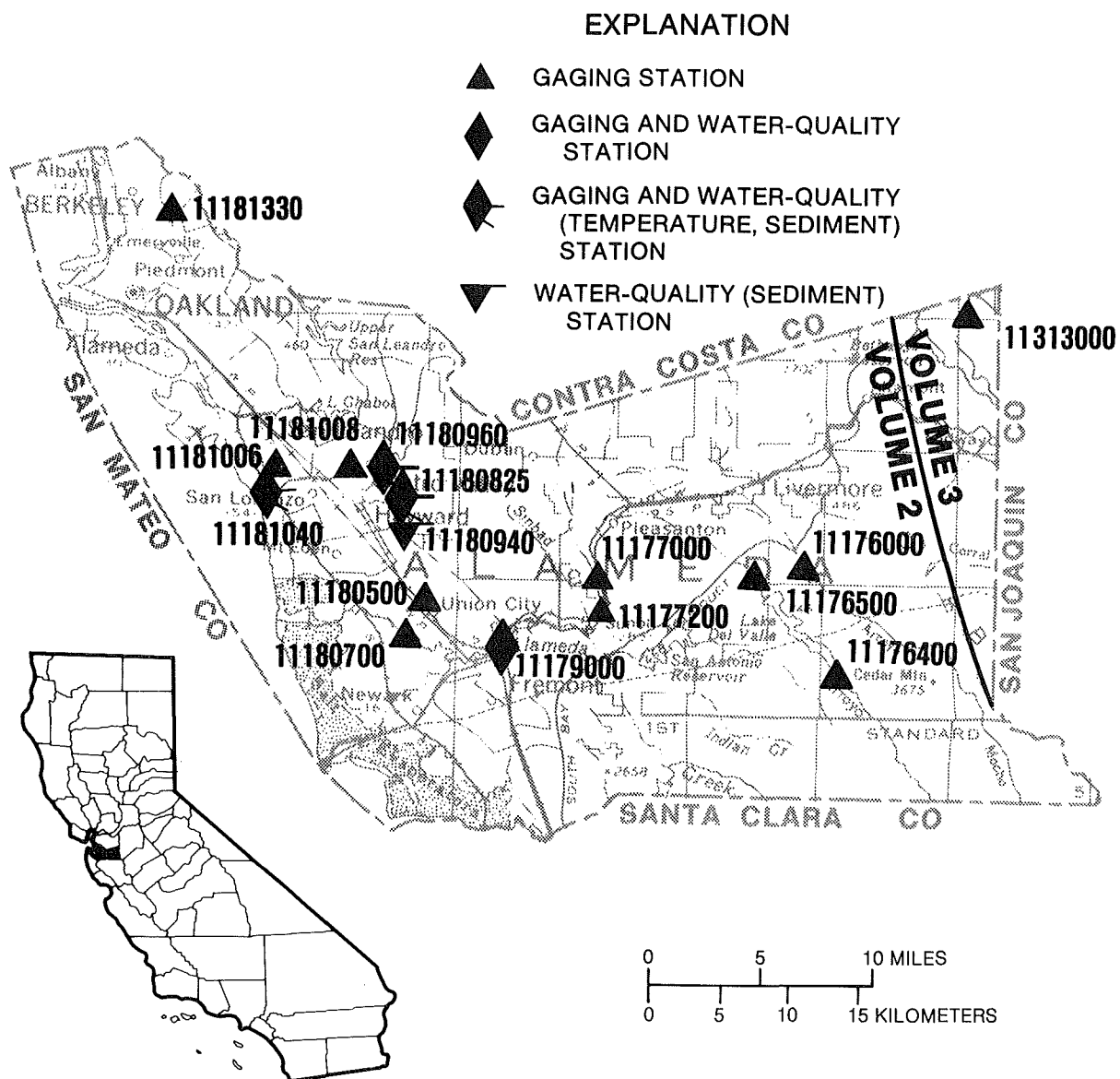
The following continuous water-quality stations in California have been discontinued. Daily records were collected and are stored in WATSTORE for the period of record shown for each location.

| Station No. | Station name | Drainage area (mi ²) | Type of record | Period of record |
|-------------|---|----------------------------------|----------------|------------------|
| 10336593 | GRASS LAKE CREEK NEAR MEYERS | 6.99 | T,S | 1972-74 |
| 10336610 | UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE | 54.8 | C | 1981-84 |
| 10336630 | EAGLE CREEK NEAR CAMP RICHARDSON | 6.38 | T,S | 1972-74 |
| 10336640 | MEEKS CREEK AT MEEKS BAY | 8.08 | T,S | 1971-74 |
| 10336650 | QUAIL LAKE CREEK AT HOMEWOOD | .95 | T,S | 1972-74 |
| 10336655 | MADDEN CREEK NEAR HOMEWOOD | 1.40 | T,S | 1972-74 |
| 10336658 | MADDEN CREEK AT HOMEWOOD | 2.06 | T,S | 1972-73 |
| 10336670 | WARD CREEK NEAR TAHOE PINES | 2.03 | T,S | 1973-76 |
| 10336672 | WARD CREEK TRIBUTARY NEAR TAHOE PINES | .91 | T,S | 1973-76 |
| 10336684 | DOLLAR CREEK NEAR TAHOE CITY | 1.07 | T,S | 1972-74 |
| 10336689 | SNOW CREEK AT TAHOE VISTA | 4.43 | C,T,S | 1981-85 |
| 10336740 | LOGAN HOUSE CREEK NEAR GLENBROOK, NV | 2.08 | S | 1984-87 |
| 10336759 | EDGEWOOD CREEK NEAR STATELINE, NV | 3.20 | S | 1983-87 |
| 10336780 | TROUT CREEK NEAR TAHOE VALLEY | 36.7 | C | 1981-84 |
| 10337000 | LAKE TAHOE AT TAHOE CITY | 506 | WQ | 1969, 1978-79 |
| 10337500 | TRUCKEE RIVER AT TAHOE CITY | 507 | WQ | 1978-81 |
| 10338000 | TRUCKEE RIVER NEAR TRUCKEE | 553 | C,T | 1977-82 |
| 10345900 | TRUCKEE RIVER AT FLORISTON | 932 | T | 1968-71 |
| 10346000 | TRUCKEE RIVER AT FARAD | 932 | WQ,B,C | 1951-61 |
| | | | T,S | 1964-81 |
| 11185350 | KERN RIVER NEAR QUAKING ASPEN CAMP | 530 | T | 1966-74 |
| 11187000 | KERN RIVER AT KERNVILLE | 1,009 | T | 1962-66 |

DISCONTINUED WATER-QUALITY STATIONS--Continued

| Station No. | Station name | Drainage area (mi ²) | Type of record | Period of record |
|-------------|--|----------------------------------|----------------|------------------------|
| 11206500 | MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP | 102 | C | 1958-63, 1972, 1979-81 |
| 11208000 | MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP | 51.4 | C | 1962-72, 1980-81 |
| 11208610 | MONARCH CREEK NEAR HAMMOND | 1.89 | T | 1969-73 |
| 11208620 | EAST FORK KAWEAH RIVER BELOW MOSQUITO CREEK, NEAR HAMMOND | 16.0 | T | 1968-73 |
| 11208625 | EAST FORK KAWEAH RIVER AT SEQUOIA NATIONAL PARK BOUNDARY, NEAR HAMMOND | 23.7 | T | 1968-71 |
| 11208730 | EAST FORK KAWEAH RIVER NEAR THREE RIVERS | 85.8 | T | 1968-76 |
| 11209500 | NORTH FORK KAWEAH RIVER NEAR THREE RIVERS | 129 | T | 1980-81 |
| 11209900 | KAWEAH RIVER AT THREE RIVERS | 418 | T | 1966, 1968-88 |
| 11213500 | KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER | 952 | T | 1966-79 |
| 11216500 | NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP | 250 | T | 1968-79 |
| 11218500 | KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER | 1,342 | T,S | 1967-88 |
| 11230000 | SOUTH FORK SAN JOAQUIN RIVER NEAR FLORENCE LAKE | 171 | T | 1961 |
| 11235000 | SAN JOAQUIN RIVER ABOVE BIG CREEK | 1050 | T | 1961-62 |
| 11237000 | BIG CREEK BELOW HUNTINGTON LAKE | 81.1 | T | 1961-70 |
| 11245000 | SOUTH FORK WILLOW CREEK NEAR NORTH FORK | 39.8 | T | 1961 |
| 11246500 | WILLOW CREEK AT MOUTH NEAR AUBERRY | 130 | T | 1961-72 |
| 11247000 | SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER | 1,480 | T | 1961-68, 1970-74 |
| 11253500 | FRESNO SLOUGH BYPASS NEAR SAN JOAQUIN | -- | T | 1969-71 |
| 11257500 | FRESNO RIVER NEAR KNOWLES | 133 | T | 1971-88 |
| 11258000 | FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON | 237 | T | 1976-90 |
| 11258960 | CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND | 173 | T | 1980-88 |
| 11258980 | CHOWCHILLA RIVER NEAR RAYMOND | 201 | T | 1971-80 |
| 11268000 | SOUTH FORK MERCED RIVER NEAR EL PORTAL | 241 | T | 1975-78 |
| 11268200 | MERCED RIVER NEAR BRICEBURG | 691 | T | 1976-77 |
| 11283100 | LILY CREEK NEAR PINECREST | 11.9 | T | 1965-74 |
| 11292700 | MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST | 287 | T | 1966-71, 1973-78 |
| 11295400 | STANISLAUS RIVER NEAR HATHWAY PINES | 629 | T | 1970-83 |
| 11306000 | SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS | 118 | T | 1974-79 |
| 11308000 | NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS | 85.2 | T | 1974-79 |
| 11308600 | CALAVERAS RIVER ABOVE NEW HOGAN RESERVOIR, NEAR SAN ANDREAS | 307 | T | 1970-82, 1984-88 |
| 11312000 | BEAR CREEK NEAR LOCKEFORD | 47.4 | C | 1976 |
| 11313010 | DELTA-MENDOTA CANAL BELOW TRACY PUMP PLANT, NEAR TRACY | -- | T | 1960-66 |
| 11319500 | MOKELUMNE RIVER NEAR MOKELUMNE HILL | 544 | T | 1961-79 |
| 11323500 | MOKELUMNE RIVER BELOW CAMANCHE DAM | 627 | T | 1961-68, 1970-76 |
| 11325500 | MOKELUMNE RIVER AT WOODBRIDGE | 661 | C,T | 1960-86 |
| 11335000 | CONSUMNES RIVER AT MICHIGAN BAR | 536 | T,S | 1963-70, 1973-79 |

TYPE OF RECORD: WQ (WATER-QUALITY); B (BIOLOGICAL); C (CONDUCTIVITY); T (TEMPERATURE); S (SEDIMENT).



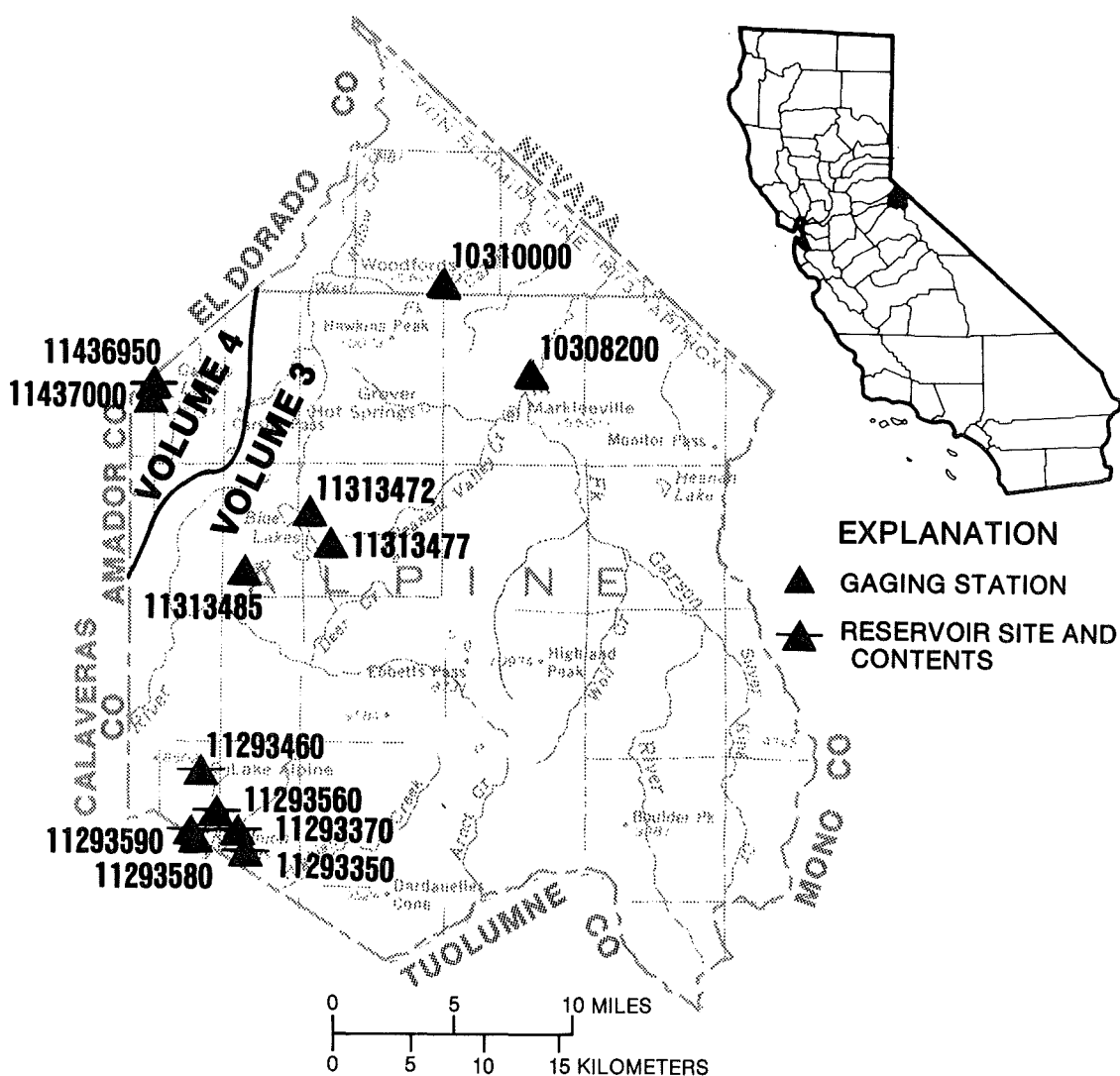


Figure 8. Location of discharge stations in Alpine County.
 (NOTE: Stations 10297000, 10336740, and 10336759 in Douglas County, Nevada, not shown on this map. Record for stations 11436950 and 11437000 published in volume 4.)

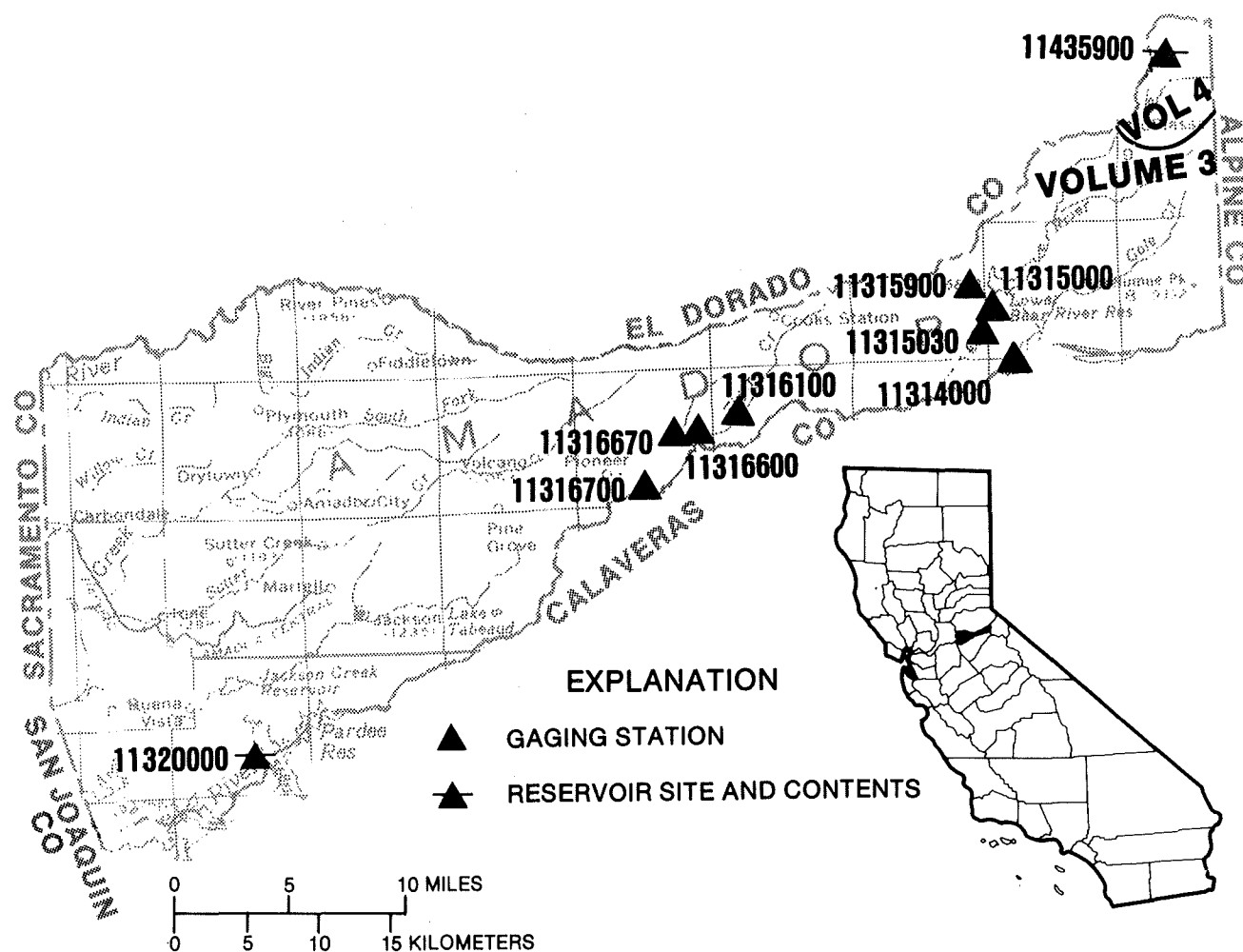


Figure 9. Location of discharge stations in Amador County.
(NOTE: Record for stations 11435900 and 11436500 published in volume 4.)

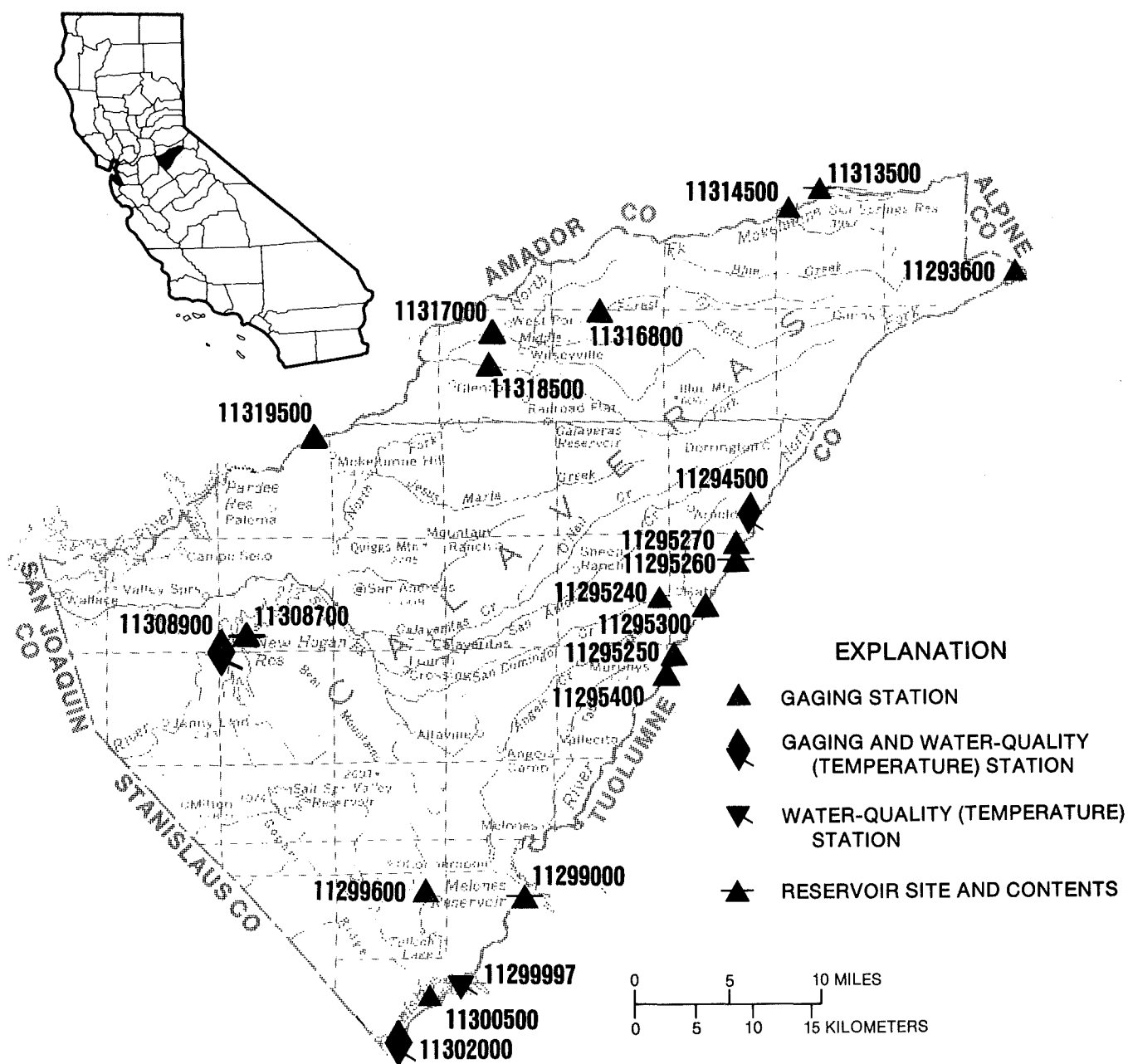


Figure 10. Location of discharge and water-quality stations in Calaveras County.

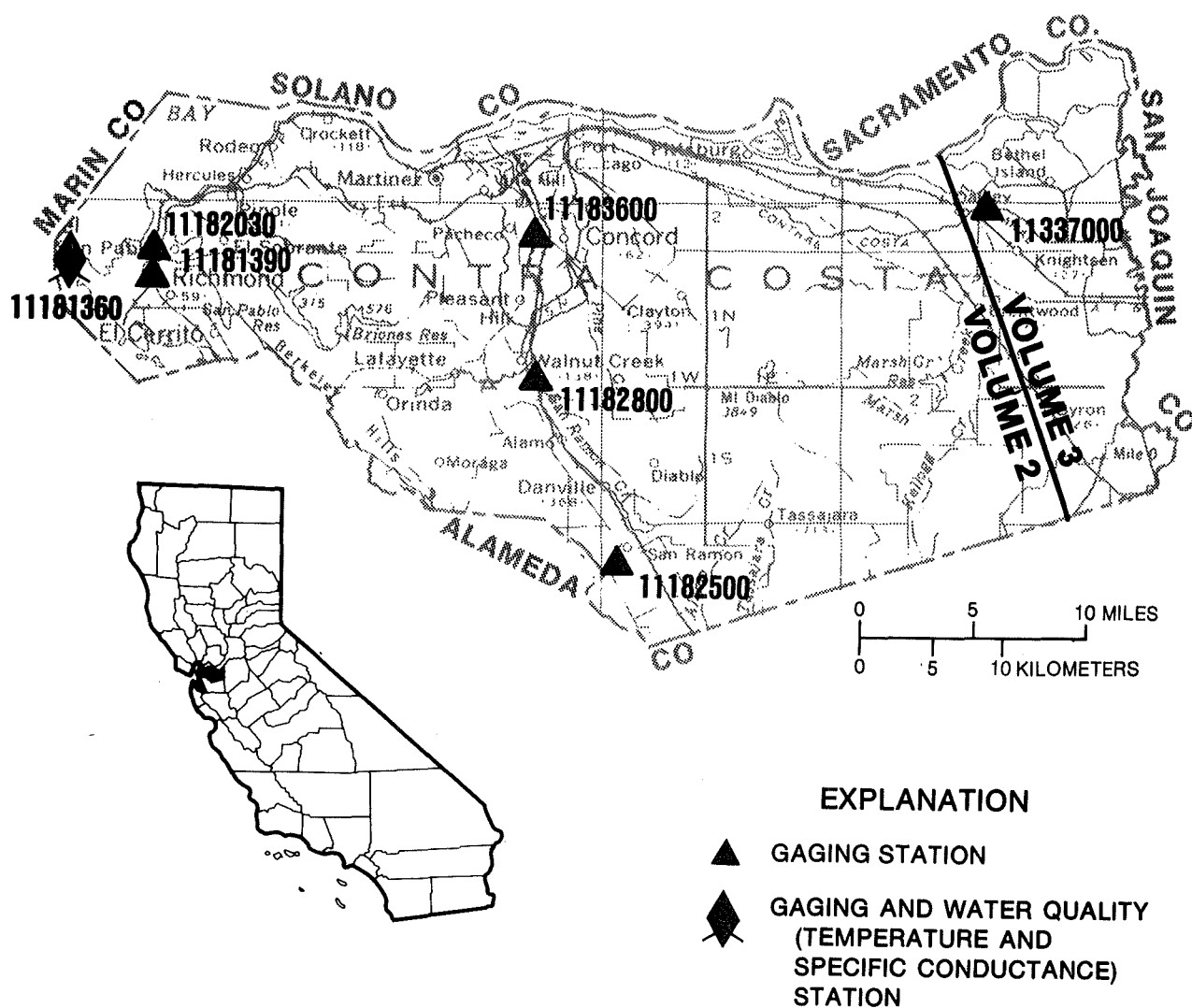


Figure 11. Location of discharge and water-quality stations in Contra Costa County.
 (NOTE: Records for stations 11181390 through 11183600 published in volume 2.)

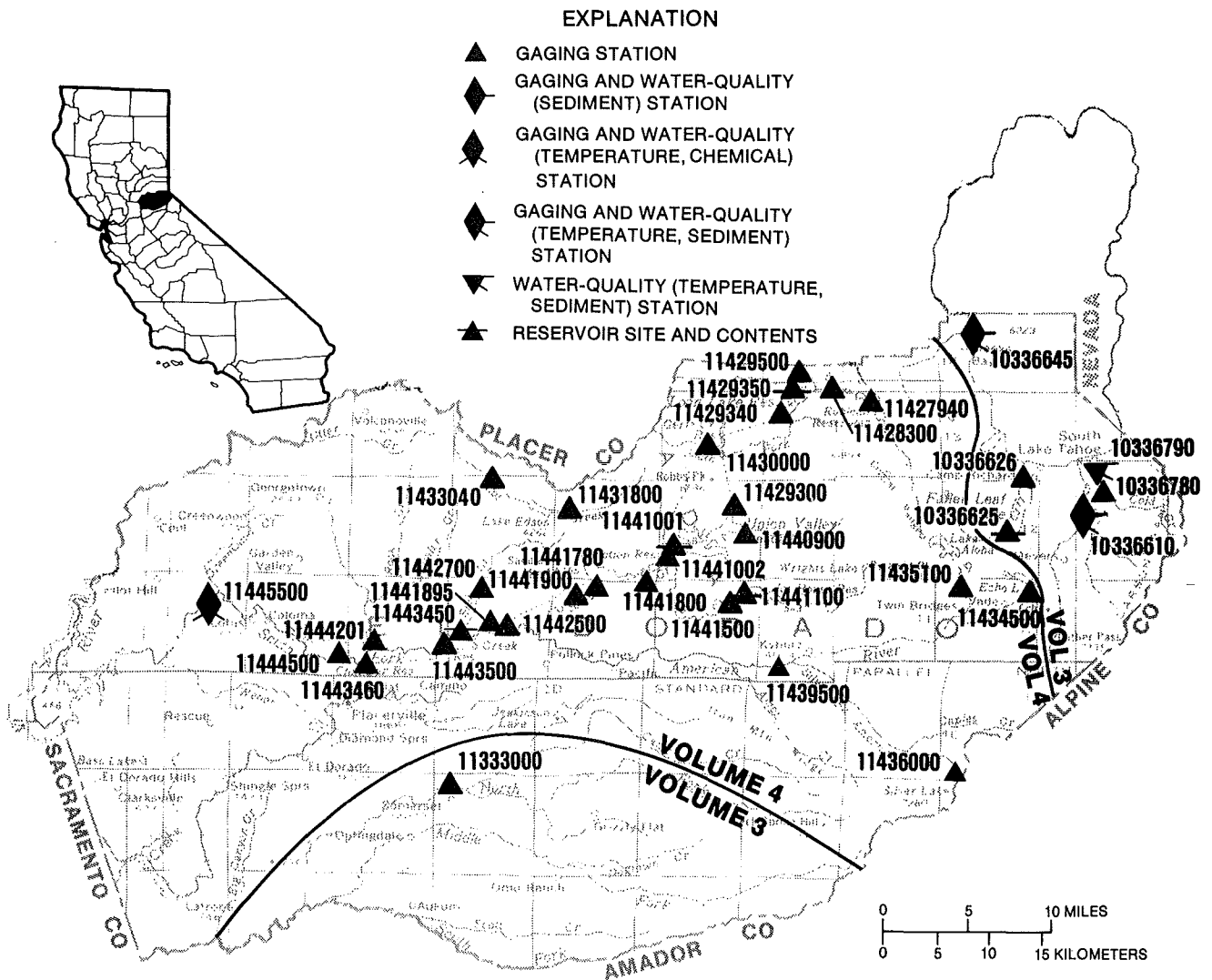


Figure 12. Location of discharge and water-quality stations in El Dorado County.
(NOTE: Records for stations 11427940 through 11445500 published in volume 4.)

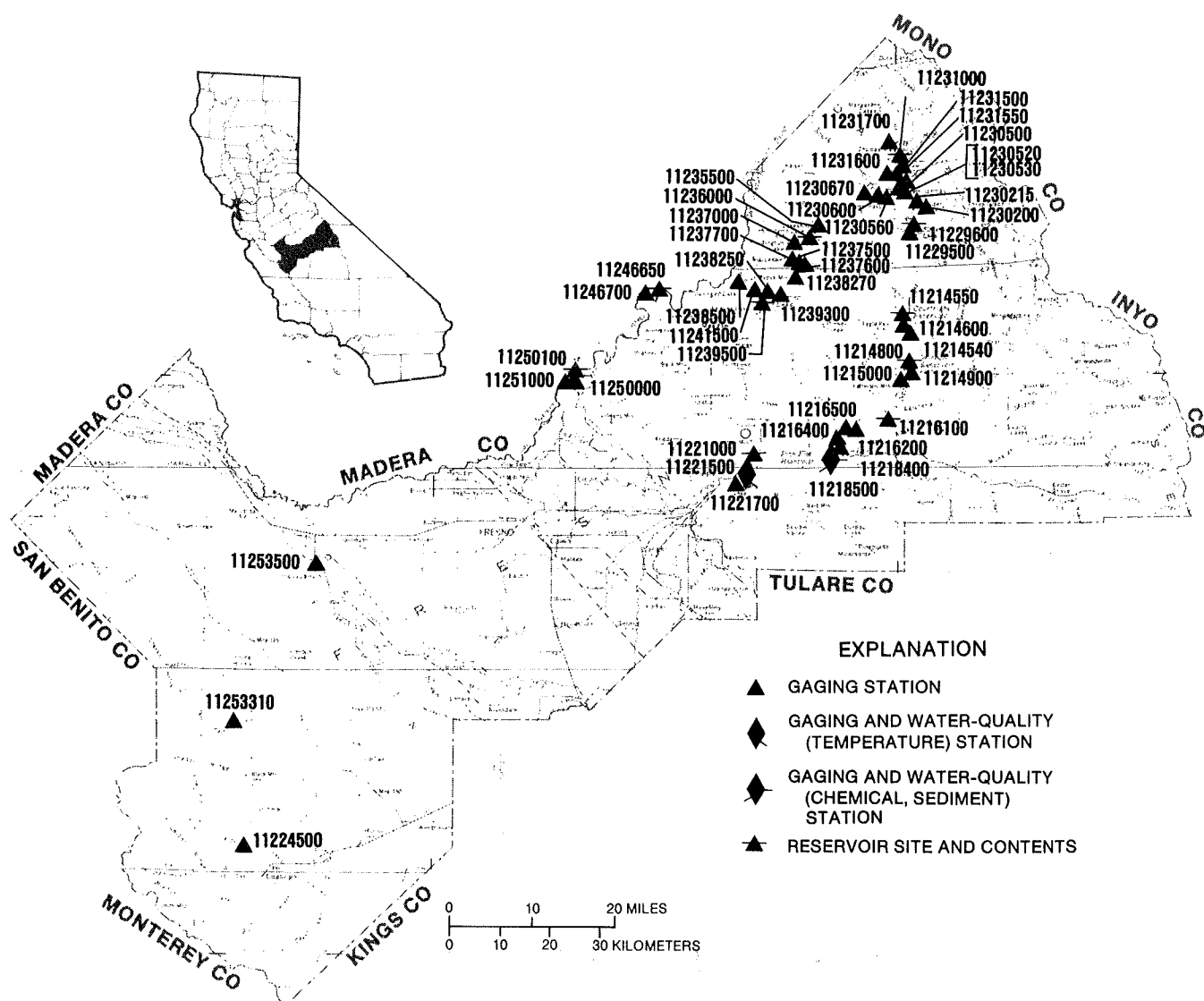


Figure 13. Location of discharge and water-quality stations in Fresno County.

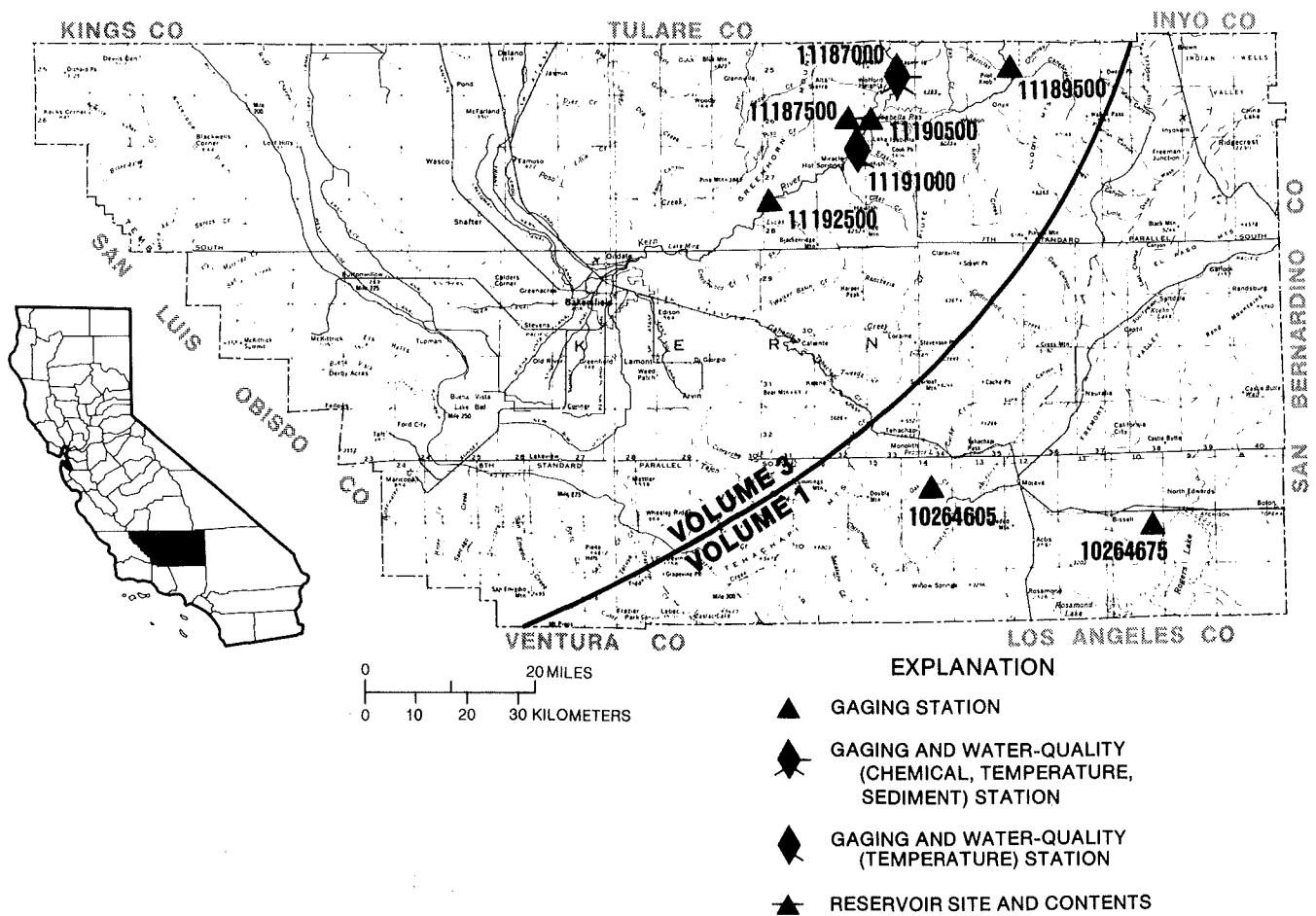


Figure 14. Location of discharge and water-quality stations in Kern County.
 (NOTE: Records for stations 10264605 and 10264675 published in volume 1.)

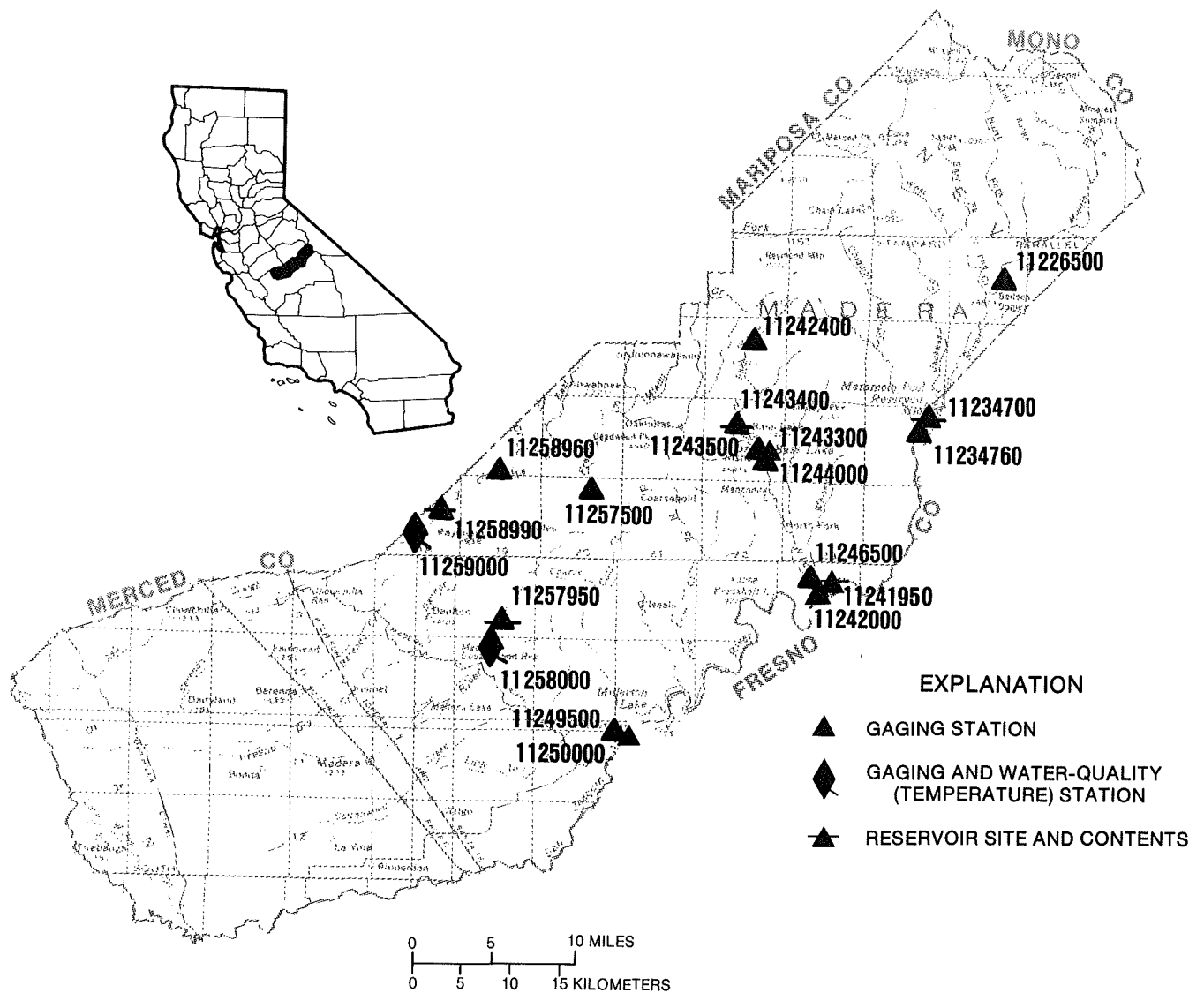


Figure 15. Location of discharge and water-quality stations in Madera County.

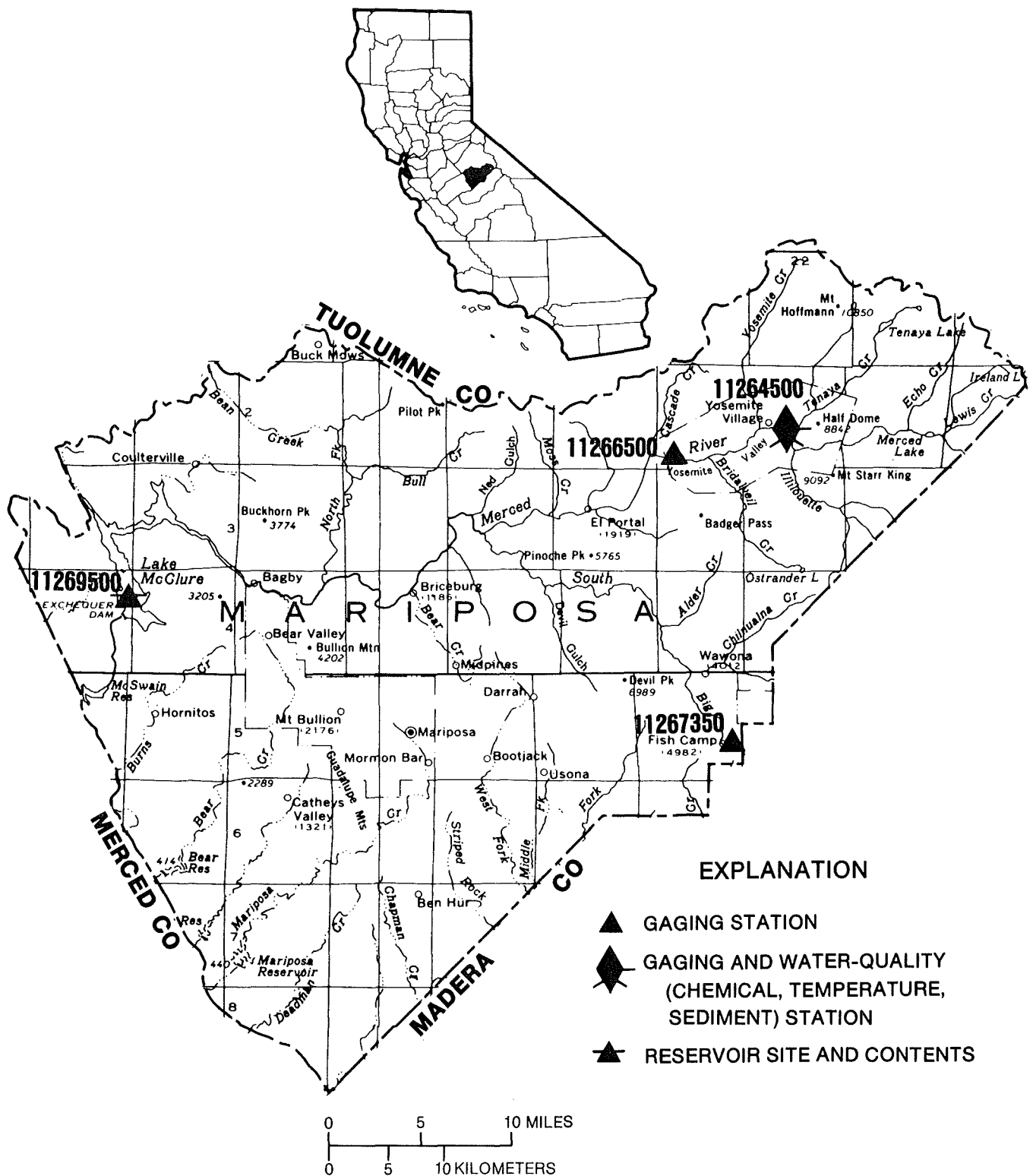


Figure 16. Location of discharge and water-quality stations in Mariposa County.

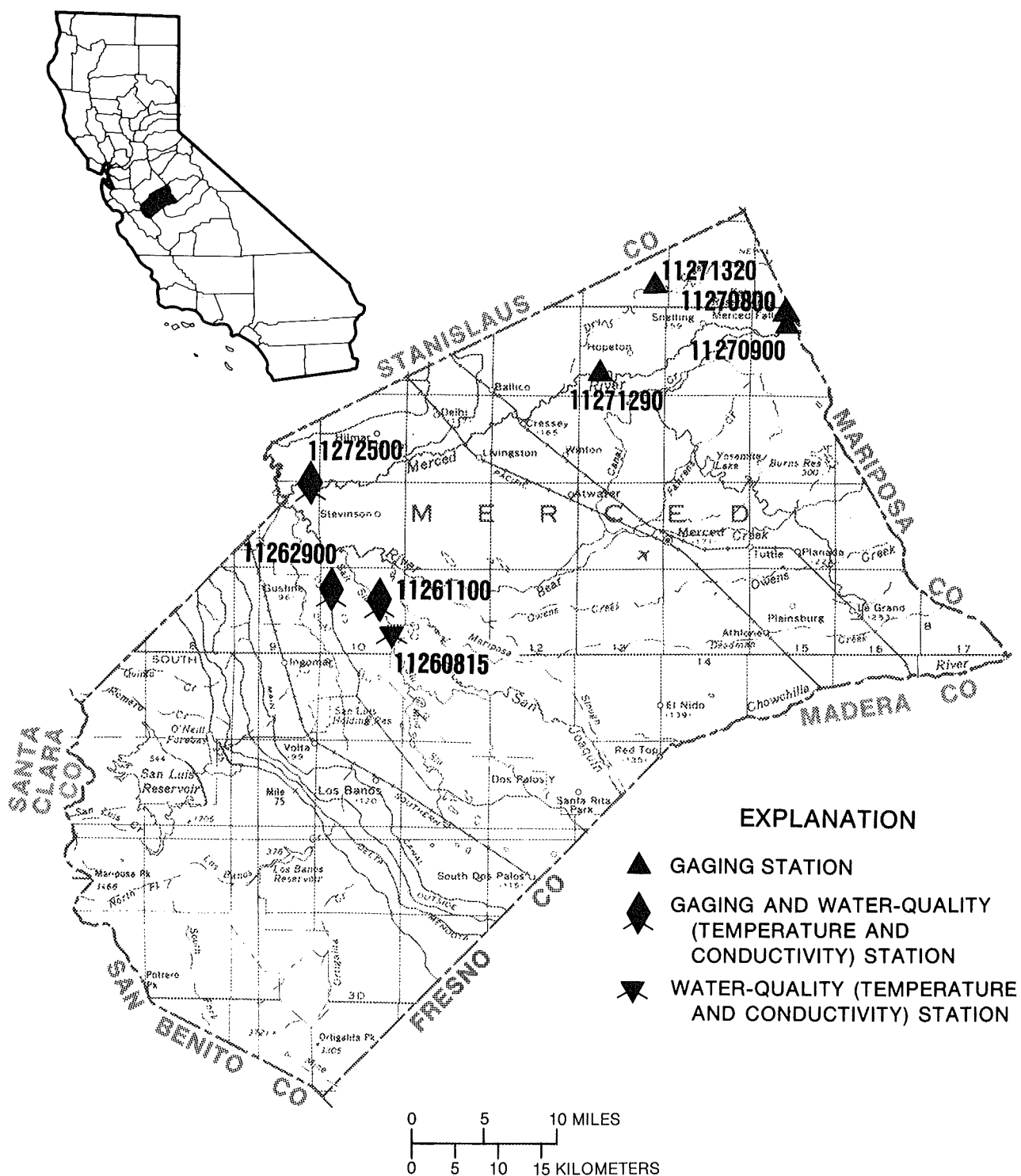
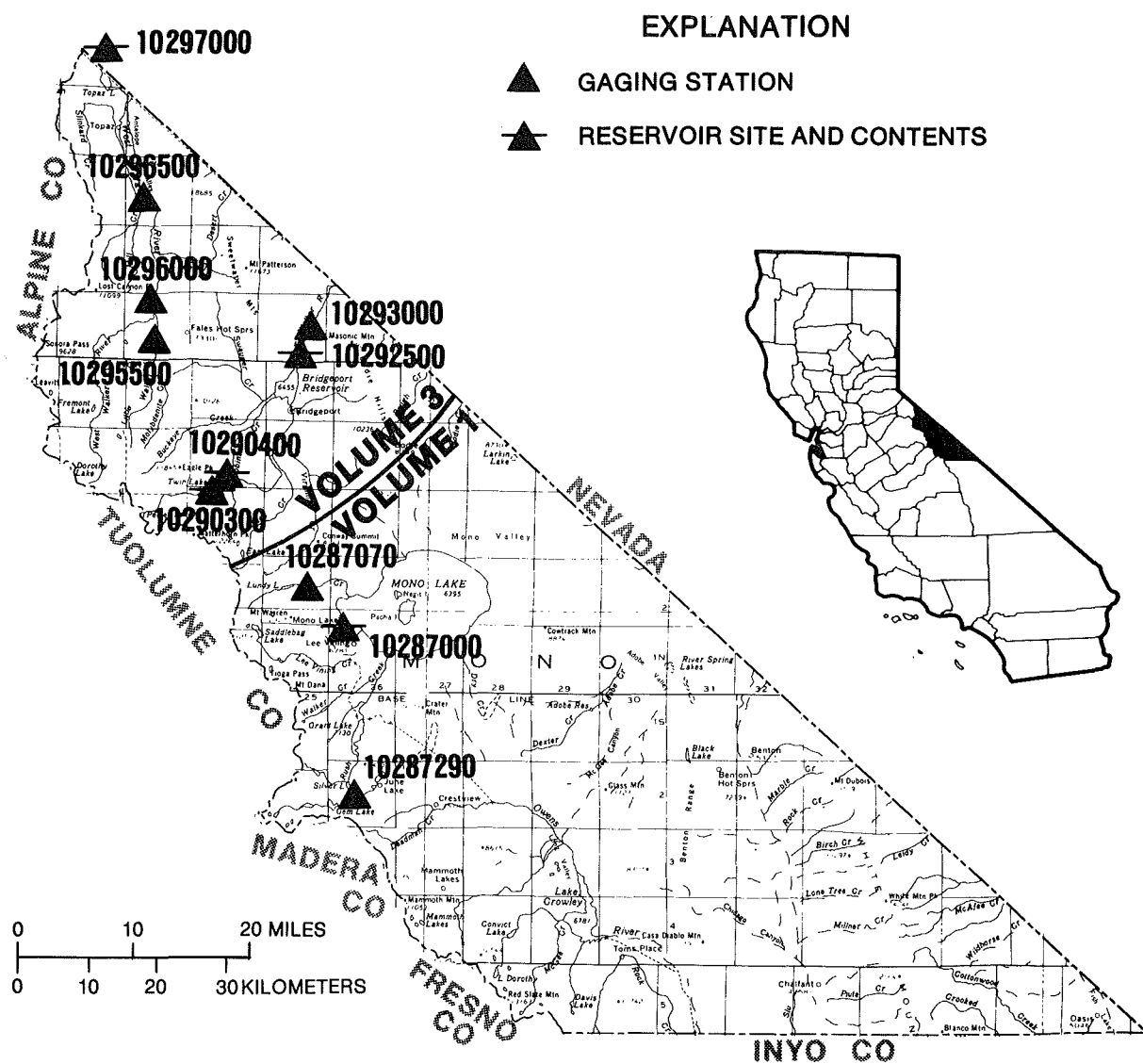


Figure 17. Location of discharge and water-quality stations in Merced County.



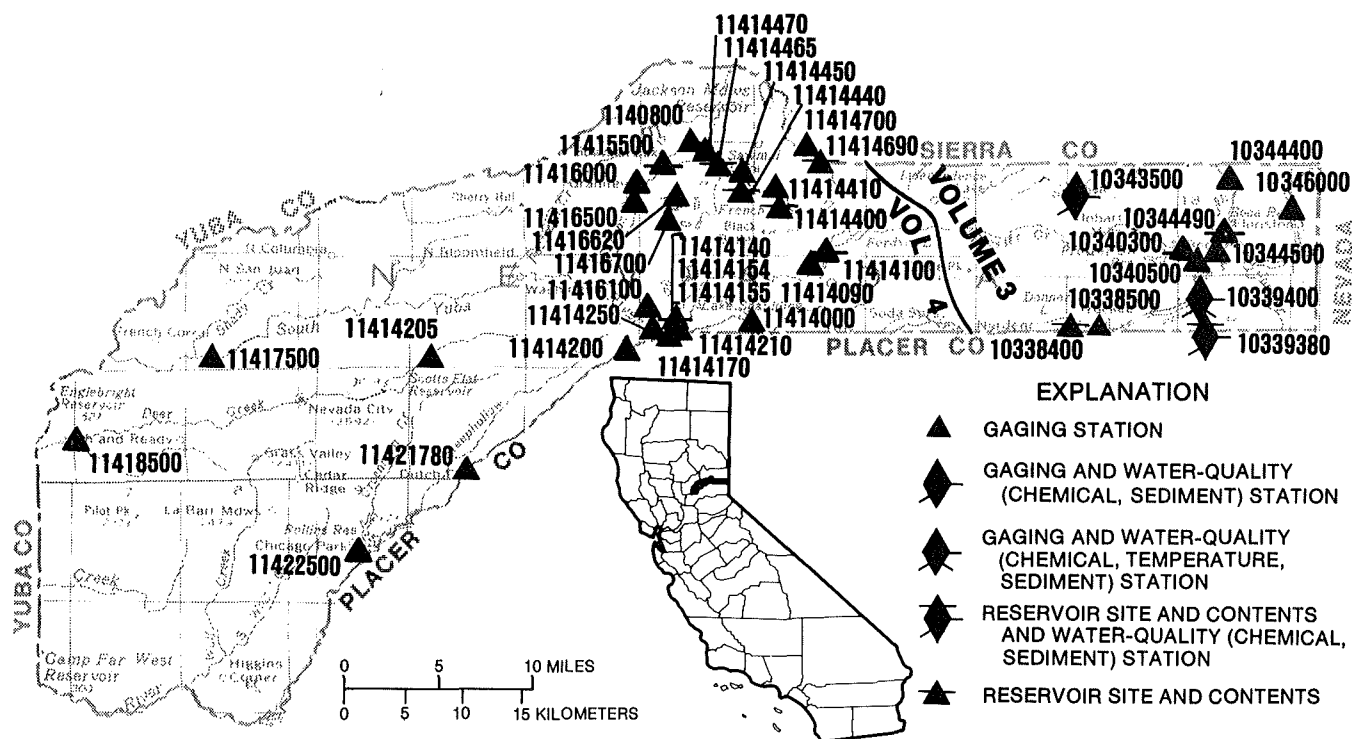


Figure 19. Location of discharge and water-quality stations in Nevada County.
 (NOTE: Records for stations 11408000 through 11422500 published in volume 4.)

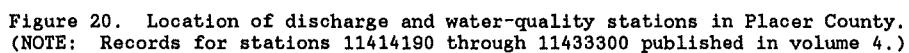


Figure 20. Location of discharge and water-quality stations in Placer County. (NOTE: Records for stations 11414190 through 11433300 published in volume 4.)

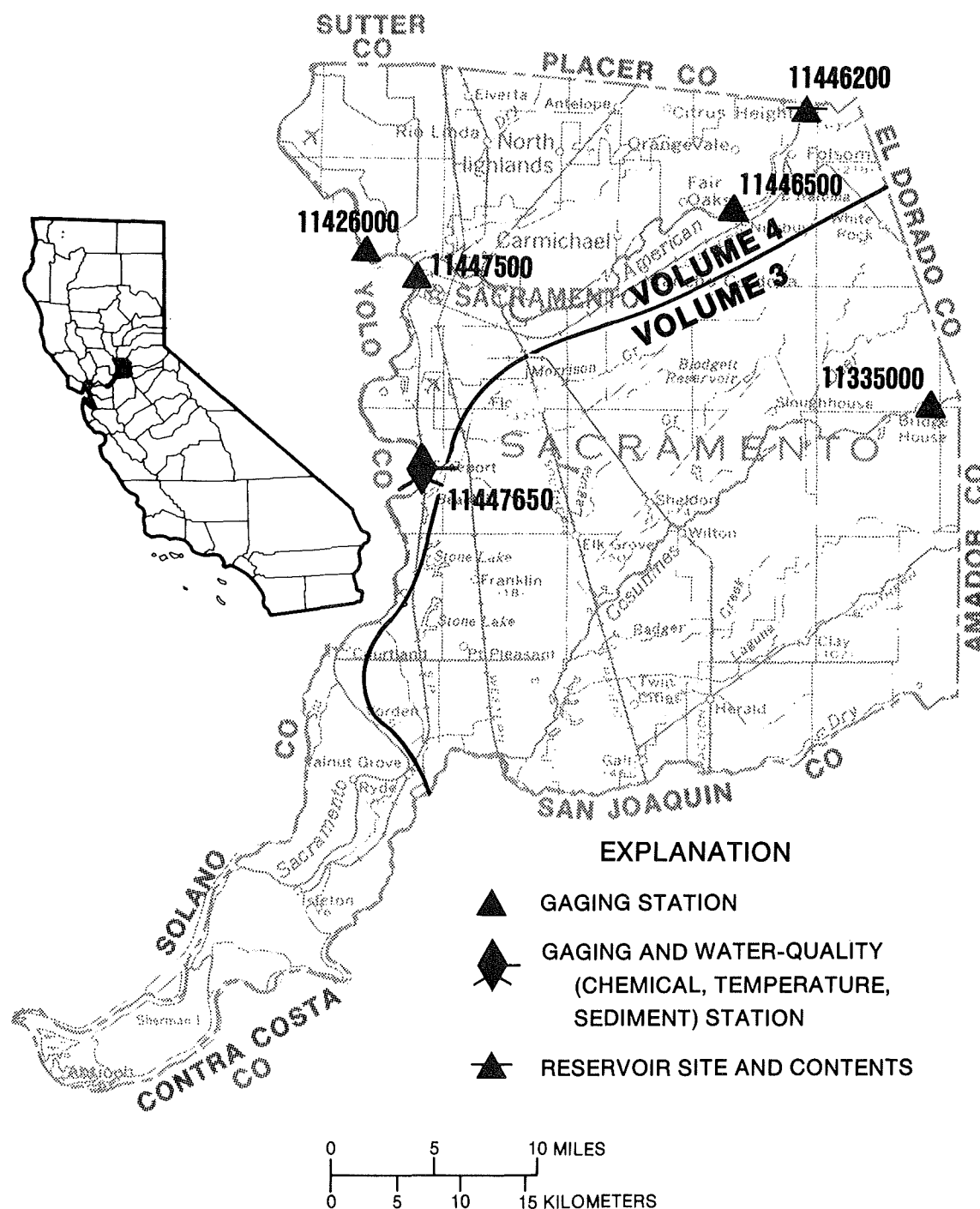


Figure 21. Location of discharge and water-quality stations in Sacramento County.
(NOTE: Records for stations 11426000, 11446200, 11446500, and 11447650 published in volume 4.)

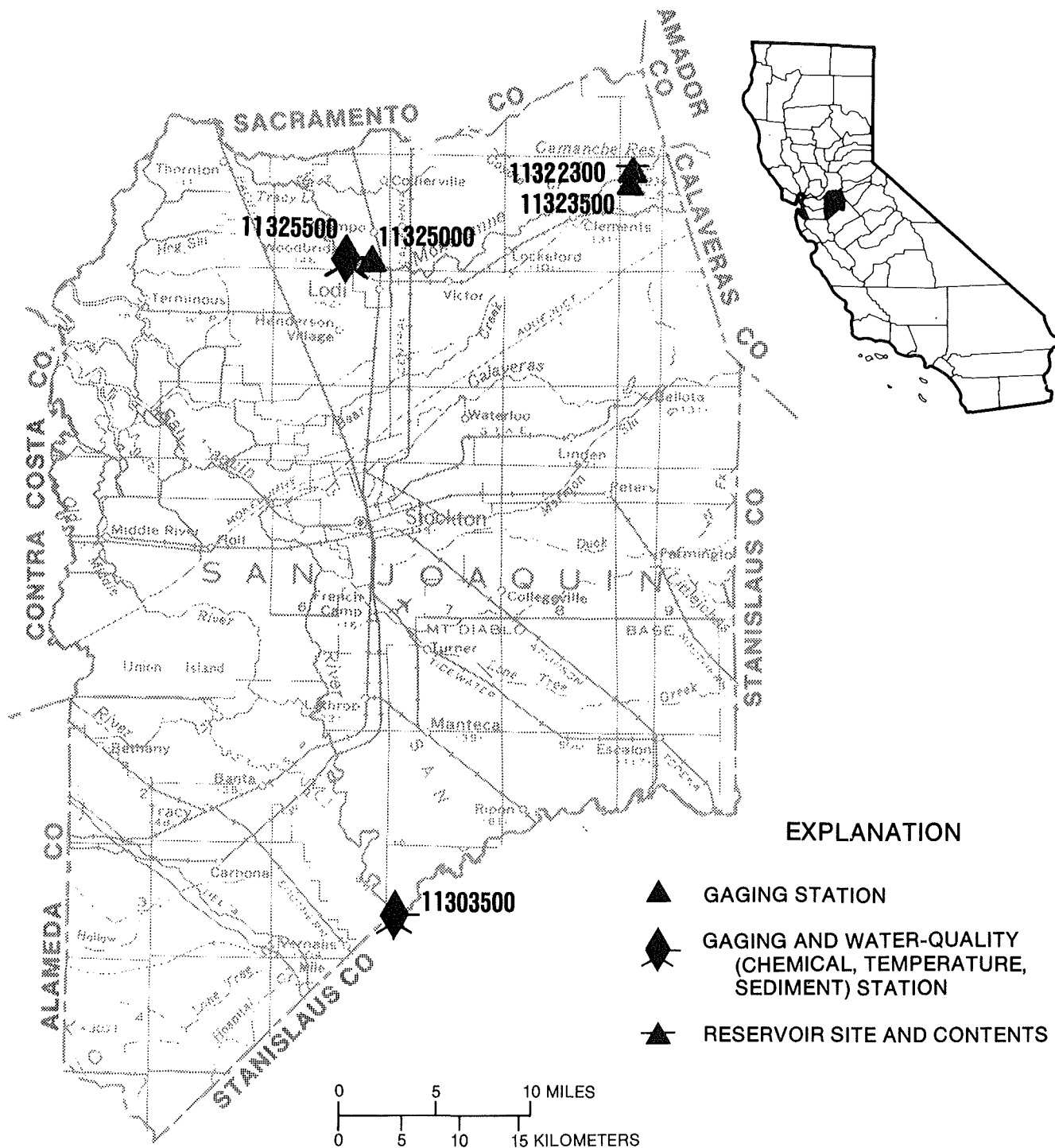
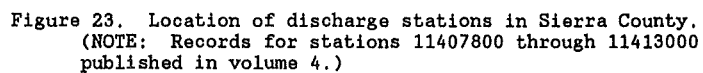


Figure 22. Location of discharge and water-quality stations in San Joaquin County.



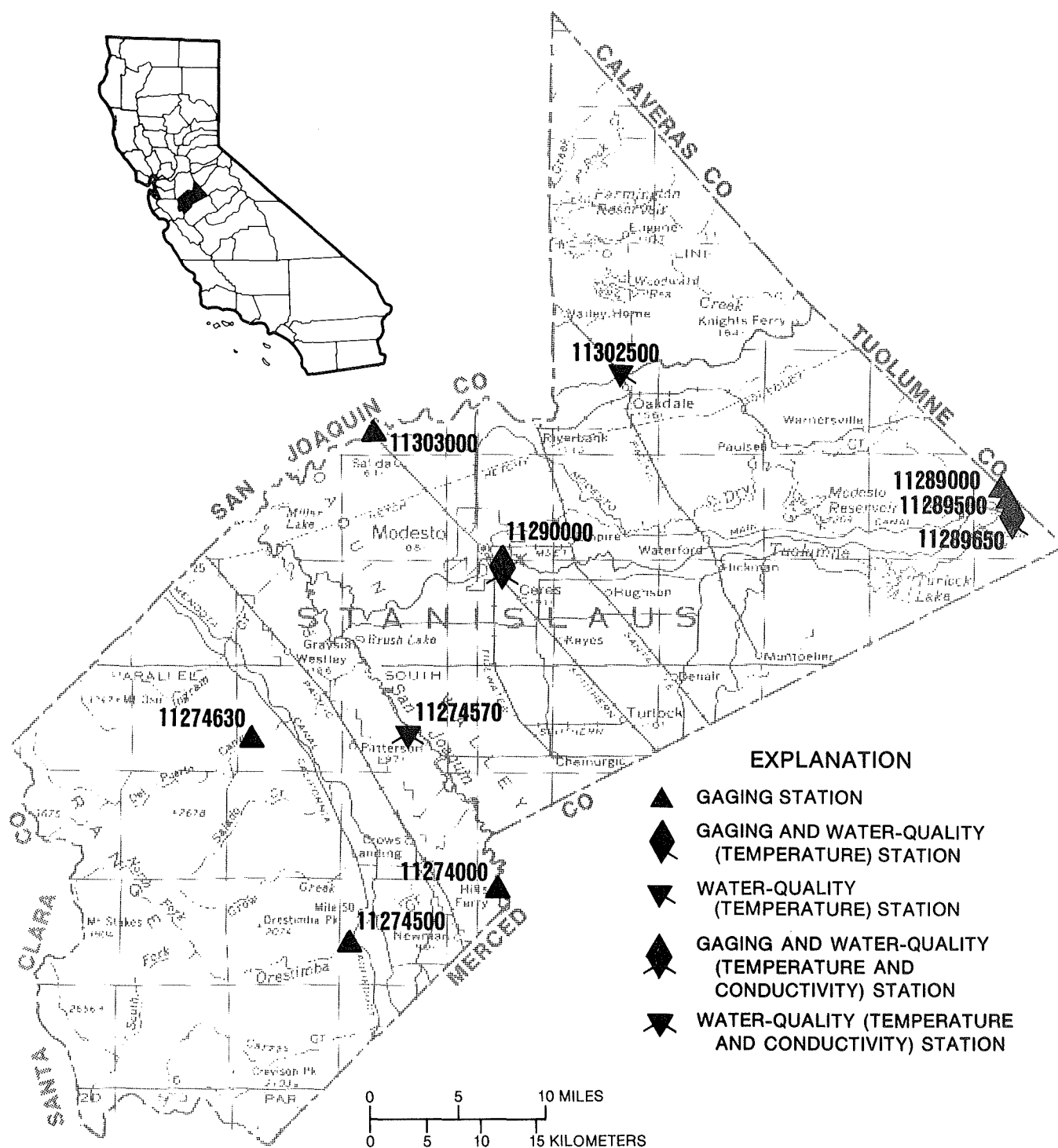


Figure 24. Location of discharge and water-quality stations in Stanislaus County.

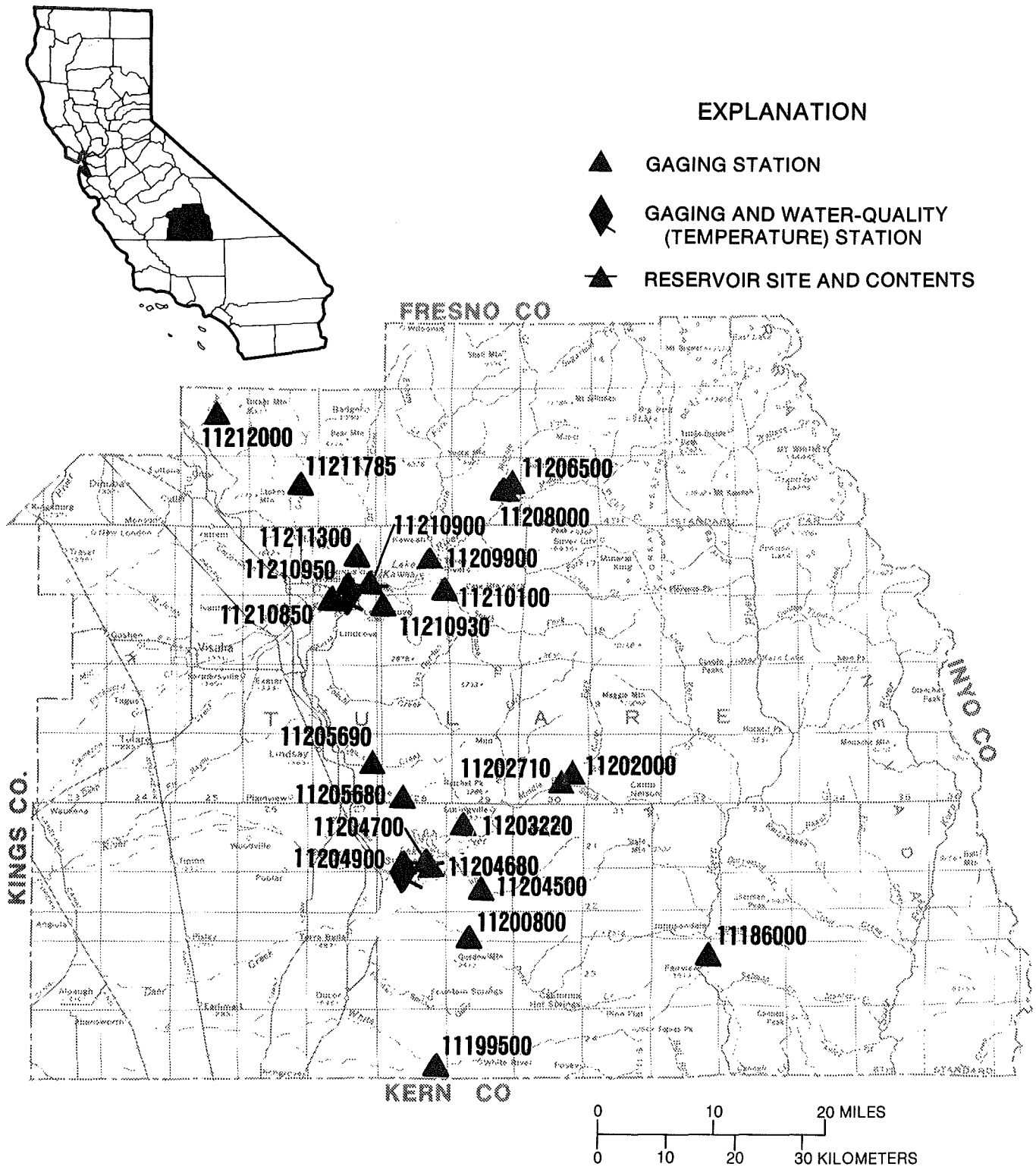


Figure 25. Location of discharge and water-quality stations in Tulare County.

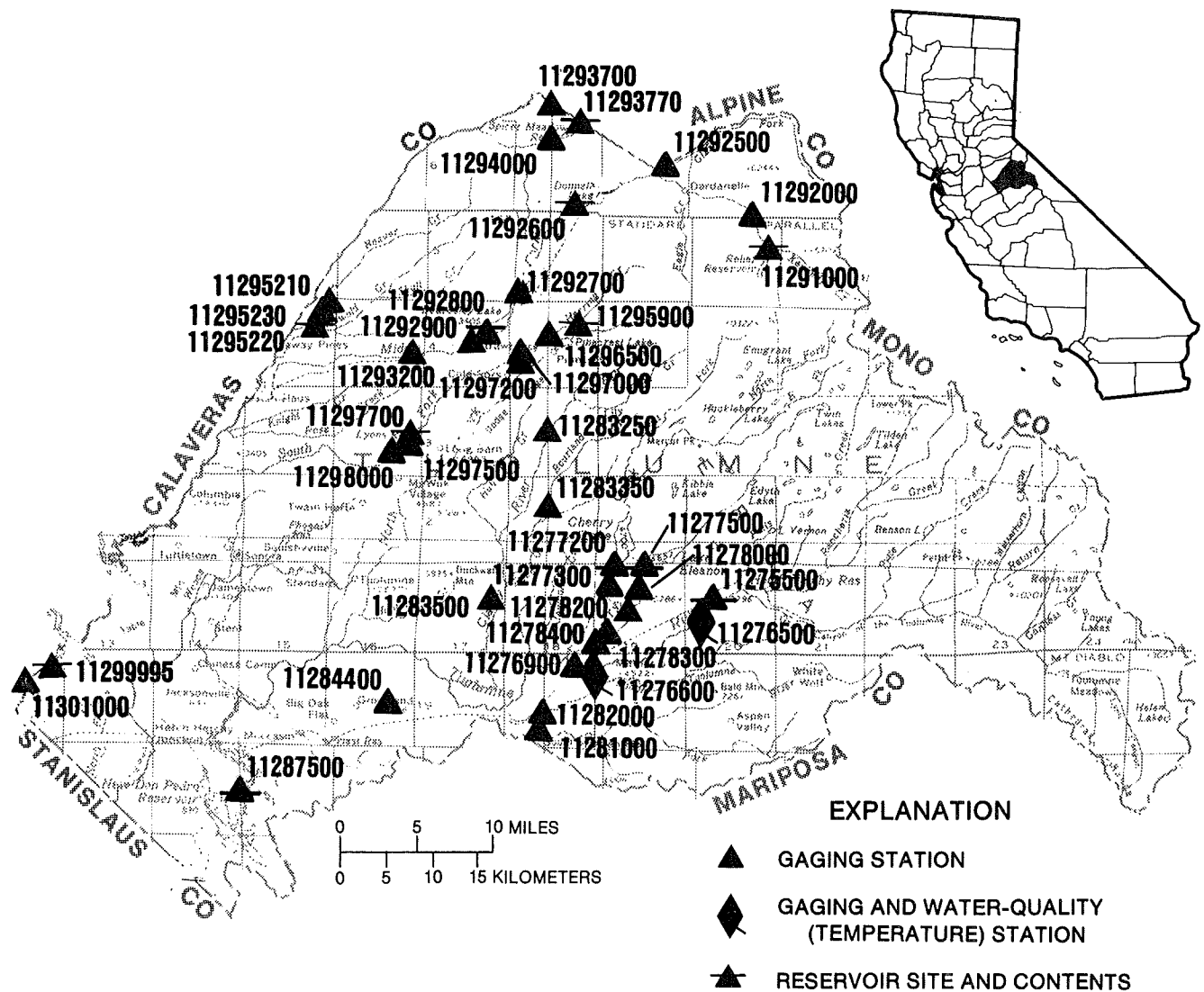


Figure 26. Location of discharge and water-quality stations in Tuolumne County.

GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

| <u>PRINTED OUTPUT</u> | <u>REMARK</u> |
|-----------------------|--|
| e | Estimated value |
| > | Actual value is greater than value shown |
| < | Actual value is less than 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 |
| * | Instantaneous streamflow at the time of cross-sectional measurement |
| l | Laboratory value |
| A | Samples collected by another agency |

NOTE: In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values less than 75 mg/L have a median positive bias of 2 mg/L greater than the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

WALKER LAKE BASIN

10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 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, in Toiyabe National Forest, at outlet of upper lake dam on Robinson Creek, and 10 mi southwest of Bridgeport.

DRAINAGE AREA.--29.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 7,212.86 ft above 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, 31 acre-ft, Oct. 27, 1988, elevation, 7,200.11 ft.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,410 acre-ft, May 6, elevation, 7,208.06 ft; minimum observed, 86 acre-ft, Sept. 26, elevation, 7,200.31 ft, but may have been lower during period of missing gage-height record, July 6 to Sept. 30.

MONTHEND ELEVATION AND CONTENTS, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| Date | Elevation (feet) | Contents (acre-feet) | Change in contents (acre-feet) |
|-----------------------|---------------------|-------------------------|-----------------------------------|
| Sept. 30. | 7,203.31 | 930 | -600 |
| Oct. 31. | 7,202.84 | 795 | -135 |
| Nov. 30. | 7,205.61 | 1,630 | +835 |
| Dec. 31. | 7,207.05 | 2,090 | +460 |
| CAL YR 1989. | -- | -- | +950 |
| Jan. 31. | 7,207.08 | 2,100 | + 10 |
| Feb. 28. | 7,206.96 | 2,060 | - 40 |
| Mar. 31. | 7,207.29 | 2,160 | +100 |
| Apr. 30. | 7,207.81 | 2,330 | +170 |
| May 31. | 7,207.06 | 2,090 | -240 |
| June 30. | 7,204.91 | 1,410 | -680 |
| July 31. | 7,202.98 | 834 | -576 |
| Aug. 31. | 7,200.56 | 156 | -678 |
| Sept. 30. | 7,200.28 | 78 | - 78 |
| WTR YR 1990 | -- | -- | -852 |

NOTE: Some monthend elevations and contents are interpolated from readings made during the year.

WALKER LAKE BASIN

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 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 7,205.45 ft above 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 contents, Nov. 17, 1966.

EXTREMES FOR CURRENT YEAR--Maximum contents observed, 4,200 acre-ft, Mar. 1, elevation, 7,200.45 ft; minimum observed, 747 acre-ft, Sept. 26, elevation 7,191.87 ft.

MONTHEND ELEVATION AND CONTENTS, IN FEET, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| Date | Elevation (feet) | Contents (acre-feet) | Change in contents (acre-feet) |
|----------------------|---------------------|-------------------------|-----------------------------------|
| Sept. 30. | 7,195.14 | 2,060 | -- |
| Oct. 31. | 7,195.34 | 2,140 | + 80 |
| Nov. 30. | 7,195.60 | 2,240 | + 100 |
| Dec. 31. | 7,196.73 | 2,690 | + 450 |
| CAL YR 1989. | -- | -- | +1,400 |
| Jan. 31. | 7,199.13 | 3,650 | + 960 |
| Feb. 28. | 7,200.45 | 4,200 | + 550 |
| Mar. 31. | 7,200.54 | 4,240 | + 40 |
| Apr. 30. | 7,199.91 | 3,970 | - 270 |
| May 31. | 7,196.76 | 2,700 | -1,270 |
| June 30. | 7,196.36 | 2,540 | - 160 |
| July 31. | 7,194.69 | 1,880 | - 660 |
| Aug. 31. | 7,192.57 | 1,030 | - 850 |
| Sept. 30. | 7,191.78 | 711 | - 319 |
| WTR YR 1990. | -- | -- | -1,349 |

NOTE: Some monthend elevations and contents are interpolated from readings made during the year.

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, in Toiyabe National Forest, at Bridgeport Dam on East Walker River, and 4.5 mi north of Bridgeport.

DRAINAGE AREA.--358 mi².

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 6,466.44 ft above 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 elevations 6,415 ft, approximate elevation of bottom of reservoir, and 6,461 ft, crest of spillway is at elevation 6,460.75 ft; however, there are four siphons that become operative prior to reaching this spillway. Elevation of sill of outlet gate, 6,412 ft. No dead storage. Figures given 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 contents at times in water years 1929, 1930, 1960, 1977, 1988 and 1989.

EXTREMES FOR CURRENT YEAR.--Maximum recorded contents, 14,920 acre-ft, Mar. 19, elevation, 6,447.63 ft, maximum elevation, 6,447.63 ft, Mar. 19, minimum, 634 acre-feet, Oct. 6, elevation, 6,427.60 ft.

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

| | | | |
|-------|-------|-------|--------|
| 6,425 | 334 | 6,440 | 6,240 |
| 6,430 | 1,130 | 6,445 | 11,380 |
| 6,435 | 2,920 | 6,450 | 18,780 |

RESERVOIR STORAGE (AC-FT) WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 2400

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 1180 | 1050 | 4160 | 6850 | 9640 | 12080 | 14270 | 12600 | 10190 | 7900 | 5040 | 1350 |
| 2 | 1040 | 1190 | 4240 | 6910 | 9720 | 12190 | 14230 | 12520 | 10100 | 7760 | 4940 | 1300 |
| 3 | 887 | 1340 | 4350 | 6960 | 9800 | 12340 | 14180 | 12450 | 10060 | 7700 | 4840 | 1240 |
| 4 | 760 | 1470 | 4450 | 7030 | 9850 | 12570 | 14170 | 12370 | 10000 | 7610 | 4750 | 1180 |
| 5 | 667 | 1610 | 4570 | 7090 | 9910 | 12780 | 14140 | 12350 | 9980 | 7550 | 4680 | 1130 |
| 6 | 650 | 1720 | 4670 | 7170 | 10010 | 13010 | 14140 | 12320 | 9920 | 7460 | 4590 | 1080 |
| 7 | 701 | 1830 | 4800 | 7290 | 10080 | 13300 | 14110 | 12230 | 9940 | 7290 | 4470 | 1040 |
| 8 | 760 | 1930 | 4940 | 7380 | 10120 | 13770 | 14050 | 12140 | 9980 | 7170 | 4350 | 1010 |
| 9 | 812 | 2040 | 5020 | 7480 | 10200 | 14120 | 14020 | 12130 | 9980 | 6960 | 4310 | 980 |
| 10 | 851 | 2160 | 5090 | 7600 | 10320 | 14290 | 13990 | 12130 | 10010 | 6790 | 4220 | 954 |
| 11 | 885 | 2280 | 5150 | 7710 | 10410 | 14350 | 13940 | 12090 | 10060 | 6670 | 4100 | 940 |
| 12 | 902 | 2390 | 5210 | 7840 | 10530 | 14390 | 13920 | 12050 | 10010 | 6580 | 3960 | 923 |
| 13 | 881 | 2480 | 5290 | 7970 | 10570 | 14460 | 13890 | 12020 | 9780 | 6480 | 3830 | 911 |
| 14 | 855 | 2580 | 5360 | 8070 | 10600 | 14570 | 13830 | 11870 | 9720 | 6550 | 3680 | 893 |
| 15 | 822 | 2680 | 5460 | 8170 | 10740 | 14630 | 13770 | 11780 | 9650 | 6690 | 3510 | 871 |
| 16 | 788 | 2780 | 5540 | 8240 | 10800 | 14730 | 13680 | 11680 | 9610 | 6710 | 3330 | 845 |
| 17 | 752 | 2880 | 5640 | 8380 | 10850 | 14790 | 13750 | 11550 | 9550 | 6750 | 3180 | 838 |
| 18 | 717 | 2970 | 5710 | 8470 | 10900 | 14830 | 13610 | 11440 | 9470 | 6740 | 3000 | 857 |
| 19 | 681 | 3070 | 5790 | e8590 | 10900 | 14820 | 13550 | 11290 | 9450 | 6690 | 2870 | 873 |
| 20 | 657 | 3170 | 5870 | e8670 | 11120 | 14760 | 13470 | 11160 | 9390 | 6570 | 2740 | 893 |
| 21 | 667 | 3260 | 5960 | e8750 | 11230 | 14760 | 13450 | 11080 | 9280 | 6470 | 2610 | 916 |
| 22 | 678 | 3360 | 6040 | 8790 | 11330 | 14670 | 13450 | 11010 | 9130 | 6400 | 2450 | 940 |
| 23 | 684 | 3440 | 6110 | 8900 | 11440 | 14610 | 13310 | 10810 | 8970 | 6280 | 2290 | 984 |
| 24 | 731 | 3550 | 6200 | 8970 | 11540 | 14520 | 13230 | 10730 | 8820 | 6140 | 2140 | 1020 |
| 25 | 778 | 3690 | 6280 | 9100 | 11640 | 14490 | 13190 | 10660 | 8630 | 5940 | 1980 | 1050 |
| 26 | 812 | 3780 | 6370 | 9140 | 11780 | 14360 | 13130 | 10550 | 8480 | 5810 | 1830 | 1060 |
| 27 | 851 | 3840 | 6450 | 9210 | 11890 | 14180 | 13110 | 10480 | 8290 | 5680 | 1720 | 1090 |
| 28 | 869 | 3910 | 6560 | 9320 | 11980 | 14210 | 12890 | 10480 | 8160 | 5530 | 1630 | 1100 |
| 29 | 881 | 3980 | 6630 | 9410 | --- | 14210 | 12810 | 10450 | 8050 | 5390 | 1540 | 1110 |
| 30 | 889 | 4070 | 6700 | 9460 | --- | 14200 | 12660 | 10290 | 8000 | 5290 | 1470 | 1110 |
| 31 | 947 | --- | 6810 | 9560 | --- | 14210 | --- | 10250 | --- | 5150 | 1400 | --- |
| MAX | 1180 | 4070 | 6810 | 9560 | 11980 | 14830 | 14270 | 12600 | 10190 | 7900 | 5040 | 1350 |
| MIN | 650 | 1050 | 4160 | 6850 | 9640 | 12080 | 12660 | 10250 | 8000 | 5150 | 1400 | 838 |
| a | 6429.22 | 6437.03 | 6440.65 | 6443.42 | 6445.48 | 6447.15 | 6446.02 | 6444.04 | 6441.92 | 6438.60 | 6431.00 | 6429.90 |
| b | - 263 | +3120 | +2740 | +2750 | +2420 | +2230 | -1550 | -2410 | -2250 | -2850 | -3750 | - 290 |

CAL YR 1989 MAX 20310 MIN 650 b +1940
WTR YR 1990 MAX 14830 MIN 650 b - 103

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

WALKER LAKE BASIN

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 mi².

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

REVISED RECORDS.--WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1921, nonrecording gage at site 0.5 mi upstream at different datum. Oct. 1, 1921, to Feb. 21, 1924, water-stage recorder at site 1 mi downstream at different datum. Feb. 22, 1924, to Sept. 30, 1931, water-stage recorder, and Oct. 1, 1931 to May 25, 1939, nonrecording gage at present site at datum 2.34 ft lower. May 26, 1939, to Nov. 27, 1988, water-stage recorder at datum 2.00 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of meadow pasturelands near Bridgeport. Flow regulated by Bridgeport Reservoir (station 10292500).

AVERAGE DISCHARGE.--67 years (1923-24, 1926-90), 145 ft³/s, 105,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft³/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 ft³/s, Nov. 2-29, Dec. 1-22, 25-28, 1955, and Jan. 17-25, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 144 ft³/s, Oct. 2, gage height, 3.34 ft; minimum daily, 13 ft³/s, many days in December and January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 100 | 36 | 18 | 13 | 20 | 28 | 47 | 75 | 76 | 90 | 78 | 70 |
| 2 | 124 | 20 | 18 | 13 | 20 | 28 | 47 | 74 | 70 | 89 | 78 | 70 |
| 3 | 129 | 14 | 18 | 13 | 20 | 28 | 47 | 70 | 65 | 89 | 78 | 69 |
| 4 | 117 | 14 | 18 | 13 | e21 | 29 | 47 | 60 | 65 | 90 | 77 | 65 |
| 5 | 110 | 14 | 18 | 13 | e20 | 29 | 47 | 59 | 65 | 90 | 73 | 61 |
| 6 | 87 | 14 | 18 | 13 | e20 | 29 | 49 | 59 | 66 | 91 | 80 | 61 |
| 7 | 64 | 14 | 18 | 14 | e20 | 29 | 50 | 60 | 66 | 104 | 88 | 58 |
| 8 | 60 | 14 | 18 | 13 | e20 | 34 | 50 | 60 | 59 | 114 | 95 | 55 |
| 9 | 61 | 15 | 18 | 13 | e20 | 46 | 50 | 60 | 72 | 114 | 100 | 53 |
| 10 | 61 | 15 | 19 | 13 | 20 | 60 | 50 | 60 | 79 | 112 | 101 | 52 |
| 11 | 61 | 15 | 18 | 13 | 20 | 61 | 50 | 67 | 88 | 102 | 124 | 48 |
| 12 | 68 | 15 | 19 | 13 | 18 | 58 | 50 | 70 | 107 | 97 | 134 | 46 |
| 13 | 78 | 15 | 19 | 13 | 15 | 59 | 55 | 81 | 115 | 95 | 134 | 44 |
| 14 | 78 | 16 | 19 | e14 | 15 | 59 | 76 | 86 | 110 | 95 | 134 | 44 |
| 15 | 78 | 17 | 17 | e14 | 18 | 59 | 77 | 86 | 108 | 96 | 133 | 42 |
| 16 | 77 | 17 | 13 | e14 | 25 | 70 | 78 | 86 | 105 | 99 | 124 | 42 |
| 17 | 76 | 17 | 13 | e14 | 25 | 84 | 79 | 86 | 95 | 114 | 116 | 38 |
| 18 | 76 | 17 | 14 | e14 | 25 | 96 | 79 | 86 | 97 | 116 | 115 | 35 |
| 19 | 75 | 17 | 14 | e14 | 26 | 96 | 79 | 92 | 97 | 115 | 114 | 34 |
| 20 | 71 | 17 | 13 | e14 | 26 | 102 | 79 | 96 | 93 | 116 | 113 | 34 |
| 21 | 62 | 17 | 13 | e14 | 26 | 105 | 79 | 91 | 98 | 114 | 112 | 34 |
| 22 | 62 | 18 | 13 | e14 | 26 | 105 | 79 | 83 | 108 | 108 | 112 | 34 |
| 23 | 62 | 18 | 13 | 14 | 26 | 105 | 79 | 82 | 117 | 108 | 109 | 34 |
| 24 | 62 | 17 | 13 | 14 | 26 | 102 | 72 | 83 | 121 | 108 | 105 | 34 |
| 25 | 63 | e18 | 13 | 15 | 27 | 99 | 64 | 82 | 121 | 114 | 104 | 35 |
| 26 | 63 | e18 | 13 | 17 | 27 | 93 | 60 | 82 | 117 | 115 | 103 | 38 |
| 27 | 63 | e18 | 13 | 19 | 28 | 68 | 60 | 82 | 119 | 102 | 93 | 39 |
| 28 | 64 | e18 | 13 | 19 | 28 | 53 | 70 | 82 | 106 | 92 | 86 | 40 |
| 29 | 64 | e18 | 13 | 19 | --- | 47 | 74 | 82 | 99 | 87 | 80 | 44 |
| 30 | 64 | 18 | 13 | 20 | --- | 47 | 75 | 82 | 96 | 86 | 72 | 44 |
| 31 | 53 | --- | 13 | 20 | --- | 47 | --- | 82 | --- | 83 | 70 | --- |
| TOTAL | 2333 | 511 | 483 | 453 | 628 | 1955 | 1898 | 2386 | 2800 | 3145 | 3135 | 1397 |
| MEAN | 75.3 | 17.0 | 15.6 | 14.6 | 22.4 | 63.1 | 63.3 | 77.0 | 93.3 | 101 | 101 | 46.6 |
| MAX | 129 | 36 | 19 | 20 | 28 | 105 | 79 | 96 | 121 | 116 | 134 | 70 |
| MIN | 53 | 14 | 13 | 13 | 15 | 28 | 47 | 59 | 59 | 83 | 70 | 34 |
| AC-FT | 4630 | 1010 | 958 | 899 | 1250 | 3880 | 3760 | 4730 | 5550 | 6240 | 6220 | 2770 |

CAL YR 1989 TOTAL 30119 MEAN 82.5 MAX 284 MIN 10 AC-FT 59740
WTR YR 1990 TOTAL 21124 MEAN 57.9 MAX 134 MIN 13 AC-FT 41900

e Estimated.

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, in Toiyabe National Forest, on left bank 50 ft downstream from Little Walker River, 160 ft upstream from bridge on U.S. Highway 395, and 13 mi southeast of Coleville.
DRAINAGE AREA.--180 mi².

PERIOD OF RECORD.--April 1938 to current year. Prior to October 1958, published as "below East Fork."
REVISED RECORDS.--WDR NV-79-1: 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. Prior to Oct. 1, 1939, at site, 125 ft downstream at datum 1.00 ft higher. Oct. 1, 1939, to Sept. 30, 1969, at present site and datum. Oct. 1, 1969, to July 10, 1987, at site 100 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station is upstream from diversions except for a few small ranch ditches. Flow slightly regulated by Poore Lake Reservoir, capacity, 1,200 acre-ft, 7 mi upstream.

AVERAGE DISCHARGE.--52 years, 259 ft³/s, 187,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft³/s, Nov. 20, 1950, gage height, 8.10 ft, from rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow; minimum, 4.0 ft³/s, Nov. 18, 1948, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge observed prior to 1938, 5,800 ft³/s, Dec. 11, 1937, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,120 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|-------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 6 | 0300 | *655 | *3.10 | | | | |

Minimum daily, 21 ft³/s, Sept. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|-------|------|------|------|
| 1 | 113 | 54 | e54 | e35 | 38 | 52 | 172 | 313 | 222 | 185 | 69 | 29 |
| 2 | 90 | 55 | e51 | e35 | e35 | 53 | 199 | 304 | 222 | 186 | 69 | 28 |
| 3 | 82 | 55 | e53 | e31 | e33 | 61 | 212 | 350 | 286 | 173 | 67 | 27 |
| 4 | 74 | 56 | e50 | e28 | e35 | 61 | 232 | 434 | 378 | 151 | 69 | 26 |
| 5 | 67 | 57 | e53 | 35 | e37 | 57 | 254 | 517 | 458 | 147 | 69 | 26 |
| 6 | 62 | 57 | e54 | 36 | 40 | 56 | 271 | 583 | 469 | 144 | 70 | 26 |
| 7 | 59 | 55 | e58 | 41 | 43 | 58 | 266 | 547 | 440 | 132 | 67 | 25 |
| 8 | 56 | 52 | e50 | 48 | e35 | 64 | 240 | 501 | 520 | 126 | 66 | 25 |
| 9 | 54 | 53 | e54 | 43 | 32 | 68 | 226 | 490 | 545 | 122 | 67 | 24 |
| 10 | 51 | 54 | e51 | 43 | 27 | 71 | 243 | 517 | 554 | 121 | 66 | 24 |
| 11 | 48 | 56 | e42 | 37 | e27 | 66 | 289 | 401 | 452 | 119 | 64 | 23 |
| 12 | 47 | 58 | e50 | 36 | e28 | 61 | 318 | 364 | 389 | 169 | 62 | 22 |
| 13 | 45 | 57 | e47 | 33 | e28 | 62 | 370 | 382 | 341 | 210 | 60 | 22 |
| 14 | 44 | 54 | e44 | e29 | e29 | 58 | 442 | 406 | 302 | 223 | 63 | 21 |
| 15 | 44 | 50 | e43 | e27 | e29 | 60 | 456 | 379 | 275 | 197 | 62 | 21 |
| 16 | 42 | 53 | e38 | e25 | e30 | 67 | 464 | 369 | 249 | 213 | 58 | 21 |
| 17 | 42 | 51 | e43 | e24 | 30 | 85 | 356 | 393 | 269 | 223 | 55 | 23 |
| 18 | 41 | 50 | e42 | e24 | 37 | 103 | 342 | 356 | 296 | 179 | 55 | 25 |
| 19 | 40 | 49 | e38 | e22 | 38 | 121 | 404 | 340 | 275 | 174 | 58 | 25 |
| 20 | 39 | 49 | e38 | e25 | 38 | 125 | 389 | 295 | 313 | 137 | 65 | 24 |
| 21 | 39 | 48 | e35 | e28 | 39 | 132 | 334 | 280 | 327 | 119 | 62 | 23 |
| 22 | 44 | 49 | e34 | 36 | 41 | 144 | 320 | 298 | 340 | 107 | 56 | 24 |
| 23 | 54 | 48 | e37 | 36 | 45 | 149 | 338 | 331 | 323 | 97 | 52 | 24 |
| 24 | 73 | 53 | e37 | 33 | 47 | 162 | 295 | 293 | 278 | 88 | 48 | 26 |
| 25 | 76 | 50 | e37 | 34 | 45 | 173 | 278 | 266 | 259 | 82 | 47 | 25 |
| 26 | 62 | 38 | e35 | e34 | 46 | 184 | 336 | 258 | 237 | 77 | 46 | 25 |
| 27 | 67 | 53 | e35 | e33 | 49 | 183 | 430 | 251 | 213 | 73 | 43 | 27 |
| 28 | 60 | e50 | e40 | e33 | 51 | 180 | 506 | 259 | 203 | 70 | 39 | 26 |
| 29 | 54 | e50 | e39 | e35 | --- | 164 | 479 | 243 | 195 | 68 | 34 | 25 |
| 30 | 55 | e55 | e37 | 38 | --- | 158 | 379 | 243 | 191 | 64 | 30 | 25 |
| 31 | 57 | --- | e37 | 41 | --- | 159 | --- | 233 | --- | 71 | 29 | --- |
| TOTAL | 1781 | 1569 | 1356 | 1038 | 1032 | 3197 | 9840 | 11196 | 9821 | 4247 | 1767 | 737 |
| MEAN | 57.5 | 52.3 | 43.7 | 33.5 | 36.9 | 103 | 328 | 361 | 327 | 137 | 57.0 | 24.6 |
| MAX | 113 | 58 | 58 | 48 | 51 | 184 | 506 | 583 | 554 | 223 | 70 | 29 |
| MIN | 39 | 38 | 34 | 22 | 27 | 52 | 172 | 233 | 191 | 64 | 29 | 21 |
| AC-FT | 3530 | 3110 | 2690 | 2060 | 2050 | 6340 | 19520 | 22210 | 19480 | 8420 | 3500 | 1460 |

CAL YR 1989 TOTAL 80240 MEAN 220 MAX 1120 MIN 32 AC-FT 159200
WTR YR 1990 TOTAL 47581 MEAN 130 MAX 583 MIN 21 AC-FT 94380

e Estimated.

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, in Toiyabe National Forest, on left bank 0.2 mi downstream from Rock Creek, and 5 mi southeast of Coleville.
DRAINAGE AREA.--250 mi².

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 NV-80-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,520 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 31, 1908, nonrecording gage at site 0.5 mi upstream at different datum. Mar. 1, 1909, to Aug. 31, 1910, nonrecording gage, and June 18, 1915, to Aug. 15, 1919, water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, water-stage recorder at site 1,000 ft upstream at different datum. May 26, 1957, to Sept. 10, 1963, water-stage recorder at site 10 ft downstream at datum 0.38 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station is upstream from diversions except for a few small ranch ditches. Flow slightly regulated by Poore Lake Reservoir, capacity, 1,200 acre-ft, 17 mi upstream.

AVERAGE DISCHARGE.--61 years (1903-7, 1910, 1916-37, 1958-90), 274 ft³/s, 198,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s, Dec. 11, 1937, on basis of slope-area measurement of peak flow; minimum, 5 ft³/s, Dec. 3, 1924, Aug. 27, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,120 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|-------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 6 | 0400 | *619 | *2.26 | | | | |

Minimum daily, 26 ft³/s, Sept. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|----------|----------|--------|--------------|------|-------|-------|-------|------|------|------|
| 1 | 122 | 69 | 68 | 51 | 52 | 68 | 176 | 307 | 221 | 205 | 78 | 36 |
| 2 | 97 | 70 | 65 | 51 | 52 | 68 | 206 | 284 | 214 | 210 | 78 | 34 |
| 3 | 87 | 69 | 63 | e50 | 51 | 74 | 222 | 314 | 264 | 196 | 75 | 33 |
| 4 | 80 | 72 | 63 | e50 | e60 | 77 | 235 | 390 | 333 | 172 | 75 | 33 |
| 5 | 74 | 73 | 68 | e50 | e56 | 72 | 245 | 471 | 408 | 162 | 80 | 32 |
| 6 | 70 | 71 | 69 | 51 | e52 | 73 | 262 | 550 | 428 | 160 | 80 | 32 |
| 7 | 65 | 69 | 65 | 56 | e54 | 78 | 258 | 521 | 390 | 148 | 78 | 31 |
| 8 | 63 | 64 | 68 | 64 | e56 | 84 | 243 | 470 | 465 | 141 | 75 | 31 |
| 9 | 60 | 67 | 65 | 55 | e58 | 86 | 230 | 451 | 501 | 136 | 76 | 30 |
| 10 | 58 | 68 | 64 | 52 | 57 | 88 | 231 | 491 | 512 | 137 | 73 | 29 |
| 11 | 56 | 70 | 56 | 52 | 58 | 80 | 273 | 382 | 422 | 130 | 70 | 29 |
| 12 | 55 | 70 | 64 | 52 | e55 | 70 | 302 | 341 | 363 | 153 | 64 | 28 |
| 13 | 53 | 70 | 61 | 51 | e45 | 71 | 344 | 351 | 323 | 245 | 61 | 27 |
| 14 | 52 | 66 | 59 | 50 | e46 | 70 | 423 | 373 | 291 | 233 | 64 | 26 |
| 15 | 51 | 61 | 63 | e48 | e48 | 71 | 435 | 351 | 267 | 228 | 64 | 26 |
| 16 | 51 | 66 | 59 | e48 | e51 | 77 | 469 | 337 | 250 | 223 | 60 | 26 |
| 17 | 51 | 62 | 57 | 49 | e45 | 89 | 351 | 360 | 258 | 251 | 56 | 27 |
| 18 | 49 | 60 | 58 | e50 | e45 | 110 | 327 | 329 | 281 | 205 | 56 | 30 |
| 19 | 49 | 59 | 58 | 54 | e46 | 127 | 383 | 318 | 262 | 212 | 60 | 29 |
| 20 | 48 | 60 | 56 | 53 | e46 | 138 | 380 | 282 | 291 | 169 | 69 | 29 |
| 21 | 48 | 58 | 55 | 54 | e47 | 144 | 326 | 267 | 303 | 151 | 66 | 27 |
| 22 | 53 | 58 | 54 | 54 | e48 | 156 | 312 | 277 | 317 | 137 | 60 | 29 |
| 23 | 60 | 57 | 52 | 54 | e52 | 158 | 326 | 304 | 310 | 126 | 53 | 29 |
| 24 | 87 | 62 | 53 | 54 | e54 | 170 | 290 | 281 | 271 | 117 | 49 | 32 |
| 25 | 90 | 60 | 54 | 54 | 56 | 180 | 266 | 264 | 257 | 112 | 48 | 32 |
| 26 | 75 | 55 | 53 | 53 | 59 | 190 | 310 | 251 | 244 | 106 | 49 | 31 |
| 27 | 83 | 46 | 53 | 54 | 65 | 189 | 394 | 246 | 230 | 100 | 47 | 33 |
| 28 | 74 | e48 | 49 | 54 | 68 | 185 | 493 | 253 | 223 | 94 | 44 | 33 |
| 29 | 68 | e50 | 51 | 53 | --- | 170 | 481 | 241 | 215 | 88 | 42 | 33 |
| 30 | 66 | e60 | 45 | 50 | --- | 167 | 376 | 239 | 211 | 84 | 38 | 31 |
| 31 | 71 | --- | 55 | 49 | --- | 165 | --- | 231 | --- | 80 | 36 | --- |
| TOTAL | 2066 | 1890 | 1823 | 1620 | 1482 | 3545 | 9569 | 10527 | 9325 | 4911 | 1924 | 908 |
| MEAN | 66.6 | 63.0 | 58.8 | 52.3 | 52.9 | 114 | 319 | 340 | 311 | 158 | 62.1 | 30.3 |
| MAX | 122 | 73 | 69 | 64 | 68 | 190 | 493 | 550 | 512 | 251 | 80 | 36 |
| MIN | 48 | 46 | 45 | 48 | 45 | 68 | 176 | 231 | 211 | 80 | 36 | 26 |
| AC-FT | 4100 | 3750 | 3620 | 3210 | 2940 | 7030 | 18980 | 20880 | 18500 | 9740 | 3820 | 1800 |
| CAL YR 1989 | TOTAL 78240 | MEAN 214 | MAX 1080 | MIN 32 | AC-FT 155200 | | | | | | | |
| WTR YR 1990 | TOTAL 49590 | MEAN 136 | MAX 550 | MIN 26 | AC-FT 98360 | | | | | | | |

e Estimated.

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, Hydrologic Unit 16050301, at outlet works of Topaz Lake on West Walker River and 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.--Water-stage recorder 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) and 5,000.38 ft (3 ft below top of levee). Usable capacity of reservoir was increased from about 45,000 acre-ft to 59,440 acre-ft in October 1937 by an earthfill, rock-faced levee at south end. Figures given represent usable contents. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,680 acre-ft, July 3, 1980, elevation, 5,000.92 ft, present datum; no contents Oct. 31, 1924, Sept. 22, Sept. 24 to Oct. 15, 1960, Aug. 19 to Dec. 23, 1977, Sept. 15 to Nov. 24, 1988, and Sept. 25, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum contents 20,130 acre-ft, Mar. 20, elevation, 4,980.22 ft; no contents during part of day, Sept. 25.

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

| | | | |
|-------|-------|-------|--------|
| 4,967 | 0 | 4,975 | 11,520 |
| 4,968 | 490 | 4,980 | 19,760 |
| 4,970 | 3,580 | 4,985 | 28,310 |

RESERVOIR STORAGE (ACRE-FEET) WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 2400

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 4880 | 2760 | e6450 | 10190 | 14530 | 18570 | 20020 | 18400 | 14270 | 11110 | 4570 | 1010 |
| 2 | 4750 | 2840 | e6590 | 10340 | 14660 | 18730 | 20010 | 18180 | 14120 | 10810 | 4360 | 936 |
| 3 | 4630 | 2930 | e6750 | 10440 | 14810 | 18900 | 19940 | 18000 | 14120 | 10520 | 4190 | 875 |
| 4 | 4490 | 3010 | e6880 | 10520 | 14920 | 19050 | 19860 | 17850 | 14220 | 10230 | 3990 | 782 |
| 5 | 4360 | 3120 | e7000 | 10640 | 15070 | 19220 | 19760 | 17730 | 14400 | 9920 | 3790 | 782 |
| 6 | 4240 | 3180 | e7130 | 10770 | 15200 | 19380 | 19720 | 17680 | 14460 | 9630 | 3650 | 675 |
| 7 | 4130 | 3260 | 7270 | 10850 | 15320 | 19520 | 19690 | 17620 | 14450 | 9260 | 3490 | 628 |
| 8 | 4050 | 3360 | 7420 | 11100 | 15460 | 19550 | 19670 | 17470 | 14540 | 8940 | 3290 | 582 |
| 9 | 3960 | 3470 | 7560 | 11270 | 15610 | 19550 | 19520 | 17300 | 14690 | 8610 | 3180 | 551 |
| 10 | 3860 | 3580 | 7690 | 11390 | 15760 | 19570 | 19370 | 17250 | 14740 | 8390 | 3050 | 521 |
| 11 | 3770 | 3720 | 7800 | 11550 | 15930 | 19620 | 19320 | 17030 | 14710 | 8130 | 2930 | 490 |
| 12 | 3680 | 3820 | e7880 | 11710 | 16020 | 19670 | 19280 | 16690 | 14560 | 7960 | 2810 | 459 |
| 13 | 3580 | 3930 | e8000 | 11890 | 16110 | 19760 | 19200 | 16350 | 14380 | 7970 | 2700 | 352 |
| 14 | 3490 | 4040 | e8120 | 11990 | 16190 | 19860 | 19270 | 16210 | 14150 | 7910 | 2620 | 367 |
| 15 | 3410 | 4190 | e8200 | 12160 | 16310 | 19890 | 19400 | 16090 | 13900 | 7770 | 2460 | 337 |
| 16 | 3360 | 4320 | e8310 | 12280 | 16540 | 19940 | 19550 | 15960 | 13660 | 7610 | 2340 | 306 |
| 17 | 3290 | 4470 | e8420 | 12450 | 16650 | 19970 | 19470 | 15830 | 13380 | 7510 | 2190 | 306 |
| 18 | 3260 | 4610 | 8510 | 12600 | 16750 | 20020 | 19330 | 15650 | 13190 | 7370 | 2090 | 291 |
| 19 | 3150 | 4740 | 8620 | 12710 | 16870 | 20070 | 19250 | 15450 | 13010 | 7240 | 2020 | 275 |
| 20 | 2910 | 4900 | 8740 | 12810 | 17020 | 20090 | 19180 | 15320 | 12940 | 7100 | 1940 | 291 |
| 21 | 2960 | 5020 | 8880 | 12930 | 17180 | 20070 | 19030 | 15200 | 12880 | 6960 | 1880 | 306 |
| 22 | 2810 | 5150 | 8980 | 13070 | 17330 | 20070 | 18870 | 15090 | 12850 | 6820 | 1860 | 321 |
| 23 | 2880 | 5300 | 9100 | 13200 | 17520 | 20060 | 18680 | 15090 | 12850 | 6520 | 1770 | e275 |
| 24 | 2870 | 5430 | 9230 | 13330 | 17680 | 20020 | 18470 | 15100 | 12730 | 6260 | 1570 | e76 |
| 25 | 2840 | 5740 | 9360 | 13380 | 17880 | 20020 | 18160 | 15070 | 12540 | 6040 | 1540 | 15 |
| 26 | 2820 | 5790 | 9470 | 13590 | 18050 | 20020 | 17950 | 14970 | 12330 | 5850 | 1460 | 31 |
| 27 | 2820 | 5850 | 9620 | 13730 | 18220 | 20040 | 17950 | 14900 | 12110 | 5650 | 1380 | 76 |
| 28 | 2770 | 5980 | 9740 | 13900 | 18400 | 20040 | 18150 | 14860 | 11890 | 5460 | 1370 | 107 |
| 29 | 2770 | e6140 | 9840 | 13990 | --- | 20060 | 18430 | 14760 | 11610 | 5260 | 1150 | 76 |
| 30 | 2760 | e6290 | 9950 | 14280 | --- | 20020 | 18480 | 14580 | 11370 | 5040 | 1170 | 76 |
| 31 | 2730 | --- | 10080 | 14410 | --- | 20020 | --- | 14400 | --- | 4800 | 1120 | --- |
| MAX | 4880 | 6290 | 10080 | 14410 | 18400 | 20090 | 20020 | 18400 | 14740 | 11110 | 4570 | 1010 |
| MIN | 2730 | 2760 | 6450 | 10190 | 14530 | 18570 | 17950 | 14400 | 11370 | 4800 | 1120 | 15 |
| a | 4969.45 | 4971.73 | 4974.11 | 4976.78 | 4979.19 | 4980.15 | 4979.24 | 4976.77 | 4974.91 | 4970.78 | 4968.41 | 4967.73 |
| b | -2240 | +3560 | +3790 | +4330 | +3990 | +1620 | -1540 | -4080 | -3030 | -6570 | -3680 | -1040 |

CAL YR 1989 MAX 39690 MIN 2730 b +6470
WTR YR 1990 MAX 20090 MIN 15 b -4890

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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

LOCATION.--Lat 38°42'50", long 119°45'50", in SW 1/4 NE 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 north-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.--Records good except for estimated daily discharges, which are poor. A few small diversions for irrigation upstream from station. Flow slightly regulated by several small reservoirs, total capacity, about 5,000 acre-ft.

AVERAGE DISCHARGE.--30 years, 358 ft³/s, 259,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s, Jan. 31, 1963, gage height, 10.21 ft, present datum; minimum, 9.5 ft³/s, Nov. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 1,300 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 16 | 0100 | *848 | *3.71 | | | | |

Minimum daily, 29 ft³/s, Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|-------|------|------|------|
| 1 | 87 | 75 | 57 | e55 | 72 | 125 | 301 | 427 | 296 | 124 | 72 | 60 |
| 2 | 77 | 76 | 59 | 61 | 72 | 121 | 341 | 403 | 318 | 130 | 70 | 56 |
| 3 | 76 | 73 | 59 | 61 | 75 | 145 | 358 | 445 | 336 | 126 | 68 | 51 |
| 4 | 71 | 75 | 64 | 67 | 76 | 149 | 381 | 501 | 355 | 119 | 66 | 53 |
| 5 | 68 | 78 | 69 | 91 | 75 | 127 | 413 | 549 | 371 | 110 | 58 | 53 |
| 6 | 66 | 74 | 74 | 93 | 76 | 116 | 427 | 600 | 367 | 98 | 56 | 52 |
| 7 | 64 | 70 | 76 | 92 | e68 | 121 | 410 | 568 | 355 | 90 | 59 | 51 |
| 8 | 63 | 67 | 77 | 93 | e66 | 137 | 386 | 522 | 383 | 89 | 72 | 48 |
| 9 | 61 | 68 | 75 | 84 | e67 | 145 | 353 | 497 | 400 | 85 | 71 | 43 |
| 10 | 61 | 69 | 74 | 71 | e70 | 150 | 389 | 531 | 386 | 94 | 59 | 35 |
| 11 | 60 | 70 | 65 | 68 | e71 | 129 | 460 | 473 | 352 | 98 | 50 | 34 |
| 12 | 59 | 71 | 76 | 66 | e72 | 123 | 487 | 434 | 315 | 109 | 51 | 32 |
| 13 | 59 | 69 | 66 | 72 | e65 | 126 | 547 | 433 | 291 | 140 | 51 | 33 |
| 14 | 58 | 66 | 66 | 75 | e70 | 114 | 626 | 424 | 294 | 227 | 62 | 35 |
| 15 | 58 | 62 | 69 | 71 | e64 | 116 | 659 | 392 | 262 | 144 | 60 | 31 |
| 16 | 59 | 65 | 72 | 67 | e62 | 124 | 678 | 371 | 247 | 137 | 61 | 32 |
| 17 | 58 | 63 | 73 | 68 | e64 | 146 | 507 | 374 | 238 | 135 | 62 | 36 |
| 18 | 58 | 61 | 74 | 70 | e66 | 179 | 474 | 356 | 232 | 106 | 64 | 39 |
| 19 | 57 | 61 | 68 | 69 | e74 | 216 | 532 | 338 | 215 | 123 | 73 | 46 |
| 20 | 56 | 61 | 67 | e68 | e100 | 236 | 552 | 309 | 219 | 92 | 82 | 36 |
| 21 | 57 | 61 | 68 | e67 | e95 | 256 | 501 | 288 | 220 | 80 | 76 | 35 |
| 22 | 68 | 60 | 67 | e66 | e91 | 278 | 474 | 299 | 216 | 73 | 70 | 29 |
| 23 | 104 | 60 | 66 | e64 | e92 | 285 | 505 | 330 | 197 | 67 | 63 | 34 |
| 24 | 179 | 67 | 65 | e69 | 94 | 309 | 452 | 317 | 182 | 62 | 51 | 45 |
| 25 | 111 | 68 | 64 | e74 | 99 | 334 | 432 | 297 | 170 | 61 | 49 | 39 |
| 26 | 84 | 70 | 65 | e72 | 98 | 337 | 478 | 291 | 150 | 72 | 49 | 37 |
| 27 | 88 | 43 | 66 | e70 | 107 | 324 | 550 | 307 | 138 | 70 | 50 | 39 |
| 28 | 82 | 60 | 61 | e71 | 120 | 307 | 646 | 309 | 137 | 72 | 57 | 41 |
| 29 | 72 | 59 | 61 | e72 | --- | 278 | 615 | 279 | 133 | 69 | 69 | 41 |
| 30 | 69 | 54 | 60 | 74 | --- | 270 | 497 | 291 | 127 | 67 | 67 | 37 |
| 31 | 76 | --- | e57 | 71 | --- | 277 | --- | 310 | --- | 63 | 68 | --- |
| TOTAL | 2266 | 1976 | 2080 | 2232 | 2221 | 6100 | 14431 | 12265 | 7902 | 3132 | 1936 | 1233 |
| MEAN | 73.1 | 65.9 | 67.1 | 72.0 | 79.3 | 197 | 481 | 396 | 263 | 101 | 62.5 | 41.1 |
| MAX | 179 | 78 | 77 | 93 | 120 | 337 | 678 | 600 | 400 | 227 | 82 | 60 |
| MIN | 56 | 43 | 57 | 55 | 62 | 114 | 301 | 279 | 127 | 61 | 49 | 29 |
| AC-FT | 4490 | 3920 | 4130 | 4430 | 4410 | 12100 | 28620 | 24330 | 15670 | 6210 | 3840 | 2450 |

CAL YR 1989 TOTAL 110156 MEAN 302 MAX 1560 MIN 33 AC-FT 218500
WTR YR 1990 TOTAL 57774 MEAN 158 MAX 678 MIN 29 AC-FT 114600

e Estimated.

CARSON RIVER BASIN

59

10309025 INDIAN CREEK NEAR WOODFORDS, CA

LOCATION.--Lat 38°44'54", long 119°48'54", in NE 1/4 NE 1/4 sec.6, T.10 N., R.20 E., Alpine County, Hydrologic Unit 16050201, on right bank 2 mi south of Woodfords.

DRAINAGE AREA.--1.7 mi², approximately.

PERIOD OF RECORD.--May 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,880 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Irrigation above the gage can cause considerable fluctuations. Periodic diversions from Millberry Canyon.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8.9 ft³/s, Mar. 8, 1989, gage height, 1.88 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.4 ft³/s, Oct. 23, gage height, 1.59 ft; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|-------|-------|------|------|------|------|------|------|
| 1 | .00 | .19 | .29 | .34 | e.33 | .76 | .13 | .11 | .05 | .00 | .00 | .00 |
| 2 | .00 | .19 | .30 | .34 | e.33 | .93 | .12 | .10 | .04 | .00 | .00 | .00 |
| 3 | .00 | .19 | .35 | .34 | e.31 | 1.2 | .10 | .09 | .04 | .00 | .00 | .00 |
| 4 | .02 | .20 | .40 | .34 | e.29 | 1.0 | .10 | .09 | .04 | .00 | .00 | .00 |
| 5 | .04 | .19 | .41 | .36 | e.28 | .88 | .10 | .09 | .03 | .00 | .00 | .00 |
| 6 | .04 | .19 | .32 | .40 | e.30 | .86 | .12 | .09 | .03 | .00 | .00 | .00 |
| 7 | .05 | .19 | .31 | .83 | e.32 | 1.0 | .14 | .09 | .03 | .00 | .00 | .00 |
| 8 | .06 | .20 | .30 | .67 | e.35 | 1.1 | .13 | .09 | .02 | .00 | .00 | .00 |
| 9 | .06 | .20 | .29 | .42 | e.36 | 1.2 | .10 | .10 | .02 | .00 | .00 | .00 |
| 10 | .06 | .20 | .27 | .40 | e.38 | 1.0 | .09 | .14 | .02 | .00 | .00 | .00 |
| 11 | .07 | .20 | .21 | .34 | e.33 | .97 | .09 | .10 | .02 | .00 | .00 | .00 |
| 12 | .08 | .20 | .25 | .33 | e.30 | .92 | .09 | .08 | .01 | .00 | .00 | .00 |
| 13 | .09 | .20 | .27 | .36 | e.28 | .91 | .09 | .09 | .00 | .00 | .00 | .00 |
| 14 | .10 | .20 | .28 | .28 | e.27 | .93 | .08 | .09 | .00 | .00 | .00 | .00 |
| 15 | .10 | .21 | .34 | .33 | e.27 | 1.0 | .08 | .08 | .00 | .00 | .00 | .00 |
| 16 | .10 | .21 | .30 | .32 | e.29 | 1.1 | .10 | .08 | .00 | .00 | .00 | .00 |
| 17 | .11 | .21 | .31 | .31 | e.31 | 1.3 | .10 | .08 | .00 | .00 | .00 | .00 |
| 18 | .11 | .21 | .29 | .33 | e.34 | 1.3 | .30 | .08 | .00 | .00 | .00 | .00 |
| 19 | .11 | .21 | .30 | .34 | e.35 | 1.2 | .29 | .07 | .00 | .00 | .00 | .00 |
| 20 | .12 | .22 | .33 | .33 | e.37 | 1.1 | .15 | .06 | .00 | .00 | .00 | .00 |
| 21 | .14 | .21 | .31 | .31 | e.39 | .99 | .15 | .05 | .00 | .00 | .00 | .00 |
| 22 | .14 | .22 | .33 | .31 | e.41 | .87 | .13 | .05 | .00 | .00 | .00 | .00 |
| 23 | .93 | .22 | .33 | .34 | e.43 | .75 | .18 | .06 | .00 | .00 | .00 | .00 |
| 24 | .53 | .48 | .33 | .38 | e.45 | .72 | .14 | .06 | .00 | .00 | .00 | .00 |
| 25 | .23 | .79 | .34 | .39 | .51 | .67 | .12 | .05 | .00 | .00 | .00 | .00 |
| 26 | .19 | .61 | .36 | .40 | .59 | .60 | .11 | .04 | .00 | .00 | .00 | .00 |
| 27 | .18 | .32 | .36 | .41 | .69 | .59 | .11 | .04 | .00 | .00 | .00 | .00 |
| 28 | .18 | .28 | .32 | .41 | .81 | .55 | .10 | .04 | .00 | .00 | .00 | .00 |
| 29 | .18 | .29 | .32 | e.39 | --- | .55 | .11 | .04 | .00 | .00 | .00 | .00 |
| 30 | .18 | .30 | .36 | e.35 | --- | .40 | .12 | .06 | .00 | .00 | .00 | .00 |
| 31 | .19 | --- | .43 | e.32 | --- | .15 | --- | .09 | --- | .00 | .00 | --- |
| TOTAL | 4.39 | 7.73 | 9.91 | 11.72 | 10.64 | 27.50 | 3.77 | 2.38 | 0.35 | 0.00 | 0.00 | 0.00 |
| MEAN | .14 | .26 | .32 | .38 | .38 | .89 | .13 | .077 | .012 | .000 | .000 | .000 |
| MAX | .93 | .79 | .43 | .83 | .81 | 1.3 | .30 | .14 | .05 | .00 | .00 | .00 |
| MIN | .00 | .19 | .21 | .28 | .27 | .15 | .08 | .04 | .00 | .00 | .00 | .00 |
| AC-FT | 8.7 | 15 | 20 | 23 | 21 | 55 | 7.5 | 4.7 | .7 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 122.19 MEAN .33 MAX 4.6 MIN .00 AC-FT 242
WTR YR 1990 TOTAL 78.39 MEAN .21 MAX 1.3 MIN .00 AC-FT 155

e Estimated.

10309030 INDIAN CREEK AT DIAMOND VALLEY, NEAR PAYNESVILLE, CA

LOCATION.--Lat 38°46'37", long 119°45'53", in NW 1/4 NE 1/4 sec.32, T.11 N., R.20 E., Alpine County, Hydrologic Unit 16050201, on left bank 1 mi southwest of Paynesville.

DRAINAGE AREA.--16.2 mi², approximately.

PERIOD OF RECORD.--May 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56 ft³/s, Nov. 26, 1989, gage height, 3.41 ft; maximum gage height, 5.53 ft, Oct. 3, 1989 (backwater from beaver dam); minimum daily, 0.29 ft³/s, July 19, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 56 ft³/s, Nov. 26, gage height, 3.41 ft; maximum gage height, 5.53 ft, Oct. 3 (backwater from beaver dam); minimum daily, 1.2 ft³/s, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|-------|-------|------|------|-------|-------|-------|------|------|
| 1 | 29 | 28 | 24 | e8.0 | 20 | 21 | 16 | 22 | 9.9 | 3.9 | 1.8 | 2.5 |
| 2 | 31 | 26 | 18 | e6.0 | 19 | 25 | 14 | 17 | 13 | 3.7 | 1.9 | 2.6 |
| 3 | 26 | 25 | 24 | e5.0 | 24 | 27 | 21 | 23 | 24 | 3.1 | 2.0 | 2.6 |
| 4 | 36 | 24 | 24 | e4.0 | 25 | 20 | 25 | 31 | 34 | 2.8 | 1.9 | 2.7 |
| 5 | 33 | 23 | 25 | e4.7 | 24 | 18 | 28 | 33 | 18 | 2.4 | 2.0 | 2.6 |
| 6 | 32 | 22 | 26 | e4.7 | 23 | 17 | 34 | 27 | 26 | 2.3 | 2.0 | 2.5 |
| 7 | 32 | 21 | 25 | 5.4 | 19 | 18 | 33 | 15 | 27 | 2.3 | 2.1 | 2.5 |
| 8 | 28 | 19 | 25 | 5.7 | 17 | 20 | 32 | 18 | 22 | 1.9 | 2.4 | 2.4 |
| 9 | 23 | 19 | 23 | 5.9 | 18 | 17 | 25 | 15 | 18 | 1.8 | 2.5 | 2.5 |
| 10 | 18 | 17 | 23 | 7.4 | 20 | 16 | 14 | 24 | 15 | 1.8 | 2.2 | 2.6 |
| 11 | 9.2 | 17 | 13 | 10 | 23 | 16 | 25 | 17 | 13 | 2.0 | 4.2 | 2.1 |
| 12 | 13 | 16 | 9.1 | 23 | 23 | 13 | 37 | 13 | 11 | 3.0 | 4.0 | 2.0 |
| 13 | 14 | 15 | 11 | 32 | 11 | 18 | 35 | 26 | 18 | 3.6 | 3.0 | 1.9 |
| 14 | 16 | 15 | e4.8 | 26 | 10 | 24 | 31 | 31 | 27 | 3.0 | 2.1 | 1.8 |
| 15 | 18 | 11 | e5.4 | 30 | 9.2 | 28 | 35 | 34 | 27 | 2.2 | 2.1 | 1.7 |
| 16 | 20 | 15 | e5.0 | 24 | 5.5 | 30 | 34 | 32 | 31 | 2.2 | 2.1 | 1.8 |
| 17 | 21 | 16 | e5.6 | 14 | 5.5 | 30 | 30 | 31 | 31 | 2.0 | 2.1 | 1.8 |
| 18 | 22 | 15 | e5.6 | 21 | e5.0 | 31 | 28 | 24 | 23 | 2.0 | 2.2 | 1.8 |
| 19 | 22 | 15 | e5.7 | 14 | e4.2 | 31 | 23 | 25 | 8.2 | 2.6 | 2.2 | 1.7 |
| 20 | 23 | 15 | e5.4 | 8.3 | e4.0 | 32 | 30 | 29 | 7.3 | 5.0 | 2.4 | 1.6 |
| 21 | 26 | 16 | e5.8 | 4.9 | e5.0 | 32 | 30 | 24 | 6.3 | 7.7 | 2.3 | 1.6 |
| 22 | 30 | 16 | e5.6 | 4.1 | e5.8 | 32 | 28 | 13 | 6.0 | 8.0 | 2.3 | 1.6 |
| 23 | 33 | 16 | e5.8 | 3.9 | 6.3 | 32 | 23 | 25 | 5.7 | 6.7 | 2.3 | 1.9 |
| 24 | 35 | 24 | e6.0 | 3.9 | 6.3 | 32 | 15 | 28 | 5.4 | 5.3 | 2.2 | 2.3 |
| 25 | 33 | 27 | e5.6 | 4.7 | 6.5 | 31 | 28 | 14 | 5.2 | 4.3 | 2.2 | 1.6 |
| 26 | 33 | 30 | e5.4 | 5.2 | 11 | 31 | 35 | 9.3 | 5.0 | 3.5 | 2.5 | 1.5 |
| 27 | 32 | 13 | e5.8 | 6.9 | 17 | 31 | 35 | 8.4 | 5.2 | 3.1 | 2.8 | 1.5 |
| 28 | 32 | 16 | e6.6 | 8.8 | 23 | 31 | 33 | 7.0 | 4.6 | 2.8 | 1.8 | 1.3 |
| 29 | 31 | 20 | e8.0 | 17 | --- | 30 | 33 | 4.7 | 4.6 | 2.4 | 3.3 | 1.3 |
| 30 | 30 | 26 | e6.3 | 17 | --- | 28 | 30 | 5.6 | 4.3 | 1.9 | 3.4 | 1.2 |
| 31 | 30 | --- | e7.0 | 20 | --- | 22 | --- | 6.8 | --- | 1.8 | 2.7 | --- |
| TOTAL | 811.2 | 578 | 375.5 | 355.5 | 390.3 | 784 | 840 | 632.8 | 455.7 | 101.1 | 75.0 | 59.5 |
| MEAN | 26.2 | 19.3 | 12.1 | 11.5 | 13.9 | 25.3 | 28.0 | 20.4 | 15.2 | 3.26 | 2.42 | 1.98 |
| MAX | 36 | 30 | 26 | 32 | 25 | 32 | 37 | 34 | 34 | 8.0 | 4.2 | 2.7 |
| MIN | 9.2 | 11 | 4.8 | 3.9 | 4.0 | 13 | 14 | 4.7 | 4.3 | 1.8 | 1.8 | 1.2 |
| AC-FT | 1610 | 1150 | 745 | 705 | 774 | 1560 | 1670 | 1260 | 904 | 201 | 149 | 118 |

CAL YR 1989 TOTAL 4858.5 MEAN 13.3 MAX 40 MIN 1.3 AC-FT 9640
WTR YR 1990 TOTAL 5458.6 MEAN 15.0 MAX 37 MIN 1.2 AC-FT 10830

e Estimated.

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, in 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 mi².

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

REVISED RECORDS.--WDR NV-79-1: 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.--Records good, except for estimated daily discharges, which are poor. One small diversion upstream from station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft.

AVERAGE DISCHARGE.--59 years (1900-1907, 1938-90), 111 ft³/s, 80,420 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,890 ft³/s, Feb. 1, 1963, gage height, 9.0 ft, on basis of slope-area measurement of peak flow; minimum, about 5 ft³/s, Dec. 28, 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 ft³/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 15 | 2200 | *313 | *2.59 | | | | |

Minimum daily, 12.0 ft³/s, Sept. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|------|------|------|------|------|
| 1 | 28 | 25 | 21 | 17 | 19 | 26 | 143 | 134 | 100 | 30 | 30 | 30 |
| 2 | 24 | 25 | 21 | 17 | e18 | 25 | 143 | 134 | 91 | 29 | 32 | 25 |
| 3 | 23 | 24 | 22 | e16 | e17 | 27 | 154 | 127 | 94 | 52 | 33 | 16 |
| 4 | 22 | 24 | 22 | e15 | 16 | 28 | 156 | 145 | 94 | 60 | 37 | 14 |
| 5 | 21 | 25 | 23 | e16 | e17 | 26 | 170 | 149 | 99 | 57 | 26 | 13 |
| 6 | 21 | 25 | 24 | 17 | 18 | 26 | 186 | 157 | 100 | 36 | 18 | 13 |
| 7 | 20 | 23 | 22 | 20 | e18 | 27 | 156 | 151 | 97 | 24 | 16 | 13 |
| 8 | 19 | 22 | 22 | 32 | e19 | 28 | 149 | 140 | 95 | 23 | 17 | 13 |
| 9 | 19 | 23 | 22 | 29 | 19 | 28 | 136 | 136 | 97 | 22 | 20 | 13 |
| 10 | 19 | 23 | 22 | 29 | 20 | 28 | 149 | 149 | 96 | 22 | 19 | 21 |
| 11 | 19 | 22 | 20 | 26 | 20 | 27 | 165 | 134 | 85 | 23 | 16 | 41 |
| 12 | 19 | 23 | 22 | 26 | 21 | 30 | 170 | 127 | 77 | 22 | 15 | 44 |
| 13 | 19 | 23 | 20 | 24 | e19 | 28 | 201 | 120 | 71 | 23 | 18 | 43 |
| 14 | 18 | 22 | 20 | 20 | e20 | 25 | 217 | 121 | 73 | 22 | 31 | 43 |
| 15 | 17 | 21 | 20 | 23 | e21 | 26 | 251 | 116 | 67 | 27 | 37 | 28 |
| 16 | 17 | 21 | 19 | 22 | e21 | 27 | 220 | 108 | 68 | 35 | 34 | 19 |
| 17 | 17 | 21 | 19 | 23 | e21 | 30 | 179 | 112 | 60 | 49 | 32 | 14 |
| 18 | 17 | 21 | 18 | 22 | e20 | 42 | 165 | 107 | 59 | 28 | 32 | 13 |
| 19 | 17 | 20 | 18 | e20 | e20 | 54 | 179 | 98 | 55 | 29 | 27 | 13 |
| 20 | 17 | 20 | 17 | e18 | e19 | 66 | 179 | 92 | 55 | 26 | 21 | 13 |
| 21 | 17 | 19 | 18 | e19 | 20 | 74 | 173 | 84 | 58 | 22 | 19 | 12 |
| 22 | 24 | 19 | 17 | 20 | 20 | 95 | 151 | 80 | 60 | 21 | 17 | 12 |
| 23 | 34 | 19 | 17 | 20 | 21 | 104 | 188 | 90 | 62 | 20 | 16 | 13 |
| 24 | 53 | 24 | 18 | e18 | 21 | 121 | 156 | 97 | 55 | 19 | 16 | 18 |
| 25 | 38 | 21 | 17 | 20 | 21 | 151 | 146 | 83 | 51 | 18 | 15 | 29 |
| 26 | 30 | 13 | 17 | 19 | 22 | 143 | 152 | 78 | 48 | 18 | 15 | 29 |
| 27 | 29 | 22 | 18 | 20 | 24 | 136 | 165 | 88 | 43 | 17 | 17 | 34 |
| 28 | 28 | 27 | 17 | e17 | 25 | 127 | 201 | 98 | 35 | 17 | 31 | 35 |
| 29 | 25 | 22 | 17 | 19 | --- | 116 | 184 | 84 | 37 | 17 | 34 | 33 |
| 30 | 24 | 22 | 17 | 18 | --- | 121 | 151 | 87 | 33 | 17 | 30 | 29 |
| 31 | 25 | --- | 17 | 18 | --- | 127 | --- | 123 | --- | 17 | 30 | --- |
| TOTAL | 720 | 661 | 604 | 640 | 557 | 1939 | 5135 | 3549 | 2115 | 842 | 751 | 686 |
| MEAN | 23.2 | 22.0 | 19.5 | 20.6 | 19.9 | 62.5 | 171 | 114 | 70.5 | 27.2 | 24.2 | 22.9 |
| MAX | 53 | 27 | 24 | 32 | 25 | 151 | 251 | 157 | 100 | 60 | 37 | 44 |
| MIN | 17 | 13 | 17 | 15 | 16 | 25 | 136 | 78 | 33 | 17 | 15 | 12 |
| AC-FT | 1430 | 1310 | 1200 | 1270 | 1100 | 3850 | 10190 | 7040 | 4200 | 1670 | 1490 | 1360 |

CAL YR 1989 TOTAL 32756 MEAN 89.7 MAX 457 MIN 10 AC-FT 64970
WTR YR 1990 TOTAL 18199 MEAN 49.9 MAX 251 MIN 12 AC-FT 36100

e Estimated.

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 mi².

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.--Records good April to July and fair the remainder of the year. Two small dams may cause slight regulation at times. Some small diversions for domestic use upstream from station. Echo Lake conduit (station 11434500) diverts from Echo Lake, capacity 1,900 acre-ft, to South Fork American River basin. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--13 years (water years 1972-74, 1981-90), 103 ft³/s, 74,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,740 ft³/s, Mar. 8, 1986, gage height, 9.08 ft; maximum gage height, 10.12 ft, present datum, Feb. 16, 1982; minimum daily, 0.94 ft³/s, Oct. 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 16 | 0200 | *236 | *4.26 | | | | |

Minimum daily, 2.8 ft³/s, Sept. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 9.9 | 17 | 24 | e13 | e20 | e22 | 89 | 115 | 135 | 25 | 6.7 | 4.1 |
| 2 | 9.6 | 17 | 24 | 13 | e20 | e23 | 100 | 106 | 151 | 26 | 6.5 | 3.2 |
| 3 | 11 | 17 | 24 | 12 | 21 | e24 | 108 | 124 | 166 | e25 | 6.2 | 3.0 |
| 4 | 11 | 17 | 24 | 14 | e21 | e25 | 124 | 153 | 155 | 24 | 6.3 | 3.1 |
| 5 | 11 | 18 | 24 | 14 | e21 | e27 | 132 | 169 | 140 | 23 | 5.8 | 3.3 |
| 6 | 12 | 17 | 24 | 14 | e21 | 29 | 144 | 188 | 128 | 22 | 5.9 | 3.6 |
| 7 | 13 | 16 | 23 | 21 | e22 | 31 | 140 | 180 | 119 | 21 | 5.9 | 3.8 |
| 8 | 15 | 15 | 23 | 54 | e22 | 34 | 129 | 159 | 120 | 18 | 5.8 | 3.4 |
| 9 | 19 | 15 | 23 | 47 | e22 | 36 | 106 | 151 | 117 | 17 | 7.5 | 3.5 |
| 10 | 16 | 15 | 23 | 33 | 22 | 35 | 105 | 157 | 126 | 15 | 9.3 | 3.5 |
| 11 | 18 | 16 | 20 | 31 | 21 | e34 | 129 | 136 | 131 | 16 | 7.5 | 3.3 |
| 12 | 18 | 16 | 21 | 29 | 20 | e33 | 136 | 128 | 106 | 15 | 6.7 | 3.6 |
| 13 | 18 | 16 | 21 | e28 | 19 | 31 | 157 | 132 | 80 | 14 | 6.5 | 3.1 |
| 14 | 19 | 16 | 20 | e28 | 19 | 26 | 176 | 147 | 73 | 14 | 5.5 | 3.4 |
| 15 | 19 | 16 | 20 | e27 | 17 | 27 | 179 | 148 | 72 | 14 | 5.0 | 3.4 |
| 16 | 20 | 15 | 19 | e27 | e17 | 30 | 195 | 137 | 82 | 16 | 4.6 | 2.8 |
| 17 | 20 | 15 | 18 | e26 | e18 | 35 | 158 | 137 | 78 | 15 | 4.4 | 3.3 |
| 18 | 21 | 15 | 19 | e26 | e19 | 45 | 128 | 120 | 73 | 15 | 4.2 | 3.5 |
| 19 | 21 | 15 | 18 | 25 | e19 | 61 | 127 | 115 | 68 | 14 | 4.5 | 4.5 |
| 20 | 22 | 16 | 17 | 25 | e19 | e78 | 129 | 108 | 66 | 13 | 5.7 | 3.9 |
| 21 | 22 | 16 | 17 | 23 | e19 | 87 | 139 | 91 | 53 | 13 | 7.2 | 3.9 |
| 22 | 27 | 17 | 16 | 22 | e20 | 96 | 123 | 86 | 55 | 12 | 7.1 | 4.0 |
| 23 | 38 | 17 | 17 | 22 | e20 | 104 | 174 | 98 | 53 | 11 | 6.3 | 4.9 |
| 24 | 60 | e19 | 18 | 21 | e20 | 108 | 154 | 104 | 48 | 11 | 5.3 | 6.0 |
| 25 | 32 | e20 | 17 | 21 | e20 | 110 | 125 | 99 | 45 | 10 | 4.7 | 6.1 |
| 26 | 25 | e21 | 17 | 21 | e20 | 109 | 134 | 108 | 40 | 10 | 4.7 | 6.1 |
| 27 | 23 | e22 | 17 | 20 | e21 | 102 | 153 | 137 | 35 | 9.3 | 4.9 | 6.5 |
| 28 | 21 | 22 | 16 | 19 | e21 | 96 | 194 | 139 | 30 | 8.3 | 4.5 | 5.9 |
| 29 | 19 | 26 | 15 | 19 | --- | 90 | 192 | 118 | 31 | 8.0 | 4.0 | 5.5 |
| 30 | 18 | 26 | e15 | e19 | --- | 84 | 139 | 115 | 26 | 7.4 | 4.1 | 5.4 |
| 31 | 17 | --- | e14 | e19 | --- | 84 | --- | 156 | --- | 7.0 | 4.1 | --- |
| TOTAL | 625.5 | 526 | 608 | 733 | 561 | 1756 | 4218 | 4061 | 2602 | 469.0 | 177.4 | 123.6 |
| MEAN | 20.2 | 17.5 | 19.6 | 23.6 | 20.0 | 56.6 | 141 | 131 | 86.7 | 15.1 | 5.72 | 4.12 |
| MAX | 60 | 26 | 24 | 54 | 22 | 110 | 195 | 188 | 166 | 26 | 9.3 | 6.5 |
| MIN | 9.6 | 15 | 14 | 12 | 17 | 22 | 89 | 86 | 26 | 7.0 | 4.0 | 2.8 |
| AC-FT | 1240 | 1040 | 1210 | 1450 | 1110 | 3480 | 8370 | 8050 | 5160 | 930 | 352 | 245 |

CAL YR 1989 TOTAL 32783.9 MEAN 89.8 MAX 516 MIN 4.8 AC-FT 65030
WTR YR 1990 TOTAL 16460.5 MEAN 45.1 MAX 195 MIN 2.8 AC-FT 32650

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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 during 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, several days during most years.

SEDIMENT LOAD: Maximum daily, 781 tons, Mar. 8, 1986; minimum daily, 0 ton, several days during most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 34 mg/L, Jan. 8; minimum daily mean, 2 mg/L, many days.

SEDIMENT LOAD: Maximum daily, 16 tons, Apr. 16 (estimated); minimum daily, 0.02 ton, Sept. 6-8.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) | SED- MENT, DIS- CHARGE, SUS- PENDE (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 |
|-------|------|--|--------------------------------------|--|--|---|---|---|---|
| JAN | | | | | | | | | |
| 08... | 1120 | 55 | 1.0 | 35 | 5.1 | 86 | 96 | 99 | 100 |
| 08... | 1250 | 54 | 1.0 | 49 | 7.3 | 80 | -- | -- | -- |

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | NUMBER OF SAM- PLING POINTS (COUNT) | DIS- CHARGE, INST. CUBIC FEET PER SECOND | 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 | 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 |
|-------|------|--|--|---|---|---|---|---|---|---|---|---|
| AUG | | | | | | | | | | | | |
| 21... | 1130 | 3 | 7.0 | 1 | 2 | 6 | 19 | 45 | 76 | 91 | 98 | 100 |

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | --- | --- | --- | --- | --- | .0 | --- | --- | --- | 15.5 | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | 11.0 | --- | --- | --- | 24.0 |
| 3 | 9.0 | --- | --- | 1.0 | --- | --- | --- | 11.0 | 8.5 | --- | 20.5 | --- |
| 4 | --- | --- | --- | .0 | .0 | --- | 7.0 | 11.0 | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | 4.0 | 10.0 | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 20.0 |
| 7 | --- | --- | .5 | 1.0 | --- | --- | 2.5 | --- | 15.5 | --- | --- | --- |
| 8 | --- | 4.0 | 1.0 | 1.0 | --- | 6.5 | --- | --- | --- | 22.0 | 19.0 | --- |
| 9 | 14.5 | --- | --- | --- | .5 | --- | 9.5 | 5.5 | --- | 22.0 | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | 11.0 | 10.0 | --- | --- | --- |
| 11 | 10.0 | --- | --- | --- | --- | --- | 8.0 | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | 6.0 | --- | --- | 17.5 | --- |
| 13 | --- | --- | --- | --- | --- | .5 | --- | --- | --- | --- | --- | 21.5 |
| 14 | --- | --- | .5 | --- | --- | --- | --- | --- | 10.0 | --- | --- | --- |
| 15 | --- | --- | --- | --- | .0 | 6.5 | 4.0 | --- | --- | 21.0 | 19.5 | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | 7.5 | --- | --- | --- | --- |
| 17 | --- | 2.5 | --- | --- | --- | --- | 5.0 | --- | 9.0 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | 3.0 | 6.0 | --- | --- | --- | --- | 17.0 |
| 19 | --- | --- | --- | .0 | --- | --- | --- | 6.0 | --- | --- | --- | --- |
| 20 | 9.0 | --- | --- | .0 | --- | 5.0 | --- | --- | --- | 22.5 | --- | --- |
| 21 | --- | --- | --- | --- | .0 | 6.5 | --- | --- | --- | --- | 14.0 | --- |
| 22 | --- | --- | .5 | --- | --- | --- | 9.0 | --- | --- | 19.0 | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | 5.5 | --- | --- | --- | --- | --- | 8.0 | --- | 16.0 | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | 5.0 | --- | --- | 13.0 | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 13.5 |
| 27 | --- | --- | --- | --- | --- | --- | 12.0 | 9.0 | --- | --- | 13.0 | --- |
| 28 | --- | --- | --- | --- | .5 | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | .5 | --- | .5 | --- | 3.0 | --- | 9.0 | --- | --- | --- | 19.0 |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 2.5 | --- | --- | --- | --- | 4.0 | --- | --- | --- | --- | --- | --- |

PYRAMID AND WINNEMUCCA LAKES BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 9.9 | 2 | .05 | 17 | 4 | .18 | 24 | 7 | .45 |
| 2 | 9.6 | 2 | .05 | 17 | 3 | .14 | 24 | 7 | .45 |
| 3 | 11 | 2 | .06 | 17 | 3 | .14 | 24 | 7 | .45 |
| 4 | 11 | 2 | .06 | 17 | 3 | .14 | 24 | 7 | .45 |
| 5 | 11 | 2 | .06 | 18 | 3 | .15 | 24 | 7 | .45 |
| 6 | 12 | 2 | .06 | 17 | 2 | .09 | 24 | 7 | .45 |
| 7 | 13 | 2 | .07 | 16 | 2 | .09 | 23 | 10 | .62 |
| 8 | 15 | 2 | .08 | 15 | 2 | .08 | 23 | 10 | .62 |
| 9 | 19 | 5 | .26 | 15 | 2 | .08 | 23 | 8 | .50 |
| 10 | 16 | 3 | .13 | 15 | 2 | .08 | 23 | 6 | .37 |
| 11 | 18 | 5 | .24 | 16 | 2 | .09 | 20 | 5 | .27 |
| 12 | 18 | 3 | .15 | 16 | 2 | .09 | 21 | 5 | .28 |
| 13 | 18 | 3 | .15 | 16 | 3 | .13 | 21 | 5 | .28 |
| 14 | 19 | 3 | .15 | 16 | 3 | .13 | 20 | 5 | .27 |
| 15 | 19 | 3 | .15 | 16 | 3 | .13 | 20 | 5 | .27 |
| 16 | 20 | 3 | .16 | 15 | 3 | .12 | 19 | 5 | .26 |
| 17 | 20 | 3 | .16 | 15 | 2 | .08 | 18 | 5 | .24 |
| 18 | 21 | 3 | .17 | 15 | 2 | .08 | 19 | 5 | .26 |
| 19 | 21 | 3 | .17 | 15 | 2 | .08 | 18 | 5 | .24 |
| 20 | 22 | 3 | .18 | 16 | 3 | .13 | 17 | 5 | .23 |
| 21 | 22 | 3 | .18 | 16 | 3 | .13 | 17 | 5 | .23 |
| 22 | 27 | 8 | .58 | 17 | 3 | .14 | 16 | 5 | .22 |
| 23 | 38 | 16 | 2.7 | 17 | 4 | .18 | 17 | 5 | .23 |
| 24 | 60 | 21 | 4.0 | e19 | 4 | .21 | 18 | 5 | .24 |
| 25 | 32 | 9 | .78 | e20 | 5 | .27 | 17 | 5 | .23 |
| 26 | 25 | 6 | .40 | e21 | 5 | .28 | 17 | 5 | .23 |
| 27 | 23 | 5 | .31 | e22 | 6 | .36 | 17 | 5 | .23 |
| 28 | 21 | 4 | .23 | 22 | 6 | .36 | 16 | 4 | .17 |
| 29 | 19 | 4 | .21 | 26 | 7 | .49 | 15 | 4 | .16 |
| 30 | 18 | 4 | .19 | 26 | 7 | .49 | e15 | 4 | .16 |
| 31 | 17 | 4 | .18 | --- | --- | --- | e14 | 4 | .15 |
| TOTAL | 625.5 | --- | 12.32 | 526 | --- | 5.14 | 608 | --- | 9.66 |
| JANUARY | | | | FEBRUARY | | | MARCH | | |
| 1 | e13 | 4 | .14 | e20 | 5 | .27 | e22 | 3 | .18 |
| 2 | 13 | 4 | .14 | e20 | 5 | .27 | e23 | 3 | .19 |
| 3 | 12 | 3 | .10 | 21 | 5 | .28 | e24 | 3 | .19 |
| 4 | 14 | 3 | .11 | e21 | 5 | .28 | e25 | 3 | .20 |
| 5 | 14 | 3 | .11 | e21 | 4 | .23 | e27 | 3 | .22 |
| 6 | 14 | 3 | .11 | e21 | 4 | .23 | 29 | 3 | .23 |
| 7 | 21 | 20 | 1.6 | e22 | 4 | .24 | 31 | 5 | .42 |
| 8 | 54 | 34 | 5.0 | e22 | 3 | .18 | 34 | 5 | .46 |
| 9 | 47 | 20 | 2.5 | e22 | 3 | .18 | 36 | 4 | .39 |
| 10 | 33 | 16 | 1.4 | 22 | 3 | .18 | 35 | 3 | .28 |
| 11 | 31 | 10 | .84 | 21 | 3 | .17 | e34 | 3 | .28 |
| 12 | 29 | 5 | .39 | 20 | 3 | .16 | e33 | 3 | .27 |
| 13 | e28 | 5 | .38 | 19 | 3 | .15 | 31 | 11 | 1.2 |
| 14 | e28 | 5 | .38 | 19 | 3 | .15 | 26 | 5 | .35 |
| 15 | e27 | 5 | .36 | 17 | 2 | .09 | 27 | 6 | .44 |
| 16 | e27 | 5 | .36 | e17 | 2 | .09 | 30 | 6 | .49 |
| 17 | e26 | 5 | .35 | e18 | 2 | .10 | 35 | 9 | .85 |
| 18 | e26 | 5 | .35 | e19 | 2 | .10 | 45 | 12 | 1.5 |
| 19 | 25 | 5 | .34 | e19 | 2 | .10 | 61 | 15 | e.90 |
| 20 | 25 | 5 | .34 | e19 | 2 | .10 | e78 | --- | e1.6 |
| 21 | 23 | 5 | .31 | e19 | 2 | .10 | 87 | --- | e2.1 |
| 22 | 22 | 5 | .30 | e20 | 2 | .11 | 96 | --- | e2.7 |
| 23 | 22 | 5 | .30 | e20 | 2 | .11 | 104 | --- | e3.3 |
| 24 | 21 | 5 | .28 | e20 | 3 | .16 | 108 | --- | e3.6 |
| 25 | 21 | 5 | .28 | e20 | 3 | .16 | 110 | --- | e3.8 |
| 26 | 21 | 5 | .28 | e20 | 3 | .16 | 109 | --- | e3.7 |
| 27 | 20 | 5 | .27 | e21 | 4 | .23 | 102 | --- | e3.2 |
| 28 | 19 | 5 | .26 | e21 | 5 | .28 | 96 | --- | e2.7 |
| 29 | 19 | 5 | .26 | --- | --- | --- | 90 | --- | e2.3 |
| 30 | e19 | 5 | .26 | --- | --- | --- | 84 | --- | e2.0 |
| 31 | e19 | 5 | .26 | --- | --- | --- | 84 | --- | e2.0 |
| TOTAL | 733 | --- | 18.36 | 561 | --- | 4.86 | 1756 | --- | 42.04 |

e, Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 89 | --- | e2.3 | 115 | --- | e2.6 | 135 | --- | e3.8 |
| 2 | 100 | --- | e3.0 | 106 | --- | e2.1 | 151 | --- | e5.0 |
| 3 | 108 | --- | e3.6 | 124 | --- | e3.1 | 166 | --- | e6.3 |
| 4 | 124 | --- | e5.1 | 153 | 15 | 6.7 | 155 | --- | e5.3 |
| 5 | 132 | --- | e6.0 | 169 | 18 | 8.7 | 140 | --- | e4.2 |
| 6 | 144 | --- | e7.4 | 188 | 17 | 9.5 | 128 | --- | e3.3 |
| 7 | 140 | --- | e6.9 | 180 | 18 | 9.8 | 119 | --- | e2.8 |
| 8 | 129 | --- | e5.6 | 159 | --- | e5.7 | 120 | --- | e2.8 |
| 9 | 106 | --- | e3.5 | 151 | --- | e5.0 | 117 | --- | e2.7 |
| 10 | 105 | --- | e3.4 | 157 | --- | e5.5 | 126 | --- | e3.2 |
| 11 | 129 | --- | e5.6 | 136 | --- | e3.9 | 131 | --- | e3.5 |
| 12 | 136 | --- | e6.4 | 128 | --- | e3.3 | 106 | --- | e2.1 |
| 13 | 157 | --- | e9.2 | 132 | --- | e3.6 | 80 | --- | e1.1 |
| 14 | 176 | --- | e12 | 147 | --- | e4.7 | 73 | --- | e2.1 |
| 15 | 179 | --- | e13 | 148 | --- | e4.8 | 72 | 5 | .97 |
| 16 | 195 | --- | e16 | 137 | --- | e3.9 | 82 | 10 | 2.2 |
| 17 | 158 | --- | e9.3 | 137 | --- | e3.9 | 78 | 6 | 1.3 |
| 18 | 128 | --- | e5.5 | 120 | --- | e2.8 | 73 | 6 | 1.2 |
| 19 | 127 | --- | e5.4 | 115 | --- | e2.6 | 68 | 6 | 1.1 |
| 20 | 129 | --- | e5.6 | 108 | --- | e2.2 | 66 | 6 | 1.1 |
| 21 | 139 | --- | e6.8 | 91 | --- | e1.4 | 53 | 6 | .86 |
| 22 | 123 | --- | e5.0 | 86 | --- | e1.3 | 55 | 6 | .89 |
| 23 | 174 | --- | e12 | 98 | --- | e1.7 | 53 | 6 | .86 |
| 24 | 154 | --- | e8.7 | 104 | --- | e2.0 | 48 | 6 | .78 |
| 25 | 125 | --- | e5.2 | 99 | --- | e1.8 | 45 | 6 | .73 |
| 26 | 134 | --- | e6.2 | 108 | --- | e2.2 | 40 | 6 | .65 |
| 27 | 153 | --- | e8.6 | 137 | --- | e3.9 | 35 | 6 | .57 |
| 28 | 194 | --- | e15 | 139 | --- | e4.1 | 30 | 5 | .40 |
| 29 | 192 | --- | e15 | 118 | --- | e2.7 | 31 | 4 | .33 |
| 30 | 139 | --- | e6.8 | 115 | --- | e2.6 | 26 | 3 | .21 |
| 31 | --- | --- | --- | 156 | --- | e5.4 | --- | --- | --- |
| TOTAL | 4218 | --- | 224.1 | 4061 | --- | 123.5 | 2602 | --- | 62.35 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 25 | 2 | .13 | 6.7 | 4 | .07 | 4.1 | 6 | .07 |
| 2 | 26 | 2 | .14 | 6.5 | 6 | .11 | 3.2 | 6 | .05 |
| 3 | e25 | 3 | .20 | 6.2 | 8 | .13 | 3.0 | 5 | .04 |
| 4 | 24 | 3 | .19 | 6.3 | 6 | .10 | 3.1 | 4 | .03 |
| 5 | 23 | 3 | .19 | 5.8 | 6 | .09 | 3.3 | 3 | .03 |
| 6 | 22 | 4 | .24 | 5.9 | 6 | .10 | 3.6 | 2 | .02 |
| 7 | 21 | 4 | .23 | 5.9 | 6 | .10 | 3.8 | 2 | .02 |
| 8 | 18 | 5 | .24 | 5.8 | 6 | .09 | 3.4 | 2 | .02 |
| 9 | 17 | 6 | .28 | 7.5 | 6 | .12 | 3.5 | 3 | .03 |
| 10 | 15 | 5 | .20 | 9.3 | 6 | .15 | 3.5 | 3 | .03 |
| 11 | 16 | 5 | .22 | 7.5 | 6 | .12 | 3.3 | 3 | .03 |
| 12 | 15 | 5 | .20 | 6.7 | 6 | .11 | 3.6 | 4 | .04 |
| 13 | 14 | 5 | .19 | 6.5 | 5 | .09 | 3.1 | 3 | .03 |
| 14 | 14 | 5 | .19 | 5.5 | 5 | .07 | 3.4 | 3 | .03 |
| 15 | 14 | 6 | .23 | 5.0 | 4 | .05 | 3.4 | 4 | .04 |
| 16 | 16 | 7 | .30 | 4.6 | 4 | .05 | 2.8 | 4 | .03 |
| 17 | 15 | 5 | .20 | 4.4 | 4 | .05 | 3.3 | 3 | .03 |
| 18 | 15 | 6 | .24 | 4.2 | 4 | .05 | 3.5 | 3 | .03 |
| 19 | 14 | 5 | .19 | 4.5 | 6 | .07 | 4.5 | 3 | .04 |
| 20 | 13 | 5 | .18 | 5.7 | 8 | .12 | 3.9 | 3 | .03 |
| 21 | 13 | 4 | .14 | 7.2 | 13 | .25 | 3.9 | 3 | .03 |
| 22 | 12 | 4 | .13 | 7.1 | 8 | .15 | 4.0 | 3 | .03 |
| 23 | 11 | 4 | .12 | 6.3 | 6 | .10 | 4.9 | 3 | .04 |
| 24 | 11 | 4 | .12 | 5.3 | 6 | .09 | 6.0 | 2 | .03 |
| 25 | 10 | 4 | .11 | 4.7 | 6 | .08 | 6.1 | 2 | .03 |
| 26 | 10 | 4 | .11 | 4.7 | 6 | .08 | 6.1 | 2 | .03 |
| 27 | 9.3 | 4 | .10 | 4.9 | 6 | .08 | 6.5 | 2 | .04 |
| 28 | 8.3 | 4 | .09 | 4.5 | 6 | .07 | 5.9 | 2 | .03 |
| 29 | 8.0 | 4 | .09 | 4.0 | 6 | .06 | 5.5 | 2 | .03 |
| 30 | 7.4 | 4 | .08 | 4.1 | 6 | .07 | 5.4 | 2 | .03 |
| 31 | 7.0 | 4 | .08 | 4.1 | 6 | .07 | --- | --- | --- |
| TOTAL | 469.0 | --- | 5.35 | 177.4 | --- | 2.94 | 123.6 | --- | 0.99 |

YEAR 16460.5
e Estimated.

511.61

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 mi².

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 except discharges less than 2 ft³/s, which are poor. Flow regulated by Fallen Leaf Lake (station 10336625). See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (unadjusted).--22 years, 44.7 ft³/s, 32,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,530 ft³/s, Jan. 14, 1980, gage height, 6.33 ft; minimum daily, 0.13 ft³/s, Sept. 12, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 197 ft³/s, May 30, gage height, 4.29 ft; minimum daily, 0.46 ft³/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|-------|------|------|------|------|--------|-------|-------|-------|
| 1 | 6.1 | 8.1 | 29 | 9.6 | 21 | 34 | 12 | 67 | 142 | 5.6 | 6.2 | 1.1 |
| 2 | 5.6 | 7.9 | 27 | 9.4 | 20 | 34 | 12 | 55 | 96 | 5.2 | 5.5 | .82 |
| 3 | 5.4 | 7.9 | 27 | 9.2 | 20 | 35 | 12 | 55 | 96 | 4.8 | 4.4 | .62 |
| 4 | 5.2 | 7.9 | 26 | 9.2 | 22 | 34 | 12 | 57 | 77 | 4.6 | 4.3 | .46 |
| 5 | 5.1 | 8.1 | 25 | 9.2 | 21 | 34 | 11 | 60 | 67 | 4.4 | 4.0 | 2.3 |
| 6 | 10 | 8.0 | 25 | 11 | 21 | 33 | 13 | 64 | 67 | 4.4 | 3.8 | 2.7 |
| 7 | 12 | 8.0 | 24 | 12 | 20 | 32 | 14 | 54 | 55 | 3.6 | 3.6 | 2.3 |
| 8 | 10 | 12 | 24 | 13 | 19 | 31 | 14 | 46 | 38 | 3.0 | 3.3 | 2.9 |
| 9 | 10 | 14 | 23 | 14 | 19 | 30 | 15 | 47 | 30 | 2.7 | 3.1 | 3.3 |
| 10 | 9.9 | 14 | 22 | 14 | 21 | 30 | 15 | 51 | 30 | 4.1 | 2.9 | 2.8 |
| 11 | 9.7 | 14 | 22 | 37 | 23 | 31 | 14 | 52 | 30 | 5.3 | 3.3 | 2.3 |
| 12 | 10 | 14 | 22 | 49 | 22 | 31 | 16 | 53 | 30 | 5.1 | 3.9 | 3.2 |
| 13 | 10 | 13 | 21 | 48 | 20 | 30 | 19 | 52 | 22 | 4.6 | 3.4 | 3.9 |
| 14 | 10 | 13 | 21 | 49 | 19 | 29 | 21 | 52 | 18 | 4.6 | 3.1 | 3.7 |
| 15 | 9.5 | 13 | 21 | 46 | 18 | 29 | 21 | 51 | 18 | 4.2 | 2.9 | 3.6 |
| 16 | 8.9 | 13 | 20 | 44 | 21 | 28 | 46 | 49 | 18 | 3.7 | 2.5 | 3.3 |
| 17 | 8.9 | 13 | 20 | 41 | 26 | 24 | 77 | 49 | 17 | 3.2 | 2.2 | 2.8 |
| 18 | 8.7 | 13 | 19 | 38 | 27 | 20 | 80 | 48 | 17 | 6.2 | 2.1 | 1.9 |
| 19 | 8.2 | 13 | 18 | 35 | 26 | 20 | 83 | 47 | 17 | 8.2 | 1.8 | 1.6 |
| 20 | 8.1 | 13 | 18 | 33 | 24 | 20 | 92 | 47 | 15 | 7.9 | 1.6 | 1.5 |
| 21 | 7.8 | 13 | 17 | 31 | 23 | 16 | 119 | 41 | 14 | 7.9 | 1.4 | 3.4 |
| 22 | 7.6 | 16 | 17 | 29 | 22 | 12 | 127 | 40 | 13 | 7.9 | 2.3 | 4.8 |
| 23 | 7.6 | 18 | 17 | 27 | 21 | 12 | 127 | 43 | 13 | 7.9 | 1.9 | 4.3 |
| 24 | 8.2 | 18 | 17 | 25 | 29 | 12 | 124 | 46 | 13 | 7.9 | 1.3 | 4.2 |
| 25 | 8.6 | 19 | 17 | 24 | 39 | 13 | 118 | 42 | 11 | 8.1 | 1.2 | 4.0 |
| 26 | 9.0 | 24 | 17 | 22 | 37 | 13 | 99 | 42 | 8.9 | 7.8 | 1.1 | 3.8 |
| 27 | 8.9 | 24 | 16 | 21 | 35 | 13 | 81 | 43 | 8.9 | 7.7 | 1.0 | 3.8 |
| 28 | 8.5 | 23 | 14 | 20 | 35 | 12 | 83 | 48 | 8.5 | 7.6 | .80 | 3.6 |
| 29 | 8.0 | 22 | 14 | 20 | --- | 12 | 87 | 54 | 8.1 | 7.4 | 1.9 | 3.6 |
| 30 | 8.2 | 25 | 14 | 20 | --- | 12 | 89 | 112 | 6.4 | 7.1 | 2.7 | 2.8 |
| 31 | 8.2 | --- | 12 | 21 | --- | 12 | --- | 186 | --- | 6.6 | 1.4 | --- |
| TOTAL | 261.9 | 429.9 | 626 | 790.6 | 671 | 728 | 1653 | 1753 | 1004.8 | 179.3 | 84.90 | 85.40 |
| MEAN | 8.45 | 14.3 | 20.2 | 25.5 | 24.0 | 23.5 | 55.1 | 56.5 | 33.5 | 5.78 | 2.74 | 2.85 |
| MAX | 12 | 25 | 29 | 49 | 39 | 35 | 127 | 186 | 142 | 8.2 | 6.2 | 4.8 |
| MIN | 5.1 | 7.9 | 12 | 9.2 | 18 | 12 | 11 | 40 | 6.4 | 2.7 | .80 | .46 |
| AC-FT | 519 | 853 | 1240 | 1570 | 1330 | 1440 | 3280 | 3480 | 1990 | 356 | 168 | 169 |

CAL YR 1989 TOTAL 15937.81 MEAN 43.7 MAX 258 MIN .13 AC-FT 31610
WTR YR 1990 TOTAL 8267.80 MEAN 22.7 MAX 186 MIN .46 AC-FT 16400

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 mi².

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.--Records good except winter months which are poor. No known diversion or regulation upstream from station. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--10 years, 17.4 ft³/s, 12,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft³/s, Dec. 20, 1981, gage height, 5.43 ft, from rating curve extended above 180 ft³/s on basis of computation of flow through culvert; minimum daily, 0.48 ft³/s, Aug. 26, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 15 | 2245 | *87 | *1.94 | | | | |

Minimum daily, 0.51 ft³/s, Sept. 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|-------|------|-------|------|------|-------|-------|-------|-------|
| 1 | .82 | 1.6 | 2.4 | e2.6 | e3.7 | e4.6 | 24 | 27 | 32 | 2.0 | .69 | .66 |
| 2 | .99 | 1.6 | 2.4 | e2.7 | e3.6 | e4.9 | 28 | 26 | 46 | 2.2 | .68 | .61 |
| 3 | 1.3 | 1.7 | 2.4 | 2.8 | e3.6 | e5.2 | 32 | 35 | 42 | 2.3 | .69 | .59 |
| 4 | 1.2 | 1.7 | 2.4 | e2.9 | e3.6 | e5.5 | 38 | 44 | 30 | 1.9 | .77 | .59 |
| 5 | 1.0 | 2.0 | 2.6 | e3.3 | e3.5 | e5.8 | 40 | 42 | 22 | 1.9 | .78 | .58 |
| 6 | .98 | 2.4 | e2.6 | e3.6 | e3.6 | e6.0 | 42 | 39 | 18 | 1.7 | .80 | .58 |
| 7 | .98 | 2.3 | e2.6 | e4.0 | e3.6 | e6.0 | 41 | 33 | 16 | 1.6 | .78 | .59 |
| 8 | .98 | 1.9 | e2.7 | e10 | e3.6 | e6.0 | 36 | 27 | 13 | 1.4 | 1.1 | .60 |
| 9 | .98 | 1.7 | e2.6 | e8.5 | e3.6 | e6.1 | 30 | 24 | 11 | 1.3 | 1.3 | .58 |
| 10 | .98 | 1.5 | e2.6 | e6.8 | e3.6 | e6.8 | 33 | 28 | 10 | 1.2 | 1.0 | .55 |
| 11 | .98 | 1.5 | e2.6 | e6.0 | e3.6 | e7.2 | 45 | 25 | 8.9 | 1.3 | .96 | .54 |
| 12 | .96 | 1.7 | e2.5 | e5.7 | e3.6 | e7.1 | 48 | 22 | 8.0 | 1.2 | .87 | .56 |
| 13 | .95 | 1.9 | 2.4 | e5.4 | e3.7 | e6.8 | 57 | 20 | 7.4 | 1.1 | .84 | .55 |
| 14 | .96 | 1.9 | 2.2 | e5.1 | e3.6 | 6.5 | 63 | 18 | 10 | 1.0 | .80 | .54 |
| 15 | .98 | 1.8 | 2.2 | e5.0 | e3.5 | 6.5 | 65 | 17 | 10 | 1.0 | .76 | .52 |
| 16 | .98 | 1.7 | 2.2 | e4.7 | e3.5 | 6.8 | 62 | 15 | 12 | 1.1 | .77 | .52 |
| 17 | .95 | 1.6 | e2.2 | e4.5 | e3.4 | 7.5 | 42 | 14 | 9.4 | .99 | .82 | .55 |
| 18 | .92 | 1.6 | 2.2 | e4.3 | e3.4 | 9.7 | 41 | 13 | 7.7 | .96 | .86 | .57 |
| 19 | .88 | 1.5 | e2.2 | e4.2 | e3.3 | 12 | 51 | 12 | 7.4 | .94 | 1.1 | .59 |
| 20 | .88 | 1.5 | e2.2 | e4.0 | e3.2 | 16 | 49 | 13 | 6.2 | .88 | 1.3 | .54 |
| 21 | 1.1 | 1.5 | e2.2 | e3.9 | e3.2 | 17 | 52 | 15 | 5.7 | .80 | 1.1 | .51 |
| 22 | 1.4 | 1.5 | e2.3 | e3.8 | e3.2 | 19 | 39 | 12 | 4.9 | .76 | .99 | .51 |
| 23 | 2.7 | 1.3 | e2.3 | e3.7 | e3.2 | 20 | 46 | 15 | 4.4 | .71 | .92 | .63 |
| 24 | 2.8 | e1.5 | e2.3 | e3.6 | e3.3 | 22 | 38 | 20 | 4.0 | .68 | .85 | .82 |
| 25 | 2.6 | e2.6 | e2.3 | e3.6 | e3.5 | 23 | 35 | 19 | 3.6 | .71 | .75 | .87 |
| 26 | 2.1 | e3.7 | e2.3 | e3.6 | e3.7 | 25 | 44 | 19 | 3.5 | .77 | .77 | .98 |
| 27 | 2.0 | 2.8 | e2.4 | e3.6 | e4.0 | 24 | 55 | 29 | 3.1 | .76 | .71 | 1.0 |
| 28 | 2.1 | 2.6 | e2.4 | e3.5 | e4.4 | 22 | 64 | 29 | 2.8 | .73 | .66 | .83 |
| 29 | 1.8 | 2.5 | e2.5 | e3.5 | --- | 21 | 47 | 22 | 2.5 | .71 | .62 | .71 |
| 30 | 1.7 | 2.5 | e2.5 | e3.5 | --- | 20 | 32 | 26 | 2.3 | .71 | .63 | .67 |
| 31 | 1.6 | --- | e2.6 | e3.6 | --- | 20 | --- | 36 | --- | .70 | .66 | --- |
| TOTAL | 41.55 | 57.6 | 74.3 | 136.0 | 99.3 | 376.0 | 1319 | 736 | 363.8 | 36.01 | 26.33 | 18.94 |
| MEAN | 1.34 | 1.92 | 2.40 | 4.39 | 3.55 | 12.1 | 44.0 | 23.7 | 12.1 | 1.16 | .85 | .63 |
| MAX | 2.8 | 3.7 | 2.7 | 10 | 4.4 | 25 | 65 | 44 | 46 | 2.3 | 1.3 | 1.0 |
| MIN | .82 | 1.3 | 2.2 | 2.6 | 3.2 | 4.6 | 24 | 12 | 2.3 | .68 | .62 | .51 |
| AC-FT | 82 | 114 | 147 | 270 | 197 | 746 | 2620 | 1460 | 722 | 71 | 52 | 38 |

CAL YR 1989 TOTAL 5824.07 MEAN 16.2 MAX 127 MIN .53 AC-FT 11750
WTR YR 1990 TOTAL 3284.83 MEAN 9.00 MAX 65 MIN .51 AC-FT 6520

e Estimated.

WATER-QUALITY RECORDS

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to current year.

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

SEDIMENT LOAD: Maximum daily, 457 tons, Dec. 20, 1981; minimum daily, 0 ton, many days during most years.

SEDIMENT LOAD: Maximum daily, 1.4 tons, Apr. 13, 14; minimum daily, 0 ton, many days.

[illegible]

PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MEAN DISCHARGE (CFS) | MEAN CONCENTRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCENTRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) | MEAN DISCHARGE (CFS) | MEAN CONCENTRATION (MG/L) | SEDIMENT DISCHARGE (TONS/DAY) |
|---------|----------------------------|---------------------------------|-------------------------------------|----------------------------|---------------------------------|-------------------------------------|----------------------------|---------------------------------|-------------------------------------|
| OCTOBER | | | NOVEMBER | | | DECEMBER | | | |
| 1 | .82 | 1 | .00 | 1.6 | 1 | .00 | 2.4 | 2 | .01 |
| 2 | .99 | 1 | .00 | 1.6 | 1 | .00 | 2.4 | 2 | .01 |
| 3 | 1.3 | 1 | .00 | 1.7 | 1 | .00 | 2.4 | 2 | .01 |
| 4 | 1.2 | 1 | .00 | 1.7 | 1 | .00 | 2.4 | 2 | .01 |
| 5 | 1.0 | 2 | .01 | 2.0 | 1 | .01 | 2.6 | 2 | .01 |
| 6 | .98 | 2 | .01 | 2.4 | 2 | .01 | e2.6 | 2 | .01 |
| 7 | .98 | 2 | .01 | 2.3 | 2 | .01 | e2.6 | 2 | .01 |
| 8 | .98 | 2 | .01 | 1.9 | 2 | .01 | e2.7 | 2 | .01 |
| 9 | .98 | 3 | .01 | 1.7 | 2 | .01 | e2.6 | 2 | .01 |
| 10 | .98 | 3 | .01 | 1.5 | 2 | .01 | e2.6 | 2 | .01 |
| 11 | .98 | 3 | .01 | 1.5 | 2 | .01 | e2.6 | 2 | .01 |
| 12 | .96 | 3 | .01 | 1.7 | 2 | .01 | e2.5 | 2 | .01 |
| 13 | .95 | 3 | .01 | 1.9 | 2 | .01 | 2.4 | 1 | .01 |
| 14 | .96 | 3 | .01 | 1.9 | 2 | .01 | 2.2 | 0 | .00 |
| 15 | .98 | 3 | .01 | 1.8 | 2 | .01 | 2.2 | 0 | .00 |
| 16 | .98 | 3 | .01 | 1.7 | 2 | .01 | 2.2 | 0 | .00 |
| 17 | .95 | 3 | .01 | 1.6 | 2 | .01 | e2.2 | 0 | .00 |
| 18 | .92 | 3 | .01 | 1.6 | 2 | .01 | 2.2 | 0 | .00 |
| 19 | .88 | 3 | .01 | 1.5 | 2 | .01 | e2.2 | 0 | .00 |
| 20 | .88 | 3 | .01 | 1.5 | 2 | .01 | e2.2 | 0 | .00 |
| 21 | 1.1 | 3 | .01 | 1.5 | 2 | .01 | e2.2 | 1 | .01 |
| 22 | 1.4 | 3 | .01 | 1.5 | 2 | .01 | e2.3 | 1 | .01 |
| 23 | 2.7 | 6 | .06 | 1.3 | 2 | .01 | e2.3 | 1 | .01 |
| 24 | 2.8 | 5 | .04 | e1.5 | 2 | .01 | e2.3 | 1 | .01 |
| 25 | 2.6 | 4 | .03 | e2.6 | 2 | .01 | e2.3 | 1 | .01 |
| 26 | 2.1 | 3 | .02 | e3.7 | 2 | .02 | e2.3 | 1 | .01 |
| 27 | 2.0 | 3 | .02 | 2.8 | 2 | .02 | e2.4 | 1 | .01 |
| 28 | 2.1 | 2 | .01 | 2.6 | 2 | .01 | e2.4 | 1 | .01 |
| 29 | 1.8 | 2 | .01 | 2.5 | 2 | .01 | e2.5 | 1 | .01 |
| 30 | 1.7 | 2 | .01 | 2.5 | 2 | .01 | e2.5 | 1 | .01 |
| 31 | 1.6 | 1 | .00 | --- | --- | --- | e2.6 | 1 | .01 |
| TOTAL | 41.55 | --- | 0.38 | 57.6 | --- | 0.28 | 74.3 | --- | 0.24 |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | e2.6 | 1 | .01 | e3.7 | 1 | .01 | e4.6 | 1 | .01 |
| 2 | e2.7 | 1 | .01 | e3.6 | 1 | .01 | e4.9 | 1 | .01 |
| 3 | 2.8 | 1 | .01 | e3.6 | 1 | .01 | e5.2 | 2 | .03 |
| 4 | e2.9 | 1 | .01 | e3.6 | 1 | .01 | e5.5 | 2 | .03 |
| 5 | e3.3 | 2 | .02 | e3.5 | 1 | .01 | e5.8 | 2 | .03 |
| 6 | e3.6 | 2 | .02 | e3.6 | 1 | .01 | e6.0 | 3 | .05 |
| 7 | e4.0 | 2 | .02 | e3.6 | 1 | .01 | e6.0 | 3 | .05 |
| 8 | e10 | 4 | .11 | e3.6 | 1 | .01 | e6.0 | 3 | .05 |
| 9 | e8.5 | 2 | .05 | e3.6 | 1 | .01 | e6.1 | 3 | .05 |
| 10 | e6.8 | 1 | .02 | e3.6 | 2 | .02 | e6.8 | 4 | .07 |
| 11 | e6.0 | 1 | .02 | e3.6 | 2 | .02 | e7.2 | 4 | .08 |
| 12 | e5.7 | 1 | .02 | e3.6 | 2 | .02 | e7.1 | 4 | .08 |
| 13 | e5.4 | 1 | .01 | e3.7 | 2 | .02 | e6.8 | 4 | .07 |
| 14 | e5.1 | 1 | .01 | e3.6 | 2 | .02 | 6.5 | 4 | .07 |
| 15 | e5.0 | 1 | .01 | e3.5 | 2 | .02 | 6.5 | 4 | .07 |
| 16 | e4.7 | 1 | .01 | e3.5 | 2 | .02 | 6.8 | 4 | .07 |
| 17 | e4.5 | 1 | .01 | e3.4 | 1 | .01 | 7.5 | 5 | .10 |
| 18 | e4.3 | 2 | .02 | e3.4 | 1 | .01 | 9.7 | 5 | .13 |
| 19 | e4.2 | 2 | .02 | e3.3 | 1 | .01 | 12 | 5 | .16 |
| 20 | e4.0 | 2 | .02 | e3.2 | 1 | .01 | 16 | 5 | .22 |
| 21 | e3.9 | 2 | .02 | e3.2 | 1 | .01 | 17 | 5 | .23 |
| 22 | e3.8 | 2 | .02 | e3.2 | 1 | .01 | 19 | 4 | .21 |
| 23 | e3.7 | 2 | .02 | e3.2 | 1 | .01 | 20 | 4 | .22 |
| 24 | e3.6 | 3 | .03 | e3.3 | 1 | .01 | 22 | 5 | .30 |
| 25 | e3.6 | 3 | .03 | e3.5 | 1 | .01 | 23 | 6 | .37 |
| 26 | e3.6 | 3 | .03 | e3.7 | 1 | .01 | 25 | 5 | .34 |
| 27 | e3.6 | 2 | .02 | e4.0 | 1 | .01 | 24 | 4 | .26 |
| 28 | e3.5 | 2 | .02 | e4.4 | 1 | .01 | 22 | 4 | .24 |
| 29 | e3.5 | 2 | .02 | --- | --- | --- | 21 | 4 | .23 |
| 30 | e3.5 | 2 | .02 | --- | --- | --- | 20 | 3 | .16 |
| 31 | e3.6 | 2 | .02 | --- | --- | --- | 20 | 3 | .16 |
| TOTAL | 136.0 | --- | 0.68 | 99.3 | --- | 0.35 | 376.0 | --- | 4.15 |

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 24 | 2 | .13 | 27 | 3 | .22 | 32 | 4 | .35 |
| 2 | 28 | 3 | .23 | 26 | 3 | .21 | 46 | 5 | .62 |
| 3 | 32 | 4 | .35 | 35 | 3 | .28 | 42 | 4 | .45 |
| 4 | 38 | 5 | .51 | 44 | 3 | .36 | 30 | 2 | .16 |
| 5 | 40 | 5 | .54 | 42 | 3 | .34 | 22 | 2 | .12 |
| 6 | 42 | 4 | .45 | 39 | 3 | .32 | 18 | 2 | .10 |
| 7 | 41 | 4 | .44 | 33 | 2 | .18 | 16 | 1 | .04 |
| 8 | 36 | 4 | .39 | 27 | 2 | .15 | 13 | 1 | .04 |
| 9 | 30 | 3 | .24 | 24 | 3 | .19 | 11 | 1 | .03 |
| 10 | 33 | 5 | .45 | 28 | 4 | .30 | 10 | 1 | .03 |
| 11 | 45 | 6 | .73 | 25 | 3 | .20 | 8.9 | 1 | .02 |
| 12 | 48 | 6 | .78 | 22 | 3 | .18 | 8.0 | 1 | .02 |
| 13 | 57 | 8 | 1.4 | 20 | 3 | .16 | 7.4 | 1 | .02 |
| 14 | 63 | 7 | 1.4 | 18 | 2 | .10 | 10 | 1 | .03 |
| 15 | 65 | 5 | .88 | 17 | 2 | .09 | 10 | 1 | .03 |
| 16 | 62 | 4 | .67 | 15 | 2 | .08 | 12 | 1 | .03 |
| 17 | 42 | 3 | .34 | 14 | 2 | .08 | 9.4 | 1 | .03 |
| 18 | 41 | 4 | .44 | 13 | 2 | .07 | 7.7 | 1 | .02 |
| 19 | 51 | 4 | .55 | 12 | 2 | .06 | 7.4 | 1 | .02 |
| 20 | 49 | 4 | .53 | 13 | 2 | .07 | 6.2 | 1 | .02 |
| 21 | 52 | 4 | .56 | 15 | 2 | .08 | 5.7 | 1 | .02 |
| 22 | 39 | 3 | .32 | 12 | 2 | .06 | 4.9 | 1 | .01 |
| 23 | 46 | 4 | .50 | 15 | 3 | .12 | 4.4 | 1 | .01 |
| 24 | 38 | 4 | .41 | 20 | 2 | .11 | 4.0 | 1 | .01 |
| 25 | 35 | 3 | .28 | 19 | 2 | .10 | 3.6 | 1 | .01 |
| 26 | 44 | 3 | .36 | 19 | 2 | .10 | 3.5 | 1 | .01 |
| 27 | 55 | 4 | .59 | 29 | 4 | .31 | 3.1 | 1 | .01 |
| 28 | 64 | 4 | .69 | 29 | 2 | .16 | 2.8 | 1 | .01 |
| 29 | 47 | 4 | .51 | 22 | 2 | .12 | 2.5 | 1 | .01 |
| 30 | 32 | 3 | .26 | 26 | 5 | .35 | 2.3 | 1 | .01 |
| 31 | --- | --- | --- | 36 | 5 | .49 | --- | --- | --- |
| TOTAL | 1319 | --- | 15.93 | 736 | --- | 5.64 | 363.8 | --- | 2.29 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 2.0 | 1 | .01 | .69 | 2 | .00 | .66 | 2 | .00 |
| 2 | 2.2 | 1 | .01 | .68 | 2 | .00 | .61 | 2 | .00 |
| 3 | 2.3 | 1 | .01 | .69 | 2 | .00 | .59 | 2 | .00 |
| 4 | 1.9 | 1 | .01 | .77 | 2 | .00 | .59 | 2 | .00 |
| 5 | 1.9 | 1 | .01 | .78 | 2 | .00 | .58 | 2 | .00 |
| 6 | 1.7 | 1 | .00 | .80 | 2 | .00 | .58 | 2 | .00 |
| 7 | 1.6 | 1 | .00 | .78 | 2 | .00 | .59 | 2 | .00 |
| 8 | 1.4 | 1 | .00 | 1.1 | 2 | .01 | .60 | 2 | .00 |
| 9 | 1.3 | 1 | .00 | 1.3 | 2 | .01 | .58 | 2 | .00 |
| 10 | 1.2 | 1 | .00 | 1.0 | 2 | .01 | .55 | 2 | .00 |
| 11 | 1.3 | 1 | .00 | .96 | 2 | .01 | .54 | 2 | .00 |
| 12 | 1.2 | 1 | .00 | .87 | 2 | .00 | .56 | 2 | .00 |
| 13 | 1.1 | 1 | .00 | .84 | 2 | .00 | .55 | 2 | .00 |
| 14 | 1.0 | 1 | .00 | .80 | 2 | .00 | .54 | 2 | .00 |
| 15 | 1.0 | 1 | .00 | .76 | 2 | .00 | .52 | 2 | .00 |
| 16 | 1.1 | 1 | .00 | .77 | 2 | .00 | .52 | 2 | .00 |
| 17 | .99 | 1 | .00 | .82 | 1 | .00 | .55 | 2 | .00 |
| 18 | .96 | 1 | .00 | .86 | 1 | .00 | .57 | 2 | .00 |
| 19 | .94 | 1 | .00 | 1.1 | 1 | .00 | .59 | 2 | .00 |
| 20 | .88 | 1 | .00 | 1.3 | 1 | .00 | .54 | 2 | .00 |
| 21 | .80 | 1 | .00 | 1.1 | 1 | .00 | .51 | 2 | .00 |
| 22 | .76 | 1 | .00 | .99 | 1 | .00 | .51 | 2 | .00 |
| 23 | .71 | 1 | .00 | .92 | 1 | .00 | .63 | 2 | .00 |
| 24 | .68 | 1 | .00 | .85 | 1 | .00 | .82 | 2 | .00 |
| 25 | .71 | 1 | .00 | .75 | 1 | .00 | .87 | 2 | .00 |
| 26 | .77 | 2 | .00 | .77 | 2 | .00 | .98 | 2 | .01 |
| 27 | .76 | 2 | .00 | .71 | 2 | .00 | 1.0 | 2 | .01 |
| 28 | .73 | 2 | .00 | .66 | 2 | .00 | .83 | 2 | .00 |
| 29 | .71 | 2 | .00 | .62 | 2 | .00 | .71 | 2 | .00 |
| 30 | .71 | 2 | .00 | .63 | 2 | .00 | .67 | 2 | .00 |
| 31 | .70 | 2 | .00 | .66 | 2 | .00 | --- | --- | --- |
| TOTAL | 36.01 | --- | 0.05 | 26.33 | --- | 0.04 | 18.94 | --- | 0.02 |
| YEAR | 3284.83 | | 30.05 | | | | | | |

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 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,234.59 ft above National Geodetic Vertical Datum of 1929. 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.--Records good except for estimated discharges, which are fair. No known diversion or regulation upstream from station. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--30 years, 37.1 ft³/s, 26,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/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 ft³/s, Sept. 19, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| Feb. 18 | 0400 | ice jam | *2.01 | Apr. 28 | 1845 | *125 | 1.98 |

Minimum daily, 1.7 ft³/s, Sept. 11-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|------|------|
| 1 | 3.5 | 7.2 | e6.0 | 5.5 | e8.8 | e10 | 44 | 65 | 67 | 12 | 2.6 | 1.9 |
| 2 | 4.5 | 7.1 | e6.1 | 5.7 | e8.8 | 11 | 50 | 64 | 78 | 13 | 2.5 | 1.9 |
| 3 | 4.7 | 6.9 | e6.2 | e6.1 | e8.7 | e11 | 56 | 74 | 75 | 11 | 2.5 | 1.8 |
| 4 | 4.7 | 7.0 | 6.4 | e6.4 | e8.7 | e12 | 64 | 83 | 68 | 10 | 2.4 | 1.8 |
| 5 | 4.7 | 8.0 | e6.4 | e7.0 | e8.6 | e12 | 69 | 86 | 63 | 9.7 | 2.5 | 1.8 |
| 6 | 4.5 | 8.0 | e6.5 | e7.7 | e8.5 | 12 | 69 | 89 | 59 | 9.2 | 2.4 | 1.8 |
| 7 | 4.3 | 7.6 | e6.5 | 8.8 | e8.3 | 12 | 69 | 82 | 57 | 8.6 | 2.3 | 1.8 |
| 8 | 4.3 | 6.8 | e6.5 | 31 | e8.0 | 12 | 67 | 74 | 57 | 8.0 | 2.9 | 1.8 |
| 9 | 4.1 | 6.5 | e6.5 | 21 | e7.7 | e12 | 60 | 69 | 55 | 7.5 | 2.8 | 1.8 |
| 10 | 4.1 | 6.4 | e6.5 | 16 | 7.6 | e13 | 64 | 79 | 52 | 7.2 | 2.6 | 1.8 |
| 11 | 3.9 | 6.4 | 6.6 | 14 | 7.8 | e13 | 73 | 70 | 47 | 7.1 | 2.4 | 1.7 |
| 12 | 3.9 | 6.6 | e6.6 | 13 | 7.7 | e13 | 76 | 63 | 42 | 6.5 | 2.3 | 1.7 |
| 13 | 3.9 | 6.7 | 6.6 | e13 | e7.6 | e13 | 87 | 60 | 39 | 5.8 | 2.2 | 1.7 |
| 14 | 3.9 | 6.7 | e6.4 | e12 | e7.4 | 13 | 97 | 57 | 40 | 5.6 | 2.2 | 1.7 |
| 15 | 3.7 | 6.5 | e6.2 | 12 | e7.0 | 13 | 101 | 52 | 36 | 5.3 | 2.9 | 1.8 |
| 16 | 3.8 | 6.2 | 6.0 | 12 | e6.9 | 13 | 99 | 51 | 34 | 4.8 | 3.0 | 1.8 |
| 17 | 3.8 | 5.9 | e5.8 | e11 | e6.7 | 14 | 81 | 51 | 31 | 4.4 | 2.4 | 1.8 |
| 18 | 3.8 | 5.6 | e5.3 | 11 | e6.4 | 18 | 79 | 48 | 30 | 4.0 | 2.0 | 1.9 |
| 19 | 3.8 | 5.5 | e5.3 | e11 | e6.2 | 21 | 89 | 44 | 27 | 4.1 | 2.1 | 1.9 |
| 20 | 3.9 | 5.3 | e5.3 | e10 | e6.0 | 25 | 91 | 45 | 27 | 3.9 | 2.3 | 1.8 |
| 21 | 5.6 | 5.1 | e5.3 | e10 | e6.0 | 29 | 84 | 48 | 26 | 3.7 | 2.3 | 1.8 |
| 22 | 11 | 5.0 | e5.4 | e9.8 | e6.1 | 31 | 74 | 46 | 25 | 3.5 | 2.1 | 1.9 |
| 23 | 25 | 4.9 | e5.4 | e9.4 | e6.3 | 33 | 96 | 57 | 22 | 3.4 | 1.9 | 2.0 |
| 24 | 21 | 6.5 | e5.4 | e8.8 | e7.2 | 37 | 79 | 52 | 20 | 3.1 | 1.9 | 2.2 |
| 25 | 14 | e8.0 | e5.4 | e8.8 | 8.9 | 39 | 72 | 46 | 19 | 3.1 | 1.9 | 2.2 |
| 26 | 11 | e9.5 | e5.4 | e8.8 | 9.2 | 41 | 77 | 56 | 17 | 3.0 | 2.0 | 2.6 |
| 27 | 10 | e7.2 | e5.4 | e8.8 | 9.4 | 41 | 88 | 78 | 15 | 2.8 | 2.0 | 2.1 |
| 28 | 9.1 | e6.6 | e5.4 | e8.8 | 9.7 | 40 | 107 | 71 | 14 | 2.7 | 1.9 | 2.0 |
| 29 | 7.8 | e6.1 | e5.4 | e8.8 | --- | 38 | 92 | 60 | 13 | 2.6 | 1.9 | 2.0 |
| 30 | 7.2 | e5.9 | 5.3 | e8.8 | --- | 38 | 74 | 66 | 12 | 2.5 | 1.9 | 2.0 |
| 31 | 7.3 | --- | e5.5 | e8.8 | --- | 40 | --- | 71 | --- | 2.5 | 1.9 | --- |
| TOTAL | 210.8 | 197.7 | 183.0 | 333.8 | 216.2 | 680 | 2328 | 1957 | 1167 | 180.6 | 71.0 | 56.8 |
| MEAN | 6.80 | 6.59 | 5.90 | 10.8 | 7.72 | 21.9 | 77.6 | 63.1 | 38.9 | 5.83 | 2.29 | 1.89 |
| MAX | 25 | 9.5 | 6.6 | 31 | 9.7 | 41 | 107 | 89 | 78 | 13 | 3.0 | 2.6 |
| MIN | 3.5 | 4.9 | 5.3 | 5.5 | 6.0 | 10 | 44 | 44 | 12 | 2.5 | 1.9 | 1.7 |
| AC-FT | 418 | 392 | 363 | 662 | 429 | 1350 | 4620 | 3880 | 2310 | 358 | 141 | 113 |

CAL YR 1989 TOTAL 13499.4 MEAN 37.0 MAX 219 MIN 2.3 AC-FT 26780
WTR YR 1990 TOTAL 7581.9 MEAN 20.8 MAX 107 MIN 1.7 AC-FT 15040

e Estimated.

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 during 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, many days during most years.

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

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 31 mg/L, Oct. 23; minimum daily mean, 0 mg/L, Sept. 10-23.

SEDIMENT LOAD: Maximum daily, 6.8 tons, Apr. 14; minimum daily, 0 ton, Sept. 9-23.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, DIS- CHARGE, 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 |
|--------------|------|--|--------------------------------------|---|--|---|---|---|---|
| JAN 08... | 0940 | 39 | 1.0 | 35 | 3.7 | 69 | 89 | 96 | 100 |

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | NUMBER OF SAM- PLING POINTS (COUNT) | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | BED MAT. SIEVE DIAM. % FINER THAN .125 MM | BED MAT. SIEVE DIAM. % FINER THAN .250 MM | BED MAT. SIEVE DIAM. % FINER THAN .500 MM |
|--------------|------|--|--|--------------------------------------|---|---|---|
| AUG 21... | 1255 | 3 | 2.3 | 14.0 | 1 | 2 | 5 |

| 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 |
|--------------|---|---|---|---|---|---|---|
| AUG 21... | 13 | 20 | 26 | 35 | 51 | 84 | 100 |

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | --- | --- | .5 | --- | --- | 3.5 | --- | 9.0 | --- | --- | --- | --- |
| 2 | 9.0 | --- | --- | --- | --- | --- | 8.0 | --- | 9.5 | --- | --- | --- |
| 3 | --- | 4.5 | --- | --- | --- | --- | 2.0 | 5.0 | 11.5 | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | 8.5 | 7.5 | --- | --- | --- |
| 5 | --- | --- | --- | --- | .5 | --- | 5.5 | --- | --- | 13.0 | --- | --- |
| 6 | --- | --- | --- | --- | --- | 3.0 | --- | 7.5 | --- | --- | --- | --- |
| 7 | --- | 4.0 | --- | --- | --- | --- | 3.5 | 4.5 | --- | --- | --- | 12.5 |
| 8 | --- | --- | --- | 1.0 | --- | --- | --- | 9.5 | --- | --- | 18.5 | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | 9.5 | --- | --- | --- | --- |
| 10 | 8.0 | --- | --- | 3.0 | --- | --- | 8.0 | 5.0 | --- | --- | 13.5 | 11.0 |
| 11 | --- | --- | --- | --- | --- | --- | 8.0 | 9.5 | 13.5 | 18.0 | --- | --- |
| 12 | --- | --- | .0 | --- | --- | --- | 5.5 | 11.0 | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | 1.0 | 5.5 | --- | 8.0 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | 4.0 | 8.5 | --- | --- | 14.5 | --- |
| 15 | --- | --- | --- | --- | .0 | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | 9.0 | --- | --- | --- | --- |
| 17 | --- | 4.0 | --- | --- | --- | --- | 4.0 | --- | --- | --- | --- | --- |
| 18 | --- | --- | .5 | --- | --- | --- | 6.0 | --- | --- | 19.5 | --- | --- |
| 19 | --- | --- | --- | --- | --- | 6.5 | --- | 8.5 | --- | --- | --- | 12.0 |
| 20 | --- | --- | --- | --- | --- | --- | 4.5 | --- | --- | --- | --- | --- |
| 21 | 7.0 | --- | --- | --- | .0 | 5.0 | --- | --- | --- | --- | 14.0 | --- |
| 22 | --- | --- | --- | .0 | --- | --- | --- | --- | 17.0 | --- | --- | --- |
| 23 | 5.5 | --- | --- | --- | --- | --- | 4.5 | 6.5 | --- | --- | --- | --- |
| 24 | 2.0 | --- | --- | .0 | --- | 6.0 | 4.5 | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | 5.0 | --- | 10.5 | --- | --- | --- | --- |
| 26 | 4.0 | --- | --- | --- | --- | --- | 2.5 | 7.5 | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | 6.0 | 11.0 | 5.0 | --- | --- | --- | --- |
| 28 | --- | --- | 1.0 | --- | --- | 7.0 | --- | 5.0 | 10.5 | --- | 18.5 | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | .5 | --- | --- | --- | --- | --- | 4.5 | --- | 15.5 | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | 5.5 | --- | --- | --- | --- |

PYRAMID AND WINNEMUCCA LAKES BASIN

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10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 3.5 | 1 | .01 | 7.2 | 2 | .04 | e6.0 | 2 | .03 |
| 2 | 4.5 | 1 | .01 | 7.1 | 2 | .04 | e6.1 | 2 | .03 |
| 3 | 4.7 | 1 | .01 | 6.9 | 2 | .04 | e6.2 | 2 | .03 |
| 4 | 4.7 | 1 | .01 | 7.0 | 2 | .04 | 6.4 | 2 | .03 |
| 5 | 4.7 | 1 | .01 | 8.0 | 2 | .04 | e6.4 | 2 | .03 |
| 6 | 4.5 | 1 | .01 | 8.0 | 2 | .04 | e6.5 | 2 | .04 |
| 7 | 4.3 | 2 | .02 | 7.6 | 2 | .04 | e6.5 | 2 | .04 |
| 8 | 4.3 | 2 | .02 | 6.8 | 2 | .04 | e6.5 | 2 | .04 |
| 9 | 4.1 | 2 | .02 | 6.5 | 2 | .04 | e6.5 | 2 | .04 |
| 10 | 4.1 | 2 | .02 | 6.4 | 2 | .03 | e6.5 | 2 | .04 |
| 11 | 3.9 | 2 | .02 | 6.4 | 2 | .03 | 6.6 | 2 | .04 |
| 12 | 3.9 | 2 | .02 | 6.6 | 1 | .02 | e6.6 | 4 | .07 |
| 13 | 3.9 | 2 | .02 | 6.7 | 1 | .02 | 6.6 | 3 | .05 |
| 14 | 3.9 | 2 | .02 | 6.7 | 1 | .02 | e6.4 | 3 | .05 |
| 15 | 3.7 | 2 | .02 | 6.5 | 1 | .02 | e6.2 | 3 | .05 |
| 16 | 3.8 | 2 | .02 | 6.2 | 1 | .02 | 6.0 | 3 | .05 |
| 17 | 3.8 | 2 | .02 | 5.9 | 1 | .02 | e5.8 | 3 | .05 |
| 18 | 3.8 | 2 | .02 | 5.6 | 1 | .02 | e5.3 | 3 | .04 |
| 19 | 3.8 | 2 | .02 | 5.5 | 1 | .01 | e5.3 | 3 | .04 |
| 20 | 3.9 | 2 | .02 | 5.3 | 1 | .01 | e5.3 | 3 | .04 |
| 21 | 5.6 | 2 | .03 | 5.1 | 1 | .01 | e5.3 | 3 | .04 |
| 22 | 11 | 4 | .12 | 5.0 | 1 | .01 | e5.4 | 3 | .04 |
| 23 | 25 | 31 | 3.4 | 4.9 | 1 | .01 | e5.4 | 3 | .04 |
| 24 | 21 | 6 | .34 | 6.5 | 4 | .07 | e5.4 | 3 | .04 |
| 25 | 14 | 3 | .11 | e8.0 | 3 | .06 | e5.4 | 3 | .04 |
| 26 | 11 | 2 | .06 | e9.5 | 2 | .05 | e5.4 | 3 | .04 |
| 27 | 10 | 2 | .05 | e7.2 | 2 | .04 | e5.4 | 3 | .04 |
| 28 | 9.1 | 2 | .05 | e6.6 | 2 | .04 | e5.4 | 3 | .04 |
| 29 | 7.8 | 2 | .04 | e6.1 | 2 | .03 | e5.4 | 3 | .04 |
| 30 | 7.2 | 2 | .04 | e5.9 | 2 | .03 | 5.3 | 3 | .04 |
| 31 | 7.3 | 2 | .04 | --- | --- | --- | e5.5 | 3 | .04 |
| TOTAL | 210.8 | --- | 4.62 | 197.7 | --- | 0.93 | 183.0 | --- | 1.27 |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 5.5 | 3 | .04 | e8.8 | 2 | .05 | e10 | 4 | .11 |
| 2 | 5.7 | 3 | .05 | e8.8 | 2 | .05 | 11 | 4 | .12 |
| 3 | e6.1 | 3 | .05 | e8.7 | 2 | .05 | e11 | 4 | .12 |
| 4 | e6.4 | 3 | .05 | e8.7 | 2 | .05 | e12 | 3 | .10 |
| 5 | e7.0 | 3 | .06 | e8.6 | 2 | .05 | e12 | 3 | .10 |
| 6 | e7.7 | 3 | .06 | e8.5 | 2 | .05 | 12 | 3 | .10 |
| 7 | 8.8 | 6 | .14 | e8.3 | 2 | .04 | 12 | 3 | .10 |
| 8 | 31 | 20 | 1.8 | e8.0 | 2 | .04 | 12 | 3 | .10 |
| 9 | 21 | 5 | .28 | e7.7 | 2 | .04 | e12 | 3 | .10 |
| 10 | 16 | 2 | .09 | 7.6 | 2 | .04 | e13 | 3 | .11 |
| 11 | 14 | 2 | .08 | 7.8 | 3 | .06 | e13 | 3 | .11 |
| 12 | 13 | 2 | .07 | 7.7 | 3 | .06 | e13 | 3 | .11 |
| 13 | e13 | 2 | .07 | e7.6 | 3 | .06 | e13 | 3 | .11 |
| 14 | e12 | 2 | .06 | e7.4 | 3 | .06 | 13 | 3 | .11 |
| 15 | 12 | 2 | .06 | e7.0 | 3 | .06 | 13 | 3 | .11 |
| 16 | 12 | 2 | .06 | e6.9 | 3 | .06 | 13 | 3 | .11 |
| 17 | e11 | 2 | .06 | e6.7 | 3 | .05 | 14 | 3 | .11 |
| 18 | 11 | 2 | .06 | e6.4 | 4 | .07 | 18 | 3 | .15 |
| 19 | e11 | 2 | .06 | e6.2 | 4 | .07 | 21 | 3 | .17 |
| 20 | e10 | 2 | .05 | e6.0 | 4 | .06 | 25 | 4 | .27 |
| 21 | e10 | 2 | .05 | e6.0 | 4 | .06 | 29 | 5 | .39 |
| 22 | e9.8 | 2 | .05 | e6.1 | 4 | .07 | 31 | 5 | .42 |
| 23 | e9.4 | 2 | .05 | e6.3 | 4 | .07 | 33 | 5 | .45 |
| 24 | e8.8 | 1 | .02 | e7.2 | 4 | .08 | 37 | 7 | .70 |
| 25 | e8.8 | 1 | .02 | 8.9 | 4 | .10 | 39 | 8 | .84 |
| 26 | e8.8 | 1 | .02 | 9.2 | 4 | .10 | 41 | 7 | .77 |
| 27 | e8.8 | 1 | .02 | 9.4 | 4 | .10 | 41 | 3 | .33 |
| 28 | e8.8 | 1 | .02 | 9.7 | 4 | .10 | 40 | 4 | .43 |
| 29 | e8.8 | 1 | .02 | --- | --- | --- | 38 | 4 | .41 |
| 30 | e8.8 | 1 | .02 | --- | --- | --- | 38 | 4 | .41 |
| 31 | e8.8 | 1 | .02 | --- | --- | --- | 40 | 4 | .43 |
| TOTAL | 333.8 | --- | 3.56 | 216.2 | --- | 1.75 | 680 | --- | 8.00 |

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 44 | 6 | .71 | 65 | 6 | 1.1 | 67 | 10 | 1.8 |
| 2 | 50 | 8 | 1.1 | 64 | 7 | 1.2 | 78 | 14 | 2.9 |
| 3 | 56 | 10 | 1.5 | 74 | 9 | 1.8 | 75 | 10 | 2.0 |
| 4 | 64 | 10 | 1.7 | 83 | 12 | 2.7 | 68 | 6 | 1.1 |
| 5 | 69 | 21 | 4.3 | 86 | 12 | 2.8 | 63 | 5 | .85 |
| 6 | 69 | 10 | 1.9 | 89 | 11 | 2.6 | 59 | 5 | .80 |
| 7 | 69 | 7 | 1.3 | 82 | 8 | 1.8 | 57 | 5 | .77 |
| 8 | 67 | 6 | 1.1 | 74 | 7 | 1.4 | 57 | 5 | .77 |
| 9 | 60 | 6 | .97 | 69 | 6 | 1.1 | 55 | 5 | .74 |
| 10 | 64 | 7 | 1.2 | 79 | 8 | 1.7 | 52 | 5 | .70 |
| 11 | 73 | 8 | 1.6 | 70 | 5 | .94 | 47 | 5 | .63 |
| 12 | 76 | 12 | 2.5 | 63 | 5 | .85 | 42 | 5 | .57 |
| 13 | 87 | 24 | 5.6 | 60 | 4 | .65 | 39 | 5 | .53 |
| 14 | 97 | 26 | 6.8 | 57 | 4 | .62 | 40 | 5 | .54 |
| 15 | 101 | 22 | 6.0 | 52 | 5 | .70 | 36 | 5 | .49 |
| 16 | 99 | 12 | 3.2 | 51 | 5 | .69 | 34 | 5 | .46 |
| 17 | 81 | 7 | 1.5 | 51 | 5 | .69 | 31 | 5 | .42 |
| 18 | 79 | 8 | 1.7 | 48 | 5 | .65 | 30 | 5 | .40 |
| 19 | 89 | 7 | 1.7 | 44 | 5 | .59 | 27 | 5 | .36 |
| 20 | 91 | 3 | .74 | 45 | 6 | .73 | 27 | 5 | .36 |
| 21 | 84 | 3 | .68 | 48 | 6 | .78 | 26 | 5 | .35 |
| 22 | 74 | 3 | .60 | 46 | 6 | .75 | 25 | 5 | .34 |
| 23 | 96 | 8 | 2.1 | 57 | 9 | 1.4 | 22 | 5 | .30 |
| 24 | 79 | 7 | 1.5 | 52 | 6 | .84 | 20 | 5 | .27 |
| 25 | 72 | 6 | 1.2 | 46 | 6 | .75 | 19 | 5 | .26 |
| 26 | 77 | 7 | 1.5 | 56 | 8 | 1.2 | 17 | 5 | .23 |
| 27 | 88 | 10 | 2.4 | 78 | 15 | 3.2 | 15 | 5 | .20 |
| 28 | 107 | 13 | 3.8 | 71 | 6 | 1.2 | 14 | 5 | .19 |
| 29 | 92 | 10 | 2.5 | 60 | 4 | .65 | 13 | 5 | .18 |
| 30 | 74 | 7 | 1.4 | 66 | 9 | 1.6 | 12 | 5 | .16 |
| 31 | --- | --- | --- | 71 | 9 | 1.7 | --- | --- | --- |
| TOTAL | 2328 | --- | 64.80 | 1957 | --- | 39.38 | 1167 | --- | 19.67 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 12 | 6 | .19 | 2.6 | 6 | .04 | 1.9 | 1 | .01 |
| 2 | 13 | 6 | .21 | 2.5 | 6 | .04 | 1.9 | 1 | .01 |
| 3 | 11 | 6 | .18 | 2.5 | 6 | .04 | 1.8 | 2 | .01 |
| 4 | 10 | 6 | .16 | 2.4 | 6 | .04 | 1.8 | 2 | .01 |
| 5 | 9.7 | 6 | .16 | 2.5 | 6 | .04 | 1.8 | 2 | .01 |
| 6 | 9.2 | 6 | .15 | 2.4 | 6 | .04 | 1.8 | 2 | .01 |
| 7 | 8.6 | 6 | .14 | 2.3 | 6 | .04 | 1.8 | 2 | .01 |
| 8 | 8.0 | 7 | .15 | 2.9 | 8 | .06 | 1.8 | 2 | .01 |
| 9 | 7.5 | 7 | .14 | 2.8 | 5 | .04 | 1.8 | 1 | .00 |
| 10 | 7.2 | 7 | .14 | 2.6 | 4 | .03 | 1.8 | 0 | .00 |
| 11 | 7.1 | 7 | .13 | 2.4 | 4 | .03 | 1.7 | 0 | .00 |
| 12 | 6.5 | 7 | .12 | 2.3 | 5 | .03 | 1.7 | 0 | .00 |
| 13 | 5.8 | 7 | .11 | 2.2 | 5 | .03 | 1.7 | 0 | .00 |
| 14 | 5.6 | 7 | .11 | 2.2 | 6 | .04 | 1.7 | 0 | .00 |
| 15 | 5.3 | 8 | .11 | 2.9 | 8 | .06 | 1.8 | 0 | .00 |
| 16 | 4.8 | 8 | .10 | 3.0 | 6 | .05 | 1.8 | 0 | .00 |
| 17 | 4.4 | 8 | .10 | 2.4 | 5 | .03 | 1.8 | 0 | .00 |
| 18 | 4.0 | 8 | .09 | 2.0 | 4 | .02 | 1.9 | 0 | .00 |
| 19 | 4.1 | 8 | .09 | 2.1 | 3 | .02 | 1.9 | 0 | .00 |
| 20 | 3.9 | 8 | .08 | 2.3 | 3 | .02 | 1.8 | 0 | .00 |
| 21 | 3.7 | 7 | .07 | 2.3 | 3 | .02 | 1.8 | 0 | .00 |
| 22 | 3.5 | 7 | .07 | 2.1 | 3 | .02 | 1.9 | 0 | .00 |
| 23 | 3.4 | 7 | .06 | 1.9 | 2 | .01 | 2.0 | 0 | .00 |
| 24 | 3.1 | 7 | .06 | 1.9 | 2 | .01 | 2.2 | 1 | .01 |
| 25 | 3.1 | 7 | .06 | 1.9 | 2 | .01 | 2.2 | 2 | .01 |
| 26 | 3.0 | 7 | .06 | 2.0 | 1 | .01 | 2.6 | 3 | .02 |
| 27 | 2.8 | 6 | .05 | 2.0 | 1 | .01 | 2.1 | 1 | .01 |
| 28 | 2.7 | 6 | .04 | 1.9 | 1 | .01 | 2.0 | 1 | .01 |
| 29 | 2.6 | 6 | .04 | 1.9 | 1 | .01 | 2.0 | 1 | .01 |
| 30 | 2.5 | 6 | .04 | 1.9 | 1 | .01 | 2.0 | 1 | .01 |
| 31 | 2.5 | 6 | .04 | 1.9 | 1 | .01 | --- | --- | --- |
| TOTAL | 180.6 | --- | 3.25 | 71.0 | --- | 0.87 | 56.8 | --- | 0.16 |
| YEAR | 7581.9 | | 148.26 | | | | | | |

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 mi².

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.--Records good except estimated discharges, which are fair. Minor diversion for local water supply upstream from station. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--18 years, 26.4 ft³/s, 19,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft³/s, Dec. 19, 1981, gage height, 8.05 ft, from rating curve extended above 800 ft³/s; no flow for many days during 1977-78, 1981, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|---------|------|--------------------------------|------------------|
| Jan. 20 | 1845 | (a) | *5.91 | Apr. 15 | 1945 | *87 | 5.19 |

(a) Backwater from ice.

Minimum daily, 0.18 ft³/s, Sept. 13, 14.DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|------|------|-------|--------|-------|-------|
| 1 | 2.1 | 5.4 | 4.1 | e3.2 | e6.0 | 7.2 | 32 | 44 | 53 | 8.7 | .80 | .33 |
| 2 | 2.5 | 5.6 | 4.1 | e3.2 | e5.9 | 7.1 | 36 | 43 | 61 | 9.0 | .74 | .33 |
| 3 | 2.9 | 5.6 | e4.0 | e3.2 | e5.9 | e7.1 | 39 | 47 | 57 | 7.9 | .73 | .29 |
| 4 | 2.8 | 6.0 | e4.3 | e3.2 | e5.8 | e7.1 | 45 | 52 | 48 | 7.5 | .70 | .26 |
| 5 | 2.4 | 6.4 | e4.4 | e3.1 | e5.7 | e7.1 | 46 | 56 | 43 | 6.8 | .65 | .26 |
| 6 | 2.2 | 6.1 | e4.4 | e4.1 | e5.5 | 7.1 | 45 | 58 | 39 | 6.3 | .61 | .24 |
| 7 | 2.1 | 5.6 | e4.4 | e8.0 | e5.3 | e7.2 | 44 | 53 | 38 | 5.8 | .60 | .24 |
| 8 | 2.0 | 5.5 | e4.4 | e24 | 5.2 | e7.2 | 43 | 48 | 39 | 5.3 | .98 | .25 |
| 9 | 1.9 | 5.2 | e4.3 | e15 | 5.0 | e7.2 | 41 | 45 | 38 | 4.8 | 1.2 | .23 |
| 10 | 1.8 | 5.2 | e4.2 | e10 | 5.0 | e7.2 | 45 | 55 | 35 | 4.4 | .84 | .21 |
| 11 | 1.8 | 5.4 | 4.5 | e8.2 | 5.2 | e7.2 | 51 | 47 | 32 | 4.2 | .70 | .20 |
| 12 | 1.8 | 5.4 | e4.3 | e7.6 | 5.3 | 7.2 | 53 | 42 | 29 | 3.8 | .70 | .19 |
| 13 | 1.7 | 5.4 | e4.3 | e7.4 | 5.1 | e7.0 | 61 | 40 | 28 | 3.5 | .52 | .18 |
| 14 | 1.7 | 5.0 | e4.3 | e7.3 | 4.8 | 6.7 | 65 | 37 | 28 | 3.2 | .47 | .18 |
| 15 | 1.7 | 4.9 | e4.3 | e7.2 | 4.7 | 6.6 | 67 | 34 | 25 | 3.0 | .40 | .20 |
| 16 | 1.7 | 4.6 | e4.3 | e7.0 | 3.5 | 6.9 | 67 | 33 | 23 | 2.7 | .39 | .23 |
| 17 | 1.6 | 4.4 | e4.3 | e6.7 | 4.3 | 8.0 | 57 | 32 | 22 | 2.6 | .44 | .22 |
| 18 | 1.7 | 4.3 | e4.3 | e6.4 | 4.9 | 11 | 59 | 30 | 21 | 2.4 | .52 | .24 |
| 19 | 1.7 | 4.2 | e4.2 | e6.2 | 4.9 | 15 | 63 | 28 | 20 | 2.3 | .69 | .28 |
| 20 | 1.7 | e4.2 | e4.1 | e6.2 | 4.8 | 18 | 64 | 30 | 20 | 2.1 | 1.0 | .30 |
| 21 | 4.0 | e4.1 | e3.9 | e6.3 | 4.9 | 21 | 62 | 31 | 19 | 1.9 | .87 | .32 |
| 22 | 9.4 | e4.1 | e3.6 | e6.3 | 4.8 | 23 | 56 | 30 | 19 | 1.8 | .73 | .32 |
| 23 | e15 | 4.1 | e3.5 | e6.3 | 5.0 | 25 | 76 | 37 | 17 | 1.6 | .58 | .32 |
| 24 | e10 | 4.4 | e3.4 | e6.4 | 5.0 | 28 | 61 | 34 | 16 | 1.4 | .52 | .46 |
| 25 | 7.8 | 3.8 | e3.4 | e6.4 | 5.2 | 30 | 55 | 30 | 14 | 1.3 | .45 | .96 |
| 26 | 6.4 | e7.2 | e3.4 | e6.4 | 5.8 | 29 | 58 | 40 | 13 | 1.3 | .48 | 3.3 |
| 27 | 6.0 | e6.0 | e3.4 | e6.3 | 6.4 | 28 | 62 | 59 | 12 | 1.2 | .47 | e2.4 |
| 28 | 5.5 | e5.3 | e3.3 | e6.3 | 6.7 | 27 | 72 | 51 | 11 | 1.1 | .41 | e1.8 |
| 29 | 5.1 | e4.7 | e3.2 | e6.2 | --- | 25 | 60 | e41 | 10 | 1.0 | .37 | e1.3 |
| 30 | 5.5 | e4.3 | e3.2 | e6.2 | --- | 26 | 50 | e53 | 9.2 | .92 | .35 | e1.0 |
| 31 | 5.3 | --- | e3.2 | e6.1 | --- | 28 | --- | 55 | --- | .86 | .36 | --- |
| TOTAL | 119.8 | 152.4 | 123.0 | 216.4 | 146.6 | 455.1 | 1635 | 1315 | 839.2 | 110.68 | 19.27 | 17.04 |
| MEAN | 3.86 | 5.08 | 3.97 | 6.98 | 5.24 | 14.7 | 54.5 | 42.4 | 28.0 | 3.57 | .62 | .57 |
| MAX | 15 | 7.2 | 4.5 | 24 | 6.7 | 30 | 76 | 59 | 61 | 9.0 | 1.2 | 3.3 |
| MIN | 1.6 | 3.8 | 3.2 | 3.1 | 3.5 | 6.6 | 32 | 28 | 9.2 | .86 | .35 | .18 |
| AC-FT | 238 | 302 | 244 | 429 | 291 | 903 | 3240 | 2610 | 1660 | 220 | 38 | 34 |

CAL YR 1989 TOTAL 9351.95 MEAN 25.6 MAX 152 MIN .66 AC-FT 18550
WTR YR 1990 TOTAL 5149.49 MEAN 14.1 MAX 76 MIN .18 AC-FT 10210

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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 during 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, many days during each year.

SEDIMENT LOAD: Maximum daily, 3,720 tons, Dec. 19, 1981; minimum daily, 0 ton, many days during each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 37 mg/L, Oct. 23; minimum daily mean, 0 mg/L, many days.

SEDIMENT LOAD: Maximum daily, 2.2 tons, June 2; minimum daily, 0 ton, many days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| 1 | --- | --- | .0 | --- | --- | --- | --- | 9.0 | --- | --- | --- | --- |
| 2 | 6.5 | --- | --- | --- | --- | .5 | 6.0 | --- | 10.0 | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | 1.0 | 5.0 | 11.5 | --- | --- | --- |
| 4 | --- | --- | .0 | --- | --- | --- | --- | 9.0 | 6.5 | --- | --- | --- |
| 5 | --- | --- | --- | .0 | .5 | --- | 4.0 | --- | --- | 16.0 | --- | --- |
| 6 | --- | --- | --- | --- | --- | .5 | --- | 7.0 | --- | --- | --- | --- |
| 7 | --- | 1.5 | --- | --- | --- | --- | 3.5 | 11.5 | --- | --- | --- | 18.0 |
| 8 | --- | --- | --- | .0 | --- | --- | --- | 10.5 | --- | --- | 19.0 | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | 8.5 | --- | --- | --- | --- |
| 10 | 10.5 | --- | --- | --- | --- | --- | 8.0 | 5.0 | --- | --- | 14.0 | 18.0 |
| 11 | --- | --- | --- | .0 | --- | --- | 6.5 | 8.5 | 9.0 | --- | --- | --- |
| 12 | --- | --- | .0 | --- | --- | --- | 7.0 | 11.0 | --- | --- | --- | --- |
| 13 | --- | --- | --- | --- | .0 | .0 | 6.0 | --- | 7.0 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | 3.5 | 9.0 | 5.0 | --- | 15.5 | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | 7.5 | --- | --- | --- | --- |
| 17 | --- | 2.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | --- | --- | .5 | --- | --- | --- | 5.0 | --- | --- | 21.0 | --- | --- |
| 19 | --- | --- | --- | --- | --- | 1.0 | --- | 8.0 | --- | --- | 11.5 | 15.5 |
| 20 | --- | --- | --- | --- | --- | --- | 3.0 | --- | --- | --- | --- | --- |
| 21 | 6.0 | --- | --- | --- | .5 | 1.0 | --- | --- | --- | --- | 17.5 | --- |
| 22 | --- | --- | --- | .0 | --- | --- | --- | --- | 16.5 | --- | --- | --- |
| 23 | 5.0 | --- | --- | --- | --- | --- | 4.0 | 6.5 | --- | 20.5 | --- | --- |
| 24 | 2.0 | --- | --- | --- | --- | 4.0 | 3.0 | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | .0 | --- | --- | --- | 8.0 | --- | --- | --- | --- |
| 26 | 3.0 | --- | --- | --- | --- | --- | 8.0 | 7.5 | --- | --- | --- | 10.5 |
| 27 | --- | --- | --- | --- | --- | 6.0 | 8.5 | 5.0 | 16.0 | --- | 18.5 | --- |
| 28 | --- | --- | .0 | --- | --- | 5.5 | --- | 5.0 | --- | --- | 18.5 | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | --- | 5.0 | --- | 23.0 | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | 5.5 | --- | --- | --- | --- |

PYRAMID AND WINNEMUCCA LAKES BASIN

81

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 2.1 | 2 | .01 | 5.4 | 2 | .03 | 4.1 | 2 | .02 |
| 2 | 2.5 | 1 | .01 | 5.6 | 2 | .03 | 4.1 | 2 | .02 |
| 3 | 2.9 | 1 | .01 | 5.6 | 2 | .03 | e4.0 | 2 | .02 |
| 4 | 2.8 | 1 | .01 | 6.0 | 2 | .03 | e4.3 | 2 | .02 |
| 5 | 2.4 | 1 | .01 | 6.4 | 2 | .03 | e4.4 | 2 | .02 |
| 6 | 2.2 | 1 | .01 | 6.1 | 2 | .03 | e4.4 | 2 | .02 |
| 7 | 2.1 | 2 | .01 | 5.6 | 2 | .03 | e4.4 | 2 | .02 |
| 8 | 2.0 | 2 | .01 | 5.5 | 2 | .03 | e4.4 | 2 | .02 |
| 9 | 1.9 | 2 | .01 | 5.2 | 2 | .03 | e4.3 | 3 | .03 |
| 10 | 1.8 | 2 | .01 | 5.2 | 2 | .03 | e4.2 | 3 | .03 |
| 11 | 1.8 | 2 | .01 | 5.4 | 2 | .03 | 4.5 | 3 | .04 |
| 12 | 1.8 | 2 | .01 | 5.4 | 1 | .01 | e4.3 | 3 | .03 |
| 13 | 1.7 | 2 | .01 | 5.4 | 1 | .01 | e4.3 | 3 | .03 |
| 14 | 1.7 | 2 | .01 | 5.0 | 1 | .01 | e4.3 | 3 | .03 |
| 15 | 1.7 | 2 | .01 | 4.9 | 1 | .01 | e4.3 | 3 | .03 |
| 16 | 1.7 | 2 | .01 | 4.6 | 1 | .01 | e4.3 | 3 | .03 |
| 17 | 1.6 | 2 | .01 | 4.4 | 1 | .01 | e4.3 | 3 | .03 |
| 18 | 1.7 | 2 | .01 | 4.3 | 1 | .01 | e4.3 | 3 | .03 |
| 19 | 1.7 | 2 | .01 | 4.2 | 1 | .01 | e4.2 | 3 | .03 |
| 20 | 1.7 | 2 | .01 | e4.2 | 1 | .01 | e4.1 | 2 | .02 |
| 21 | 4.0 | 7 | .08 | e4.1 | 1 | .01 | e3.9 | 2 | .02 |
| 22 | 9.4 | 12 | .30 | e4.1 | 1 | .01 | e3.6 | 2 | .02 |
| 23 | e15 | 37 | 1.5 | 4.1 | 1 | .01 | e3.5 | 2 | .02 |
| 24 | e10 | 6 | .16 | 4.4 | 1 | .01 | e3.4 | 2 | .02 |
| 25 | 7.8 | 4 | .08 | 3.8 | 1 | .01 | e3.4 | 2 | .02 |
| 26 | 6.4 | 2 | .03 | e7.2 | 2 | .04 | e3.4 | 2 | .02 |
| 27 | 6.0 | 2 | .03 | e6.0 | 2 | .03 | e3.4 | 2 | .02 |
| 28 | 5.5 | 2 | .03 | e5.3 | 2 | .03 | e3.3 | 2 | .02 |
| 29 | 5.1 | 2 | .03 | e4.7 | 2 | .03 | e3.2 | 2 | .02 |
| 30 | 5.5 | 2 | .03 | e4.3 | 2 | .02 | e3.2 | 2 | .02 |
| 31 | 5.3 | 2 | .03 | --- | --- | --- | e3.2 | 2 | .02 |
| TOTAL | 119.8 | --- | 2.50 | 152.4 | --- | 0.62 | 123.0 | --- | 0.74 |
| JANUARY | | | | FEBRUARY | | | MARCH | | |
| 1 | e3.2 | 2 | .02 | e6.0 | 0 | .00 | 7.2 | 1 | .02 |
| 2 | e3.2 | 2 | .02 | e5.9 | 0 | .00 | 7.1 | 1 | .02 |
| 3 | e3.2 | 2 | .02 | e5.9 | 0 | .00 | e7.1 | 1 | .02 |
| 4 | e3.2 | 2 | .02 | e5.8 | 0 | .00 | e7.1 | 1 | .02 |
| 5 | e3.1 | 2 | .02 | e5.7 | 0 | .00 | e7.1 | 2 | .04 |
| 6 | e4.1 | 3 | .03 | e5.5 | 0 | .00 | 7.1 | 2 | .04 |
| 7 | e8.0 | 5 | .11 | e5.3 | 0 | .00 | e7.2 | 2 | .04 |
| 8 | e24 | 7 | .45 | 5.2 | 0 | .00 | e7.2 | 3 | .06 |
| 9 | e15 | 4 | .16 | 5.0 | 0 | .00 | e7.2 | 3 | .06 |
| 10 | e10 | 3 | .08 | 5.0 | 0 | .00 | e7.2 | 3 | .06 |
| 11 | e8.2 | 3 | .07 | 5.2 | 0 | .00 | e7.2 | 4 | .08 |
| 12 | e7.6 | 3 | .06 | 5.3 | 0 | .00 | 7.2 | 4 | .08 |
| 13 | e7.4 | 3 | .06 | 5.1 | 0 | .00 | e7.0 | 5 | .09 |
| 14 | e7.3 | 3 | .06 | 4.8 | 0 | .00 | 6.7 | 5 | .09 |
| 15 | e7.2 | 3 | .06 | 4.7 | 0 | .00 | 6.6 | 5 | .09 |
| 16 | e7.0 | 2 | .04 | 3.5 | 0 | .00 | 6.9 | 5 | .09 |
| 17 | e6.7 | 2 | .04 | 4.3 | 0 | .00 | 8.0 | 6 | .13 |
| 18 | e6.4 | 2 | .03 | 4.9 | 0 | .00 | 11 | 6 | .18 |
| 19 | e6.2 | 2 | .03 | 4.9 | 0 | .00 | 15 | 6 | .24 |
| 20 | e6.2 | 2 | .03 | 4.8 | 0 | .00 | 18 | 6 | .29 |
| 21 | e6.3 | 2 | .03 | 4.9 | 0 | .00 | 21 | 7 | .40 |
| 22 | e6.3 | 2 | .03 | 4.8 | 1 | .01 | 23 | 7 | .43 |
| 23 | e6.3 | 1 | .02 | 5.0 | 1 | .01 | 25 | 7 | .47 |
| 24 | e6.4 | 0 | .00 | 5.0 | 1 | .01 | 28 | 5 | .38 |
| 25 | e6.4 | 0 | .00 | 5.2 | 1 | .01 | 30 | 5 | .40 |
| 26 | e6.4 | 0 | .00 | 5.8 | 1 | .02 | 29 | 5 | .39 |
| 27 | e6.3 | 0 | .00 | 6.4 | 1 | .02 | 28 | 4 | .30 |
| 28 | e6.3 | 0 | .00 | 6.7 | 1 | .02 | 27 | 2 | .15 |
| 29 | e6.2 | 0 | .00 | --- | --- | --- | 25 | 2 | .13 |
| 30 | e6.2 | 0 | .00 | --- | --- | --- | 26 | 4 | .28 |
| 31 | e6.1 | 0 | .00 | --- | --- | --- | 28 | 4 | .30 |
| TOTAL | 216.4 | --- | 1.49 | 146.6 | --- | 0.10 | 455.1 | --- | 5.37 |

e Estimated.

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 1989 TO SEPTEMBER 1990

| 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 | 32 | 6 | .52 | 44 | 3 | .36 | 53 | 9 | 1.4 |
| 2 | 36 | 8 | .78 | 43 | 3 | .35 | 61 | 12 | 2.2 |
| 3 | 39 | 8 | .84 | 47 | 4 | .51 | 57 | 9 | 1.4 |
| 4 | 45 | 8 | .97 | 52 | 4 | .56 | 48 | 5 | .65 |
| 5 | 46 | 7 | .87 | 56 | 5 | .76 | 43 | 3 | .35 |
| 6 | 45 | 5 | .61 | 58 | 4 | .63 | 39 | 2 | .21 |
| 7 | 44 | 5 | .59 | 53 | 3 | .43 | 38 | 2 | .21 |
| 8 | 43 | 4 | .46 | 48 | 3 | .39 | 39 | 2 | .21 |
| 9 | 41 | 4 | .44 | 45 | 3 | .36 | 38 | 2 | .21 |
| 10 | 45 | 5 | .61 | 55 | 4 | .59 | 35 | 2 | .19 |
| 11 | 51 | 5 | .69 | 47 | 4 | .51 | 32 | 2 | .17 |
| 12 | 53 | 6 | .86 | 42 | 5 | .57 | 29 | 2 | .16 |
| 13 | 61 | 8 | 1.3 | 40 | 4 | .43 | 28 | 2 | .15 |
| 14 | 65 | 8 | 1.4 | 37 | 3 | .30 | 28 | 2 | .15 |
| 15 | 67 | 8 | 1.4 | 34 | 3 | .28 | 25 | 2 | .13 |
| 16 | 67 | 6 | 1.1 | 33 | 3 | .27 | 23 | 2 | .12 |
| 17 | 57 | 4 | .62 | 32 | 2 | .17 | 22 | 2 | .12 |
| 18 | 59 | 6 | .96 | 30 | 2 | .16 | 21 | 2 | .11 |
| 19 | 63 | 5 | .85 | 28 | 2 | .15 | 20 | 2 | .11 |
| 20 | 64 | 4 | .69 | 30 | 2 | .16 | 20 | 2 | .11 |
| 21 | 62 | 5 | .84 | 31 | 2 | .17 | 19 | 2 | .10 |
| 22 | 56 | 4 | .60 | 30 | 2 | .16 | 19 | 2 | .10 |
| 23 | 76 | 7 | 1.4 | 37 | 3 | .30 | 17 | 2 | .09 |
| 24 | 61 | 5 | .82 | 34 | 2 | .18 | 16 | 2 | .09 |
| 25 | 55 | 3 | .45 | 30 | 2 | .16 | 14 | 2 | .08 |
| 26 | 58 | 4 | .63 | 40 | 7 | .76 | 13 | 2 | .07 |
| 27 | 62 | 4 | .67 | 59 | 10 | 1.6 | 12 | 2 | .06 |
| 28 | 72 | 4 | .78 | 51 | 4 | .55 | 11 | 2 | .06 |
| 29 | 60 | 4 | .65 | e41 | 3 | .33 | 10 | 2 | .05 |
| 30 | 50 | 3 | .40 | e53 | 6 | .86 | 9.2 | 2 | .05 |
| 31 | --- | --- | --- | 55 | 3 | .45 | --- | --- | --- |
| TOTAL | 1635 | --- | 23.80 | 1315 | --- | 13.46 | 839.2 | --- | 9.11 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 8.7 | 2 | .05 | .80 | 8 | .02 | .33 | 2 | .00 |
| 2 | 9.0 | 2 | .05 | .74 | 8 | .02 | .33 | 2 | .00 |
| 3 | 7.9 | 2 | .04 | .73 | 8 | .02 | .29 | 2 | .00 |
| 4 | 7.5 | 2 | .04 | .70 | 8 | .02 | .26 | 1 | .00 |
| 5 | 6.8 | 2 | .04 | .65 | 8 | .01 | .26 | 1 | .00 |
| 6 | 6.3 | 2 | .03 | .61 | 8 | .01 | .24 | 1 | .00 |
| 7 | 5.8 | 3 | .05 | .60 | 8 | .01 | .24 | 1 | .00 |
| 8 | 5.3 | 3 | .04 | .98 | 14 | .04 | .25 | 1 | .00 |
| 9 | 4.8 | 3 | .04 | 1.2 | 8 | .03 | .23 | 1 | .00 |
| 10 | 4.4 | 4 | .05 | .84 | 6 | .01 | .21 | 1 | .00 |
| 11 | 4.2 | 4 | .05 | .70 | 6 | .01 | .20 | 1 | .00 |
| 12 | 3.8 | 5 | .05 | .70 | 6 | .01 | .19 | 1 | .00 |
| 13 | 3.5 | 5 | .05 | .52 | 6 | .01 | .18 | 1 | .00 |
| 14 | 3.2 | 6 | .05 | .47 | 6 | .01 | .18 | 1 | .00 |
| 15 | 3.0 | 7 | .06 | .40 | 6 | .01 | .20 | 1 | .00 |
| 16 | 2.7 | 8 | .06 | .39 | 6 | .01 | .23 | 1 | .00 |
| 17 | 2.6 | 9 | .06 | .44 | 6 | .01 | .22 | 1 | .00 |
| 18 | 2.4 | 10 | .06 | .52 | 6 | .01 | .24 | 1 | .00 |
| 19 | 2.3 | 10 | .06 | .69 | 8 | .01 | .28 | 1 | .00 |
| 20 | 2.1 | 10 | .06 | 1.0 | 6 | .02 | .30 | 1 | .00 |
| 21 | 1.9 | 9 | .05 | .87 | 5 | .01 | .32 | 1 | .00 |
| 22 | 1.8 | 9 | .04 | .73 | 5 | .01 | .32 | 1 | .00 |
| 23 | 1.6 | 9 | .04 | .58 | 4 | .01 | .32 | 1 | .00 |
| 24 | 1.4 | 9 | .03 | .52 | 4 | .01 | .46 | 1 | .00 |
| 25 | 1.3 | 9 | .03 | .45 | 4 | .00 | .96 | 3 | .01 |
| 26 | 1.3 | 9 | .03 | .48 | 4 | .01 | 3.3 | 15 | .13 |
| 27 | 1.2 | 8 | .03 | .47 | 3 | .00 | e2.4 | 8 | .05 |
| 28 | 1.1 | 8 | .02 | .41 | 3 | .00 | e1.8 | 3 | .01 |
| 29 | 1.0 | 8 | .02 | .37 | 3 | .00 | e1.3 | 2 | .01 |
| 30 | .92 | 8 | .02 | .35 | 2 | .00 | e1.0 | 2 | .01 |
| 31 | .86 | 8 | .02 | .36 | 2 | .00 | --- | --- | --- |
| TOTAL | 110.68 | --- | 1.32 | 19.27 | --- | 0.35 | 17.04 | --- | 0.22 |
| YEAR | 5149.49 | | 59.08 | | | | | | |
| e | Estimated. | | | | | | | | |

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 mi².

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

GAGE.--Water-stage recorder and sharp-crested weir in culvert at bridge. Datum of gage is 6,241.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except estimated daily discharges, which are good. Minor diversions for local water supply upstream from station. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--30 years, 36.6 ft³/s, 26,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft³/s, Feb. 1, 1963, gage height, 11.14 ft, from rating curve extended above 250 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|--------|------|--------------------------------|------------------|
| Dec. 19 | 0930 | ice jam | *6.93 | May 10 | 1115 | *40 | 6.46 |
| Apr. 16 | 1745 | *40 | 6.46 | | | | |

Minimum daily, 3.6 ft³/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 15 | 14 | 15 | 14 | 13 | 14 | 22 | 28 | 27 | 11 | 6.1 | 4.5 |
| 2 | 15 | 14 | 15 | e13 | e13 | 14 | 23 | 27 | 26 | 11 | 6.0 | 4.2 |
| 3 | 16 | 14 | 15 | e13 | e13 | 16 | 25 | 28 | 24 | 10 | 5.8 | 4.9 |
| 4 | 15 | 14 | 15 | 13 | e13 | 16 | 26 | 30 | 23 | 10 | 5.9 | 6.9 |
| 5 | 14 | 14 | 15 | 13 | e13 | 15 | 26 | 31 | 23 | 9.8 | 5.5 | 6.2 |
| 6 | 14 | 14 | 15 | 13 | 13 | 15 | 27 | 33 | 23 | 9.6 | 5.7 | 3.9 |
| 7 | 14 | 14 | 15 | 14 | e13 | 16 | 28 | 32 | 23 | 9.6 | 5.8 | 3.9 |
| 8 | 14 | 13 | 15 | 20 | 13 | 16 | 27 | 30 | 22 | 9.3 | 6.5 | 3.9 |
| 9 | 13 | 14 | 15 | 16 | 13 | 16 | 25 | 30 | 23 | 9.1 | 7.3 | 4.2 |
| 10 | 14 | 14 | 15 | 15 | 13 | 15 | 26 | 37 | 23 | 9.2 | 7.9 | 3.7 |
| 11 | 13 | 14 | e15 | 15 | e13 | 15 | 30 | 35 | 22 | 9.5 | 5.5 | 3.6 |
| 12 | 12 | 14 | e15 | 15 | 13 | e16 | 31 | 30 | 21 | 9.3 | 5.3 | 3.8 |
| 13 | 11 | 14 | e16 | 15 | e13 | 17 | 31 | 29 | 21 | 8.9 | 5.0 | 4.7 |
| 14 | 11 | 14 | e16 | 15 | e13 | 16 | 34 | 28 | 24 | 9.0 | 4.9 | 4.7 |
| 15 | 11 | 13 | e17 | e14 | e13 | 14 | 34 | 27 | 24 | 9.7 | 5.3 | 4.8 |
| 16 | 11 | 14 | 17 | e14 | e13 | 15 | 34 | 26 | 24 | 18 | 4.7 | 5.0 |
| 17 | 11 | 14 | e17 | e14 | e13 | 16 | 30 | 27 | 22 | 15 | 4.8 | 5.3 |
| 18 | 11 | 14 | e17 | e14 | e13 | 18 | 28 | 26 | 20 | 11 | 5.3 | 5.8 |
| 19 | 11 | 13 | e17 | e13 | e13 | 20 | 29 | 25 | 18 | 17 | 6.5 | 7.4 |
| 20 | 11 | 13 | e17 | 14 | e13 | 21 | 30 | 25 | 16 | 14 | 11 | 5.6 |
| 21 | 12 | 13 | 16 | 14 | e13 | 22 | 30 | 24 | 15 | 11 | 7.1 | 5.3 |
| 22 | 16 | 14 | e16 | 15 | e13 | 22 | 27 | 24 | 15 | 8.6 | 6.1 | 5.5 |
| 23 | 19 | 14 | e16 | 14 | 13 | 23 | 32 | 25 | 14 | 7.6 | 5.9 | 6.1 |
| 24 | 23 | 16 | 16 | 14 | 13 | 23 | 31 | 26 | 14 | 7.1 | 5.4 | 10 |
| 25 | 18 | 16 | e15 | 14 | e13 | 25 | 27 | 24 | 13 | 7.2 | 5.3 | 9.2 |
| 26 | 15 | 13 | e15 | 14 | 13 | 24 | 28 | 24 | 13 | 7.0 | 5.3 | 8.9 |
| 27 | 15 | 16 | 15 | 13 | 13 | 24 | 30 | 25 | 12 | 6.9 | 5.1 | 8.6 |
| 28 | 14 | 16 | e15 | e13 | 14 | 23 | 34 | 26 | 12 | 6.8 | 4.8 | 8.0 |
| 29 | 14 | 16 | e14 | 13 | --- | 21 | 33 | 24 | 12 | 6.6 | 4.4 | 6.5 |
| 30 | 14 | 16 | e14 | 13 | --- | 21 | 30 | 26 | 11 | 6.3 | 4.4 | 6.2 |
| 31 | 14 | --- | e14 | e13 | --- | 21 | --- | 31 | --- | 6.1 | 4.5 | --- |
| TOTAL | 431 | 426 | 480 | 437 | 365 | 570 | 868 | 863 | 580 | 301.2 | 179.1 | 171.3 |
| MEAN | 13.9 | 14.2 | 15.5 | 14.1 | 13.0 | 18.4 | 28.9 | 27.8 | 19.3 | 9.72 | 5.78 | 5.71 |
| MAX | 23 | 16 | 17 | 20 | 14 | 25 | 34 | 37 | 27 | 18 | 11 | 10 |
| MIN | 11 | 13 | 14 | 13 | 13 | 14 | 22 | 24 | 11 | 6.1 | 4.4 | 3.6 |
| AC-FT | 855 | 845 | 952 | 867 | 724 | 1130 | 1720 | 1710 | 1150 | 597 | 355 | 340 |

CAL YR 1989 TOTAL 9594.9 MEAN 26.3 MAX 76 MIN 8.0 AC-FT 19030
WTR YR 1990 TOTAL 5671.6 MEAN 15.5 MAX 37 MIN 3.6 AC-FT 11250

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 38 55'56", long 119 58'40", in SE 1/4 NW 1/4 sec. 3, 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, 1.2 mi upstream from Lake Tahoe, and 1.9 mi northeast of South Lake Tahoe Post Office.

PERIOD OF RECORD.--Water years 1972-74, 1989, 1990.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1971 to June 1974, October 1988 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to June 1974, October 1988 to current year.

REMARKS.--Sediment samples were collected during most days where a water temperature is published. Discharge record used to compute sediment based on sum of Trout Creek near Tahoe Valley (station 10336780) and Heavenly Valley Creek near Tahoe Valley. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 300 mg/L, Jan. 15, 1974; minimum daily mean, 0 mg/L, at times in most years.

SEDIMENT LOAD: Maximum daily, 52 tons, Jan. 15, 1974; minimum daily, 0 ton, at times in most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 19 mg/L, Oct. 23; minimum daily mean, 0 mg/L, Feb. 21, 22.

SEDIMENT LOAD: Maximum daily, 0.97 ton, Oct. 23; minimum daily, 0 ton, Feb. 21, 22.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) | SED- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|--|--------------------------------------|---|---|---|
| JAN 08... | 1215 | 21 | 0.5 | 7 | 0.40 | 70 |

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | NUMBER OF SAM- PLING POINTS (COUNT) | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | BED MAT. SIEVE DIAM. % FINER THAN .062 MM | BED MAT. SIEVE DIAM. % FINER THAN .125 MM | BED MAT. SIEVE DIAM. % FINER THAN .250 MM |
|--------------|------|--|--|--------------------------------------|---|---|---|
| AUG 21... | 1110 | 3 | 7.3 | 10.5 | 1 | 4 | 17 |

| DATE | BED MAT. SIEVE DIAM. % FINER THAN .500 MM | 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 |
|--------------|---|---|---|---|---|---|
| AUG 21... | 33 | 45 | 61 | 83 | 99 | 100 |

PYRAMID AND WINNEMUCCA LAKES BASIN

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10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | --- | --- | --- | --- | --- | 1.0 | --- | --- | --- | 13.0 | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | 12.0 | --- | --- | --- | 17.0 |
| 3 | 8.0 | --- | --- | 1.0 | --- | --- | --- | 10.0 | 8.0 | --- | 16.0 | --- |
| 4 | --- | --- | --- | .0 | .0 | --- | 9.0 | 12.0 | --- | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | 12.0 | --- | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | --- | --- | --- | 1.5 | --- | --- | 3.0 | --- | 17.0 | --- | --- | --- |
| 8 | --- | --- | 1.0 | .5 | --- | 6.0 | --- | --- | --- | 22.0 | 16.0 | --- |
| 9 | 9.0 | --- | --- | --- | --- | --- | 10.0 | 4.5 | --- | 20.5 | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | 12.5 | 10.0 | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | 5.5 | --- | --- | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | 7.0 | --- | --- | 16.0 | --- |
| 13 | --- | --- | --- | --- | --- | .5 | --- | --- | --- | --- | --- | 16.5 |
| 14 | --- | --- | .5 | --- | --- | --- | --- | --- | 13.5 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | 5.5 | --- | --- | 17.0 | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | 7.5 | --- | --- | --- | --- |
| 17 | --- | .5 | --- | --- | --- | --- | --- | --- | 9.0 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | 2.0 | 9.0 | --- | --- | --- | --- | 15.0 |
| 19 | --- | --- | --- | .0 | --- | --- | --- | 5.0 | --- | --- | --- | --- |
| 20 | 7.5 | --- | --- | .5 | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | .0 | 6.0 | --- | --- | --- | --- | 10.5 | --- |
| 22 | --- | --- | 1.5 | --- | --- | --- | 9.5 | --- | --- | 14.0 | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | 5.0 | --- | --- | --- | --- | --- | 6.5 | --- | 17.0 | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | 5.5 | --- | --- | 16.5 | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | 14.0 | 9.0 | --- | --- | --- | --- |
| 28 | --- | --- | --- | .0 | .5 | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | .5 | --- | --- | --- | 3.0 | --- | 11.0 | --- | --- | --- | 14.0 |
| 30 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 4.0 | --- | --- | --- | --- | 4.0 | --- | --- | --- | --- | --- | --- |

PYRAMID AND WINNEMUCCA LAKES BASIN

10336790 TROUT CREEK AT SOUTH LAKE TAHOE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 15 | 5 | .20 | 14 | 2 | .08 | 15 | 4 | .16 |
| 2 | 15 | 4 | .16 | 14 | 2 | .08 | 15 | 4 | .16 |
| 3 | 16 | 4 | .17 | 14 | 2 | .08 | 15 | 4 | .16 |
| 4 | 15 | 3 | .12 | 14 | 2 | .08 | 15 | 4 | .16 |
| 5 | 14 | 3 | .11 | 14 | 2 | .08 | 15 | 4 | .16 |
| 6 | 14 | 3 | .11 | 14 | 2 | .08 | 15 | 4 | .16 |
| 7 | 14 | 3 | .11 | 14 | 2 | .08 | 15 | 4 | .16 |
| 8 | 14 | 3 | .11 | 13 | 2 | .07 | 15 | 4 | .16 |
| 9 | 13 | 3 | .11 | 14 | 2 | .08 | 15 | 4 | .16 |
| 10 | 14 | 3 | .11 | 14 | 2 | .08 | 15 | 4 | .16 |
| 11 | 13 | 3 | .11 | 14 | 2 | .08 | 15 | 3 | .12 |
| 12 | 12 | 3 | .10 | 14 | 2 | .08 | 15 | 3 | .12 |
| 13 | 11 | 3 | .09 | 14 | 2 | .08 | 16 | 3 | .13 |
| 14 | 11 | 3 | .09 | 14 | 2 | .08 | 16 | 3 | .13 |
| 15 | 11 | 3 | .09 | 13 | 2 | .07 | 17 | 3 | .14 |
| 16 | 11 | 3 | .09 | 14 | 2 | .08 | 17 | 3 | .14 |
| 17 | 11 | 3 | .09 | 14 | 3 | .11 | 17 | 4 | .18 |
| 18 | 11 | 3 | .09 | 14 | 3 | .11 | 17 | 4 | .18 |
| 19 | 11 | 3 | .09 | 13 | 3 | .11 | 17 | 4 | .18 |
| 20 | 11 | 3 | .09 | 13 | 3 | .11 | 17 | 4 | .18 |
| 21 | 12 | 6 | .19 | 13 | 3 | .11 | 16 | 5 | .22 |
| 22 | 16 | 13 | .56 | 14 | 3 | .11 | 16 | 5 | .22 |
| 23 | 19 | 19 | .97 | 14 | 3 | .11 | 16 | 5 | .22 |
| 24 | 23 | 13 | .81 | 16 | 4 | .17 | 16 | 5 | .22 |
| 25 | 18 | 5 | .24 | 16 | 4 | .17 | 15 | 4 | .16 |
| 26 | 15 | 4 | .16 | 13 | 4 | .14 | 15 | 4 | .16 |
| 27 | 15 | 4 | .16 | 16 | 4 | .17 | 15 | 4 | .16 |
| 28 | 14 | 3 | .11 | 16 | 4 | .17 | 15 | 4 | .16 |
| 29 | 14 | 3 | .11 | 16 | 4 | .17 | 14 | 4 | .15 |
| 30 | 14 | 2 | .08 | 16 | 4 | .17 | 14 | 4 | .15 |
| 31 | 14 | 2 | .08 | --- | --- | --- | 14 | 3 | .11 |
| TOTAL | 431 | --- | 5.71 | 426 | --- | 3.19 | 480 | --- | 5.03 |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 14 | 3 | .11 | 13 | 1 | .04 | 14 | 3 | .11 |
| 2 | 13 | 3 | .11 | 13 | 1 | .04 | 14 | 3 | .11 |
| 3 | 13 | 3 | .11 | 13 | 1 | .04 | 16 | 3 | .13 |
| 4 | 13 | 3 | .11 | 13 | 1 | .04 | 16 | 3 | .13 |
| 5 | 13 | 3 | .11 | 13 | 1 | .04 | 15 | 3 | .12 |
| 6 | 13 | 3 | .11 | 13 | 1 | .04 | 15 | 3 | .12 |
| 7 | 14 | 6 | .23 | 13 | 1 | .04 | 16 | 3 | .13 |
| 8 | 20 | 12 | .65 | 13 | 1 | .04 | 16 | 3 | .13 |
| 9 | 16 | 6 | .26 | 13 | 1 | .04 | 16 | 3 | .13 |
| 10 | 15 | 5 | .20 | 13 | 1 | .04 | 15 | 3 | .12 |
| 11 | 15 | 4 | .16 | 13 | 1 | .04 | 15 | 3 | .12 |
| 12 | 15 | 3 | .12 | 13 | 1 | .04 | 16 | 3 | .13 |
| 13 | 15 | 3 | .12 | 13 | 1 | .04 | 17 | 3 | .14 |
| 14 | 15 | 2 | .08 | 13 | 1 | .04 | 16 | 4 | .17 |
| 15 | 14 | 2 | .08 | 13 | 1 | .04 | 14 | 4 | .15 |
| 16 | 14 | 2 | .08 | 13 | 1 | .04 | 15 | 5 | .20 |
| 17 | 14 | 2 | .08 | 13 | 1 | .04 | 16 | 5 | .22 |
| 18 | 14 | 2 | .08 | 13 | 1 | .04 | 18 | 5 | .24 |
| 19 | 13 | 2 | .07 | 13 | 1 | .04 | 20 | --- | e.31 |
| 20 | 14 | 2 | .08 | 13 | 1 | .04 | 21 | --- | e.33 |
| 21 | 14 | 2 | .08 | 13 | 0 | .00 | 22 | --- | e.35 |
| 22 | 15 | 2 | .08 | 13 | 0 | .00 | 22 | --- | e.35 |
| 23 | 14 | 2 | .08 | 13 | 1 | .04 | 23 | --- | e.37 |
| 24 | 14 | 1 | .04 | 13 | 2 | .07 | 23 | --- | e.37 |
| 25 | 14 | 1 | .04 | 13 | 2 | .07 | 25 | --- | e.43 |
| 26 | 14 | 1 | .04 | 13 | 3 | .11 | 24 | --- | e.40 |
| 27 | 13 | 1 | .04 | 13 | 3 | .11 | 24 | --- | e.40 |
| 28 | 13 | 1 | .04 | 14 | 4 | .15 | 23 | --- | e.37 |
| 29 | 13 | 1 | .04 | --- | --- | --- | 21 | --- | e.33 |
| 30 | 13 | 1 | .04 | --- | --- | --- | 21 | --- | e.33 |
| 31 | 13 | 1 | .04 | --- | --- | --- | 21 | --- | e.33 |
| TOTAL | 437 | --- | 3.51 | 365 | --- | 1.35 | 570 | --- | 7.27 |

e Estimated.

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SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MEAN | MEAN | SEDIMENT | MEAN | MEAN | SEDIMENT | MEAN | MEAN | SEDIMENT |
|--------------|--------------------|-------------------------|-------------------------|--------------------|-------------------------|-------------------------|--------------------|-------------------------|-------------------------|
| | DISCHARGE (CFS) | CONCENTRATION (MG/L) | DISCHARGE (TONS/DAY) | DISCHARGE (CFS) | CONCENTRATION (MG/L) | DISCHARGE (TONS/DAY) | DISCHARGE (CFS) | CONCENTRATION (MG/L) | DISCHARGE (TONS/DAY) |
| APRIL | | | | | | | | | |
| 1 | 22 | --- | e.35 | 28 | --- | e.51 | 27 | 7 | .51 |
| 2 | 23 | --- | e.38 | 27 | --- | e.48 | 26 | 6 | .42 |
| 3 | 25 | --- | e.43 | 28 | --- | e.51 | 24 | 6 | .39 |
| 4 | 26 | --- | e.46 | 31 | --- | e.59 | 23 | 6 | .37 |
| 5 | 26 | --- | e.46 | 32 | --- | e.62 | 23 | 6 | .37 |
| 6 | 27 | --- | e.48 | 34 | --- | e.68 | 23 | 6 | .37 |
| 7 | 28 | --- | e.51 | 33 | --- | e.65 | 23 | 7 | .43 |
| 8 | 27 | --- | e.48 | 31 | --- | e.59 | 22 | 7 | .42 |
| 9 | 25 | --- | e.43 | 31 | --- | e.59 | 23 | 7 | .43 |
| 10 | 26 | --- | e.46 | 38 | --- | e.80 | 23 | 6 | .37 |
| MAY | | | | | | | | | |
| 11 | 30 | --- | e.56 | 36 | --- | e.74 | 22 | 6 | .36 |
| 12 | 31 | --- | e.59 | 31 | --- | e.59 | 21 | 6 | .34 |
| 13 | 31 | --- | e.59 | 30 | --- | e.56 | 21 | 7 | .40 |
| 14 | 34 | --- | e.68 | 29 | --- | e.54 | 24 | 9 | .58 |
| 15 | 34 | --- | e.68 | 27 | --- | e.48 | 24 | 5 | .32 |
| 16 | 34 | --- | e.68 | 26 | --- | e.45 | 24 | 4 | .26 |
| 17 | 30 | --- | e.56 | 27 | --- | e.48 | 22 | 4 | .24 |
| 18 | 28 | --- | e.51 | 26 | 5 | .35 | 20 | 4 | .22 |
| 19 | 29 | --- | e.54 | 25 | 4 | .27 | 18 | 4 | .19 |
| 20 | 30 | --- | e.56 | 25 | 4 | .27 | 16 | 4 | .17 |
| JUNE | | | | | | | | | |
| 21 | 30 | --- | e.56 | 24 | 4 | .26 | 15 | 4 | .16 |
| 22 | 27 | --- | e.48 | 24 | 5 | .32 | 15 | 4 | .16 |
| 23 | 32 | --- | e.62 | 25 | 5 | .34 | 14 | 4 | .15 |
| 24 | 31 | --- | e.59 | 26 | 5 | .35 | 14 | 5 | .19 |
| 25 | 27 | --- | e.48 | 24 | 5 | .32 | 13 | 6 | .21 |
| 26 | 28 | --- | e.51 | 24 | 6 | .39 | 13 | 6 | .21 |
| 27 | 31 | --- | e.59 | 25 | 6 | .40 | 12 | 6 | .19 |
| 28 | 35 | --- | e.71 | 26 | 7 | .49 | 12 | 5 | .16 |
| 29 | 33 | --- | e.65 | 25 | 9 | .61 | 12 | 5 | .16 |
| 30 | 30 | --- | e.56 | 26 | 8 | .56 | 11 | 5 | .15 |
| 31 | --- | --- | --- | 31 | 8 | .67 | --- | --- | --- |
| TOTAL | 870 | --- | 16.14 | 875 | --- | 15.46 | 580 | --- | 8.90 |
| JULY | | | | | | | | | |
| 1 | 11 | 5 | .15 | 6.1 | 4 | .07 | 4.5 | 1 | .01 |
| 2 | 11 | 5 | .15 | 6.0 | 4 | .06 | 4.2 | 1 | .01 |
| 3 | 10 | 5 | .13 | 5.8 | 5 | .06 | 4.9 | 1 | .01 |
| 4 | 10 | 5 | .13 | 5.9 | 5 | .06 | 6.9 | 1 | .02 |
| 5 | 9.8 | 6 | .16 | 5.5 | 6 | .09 | 6.2 | 1 | .02 |
| 6 | 9.6 | 6 | .16 | 5.7 | 6 | .09 | 3.9 | 1 | .01 |
| 7 | 9.6 | 6 | .16 | 5.8 | 7 | .11 | 3.9 | 2 | .02 |
| 8 | 9.3 | 6 | .15 | 6.5 | 7 | .12 | 3.9 | 2 | .02 |
| 9 | 9.1 | 6 | .15 | 7.3 | 7 | .14 | 4.2 | 2 | .02 |
| 10 | 9.2 | 5 | .12 | 7.9 | 6 | .13 | 3.7 | 2 | .02 |
| AUGUST | | | | | | | | | |
| 11 | 9.5 | 5 | .13 | 5.5 | 6 | .09 | 3.6 | 2 | .02 |
| 12 | 9.3 | 4 | .10 | 5.3 | 6 | .09 | 3.8 | 3 | .03 |
| 13 | 8.9 | 4 | .10 | 5.0 | 6 | .08 | 4.7 | 3 | .04 |
| 14 | 9.0 | 4 | .10 | 4.9 | 6 | .08 | 4.7 | 3 | .04 |
| 15 | 9.7 | 4 | .10 | 5.3 | 6 | .09 | 4.8 | 3 | .04 |
| 16 | 18 | 4 | .19 | 4.7 | 6 | .08 | 5.0 | 4 | .05 |
| 17 | 15 | 4 | .16 | 4.8 | 5 | .06 | 5.3 | 4 | .06 |
| 18 | 11 | 4 | .12 | 5.3 | 5 | .07 | 5.8 | 4 | .06 |
| 19 | 17 | 4 | .18 | 6.5 | 9 | .16 | 7.4 | 4 | .08 |
| 20 | 14 | 4 | .15 | 11 | 12 | .36 | 5.6 | 4 | .06 |
| SEPTEMBER | | | | | | | | | |
| 21 | 11 | 4 | .12 | 7.1 | 6 | .12 | 5.3 | 4 | .06 |
| 22 | 8.6 | 4 | .09 | 6.1 | 5 | .08 | 5.5 | 4 | .06 |
| 23 | 7.6 | 4 | .08 | 5.9 | 4 | .06 | 6.1 | 6 | .10 |
| 24 | 7.1 | 4 | .08 | 5.4 | 3 | .04 | 10 | 8 | .22 |
| 25 | 7.2 | 4 | .08 | 5.3 | 3 | .04 | 9.2 | 4 | .10 |
| 26 | 7.0 | 4 | .08 | 5.3 | 3 | .04 | 8.9 | 3 | .07 |
| 27 | 6.9 | 4 | .07 | 5.1 | 2 | .03 | 8.6 | 2 | .05 |
| 28 | 6.8 | 4 | .07 | 4.8 | 2 | .03 | 8.0 | 2 | .04 |
| 29 | 6.6 | 4 | .07 | 4.4 | 2 | .02 | 6.5 | 2 | .04 |
| 30 | 6.3 | 4 | .07 | 4.4 | 2 | .02 | 6.2 | 2 | .03 |
| 31 | 6.1 | 4 | .07 | 4.5 | 1 | .01 | --- | --- | --- |
| TOTAL | 301.2 | --- | 3.67 | 179.1 | --- | 2.58 | 171.3 | --- | 1.41 |
| YEAR | 5685.6 | | 74.22 | | | | | | |
| e Estimated. | | | | | | | | | |

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 mi², 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."

CHEMICAL DATA: Water year 1969, bimonthly; 1978, biannually; 1979, annually.

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. See schematic diagram of Truckee River basin.

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, 6,223.83 ft, June 8, 9, 11; minimum, 6,222.81 ft, Sept. 30.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on topographic information available in April 1959)

| | | | |
|-------|---------|---------|---------|
| 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, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-----------|----------|----------|----------|--------|-------|--------|-------|-------|--------|--------|--------|
| 1 | 3.64 | 3.42 | 3.43 | 3.22 | 3.23 | 3.40 | 3.43 | 3.70 | 3.77 | 3.74 | 3.53 | 3.13 |
| 2 | 3.66 | 3.40 | 3.42 | 3.22 | 3.23 | 3.40 | 3.43 | 3.69 | 3.79 | 3.73 | 3.52 | 3.12 |
| 3 | 3.65 | 3.40 | 3.44 | 3.19 | 3.28 | 3.39 | 3.43 | 3.71 | 3.78 | 3.69 | 3.51 | 3.10 |
| 4 | 3.63 | 3.39 | 3.42 | 3.19 | 3.26 | 3.41 | 3.43 | 3.70 | 3.80 | 3.67 | 3.51 | 3.09 |
| 5 | 3.64 | 3.38 | 3.41 | 3.20 | 3.28 | 3.39 | 3.46 | 3.71 | 3.80 | 3.67 | 3.48 | 3.09 |
| 6 | 3.63 | 3.36 | 3.41 | 3.19 | 3.25 | 3.40 | 3.48 | 3.70 | 3.78 | 3.66 | 3.48 | 3.08 |
| 7 | 3.61 | 3.38 | 3.42 | 3.23 | 3.27 | 3.40 | 3.49 | 3.71 | 3.81 | 3.66 | 3.48 | 3.07 |
| 8 | 3.60 | 3.37 | 3.40 | 3.22 | 3.26 | 3.38 | 3.49 | 3.71 | 3.81 | 3.67 | 3.47 | 3.07 |
| 9 | 3.59 | 3.36 | 3.39 | 3.23 | 3.26 | 3.38 | 3.50 | 3.73 | 3.81 | 3.66 | 3.50 | 3.07 |
| 10 | 3.58 | 3.36 | 3.39 | 3.24 | 3.25 | 3.41 | 3.50 | 3.74 | 3.79 | 3.65 | 3.47 | 3.05 |
| 11 | 3.58 | 3.36 | 3.36 | 3.21 | 3.25 | 3.40 | 3.51 | 3.73 | 3.80 | 3.65 | 3.46 | 3.04 |
| 12 | 3.56 | 3.35 | 3.35 | 3.21 | 3.23 | 3.40 | 3.52 | 3.73 | 3.79 | 3.66 | 3.46 | 3.03 |
| 13 | 3.56 | 3.34 | 3.35 | 3.27 | 3.21 | 3.40 | 3.53 | 3.74 | 3.81 | 3.67 | 3.44 | 3.01 |
| 14 | 3.54 | 3.32 | 3.34 | 3.30 | 3.20 | 3.41 | 3.54 | 3.73 | 3.80 | 3.67 | 3.42 | 3.00 |
| 15 | 3.53 | 3.33 | 3.32 | 3.29 | 3.19 | 3.40 | 3.54 | 3.75 | 3.80 | 3.69 | 3.39 | 2.96 |
| 16 | 3.53 | 3.32 | 3.33 | 3.29 | 3.37 | 3.41 | 3.55 | 3.72 | 3.80 | 3.69 | 3.37 | 2.95 |
| 17 | 3.53 | 3.32 | 3.32 | 3.29 | 3.39 | 3.41 | 3.57 | 3.72 | 3.79 | 3.67 | 3.34 | 2.95 |
| 18 | 3.52 | 3.30 | 3.31 | 3.28 | 3.42 | 3.43 | 3.58 | 3.72 | 3.80 | 3.70 | 3.32 | 2.93 |
| 19 | 3.51 | 3.30 | 3.30 | 3.28 | 3.39 | 3.41 | 3.59 | 3.70 | 3.80 | 3.67 | 3.33 | 2.91 |
| 20 | 3.48 | 3.30 | 3.30 | 3.27 | 3.39 | 3.41 | 3.61 | 3.71 | 3.78 | 3.67 | 3.32 | 2.89 |
| 21 | 3.46 | 3.29 | 3.30 | 3.26 | 3.37 | 3.42 | 3.62 | 3.71 | 3.79 | 3.65 | 3.31 | 2.86 |
| 22 | 3.45 | 3.29 | 3.30 | 3.27 | 3.38 | 3.41 | 3.62 | 3.69 | 3.77 | 3.65 | 3.30 | 2.84 |
| 23 | 3.59 | 3.27 | 3.30 | 3.26 | 3.37 | 3.42 | 3.65 | 3.69 | 3.77 | 3.60 | 3.27 | 2.86 |
| 24 | 3.55 | 3.31 | 3.30 | 3.26 | 3.38 | 3.42 | 3.66 | 3.71 | 3.77 | 3.60 | 3.25 | 2.85 |
| 25 | 3.55 | 3.45 | 3.29 | 3.23 | 3.38 | 3.41 | 3.67 | 3.69 | 3.77 | 3.56 | 3.21 | 2.85 |
| 26 | 3.51 | 3.49 | 3.29 | 3.24 | 3.38 | 3.42 | 3.69 | 3.71 | 3.75 | 3.57 | 3.20 | 2.85 |
| 27 | 3.51 | 3.45 | 3.28 | 3.22 | 3.37 | 3.42 | 3.69 | 3.74 | 3.74 | 3.56 | 3.19 | 2.86 |
| 28 | 3.49 | 3.44 | 3.29 | 3.21 | 3.40 | 3.42 | 3.66 | 3.72 | 3.74 | 3.56 | 3.18 | 2.84 |
| 29 | 3.45 | 3.44 | 3.26 | 3.21 | --- | 3.42 | 3.71 | 3.73 | 3.73 | 3.55 | 3.15 | 2.82 |
| 30 | 3.44 | 3.44 | 3.24 | 3.22 | --- | 3.42 | 3.71 | 3.73 | 3.74 | 3.54 | 3.15 | 2.82 |
| 31 | 3.44 | --- | 3.22 | 3.23 | --- | 3.42 | --- | 3.79 | --- | 3.53 | 3.14 | --- |
| MEAN | 3.55 | 3.36 | 3.34 | 3.24 | 3.31 | 3.41 | 3.56 | 3.72 | 3.78 | 3.64 | 3.36 | 2.97 |
| MAX | 3.66 | 3.49 | 3.44 | 3.30 | 3.42 | 3.43 | 3.71 | 3.79 | 3.81 | 3.74 | 3.53 | 3.13 |
| MIN | 3.44 | 3.27 | 3.22 | 3.19 | 3.19 | 3.38 | 3.43 | 3.69 | 3.73 | 3.53 | 3.14 | 2.82 |
| a | 53400 | 53400 | 26700 | 27900 | 48600 | 51000 | 86200 | 95900 | 89800 | 64300 | 17000 | 0 |
| b | -26700 | 0 | -26700 | +1200 | +20700 | +2400 | +35200 | +9700 | -6100 | -25500 | -47300 | -17000 |
| CAL YR 1989 | MEAN 3.77 | MAX 4.88 | MIN 2.80 | b +26700 | | | | | | | | |
| WTR YR 1990 | MEAN 3.44 | MAX 3.81 | MIN 2.82 | b -80100 | | | | | | | | |

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.

PYRAMID AND WINNEMUCCA LAKES BASIN

89

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 mi².

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."

CHEMICAL DATA: Water years 1978 to 1981, monthly.

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.--Records good. 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. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (unadjusted).--90 years (water years 1901-90), 255 ft³/s, 184,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft³/s, June 19, 1969, gage height, 9.32 ft; no flow for parts of many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 172 ft³/s, June 15, gage height, 3.01 ft; no flow Sept. 22-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|--------|------|------|------|------|------|--------|-------|
| 1 | 84 | 42 | 42 | 9.4 | 14 | 30 | 27 | 74 | 70 | 117 | 60 | 7.0 |
| 2 | 86 | 40 | 43 | 11 | 14 | 30 | 26 | 75 | 70 | 108 | 58 | 6.1 |
| 3 | 89 | 37 | 42 | 8.3 | 15 | 32 | 27 | 74 | 70 | 114 | 56 | 5.4 |
| 4 | 87 | 36 | 41 | 7.6 | 17 | 32 | 28 | 74 | 71 | 102 | 53 | 4.9 |
| 5 | 81 | 33 | 40 | 7.3 | 19 | 33 | 29 | 74 | 70 | 99 | 51 | 4.1 |
| 6 | 80 | 32 | 39 | 7.4 | 20 | 33 | 30 | 74 | 70 | 100 | 50 | 3.7 |
| 7 | 77 | 31 | 39 | 10 | 18 | 33 | 31 | 73 | 70 | 94 | 48 | e3.5 |
| 8 | 73 | 30 | 37 | 11 | 18 | 32 | 30 | 68 | 70 | 98 | 48 | e3.1 |
| 9 | 72 | 30 | 35 | 11 | 18 | 32 | 30 | 68 | 70 | 95 | 49 | e2.7 |
| 10 | 68 | 30 | 34 | 10 | 17 | 31 | 30 | 68 | 70 | 95 | 49 | 2.3 |
| 11 | 67 | 30 | 33 | 10 | 17 | 33 | 30 | 70 | 70 | 94 | 47 | e1.9 |
| 12 | 64 | 28 | 29 | 9.6 | 14 | 34 | 43 | 70 | 94 | 95 | 45 | e1.5 |
| 13 | 63 | 27 | 28 | 12 | 12 | 34 | 57 | 70 | 118 | 96 | 43 | e1.1 |
| 14 | 60 | 26 | 28 | 19 | 11 | 34 | 60 | 87 | 121 | 95 | 41 | e.70 |
| 15 | 58 | 26 | 28 | 22 | 13 | 34 | 60 | 107 | 134 | 97 | 37 | .40 |
| 16 | 56 | 25 | 27 | 21 | 1.8 | 34 | 63 | 113 | 144 | 106 | 33 | .34 |
| 17 | 53 | 27 | 25 | 23 | 2.9 | 35 | 66 | 106 | 141 | 104 | 29 | .27 |
| 18 | 54 | 24 | 24 | 22 | 2.4 | 36 | 70 | 108 | 139 | 105 | 26 | .30 |
| 19 | 52 | 24 | 24 | 18 | .50 | 36 | 71 | 100 | 141 | 106 | e24 | .20 |
| 20 | 47 | 24 | 24 | 17 | .29 | 31 | 72 | 101 | 141 | 103 | e22 | .10 |
| 21 | 44 | 23 | 24 | 16 | .23 | 31 | 79 | 103 | 139 | 99 | e21 | .02 |
| 22 | 43 | 23 | 22 | 16 | .18 | 32 | 73 | 100 | 138 | 96 | e20 | .00 |
| 23 | 52 | 21 | 22 | 16 | 9.7 | 32 | 75 | 97 | 135 | 88 | e19 | e.00 |
| 24 | 69 | 25 | 21 | 14 | 25 | 29 | 74 | 104 | 133 | 78 | e17 | e.00 |
| 25 | 64 | 28 | 20 | 14 | 23 | 28 | 74 | 105 | 133 | 70 | 15 | e.00 |
| 26 | 58 | 45 | 20 | 9.8 | 24 | 28 | 74 | 100 | 129 | 72 | e14 | e.00 |
| 27 | 54 | 50 | 20 | 11 | 25 | 28 | 74 | 104 | 120 | 69 | e12 | e.00 |
| 28 | 57 | 44 | 20 | 11 | 30 | 28 | 74 | 84 | 125 | 70 | 10 | e.00 |
| 29 | 51 | 45 | 21 | 8.3 | --- | 27 | 74 | 66 | 120 | 65 | 9.6 | e.00 |
| 30 | 45 | 44 | 12 | 9.6 | --- | 27 | 74 | 73 | 119 | 64 | e8.0 | e.00 |
| 31 | 43 | --- | 12 | 12 | --- | 27 | --- | 72 | --- | 60 | 6.9 | --- |
| TOTAL | 1951 | 950 | 876 | 404.3 | 382.00 | 976 | 1625 | 2662 | 3235 | 2854 | 1021.5 | 49.63 |
| MEAN | 62.9 | 31.7 | 28.3 | 13.0 | 13.6 | 31.5 | 54.2 | 85.9 | 108 | 92.1 | 33.0 | 1.65 |
| MAX | 89 | 50 | 43 | 23 | 30 | 36 | 79 | 113 | 144 | 117 | 60 | 7.0 |
| MIN | 43 | 21 | 12 | 7.3 | .18 | 27 | 26 | 66 | 70 | 60 | 6.9 | .00 |
| AC-FT | 3870 | 1880 | 1740 | 802 | 758 | 1940 | 3220 | 5280 | 6420 | 5660 | 2030 | 98 |

CAL YR 1989 TOTAL 31370.85 MEAN 85.9 MAX 393 MIN .07 AC-FT 62220
WTR YR 1990 TOTAL 16986.43 MEAN 46.5 MAX 144 MIN .00 AC-FT 33690

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10338400 DONNER LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'30", long 120°16'53", in SE 1/4 NW 1/4 sec.14, T.17 N., R.15 E., Nevada County, Hydrologic Unit 16050102, on north shore 2.5 mi upstream from outlet gates and 4.9 mi west of Truckee.

DRAINAGE AREA.--14.0 mi².

PERIOD OF RECORD.--January 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Westpac Utilities).

REMARKS.--Lake levels regulated by a concrete dam at the outlet constructed in 1928. Usable capacity, 9,490 acre-ft between elevations 5,923.8 and 5,935.8 ft, maximum storage level. Water is used for irrigation and power development downstream. Records, including extremes, represent usable contents. See schematic diagram of Truckee River basin.

COOPERATION.--Selected gage-height readings provided by Westpac Utilities.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,490 acre-ft, May 5, June 7-9, 1989, elevation, 5,935.8 ft; minimum, 2,790 acre-ft, Jan. 4, 5, 1990, elevation, 5,927.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,460 acre-ft, June 1, 2, elevation, 5,935.77 ft; minimum, 2,790 acre-ft, Jan. 4, 5, elevation, 5,927.60 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Westpac Utilities, dated Aug. 22, 1980)

| | | | |
|---------|-------|-------|-------|
| 5,923.8 | 0 | 5,932 | 6,310 |
| 5,926.0 | 1,600 | 5,934 | 7,970 |
| 5,928.0 | 3,120 | 5,936 | 9,670 |
| 5,930.0 | 4,690 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 8000 | 4530 | e3080 | e2820 | 2930 | 3060 | 5160 | 7380 | 9460 | 9280 | 8930 | 8360 |
| 2 | 8080 | 4390 | e3070 | e2810 | 2910 | 3080 | 5300 | 7360 | 9460 | 9270 | 8920 | 8340 |
| 3 | 8050 | 4260 | e3070 | e2800 | 2970 | 3130 | 5420 | 7410 | 9440 | 9270 | 8910 | 8300 |
| 4 | 8050 | 4140 | e3060 | 2790 | 2920 | 3130 | 5520 | 7500 | 9390 | 9250 | 8890 | 8280 |
| 5 | 8050 | 4030 | e3060 | 2790 | 2960 | 3130 | 5610 | 7600 | 9330 | 9230 | 8880 | 8250 |
| 6 | 8070 | 3940 | e3060 | 2800 | 2900 | 3120 | 5710 | 7680 | 9300 | 9210 | 8860 | 8220 |
| 7 | 8050 | 3850 | e3060 | 2890 | 2860 | 3130 | 5850 | 7740 | 9280 | 9230 | 8860 | 8150 |
| 8 | 8060 | 3770 | e3050 | 3080 | 2930 | 3140 | 5990 | 7810 | 9300 | 9210 | 8840 | 8030 |
| 9 | 8030 | 3680 | e3040 | 3110 | 2920 | 3200 | 6140 | 7880 | 9330 | 9220 | 8830 | 7950 |
| 10 | 7990 | 3620 | e3030 | 3070 | 2890 | 3260 | 6320 | 7940 | 9320 | 9210 | 8810 | 7860 |
| 11 | 7880 | 3560 | e3030 | 3090 | 2910 | 3290 | 6480 | 7970 | 9340 | 9210 | 8770 | 7740 |
| 12 | 7780 | 3510 | e3020 | 3100 | 2870 | 3310 | 6660 | 8020 | 9350 | 9210 | 8760 | 7590 |
| 13 | 7680 | 3460 | e3010 | 3160 | 2830 | 3330 | 6870 | 8080 | 9360 | 9200 | 8720 | 7410 |
| 14 | 7570 | 3400 | e3000 | 3200 | 2830 | 3380 | 7090 | 8120 | 9390 | 9180 | 8710 | 7190 |
| 15 | 7490 | 3340 | e2990 | 3180 | 2870 | 3380 | 7300 | 8150 | 9400 | 9170 | 8650 | 6980 |
| 16 | 7330 | 3270 | e2980 | 3140 | 3030 | 3410 | 7460 | 8200 | 9420 | 9170 | 8630 | 6800 |
| 17 | 7140 | 3210 | e2970 | 3140 | 3130 | 3450 | 7620 | 8210 | 9390 | 9150 | 8620 | 6620 |
| 18 | 6930 | 3160 | e2960 | 3110 | 3080 | 3510 | 7780 | 8230 | 9380 | 9150 | 8570 | 6470 |
| 19 | 6730 | 3120 | e2950 | 3070 | 3030 | 3590 | 7930 | 8260 | 9390 | 9130 | 8570 | 6310 |
| 20 | 6530 | 3090 | e2940 | 3020 | 3060 | 3700 | 8090 | 8340 | 9370 | 9110 | 8530 | 6190 |
| 21 | 6520 | 3080 | e2930 | 3020 | 3020 | 3800 | 8180 | 8420 | 9360 | 9100 | 8540 | 6100 |
| 22 | 6370 | 3060 | e2920 | 3000 | 3020 | 3940 | 8150 | 8470 | 9320 | 9090 | 8520 | 6000 |
| 23 | 6430 | 3070 | e2910 | 2990 | 3020 | 4060 | 8260 | 8590 | 9330 | 9070 | 8510 | 5940 |
| 24 | 6250 | 3070 | e2900 | 2970 | 3000 | 4200 | 8200 | 8670 | 9320 | 9030 | 8480 | 5880 |
| 25 | 5990 | 3200 | e2890 | 2980 | 2980 | 4360 | 8120 | 8710 | 9320 | 9000 | 8470 | 5900 |
| 26 | 5760 | 3170 | e2880 | 2940 | 2990 | 4490 | 8000 | 8810 | 9320 | 9000 | 8450 | 5870 |
| 27 | 5540 | 3130 | e2870 | 2930 | 3020 | 4630 | 7930 | 8960 | 9310 | 9000 | 8430 | 5820 |
| 28 | 5310 | 3090 | e2860 | 2860 | 3030 | 4730 | 7830 | 9040 | 9310 | 8980 | 8420 | 5770 |
| 29 | 5090 | 3090 | e2850 | 2910 | --- | 4830 | 7690 | 9110 | 9300 | 8960 | 8410 | 5690 |
| 30 | 4900 | 3090 | e2840 | 2960 | --- | 4930 | 7540 | 9330 | 9300 | 8950 | 8380 | 5610 |
| 31 | 4700 | --- | e2830 | 2970 | --- | 5030 | --- | 9430 | --- | 8940 | 8380 | --- |
| MAX | 8080 | 4530 | 3080 | 3200 | 3130 | 5030 | 8260 | 9430 | 9460 | 9280 | 8930 | 8360 |
| MIN | 4700 | 3060 | 2830 | 2790 | 2830 | 3060 | 5160 | 7360 | 9280 | 8940 | 8380 | 5610 |
| a | 5930.02 | 5927.97 | 5927.94 | 5927.82 | 5927.90 | 5930.44 | 5933.50 | 5935.73 | 5935.58 | 5935.16 | 5934.50 | 5931.26 |
| b | -3320 | -1610 | -260 | +140 | +60 | +2000 | +2510 | +1890 | -130 | -360 | -560 | -2770 |

WTR YR 1990 MAX 9460 MIN 2790 b -2410

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

PYRAMID AND WINNEMUCCA LAKES BASIN

91

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 mi².

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 and concrete control, completed Oct. 3, 1989. 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.--Records good except estimated daily discharges, which are fair. Flow completely regulated by dam at outlet of Donner Lake (station 10338400), 0.2 mi upstream. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (unadjusted).--53 years (water years 1930-35, 1937, 1940-42, 1944-52, 1956-57, 1959-90), 34.8 ft³/s, 25,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 707 ft³/s, Feb. 19, 1986; gage height, 4.83 ft; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 161 ft³/s, Oct. 23, gage height, 4.11 ft; minimum daily, 0.45 ft³/s, Mar. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|---------|------|-------|-------|-------|--------|--------|-------|-------|------|-------|--------|
| 1 | e.84 | 105 | 23 | 8.3 | 19 | 23 | 4.5 | 130 | 62 | 2.5 | e2.3 | 3.9 |
| 2 | e.84 | 81 | 22 | 7.9 | 18 | 23 | 4.5 | 72 | 61 | 2.6 | 5.1 | 3.9 |
| 3 | e.84 | 84 | 21 | 7.5 | 18 | 26 | 23 | 21 | 61 | 2.8 | 7.5 | 3.6 |
| 4 | .79 | 74 | 19 | 7.4 | 20 | 27 | 42 | 13 | 61 | 3.2 | 7.5 | 9.8 |
| 5 | .62 | 67 | 19 | 7.3 | 20 | 27 | 44 | 3.5 | 61 | 2.7 | 6.2 | 17 |
| 6 | .60 | 61 | 19 | 7.1 | 19 | 24 | 45 | 3.4 | 44 | 2.8 | 2.4 | 16 |
| 7 | .64 | 55 | 19 | 9.2 | 18 | 21 | 19 | 3.3 | 31 | 3.0 | 2.3 | 32 |
| 8 | .62 | 51 | 18 | 17 | 17 | 16 | 1.6 | 3.2 | 18 | 3.0 | 5.3 | 51 |
| 9 | .56 | 47 | 17 | 21 | 17 | 13 | 1.2 | 3.1 | 5.2 | 2.9 | 8.0 | 49 |
| 10 | 25 | 44 | 17 | 21 | 16 | 14 | 2.1 | 3.0 | 4.9 | 2.9 | 8.0 | 49 |
| 11 | 51 | 40 | 16 | 21 | 16 | 15 | 3.4 | 2.9 | 4.5 | 2.6 | 7.9 | 50 |
| 12 | 50 | 37 | 16 | 21 | 15 | 16 | 3.4 | 2.6 | 4.7 | 2.7 | 7.8 | 68 |
| 13 | 48 | 34 | 15 | 24 | 9.1 | 16 | 3.4 | 3.2 | 4.7 | 2.8 | 7.8 | 104 |
| 14 | 46 | 39 | 15 | 28 | 15 | 17 | 4.9 | 7.0 | 4.8 | 2.4 | 7.5 | 101 |
| 15 | 45 | 45 | 14 | 28 | 15 | 17 | 8.3 | 4.5 | 4.8 | 2.4 | 5.5 | 98 |
| 16 | 85 | 40 | 14 | 28 | 5.9 | 14 | 8.3 | 2.1 | 12 | 2.3 | 3.3 | 95 |
| 17 | 110 | 36 | 13 | 27 | 21 | 11 | 6.0 | 1.9 | 18 | 2.2 | 2.9 | 92 |
| 18 | 109 | 32 | 13 | 26 | 24 | 12 | 3.0 | 1.6 | 18 | 2.3 | 2.9 | 87 |
| 19 | 107 | 29 | 13 | 24 | 28 | 12 | 2.9 | 1.3 | 18 | 2.4 | 2.6 | 75 |
| 20 | 103 | 27 | 12 | 23 | 26 | 13 | 3.5 | 1.2 | 18 | 2.5 | 2.4 | 64 |
| 21 | 100 | 25 | 12 | 22 | 24 | 7.2 | 58 | 1.1 | 18 | 2.2 | 1.9 | 51 |
| 22 | 96 | 23 | 12 | 21 | 23 | .80 | 107 | 1.0 | 12 | 2.0 | 1.9 | 35 |
| 23 | 132 | 21 | 11 | 21 | 22 | .61 | 108 | 2.6 | 4.5 | 1.9 | 2.9 | 35 |
| 24 | 156 | 22 | 11 | 20 | 21 | .54 | 126 | 3.6 | 3.7 | 2.0 | 3.1 | 34 |
| 25 | 149 | 25 | 11 | 19 | 21 | .53 | 143 | 3.5 | 3.1 | 2.3 | 2.7 | 34 |
| 26 | 142 | 32 | 11 | 18 | 21 | .45 | 141 | 3.3 | 2.6 | 2.0 | 2.5 | 34 |
| 27 | 136 | 30 | 10 | 17 | 22 | 2.9 | 139 | 3.6 | 2.6 | 2.0 | 2.2 | 34 |
| 28 | 128 | 28 | 9.5 | 17 | 22 | 5.0 | 137 | 4.0 | 2.9 | 2.3 | 2.0 | 34 |
| 29 | 120 | 26 | 9.3 | 16 | --- | 4.5 | 136 | 3.5 | 2.9 | e2.3 | 1.9 | 33 |
| 30 | 119 | 24 | 8.6 | 16 | --- | 4.5 | 133 | 3.4 | 2.9 | e2.3 | 3.4 | 32 |
| 31 | 116 | --- | 8.4 | 19 | --- | 4.5 | --- | 35 | --- | e2.3 | 3.7 | --- |
| TOTAL | 2179.35 | 1284 | 448.8 | 569.7 | 533.0 | 388.53 | 1462.0 | 348.4 | 571.8 | 76.6 | 133.4 | 1425.2 |
| MEAN | 70.3 | 42.8 | 14.5 | 18.4 | 19.0 | 12.5 | 48.7 | 11.2 | 19.1 | 2.47 | 4.30 | 47.5 |
| MAX | 156 | 105 | 23 | 28 | 28 | 27 | 143 | 130 | 62 | 3.2 | 8.0 | 104 |
| MIN | .56 | 21 | 8.4 | 7.1 | 5.9 | .45 | 1.2 | 1.0 | 2.6 | 1.9 | 1.9 | 3.6 |
| AC-FT | 4320 | 2550 | 890 | 1130 | 1060 | 771 | 2900 | 691 | 1130 | 152 | 265 | 2830 |

CAL YR 1989 TOTAL 15136.93 MEAN 41.5 MAX 281 MIN .56 AC-FT 30020
WTR YR 1990 TOTAL 9420.78 MEAN 25.8 MAX 156 MIN .45 AC-FT 18690

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

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

WATER-QUALITY RECORDS

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.

DRAINAGE AREA.--25.8 mi².

PERIOD OF RECORD.--Water years 1975 to current year.

CHEMICAL DATA: Water years 1975 to current year.

WATER TEMPERATURE: Water years 1975 to September 1988.

SEDIMENT DATA: Water years 1975, 1977 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October to November 1974, August 1975 to September 1988.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED SATUR- ATION | BICAR- BONATE WATER WH FET FIELD MG/L AS HCO ₃ |
|--------------|--|---|---|---|--|--|---|--|---|---|
| OCT 25... | 1125 | 8.7 | 145 | 7.9 | 4.5 | 6.0 | 615 | 10.3 | 99 | 74 |
| APR 02... | 1205 | 20 | 98 | 7.8 | 6.0 | 2.9 | 620 | 10.4 | 103 | 54 |
| JUN 19... | 1100 | 3.8 | 140 | 8.0 | 12.5 | 2.3 | 625 | 8.9 | 102 | 92 |
| AUG 07... | 1130 | 2.0 | 145 | 7.8 | 17.5 | 3.5 | 620 | 7.8 | 101 | 99 |
| DATE | CAR- BONATE WATER WH FET FIELD MG/L AS CO ₃ | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO ₃ | NITRO- GEN, NO ₂ +NO ₃ 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) |
| OCT 25... | 0 | 61 | 0.200 | 0.030 | 0.37 | 0.40 | 0.60 | 0.040 | 0.030 | 2 |
| APR 02... | 0 | 45 | 0.300 | <0.010 | -- | 0.40 | 0.70 | 0.030 | 0.010 | 4 |
| JUN 19... | 0 | 76 | <0.100 | <0.010 | -- | <0.20 | -- | 0.020 | 0.020 | 1 |
| AUG 07... | 0 | 81 | <0.100 | 0.010 | 0.19 | 0.20 | -- | 0.040 | 0.020 | 3 |
| DATE | COPPER, DIS- SOLVED (UG/L AS CU) | 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 25... | 1 | 680 | 210 | 2 | 1 | <4 | 20 | 16 | 10 | 4 |
| APR 02... | 3 | 450 | 190 | 1 | 1 | <4 | 40 | 17 | 20 | 12 |
| JUN 19... | 1 | 610 | 380 | 1 | <1 | <4 | 30 | 29 | <10 | 4 |
| AUG 07... | 1 | 980 | 520 | 3 | 1 | <4 | 60 | 57 | <10 | 3 |

PYRAMID AND WINNEMUCCA LAKES BASIN

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PER (T/DAY) |
|--------------|------|--|--------------------------------------|---|---|
| OCT 25... | 1125 | 8.7 | 4.5 | 5 | 0.12 |
| APR 02... | 1205 | 20 | 6.0 | 2 | 0.11 |
| JUN 19... | 1100 | 3.8 | 12.5 | 4 | 0.04 |
| AUG 07... | 1130 | 2.0 | 17.5 | 5 | 0.03 |

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, in control house at Martis Creek Dam, 2.0 mi upstream from mouth, and 3.5 mi east of Truckee.
DRAINAGE AREA.--39.6 mi².

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. Reservoir is used for flood control, enhancement of fishery, and recreation. See schematic diagram of Truckee River basin.

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, 848 acre-ft, Mar. 24, elevation, 5,781.14 ft; minimum, 774 acre-ft, Sept. 12-15, elevation, 5,779.99 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated September 1975 provided by U.S. Army Corps of Engineers)

| | | | |
|-------|-------|-------|-------|
| 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 (ACRE-Feet), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 793 | 792 | 794 | 790 | 790 | 796 | 815 | 800 | 794 | 779 | 776 | 776 |
| 2 | 798 | 792 | 793 | 790 | 790 | 797 | 815 | 799 | 790 | 778 | 776 | 776 |
| 3 | 799 | 792 | 793 | 790 | 790 | 802 | 815 | 798 | 787 | 779 | 776 | 776 |
| 4 | 797 | 792 | 794 | 790 | 789 | 801 | 816 | 796 | 787 | 778 | 776 | 775 |
| 5 | 795 | 792 | 794 | 790 | 790 | 800 | 822 | 795 | 786 | 778 | 776 | 775 |
| 6 | 794 | 792 | 793 | 790 | 790 | 799 | 820 | 793 | 786 | 778 | 776 | 775 |
| 7 | 792 | 791 | 792 | 804 | 790 | 802 | 818 | 792 | 785 | 778 | 779 | 776 |
| 8 | 792 | 792 | 793 | 809 | 790 | 809 | 815 | 792 | 784 | 778 | 780 | 776 |
| 9 | 792 | 792 | 792 | 799 | 790 | 813 | 812 | 792 | 784 | 778 | 780 | 775 |
| 10 | 792 | 792 | 791 | 794 | 790 | 811 | 811 | 794 | 782 | 778 | 780 | 775 |
| 11 | 791 | 791 | 790 | 793 | 791 | 804 | 811 | 792 | 782 | 779 | 779 | 775 |
| 12 | 791 | 791 | 790 | 795 | 791 | 801 | 811 | 790 | 782 | 779 | 778 | 774 |
| 13 | 791 | 791 | 790 | 800 | 791 | 799 | 811 | 789 | 786 | 778 | 777 | 774 |
| 14 | 791 | 791 | 790 | 797 | 790 | 797 | 811 | 788 | 787 | 778 | 777 | 774 |
| 15 | 791 | 791 | 791 | 794 | 789 | 799 | 811 | 788 | 786 | 779 | 776 | 774 |
| 16 | 791 | 791 | 791 | 793 | 792 | 801 | 811 | 787 | 785 | 779 | 776 | 775 |
| 17 | 791 | 791 | 790 | 792 | 792 | 813 | 809 | 787 | 784 | 779 | 775 | 776 |
| 18 | 791 | 791 | 790 | 790 | 791 | 830 | 808 | 786 | 784 | 780 | 775 | 776 |
| 19 | 791 | 791 | 790 | 790 | 789 | 846 | 807 | 786 | 783 | 782 | 782 | 777 |
| 20 | 790 | 791 | 790 | 790 | 788 | 845 | 808 | 787 | 782 | 780 | 783 | 777 |
| 21 | 793 | 791 | 790 | 790 | 789 | 846 | 815 | 788 | 782 | 779 | 782 | 777 |
| 22 | 795 | 791 | 790 | 790 | 791 | 843 | 809 | 786 | 781 | 778 | 780 | 777 |
| 23 | 816 | 791 | 790 | 790 | 791 | 845 | 818 | 788 | 780 | 777 | 780 | 779 |
| 24 | 809 | 796 | 790 | 790 | 792 | 845 | 813 | 788 | 779 | 776 | 777 | 781 |
| 25 | 801 | 816 | 790 | 790 | 793 | 841 | 809 | 787 | 779 | 776 | 777 | 782 |
| 26 | 797 | 805 | 790 | 790 | 794 | 832 | 808 | 787 | 778 | 776 | 777 | 787 |
| 27 | 795 | 799 | 790 | 790 | 795 | 827 | 806 | 789 | 778 | 776 | 777 | 786 |
| 28 | 794 | 795 | 790 | 790 | 797 | 819 | 805 | 789 | 778 | 776 | 776 | 784 |
| 29 | 793 | 794 | 790 | 790 | --- | 816 | 803 | 787 | 779 | 776 | 776 | 782 |
| 30 | 792 | 794 | 789 | 792 | --- | 815 | 802 | 794 | 779 | 776 | 777 | 782 |
| 31 | 792 | --- | 790 | 790 | --- | 815 | --- | 798 | --- | 776 | 777 | --- |
| MAX | 816 | 816 | 794 | 809 | 797 | 846 | 822 | 800 | 794 | 782 | 783 | 787 |
| MIN | 790 | 791 | 789 | 790 | 788 | 796 | 802 | 786 | 778 | 776 | 775 | 774 |
| a | 5780.27 | 5780.31 | 5780.24 | 5780.25 | 5780.35 | 5780.64 | 5780.44 | 5780.37 | 5780.06 | 5780.01 | 5780.03 | 5780.11 |
| b | -2 | +2 | -4 | 0 | +7 | +18 | -13 | -4 | -19 | -3 | +1 | +5 |

CAL YR 1989 MAX 900 MIN 777 b +1

WTR YR 1990 MAX 846 MIN 774 b -12

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

PYRAMID AND WINNEMUCCA LAKES BASIN

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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 1989 TO SEPTEMBER 1990

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) | BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 | CAR- BONATE WATER WH FET FIELD MG/L AS CO3 |
|--------------|------|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|--|---|--|
| OCT 25... | 1200 | 151 | 8.4 | 9.5 | 2.1 | 615 | 8.7 | 95 | 85 | 5 |
| APR 02... | 1240 | 88 | 7.7 | 6.5 | 5.0 | 620 | 10.1 | 101 | 49 | 0 |
| JUN 19... | 1230 | 134 | 9.2 | 19.0 | 2.0 | 625 | 10.0 | 132 | 55 | 12 |
| AUG 07... | 1245 | 132 | 9.7 | 23.0 | 1.0 | 620 | 8.6 | 124 | 30 | 27 |

| DATE | ALKA- LINIT WAT WH TOT FET FIELD MG/L AS CACO3 | 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 25... | 78 | <0.100 | 0.090 | 0.51 | 0.60 | -- | 0.040 | 0.040 | 3 | 1 |
| APR 02... | 40 | 0.600 | 0.010 | 0.39 | 0.40 | 1.0 | 0.060 | 0.030 | 5 | 2 |
| JUN 19... | 65 | <0.100 | 0.010 | 0.19 | 0.20 | -- | 0.020 | 0.020 | 3 | 2 |
| AUG 07... | 69 | 0.100 | 0.040 | 0.56 | 0.60 | 0.70 | 0.020 | <0.010 | 3 | 1 |

| 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 25... | 460 | 390 | 38 | 1 | <4 | 30 | 16 | 20 | 7 |
| APR 02... | 480 | 160 | 28 | 4 | <4 | 40 | 16 | 20 | 19 |
| JUN 19... | 270 | 140 | 45 | 4 | <4 | 20 | 6 | <10 | 4 |
| AUG 07... | 100 | 24 | 26 | 2 | <4 | 10 | 3 | <10 | 5 |

SUSPENDED SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDED (MG/L) |
|--------------|------|--------------------------------------|--|
| OCT 25... | 1200 | 9.5 | 5 |
| APR 02... | 1240 | 6.5 | 4 |
| JUN 19... | 1230 | 19.0 | 2 |
| AUG 07... | 1245 | 23.0 | 2 |

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 mi².

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 (station 10339380) since Oct. 7, 1971. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (unadjusted).--32 years, 25.8 ft³/s, 18,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft³/s, Feb. 1, 1963, gage height, 6.16 ft, site and datum then in use; minimum, 1.1 ft³/s, July 19, 20, 1961. Maximum discharge since construction of Martis Creek Lake Dam in 1971, 663 ft³/s, Feb. 28, 1986, gage height, 5.66 ft; maximum gage height, 6.01 ft, Apr. 2, 1974; minimum daily, 0.20 ft³/s, Nov. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 87 ft³/s, Mar. 19-21, 23, 24, gage height, 2.93 ft; minimum daily, 2.6 ft³/s, Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 1 | 7.0 | 7.5 | 9.2 | 7.4 | 8.9 | 12 | 30 | 17 | 13 | 3.9 | 2.9 | 3.5 |
| 2 | 7.8 | 7.4 | 8.9 | 7.4 | 8.5 | 12 | 30 | 16 | 11 | 4.0 | 3.0 | 3.5 |
| 3 | 10 | 7.4 | 8.7 | 7.4 | 8.2 | 15 | 30 | 15 | 8.8 | 3.9 | 3.0 | 3.6 |
| 4 | 10 | 7.4 | 8.7 | 7.6 | 8.2 | 16 | 31 | 14 | 7.9 | 3.8 | 2.9 | 3.5 |
| 5 | 8.6 | 7.4 | 8.9 | 7.8 | 8.1 | 15 | 33 | 13 | 7.6 | 3.8 | 2.9 | 3.5 |
| 6 | 7.7 | 7.4 | 8.9 | 7.7 | 8.5 | 15 | 39 | 12 | 7.4 | 3.7 | 3.1 | 3.6 |
| 7 | 7.1 | 7.3 | 8.6 | 10 | 8.2 | 15 | 36 | 11 | 7.3 | 3.7 | 3.4 | 3.7 |
| 8 | 6.5 | 7.2 | 8.6 | 24 | 8.1 | 19 | 34 | 11 | 7.1 | 3.6 | 3.8 | 3.7 |
| 9 | 6.4 | 7.3 | 8.5 | 18 | 8.2 | 25 | 30 | 11 | 6.8 | 3.7 | 4.1 | 3.5 |
| 10 | 6.5 | 7.4 | 8.0 | 12 | 8.2 | 26 | 28 | 12 | 6.5 | 3.8 | 4.0 | 3.7 |
| 11 | 6.2 | 7.4 | 7.3 | 10 | 8.2 | 22 | 28 | 12 | 6.1 | 3.8 | 3.8 | 3.6 |
| 12 | 6.2 | 7.2 | 7.2 | 10 | 8.5 | 17 | 27 | 11 | 6.0 | 3.9 | 3.5 | 3.5 |
| 13 | 6.2 | 6.9 | 7.4 | 15 | 8.6 | 15 | 27 | 9.8 | 6.3 | 4.0 | 3.4 | 3.4 |
| 14 | 6.2 | 6.9 | 7.7 | 15 | 8.5 | 14 | 27 | 8.9 | 7.7 | 3.8 | 3.3 | 3.6 |
| 15 | 6.2 | 7.0 | 7.7 | 12 | 8.0 | 13 | 27 | 8.7 | 7.4 | 3.9 | 3.3 | 3.5 |
| 16 | 6.2 | 7.2 | 7.8 | 11 | 9.4 | 15 | 26 | 8.0 | 7.1 | 4.1 | 3.2 | 3.5 |
| 17 | 6.2 | 7.4 | 7.9 | 10 | 8.6 | 18 | 25 | 7.8 | 6.9 | 4.1 | 3.1 | 3.5 |
| 18 | 6.2 | 7.4 | 7.9 | 9.6 | 8.6 | 36 | 23 | 7.4 | 6.5 | 3.9 | 3.2 | 3.8 |
| 19 | 6.2 | 7.3 | 7.8 | 9.0 | 8.5 | 60 | 22 | 7.3 | 6.4 | 4.7 | 3.9 | 3.8 |
| 20 | 6.2 | 7.2 | 7.7 | 8.5 | 8.4 | 75 | 22 | 7.7 | 6.0 | 4.6 | 5.2 | 3.8 |
| 21 | 6.5 | 7.1 | 7.7 | 8.5 | 7.8 | 72 | 26 | 8.2 | 5.7 | 4.0 | 4.7 | 3.8 |
| 22 | 8.1 | 7.2 | 7.7 | 8.6 | 7.8 | 70 | 29 | 8.1 | 5.5 | 3.7 | 4.3 | 3.9 |
| 23 | 14 | 7.2 | 7.7 | 8.7 | 8.3 | 68 | 31 | 7.9 | 5.2 | 3.3 | 4.2 | 4.0 |
| 24 | 28 | 9.3 | 7.7 | 8.7 | 8.7 | 69 | 33 | 8.4 | 5.0 | 3.2 | 4.0 | 4.6 |
| 25 | 18 | 15 | 7.6 | 8.6 | 9.2 | 67 | 26 | 7.9 | 4.7 | 3.0 | 3.5 | 4.9 |
| 26 | 13 | 26 | 7.4 | 8.5 | 9.6 | 57 | 23 | 7.7 | 4.7 | 3.0 | 3.4 | 5.8 |
| 27 | 10 | 16 | 7.4 | 8.2 | 10 | 47 | 21 | 8.2 | 4.4 | 3.0 | 3.6 | 6.6 |
| 28 | 8.9 | 12 | 7.4 | 7.8 | 11 | 40 | 20 | 8.8 | 4.2 | 3.0 | 3.6 | 5.8 |
| 29 | 8.1 | 9.9 | 7.4 | 8.0 | --- | 33 | 19 | 8.4 | 4.3 | 3.0 | 3.4 | 5.1 |
| 30 | 7.7 | 9.6 | 7.4 | 9.4 | --- | 30 | 18 | 9.1 | 4.1 | 3.0 | 2.6 | 4.6 |
| 31 | 7.5 | --- | 7.4 | 9.2 | --- | 30 | --- | 15 | --- | 2.8 | 3.4 | --- |
| TOTAL | 269.4 | 264.9 | 246.2 | 313.6 | 240.8 | 1038 | 821 | 318.3 | 197.6 | 113.7 | 109.7 | 120.9 |
| MEAN | 8.69 | 8.83 | 7.94 | 10.1 | 8.60 | 33.5 | 27.4 | 10.3 | 6.59 | 3.67 | 3.54 | 4.03 |
| MAX | 28 | 26 | 9.2 | 24 | 11 | 75 | 39 | 17 | 13 | 4.7 | 5.2 | 6.6 |
| MIN | 6.2 | 6.9 | 7.2 | 7.4 | 7.8 | 12 | 18 | 7.3 | 4.1 | 2.8 | 2.6 | 3.4 |
| AC-FT | 534 | 525 | 488 | 622 | 478 | 2060 | 1630 | 631 | 392 | 226 | 218 | 240 |

CAL YR 1989 TOTAL 6648.20 MEAN 18.2 MAX 203 MIN .40 AC-FT 13190
WTR YR 1990 TOTAL 4054.1 MEAN 11.1 MAX 75 MIN 2.6 AC-FT 8040

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

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 Mar. 6-28, Aug. 1-7. Water temperature is affected by regulation from Martis Creek Lake Dam. Unpublished chemical-quality, water temperature, and sediment data prior to October 1974, available at U.S. Geological Survey 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, 23.5 °C, several days in July; minimum recorded, 0.5 °C, Feb. 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) | CAR- BONATE WATER WH FET FIELD MG/L AS CO3 |
|--------------|------|--|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|--|--|
| OCT 25... | 1350 | 17 | 150 | 8.4 | 9.0 | 2.0 | 615 | 9.6 | 103 | 3 |
| APR 02... | 1405 | 29 | 94 | 8.0 | 6.5 | 4.6 | 620 | 10.8 | 108 | 0 |
| JUN 19... | 1340 | 6.4 | 137 | 9.1 | 19.0 | 1.4 | 625 | 9.5 | 126 | 9 |
| AUG 07... | 1320 | 3.3 | 132 | 9.3 | 22.5 | 1.8 | 625 | 9.7 | 138 | 17 |

| DATE | BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 | ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 | 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) |
|--------------|---|---|--|--|--|--|---|--|---|---|
| OCT 25... | 88 | 78 | 0.500 | 0.080 | 0.42 | 0.50 | 1.0 | 0.040 | 0.020 | 1 |
| APR 02... | 51 | 42 | 2.30 | 0.010 | 0.49 | 0.50 | 2.8 | 0.030 | 0.020 | 4 |
| JUN 19... | 60 | 64 | <0.100 | 0.020 | 0.18 | 0.20 | -- | 0.030 | 0.020 | 1 |
| AUG 07... | 51 | 70 | 0.100 | 0.070 | 0.33 | 0.40 | 0.50 | 0.060 | 0.040 | 2 |

| DATE | COPPER, DIS- SOLVED (UG/L AS CU) | 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 25... | 1 | 490 | 170 | 1 | 1 | <4 | 30 | 15 | -- | -- |
| APR 02... | 1 | 510 | 150 | <1 | 2 | <4 | 50 | 19 | -- | -- |
| JUN 19... | 1 | 320 | 160 | <1 | <1 | <4 | 40 | 23 | <10 | 9 |
| AUG 07... | 1 | 250 | 80 | 1 | <1 | <4 | 40 | 16 | <10 | <3 |

PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) |
|--------------|------|--|--------------------------------------|--|---|
| OCT 25... | 1350 | 17 | 9.0 | 3 | 0.14 |
| APR 02... | 1405 | 29 | 6.5 | 3 | 0.23 |
| JUN 19... | 1340 | 6.4 | 19.0 | 4 | 0.07 |
| AUG 07... | 1320 | 3.3 | 22.5 | 5 | 0.05 |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
|-------|---------|------|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| 1 | 15.5 | 12.5 | 8.0 | 5.0 | 4.5 | 3.0 | 4.5 | 3.5 | 4.0 | 2.0 | 3.0 | 1.5 |
| 2 | 13.0 | 11.5 | 7.5 | 5.0 | 4.5 | 3.0 | 4.5 | 3.0 | 4.0 | 2.0 | 3.0 | 2.0 |
| 3 | 13.5 | 12.0 | 7.5 | 5.0 | 5.0 | 3.5 | 4.5 | 3.0 | 4.0 | 1.5 | 4.0 | 1.5 |
| 4 | 13.5 | 11.0 | 8.0 | 5.0 | 5.0 | 3.5 | 4.0 | 3.0 | 4.0 | 1.5 | 3.0 | 1.5 |
| 5 | 13.5 | 10.5 | 8.0 | 5.5 | 5.0 | 3.5 | 5.0 | 3.0 | 4.0 | 1.5 | 3.5 | 1.5 |
| 6 | 14.0 | 11.0 | 7.0 | 5.0 | 5.0 | 3.5 | 5.0 | 3.0 | 4.0 | 2.0 | --- | --- |
| 7 | 14.0 | 11.0 | 7.0 | 4.5 | 5.0 | 3.5 | 4.5 | 3.5 | 3.5 | 1.0 | --- | --- |
| 8 | 14.0 | 10.5 | 7.0 | 4.5 | 5.0 | 3.5 | 4.5 | 3.5 | 4.0 | 1.5 | --- | --- |
| 9 | 14.0 | 10.5 | 7.0 | 4.5 | 5.5 | 3.5 | 4.5 | 3.5 | 4.0 | 2.0 | --- | --- |
| 10 | 14.0 | 10.5 | 7.5 | 4.5 | 5.0 | 3.5 | 4.5 | 3.5 | 4.5 | 2.0 | --- | --- |
| 11 | 14.0 | 10.5 | 7.5 | 4.5 | 5.0 | 3.0 | 5.0 | 3.5 | 4.0 | 1.5 | --- | --- |
| 12 | 14.0 | 10.5 | 7.0 | 4.5 | 5.0 | 3.0 | 5.0 | 3.5 | 4.0 | 2.0 | --- | --- |
| 13 | 13.5 | 10.5 | 7.0 | 4.5 | 5.0 | 3.5 | 5.0 | 3.5 | 3.5 | 2.0 | --- | --- |
| 14 | 13.5 | 10.5 | 7.0 | 4.5 | 5.0 | 3.0 | 4.5 | 3.5 | 3.5 | 1.5 | --- | --- |
| 15 | 13.5 | 10.0 | 6.0 | 4.5 | 5.0 | 3.5 | 4.5 | 3.5 | 3.5 | 1.0 | --- | --- |
| 16 | 13.0 | 10.0 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 3.0 | 2.0 | .5 | --- | --- |
| 17 | 13.0 | 9.5 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 3.0 | 2.5 | 1.0 | --- | --- |
| 18 | 13.0 | 9.5 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 2.5 | 3.5 | 1.5 | --- | --- |
| 19 | 13.0 | 9.5 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 2.5 | 3.5 | 1.0 | --- | --- |
| 20 | 13.0 | 10.5 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 2.0 | 3.0 | 1.5 | --- | --- |
| 21 | 12.0 | 10.0 | 6.0 | 4.0 | 5.0 | 3.5 | 4.0 | 2.0 | 4.0 | 1.5 | --- | --- |
| 22 | 11.5 | 9.5 | 6.5 | 4.0 | 5.0 | 3.0 | 4.0 | 2.0 | 4.0 | 1.5 | --- | --- |
| 23 | 9.5 | 9.0 | 5.0 | 4.0 | 5.0 | 3.5 | 4.0 | 2.0 | 4.0 | 1.5 | --- | --- |
| 24 | 10.0 | 9.0 | 5.5 | 4.5 | 5.0 | 3.5 | 4.0 | 2.0 | 4.0 | 1.5 | --- | --- |
| 25 | 9.5 | 8.0 | 4.5 | 3.5 | 5.0 | 3.0 | 4.5 | 2.5 | 3.5 | 1.5 | --- | --- |
| 26 | 9.0 | 7.5 | 4.0 | 3.0 | 5.0 | 3.0 | 4.5 | 2.5 | 4.0 | 1.5 | --- | --- |
| 27 | 9.0 | 7.5 | 4.0 | 3.0 | 5.0 | 3.5 | 4.0 | 2.0 | 4.0 | 2.0 | --- | --- |
| 28 | 9.0 | 6.5 | 4.0 | 2.5 | 5.0 | 3.5 | 4.0 | 2.0 | 4.0 | 1.5 | --- | --- |
| 29 | 8.5 | 6.0 | 4.5 | 3.5 | 5.0 | 3.5 | 4.0 | 2.5 | --- | --- | 5.5 | 4.0 |
| 30 | 8.5 | 5.5 | 4.5 | 3.0 | 5.0 | 3.0 | 3.0 | 1.5 | --- | --- | 6.0 | 4.0 |
| 31 | 8.0 | 5.5 | --- | --- | 5.0 | 3.0 | 4.0 | 2.5 | --- | --- | 6.0 | 4.5 |
| MONTH | 15.5 | 5.5 | 8.0 | 2.5 | 5.5 | 3.0 | 5.0 | 1.5 | 4.5 | .5 | --- | --- |

PYRAMID AND WINNEMUCCA LAKES BASIN

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10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| 1 | 7.0 | 4.5 | 12.0 | 10.0 | 14.5 | 11.0 | 18.5 | 16.0 | --- | --- | 20.0 | 13.5 |
| 2 | 7.0 | 5.0 | 12.5 | 10.5 | 15.0 | 11.5 | 21.5 | 16.0 | --- | --- | 19.5 | 13.5 |
| 3 | 8.0 | 5.0 | 13.0 | 10.5 | 16.5 | 12.0 | 21.5 | 15.0 | --- | --- | 19.5 | 13.5 |
| 4 | 8.0 | 6.0 | 14.5 | 11.0 | 17.0 | 12.5 | 21.5 | 15.0 | --- | --- | 19.5 | 13.5 |
| 5 | 8.0 | 6.0 | 15.5 | 12.0 | 17.0 | 13.0 | 21.5 | 15.5 | --- | --- | 19.5 | 13.5 |
| 6 | 9.0 | 7.0 | 16.0 | 12.5 | 15.5 | 13.0 | 22.0 | 15.0 | --- | --- | 19.0 | 14.0 |
| 7 | 8.5 | 7.5 | 16.0 | 12.5 | 18.0 | 13.0 | 22.0 | 15.0 | --- | --- | 20.0 | 14.0 |
| 8 | 8.5 | 7.5 | 15.5 | 12.5 | 18.5 | 13.5 | 22.5 | 15.5 | 22.5 | 18.0 | 20.0 | 14.0 |
| 9 | 10.0 | 7.5 | 16.0 | 12.5 | 17.5 | 14.0 | 22.5 | 15.5 | 22.5 | 17.5 | 20.0 | 13.5 |
| 10 | 11.0 | 8.0 | 15.5 | 13.5 | 19.0 | 14.0 | 21.5 | 16.0 | 22.5 | 17.5 | 20.0 | 13.5 |
| 11 | 11.0 | 8.5 | 16.5 | 13.5 | 18.5 | 14.0 | 22.0 | 16.5 | 22.5 | 17.0 | 20.0 | 13.5 |
| 12 | 11.0 | 9.0 | 17.0 | 13.5 | 18.5 | 14.0 | 22.0 | 17.0 | 23.0 | 17.0 | 19.5 | 13.5 |
| 13 | 12.5 | 9.5 | 17.0 | 13.5 | 16.5 | 13.5 | 22.5 | 17.0 | 22.5 | 17.0 | 19.5 | 13.0 |
| 14 | 13.5 | 10.5 | 17.0 | 13.5 | 17.5 | 14.0 | 22.5 | 17.0 | 23.0 | 17.0 | 19.0 | 13.5 |
| 15 | 12.5 | 11.0 | 16.5 | 13.5 | 17.0 | 14.0 | 23.0 | 16.5 | 22.5 | 17.0 | 19.0 | 13.0 |
| 16 | 12.0 | 11.0 | 17.0 | 13.5 | 16.5 | 14.0 | 23.5 | 17.5 | 22.0 | 16.0 | 18.5 | 12.5 |
| 17 | 11.0 | 10.5 | 17.5 | 14.0 | 18.0 | 14.0 | 23.0 | 17.0 | 22.0 | 16.5 | 17.0 | 13.0 |
| 18 | 11.5 | 10.0 | 17.0 | 13.0 | 17.0 | 14.0 | 21.5 | 17.5 | 20.0 | 16.5 | 17.0 | 12.5 |
| 19 | 11.5 | 10.0 | 16.0 | 13.0 | 19.0 | 13.5 | 22.0 | 18.0 | 18.5 | 15.0 | 16.5 | 12.5 |
| 20 | 11.5 | 10.0 | 14.0 | 12.0 | 19.5 | 14.0 | 23.0 | 18.0 | 18.5 | 15.5 | 17.5 | 12.0 |
| 21 | 10.5 | 10.0 | 15.5 | 12.0 | 19.5 | 14.5 | 23.5 | 17.5 | 20.0 | 15.5 | 17.5 | 12.0 |
| 22 | 11.5 | 9.5 | 15.5 | 12.0 | 19.5 | 15.0 | 23.5 | 17.0 | 20.5 | 15.0 | 17.0 | 12.0 |
| 23 | 11.5 | 10.0 | 13.5 | 12.0 | 20.0 | 14.0 | 23.0 | 17.0 | 19.5 | 15.0 | 15.5 | 12.0 |
| 24 | 11.0 | 9.5 | 15.0 | 11.5 | 20.5 | 15.0 | 23.0 | 17.0 | 20.0 | 14.5 | 16.0 | 13.0 |
| 25 | 11.0 | 9.0 | 14.5 | 11.5 | 20.5 | 14.5 | 23.0 | 16.5 | 18.5 | 14.5 | 14.0 | 13.0 |
| 26 | 12.0 | 10.0 | 14.0 | 12.0 | 20.5 | 14.5 | 23.5 | 16.0 | 18.5 | 14.0 | 14.5 | 12.5 |
| 27 | 13.0 | 10.0 | 13.5 | 12.0 | 21.0 | 15.0 | 23.0 | 16.5 | 19.5 | 13.5 | 15.0 | 12.0 |
| 28 | 13.0 | 11.5 | 13.0 | 12.0 | 21.5 | 15.0 | 23.0 | 16.5 | 19.0 | 11.0 | 15.5 | 12.0 |
| 29 | 13.0 | 11.5 | 13.5 | 12.0 | 21.5 | 15.0 | 23.0 | 17.0 | 19.5 | 13.5 | 16.0 | 11.5 |
| 30 | 12.5 | 10.5 | 13.0 | 11.0 | 21.5 | 15.5 | 23.5 | 16.5 | 20.0 | 14.0 | 16.0 | 11.5 |
| 31 | --- | --- | 13.0 | 10.5 | --- | --- | 23.5 | 16.5 | 20.0 | 13.5 | --- | --- |
| MONTH | 13.5 | 4.5 | 17.5 | 10.0 | 21.5 | 11.0 | 23.5 | 15.0 | --- | --- | 20.0 | 11.5 |

PYRAMID AND WINNEMUCCA LAKES BASIN

10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'46", 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 mi².

PERIOD OF RECORD.--January 1963 to current year. January 1963 to September 1987 (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).

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. See schematic diagram of Truckee River basin.

COOPERATION.--Gage readings 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, 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 observed, 19,322 acre-ft, June 14, elevation, 5,725.05 ft; minimum observed, 9,740 acre-ft, Sept. 24, elevation, 5,703.43 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated August 1962)

| | | | | | |
|-------|-------|-------|--------|-------|--------|
| 5,630 | 17 | 5,680 | 3,791 | 5,720 | 16,643 |
| 5,640 | 143 | 5,690 | 5,901 | 5,730 | 22,220 |
| 5,650 | 491 | 5,700 | 8,636 | 5,740 | 28,949 |
| 5,660 | 1,148 | 5,710 | 12,147 | 5,750 | 37,046 |
| 5,670 | 2,230 | | | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 08:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1 | --- | 18095 | 18164 | --- | 18277 | 18084 | --- | --- | 17411 | --- | 12029 | --- |
| 2 | 18137 | 18111 | --- | 18016 | 18271 | 18122 | 18026 | 16027 | --- | 17505 | 12021 | --- |
| 3 | 18190 | 18100 | --- | 17994 | --- | --- | 18079 | 15964 | --- | 17338 | 12010 | --- |
| 4 | 18217 | --- | 18185 | 17994 | --- | --- | 18159 | 15926 | 18005 | --- | --- | 9901 |
| 5 | 18228 | --- | 18190 | 18005 | 18164 | 18260 | 18180 | --- | 18164 | 16958 | --- | 9891 |
| 6 | 18244 | 18090 | 18223 | --- | 18169 | 18228 | 18212 | 15901 | 18326 | 16770 | 11978 | 9885 |
| 7 | --- | 18079 | 18206 | --- | 18164 | 18174 | --- | 16081 | 18477 | --- | 11970 | 9875 |
| 8 | --- | 18084 | 18223 | 18127 | 18153 | 18132 | --- | 16239 | 18639 | 16344 | 11959 | --- |
| 9 | 18260 | 18053 | --- | 18348 | 18153 | 18100 | 18111 | 16379 | --- | 16120 | 11959 | --- |
| 10 | 18271 | --- | --- | 18456 | --- | --- | 18038 | 16528 | --- | 15906 | 11947 | 9851 |
| 11 | 18271 | --- | 18164 | 18413 | --- | --- | 17984 | 16689 | 19078 | 15692 | --- | 9845 |
| 12 | --- | --- | 18132 | 18348 | 18137 | 18132 | 18031 | --- | 19195 | 15472 | --- | 9834 |
| 13 | 18271 | 18079 | 18116 | --- | 18132 | --- | 18095 | --- | 19300 | 15253 | 11912 | 9824 |
| 14 | --- | --- | 18106 | --- | 18127 | 18122 | --- | 17050 | 19322 | --- | 11900 | 9814 |
| 15 | --- | 18090 | 18111 | 18239 | 18111 | 18122 | --- | 17168 | 19300 | --- | 11892 | --- |
| 16 | 18266 | --- | --- | 18169 | 18148 | 18106 | 18402 | 17194 | --- | 14594 | 11872 | --- |
| 17 | --- | 18106 | --- | 18100 | --- | --- | 18391 | 17188 | --- | 14385 | 11864 | 9780 |
| 18 | 18260 | --- | 18106 | 18026 | --- | --- | 18201 | 17178 | 19222 | 14147 | --- | 9780 |
| 19 | --- | --- | 18100 | 18021 | --- | 18164 | 17984 | --- | 19167 | 13934 | --- | 9771 |
| 20 | 18255 | 18127 | 18090 | --- | 17994 | 18260 | 17761 | --- | 19084 | 13698 | 11837 | --- |
| 21 | --- | 18127 | 18090 | --- | 18031 | 18386 | --- | 16795 | 19029 | --- | 11548 | 9754 |
| 22 | --- | 18106 | 18079 | 17957 | 18031 | 18326 | --- | 16694 | 18963 | --- | 11240 | --- |
| 23 | 18380 | --- | --- | 17984 | 18021 | 18260 | 17281 | 16583 | --- | 13013 | 10878 | --- |
| 24 | 18683 | 18116 | --- | 18010 | --- | --- | 17168 | 16573 | --- | 12790 | 10516 | 9740 |
| 25 | 18814 | --- | --- | 18042 | --- | --- | 16928 | 16518 | 18618 | 12542 | 10128 | 9744 |
| 26 | 18814 | --- | 18057 | 18074 | 18021 | 18217 | 16684 | --- | 18504 | 12316 | --- | 9771 |
| 27 | 18780 | 18293 | 18047 | --- | 18057 | 18206 | 16433 | --- | 18353 | 12081 | 9956 | 9797 |
| 28 | --- | 18266 | 18047 | --- | 18084 | 18190 | --- | 16694 | 18212 | --- | 9960 | 9811 |
| 29 | --- | 18228 | 18042 | 18159 | --- | 18143 | --- | 16836 | 18038 | --- | 9946 | --- |
| 30 | 18477 | 18196 | --- | 18201 | --- | 18074 | 16309 | 16938 | --- | 12053 | 9946 | --- |
| 31 | 18282 | --- | --- | 18250 | --- | --- | --- | 17194 | --- | 12037 | 9932 | --- |

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 mi².

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 Reservoir (station 10340300) since Jan. 30, 1963. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Prosser Creek Reservoir since 1963).--47 years (water years 1943-50, 1952-90), 87.8 ft³/s, 63,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1943-90).--Maximum discharge, 4,560 ft³/s, Dec. 23, 1955, gage height, 10.13 ft, present datum, from rating curve extended above 910 ft³/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 ft³/s, July 18, 1961, result of work on dam upstream. Maximum discharge since construction of Prosser Creek Dam in 1963, 1,790 ft³/s, Feb. 20-22, 1986, gage height, 6.66 ft, from rating curve extended above 880 ft³/s on basis of valve setting at Prosser Creek Dam; minimum daily, 0.02 ft³/s, Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 278 ft³/s, Apr. 23-26, gage height, 3.97 ft; minimum daily, 7.2 ft³/s, Aug. 14, 27, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|-------|------|------|------|--------|-------|
| 1 | 9.3 | 55 | 34 | 21 | 26 | 27 | 136 | 170 | 11 | 112 | 10 | 7.7 |
| 2 | 9.9 | 29 | 21 | 21 | 37 | 27 | 114 | 144 | 11 | 111 | 10 | 7.7 |
| 3 | 9.6 | 29 | 21 | 15 | 45 | 28 | 114 | 127 | 11 | 108 | 9.5 | 7.7 |
| 4 | 9.5 | 29 | 22 | 12 | 45 | 28 | 129 | 129 | 11 | 108 | 9.5 | 7.7 |
| 5 | 9.3 | 29 | 22 | 12 | 39 | 38 | 158 | 134 | 11 | 108 | 9.5 | 7.7 |
| 6 | 9.6 | 29 | 22 | 12 | 28 | 62 | 162 | 72 | 11 | 111 | 9.5 | 7.7 |
| 7 | 9.5 | 29 | 21 | 13 | 28 | 62 | 162 | 29 | 11 | 117 | 10 | 7.7 |
| 8 | 9.1 | 29 | 29 | 13 | 27 | 64 | 164 | 35 | 11 | 117 | 10 | 7.7 |
| 9 | 9.4 | 26 | 33 | 12 | 27 | 60 | 166 | 36 | 11 | 119 | 10 | 7.7 |
| 10 | 9.1 | 20 | 33 | 46 | 27 | 50 | 170 | 30 | 11 | 119 | 10 | 7.7 |
| 11 | 8.9 | 19 | 33 | 69 | 27 | 48 | 143 | 30 | 11 | 119 | 9.6 | 7.7 |
| 12 | 8.9 | 19 | 33 | 69 | 27 | 49 | 126 | 30 | 11 | 119 | 9.5 | 7.9 |
| 13 | 10 | 20 | 26 | 69 | 27 | 48 | 126 | 30 | 46 | 119 | 9.0 | 8.5 |
| 14 | 11 | 20 | 22 | 69 | 27 | 49 | 127 | 21 | 69 | 118 | 7.2 | 8.9 |
| 15 | 12 | 20 | 22 | 68 | 27 | 49 | 129 | 39 | 68 | 117 | 7.5 | 9.3 |
| 16 | 11 | 20 | 22 | 68 | 42 | 48 | 164 | 70 | 68 | 117 | 7.7 | 9.5 |
| 17 | 11 | 20 | 22 | 68 | 51 | 48 | 207 | 76 | 66 | 114 | 7.7 | 9.5 |
| 18 | 12 | 20 | 22 | 54 | 51 | 50 | 264 | 113 | 77 | 116 | 8.0 | 9.5 |
| 19 | 11 | 20 | 22 | 43 | 51 | 53 | 264 | 136 | 86 | 116 | 8.7 | 9.5 |
| 20 | 11 | 20 | 22 | 29 | 37 | 53 | 264 | 136 | 86 | 116 | 97 | 9.5 |
| 21 | 11 | 19 | 22 | 29 | 27 | 99 | 266 | 136 | 86 | 116 | 160 | 9.5 |
| 22 | 11 | 20 | 22 | 19 | 26 | 144 | 272 | 138 | 95 | 116 | 171 | 9.6 |
| 23 | 13 | 20 | 23 | 12 | 26 | 129 | 278 | 122 | 102 | 116 | 182 | 10 |
| 24 | 12 | 20 | 23 | 12 | 26 | 122 | 278 | 111 | 102 | 115 | 179 | 9.6 |
| 25 | 33 | 21 | 23 | 12 | 26 | 124 | 278 | 87 | 101 | 117 | 141 | 9.5 |
| 26 | 49 | 21 | 22 | 12 | 27 | 142 | 278 | 69 | 101 | 117 | 7.5 | 9.5 |
| 27 | 64 | 33 | 22 | 12 | 27 | 147 | 219 | 69 | 101 | 48 | 7.2 | 9.5 |
| 28 | 74 | 40 | 21 | 13 | 27 | 148 | 170 | 49 | 108 | 12 | 7.2 | 9.0 |
| 29 | 74 | 40 | 21 | 13 | --- | 162 | 170 | 32 | 112 | 11 | 7.3 | 8.4 |
| 30 | 94 | 41 | 21 | 13 | --- | 150 | 170 | 22 | 112 | 11 | 7.7 | 8.3 |
| 31 | 108 | --- | 21 | 18 | --- | 136 | --- | 12 | --- | 10 | 7.7 | --- |
| TOTAL | 744.1 | 777 | 745 | 948 | 908 | 2444 | 5668 | 2434 | 1718 | 3090 | 1147.5 | 259.7 |
| MEAN | 24.0 | 25.9 | 24.0 | 30.6 | 32.4 | 78.8 | 189 | 78.5 | 57.3 | 99.7 | 37.0 | 8.66 |
| MAX | 108 | 55 | 34 | 69 | 51 | 162 | 278 | 170 | 112 | 119 | 182 | 10 |
| MIN | 8.9 | 19 | 21 | 12 | 26 | 27 | 114 | 12 | 11 | 10 | 7.2 | 7.7 |
| AC-FT | 1480 | 1540 | 1480 | 1880 | 1800 | 4850 | 11240 | 4830 | 3410 | 6130 | 2280 | 515 |

CAL YR 1989 TOTAL 26791.5 MEAN 73.4 MAX 326 MIN 4.7 AC-FT 53140 MEAN a 89.3 AC-FT a 64650
WTR YR 1990 TOTAL 20883.3 MEAN 57.2 MAX 278 MIN 7.2 AC-FT 41420 MEAN a 45.7 AC-FT a 33090

a Adjusted for change in contents in Prosser Creek Reservoir.

PYRAMID AND WINNEMUCCA LAKES BASIN

10342900 INDEPENDENCE LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°27'07", long 120°17'23", in NW 1/4 SW 1/4 sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, on right bank of outlet channel, 60 ft upstream from outlet gates, and 10.5 mi northwest of Truckee.

DRAINAGE AREA.--7.51 mi².

PERIOD OF RECORD.--November 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sierra Pacific Power Co.).

REMARKS.--Lake levels regulated by an earthfill dam at the outlet constructed in 1939. Usable capacity, 17,300 acre-ft between elevations 6,921.0 ft, invert of outlet gate and 6,949.0 ft, normal maximum storage level. Water is used for irrigation and power development downstream. Records, including extremes, represent usable contents. See schematic diagram of Truckee River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,400 acre-ft, June 7-13, 1989, elevation, 6,949.19 ft; minimum, 4,750 acre-ft, Nov. 10, 11, 1988, elevation, 6,929.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,800 acre-ft, June 23-30, elevation, 6,948.28 ft; minimum, 13,800 acre-ft, Nov. 7-21, elevation, 6,943.90 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sierra Pacific Power Co., dated Nov. 5, 1941)

| | | | |
|-------|-------|-------|--------|
| 6,921 | 0 | 6,940 | 11,240 |
| 6,925 | 2,220 | 6,945 | 14,530 |
| 6,930 | 5,110 | 6,950 | 18,000 |
| 6,935 | 8,110 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 15900 | 14200 | 14100 | 14200 | 14700 | 15100 | 15900 | 15000 | 16000 | 16700 | 16300 | 15700 |
| 2 | 15900 | 14200 | 14100 | 14200 | 14700 | 15200 | 15900 | 15000 | 16100 | 16700 | 16300 | 15700 |
| 3 | 15900 | 14100 | 14100 | 14200 | 14700 | 15200 | 16000 | 14900 | 16100 | 16700 | 16200 | 15600 |
| 4 | 15900 | 14000 | 14100 | 14200 | 14800 | 15200 | 16000 | 14900 | 16200 | 16700 | 16200 | 15600 |
| 5 | 15800 | 13900 | 14100 | 14200 | 14800 | 15200 | 16100 | 14800 | 16300 | 16700 | 16200 | 15600 |
| 6 | 15800 | 13900 | 14100 | 14200 | 14800 | 15200 | 16100 | 14800 | 16300 | 16700 | 16200 | 15600 |
| 7 | 15800 | 13800 | 14100 | 14300 | 14800 | 15200 | 16200 | 14700 | 16300 | 16700 | 16200 | 15600 |
| 8 | 15700 | 13800 | 14100 | 14300 | 14800 | 15200 | 16200 | 14700 | 16400 | 16700 | 16200 | 15600 |
| 9 | 15700 | 13800 | 14100 | 14300 | 14800 | 15200 | 16200 | 14800 | 16500 | 16700 | 16200 | 15600 |
| 10 | 15700 | 13800 | 14200 | 14300 | 14800 | 15300 | e16200 | 14800 | 16500 | 16700 | 16200 | 15500 |
| 11 | 15600 | 13800 | 14200 | 14400 | 14800 | 15400 | 16100 | 14900 | 16500 | 16700 | 16200 | 15400 |
| 12 | 15600 | 13800 | 14200 | 14400 | 14800 | 15400 | 16000 | 14900 | 16600 | 16700 | e16100 | 15400 |
| 13 | 15500 | 13800 | 14200 | 14500 | 14800 | 15400 | 16000 | 15000 | 16600 | 16600 | e16100 | 15300 |
| 14 | 15400 | 13800 | 14200 | 14500 | 14800 | 15400 | 15900 | 15000 | 16600 | 16600 | e16000 | 15200 |
| 15 | 15300 | 13800 | 14200 | 14500 | 14900 | 15400 | 15900 | 15000 | 16600 | 16600 | e16000 | 15100 |
| 16 | 15200 | 13800 | 14200 | 14500 | 15000 | 15400 | 15900 | 15100 | 16700 | 16600 | e16000 | 15100 |
| 17 | 15100 | 13800 | 14200 | 14600 | 15100 | 15400 | 15800 | 15100 | 16700 | 16600 | e16000 | 15000 |
| 18 | 15000 | 13800 | 14200 | 14600 | 15100 | 15400 | 15700 | 15100 | e16700 | 16600 | e16000 | 14900 |
| 19 | 14900 | 13800 | 14200 | 14600 | 15100 | 15400 | 15700 | 15200 | 16700 | 16600 | e16000 | 14800 |
| 20 | 14800 | 13800 | 14200 | 14600 | 15100 | 15500 | 15600 | 15300 | 16700 | 16500 | e16000 | 14800 |
| 21 | 14800 | 13800 | 14200 | 14600 | 15100 | 15500 | 15600 | 15300 | 16700 | 16500 | e16000 | 14700 |
| 22 | 14800 | 13900 | 14200 | 14600 | 15100 | 15500 | 15600 | 15300 | 16700 | 16500 | 15900 | 14600 |
| 23 | 14900 | 13900 | 14200 | 14600 | 15100 | 15500 | 15500 | 15400 | 16800 | 16500 | 15900 | 14600 |
| 24 | 14900 | 13900 | 14200 | 14600 | 15100 | 15600 | 15400 | 15500 | 16800 | 16500 | 15900 | 14600 |
| 25 | 14800 | 14100 | 14200 | 14600 | 15100 | 15600 | 15400 | 15500 | 16800 | 16400 | 15800 | 14600 |
| 26 | 14700 | 14100 | 14200 | 14600 | 15100 | 15700 | 15300 | 15600 | 16800 | 16400 | 15800 | 14600 |
| 27 | 14600 | 14100 | 14200 | 14600 | 15100 | 15700 | 15300 | 15600 | 16800 | 16400 | 15800 | 14600 |
| 28 | 14500 | 14100 | 14200 | 14600 | 15100 | 15800 | 15300 | 15700 | 16800 | 16400 | 15800 | 14600 |
| 29 | 14500 | 14100 | 14200 | 14600 | --- | 15800 | 15200 | 15700 | 16800 | 16300 | 15800 | 14600 |
| 30 | 14400 | 14100 | 14200 | 14700 | --- | 15800 | 15100 | 15900 | 16800 | 16300 | 15800 | 14600 |
| 31 | 14300 | --- | 14200 | 14700 | --- | 15800 | --- | 15900 | --- | 16300 | 15700 | --- |
| MAX | 15900 | 14200 | 14200 | 14700 | 15100 | 15800 | 16200 | 15900 | 16800 | 16700 | 16300 | 15700 |
| MIN | 14300 | 13800 | 14100 | 14200 | 14700 | 15100 | 15100 | 14700 | 16000 | 16300 | 15700 | 14600 |
| a | 6944.65 | 6944.37 | 6944.44 | 6945.21 | 6945.87 | 6946.90 | 6945.89 | 6947.05 | 6948.27 | 6947.58 | 6946.74 | 6945.10 |
| b | -1600 | -200 | +100 | +500 | +400 | +700 | -700 | +800 | +900 | -500 | -600 | -1100 |

CAL YR 1989 MAX 17400 MIN 6050 b +7970
WTR YR 1990 MAX 16800 MIN 13800 b -1300

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 6,920 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.--Records good. Flow regulated by Independence Lake (station 10342900) since 1939. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (unadjusted).--27 years (water years 1903-7, 1969-90), 25.9 ft³/s, 18,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft³/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, 111 ft³/s, Nov. 7, gage height, 4.03 ft; minimum daily, 2.8 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| 1 | 15 | 44 | 3.4 | 3.4 | 3.7 | 3.7 | 4.8 | 67 | 4.1 | 6.8 | 6.7 | 6.6 |
| 2 | 15 | 44 | 3.5 | 3.4 | 3.7 | 3.8 | 4.9 | 67 | 3.9 | 7.0 | 7.0 | 6.3 |
| 3 | 15 | 44 | 3.7 | 3.4 | e3.7 | 3.9 | 5.1 | 66 | 3.8 | 7.0 | 6.8 | 6.6 |
| 4 | 16 | 44 | 3.4 | 3.3 | 3.8 | 4.0 | 5.2 | 66 | 3.7 | 7.0 | 6.6 | 6.2 |
| 5 | 15 | 44 | 3.4 | 3.4 | 3.7 | 3.8 | 5.0 | 66 | 3.7 | 6.1 | 6.4 | 6.1 |
| 6 | 15 | 44 | 3.4 | 3.2 | 3.7 | 3.7 | 5.0 | 66 | 3.8 | 6.7 | 6.1 | 6.2 |
| 7 | 15 | 26 | 3.4 | 3.3 | 3.7 | 3.8 | 5.0 | 66 | 3.9 | 7.0 | 6.3 | 5.9 |
| 8 | 15 | 5.1 | 3.5 | 3.5 | 3.7 | 3.8 | 8.5 | 35 | 4.0 | 7.4 | 6.6 | 6.1 |
| 9 | 15 | 4.7 | 3.5 | 3.5 | 3.7 | 3.7 | 23 | 6.2 | 4.1 | 7.4 | 6.6 | 5.9 |
| 10 | 15 | 4.7 | 3.7 | 3.4 | 3.7 | 3.8 | 62 | 5.9 | 3.6 | 7.4 | 6.8 | 12 |
| 11 | 15 | 4.4 | 3.7 | 3.4 | 3.7 | 4.0 | 89 | 5.8 | 3.4 | 7.7 | 6.7 | 35 |
| 12 | 36 | 4.4 | 3.6 | 3.4 | 3.8 | 4.1 | 83 | 5.7 | 3.2 | 7.8 | 6.9 | 36 |
| 13 | 52 | 4.1 | 3.4 | 3.4 | 3.7 | 4.1 | 79 | 5.1 | 3.3 | 7.9 | 6.7 | 36 |
| 14 | 52 | 3.9 | 3.4 | 3.4 | 3.7 | 4.1 | 75 | 4.0 | 3.4 | 7.9 | 6.5 | 35 |
| 15 | 51 | 3.7 | 3.4 | 3.4 | 3.8 | 4.1 | 72 | 3.2 | 3.6 | 7.9 | 6.6 | 34 |
| 16 | 51 | 3.7 | 3.7 | 3.4 | e3.7 | 4.1 | 70 | 3.2 | 3.5 | 7.4 | 6.6 | 34 |
| 17 | 51 | 3.7 | 3.6 | 3.5 | e3.5 | 4.1 | 69 | 3.2 | 3.6 | 7.4 | 6.8 | 34 |
| 18 | 51 | 3.7 | 3.4 | 3.7 | 3.4 | 4.2 | 69 | 3.1 | 3.5 | 7.4 | 6.7 | 33 |
| 19 | 47 | 3.7 | 3.5 | 3.7 | 3.6 | 4.4 | 69 | 3.2 | 3.4 | 7.3 | 7.0 | 33 |
| 20 | 46 | 3.5 | 3.7 | 3.7 | 3.7 | 4.4 | 69 | 3.3 | 3.2 | 7.0 | 7.0 | 33 |
| 21 | 46 | 3.4 | 3.7 | 3.7 | 3.7 | 4.4 | 70 | 3.2 | 3.4 | 7.0 | 7.0 | 33 |
| 22 | 46 | 3.4 | 3.7 | 3.7 | 3.7 | 4.4 | 69 | 3.0 | 3.2 | 6.6 | 6.7 | 33 |
| 23 | 46 | 3.4 | 3.7 | 3.7 | 3.7 | 4.4 | 69 | 2.9 | 3.0 | 6.6 | 6.6 | 22 |
| 24 | 46 | 3.4 | 3.7 | 3.7 | 3.8 | 4.5 | 69 | 3.0 | 2.9 | 6.8 | 6.4 | 9.4 |
| 25 | 46 | 3.5 | 3.7 | 3.7 | 3.7 | 4.6 | 68 | 2.9 | 2.9 | 7.0 | 6.5 | 7.3 |
| 26 | 45 | 3.4 | 3.7 | 3.7 | 3.7 | 4.7 | 68 | 2.9 | 3.2 | 6.7 | 6.6 | 4.6 |
| 27 | 45 | 3.4 | 3.7 | 3.7 | 3.7 | 4.7 | 68 | 3.0 | 3.6 | 6.8 | 6.5 | 3.6 |
| 28 | 45 | 3.4 | 3.7 | 3.4 | 3.7 | 4.7 | 68 | 3.0 | 3.7 | 7.1 | 6.5 | 3.4 |
| 29 | 45 | 3.4 | 3.4 | 3.4 | --- | 4.7 | 67 | 2.9 | 5.4 | 7.3 | 6.2 | 3.1 |
| 30 | 45 | 3.4 | 3.4 | 3.7 | --- | 4.6 | 67 | 3.6 | 7.0 | 7.0 | 6.5 | 2.8 |
| 31 | 45 | --- | 3.4 | 3.7 | --- | 4.5 | --- | 4.6 | --- | 6.6 | 7.0 | --- |
| TOTAL | 1103 | 377.4 | 110.1 | 108.9 | 103.4 | 129.8 | 1555.5 | 585.9 | 111.0 | 221.0 | 205.9 | 533.1 |
| MEAN | 35.6 | 12.6 | 3.55 | 3.51 | 3.69 | 4.19 | 51.8 | 18.9 | 3.70 | 7.13 | 6.64 | 17.8 |
| MAX | 52 | 44 | 3.7 | 3.7 | 3.8 | 4.7 | 89 | 67 | 7.0 | 7.9 | 7.0 | 36 |
| MIN | 15 | 3.4 | 3.4 | 3.2 | 3.4 | 3.7 | 4.8 | 2.9 | 2.9 | 6.1 | 6.1 | 2.8 |
| AC-FT | 2190 | 749 | 218 | 216 | 205 | 257 | 3090 | 1160 | 220 | 438 | 408 | 1060 |

CAL YR 1989 TOTAL 4130.15 MEAN 11.3 MAX 83 MIN .54 AC-FT 8190
WTR YR 1990 TOTAL 5145.0 MEAN 14.1 MAX 89 MIN 2.8 AC-FT 10210

e Estimated.

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA
(Hydrologic bench-mark station)

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 mi².

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.--Records good. No storage or diversion upstream from station. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--37 years, 12.5 ft³/s, 9,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft³/s, Feb. 1, 1963, gage height, 4.64 ft from floodmarks, from rating curve extended above 160 ft³/s on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 ft³/s, Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 21 | 1530 | *34 | *2.40 | | | | |
| Minimum daily, 1.4 ft ³ /s, Sept. 12-15. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|-------|------|-------|------|-------|-------|------|------|------|
| 1 | 2.3 | 3.1 | 3.0 | 2.6 | 3.0 | 4.2 | 14 | 13 | 10 | 2.3 | 1.6 | 1.5 |
| 2 | 2.7 | 3.1 | 2.9 | 2.6 | 2.9 | 4.3 | 15 | 12 | 8.6 | 2.6 | 1.7 | 1.5 |
| 3 | 3.6 | 3.0 | 3.0 | 2.5 | 2.8 | 5.0 | 16 | 12 | 7.1 | 2.4 | 1.5 | 1.5 |
| 4 | 3.1 | 3.2 | 3.1 | 2.5 | e2.9 | 4.4 | 18 | 11 | 6.3 | 2.3 | 1.5 | 1.5 |
| 5 | 2.8 | 3.2 | 3.3 | 2.5 | 2.9 | 4.1 | 19 | 11 | 5.7 | 2.3 | 1.5 | 1.5 |
| 6 | 2.6 | 3.1 | 3.3 | 2.5 | 2.9 | 4.0 | 18 | 10 | 5.8 | 2.2 | 1.5 | 1.5 |
| 7 | 2.5 | 3.0 | 3.2 | 3.6 | 2.9 | 4.1 | 18 | 9.6 | 5.5 | 2.2 | 1.6 | 1.5 |
| 8 | 2.4 | 2.9 | 3.0 | 9.5 | 3.0 | 4.4 | 18 | 8.9 | 5.0 | 2.1 | 1.7 | 1.5 |
| 9 | 2.3 | 2.8 | 3.1 | 5.5 | 2.9 | 4.4 | 18 | 8.6 | 4.7 | 2.1 | 1.8 | 1.5 |
| 10 | 2.3 | 2.9 | 3.0 | 4.3 | 3.0 | 4.3 | 20 | 9.1 | 4.5 | 2.0 | 1.6 | 1.5 |
| 11 | 2.3 | 2.9 | 2.8 | 4.0 | 3.0 | 4.3 | 22 | 8.2 | 4.3 | 2.0 | 1.5 | 1.5 |
| 12 | 2.2 | 2.9 | 2.8 | 4.1 | 3.1 | 4.0 | 23 | 7.6 | 4.2 | 2.0 | 1.5 | 1.4 |
| 13 | 2.2 | 2.9 | 2.8 | 4.1 | 3.0 | 3.9 | 25 | 7.2 | 4.4 | 1.9 | 1.5 | 1.4 |
| 14 | 2.1 | 2.8 | 2.7 | 3.9 | 3.0 | 3.8 | 26 | 6.9 | 4.8 | 1.9 | 1.5 | 1.4 |
| 15 | 2.1 | 2.8 | 2.8 | 3.7 | e3.0 | 4.0 | 25 | 6.5 | 4.5 | 2.0 | 1.5 | 1.4 |
| 16 | 2.1 | 2.8 | 2.8 | 3.6 | 2.9 | 4.2 | 24 | 6.3 | 4.4 | 2.5 | 1.5 | 1.5 |
| 17 | 2.0 | 2.7 | 2.8 | 3.5 | e2.9 | 5.0 | 21 | 6.0 | 4.0 | 2.0 | 1.5 | 1.5 |
| 18 | 2.0 | 2.7 | 2.8 | 3.3 | e2.9 | 6.0 | 21 | 5.7 | 3.8 | 1.9 | 1.6 | 1.5 |
| 19 | 2.0 | 2.7 | 2.7 | e3.2 | e2.9 | 7.2 | 20 | 5.5 | 3.7 | 1.9 | 1.8 | 1.5 |
| 20 | 2.1 | 2.6 | 2.7 | e3.1 | 3.0 | 8.1 | 20 | 8.9 | 3.4 | 1.8 | 2.0 | 1.5 |
| 21 | 4.7 | 2.6 | 2.7 | e3.1 | 2.9 | 8.6 | 29 | 7.7 | 3.3 | 1.8 | 1.8 | 1.5 |
| 22 | 4.7 | 2.6 | 2.7 | e3.0 | 3.0 | 9.6 | 22 | 6.5 | 3.1 | 1.7 | 1.7 | 1.5 |
| 23 | 13 | 2.6 | 2.6 | 3.0 | 3.1 | 10 | 27 | 7.0 | 3.0 | 1.7 | 1.7 | 1.6 |
| 24 | 6.5 | 3.8 | 2.6 | 3.1 | 3.2 | 12 | 22 | 6.7 | 2.9 | 1.7 | 1.6 | 1.7 |
| 25 | 4.8 | 2.8 | 2.6 | 3.0 | 3.5 | 13 | 19 | 5.8 | 2.8 | 1.7 | 1.6 | 2.8 |
| 26 | 4.0 | e2.9 | 2.6 | 3.0 | 3.7 | 13 | 19 | 6.7 | 2.7 | 1.7 | 1.6 | 3.2 |
| 27 | 3.9 | e3.0 | 2.6 | 3.0 | 4.0 | 13 | 18 | 8.0 | 2.6 | 1.7 | 1.6 | 2.6 |
| 28 | 3.5 | e3.0 | 2.6 | 3.0 | 4.1 | 12 | 19 | 7.4 | 2.6 | 1.6 | 1.5 | 2.0 |
| 29 | 3.3 | e3.0 | 2.6 | 2.9 | --- | 12 | 16 | 6.1 | 2.5 | 1.6 | 1.5 | 1.8 |
| 30 | 3.2 | 3.0 | 2.5 | 3.1 | --- | 12 | 14 | 10 | 2.4 | 1.6 | 1.5 | 1.7 |
| 31 | 3.1 | --- | 2.5 | 3.0 | --- | 13 | --- | 12 | --- | 1.5 | 1.5 | --- |
| TOTAL | 102.4 | 87.4 | 87.2 | 107.8 | 86.4 | 221.9 | 606 | 257.9 | 132.6 | 60.7 | 49.5 | 50.0 |
| MEAN | 3.30 | 2.91 | 2.81 | 3.48 | 3.09 | 7.16 | 20.2 | 8.32 | 4.42 | 1.96 | 1.60 | 1.67 |
| MAX | 13 | 3.8 | 3.3 | 9.5 | 4.1 | 13 | 29 | 13 | 10 | 2.6 | 2.0 | 3.2 |
| MIN | 2.0 | 2.6 | 2.5 | 2.5 | 2.8 | 3.8 | 14 | 5.5 | 2.4 | 1.5 | 1.5 | 1.4 |
| AC-FT | 203 | 173 | 173 | 214 | 171 | 440 | 1200 | 512 | 263 | 120 | 98 | 99 |

CAL YR 1989 TOTAL 3639.3 MEAN 9.97 MAX 54 MIN 1.7 AC-FT 7220
WTR YR 1990 TOTAL 1849.8 MEAN 5.07 MAX 29 MIN 1.4 AC-FT 3670

e Estimated.

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-75 and 1981 to current year.

CHEMICAL DATA: Water years 1968-72 and October 1985 to current year.

WATER TEMPERATURE: Water years 1970-74.

SEDIMENT DATA: Water years 1968-75 and 1981 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1969 to September 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
(NOT PREVIOUSLY PUBLISHED)

| DATE | TIME | DIS- CHARGE INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) | GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) | GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) | GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) | GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) | GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) | RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) | URANIUM NATURAL DIS- SOLVED (UG/L AS U) |
|--------------|------|---|--------------------------------------|--|--|---|---|--|--|---|--|
| SEP 26... | 0945 | 2.0 | 6.5 | 1.6 | <0.4 | 4.1 | <0.4 | 3.3 | <0.4 | 0.09 | 0.15 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (MG/L) | COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) | STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) |
|--------------|------|--|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|-------------------------------------|--|--|
| NOV 07... | 1000 | 2.9 | 118 | 8.1 | 1.5 | 3.1 | 605 | 11.2 | 101 | K4 | 43 |
| FEB 27... | 1030 | 3.8 | 109 | 8.0 | 2.0 | 1.6 | 610 | 11.1 | 100 | K1 | K1 |
| MAY 01... | 1030 | 13 | 61 | 7.8 | 4.0 | 1.9 | 605 | 10.7 | 103 | K2 | K2 |
| AUG 09... | 1115 | 1.9 | 135 | 8.3 | 10.5 | 0.60 | 610 | 9.1 | 102 | 26 | 72 |

| DATE | HARD- NESS TOTAL (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) | SODIUM PERCENT | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) |
|--------------|---|--|--|--|-------------------|---|---|---|---|---|---|
| NOV 07... | 48 | 12 | 4.3 | 5.8 | 20 | 0.4 | 1.8 | 70 | 57 | <1.0 | 0.40 |
| FEB 27... | 51 | 13 | 4.4 | 5.7 | 19 | 0.3 | 1.7 | 81 | 66 | <1.0 | -- |
| MAY 01... | 30 | 7.8 | 2.5 | 3.2 | 18 | 0.3 | 0.80 | 44 | 36 | <1.0 | 0.20 |
| AUG 09... | 54 | 13 | 5.1 | 6.8 | 21 | 0.4 | 2.4 | 94 | 77 | <1.0 | 0.20 |

| 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) | 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... | <0.10 | 31 | 77 | 0.006 | 0.040 | -- | 0.016 | 0.30 | 0.092 | 0.081 | 0.012 |
| FEB 27... | <0.10 | 29 | 94 | 0.009 | 0.149 | 0.008 | 0.019 | 0.20 | 0.021 | 0.016 | 0.012 |
| MAY 01... | <0.10 | 24 | -- | 0.009 | 0.026 | 0.021 | 0.012 | <0.20 | 0.003 | 0.004 | 0.001 |
| AUG 09... | <0.10 | 33 | 92 | 0.009 | 0.031 | 0.018 | 0.008 | 0.30 | 0.016 | 0.012 | 0.008 |

PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | 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) | LEAD, DIS- SOLVED (UG/L AS PB) |
|--------------|---|--|--|--|--|---|--|--|--|--|
| NOV 07... | 60 | <1 | 21 | <0.5 | <1.0 | 2 | <3 | <1 | 71 | <1 |
| FEB 27... | 50 | <1 | 23 | <0.5 | <1.0 | <5 | <3 | <10 | 52 | <10 |
| MAY 01... | 30 | <1 | 13 | <0.5 | <1.0 | <1 | <3 | 2 | 41 | <1 |
| AUG 09... | <10 | <1 | 26 | <0.5 | <1.0 | 1 | <3 | 1 | 65 | 1 |

| DATE | 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 07... | <4 | 2 | <0.1 | <10 | <1 | <1 | <1.0 | 140 | <6 | 7 |
| FEB 27... | <4 | 3 | <0.1 | <10 | <10 | <1 | <1.0 | 140 | <6 | <3 |
| MAY 01... | <4 | 3 | <0.1 | <10 | <1 | <1 | <1.0 | 85 | <6 | 5 |
| AUG 09... | <4 | 4 | <0.1 | <10 | 1 | <1 | <1.0 | 170 | <6 | <3 |

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) | SEDI- MENT, SUS- PENDE (MG/L) |
|--------|------|--|---|---|--------------------------------|--------------------------------------|--|-------------------------------------|-------------------------------------|--|---|
| MAY | | | | | | | | | | | |
| 01...* | 1035 | 1.20 | 2.50 | 61 | 7.8 | 4.0 | 605 | 10.5 | 101 | 0 | 0 |
| 01...* | 1040 | 1.12 | 3.70 | 61 | 7.8 | 4.0 | 605 | 10.5 | 101 | 0 | 0 |
| 01...* | 1045 | 1.20 | 6.20 | 62 | 7.9 | 4.0 | 605 | 10.5 | 101 | 0 | 0 |
| 01...* | 1050 | 1.30 | 8.20 | 62 | 7.9 | 4.0 | 605 | 10.5 | 101 | 0 | 0 |
| 01...* | 1100 | 1.20 | 10.2 | 62 | 7.9 | 4.0 | 605 | 10.5 | 101 | 0 | 3 |
| AUG | | | | | | | | | | | |
| 09...* | 1120 | 0.65 | 0.60 | 136 | 8.3 | 10.5 | 610 | 8.9 | 100 | 0 | 0 |
| 09...* | 1125 | 0.55 | 1.20 | 136 | 8.3 | 10.5 | 610 | 8.9 | 100 | 7 | 7 |
| 09...* | 1130 | 0.55 | 2.40 | 136 | 8.3 | 10.5 | 610 | 8.9 | 100 | 5 | 5 |
| 09...* | 1135 | 0.55 | 3.90 | 137 | 8.3 | 10.5 | 610 | 8.9 | 100 | 5 | 5 |
| 09...* | 1140 | 0.60 | 5.40 | 136 | 8.3 | 10.5 | 610 | 8.9 | 100 | 5 | 5 |

* Instantaneous discharge at the time of cross-sectional measurement: May 1, 13 ft³/s; Aug. 9, 1.9 ft³/s.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) |
|-------|------|--|--------------------------------------|--|---|
| NOV | | | | | |
| 07... | 1000 | 2.9 | 1.5 | 2 | 0.02 |
| FEB | | | | | |
| 27... | 1030 | 3.8 | 2.0 | 2 | 0.02 |
| MAY | | | | | |
| 01... | 1030 | 13 | 4.0 | 1 | 0.03 |
| AUG | | | | | |
| 09... | 1115 | 1.9 | 10.5 | 4 | 0.02 |

10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'14", long 120°06'11", in SE 1/4 NE 1/4 sec.29, 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 mi².

PERIOD OF RECORD.--August 1969 to current year. August 1969 to September 1977 (monthend elevations and contents only). October 1977 to September 1987 (daily contents). 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, including extremes, represent total contents at 0800 hours. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation. See schematic diagram of Truckee River basin.

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 observed, 105,113 acre-ft, Apr. 30, elevation, 5,905.13 ft; minimum observed, 90,708 acre-ft, Sept. 24, 25, elevation, 5,898.05 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated July 1971)

| | | | | | | | |
|-------|--------|-------|--------|-------|---------|-------|---------|
| 5,850 | 27,915 | 5,880 | 60,185 | 5,910 | 115,865 | 5,940 | 197,630 |
| 5,860 | 36,470 | 5,890 | 76,008 | 5,920 | 140,141 | 5,950 | 231,005 |
| 5,870 | 47,204 | 5,900 | 94,535 | 5,930 | 167,355 | 5,960 | 267,386 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 08:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|
| 1 | --- | 99700 | 99392 | --- | 99248 | 99207 | --- | 104899 | 97493 | --- | 93485 | --- |
| 2 | 97879 | 99721 | --- | 98327 | 99227 | 99227 | 99948 | 104643 | --- | 95201 | 93425 | --- |
| 3 | 98144 | 99742 | --- | 98225 | --- | --- | 100030 | 104494 | --- | 95101 | 93366 | --- |
| 4 | 98001 | --- | 99248 | 98184 | --- | --- | 100113 | 104388 | 97574 | --- | --- | 91290 |
| 5 | 98001 | --- | 99227 | 98001 | 99351 | 99330 | 100196 | --- | 97412 | 95001 | --- | 91212 |
| 6 | 98001 | 99886 | 99227 | --- | 99392 | 99330 | 100630 | --- | 97230 | 94902 | 93169 | 91154 |
| 7 | --- | 99906 | 99145 | --- | 99392 | 99351 | --- | 104239 | 97007 | --- | 93110 | 91115 |
| 8 | --- | 99865 | 99104 | 98042 | 99351 | 99371 | --- | 104006 | 96785 | 94822 | 93051 | --- |
| 9 | 97940 | 99824 | --- | 98205 | 99310 | 99412 | 100879 | 103646 | --- | 94743 | 92992 | --- |
| 10 | 97960 | --- | --- | 98307 | --- | --- | 101025 | 103435 | --- | 94683 | 92933 | 90921 |
| 11 | 97960 | --- | 98920 | 98409 | --- | --- | 101233 | 103139 | 96021 | 94643 | --- | 90863 |
| 12 | --- | --- | 98879 | 98490 | 99248 | 99721 | 101524 | --- | 95920 | 94604 | --- | 90844 |
| 13 | 97940 | 99700 | 98797 | --- | 99166 | 99762 | 101817 | --- | 95880 | 94535 | 92736 | 90824 |
| 14 | --- | --- | 98736 | --- | 99125 | 99845 | --- | 101963 | 95860 | --- | 92677 | 90824 |
| 15 | --- | 99577 | 98715 | 98899 | 99063 | 99865 | --- | 101587 | 95860 | --- | 92599 | --- |
| 16 | 98062 | 99536 | --- | 98981 | 99248 | 99906 | 102970 | 101149 | --- | 94475 | 92501 | --- |
| 17 | 98490 | 99495 | --- | 99022 | --- | --- | 103202 | 100755 | --- | 94515 | 92422 | 90766 |
| 18 | 98531 | --- | 98531 | 99022 | --- | --- | 103477 | 100237 | 95720 | 94455 | --- | 90766 |
| 19 | --- | --- | 98490 | 99022 | --- | 99556 | 103561 | --- | 95680 | 94436 | --- | 90766 |
| 20 | 98531 | 99330 | 98490 | --- | 99351 | 99577 | 103667 | --- | 95680 | 94376 | 92246 | --- |
| 21 | --- | 99268 | 98490 | --- | 99330 | 99639 | --- | 98797 | 95680 | --- | 92187 | 90728 |
| 22 | --- | 99186 | 98429 | 99043 | 99289 | 99659 | --- | 98409 | 95680 | --- | 92129 | --- |
| 23 | 98695 | --- | --- | 99043 | 99268 | 99659 | 104580 | 97981 | --- | 94177 | 92109 | --- |
| 24 | 99207 | 99084 | --- | 99043 | --- | --- | 104899 | 97757 | --- | 94098 | 92050 | 90708 |
| 25 | 99392 | 99104 | --- | 99043 | --- | --- | 105049 | 97554 | 95560 | 93999 | --- | 90708 |
| 26 | 99453 | 99145 | 98368 | 99104 | 99227 | 99824 | 105006 | 97554 | 95520 | --- | --- | 90747 |
| 27 | 99556 | 99166 | 98368 | --- | 99186 | 99886 | 104899 | --- | 95460 | 93841 | 91777 | 90786 |
| 28 | --- | 99515 | 98368 | --- | 99207 | 99989 | --- | 97574 | 95380 | --- | 91719 | 90747 |
| 29 | --- | 99495 | 98327 | 99104 | --- | 99948 | --- | 97615 | 95340 | --- | 91660 | --- |
| 30 | 99639 | 99433 | --- | 99268 | --- | 99927 | 105113 | 97513 | --- | 93643 | 91621 | --- |
| 31 | 99680 | --- | --- | 99227 | --- | 99934 | --- | 97574 | --- | 93564 | 91543 | --- |

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 mi².

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.--Records excellent except estimated discharges, which are good. Flow regulated by Independence Lake (station 10342900) since 1939, one transbasin diversion to Sierra Valley, and Stampede Reservoir (station 10344300) since 1969. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Stampede Reservoir since 1969).--58 years (water years 1904-10, 1940-90), 188 ft³/s, 136,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s, Feb. 1, 1963, gage height, 9.00 ft, from rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft³/s, Sept. 16-21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 376 ft³/s, Apr. 25-27, gage height, 1.83 ft; minimum daily, 28 ft³/s, several days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|------|------|------|------|
| 1 | 37 | 56 | 57 | 34 | e34 | 59 | 238 | 360 | 154 | 30 | 29 | 30 |
| 2 | 39 | 57 | 57 | 34 | e34 | 57 | 238 | 323 | 154 | 30 | 29 | 29 |
| 3 | 38 | 57 | 57 | e34 | e34 | 58 | 238 | 299 | 153 | 30 | 29 | 29 |
| 4 | 37 | 57 | 57 | e34 | 34 | 58 | 238 | 299 | 179 | 30 | 29 | 29 |
| 5 | 37 | 57 | 57 | e34 | e34 | 54 | 215 | 299 | 199 | 30 | 29 | 29 |
| 6 | 37 | 57 | 57 | e34 | 34 | 57 | 140 | 299 | 200 | 30 | 29 | 29 |
| 7 | 37 | 57 | 57 | 34 | e40 | 58 | 238 | 341 | 199 | 30 | 29 | 29 |
| 8 | 36 | 57 | 56 | 35 | e55 | 60 | 236 | 371 | 198 | 30 | 29 | 28 |
| 9 | 36 | 57 | 56 | 34 | e55 | 60 | 236 | 328 | 198 | 30 | 29 | 28 |
| 10 | 36 | 57 | 55 | 34 | 55 | 61 | 238 | 299 | 197 | 30 | 29 | 29 |
| 11 | 37 | 57 | 55 | 34 | 56 | 59 | 238 | 299 | 154 | 30 | 29 | 29 |
| 12 | 37 | 56 | 55 | 34 | 55 | 50 | 238 | 299 | 86 | 31 | 29 | 29 |
| 13 | 37 | 56 | 55 | 35 | 55 | 48 | 238 | 298 | 60 | 31 | 28 | 29 |
| 14 | 37 | 48 | 55 | 35 | e55 | 58 | 238 | 297 | 52 | 31 | 28 | 29 |
| 15 | 37 | 56 | 55 | 34 | e54 | 55 | 238 | 296 | 51 | 33 | 28 | 29 |
| 16 | 47 | 57 | 55 | 34 | 53 | 129 | 238 | 295 | 51 | 36 | 28 | 29 |
| 17 | 57 | 56 | 55 | 34 | e53 | 156 | 242 | 295 | 50 | 31 | 28 | 29 |
| 18 | 57 | 55 | 45 | e34 | e54 | 159 | 270 | 295 | 41 | 30 | 29 | 28 |
| 19 | 58 | 55 | 34 | e34 | e55 | 162 | 299 | 295 | 31 | 31 | 30 | 28 |
| 20 | 58 | 55 | 34 | e34 | e56 | 164 | 299 | 295 | 31 | 31 | 31 | 28 |
| 21 | 59 | 62 | 34 | e34 | 56 | 187 | 303 | 294 | 31 | 29 | 30 | 28 |
| 22 | 58 | 64 | 33 | e35 | e56 | 204 | 300 | 295 | 31 | 29 | 30 | 28 |
| 23 | 61 | 56 | 34 | e35 | e55 | 218 | 300 | 295 | 31 | 29 | 30 | 28 |
| 24 | 59 | 57 | 34 | e35 | 55 | 229 | 299 | 272 | 30 | 29 | 30 | 29 |
| 25 | 60 | 57 | 34 | e35 | 55 | 229 | 337 | 163 | 30 | 29 | 30 | 29 |
| 26 | 59 | 37 | 34 | 35 | 56 | 236 | 376 | 105 | 30 | 30 | 30 | 30 |
| 27 | 57 | 30 | 34 | e35 | 57 | 242 | 351 | 105 | 30 | 29 | 30 | 29 |
| 28 | 57 | 32 | 34 | e35 | 58 | 241 | 329 | 105 | 30 | 29 | 30 | 29 |
| 29 | 59 | 55 | 34 | 35 | --- | 238 | 329 | 132 | 30 | 29 | 30 | 28 |
| 30 | 58 | 56 | 34 | 35 | --- | 237 | 346 | 154 | 30 | 29 | 30 | 28 |
| 31 | 56 | --- | 34 | 35 | --- | 238 | --- | 154 | --- | 29 | 29 | --- |
| TOTAL | 1475 | 1626 | 1437 | 1067 | 1403 | 4121 | 8063 | 8256 | 2741 | 935 | 907 | 862 |
| MEAN | 47.6 | 54.2 | 46.4 | 34.4 | 50.1 | 133 | 269 | 266 | 91.4 | 30.2 | 29.3 | 28.7 |
| MAX | 61 | 64 | 57 | 35 | 58 | 242 | 376 | 371 | 200 | 36 | 31 | 30 |
| MIN | 36 | 30 | 33 | 34 | 34 | 48 | 140 | 105 | 30 | 29 | 28 | 28 |
| AC-FT | 2930 | 3230 | 2850 | 2120 | 2780 | 8170 | 15990 | 16380 | 5440 | 1850 | 1800 | 1710 |

CAL YR 1989 TOTAL 33433 MEAN 91.6 MAX 343 MIN 29 AC-FT 66310 MEAN a 144 AC-FT a 104300
WTR YR 1990 TOTAL 32893 MEAN 90.1 MAX 376 MIN 28 AC-FT 65240 MEAN a 80.1 AC-FT a 57990

e Estimated.

a Adjusted for change in contents in Stampede Reservoir.

PYRAMID AND WINNEMUCCA LAKES BASIN

109

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 mi².

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. See schematic diagram of Truckee River basin.

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, 28,223 acre-ft, June 10, 11, elevation, 5,590.90 ft; minimum, 2,967 acre-ft, Jan. 29, elevation, 5,542.80 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated November 1970)

| | | | |
|-------|-------|-------|--------|
| 5,540 | 2,356 | 5,570 | 13,768 |
| 5,545 | 3,513 | 5,580 | 20,002 |
| 5,550 | 4,970 | 5,590 | 27,488 |
| 5,555 | 6,725 | 5,600 | 36,128 |
| 5,560 | 8,778 | 5,605 | 40,868 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 08:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 23965 | 16388 | 11219 | 3781 | 3220 | 3321 | 11881 | 21471 | 27245 | 27124 | 19041 | 5835 |
| 2 | 23439 | 16388 | 11045 | e3850 | 3283 | 3384 | 12246 | 21471 | 27326 | 27003 | 18556 | 5726 |
| 3 | 23142 | 16419 | 10872 | 3919 | 3410 | 3526 | 12671 | 21471 | 27447 | 26763 | 18053 | 5619 |
| 4 | 22773 | 16419 | 10676 | 3989 | 3487 | 3686 | 13158 | 21471 | 27569 | 26563 | 17473 | 5520 |
| 5 | 22407 | 16388 | 10482 | 4060 | 3540 | 3836 | 13712 | 21471 | 27650 | 26404 | 16948 | 5415 |
| 6 | 22044 | 16357 | 10290 | 4146 | 3632 | 3863 | 14021 | 21471 | 27813 | 26166 | 16412 | 5334 |
| 7 | 21578 | 16265 | 10147 | 4234 | 3713 | 3891 | e14512 | 21399 | 28017 | 25969 | 15838 | 5244 |
| 8 | 21116 | 16112 | 10006 | 4352 | 3767 | 3975 | 15003 | 21399 | 28182 | 25812 | 15268 | 5136 |
| 9 | 20695 | 15959 | 9866 | 4456 | 3836 | 4032 | 15477 | 21328 | 28182 | 25616 | 14670 | 5028 |
| 10 | 20209 | 15808 | 9726 | 4563 | 3891 | 4075 | 16051 | 21471 | 28223 | 25460 | 14124 | 4925 |
| 11 | 19797 | 15597 | 9588 | 4624 | 3947 | 4132 | 16480 | 21649 | 28223 | 25266 | 13555 | 4802 |
| 12 | 19390 | 15387 | 9406 | 4655 | 3975 | 4175 | 16979 | 21900 | 28017 | 25072 | 12984 | 4708 |
| 13 | 19054 | 15150 | 9225 | 4686 | 4018 | 4175 | 17486 | 22153 | 27813 | 24841 | 12415 | 4593 |
| 14 | 18722 | 14915 | 9022 | 4717 | 4060 | 4175 | 18001 | 22407 | 27813 | 24611 | 11834 | 4490 |
| 15 | 18359 | 14681 | 8822 | 4748 | 4060 | 4161 | 18524 | 22736 | 27813 | 24420 | 11234 | 4381 |
| 16 | 18001 | 14450 | 8603 | 4748 | 4146 | 4146 | 18921 | 23142 | 27813 | 24230 | 10617 | 4269 |
| 17 | 17742 | 14220 | 8387 | 4827 | e4205 | 4352 | 19458 | 23365 | 27813 | 23965 | 10020 | 4301 |
| 18 | 17486 | 13937 | 8152 | 4811 | e4263 | 4593 | 19866 | 23965 | 27813 | 23739 | 9410 | 4364 |
| 19 | 17232 | 13768 | 7838 | 4748 | 4322 | 4811 | 20835 | 24306 | 27813 | e23534 | 8800 | 4423 |
| 20 | 16979 | 13544 | 7511 | 4717 | 4263 | 5281 | 21116 | 24956 | 27813 | 23328 | 8194 | 4481 |
| 21 | 16729 | 13295 | 7210 | 4670 | 4190 | 5740 | 21116 | 25343 | 27854 | 23105 | 7913 | 4538 |
| 22 | 16480 | 13049 | 6917 | 4624 | 4060 | 6295 | 21116 | 25812 | 27895 | 22883 | 7616 | 4584 |
| 23 | 16295 | 12805 | 6611 | 4472 | 3919 | 6840 | 21187 | 26285 | 27895 | 22663 | 7314 | 4636 |
| 24 | 16326 | 12564 | 6295 | 4234 | 3781 | 7430 | 21258 | 26683 | 27895 | 22371 | 6995 | 4686 |
| 25 | 16357 | 12299 | 5987 | 4003 | 3646 | 8041 | 21328 | 27084 | 27854 | 22175 | 6687 | 4748 |
| 26 | 16295 | 12141 | e5693 | 3740 | 3513 | 8647 | 21399 | 27084 | 27854 | 21900 | 6480 | 4811 |
| 27 | 16295 | 11881 | 5398 | 3474 | 3397 | 9248 | 21471 | 27043 | 27691 | 21613 | 6365 | 4874 |
| 28 | 16357 | 11701 | 5100 | 3208 | 3283 | 9866 | 21471 | 27003 | 27488 | 21095 | 6258 | 4938 |
| 29 | 16357 | 11522 | 4795 | 2967 | --- | 10386 | 21471 | 27003 | 27366 | 20576 | 6156 | 5002 |
| 30 | 16357 | 11370 | 4456 | 3062 | --- | 10921 | 21471 | 27043 | 27245 | 20057 | 6045 | 5051 |
| 31 | 16388 | --- | 4118 | 3159 | --- | 11395 | --- | 27164 | --- | 19458 | 5941 | --- |
| MAX | 23965 | 16419 | 11219 | 4827 | 4322 | 11395 | 21471 | 27164 | 28223 | 27124 | 19041 | 5835 |
| MIN | 16295 | 11370 | 4118 | 2967 | 3220 | 3321 | 11881 | 21328 | 27245 | 19458 | 5941 | 4269 |
| a | 5574.45 | 5565.50 | 5547.20 | 5543.60 | 5544.10 | 5565.55 | 5582.10 | 5589.60 | 5589.70 | 5579.20 | 5552.87 | 5550.25 |
| b | -8108 | -5018 | -7252 | -959 | +124 | +8112 | +10076 | +5693 | +81 | -7787 | -13517 | -890 |

CAL YR 1989 MAX 40868 MIN 4118 b -12116
WTR YR 1990 MAX 28223 MIN 2967 b -19345

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

PYRAMID AND WINNEMUCCA LAKES BASIN

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 mi².

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.--Records good except *date* estimated discharges, which are fair. Flow regulated by Boca Reservoir (station 10344490); Independence Lake (station 10332900); one transmountain diversion to Sierra Valley, and Stampede Reservoir (station 10344300), since 1969. See schematic diagram of Truckee River basin. *date*

AVERAGE DISCHARGE (unadjusted).--55 years (water years 1912-15, 1940-90), 188 ft³/s, 136,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft³/s, Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 375 ft³/s, May 9, gage height, 3.09 ft; minimum daily, 0.03 ft³/s, Jan. 30 to Feb. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|---------|------|------|---------|---------|--------|---------|-------|------|------|-------|---------|
| 1 | 274 | 56 | 128 | e.76 | e.03 | e.25 | 60 | 363 | 109 | 103 | 278 | 94 |
| 2 | 242 | 56 | 147 | e.07 | e.03 | e.08 | 52 | 325 | 109 | 107 | 279 | 95 |
| 3 | 228 | 56 | 146 | e.07 | e.03 | e.08 | 21 | 302 | 108 | 120 | 298 | 94 |
| 4 | 208 | 66 | 146 | e.07 | e.03 | e.08 | e.08 | 284 | 139 | 127 | 319 | 94 |
| 5 | 199 | 69 | 146 | e.07 | e.03 | 33 | e.08 | 273 | 129 | 126 | 320 | 86 |
| 6 | 233 | 87 | 134 | e.07 | e.03 | 53 | e.08 | 331 | 110 | 126 | 332 | 83 |
| 7 | 255 | 113 | 122 | e.07 | 26 | 53 | e.08 | 370 | 110 | 126 | 339 | 87 |
| 8 | 253 | 120 | 122 | e.07 | 40 | 54 | e.08 | 370 | 165 | 126 | 336 | 92 |
| 9 | 252 | 119 | 121 | e.07 | 40 | 54 | e.08 | 258 | 196 | 126 | 334 | 93 |
| 10 | 252 | 143 | 121 | 5.3 | 40 | 54 | e.08 | 203 | 196 | 131 | 333 | 93 |
| 11 | 224 | 158 | 130 | 18 | 40 | 54 | e.08 | 178 | 194 | 135 | 331 | 93 |
| 12 | 206 | 157 | 140 | 31 | 40 | 63 | e.08 | 158 | 193 | 135 | 327 | 92 |
| 13 | 206 | 156 | 142 | 37 | 40 | 69 | e.08 | 159 | 105 | 135 | 335 | 92 |
| 14 | 205 | 156 | 141 | 37 | 40 | 75 | e.08 | 128 | 48 | 135 | 345 | 92 |
| 15 | 204 | 156 | 148 | 37 | 40 | 80 | e.08 | 109 | 48 | 138 | 347 | 91 |
| 16 | 194 | 156 | 156 | 14 | 41 | 80 | e.08 | 93 | 48 | 148 | 358 | 47 |
| 17 | 159 | 155 | 157 | 38 | 40 | 80 | e.08 | 81 | 48 | 147 | 361 | e.05 |
| 18 | 174 | 154 | 171 | 64 | 40 | 81 | e.08 | 56 | 38 | 140 | 357 | e.05 |
| 19 | 183 | 154 | 181 | 53 | 40 | 33 | e.08 | 51 | 29 | 137 | 352 | e.05 |
| 20 | 183 | 165 | 181 | 64 | 91 | .19 | 190 | 78 | 29 | 137 | 244 | e.05 |
| 21 | 182 | 174 | 180 | 64 | 128 | .32 | 305 | 58 | 29 | 136 | 187 | e.05 |
| 22 | 181 | 174 | 178 | 85 | 127 | .45 | 304 | 42 | 29 | 136 | 196 | e.05 |
| 23 | 124 | 174 | 176 | 139 | 126 | .51 | 289 | 71 | 29 | 149 | 203 | e.05 |
| 24 | 25 | 174 | 174 | 165 | 126 | .45 | 262 | 91 | 35 | 156 | 206 | e.05 |
| 25 | e.10 | 174 | 172 | 164 | 125 | .39 | 299 | 113 | 69 | 156 | 177 | e.05 |
| 26 | 19 | 173 | 171 | 162 | 124 | .28 | 330 | 126 | 81 | 163 | 89 | .47 |
| 27 | 34 | 142 | 169 | 160 | 123 | e.08 | 330 | 126 | 93 | 247 | 90 | e.05 |
| 28 | 49 | 122 | 167 | 158 | 120 | e.08 | 330 | 114 | 98 | 283 | 92 | e.05 |
| 29 | 57 | 121 | 175 | 56 | --- | e.08 | 331 | 107 | 98 | 281 | 93 | e.05 |
| 30 | 57 | 121 | 179 | e.03 | --- | e.08 | 350 | 108 | 97 | 280 | 93 | e.05 |
| 31 | 57 | --- | 177 | e.03 | --- | e.08 | --- | 109 | --- | 278 | 93 | --- |
| TOTAL | 5119.10 | 4001 | 4798 | 1627.92 | 1597.18 | 919.48 | 3454.28 | 5235 | 2809 | 4870 | 8044 | 1419.12 |
| MEAN | 165 | 133 | 155 | 52.5 | 57.0 | 29.7 | 115 | 169 | 93.6 | 157 | 259 | 47.3 |
| MAX | 274 | 174 | 181 | 165 | 128 | 81 | 350 | 370 | 196 | 283 | 361 | 95 |
| MIN | .10 | 56 | 121 | .03 | .03 | .08 | .08 | 42 | 29 | 103 | 89 | .05 |
| AC-FT | 10150 | 7940 | 9520 | 3230 | 3170 | 1820 | 6850 | 10380 | 5570 | 9660 | 15960 | 2810 |

CAL YR 1989 TOTAL 40002.96 MEAN 110 MAX 317 MIN .10 AC-FT 79350
WTR YR 1990 TOTAL 43894.08 MEAN 120 MAX 370 MIN .03 AC-FT 87060

e Estimated.

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, and 3.5 mi upstream from California-Nevada State line.

DRAINAGE AREA.--932 mi².

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.

CHEMICAL DATA: Water years 1951-61, 1964-81. Published as Truckee River at Floriston (station 10345900) January 1964 to September 1971.

BIOLOGICAL DATA: Water years 1975-77.

SPECIFIC CONDUCTANCE: Water years 1964-80.

WATER TEMPERATURE: Water years 1964-81.

SUSPENDED SEDIMENT: Water years 1974, 1978.

REVISED RECORDS.--WSP 1714: Drainage area. WDR CA-88-3: 1906-07 (monthly runoff).

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.--Records good. Flow regulated by Lake Tahoe and Donner, Martis Creek, and Independence Lakes, and Prosser Creek, Stampede, and Boca Reservoirs (stations 10337000, 10338400, 10339380, 10342900, 10340300, 10344300, and 10344490), and by several powerplants. See schematic diagram of Truckee River basin.

AVERAGE DISCHARGE.--91 years (water years 1900-90), 807 ft³/s, 584,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft³/s, Nov. 21, 1950, gage height, 14.5 ft, present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 28 ft³/s, Dec. 18, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,310 ft³/s, Apr. 28, 29, gage height, 4.31 ft; minimum daily, 89 ft³/s, Jan. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1 | 452 | 357 | 323 | 220 | 140 | 236 | 490 | 1050 | 519 | 397 | 381 | 142 |
| 2 | 431 | 289 | 325 | 110 | 140 | 210 | 515 | 964 | 543 | 402 | 378 | 141 |
| 3 | 420 | 285 | 325 | 89 | 157 | 230 | 483 | 845 | 546 | 405 | 383 | 141 |
| 4 | 402 | 285 | 323 | 102 | 158 | 237 | 523 | 857 | 551 | 408 | 401 | 143 |
| 5 | 381 | 289 | 324 | 112 | 157 | 252 | 578 | 840 | 531 | 396 | 395 | 146 |
| 6 | 398 | 290 | 317 | 111 | 154 | 302 | 615 | 857 | 489 | 396 | 402 | 147 |
| 7 | 419 | 307 | 298 | 99 | 153 | 298 | 612 | 835 | 459 | 399 | 406 | 148 |
| 8 | 413 | 311 | 300 | 226 | 183 | 310 | 567 | 811 | 500 | 394 | 408 | 188 |
| 9 | 407 | 304 | 300 | 227 | 184 | 314 | 528 | 691 | 526 | 395 | 409 | 196 |
| 10 | 401 | 307 | 298 | 195 | 178 | 312 | 531 | 638 | 506 | 396 | 403 | 196 |
| 11 | 420 | 329 | 296 | 227 | 178 | 303 | 551 | 593 | 492 | 398 | 401 | 196 |
| 12 | 395 | 326 | 304 | 230 | 184 | 294 | 530 | 531 | 471 | 397 | 398 | 196 |
| 13 | 391 | 321 | 303 | 256 | 169 | 289 | 586 | 517 | 439 | 397 | 399 | 239 |
| 14 | 390 | 316 | 291 | 261 | 173 | 293 | 641 | 478 | 420 | 398 | 404 | 250 |
| 15 | 382 | 321 | 295 | 256 | 175 | 295 | 656 | 451 | 394 | 400 | 404 | 247 |
| 16 | 389 | 320 | 305 | 252 | 178 | 305 | 699 | 482 | 407 | 419 | 401 | 217 |
| 17 | 390 | 317 | 302 | 237 | 189 | 312 | 699 | 485 | 408 | 413 | 405 | 146 |
| 18 | 398 | 313 | 311 | 262 | 210 | 356 | 700 | 473 | 404 | 404 | 400 | 143 |
| 19 | 409 | 306 | 321 | 214 | 241 | 378 | 740 | 475 | 397 | 409 | 404 | 137 |
| 20 | 402 | 305 | 318 | 210 | 242 | 391 | 879 | 499 | 397 | 398 | 389 | 123 |
| 21 | 397 | 313 | 322 | 215 | 245 | 441 | 1110 | 511 | 391 | 394 | e383 | 118 |
| 22 | 430 | 315 | 311 | 228 | 243 | 503 | 1140 | 478 | 391 | 386 | e403 | 98 |
| 23 | 468 | 315 | 312 | 260 | 240 | 505 | 1200 | 518 | 379 | 391 | e423 | 91 |
| 24 | 487 | 320 | 307 | 295 | 235 | 520 | 1170 | 525 | 369 | 393 | 423 | 97 |
| 25 | 373 | 343 | 306 | 292 | 246 | 536 | 1160 | 498 | 392 | 385 | 406 | 98 |
| 26 | 372 | 365 | 302 | 291 | 263 | 534 | 1200 | 489 | 396 | 382 | 160 | 111 |
| 27 | 379 | 354 | 303 | 274 | 282 | 506 | 1190 | 551 | 397 | 410 | 141 | 114 |
| 28 | 389 | 336 | 298 | 273 | 319 | 492 | 1220 | 551 | 399 | 398 | 140 | 102 |
| 29 | 390 | 329 | 302 | 204 | --- | 461 | 1180 | 437 | 404 | 395 | 140 | 94 |
| 30 | 386 | 327 | 304 | 122 | --- | 449 | 1080 | 435 | 395 | 389 | 140 | 92 |
| 31 | 408 | --- | 299 | 114 | --- | 434 | --- | 529 | --- | 384 | 140 | --- |
| TOTAL | 12569 | 9515 | 9545 | 6464 | 5616 | 11298 | 23773 | 18894 | 13312 | 12328 | 10870 | 4497 |
| MEAN | 405 | 317 | 308 | 209 | 201 | 364 | 792 | 609 | 444 | 398 | 351 | 150 |
| MAX | 487 | 365 | 325 | 295 | 319 | 536 | 1220 | 1050 | 551 | 419 | 423 | 250 |
| MIN | 372 | 285 | 291 | 89 | 140 | 210 | 483 | 435 | 369 | 382 | 140 | 91 |
| AC-FT | 24930 | 18870 | 18930 | 12820 | 11140 | 22410 | 47150 | 37480 | 26400 | 24450 | 21560 | 8920 |

CAL YR 1989 TOTAL 193622 MEAN 530 MAX 1400 MIN 76 AC-FT 384000
WTR YR 1990 TOTAL 138681 MEAN 380 MAX 1220 MIN 89 AC-FT 275100

e Estimated.

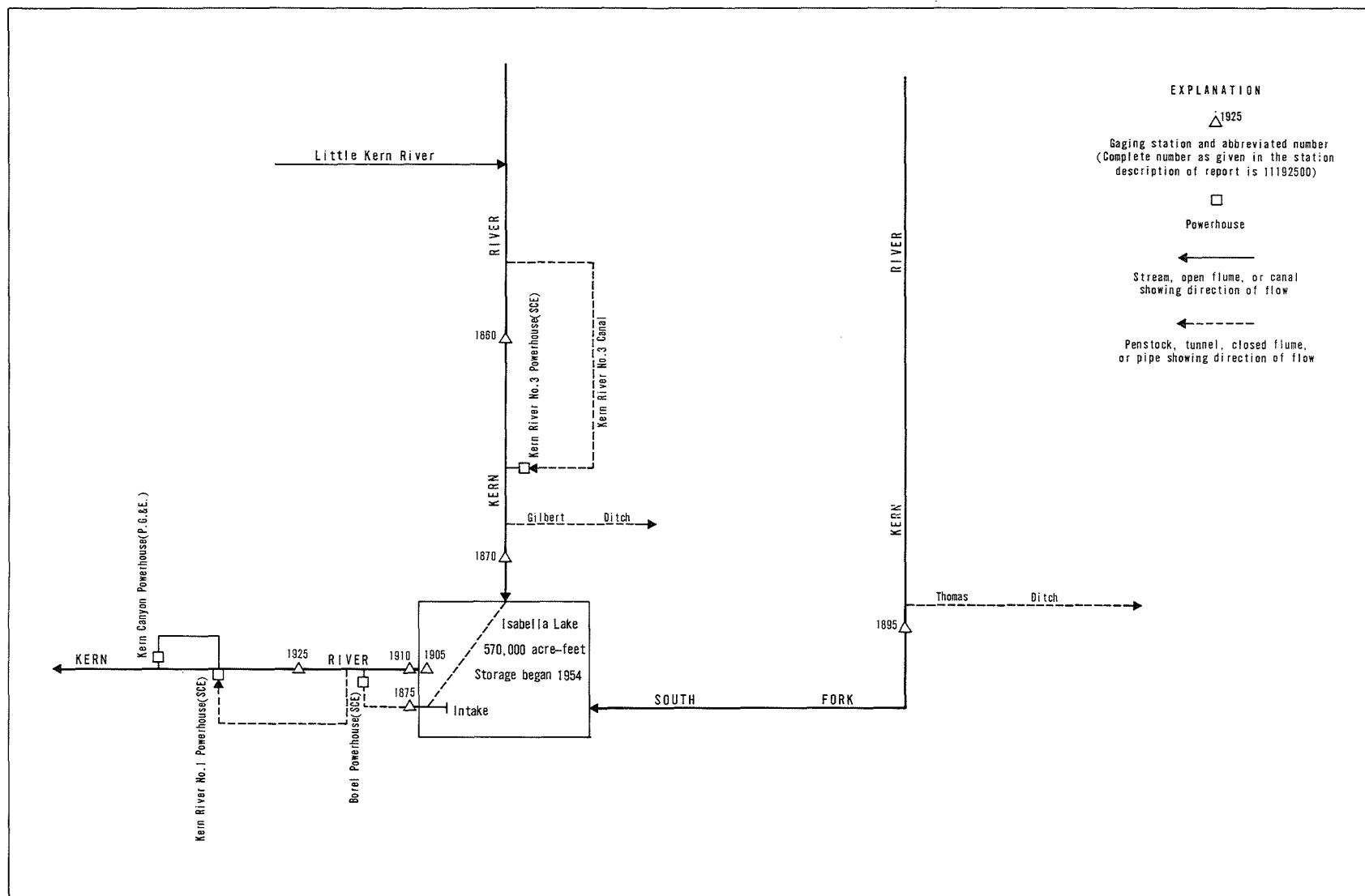


Figure 28. Diversions and storage in Kern River basin.

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 mi².

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; combined flow only, October 1953 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.--Since 1921, Kern River No. 3 Canal diverts up to 630 ft³/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 ft³/s, 571,900 acre-ft/yr; 63 years (water years 1921-53, 1961-90), 395 ft³/s, 286,200 acre-ft/yr.

Combined river and diversion: 70 years (water years 1921-90), 747 ft³/s, 541,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 60,000 ft³/s, Dec. 6, 1966, gage height, 22.77 ft, site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft³/s on basis of computed flow over dam at gage height 17.55 ft (basic data for computation provided by Southern California Edison Co.) and slope-area measurement of peak flow; no flow for many days in 1924 and 1925.

Combined river and diversion: Maximum discharge, 60,000 ft³/s, Dec. 6, 1966; minimum daily, 78 ft³/s, Aug. 30, 31, Sept. 17, 19, 1924.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 542 ft³/s, May 8, gage height, 3.74 ft; minimum daily, 44 ft³/s, Nov. 28, 29.

Combined river and diversion: Maximum daily discharge, 890 ft³/s, May 7; minimum daily, 83 ft³/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | e61 | e45 | e48 | 48 | 48 | 81 | 125 | 101 | 103 | 96 | 83 | 61 |
| 2 | e58 | 46 | e48 | 46 | 53 | 79 | 214 | 101 | 104 | 95 | 82 | 65 |
| 3 | 58 | 47 | 48 | 48 | 54 | 74 | 213 | 102 | 103 | 95 | 86 | 62 |
| 4 | 56 | 47 | 48 | 49 | 57 | 74 | 176 | 100 | 101 | 100 | 86 | 61 |
| 5 | 56 | 48 | 48 | 50 | 56 | 76 | 110 | 97 | 103 | 100 | 86 | 62 |
| 6 | 56 | 47 | 48 | 49 | 48 | 75 | 110 | 167 | 130 | 98 | 88 | 63 |
| 7 | 56 | 47 | 48 | 48 | 45 | 77 | 110 | 344 | 104 | 101 | 87 | 66 |
| 8 | 57 | 49 | 48 | 47 | 50 | 78 | 108 | 519 | 123 | 100 | 86 | 64 |
| 9 | 57 | 49 | 47 | 47 | 48 | 78 | 109 | 381 | 175 | 101 | 88 | 63 |
| 10 | 58 | 47 | 47 | 47 | 47 | 78 | 111 | 193 | 186 | 98 | 90 | 62 |
| 11 | 59 | 48 | 47 | 47 | 49 | 77 | 111 | 136 | 110 | 98 | 91 | 60 |
| 12 | 59 | 48 | 48 | 47 | 48 | 79 | 110 | 111 | 110 | 98 | 87 | 60 |
| 13 | 58 | 47 | 47 | 49 | 50 | 83 | 111 | 106 | 102 | 98 | 80 | 59 |
| 14 | 57 | 48 | 48 | 50 | 51 | 79 | 111 | 108 | 103 | 98 | 83 | 59 |
| 15 | 57 | 48 | 48 | 49 | 55 | 85 | 110 | 102 | 105 | 99 | 84 | 58 |
| 16 | 58 | 49 | 48 | 49 | 59 | 80 | 109 | 102 | 105 | 88 | 83 | 59 |
| 17 | 58 | 49 | 48 | 48 | 63 | 80 | 111 | 102 | 105 | 88 | 83 | 60 |
| 18 | 59 | 49 | 48 | 48 | 65 | 79 | 113 | 104 | 105 | 88 | 86 | 63 |
| 19 | 60 | 50 | 48 | 49 | 62 | 78 | 114 | 104 | 103 | 86 | 88 | 65 |
| 20 | 60 | 50 | e47 | 51 | 55 | 79 | 114 | 101 | 101 | 87 | 88 | 68 |
| 21 | 58 | 47 | e47 | 56 | 56 | 80 | 112 | 99 | 100 | 87 | 85 | 77 |
| 22 | 58 | 46 | e47 | 52 | 56 | 81 | 110 | 102 | 102 | 88 | 86 | 90 |
| 23 | 58 | 45 | 47 | 49 | 56 | 81 | 109 | 104 | 104 | 88 | 86 | 130 |
| 24 | 58 | 45 | 47 | 50 | 56 | 81 | 110 | 104 | 102 | 87 | 79 | 131 |
| 25 | 58 | 45 | 47 | 49 | 55 | 82 | 109 | 102 | 101 | 87 | 79 | 129 |
| 26 | e60 | 46 | 47 | 49 | 52 | 82 | 109 | 101 | 100 | 88 | 78 | 125 |
| 27 | 61 | 45 | 48 | 50 | 54 | 82 | 111 | 101 | 101 | 88 | 77 | 126 |
| 28 | 61 | 44 | 49 | 50 | 56 | 82 | 119 | 140 | 101 | 90 | 74 | 126 |
| 29 | 61 | e44 | 48 | 49 | --- | 82 | 130 | 113 | 100 | 90 | 72 | 80 |
| 30 | e58 | e46 | 48 | 50 | --- | 82 | 115 | 106 | 101 | 89 | 71 | 74 |
| 31 | e58 | --- | 48 | 48 | --- | 110 | --- | 102 | --- | 87 | 65 | --- |
| TOTAL | 1807 | 1411 | 1478 | 1518 | 1504 | 2494 | 3634 | 4355 | 3293 | 2881 | 2567 | 2328 |
| MEAN | 58.3 | 47.0 | 47.7 | 49.0 | 53.7 | 80.5 | 121 | 140 | 110 | 92.9 | 82.8 | 77.6 |
| MAX | 61 | 50 | 49 | 56 | 65 | 110 | 214 | 519 | 186 | 101 | 91 | 131 |
| MIN | 56 | 44 | 47 | 46 | 45 | 74 | 108 | 97 | 100 | 86 | 65 | 58 |
| AC-FT | 3580 | 2800 | 2930 | 3010 | 2980 | 4950 | 7210 | 8640 | 6530 | 5710 | 5090 | 4620 |

CAL YR 1989 TOTAL 60842 MEAN 167 MAX 1110 MIN 30 AC-FT 120700
WTR YR 1990 TOTAL 29270 MEAN 80.2 MAX 519 MIN 44 AC-FT 58060

e Estimated.

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 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|-------|-------|-------|-------|--------|------|------|
| 1 | 156 | 160 | 162 | 132 | 166 | 223 | 347 | 530 | 542 | 257 | 120 | 89 |
| 2 | 164 | 170 | 163 | 145 | 165 | 216 | 344 | 484 | 496 | 257 | 120 | 90 |
| 3 | 163 | 162 | 162 | 135 | 165 | 239 | 348 | 474 | 512 | 259 | 122 | 87 |
| 4 | 164 | 160 | 163 | 122 | 173 | 245 | 357 | 501 | 594 | 253 | 121 | 86 |
| 5 | 164 | 161 | 164 | 132 | 166 | 253 | 359 | 574 | 658 | 231 | 116 | 88 |
| 6 | 161 | 160 | 166 | 140 | 166 | 227 | 361 | 724 | 719 | 214 | 117 | 89 |
| 7 | 159 | 161 | 164 | 142 | 167 | 223 | 376 | 890 | 694 | 204 | 117 | 90 |
| 8 | 157 | 160 | 161 | 143 | 156 | 228 | 376 | 852 | 703 | 194 | 118 | 89 |
| 9 | 154 | 157 | 159 | 147 | 156 | 229 | 362 | 775 | 767 | 187 | 120 | 88 |
| 10 | 151 | 155 | 157 | 143 | 163 | 230 | 378 | 778 | 778 | 179 | 121 | 87 |
| 11 | 149 | 156 | 153 | 143 | 166 | 250 | 407 | 712 | 683 | 178 | 122 | 85 |
| 12 | 147 | 156 | 147 | 144 | 174 | 222 | 451 | 612 | 585 | 187 | 128 | 85 |
| 13 | 145 | 155 | 150 | 196 | 176 | 207 | 496 | 599 | 534 | 184 | 134 | 84 |
| 14 | 143 | 154 | 149 | 219 | 154 | 224 | 570 | 605 | 494 | 207 | 129 | 84 |
| 15 | 145 | 152 | 145 | 174 | 137 | 231 | 620 | 585 | 450 | 230 | 129 | 83 |
| 16 | 148 | 152 | 148 | 167 | 157 | 238 | 641 | 556 | 438 | 261 | 128 | 84 |
| 17 | 146 | 154 | 145 | 150 | 161 | 247 | 590 | 550 | 408 | 238 | 119 | 85 |
| 18 | 146 | 154 | 142 | 164 | 169 | 271 | 509 | 546 | 398 | 235 | 116 | 88 |
| 19 | 144 | 154 | 139 | 157 | 167 | 295 | 481 | 530 | 389 | 251 | 113 | 90 |
| 20 | 144 | 152 | 139 | 148 | 199 | 315 | 492 | 506 | 366 | 243 | 114 | 93 |
| 21 | 143 | 151 | 141 | 157 | 192 | 328 | 485 | 478 | 366 | 213 | 111 | 102 |
| 22 | 156 | 151 | 143 | 167 | 203 | 344 | 457 | 515 | 367 | 199 | 109 | 114 |
| 23 | 167 | 148 | 141 | 165 | 210 | 362 | 468 | 553 | 384 | 189 | 108 | 130 |
| 24 | 164 | 147 | 141 | 165 | 213 | 382 | 490 | 558 | 381 | 179 | 103 | 131 |
| 25 | 170 | 152 | 140 | 164 | 218 | 401 | 444 | 556 | 353 | 167 | 101 | 129 |
| 26 | 184 | 211 | 141 | 163 | 223 | 400 | 442 | 495 | 329 | 158 | 100 | 125 |
| 27 | 174 | 172 | 142 | 163 | 229 | 397 | 519 | 484 | 312 | 149 | 99 | 126 |
| 28 | 181 | 146 | 138 | 160 | 217 | 403 | 650 | 675 | 295 | 142 | 96 | 134 |
| 29 | 175 | 152 | 135 | 162 | --- | 377 | 708 | 692 | 278 | 136 | 94 | 137 |
| 30 | 167 | 159 | 132 | 166 | --- | 354 | 623 | 671 | 265 | 130 | 93 | 139 |
| 31 | 164 | --- | 131 | 165 | --- | 334 | --- | 607 | --- | 124 | 90 | --- |
| TOTAL | 4895 | 4734 | 4603 | 4840 | 5008 | 8895 | 14151 | 18667 | 14538 | 6235 | 3528 | 3011 |
| MEAN | 158 | 158 | 148 | 156 | 179 | 287 | 472 | 602 | 485 | 201 | 114 | 100 |
| MAX | 184 | 211 | 166 | 219 | 229 | 403 | 708 | 890 | 778 | 261 | 134 | 139 |
| MIN | 143 | 146 | 131 | 122 | 137 | 207 | 344 | 474 | 265 | 124 | 90 | 83 |
| AC-FT | 9710 | 9390 | 9130 | 9600 | 9930 | 17640 | 28070 | 37030 | 28840 | 12370 | 7000 | 5970 |
| CAL YR 1989 | TOTAL | 163058 | MEAN | 447 | MAX | 1690 | MIN | 119 | AC-FT | 323400 | | |
| WTR YR 1990 | TOTAL | 93105 | MEAN | 255 | MAX | 890 | MIN | 83 | AC-FT | 184700 | | |

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 mi².

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, non-recording 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.--Records good. Slight regulation at times by operation of Kern River No. 3 Canal and powerplant. A few small diversions for irrigation upstream from station. Gilbert irrigation ditch diverts up to 7 ft³/s around station during irrigation season.

AVERAGE DISCHARGE.--44 years, 884 ft³/s, 640,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft³/s, Dec. 6, 1966, gage height, 22.2 ft, from floodmarks, present site, from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 70 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|-------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 9 | 1700 | *1,080 | *6.04 | | | | |

Minimum daily, 84 ft³/s, Sept. 5, 11-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1 | 167 | 170 | 170 | 147 | 182 | 242 | 347 | 574 | 536 | 246 | 131 | 91 |
| 2 | 162 | 173 | 170 | 171 | 178 | 249 | 329 | 511 | 477 | 243 | 129 | 87 |
| 3 | 151 | 159 | 168 | 153 | 177 | 262 | 363 | 494 | 492 | 245 | 127 | 86 |
| 4 | 156 | 159 | 170 | 134 | 185 | 273 | 397 | 520 | 583 | 240 | 127 | 87 |
| 5 | 165 | 159 | 172 | 141 | 180 | 283 | 377 | 601 | 653 | 226 | 125 | 84 |
| 6 | 172 | 159 | 174 | 153 | 181 | 259 | 365 | 689 | 695 | 213 | 128 | 87 |
| 7 | 146 | 159 | 172 | 158 | 189 | 251 | 384 | 812 | 720 | 202 | 125 | 86 |
| 8 | 142 | 159 | 169 | 160 | 167 | 254 | 389 | 844 | 672 | 192 | 127 | 86 |
| 9 | 139 | 159 | 169 | 160 | 172 | 254 | 373 | 860 | 719 | 186 | 128 | 89 |
| 10 | 138 | 152 | 164 | 154 | 180 | 255 | 384 | 797 | 784 | 178 | 131 | 85 |
| 11 | 136 | 152 | 158 | 152 | 183 | 276 | 413 | 766 | 693 | 182 | 134 | 84 |
| 12 | 135 | 153 | 150 | 154 | 191 | 252 | 464 | 644 | 555 | 190 | 146 | 84 |
| 13 | 140 | 153 | 155 | 204 | 195 | 237 | 522 | 619 | 512 | 185 | 152 | 84 |
| 14 | 138 | 153 | 154 | 244 | 172 | 247 | 602 | 621 | 463 | 209 | 148 | 84 |
| 15 | 136 | 153 | 149 | 197 | 143 | 253 | 655 | 606 | 414 | 228 | 142 | 84 |
| 16 | 134 | 152 | 156 | 188 | 170 | 261 | 679 | 572 | 404 | 262 | 139 | 84 |
| 17 | 134 | 151 | 152 | 175 | 195 | 268 | 632 | 558 | 369 | 241 | 129 | 90 |
| 18 | 136 | 150 | 147 | 185 | 191 | 289 | 536 | 554 | 359 | 236 | 123 | 88 |
| 19 | 132 | 149 | 145 | 181 | 191 | 310 | 518 | 529 | 351 | 249 | 117 | 94 |
| 20 | 131 | 150 | 146 | 161 | 208 | 332 | 521 | 511 | 330 | 247 | 117 | 98 |
| 21 | 132 | 150 | 150 | 167 | 228 | 346 | 513 | 473 | 338 | 221 | 116 | 98 |
| 22 | 144 | 155 | 148 | 187 | 218 | 368 | 481 | 506 | 353 | 203 | 113 | 108 |
| 23 | 158 | 156 | 148 | 191 | 229 | 397 | 505 | 547 | 359 | 192 | 107 | 122 |
| 24 | 159 | 158 | 147 | 185 | 234 | 414 | 535 | 555 | 347 | 183 | 106 | 128 |
| 25 | 167 | 159 | 147 | 185 | 236 | 428 | 471 | 554 | 320 | 174 | 103 | 127 |
| 26 | 182 | e217 | 150 | 183 | 240 | 444 | 465 | 486 | 300 | 166 | 102 | 122 |
| 27 | 171 | e200 | 151 | 180 | 248 | 447 | 554 | 466 | 284 | 159 | 99 | 119 |
| 28 | 181 | 155 | 148 | 176 | 254 | 442 | 674 | 653 | 269 | 147 | 94 | 119 |
| 29 | 177 | 156 | 145 | 178 | --- | 406 | 727 | 741 | 260 | 142 | 91 | 145 |
| 30 | 167 | 166 | 143 | 183 | --- | 373 | 661 | 689 | 250 | 137 | 90 | 134 |
| 31 | 164 | --- | 144 | 187 | --- | 336 | --- | 610 | --- | 134 | 88 | --- |
| TOTAL | 4692 | 4796 | 4831 | 5374 | 5517 | 9708 | 14836 | 18962 | 13861 | 6258 | 3734 | 2964 |
| MEAN | 151 | 160 | 156 | 173 | 197 | 313 | 495 | 612 | 462 | 202 | 120 | 98.8 |
| MAX | 182 | 217 | 174 | 244 | 254 | 447 | 727 | 860 | 784 | 262 | 152 | 145 |
| MIN | 131 | 149 | 143 | 134 | 143 | 237 | 329 | 466 | 250 | 134 | 88 | 84 |
| AC-FT | 9310 | 9510 | 9580 | 10660 | 10940 | 19260 | 29430 | 37610 | 27490 | 12410 | 7410 | 5880 |

CAL YR 1989 TOTAL 170746 MEAN 468 MAX 1790 MIN 110 AC-FT 338700
WTR YR 1990 TOTAL 95533 MEAN 262 MAX 860 MIN 84 AC-FT 189500

e Estimated.

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

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 1962-88

SEDIMENT DATA: Water years 1967-74, 1978 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1962 to September 1988.

REMARKS.--Quality of water samples obtained at the gage.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | 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 TOTAL (MG/L AS CaCO3) |
|-----------|------|--|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|--|--|--|---|
| NOV, 1989 | | | | | | | | | | | | |
| 17... | 1030 | 150 | 165 | 8.1 | 8.0 | 0.20 | 700 | 11.4 | 105 | K10 | 52 | 47 |
| JAN, 1990 | | | | | | | | | | | | |
| 12... | 1015 | 153 | 173 | 8.2 | 6.5 | 0.30 | 700 | 11.8 | 105 | K7 | K6 | 51 |
| MAR | | | | | | | | | | | | |
| 20... | 1045 | 335 | 139 | 8.1 | 10.5 | 2.0 | 705 | 10.5 | 102 | K5 | K10 | 38 |
| MAY | | | | | | | | | | | | |
| 15... | 1200 | 598 | 66 | 7.9 | 14.0 | 1.2 | 695 | 10.8 | 115 | K4 | K6 | 19 |
| JUL | | | | | | | | | | | | |
| 10... | 0800 | 177 | 119 | 8.1 | 22.0 | 1.8 | 700 | 8.3 | 104 | K19 | 56 | 35 |
| SEP | | | | | | | | | | | | |
| 18... | 1015 | 88 | 197 | 8.3 | 16.5 | 1.0 | 695 | 9.3 | 105 | 46 | 87 | 58 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM PERCENT | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 | ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO3 | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) |
|-------|--|--|--|-------------------|---|---|---|--|---|---|---|
| NOV | | | | | | | | | | | |
| 17... | 15 | 2.4 | 17 | 43 | 1 | 1.9 | 93 | 0 | 77 | 12 | 6.9 |
| JAN | | | | | | | | | | | |
| 12... | 16 | 2.7 | 17 | 41 | 1 | 2.2 | 91 | 0 | 74 | 11 | 7.0 |
| MAR | | | | | | | | | | | |
| 20... | 12 | 2.0 | 13 | 41 | 0.9 | 1.6 | 64 | 0 | 53 | 8.9 | 5.9 |
| MAY | | | | | | | | | | | |
| 15... | 6.0 | 0.94 | 6.3 | 41 | 0.6 | 0.80 | 40 | 0 | 33 | 4.0 | 2.7 |
| JUL | | | | | | | | | | | |
| 10... | 11 | 1.9 | 11 | 39 | 0.8 | 1.2 | 58 | 0 | 48 | 7.6 | 5.6 |
| SEP | | | | | | | | | | | |
| 18... | 18 | 3.1 | 21 | 43 | 1 | 2.1 | 107 | 0 | 88 | 17 | 12 |

BUENA VISTA LAKE BASIN

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11187000 KERN RIVER AT KERNVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 DIS- SOLVED 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) |
|--------------|--|---|--|---|---|---|---|--|---|--|--|
| NOV 17... | 0.30 | 18 | 106 | 119 | 0.14 | <0.010 | <0.100 | 0.010 | 0.010 | <0.20 | <0.010 |
| JAN 12... | 0.20 | 18 | 112 | 119 | 0.15 | <0.010 | <0.100 | 0.030 | 0.030 | <0.20 | <0.010 |
| MAR 20... | 0.10 | 17 | 100 | 92 | 0.14 | <0.010 | <0.100 | <0.010 | <0.010 | 0.40 | 0.030 |
| MAY 15... | 0.20 | 8.7 | 38 | 49 | 0.05 | <0.010 | <0.100 | <0.010 | <0.010 | <0.20 | 0.010 |
| JUL 10... | <0.10 | 11 | 71 | 78 | 0.10 | <0.010 | <0.100 | 0.030 | 0.020 | 1.0 | 0.020 |
| SEP 18... | 0.20 | 16 | 113 | 142 | 0.15 | <0.010 | <0.100 | <0.010 | 0.020 | 0.20 | <0.010 |

| 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) |
|--------------|---|---|---|--|--|--|--|---|--|--|--|
| NOV 17... | <0.010 | <0.010 | 10 | 5 | 20 | <0.5 | <1.0 | 2 | <3 | 1 | 51 |
| JAN 12... | <0.010 | <0.010 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR 20... | 0.010 | <0.010 | <10 | 5 | 18 | <0.5 | <1.0 | 1 | <3 | 1 | 49 |
| MAY 15... | <0.010 | <0.010 | 20 | 2 | 10 | <0.5 | <1.0 | <1 | <3 | <1 | 27 |
| JUL 10... | 0.010 | <0.010 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 18... | 0.010 | <0.010 | 10 | 6 | 27 | <0.5 | <1.0 | <1 | <3 | 86 | 53 |

| 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 17... | <1 | 36 | 4 | <0.1 | <10 | <1 | <1 | <1.0 | 110 | <6 | 7 |
| JAN 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR 20... | <1 | 24 | 3 | <0.1 | <10 | 1 | <1 | <1.0 | 89 | <6 | 45 |
| MAY 15... | <1 | 13 | 2 | <0.1 | <10 | <1 | <1 | <1.0 | 41 | <6 | 19 |
| JUL 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 18... | <1 | 38 | 6 | <0.1 | <10 | <1 | <1 | <1.0 | 120 | <6 | 4 |

BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) | SEDIMENT, SUS- PENDED (MG/L) |
|--------|------|--|---|---|--------------------------------|--------------------------------------|--|--|---------------------------------------|
| NOV | | | | | | | | | |
| 17...* | 1010 | 2.09 | 93.0 | 162 | 8.2 | 8.0 | 700 | 11.4 | 105 |
| 17...* | 1020 | 2.02 | 83.0 | 164 | 8.2 | 8.0 | 700 | 11.5 | 106 |
| 17...* | 1035 | 1.79 | 73.0 | 164 | 8.3 | 8.0 | 700 | 11.5 | 106 |
| 17...* | 1040 | 1.54 | 61.0 | 164 | 8.3 | 8.0 | 700 | 11.4 | 105 |
| 17...* | 1050 | 1.12 | 44.0 | 164 | 8.3 | 8.0 | 700 | 11.4 | 105 |
| MAY | | | | | | | | | |
| 15...* | 1140 | 1.44 | 66.0 | 66 | 7.8 | 14.0 | 695 | 10.8 | 115 |
| 15...* | 1150 | 2.40 | 100 | 66 | 7.8 | 14.0 | 695 | 10.8 | 115 |
| 15...* | 1205 | 3.15 | 117 | 66 | 7.8 | 14.0 | 695 | 10.8 | 115 |
| 15...* | 1215 | 3.40 | 132 | 66 | 7.8 | 14.0 | 695 | 10.8 | 115 |
| 15...* | 1225 | 3.35 | 145 | 67 | 7.8 | 14.0 | 695 | 10.8 | 115 |

* Instantaneous discharge at the time of cross-sectional measurements: Nov. 17, 150 ft³/s; May 15, 598 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|--|--------------------------------------|--|--|---|
| NOV | | | | | | |
| 17... | 1030 | 150 | 8.0 | 1 | 2.0 | 56 |
| JAN | | | | | | |
| 12... | 1015 | 153 | 6.5 | 2 | 0.83 | 88 |
| MAR | | | | | | |
| 20... | 1045 | 335 | 10.5 | 9 | 8.1 | 61 |
| MAY | | | | | | |
| 15... | 1200 | 598 | 14.0 | 4 | 6.5 | 78 |
| JUL | | | | | | |
| 10... | 0800 | 177 | 22.0 | 5 | 2.4 | 61 |
| SEP | | | | | | |
| 18... | 1015 | 88 | 16.5 | 2 | 0.48 | 100 |

BUENA VISTA LAKE BASIN

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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 excellent. 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, 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.--Three current-meter measurements were provided by Southern California Edison Co.

AVERAGE DISCHARGE.--69 years, 383 ft³/s, 277,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 634 ft³/s, Mar. 13, 14, 1952; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|------|---------|-------|-------|------|------|
| 1 | 200 | 162 | 221 | 167 | 244 | 1.4 | .00 | .00 | 176 | 66 | .00 | .00 |
| 2 | 242 | 161 | 210 | 168 | 256 | 1.4 | .00 | .00 | 178 | 3.7 | .00 | .00 |
| 3 | 292 | 171 | 221 | 168 | 256 | 1.2 | .00 | .00 | 177 | .00 | .00 | .00 |
| 4 | 285 | 177 | 223 | 157 | 256 | 1.1 | .00 | .00 | 178 | .00 | .00 | .00 |
| 5 | 258 | 177 | 250 | 146 | 249 | 1.1 | .00 | .00 | 182 | .00 | .00 | .00 |
| 6 | 238 | 177 | 291 | 142 | 240 | 1.1 | .00 | .00 | 189 | .00 | .00 | .00 |
| 7 | 230 | 187 | 303 | 141 | 215 | .68 | .00 | .00 | 201 | .00 | .00 | .00 |
| 8 | 232 | 195 | 303 | 141 | 191 | .00 | .00 | .00 | 214 | .00 | .00 | .00 |
| 9 | 242 | 190 | 295 | 163 | 191 | .00 | .00 | .00 | 225 | .00 | .00 | .00 |
| 10 | 225 | 178 | 288 | 178 | 192 | .00 | .00 | .00 | 238 | .00 | .00 | .00 |
| 11 | 187 | 166 | 272 | 177 | 217 | .00 | .00 | .00 | 250 | .00 | .00 | .00 |
| 12 | 179 | 162 | 256 | 177 | 242 | .00 | .00 | 1.5 | 255 | .00 | .00 | .00 |
| 13 | 173 | 157 | 247 | 195 | 241 | .00 | .00 | .00 | 257 | .00 | .00 | .00 |
| 14 | 160 | 152 | 245 | 227 | 241 | .00 | .00 | .00 | 256 | .00 | .00 | .00 |
| 15 | 178 | 151 | 203 | 242 | 241 | .00 | .00 | 53 | 251 | .00 | .00 | .00 |
| 16 | 206 | 161 | 189 | 240 | 252 | .00 | .00 | 95 | 247 | .00 | .00 | .00 |
| 17 | 199 | 167 | 192 | 227 | 250 | .00 | .00 | 99 | 242 | .00 | .00 | .00 |
| 18 | 173 | 166 | 188 | 194 | 241 | .00 | .00 | 103 | 233 | .00 | .00 | .00 |
| 19 | 153 | 175 | 172 | 177 | 278 | .00 | .00 | 104 | 225 | .00 | .00 | .00 |
| 20 | 145 | 181 | 156 | 176 | 328 | .00 | .00 | 107 | 216 | .00 | .00 | .00 |
| 21 | 146 | 181 | 152 | 164 | 338 | .00 | .00 | 111 | 203 | .00 | .00 | .00 |
| 22 | 146 | 180 | 151 | 151 | 331 | .00 | .00 | 113 | 186 | .00 | .00 | .00 |
| 23 | 167 | 177 | 150 | 152 | 324 | .00 | .00 | 117 | 171 | .00 | .00 | .00 |
| 24 | 231 | 172 | 151 | 166 | 335 | .00 | .00 | 119 | 157 | .00 | .00 | .00 |
| 25 | 200 | 172 | 151 | 194 | 348 | .00 | .00 | 127 | 140 | .00 | .00 | .00 |
| 26 | 178 | 164 | 158 | 214 | 350 | .00 | .00 | 128 | 124 | .00 | .00 | .00 |
| 27 | 166 | 201 | 167 | 233 | 337 | .00 | .00 | 130 | 110 | .00 | .00 | .00 |
| 28 | 161 | 196 | 168 | 232 | 9.1 | .00 | .00 | 137 | 99 | .00 | .00 | .00 |
| 29 | 161 | 197 | 168 | 231 | --- | .00 | .00 | 148 | 88 | .00 | .00 | .00 |
| 30 | 162 | 231 | 168 | 231 | --- | .00 | .00 | 162 | 75 | .00 | .00 | .00 |
| 31 | 162 | --- | 167 | 232 | --- | .00 | --- | 171 | --- | .00 | .00 | --- |
| TOTAL | 6077 | 5284 | 6476 | 5803 | 7193.1 | 7.98 | 0.00 | 2025.50 | 5743 | 69.70 | 0.00 | 0.00 |
| MEAN | 196 | 176 | 209 | 187 | 257 | .26 | .000 | 65.3 | 191 | 2.25 | .000 | .000 |
| MAX | 292 | 231 | 303 | 242 | 350 | 1.4 | .00 | 171 | 257 | 66 | .00 | .00 |
| MIN | 145 | 151 | 150 | 141 | 9.1 | .00 | .00 | .00 | 75 | .00 | .00 | .00 |
| AC-FT | 12050 | 10480 | 12850 | 11510 | 14270 | 16 | .00 | 4020 | 11390 | 138 | .00 | .00 |

CAL YR 1989 TOTAL 117489.72 MEAN 322 MAX 617 MIN .00 AC-FT 233000
WTR YR 1990 TOTAL 38679.28 MEAN 106 MAX 350 MIN .00 AC-FT 76720

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA

LOCATION.--Lat 35°44'15", long 118°10'22", 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 mi².

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, 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.--No estimated daily discharges. Records good. Lowell and Thomas ditches divert upstream from station for irrigation of 160 acres below station, combined capacity, 7 ft³/s.

AVERAGE DISCHARGE.--66 years (water years 1912-13, 1920-25, 1927, 1930-42, 1947-90), 125 ft³/s, 90,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft³/s, Dec. 6, 1966, gage height, 18.9 ft, from floodmarks, present datum, from rating curve extended above 3,000 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Mar. 24 | 1730 | *134 | *4.22 | | | | |

Minimum daily, 1.9 ft³/s, Aug. 4-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| 1 | 13 | 18 | 20 | 22 | 28 | 34 | 65 | 44 | 24 | 3.1 | 2.1 | 2.5 |
| 2 | 13 | 18 | 21 | 25 | 26 | 34 | 68 | 42 | 21 | 2.9 | 2.0 | 2.4 |
| 3 | 13 | 19 | 21 | 23 | 25 | 36 | 71 | 38 | 18 | 2.9 | 2.0 | 2.4 |
| 4 | 13 | 20 | 21 | 16 | 29 | 38 | 70 | 34 | 16 | 2.8 | 1.9 | 2.4 |
| 5 | 13 | 21 | 22 | 17 | 26 | 38 | 70 | 31 | 14 | 2.8 | 1.9 | 2.4 |
| 6 | 13 | 21 | 24 | 21 | 26 | 36 | 65 | 29 | 13 | 2.9 | 1.9 | 2.5 |
| 7 | 14 | 23 | 23 | 24 | 30 | 34 | 66 | 28 | 12 | 2.8 | 1.9 | 2.5 |
| 8 | 14 | 25 | 24 | 27 | 27 | 36 | 67 | 28 | 11 | 2.8 | 2.1 | 2.6 |
| 9 | 14 | 24 | 25 | 26 | 25 | 37 | 63 | 27 | 10 | 2.8 | 2.1 | 2.5 |
| 10 | 14 | 23 | 25 | 25 | 28 | 40 | 56 | 26 | 11 | 2.8 | 2.2 | 2.5 |
| 11 | 14 | 23 | 24 | 25 | 29 | 42 | 54 | 26 | 11 | 2.8 | 2.4 | 2.5 |
| 12 | 14 | 23 | 20 | 26 | 29 | 39 | 55 | 26 | 10 | 2.8 | 2.4 | 2.6 |
| 13 | 14 | 24 | 21 | 30 | 30 | 30 | 56 | 28 | 8.5 | 2.6 | 2.5 | 2.4 |
| 14 | 14 | 25 | 22 | 37 | 26 | 38 | 54 | 27 | 7.2 | 3.2 | 2.5 | 2.5 |
| 15 | 14 | 24 | 22 | 27 | 21 | 38 | 52 | 24 | 7.2 | 4.7 | 2.4 | 2.5 |
| 16 | 15 | 23 | 23 | 24 | 24 | 40 | 51 | 22 | 8.3 | 5.8 | 2.5 | 2.6 |
| 17 | 15 | 23 | 22 | 25 | 35 | 39 | 51 | 21 | 7.7 | 8.7 | 2.5 | 2.7 |
| 18 | 15 | 24 | 23 | 29 | 38 | 40 | 59 | 20 | 7.0 | 9.6 | 2.4 | 2.8 |
| 19 | 16 | 24 | 20 | 24 | 27 | 43 | 62 | 20 | 6.9 | 7.6 | 2.4 | 3.0 |
| 20 | 16 | 24 | 20 | 19 | 28 | 53 | 62 | 20 | 6.7 | 6.5 | 2.5 | 3.3 |
| 21 | 16 | 23 | 21 | 20 | 35 | 62 | 60 | 19 | 6.1 | 4.5 | 2.5 | 3.9 |
| 22 | 17 | 23 | 22 | 23 | 31 | 70 | 65 | 17 | 5.3 | 3.6 | 2.5 | 6.4 |
| 23 | 18 | 24 | 22 | 27 | 34 | 82 | 61 | 17 | 4.9 | 3.3 | 2.5 | 6.3 |
| 24 | 19 | 24 | 22 | 28 | 33 | 108 | 58 | 17 | 4.4 | 3.0 | 2.4 | 5.2 |
| 25 | 19 | 24 | 21 | 27 | 32 | 115 | 57 | 17 | 4.2 | 2.8 | 2.4 | 4.9 |
| 26 | 20 | 28 | 23 | 27 | 32 | 109 | 52 | 17 | 4.0 | 2.6 | 2.5 | 6.0 |
| 27 | 20 | 27 | 23 | 27 | 33 | 103 | 50 | 17 | 3.7 | 2.6 | 2.5 | 6.4 |
| 28 | 20 | 22 | 22 | 25 | 33 | 95 | 49 | 21 | 3.5 | 2.5 | 2.4 | 6.4 |
| 29 | 20 | 18 | 22 | 26 | --- | 94 | 47 | 25 | 3.4 | 2.3 | 2.4 | 6.9 |
| 30 | 20 | 18 | 22 | 28 | --- | 75 | 45 | 28 | 3.3 | 2.2 | 2.4 | 7.1 |
| 31 | 19 | --- | 21 | 27 | --- | 70 | --- | 27 | --- | 2.1 | 2.5 | --- |
| TOTAL | 489 | 680 | 684 | 777 | 820 | 1748 | 1761 | 783 | 273.3 | 114.4 | 71.6 | 111.1 |
| MEAN | 15.8 | 22.7 | 22.1 | 25.1 | 29.3 | 56.4 | 58.7 | 25.3 | 9.11 | 3.69 | 2.31 | 3.70 |
| MAX | 20 | 28 | 25 | 37 | 38 | 115 | 71 | 44 | 24 | 9.6 | 2.5 | 7.1 |
| MIN | 13 | 18 | 20 | 16 | 21 | 30 | 45 | 17 | 3.3 | 2.1 | 1.9 | 2.4 |
| AC-FT | 970 | 1350 | 1360 | 1540 | 1630 | 3470 | 3490 | 1550 | 542 | 227 | 142 | 220 |

CAL YR 1989 TOTAL 24335.3 MEAN 66.7 MAX 377 MIN 3.7 AC-FT 48270
WTR YR 1990 TOTAL 8312.4 MEAN 22.8 MAX 115 MIN 1.9 AC-FT 16490

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 mi².

PERIOD OF RECORD.--October 1953 to September 1990 (discontinued). 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. Surge storage 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 provided by U.S. Army Corps of Engineers; not rounded to 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 (AT 2400) FOR CURRENT YEAR.--Maximum contents, 97,421 acre-ft, June 12, 13, elevation, 2,546.01 ft; minimum, 48,758 acre-ft, Sept. 30, elevation, 2,531.16 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

| | | | | | | | |
|-------|--------|-------|--------|-------|---------|-------|---------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 95133 | 91298 | 89577 | 85940 | 85113 | 81352 | 78275 | 84292 | 94324 | 89228 | 66826 | 51463 |
| 2 | 94768 | 91298 | 89461 | 85978 | 85038 | 81207 | 78239 | 84515 | 94324 | 88648 | 65917 | 51359 |
| 3 | 94526 | 91258 | 89305 | 85940 | 84851 | 81135 | 78204 | 84702 | 94284 | 88148 | 65203 | 51255 |
| 4 | 94204 | 91180 | 89189 | 85940 | 84702 | 81062 | 78275 | 84926 | 94405 | 87497 | 64647 | 51126 |
| 5 | 93962 | 91062 | 88957 | 85902 | 84590 | 80882 | 78275 | 85301 | 94687 | 86811 | 64096 | 51022 |
| 6 | 93762 | 91022 | 88725 | 85940 | 84441 | 80593 | 78204 | 85789 | 95092 | 86129 | 63486 | 50893 |
| 7 | 93601 | 90983 | 88456 | 85940 | 84329 | 80233 | 78204 | 86507 | 95538 | 85338 | 62882 | 50712 |
| 8 | 93401 | 90944 | 88186 | 86016 | 84292 | 79874 | 78169 | 87306 | 95945 | 84478 | 62221 | 50532 |
| 9 | 93201 | 90826 | 87918 | 86016 | 84255 | 79517 | 78134 | 88071 | 96395 | 83846 | 61595 | 50404 |
| 10 | 92962 | 90748 | 87650 | 85978 | 84217 | 79232 | 78098 | 88725 | 96968 | 83328 | 60915 | 50250 |
| 11 | 92882 | 90748 | 87382 | 85978 | 84180 | 78983 | 78098 | 89383 | 97297 | 82739 | 60241 | 50097 |
| 12 | 92723 | 90669 | 87115 | 85978 | 83957 | 78770 | 78239 | 89733 | 97421 | 82117 | 59572 | 49868 |
| 13 | 92643 | 90630 | 86887 | 86129 | 83846 | 78593 | 78522 | 90122 | 97421 | 81497 | 58879 | 49690 |
| 14 | 92484 | 90669 | 86735 | 86167 | 83698 | 78345 | 78912 | 90395 | 97297 | 80882 | 58221 | 49538 |
| 15 | 92405 | 90630 | 86621 | 86016 | 83476 | 78204 | 79374 | 90748 | 97092 | 80305 | 57540 | 49336 |
| 16 | 92206 | 90669 | 86545 | 86016 | 83439 | 78134 | 80054 | 91022 | 96927 | 79660 | 56921 | 49210 |
| 17 | 92088 | 90591 | 86432 | 85940 | 83365 | 78063 | 80413 | 91140 | 96640 | 78947 | 56391 | 49159 |
| 18 | 92008 | 90591 | 86356 | 85940 | 83402 | 78028 | 80737 | 91377 | 96354 | 78169 | 55864 | 49084 |
| 19 | 91929 | 90474 | 86280 | 85940 | 83291 | 77993 | 80954 | 91455 | 95986 | 77291 | 55285 | 49034 |
| 20 | 91850 | 90395 | 86280 | 85902 | 82997 | 77922 | 81171 | 91574 | 95538 | 76524 | 54711 | 49009 |
| 21 | 91811 | 90356 | 86280 | 85902 | 82849 | 77852 | 81389 | 91613 | 95011 | 75797 | 54277 | 48983 |
| 22 | 91811 | 90278 | 86280 | 85940 | 82629 | 77817 | 81461 | 91811 | 94405 | 75007 | 53926 | 48933 |
| 23 | 91732 | 90161 | 86280 | 86016 | 82446 | 77746 | 81570 | 91890 | 93802 | 74223 | 53657 | 48908 |
| 24 | 91574 | 90044 | 86242 | 86091 | 82299 | 77782 | 81898 | 92127 | 93201 | 73410 | 53416 | 48908 |
| 25 | 91534 | 89966 | 86280 | 86016 | 82080 | 77852 | 82044 | 92365 | 92564 | 72538 | 53176 | 48883 |
| 26 | 91495 | 90161 | 86205 | 85940 | 81898 | 77993 | 82153 | 92444 | 91890 | 71772 | 52963 | 48833 |
| 27 | 91377 | 90161 | 86129 | 85789 | 81679 | 78098 | 82373 | 92524 | 91416 | 70979 | 52671 | 48783 |
| 28 | 91416 | 90005 | 86129 | 85639 | 81570 | 78204 | 82849 | 92882 | 90826 | 70193 | 52380 | 48783 |
| 29 | 91377 | 89888 | 86053 | 85488 | --- | 78310 | 83402 | 93441 | 90239 | 69445 | 52038 | 48783 |
| 30 | 91337 | 89694 | 86016 | 85376 | --- | 78381 | 83957 | 93842 | 89694 | 68607 | 51724 | 48758 |
| 31 | 91337 | --- | 85978 | 85263 | --- | 78275 | --- | 94365 | --- | 67712 | 51515 | --- |
| MAX | 95133 | 91298 | 89577 | 86167 | 85113 | 81352 | 83957 | 94365 | 97421 | 89228 | 66826 | 51463 |
| MIN | 91337 | 89694 | 85978 | 85263 | 81570 | 77746 | 78098 | 84292 | 89694 | 67712 | 51515 | 48758 |
| a | 2544.50 | 2544.08 | 2543.11 | 2542.92 | 2541.92 | 2541.00 | 2542.57 | 2545.26 | 2544.08 | 2537.85 | 2532.24 | 2531.16 |
| b | -4161 | -1643 | -3716 | -715 | -3693 | -3295 | +5682 | +10408 | -4671 | -21982 | -16197 | -2757 |
| c | 2003 | 1377 | 875 | 662 | 638 | 1144 | 1747 | 2707 | 3721 | 3987 | 2881 | 2037 |
| CAL YR 1989 | b +12433 | | | | | | | | | | | |
| WTR YR 1990 | b -46740 | | | | | | | | | | | |

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Army Corps of Engineers; not reviewed by U.S. 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 mi².

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 upstream from station. Diversion for irrigation of 3,500 acres between head of Isabella Lake and upstream stations. An additional 6,500 acres in the lakebed can be irrigated when the lake is low.

AVERAGE DISCHARGE (adjusted for diversion to Borel Canal since 1945 and for change in contents in and evaporation from Isabella Lake since 1954).--45 years, 966 ft³/s, 699,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s, Nov. 19, 1950, gage height, 28.6 ft, from floodmarks, present site and datum, from rating curve extended above 6,500 ft³/s on basis of slope-area measurement of peak flow; no flow at times in some years. Maximum discharge since construction of Isabella Dam in 1954, 7,300 ft³/s, May 3, 1969, gage height, 17.67 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft³/s, July 19, gage height, 7.91 ft; minimum daily, 3.4 ft³/s, Jan. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1 | 92 | 5.7 | 5.6 | 4.8 | 4.8 | 341 | 419 | 408 | 290 | 377 | 588 | 122 |
| 2 | 30 | 6.1 | 5.5 | 4.8 | 4.8 | 327 | 411 | 407 | 291 | 467 | 566 | 123 |
| 3 | 5.7 | 5.9 | 5.4 | 4.8 | 4.8 | 311 | 431 | 407 | 291 | 476 | 476 | 123 |
| 4 | 5.1 | 5.8 | 5.4 | 4.8 | 4.8 | 357 | 431 | 405 | 290 | 486 | 381 | 133 |
| 5 | 5.0 | 5.6 | 5.4 | 4.8 | 4.8 | 399 | 432 | 406 | 287 | 508 | 374 | 147 |
| 6 | 4.9 | 5.6 | 5.4 | 4.6 | 4.8 | 446 | 432 | 407 | 281 | 560 | 400 | 154 |
| 7 | 4.8 | 5.6 | 5.4 | 4.6 | 4.8 | 443 | 429 | 407 | 267 | 599 | 415 | 155 |
| 8 | 5.0 | 5.6 | 5.4 | 4.6 | 4.9 | 471 | 428 | 407 | 256 | 601 | 439 | 149 |
| 9 | 4.7 | 5.6 | 5.4 | 4.6 | 4.9 | 457 | 428 | 407 | 241 | 538 | 425 | 151 |
| 10 | 4.6 | 5.6 | 5.4 | 4.6 | 4.9 | 420 | 426 | 417 | 229 | 435 | 463 | 151 |
| 11 | 4.2 | 5.6 | 5.3 | 4.5 | 4.9 | 401 | 425 | 423 | 217 | 458 | 468 | 152 |
| 12 | 4.3 | 5.6 | 5.3 | 4.6 | 4.9 | 387 | 414 | 424 | 209 | 481 | 462 | 152 |
| 13 | 4.4 | 5.6 | 5.3 | 4.7 | 4.9 | 363 | 409 | 425 | 205 | 505 | 461 | 153 |
| 14 | 4.4 | 5.6 | 5.3 | 4.7 | 4.9 | 354 | 409 | 425 | 207 | 511 | 453 | 148 |
| 15 | 4.3 | 5.6 | 5.3 | 4.7 | 4.9 | 353 | 410 | 367 | 229 | 506 | 405 | 140 |
| 16 | 4.4 | 5.6 | 5.3 | 4.7 | 4.9 | 325 | 410 | 325 | 240 | 551 | 385 | 123 |
| 17 | 4.5 | 5.6 | 5.3 | 4.7 | 5.1 | 312 | 411 | 321 | 232 | 584 | 374 | 101 |
| 18 | 4.7 | 5.6 | 5.1 | 4.7 | 5.1 | 326 | 411 | 319 | 256 | 606 | 352 | 103 |
| 19 | 4.6 | 5.6 | 5.1 | 4.7 | 5.0 | 348 | 411 | 318 | 291 | 701 | 391 | 105 |
| 20 | 4.6 | 5.5 | 5.1 | 3.4 | 5.0 | 390 | 411 | 314 | 343 | 671 | 408 | 109 |
| 21 | 4.6 | 5.5 | 5.1 | 4.7 | 5.0 | 410 | 410 | 311 | 396 | 602 | 328 | 118 |
| 22 | 4.6 | 5.5 | 5.1 | 4.8 | 5.0 | 414 | 410 | 308 | 446 | 580 | 264 | 117 |
| 23 | 4.6 | 5.5 | 5.0 | 4.8 | 5.0 | 425 | 410 | 305 | 478 | 564 | 226 | 116 |
| 24 | 5.7 | 5.6 | 5.0 | 4.8 | 5.0 | 424 | 411 | 304 | 485 | 555 | 196 | 116 |
| 25 | 6.6 | 5.5 | 5.0 | 4.8 | 4.9 | 426 | 410 | 296 | 480 | 555 | 178 | 129 |
| 26 | 5.9 | 5.6 | 5.0 | 4.8 | 4.9 | 426 | 407 | 290 | 428 | 532 | 195 | 140 |
| 27 | 5.9 | 5.6 | 4.9 | 4.8 | 22 | 427 | 407 | 290 | 372 | 544 | 243 | 132 |
| 28 | 5.9 | 5.5 | 4.9 | 4.8 | 325 | 428 | 407 | 286 | 438 | 514 | 261 | 128 |
| 29 | 5.9 | 5.5 | 4.9 | 4.7 | --- | 430 | 407 | 276 | 470 | 515 | 241 | 142 |
| 30 | 5.9 | 5.6 | 4.9 | 4.7 | --- | 429 | 407 | 260 | 435 | 576 | 238 | 150 |
| 31 | 5.9 | --- | 4.9 | 4.8 | --- | 429 | --- | 247 | --- | 567 | 172 | --- |
| TOTAL | 267.7 | 168.4 | 161.4 | 144.9 | 474.7 | 12199 | 12474 | 10912 | 9580 | 16725 | 11228 | 3982 |
| MEAN | 8.64 | 5.61 | 5.21 | 4.67 | 17.0 | 394 | 416 | 352 | 319 | 540 | 362 | 133 |
| MAX | 92 | 6.1 | 5.6 | 4.8 | 325 | 471 | 432 | 425 | 485 | 701 | 588 | 155 |
| MIN | 4.2 | 5.5 | 4.9 | 3.4 | 4.8 | 311 | 407 | 247 | 205 | 377 | 172 | 101 |
| AC-FT | 531 | 334 | 320 | 287 | 942 | 24200 | 24740 | 21640 | 19000 | 33170 | 22270 | 7900 |
| MEAN a | 170 | 177 | 168 | 191 | 219 | 359 | 541 | 631 | 495 | 249 | 146 | 121 |
| AC-FT a | 10450 | 10530 | 10330 | 11740 | 12160 | 22070 | 32190 | 38800 | 29450 | 15310 | 8980 | 7200 |

CAL YR 1989 TOTAL 52835.4 MEAN 145 MAX 583 MIN 1.9 AC-FT 104800 MEAN a 529 AC-FT a 383000
WTR YR 1990 TOTAL 78317.1 MEAN 215 MAX 701 MIN 3.4 AC-FT 155300 MEAN a 289 AC-FT a 209230

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

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1971 to current year.

CHEMICAL DATA: Water years 1956-66.

WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in the record were due to malfunction of the recording instrument. Water temperature is affected by regulation from Isabella Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 28.5 °C, Aug. 24, 1981; minimum recorded, 2.5 °C, Feb. 25, 26, 1989, Dec. 25, 1989.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 25.0 °C, Aug. 7, 8, 12; minimum recorded, 2.5 °C, Dec. 25.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|-----|---------|-----|----------|-----|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | 10.5 | 7.5 | 8.0 | 5.0 | 7.0 | 3.0 | 8.0 | 6.0 |
| 2 | --- | --- | 15.0 | 11.0 | 10.5 | 7.5 | 9.5 | 5.5 | 8.5 | 5.0 | 7.5 | 7.0 |
| 3 | --- | --- | 14.5 | 11.0 | 10.5 | 7.5 | 7.5 | 3.0 | 8.5 | 5.0 | 7.5 | 7.0 |
| 4 | --- | --- | 14.5 | 11.0 | 10.0 | 7.5 | 8.5 | 5.0 | 6.5 | 3.0 | 8.5 | 4.5 |
| 5 | --- | --- | 14.0 | 10.5 | 10.0 | 7.0 | 8.0 | 4.0 | 9.0 | 4.5 | 8.5 | 8.0 |
| 6 | --- | --- | 14.5 | 11.0 | 10.0 | 7.5 | 8.5 | 5.0 | 7.5 | 5.0 | 9.5 | 8.5 |
| 7 | --- | --- | 14.0 | 11.0 | 10.0 | 7.0 | 8.5 | 5.0 | 7.5 | 5.0 | 10.0 | 8.0 |
| 8 | --- | --- | 14.0 | 10.5 | 9.5 | 7.0 | 9.5 | 5.5 | 8.0 | 4.0 | 10.0 | 9.0 |
| 9 | --- | --- | 14.0 | 10.5 | 9.5 | 7.0 | 9.0 | 5.5 | 9.0 | 4.5 | 10.0 | 9.0 |
| 10 | --- | --- | 14.0 | 10.5 | 9.5 | 7.0 | 9.0 | 5.0 | 9.0 | 5.0 | 11.0 | 7.5 |
| 11 | --- | --- | 14.0 | 10.5 | 9.5 | 3.5 | 9.0 | 6.0 | 10.0 | 5.0 | 10.0 | 7.0 |
| 12 | --- | --- | 14.0 | 10.5 | 8.5 | 5.0 | 9.5 | 5.5 | 9.5 | 6.0 | 11.0 | 7.5 |
| 13 | --- | --- | 13.5 | 11.0 | 8.5 | 5.5 | 8.5 | 6.0 | 7.0 | 4.5 | 10.0 | 7.5 |
| 14 | --- | --- | 13.5 | 10.5 | 9.0 | 5.5 | 11.5 | 7.0 | 7.0 | 4.0 | 10.5 | 7.0 |
| 15 | --- | --- | 13.0 | 10.0 | 10.0 | 6.0 | 9.5 | 4.0 | 7.5 | 4.0 | 10.5 | 8.5 |
| 16 | --- | --- | 13.0 | 10.0 | 9.5 | 5.5 | 7.0 | 5.5 | 8.0 | 4.0 | 10.5 | 6.0 |
| 17 | --- | --- | 13.0 | 10.0 | 9.0 | 3.0 | 7.0 | 5.5 | 7.5 | 5.5 | 12.0 | 6.0 |
| 18 | --- | --- | 13.5 | 10.0 | 8.5 | 5.5 | 7.0 | 4.0 | 6.5 | 4.5 | 12.0 | 6.5 |
| 19 | --- | --- | 13.5 | 10.5 | 9.0 | 5.5 | 7.5 | 5.0 | 8.5 | 4.5 | 10.5 | 6.0 |
| 20 | --- | --- | 12.5 | 10.0 | 8.0 | 5.5 | 8.0 | 4.5 | 8.5 | 4.5 | 13.0 | 6.0 |
| 21 | --- | --- | 12.5 | 10.0 | 8.0 | 4.0 | 8.5 | 5.0 | 8.5 | 6.0 | 11.0 | 9.0 |
| 22 | --- | --- | 12.5 | 9.5 | 8.0 | 4.5 | 8.5 | 5.5 | 10.5 | 5.5 | 11.5 | 9.5 |
| 23 | --- | --- | 12.5 | 9.5 | 8.0 | 5.5 | 10.0 | 5.0 | 10.5 | 4.5 | 11.5 | 10.5 |
| 24 | --- | --- | 11.5 | 10.0 | 9.0 | 4.5 | 9.0 | 5.5 | 11.0 | 7.0 | 12.0 | 10.5 |
| 25 | --- | --- | 12.5 | 9.0 | 8.5 | 2.5 | 8.5 | 5.5 | 11.0 | 8.0 | 12.0 | 11.0 |
| 26 | --- | --- | 11.5 | 9.0 | 9.5 | 3.0 | 9.5 | 3.5 | 12.0 | 8.0 | 12.5 | 11.5 |
| 27 | --- | --- | 11.0 | 8.5 | 8.5 | 3.5 | 9.0 | 5.5 | 12.0 | 6.5 | 12.5 | 10.0 |
| 28 | --- | --- | 10.5 | 7.5 | 8.0 | 5.5 | 9.0 | 5.0 | 7.5 | 6.5 | 13.0 | 10.0 |
| 29 | --- | --- | 10.5 | 7.5 | 7.5 | 5.0 | 8.0 | 5.5 | --- | --- | 13.0 | 11.5 |
| 30 | --- | --- | 10.5 | 7.5 | 8.5 | 5.0 | 7.5 | 5.0 | --- | --- | 13.0 | 11.0 |
| 31 | --- | --- | --- | --- | 8.5 | 5.0 | 8.5 | 5.0 | --- | --- | 13.0 | 12.0 |
| MONTH | --- | --- | --- | --- | 10.5 | 2.5 | 11.5 | 3.0 | 12.0 | 3.0 | 13.0 | 4.5 |

BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 13.5 | 12.5 | 15.0 | 14.0 | 16.5 | 14.5 | 20.5 | 18.0 | 22.5 | 20.0 | 20.5 | 17.0 |
| 2 | 13.5 | 12.0 | 15.0 | 14.0 | 16.5 | 15.5 | 21.5 | 17.5 | 24.0 | 20.0 | 22.5 | 19.0 |
| 3 | 14.0 | 12.5 | 15.0 | 14.0 | 17.0 | 15.5 | 20.5 | 19.0 | 23.0 | 20.0 | 21.0 | 17.5 |
| 4 | 13.5 | 12.5 | 15.0 | 14.0 | 17.5 | 14.0 | 20.0 | 19.0 | 23.0 | 17.0 | 21.5 | 18.0 |
| 5 | 13.5 | 12.5 | 15.0 | 14.0 | 17.5 | 16.0 | 20.0 | 18.0 | 23.0 | 19.5 | 21.0 | 18.5 |
| 6 | 13.5 | 12.5 | 15.5 | 14.5 | 17.5 | 14.0 | 20.5 | 18.0 | 24.0 | 19.5 | 20.0 | 18.0 |
| 7 | 13.5 | 12.5 | 15.0 | 14.5 | 17.5 | 13.5 | 21.0 | 18.5 | 25.0 | 21.0 | 20.5 | 16.0 |
| 8 | 14.0 | 13.0 | 15.0 | 14.5 | 19.0 | 16.0 | 21.0 | 20.0 | 25.0 | 19.5 | 20.5 | 18.5 |
| 9 | 14.0 | 13.0 | 16.0 | 14.5 | 18.0 | 15.0 | 21.0 | 20.0 | 24.5 | 22.5 | 21.0 | 17.5 |
| 10 | 14.0 | 13.0 | 15.5 | 14.5 | 17.5 | 15.0 | 21.0 | 20.0 | 23.5 | 19.5 | 21.0 | 16.5 |
| 11 | 14.0 | 13.0 | 15.5 | 15.0 | 18.0 | 16.5 | 21.0 | 19.5 | 23.5 | 20.5 | 20.5 | 18.0 |
| 12 | 14.0 | 13.5 | 16.0 | 15.0 | 18.5 | 16.0 | 21.0 | 20.0 | 25.0 | 19.5 | 21.0 | 16.5 |
| 13 | 14.5 | 13.5 | 16.0 | 14.5 | 18.5 | 17.0 | 22.0 | 20.0 | 23.5 | 19.5 | 22.0 | 18.0 |
| 14 | 15.0 | 13.5 | 17.0 | 15.0 | 17.5 | 17.0 | 21.5 | 20.5 | 24.0 | 19.5 | 21.0 | 17.5 |
| 15 | 14.5 | 13.5 | 16.0 | 15.0 | 18.0 | 17.0 | 22.0 | 19.5 | 24.0 | 19.0 | 21.5 | 19.0 |
| 16 | 14.5 | 13.5 | 16.5 | 14.5 | 19.0 | 16.5 | 21.5 | 19.5 | 23.0 | 20.5 | 20.5 | 18.0 |
| 17 | 15.0 | 14.0 | 16.5 | 14.5 | 18.5 | 17.5 | 22.5 | 20.0 | 24.0 | 21.0 | 21.5 | 17.5 |
| 18 | 15.0 | 13.0 | 17.0 | 15.0 | 19.0 | 17.5 | 22.0 | 19.0 | 23.5 | 19.5 | 20.0 | 16.5 |
| 19 | 15.0 | 14.0 | 17.0 | 14.0 | 19.0 | 17.0 | 22.5 | 21.0 | 22.5 | 19.5 | 20.5 | 18.5 |
| 20 | 15.0 | 14.0 | 16.5 | 14.5 | 19.5 | 17.0 | 22.5 | 20.0 | 22.0 | 20.0 | 20.5 | 16.5 |
| 21 | 15.0 | 14.0 | 16.5 | 14.5 | 19.5 | 17.5 | 23.0 | 19.5 | 21.5 | 20.5 | 20.0 | 16.5 |
| 22 | 15.0 | 14.0 | 16.5 | 14.5 | 20.0 | 17.5 | 23.0 | 20.0 | 21.0 | 20.0 | 22.0 | 18.5 |
| 23 | 14.5 | 13.5 | 17.0 | 13.5 | 19.5 | 17.0 | 23.0 | 19.5 | 21.5 | 18.0 | 22.0 | 19.0 |
| 24 | 14.5 | 13.5 | 16.5 | 15.0 | 19.5 | 18.0 | 23.5 | 19.5 | 21.0 | 19.0 | 19.5 | 18.5 |
| 25 | 15.0 | 14.0 | 16.5 | 15.5 | 19.5 | 18.0 | 22.5 | 19.5 | 21.0 | 18.5 | 21.5 | 18.0 |
| 26 | 15.0 | 14.0 | 16.5 | 13.5 | 19.5 | 18.0 | 23.5 | 19.5 | 20.5 | 19.5 | 19.5 | 17.0 |
| 27 | 15.0 | 14.0 | 16.5 | 14.0 | 19.5 | 17.0 | 22.5 | 20.0 | 20.5 | 19.0 | 19.0 | 17.0 |
| 28 | 15.0 | 14.5 | 18.5 | 14.5 | 20.0 | 17.0 | 22.5 | 20.0 | 20.5 | 19.0 | 19.0 | 17.5 |
| 29 | 15.0 | 14.5 | 16.5 | 15.0 | 20.5 | 18.0 | 23.0 | 18.5 | 20.5 | 17.5 | 19.0 | 18.0 |
| 30 | 15.5 | 14.5 | 17.5 | 15.5 | 20.0 | 17.0 | 23.0 | 20.0 | 20.5 | 18.5 | 19.0 | 17.0 |
| 31 | --- | --- | 16.5 | 15.0 | --- | --- | 24.0 | 20.0 | 21.0 | 19.5 | --- | --- |
| MONTH | 15.5 | 12.0 | 18.5 | 13.5 | 20.5 | 13.5 | 24.0 | 17.5 | 25.0 | 17.0 | 22.5 | 16.0 |

BUENA VISTA LAKE BASIN

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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 mi².

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.--Kern River No. 1 conduit diverts up to about 420 ft³/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 upstream from 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, 40 years, 646 ft³/s, 468,000 acre-ft/yr.
Combined river and diversion, 40 years, 980 ft³/s, 710,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, prior to regulation by Isabella Lake in 1954: Maximum discharge, 40,000 ft³/s, Nov. 19, 1950, gage height, 30.7 ft, from rating curve extended above 8,700 ft³/s on basis of computation of peak flow over dam (basic data for computation provided by Southern California Edison Co.); minimum daily, 0.7 ft³/s, Nov. 17-19, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft³/s, Dec. 6, 1966, gage height, 18.55 ft; no flow May 26-28, 1977.

Combined flow, prior to regulation by Isabella Lake: Maximum discharge, 40,000 ft³/s, Nov. 19, 1950; minimum daily, 123 ft³/s, Sept. 22, 1951. Since regulation by Isabella Lake: Maximum discharge, 10,100 ft³/s, Dec. 6, 1966; minimum daily, 10 ft³/s, Dec. 17, 1968.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 506 ft³/s, July 20, gage height, 7.09 ft; minimum daily, 5.4 ft³/s, Nov. 27.

Combined flow: Maximum daily discharge, 662 ft³/s, July 20; minimum daily, 98 ft³/s, Sept. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | e12 | 6.2 | 6.2 | e6.4 | e6.9 | 7.5 | 8.5 | e8.0 | 69 | 56 | 164 | 66 |
| 2 | e9.8 | 5.8 | 6.0 | e6.4 | e6.9 | 7.3 | 8.4 | e8.0 | 70 | 56 | 162 | 62 |
| 3 | e9.8 | 6.2 | 5.8 | e6.4 | e6.9 | 7.2 | 7.9 | e8.0 | 70 | 56 | 103 | 62 |
| 4 | e9.8 | 6.4 | 6.0 | e6.5 | e7.0 | 7.1 | 8.1 | e8.0 | 65 | 59 | 58 | 62 |
| 5 | e9.5 | 6.4 | 6.0 | e6.5 | e7.0 | 13 | 8.8 | 7.9 | 61 | 83 | 55 | 62 |
| 6 | 8.5 | 6.2 | e6.2 | e6.5 | e6.9 | 11 | 7.9 | 8.1 | 60 | 109 | 64 | 63 |
| 7 | 8.2 | 6.1 | e6.2 | e6.6 | e6.9 | 47 | 8.0 | 8.2 | 59 | 171 | 57 | 63 |
| 8 | 7.9 | 5.9 | e6.2 | e6.6 | e7.1 | 41 | 8.0 | 8.2 | 59 | 167 | 68 | 63 |
| 9 | 7.9 | 5.8 | e6.3 | e6.6 | e7.0 | 69 | 7.9 | 8.2 | 59 | 169 | 56 | 63 |
| 10 | 7.9 | 5.8 | e6.3 | e6.7 | e7.0 | 22 | 8.2 | 8.6 | 59 | 58 | 56 | 63 |
| 11 | 7.9 | 5.7 | e6.3 | e6.7 | e7.0 | 15 | 8.2 | 8.8 | 59 | 57 | 56 | 62 |
| 12 | 7.2 | 6.0 | e6.4 | e6.7 | e7.0 | e8.0 | 8.4 | 8.8 | 58 | 58 | 56 | 60 |
| 13 | 7.0 | 6.1 | e6.4 | e6.8 | e7.0 | e7.9 | 8.2 | 8.5 | 57 | 61 | 56 | 56 |
| 14 | 7.0 | 6.2 | e6.4 | e6.8 | e7.0 | e7.6 | 8.4 | 8.5 | 56 | 113 | 56 | 55 |
| 15 | 7.3 | 6.0 | e6.5 | e6.8 | e7.0 | e7.6 | 8.3 | 8.5 | 55 | 87 | 55 | 55 |
| 16 | 7.3 | 6.1 | e6.5 | e6.9 | e7.0 | e7.6 | 8.2 | 8.7 | 76 | 128 | 55 | 54 |
| 17 | 7.3 | 6.3 | e6.5 | e6.9 | e8.0 | e7.6 | 8.2 | 9.1 | 58 | 154 | 54 | 54 |
| 18 | 7.0 | 6.2 | e6.5 | e6.9 | e8.0 | e7.6 | 8.1 | 9.2 | 69 | 169 | 54 | 54 |
| 19 | 6.8 | 6.2 | e6.5 | e6.9 | e8.0 | e7.6 | 8.2 | 9.2 | 92 | 182 | 54 | 54 |
| 20 | 6.8 | 6.2 | e6.5 | e6.9 | e8.0 | e7.6 | 8.4 | 9.2 | 137 | 276 | 57 | 54 |
| 21 | 7.0 | 6.2 | e6.4 | e6.9 | e11 | e7.6 | 8.5 | 9.2 | 174 | 178 | 54 | 54 |
| 22 | 7.3 | 6.1 | e6.4 | e6.9 | 11 | e7.6 | 8.3 | 9.0 | 196 | 138 | 52 | 54 |
| 23 | 7.3 | 6.1 | e6.4 | e6.9 | 208 | e7.7 | 8.4 | 8.8 | 230 | 149 | 56 | 54 |
| 24 | 7.3 | 6.1 | e6.4 | e6.9 | 292 | e7.8 | 8.5 | 8.8 | 222 | 109 | 58 | 54 |
| 25 | 7.3 | 5.7 | e6.4 | e6.9 | 136 | e7.9 | 8.4 | 8.8 | 220 | 140 | 58 | 54 |
| 26 | 6.9 | 5.8 | e6.4 | e6.9 | 18 | e8.0 | 8.2 | 8.6 | 175 | 98 | 59 | 54 |
| 27 | 6.5 | 5.4 | e6.4 | e6.9 | 7.7 | e8.1 | 7.9 | 8.6 | 88 | 128 | 58 | 54 |
| 28 | 6.2 | e5.6 | e6.4 | e6.9 | 7.3 | e8.2 | 8.2 | 8.8 | 104 | 115 | 61 | 54 |
| 29 | 6.0 | e5.8 | e6.4 | e6.9 | --- | e8.3 | 8.1 | 8.8 | 152 | 81 | 61 | 54 |
| 30 | 6.0 | 6.0 | e6.4 | e6.9 | --- | e8.4 | 8.1 | 8.4 | 167 | 161 | 61 | 55 |
| 31 | 6.2 | --- | e6.4 | e6.9 | --- | e8.5 | --- | 10 | --- | 148 | 65 | --- |
| TOTAL | 236.9 | 180.6 | 196.1 | 209.4 | 834.6 | 404.3 | 246.9 | 267.5 | 3076 | 3714 | 2039 | 1728 |
| MEAN | 7.64 | 6.02 | 6.33 | 8.75 | 29.8 | 13.0 | 8.23 | 8.63 | 103 | 120 | 65.8 | 57.6 |
| MAX | 12 | 6.4 | 6.5 | 6.9 | 292 | 69 | 8.8 | 10 | 230 | 276 | 164 | 66 |
| MIN | 6.0 | 5.4 | 5.8 | 6.4 | 6.9 | 7.1 | 7.9 | 7.9 | 55 | 56 | 52 | 54 |
| AC-FT | 470 | 358 | 389 | 415 | 1660 | 802 | 490 | 531 | 6100 | 7370 | 4040 | 3430 |

CAL YR 1989 TOTAL 63020.5 MEAN 173 MAX 927 MIN 5.4 AC-FT 125000
WTR YR 1990 TOTAL 13133.3 MEAN 36.0 MAX 292 MIN 5.4 AC-FT 26050

e Estimated.

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER NO. 1 CONDUIT
NEAR DEMOCRAT SPRINGS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

[illegible]

11192950 KERN RIVER FISHWATER RELEASE AT KERN CANYON POWERHOUSE DIVERSION DAM, NEAR BAKERSFIELD, CA

LOCATION.--Lat 35°27'37", long 118°46'43", in SE 1/4 SE 1/4 sec.29, T.28 S., R.30 E., Kern County, Hydrologic Unit 18030003, Sequoia National Forest, on left bank at diversion dam 16.4 mi northeast of Bakersfield.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder and sharp-crested rectangular weir. Elevation of gage is 975 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated at diversion dam immediately upstream and does not include leakage through diversion dam radial gates. Discharge exceeding fishwater requirement bypassed the gage Jan. 6-24, 27-30 when maintenance was being performed. Bypass flow entered the main channel immediately downstream from the gage. See schematic diagram of Kern River basin. No records computed above 36 ft³/s.

COOPERATION.--Records were provided by Pacific Gas & 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.--Minimum daily, 6.0 ft³/s, Dec. 18, 1988.

EXTREMES FOR CURRENT YEAR.--Minimum daily, 14 ft³/s, May 6, 9, 10, June 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-----|------|------|------|------|------|------|------|------|
| 1 | 18 | 18 | 18 | 17 | 22 | 21 | 21 | 15 | 15 | 15 | 17 | 17 |
| 2 | 18 | 18 | 18 | 17 | 22 | 21 | 21 | 15 | 15 | 15 | 17 | 16 |
| 3 | 18 | 17 | 18 | 17 | 22 | 21 | 21 | 15 | 15 | 16 | 17 | 16 |
| 4 | 18 | 17 | 18 | 17 | 22 | 21 | 22 | 15 | 15 | 17 | 16 | 17 |
| 5 | 18 | 18 | 18 | 17 | 22 | 21 | 22 | 15 | 14 | 17 | 16 | 18 |
| 6 | 17 | 17 | 18 | --- | 22 | 21 | 22 | 14 | 15 | 17 | 16 | 17 |
| 7 | 17 | 18 | 17 | --- | 21 | 21 | 22 | 15 | 15 | 17 | 16 | 21 |
| 8 | 17 | 18 | 17 | --- | 22 | 21 | 22 | 15 | 15 | 17 | 16 | 24 |
| 9 | 17 | 18 | 17 | --- | 22 | 22 | 22 | 14 | 15 | 17 | 16 | 24 |
| 10 | 17 | 18 | 17 | --- | 22 | 22 | 22 | 14 | 15 | 17 | 16 | 24 |
| 11 | 17 | 18 | 18 | --- | 22 | 22 | 22 | 15 | 15 | 17 | 16 | 24 |
| 12 | 18 | 18 | 17 | --- | 21 | 22 | 21 | 15 | 15 | 17 | 16 | 26 |
| 13 | 18 | 18 | 17 | --- | 21 | 22 | 22 | 15 | 15 | 17 | 16 | 28 |
| 14 | 18 | 18 | 17 | --- | 20 | 22 | 22 | 15 | 15 | 16 | 16 | 28 |
| 15 | 18 | 18 | 17 | --- | 21 | 22 | 22 | 15 | 15 | 17 | 16 | 28 |
| 16 | 18 | 18 | 17 | --- | 21 | 22 | 19 | 15 | 15 | 17 | 16 | 28 |
| 17 | 17 | 18 | 17 | --- | 20 | 22 | 15 | 15 | 15 | 17 | 17 | 28 |
| 18 | 17 | 18 | 18 | --- | 21 | 22 | 15 | 15 | 15 | 17 | 17 | 30 |
| 19 | 18 | 18 | 17 | --- | 21 | 22 | 15 | 15 | 15 | 17 | 17 | 32 |
| 20 | 18 | 18 | 17 | --- | 21 | 22 | 15 | 15 | 15 | 17 | 16 | 32 |
| 21 | 18 | 18 | 18 | --- | 20 | 21 | 15 | 15 | 15 | 16 | 16 | 32 |
| 22 | 18 | 18 | 17 | --- | 20 | 21 | 15 | 15 | 15 | 16 | 17 | 32 |
| 23 | 18 | 18 | 17 | --- | 16 | 21 | 15 | 15 | 15 | 16 | 17 | 32 |
| 24 | 18 | 18 | 18 | --- | 15 | 21 | 16 | 16 | 15 | 16 | 17 | 32 |
| 25 | 18 | 19 | 18 | 22 | 17 | 21 | 15 | 16 | 15 | 16 | 17 | 32 |
| 26 | 18 | 19 | 18 | 19 | 18 | 21 | 15 | 16 | 15 | 16 | 16 | 32 |
| 27 | 18 | 19 | 17 | --- | 20 | 21 | 15 | 16 | 15 | 16 | 17 | 32 |
| 28 | 18 | 19 | 17 | --- | 21 | 21 | 15 | 16 | 15 | 16 | 17 | 30 |
| 29 | 18 | 18 | 17 | --- | --- | 21 | 15 | 16 | 15 | 17 | 17 | 28 |
| 30 | 18 | 18 | 17 | --- | --- | 21 | 15 | 16 | 16 | 17 | 17 | 28 |
| 31 | 18 | --- | 17 | --- | --- | 21 | --- | 16 | --- | 17 | 17 | --- |
| TOTAL | 550 | 541 | 539 | --- | 575 | 663 | 556 | 470 | 450 | 513 | 511 | 788 |
| MEAN | 17.7 | 18.0 | 17.4 | --- | 20.5 | 21.4 | 18.5 | 15.2 | 15.0 | 16.5 | 16.5 | 26.3 |
| MAX | 18 | 19 | 18 | --- | 22 | 22 | 22 | 16 | 16 | 17 | 17 | 32 |
| MIN | 17 | 17 | 17 | --- | 15 | 21 | 15 | 14 | 14 | 15 | 16 | 16 |
| AC-FT | 1090 | 1070 | 1070 | --- | 1140 | 1320 | 1100 | 932 | 893 | 1020 | 1010 | 1560 |

The following table shows random instantaneous discharges for leakage around radial gates and is in addition to recorded discharge:

| Date | Discharge (ft ³ /s) | Date | Discharge (ft ³ /s) | Date | Discharge (ft ³ /s) | Date | Discharge (ft ³ /s) | Date | Discharge (ft ³ /s) |
|---------|-----------------------------------|---------|-----------------------------------|---------|-----------------------------------|---------|-----------------------------------|---------|-----------------------------------|
| Oct. 13 | 0.47 | Dec. 3 | 0.44 | Mar. 25 | 1.1 | May 26 | 1.1 | Aug. 1 | 1.0 |
| Oct. 16 | .47 | Feb. 12 | 1.3 | May 6 | .63 | June 17 | .88 | Aug. 21 | .88 |

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 mi².

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 datums.

REMARKS.--Records good. No storage or diversion upstream from station.

AVERAGE DISCHARGE.--30 years (water years 1943-53, 1972-90), 9.87 ft³/s, 7,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 17 | 0700 | *9.4 | *1.38 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| 1 | .00 | .00 | .00 | .70 | 2.0 | 4.2 | 2.9 | 1.5 | 2.0 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | 1.4 | 2.0 | 4.0 | 2.8 | 1.3 | 1.7 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | 2.2 | 1.9 | 4.2 | 2.8 | 1.1 | 1.3 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | 1.6 | 2.9 | 4.5 | 2.8 | .84 | .95 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | 1.4 | 3.0 | 5.8 | 2.8 | .66 | .70 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | 1.4 | 2.4 | 5.1 | 2.6 | .53 | .52 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | 1.3 | 2.9 | 4.7 | 2.7 | .43 | .38 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | 1.4 | 2.7 | 4.5 | 2.9 | .35 | .31 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | 1.4 | 2.3 | 4.3 | 2.8 | .31 | .21 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | 1.5 | 2.1 | 4.2 | 2.6 | .44 | .22 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | 1.6 | 2.3 | 4.8 | 2.3 | .77 | .14 | .00 | .00 | .00 |
| 12 | .00 | e.00 | .00 | 1.6 | 2.3 | 5.2 | 2.2 | .76 | .05 | .00 | .00 | .00 |
| 13 | .00 | e.00 | .00 | 2.2 | 2.2 | 4.7 | 2.1 | .60 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | 2.9 | 2.3 | 4.3 | 2.0 | .51 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | 3.1 | 2.0 | 4.1 | 2.0 | .33 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | 3.1 | 1.9 | 4.1 | 2.0 | .27 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | 3.9 | 3.6 | 4.4 | 5.3 | .24 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | 3.1 | 5.8 | 4.6 | 3.7 | .18 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | 2.4 | 5.5 | 4.6 | 3.0 | .16 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | 2.0 | 3.9 | 4.8 | 2.6 | .21 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | 1.9 | 3.4 | 4.9 | 2.5 | .26 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | 1.7 | 3.4 | 4.8 | 2.3 | .26 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | 1.6 | 3.4 | 4.6 | 2.5 | .19 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | 1.6 | 3.5 | 4.5 | 3.1 | .34 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | 1.6 | 3.7 | 4.0 | 2.6 | .77 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .13 | 1.6 | 3.8 | 3.7 | 2.3 | .66 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .38 | 1.5 | 3.9 | 3.6 | 2.1 | .62 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .48 | 1.5 | 4.1 | 3.5 | 1.9 | 2.1 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .58 | 1.6 | --- | 3.4 | 1.7 | 4.0 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .59 | 1.7 | --- | 3.3 | 1.6 | 2.8 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .66 | 1.9 | --- | 3.0 | --- | 2.2 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 2.82 | 58.40 | 85.2 | 134.4 | 77.5 | 25.69 | 8.48 | 0.00 | 0.00 | 0.00 |
| MEAN | .0000 | .0000 | .091 | 1.88 | 3.04 | 4.34 | 2.58 | .83 | .28 | .0000 | .0000 | .0000 |
| MAX | .00 | .00 | .66 | 3.9 | 5.8 | 5.8 | 5.3 | 4.0 | 2.0 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .70 | 1.9 | 3.0 | 1.6 | .16 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | 5.6 | 116 | 169 | 267 | 154 | 51 | 17 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 868.53 MEAN 2.38 MAX 57 MIN .00 AC-FT 1720
WTR YR 1990 TOTAL 392.49 MEAN 1.08 MAX 5.8 MIN .00 AC-FT 779

e Estimated.

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 mi².

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 upstream from station.

AVERAGE DISCHARGE.--22 years, 33.4 ft³/s, 24,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft³/s, Feb. 24, 1969, gage height, 9.85 ft, from rating curve extended above 600 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 1615 | *71 | *3.50 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|------|-------|-------|-------|------|------|------|
| 1 | 2.4 | 4.4 | 5.3 | 4.3 | 10 | 20 | 11 | 8.1 | 12 | .75 | .00 | .00 |
| 2 | 2.5 | 4.2 | 5.9 | 7.8 | 11 | 19 | 11 | 7.6 | 9.9 | .43 | .00 | .00 |
| 3 | 2.5 | 4.2 | 5.6 | 8.9 | 9.9 | 21 | 11 | 7.3 | 7.1 | .27 | .00 | .00 |
| 4 | 2.6 | 4.2 | 5.9 | 6.9 | 12 | 20 | 11 | 6.8 | 6.6 | .46 | .00 | .00 |
| 5 | 2.2 | 4.1 | 5.3 | 6.2 | 13 | 30 | 11 | 6.3 | 6.6 | .77 | .00 | .00 |
| 6 | 2.4 | 4.2 | 5.0 | 6.0 | 11 | 21 | 11 | 5.3 | 6.0 | .52 | .00 | .00 |
| 7 | 2.2 | 4.4 | 5.4 | 5.9 | 13 | 21 | 11 | 4.4 | 5.8 | 1.4 | .00 | .00 |
| 8 | 1.8 | 4.6 | 5.6 | 6.3 | 11 | 20 | 11 | 5.4 | 5.7 | 1.5 | .00 | .00 |
| 9 | 1.5 | 4.7 | 5.1 | 6.0 | 9.8 | 19 | 11 | 5.2 | 5.7 | .70 | .00 | .00 |
| 10 | 1.2 | 4.6 | 5.7 | 6.9 | 9.6 | 18 | 11 | 4.5 | 4.7 | .36 | .00 | .00 |
| 11 | 1.1 | 4.3 | 5.2 | 7.5 | 10 | 26 | 9.9 | 5.3 | 3.1 | .47 | .00 | .00 |
| 12 | 1.2 | 4.3 | 5.0 | 7.5 | 11 | 22 | 9.6 | 5.8 | 4.6 | .41 | .00 | .00 |
| 13 | 1.4 | 4.2 | 5.3 | 9.8 | 12 | 19 | 9.4 | 4.7 | 4.2 | .37 | .00 | .00 |
| 14 | 1.9 | 4.4 | 5.3 | 22 | 11 | 17 | 9.0 | 3.2 | 3.8 | .21 | .00 | .00 |
| 15 | 2.2 | 4.6 | 5.6 | 16 | 9.4 | 16 | 8.1 | 4.5 | 4.6 | .24 | .00 | .00 |
| 16 | 2.4 | 4.5 | 5.6 | 15 | 9.1 | 18 | 8.2 | 4.4 | 4.9 | .08 | .00 | .00 |
| 17 | 2.5 | 4.0 | 5.5 | 18 | 19 | 19 | 23 | 4.3 | 4.0 | .01 | .00 | .00 |
| 18 | 2.1 | 4.0 | 5.6 | 13 | 26 | 21 | 14 | 4.3 | 3.0 | .00 | .00 | .00 |
| 19 | 1.6 | 4.0 | 5.1 | 12 | 18 | 21 | 12 | 4.4 | 4.3 | .00 | .00 | .00 |
| 20 | 1.1 | 4.0 | 5.8 | 10 | 15 | 21 | 11 | 4.1 | 3.3 | .00 | .00 | .00 |
| 21 | 1.3 | 4.0 | 5.2 | 9.6 | 15 | 20 | 10 | 3.3 | 3.0 | .00 | .00 | .00 |
| 22 | 2.2 | 3.9 | 5.6 | 9.5 | 14 | 19 | 8.8 | 2.6 | 2.5 | .00 | .00 | .00 |
| 23 | 3.2 | 3.5 | 5.4 | 8.9 | 15 | 18 | 14 | 2.6 | 2.4 | .00 | .00 | .00 |
| 24 | 3.6 | 4.7 | 5.1 | 8.7 | 17 | 17 | 18 | 6.9 | 1.5 | .00 | .00 | .00 |
| 25 | 6.5 | 3.9 | 4.6 | 9.0 | 19 | 17 | 13 | 6.4 | 1.3 | .00 | .00 | .00 |
| 26 | 7.7 | 8.8 | 4.4 | 8.8 | 21 | 15 | 11 | 5.6 | 1.3 | .00 | .00 | .00 |
| 27 | 5.7 | 9.3 | 5.1 | 8.3 | 20 | 15 | 10 | 5.4 | 1.7 | .00 | .00 | .00 |
| 28 | 5.2 | 7.3 | 5.0 | 8.1 | 20 | 14 | 9.2 | 38 | 1.6 | .00 | .00 | .46 |
| 29 | 4.9 | 6.0 | 4.7 | 7.8 | --- | 15 | 7.8 | 28 | 1.7 | .00 | .00 | 1.2 |
| 30 | 4.8 | 5.7 | 4.6 | 8.2 | --- | 13 | 7.3 | 16 | 1.4 | .00 | .00 | .85 |
| 31 | 4.6 | --- | 5.0 | 11 | --- | 13 | --- | 13 | --- | .00 | .00 | --- |
| TOTAL | 88.5 | 143.0 | 163.5 | 293.9 | 391.8 | 585 | 333.3 | 233.7 | 128.3 | 8.95 | 0.00 | 2.51 |
| MEAN | 2.85 | 4.77 | 5.27 | 9.48 | 14.0 | 18.9 | 11.1 | 7.54 | 4.28 | .29 | .000 | .084 |
| MAX | 7.7 | 9.3 | 5.9 | 22 | 26 | 30 | 23 | 38 | 12 | 1.5 | .00 | 1.2 |
| MIN | 1.1 | 3.5 | 4.4 | 4.3 | 9.1 | 13 | 7.3 | 2.6 | 1.3 | .00 | .00 | .00 |
| AC-FT | 176 | 284 | 324 | 583 | 777 | 1160 | 661 | 464 | 254 | 18 | .00 | 5.0 |

CAL YR 1989 TOTAL 3683.53 MEAN 10.1 MAX 167 MIN .00 AC-FT 7310
WTR YR 1990 TOTAL 2372.46 MEAN 6.50 MAX 38 MIN .00 AC-FT 4710

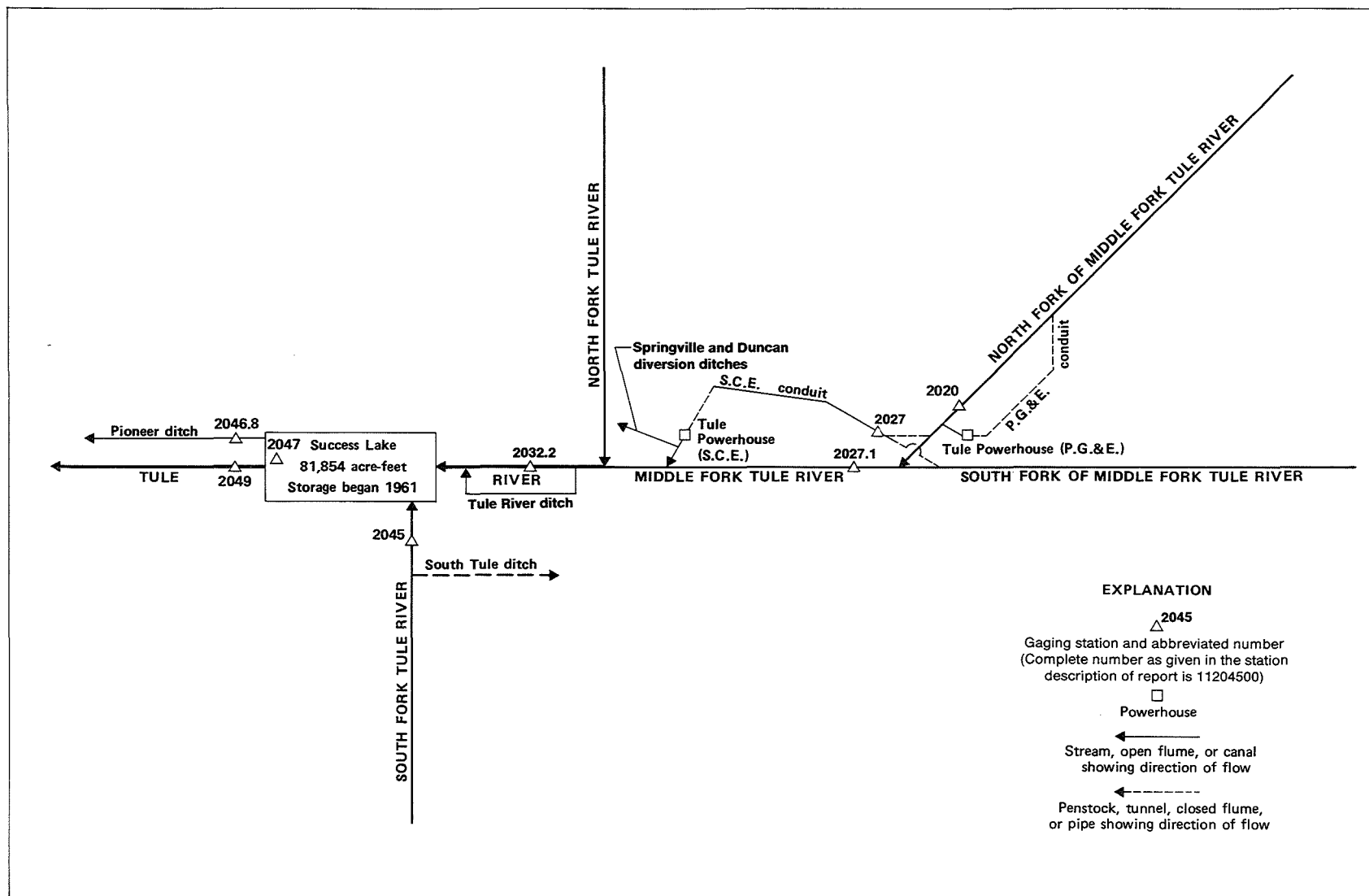


Figure 29. Diversions and storage in Tule River basin.

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 mi².

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 Pacific Gas & Electric Co. conduit published separately; combined flow only, October 1954 to September 1960. Prior to October 1982, combined flow consisted of river and conduit. October 1982 to present, combined flow consists of river and Pacific Gas & Electric Co. Tule River powerplant.

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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--River only: 51 years, 26.6 ft³/s, 19,270 acre-ft/yr.
Combined river and diversion: 51 years, 58.6 ft³/s, 42,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 16,900 ft³/s, Dec. 6, 1966, gage height, 13.83 ft, from floodmarks, from rating curve extended above 1,820 ft³/s on basis of critical-depth determinations at gage heights 9.67 and 12.47 ft; no flow Sept. 10, 11, 1955.
Combined flow: Maximum discharge, 16,900 ft³/s, Dec. 6, 1966; minimum daily, 0.57 ft³/s, Aug. 14, 1990.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 47 ft³/s, May 28, gage height, 3.29 ft; minimum daily, 0.38 ft³/s, Sept. 13-15.
Combined flow: Maximum daily discharge, 76 ft³/s, May 28; minimum daily, 0.57 ft³/s, Aug. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|-------|-------|--------|-------|-------|
| 1 | .74 | .82 | .82 | .91 | 2.0 | 2.6 | 1.7 | 1.5 | 2.8 | .68 | 7.3 | .42 |
| 2 | .68 | .82 | .82 | 1.9 | 1.8 | 2.4 | 1.6 | 1.4 | 2.2 | .64 | 7.2 | .47 |
| 3 | .68 | .82 | .82 | 1.4 | 1.8 | 2.9 | 1.6 | 1.2 | 1.9 | .64 | 7.2 | .60 |
| 4 | .68 | .82 | .82 | 1.2 | 2.4 | 2.7 | 1.5 | 1.2 | 1.7 | .64 | 7.2 | .76 |
| 5 | .65 | .82 | .82 | 1.1 | 1.9 | 4.2 | 1.4 | 1.1 | 1.6 | .64 | 7.2 | .46 |
| 6 | .56 | .82 | .82 | 1.1 | 2.0 | 3.3 | 1.6 | 1.2 | 1.5 | .64 | 7.3 | .41 |
| 7 | .56 | .82 | .82 | 1.1 | 2.4 | 3.4 | 1.6 | 1.1 | 1.4 | .64 | 7.3 | .42 |
| 8 | .56 | .82 | .82 | 1.0 | 2.0 | 3.3 | 1.9 | 1.1 | 1.4 | 3.0 | 7.3 | .44 |
| 9 | .51 | .82 | .82 | 1.1 | 1.9 | 2.9 | 1.6 | 1.1 | 1.4 | 8.5 | 7.3 | .44 |
| 10 | .51 | .82 | .82 | 1.1 | 1.9 | 2.9 | 1.5 | 1.1 | 1.4 | 11 | 7.2 | .40 |
| 11 | .51 | 1.3 | .82 | 1.0 | 2.1 | 4.7 | 1.4 | 1.2 | 1.3 | 12 | 6.9 | .42 |
| 12 | .51 | 2.5 | .82 | 1.0 | 2.2 | 3.6 | 1.6 | 1.3 | 1.2 | 12 | 5.3 | .42 |
| 13 | 1.6 | 2.4 | .82 | 4.1 | 2.1 | 3.3 | 1.6 | 1.3 | 1.2 | 12 | .72 | .38 |
| 14 | .80 | .93 | .82 | 3.4 | 1.8 | 3.2 | 1.7 | 1.2 | 1.1 | 11 | .57 | .38 |
| 15 | 1.1 | .87 | .82 | 1.8 | 1.7 | 3.3 | 1.5 | 1.1 | 1.2 | 11 | .71 | .38 |
| 16 | .83 | .96 | .82 | 2.2 | 1.7 | 3.9 | 1.7 | 1.1 | 1.2 | 11 | .79 | .42 |
| 17 | .73 | .90 | .82 | 2.2 | 2.4 | 4.3 | 2.1 | 1.0 | 1.1 | 11 | .83 | .42 |
| 18 | .68 | .82 | .82 | 1.9 | 2.8 | 4.0 | 1.8 | 1.1 | 1.0 | 11 | .87 | .42 |
| 19 | .69 | .82 | .82 | 1.9 | 2.2 | 3.7 | 1.7 | 1.2 | .96 | 10 | .87 | .42 |
| 20 | .69 | .82 | .82 | 1.8 | 2.3 | 3.4 | 1.6 | 1.2 | .90 | 7.5 | .77 | .46 |
| 21 | .76 | .82 | .82 | 1.7 | 2.6 | 3.2 | 1.6 | 1.2 | .88 | 7.4 | .67 | .46 |
| 22 | .95 | .82 | .82 | 1.6 | 3.0 | 2.9 | 1.5 | 1.3 | .87 | 7.3 | .61 | .62 |
| 23 | .86 | .82 | .88 | 1.6 | 3.7 | 2.7 | 2.3 | 1.3 | .82 | 7.3 | .58 | .56 |
| 24 | .96 | .82 | .89 | 1.5 | 4.1 | 2.5 | 2.2 | 1.4 | .80 | 7.3 | .56 | .51 |
| 25 | 2.2 | .83 | .89 | 1.5 | 4.3 | 2.4 | 1.8 | 1.0 | .79 | 7.4 | .55 | .46 |
| 26 | 1.2 | 4.4 | .86 | 1.4 | 3.9 | 2.3 | 1.7 | .95 | .79 | 7.4 | .51 | .62 |
| 27 | .95 | 1.1 | .88 | 1.4 | 3.2 | 2.2 | 1.7 | 1.1 | .77 | 7.3 | .50 | .62 |
| 28 | .89 | .97 | .89 | 1.3 | 2.9 | 2.2 | 1.8 | 16 | .77 | 7.3 | .42 | 1.2 |
| 29 | .89 | .89 | .89 | 1.3 | --- | 2.0 | 1.8 | 5.0 | .75 | 7.3 | .46 | 2.2 |
| 30 | .82 | .83 | .89 | 1.5 | --- | 1.8 | 1.7 | 3.1 | .71 | 7.2 | .45 | .74 |
| 31 | .82 | --- | .89 | 1.5 | --- | 2.1 | --- | 3.1 | --- | 7.2 | .45 | --- |
| TOTAL | 25.57 | 32.82 | 26.00 | 49.51 | 69.1 | 94.3 | 50.8 | 59.15 | 36.41 | 215.92 | 96.59 | 16.93 |
| MEAN | .82 | 1.09 | .84 | 1.60 | 2.47 | 3.04 | 1.69 | 1.91 | 1.21 | 6.97 | 3.12 | .56 |
| MAX | 2.2 | 4.4 | .89 | 4.1 | 4.3 | 4.7 | 2.3 | 16 | 2.8 | 12 | 7.3 | 2.2 |
| MIN | .51 | .82 | .82 | .91 | 1.7 | 1.8 | 1.4 | .95 | .71 | .64 | .42 | .38 |
| AC-FT | 51 | 65 | 52 | 98 | 137 | 187 | 101 | 117 | 72 | 428 | 192 | 34 |

CAL YR 1989 TOTAL 1498.47 MEAN 4.11 MAX 63 MIN .45 AC-FT 2970
WTR YR 1990 TOTAL 773.10 MEAN 2.12 MAX 16 MIN .38 AC-FT 1530

TULARE LAKE BASIN

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 & ELECTRIC CO. TULE RIVER POWERPLANT NEAR SPRINGVILLE, CA
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|------|------|------|------|------|-------|-------|--------|-------|
| 1 | 14 | 13 | 14 | 13 | 17 | 31 | 29 | 36 | 46 | 16 | 7.3 | 10 |
| 2 | 14 | 14 | 14 | 16 | 17 | 27 | 30 | 36 | 46 | 15 | 7.2 | 10 |
| 3 | 13 | 13 | 14 | 14 | 17 | 35 | 31 | 36 | 39 | 16 | 7.2 | 10 |
| 4 | 13 | 13 | 14 | 14 | 17 | 32 | 31 | 38 | 35 | 15 | 7.2 | 10 |
| 5 | 12 | 13 | 14 | 13 | 16 | 32 | 28 | 40 | 35 | 16 | 7.2 | 10 |
| 6 | 13 | 13 | 13 | 13 | 17 | 26 | 37 | 43 | 32 | 16 | 7.3 | 10 |
| 7 | 13 | 13 | 14 | 13 | 17 | 29 | 37 | 47 | 29 | 15 | 7.3 | 10 |
| 8 | 12 | 13 | 13 | 13 | 16 | 30 | 37 | 41 | 27 | 11 | 7.3 | 10 |
| 9 | 13 | 13 | 14 | 13 | 17 | 28 | 32 | 41 | 26 | 8.5 | 7.3 | 10 |
| 10 | 12 | 13 | 13 | 14 | 17 | 30 | 33 | 40 | 26 | 11 | 7.2 | 10 |
| 11 | 12 | 13 | 14 | 13 | 18 | 34 | 37 | 36 | 24 | 12 | 6.9 | 9.6 |
| 12 | 13 | 12 | 13 | 13 | 20 | 29 | 44 | 34 | 23 | 12 | 5.3 | 9.3 |
| 13 | 14 | 12 | 13 | 24 | 20 | 26 | 45 | 33 | 21 | 12 | .72 | 10 |
| 14 | 13 | 13 | 13 | 25 | 16 | 25 | 49 | 31 | 22 | 11 | .57 | 9.6 |
| 15 | 12 | 13 | 13 | 16 | 17 | 25 | 49 | 30 | 21 | 11 | .71 | 10 |
| 16 | 14 | 12 | 14 | 18 | 17 | 33 | 50 | 30 | 22 | 11 | .79 | 9.3 |
| 17 | 12 | 12 | 13 | 17 | 17 | 35 | 47 | 29 | 23 | 11 | 6.1 | 9.6 |
| 18 | 12 | 12 | 13 | 16 | 19 | 39 | 40 | 27 | 21 | 11 | 11 | 9.6 |
| 19 | 13 | 13 | 13 | 16 | 18 | 41 | 38 | 27 | 19 | 10 | 11 | 9.6 |
| 20 | 13 | 12 | 13 | 16 | 17 | 43 | 39 | 26 | 19 | 7.5 | 11 | 9.7 |
| 21 | 13 | 13 | 13 | 17 | 18 | 50 | 38 | 26 | 19 | 7.4 | 11 | 9.4 |
| 22 | 14 | 12 | 13 | 16 | 19 | 48 | 37 | 25 | 19 | 7.3 | 12 | 9.8 |
| 23 | 14 | 12 | 13 | 16 | 22 | 49 | 45 | 25 | 18 | 7.3 | 11 | 9.5 |
| 24 | 14 | 13 | 13 | 15 | 25 | 48 | 43 | 29 | 18 | 7.3 | 12 | 10 |
| 25 | 18 | 13 | 13 | 16 | 26 | 45 | 39 | 27 | 17 | 7.4 | 11 | 10 |
| 26 | 16 | 27 | 13 | 16 | 26 | 42 | 40 | 24 | 17 | 7.4 | 12 | 10 |
| 27 | 15 | 14 | 13 | 15 | 31 | 44 | 45 | 24 | 17 | 7.3 | 10 | 8.1 |
| 28 | 15 | 15 | 13 | 15 | 32 | 40 | 53 | 76 | 17 | 7.3 | 10 | 1.2 |
| 29 | 15 | 14 | 13 | 15 | --- | 31 | 52 | 45 | 16 | 7.3 | 10 | 2.2 |
| 30 | 14 | 13 | 13 | 15 | --- | 30 | 47 | 53 | 16 | 7.2 | 10 | 3.9 |
| 31 | 14 | --- | 13 | 16 | --- | 29 | --- | 49 | --- | 7.2 | 10 | --- |
| TOTAL | 419 | 401 | 412 | 482 | 546 | 1086 | 1202 | 1104 | 730 | 328.4 | 245.59 | 270.4 |
| MEAN | 13.5 | 13.4 | 13.3 | 15.5 | 19.5 | 35.0 | 40.1 | 35.6 | 24.3 | 10.6 | 7.92 | 9.01 |
| MAX | 18 | 27 | 14 | 25 | 32 | 50 | 53 | 76 | 46 | 16 | 12 | 10 |
| MIN | 12 | 12 | 13 | 13 | 16 | 25 | 28 | 24 | 16 | 7.2 | .57 | 1.2 |
| AC-FT | 831 | 795 | 817 | 956 | 1080 | 2150 | 2380 | 2190 | 1450 | 651 | 487 | 536 |
| CAL YR 1989 | TOTAL | 11182 | MEAN | 30.6 | MAX | 130 | MIN | 10 | AC-FT | 22180 | | |
| WTR YR 1990 | TOTAL | 7226.39 | MEAN | 19.8 | MAX | 76 | MIN | .57 | AC-FT | 14330 | | |

11202710 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA

LOCATION.--Lat 36°09'40", long 118°42'25", unsurveyed, T.20 S., R.30 E., Tulare County, Hydrologic Unit 18030006, Sequoia National Forest, on right bank immediately downstream from intake to Southern California Edison Co.'s Tule River conduit, 1.9 mi upstream from Coffee Canyon and 6.5 mi northeast of Springville.

DRAINAGE AREA.--85.3 mi².

PERIOD OF RECORD.--October 1988 to current year. Records for October 1978 to September 1988, published as Middle Fork Tule River above Springville (station 11202750) at site 2.5 mi downstream, are not equivalent because of inflow between sites.

GAGE.--Water-stage recorder and 90° V-notch control on river; water-stage recorder and metal flume for conduit diversion. Elevation of gage is 2,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Southern California Edison Co.'s Tule River conduit (station 11202700) diverts from the right bank of Middle Fork Tule River immediately upstream from station. Flow from this conduit passes through Tule River powerplant of Southern California Edison Co. Diversions are made from powerplant tailrace ditch to Springville diversion and Duncan diversion ditches. Diversion during the water year 1990 occurred Oct. 1-3, Oct. 23 to Aug. 17, and Sept. 23-30. Remaining water is returned to the Tule River 1.5 mi upstream from confluence of Middle and North Forks. See schematic diagram of Tule 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.

EXTREMES FOR PERIOD OF RECORD.--River only; maximum discharge, 818 ft³/s, Mar. 2, 1989, gage height, 4.39 ft; minimum daily, 5.6 ft³/s, Oct. 4, 1988.

Combined flow, maximum daily discharge, 269 ft³/s, Mar. 2, 1989; minimum daily, 14 ft³/s, several days in August and September 1990.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 160 ft³/s, May 28, gage height, 3.50 ft; minimum daily, 6.4 ft³/s, Nov. 27, 28.

Combined flow, maximum daily discharge, 122 ft³/s, May 28; minimum daily, 14 ft³/s, several days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|
| 1 | 9.9 | 7.2 | 7.0 | 7.4 | 7.4 | 14 | 24 | 29 | 43 | e12 | 13 | 15 |
| 2 | 6.5 | 7.2 | 7.0 | 8.3 | 7.0 | 13 | 28 | 25 | e40 | e12 | 14 | 15 |
| 3 | 15 | 7.2 | 7.0 | 7.0 | 7.0 | 23 | 28 | 23 | e34 | e12 | 14 | 15 |
| 4 | 22 | 7.4 | 7.0 | 8.1 | 7.1 | 19 | 30 | 25 | e32 | e12 | 13 | 14 |
| 5 | 21 | 7.3 | 7.1 | 6.8 | 7.0 | 23 | 27 | 28 | e27 | e12 | 13 | 14 |
| 6 | 20 | 7.1 | 7.0 | 6.9 | 7.0 | 13 | 33 | 30 | e20 | e12 | 13 | 14 |
| 7 | 20 | 7.1 | 7.1 | 7.0 | 7.0 | 14 | 32 | 31 | e17 | e12 | 13 | 14 |
| 8 | 20 | 12 | 7.2 | 7.0 | 6.9 | 13 | 32 | 29 | e15 | e12 | 14 | 14 |
| 9 | 19 | 7.3 | 7.4 | 7.8 | 6.9 | 12 | 26 | 27 | e13 | e16 | 14 | 15 |
| 10 | 18 | 7.3 | 7.3 | 7.4 | 7.0 | 13 | 30 | 28 | e13 | e13 | 14 | 14 |
| 11 | 18 | 7.0 | 7.3 | 6.8 | 7.8 | 25 | 33 | 24 | e12 | e13 | 14 | 14 |
| 12 | 18 | 7.2 | 7.3 | 6.6 | 8.3 | 15 | 35 | 20 | e12 | e13 | 15 | 14 |
| 13 | 19 | 7.2 | 7.2 | 22 | 7.0 | 11 | 36 | 17 | e12 | e13 | 13 | 14 |
| 14 | 19 | 6.9 | 7.3 | 17 | 6.9 | 9.4 | 39 | 15 | e13 | e15 | 14 | 14 |
| 15 | 19 | 7.0 | 7.3 | 7.8 | 7.2 | 11 | 39 | 13 | e13 | e14 | 16 | 14 |
| 16 | 20 | 6.8 | 7.3 | 8.6 | 7.4 | 17 | 40 | 12 | e13 | e13 | 15 | 14 |
| 17 | 20 | 6.9 | 7.3 | 7.7 | 7.8 | 25 | 37 | 10 | e12 | e13 | 16 | 14 |
| 18 | 19 | 6.9 | 7.4 | 7.6 | 9.0 | 32 | 33 | 9.0 | e12 | e13 | 16 | 14 |
| 19 | 19 | 6.9 | 7.3 | 7.5 | 7.1 | 35 | 31 | 8.6 | e13 | e13 | 17 | 15 |
| 20 | 19 | 7.0 | 7.4 | 7.5 | 7.0 | 39 | 32 | 8.0 | e12 | e13 | 17 | 15 |
| 21 | 20 | 7.0 | 7.2 | 7.6 | 7.0 | 43 | 31 | 7.2 | e12 | e13 | 16 | 15 |
| 22 | 25 | 6.9 | 7.2 | 7.7 | 7.2 | 45 | 30 | 7.0 | e12 | e12 | 16 | 15 |
| 23 | 17 | 6.9 | 7.4 | 7.7 | 8.8 | 42 | 37 | 8.4 | e12 | e12 | 16 | 16 |
| 24 | 9.7 | 6.9 | 7.5 | 7.7 | 11 | 41 | 37 | 14 | e12 | e12 | 15 | 14 |
| 25 | 11 | 7.9 | 7.4 | 7.7 | 11 | 40 | 32 | 9.9 | e12 | 12 | 15 | 12 |
| 26 | 8.1 | 27 | 7.3 | 7.5 | 12 | 39 | 32 | 7.6 | e16 | 13 | 15 | 12 |
| 27 | e8.0 | 6.4 | 7.3 | 7.3 | 13 | 39 | 34 | 8.3 | e15 | 13 | 15 | 11 |
| 28 | 7.3 | 6.4 | 7.3 | 7.3 | 14 | 35 | 37 | 87 | e12 | 13 | 14 | 12 |
| 29 | 11 | 6.6 | 7.3 | 7.3 | --- | 29 | 38 | 53 | e12 | 13 | 14 | 12 |
| 30 | 10 | 7.0 | 7.3 | 7.4 | --- | 24 | 33 | 49 | e12 | 12 | 14 | 11 |
| 31 | 7.5 | --- | 7.4 | 7.4 | --- | 19 | --- | 49 | --- | 12 | 15 | --- |
| TOTAL | 496.0 | 235.9 | 224.8 | 255.4 | 229.8 | 772.4 | 986 | 712.0 | 505 | 395 | 453 | 416 |
| MEAN | 16.0 | 7.86 | 7.25 | 8.24 | 8.21 | 24.9 | 32.9 | 23.0 | 16.8 | 12.7 | 14.6 | 13.9 |
| MAX | 25 | 27 | 7.5 | 22 | 14 | 45 | 40 | 87 | 43 | 16 | 17 | 16 |
| MIN | 6.5 | 6.4 | 7.0 | 6.6 | 6.9 | 9.4 | 24 | 7.0 | 12 | 12 | 13 | 11 |
| AC-FT | 984 | 468 | 446 | 507 | 456 | 1530 | 1960 | 1410 | 1000 | 783 | 899 | 825 |

CAL YR 1989 TOTAL 9496.7 MEAN 26.0 MAX 235 MIN 6.4 AC-FT 18840
WTR YR 1990 TOTAL 5681.3 MEAN 15.6 MAX 87 MIN 6.4 AC-FT 11270

e Estimated.

11202711 MIDDLE FORK TULE RIVER BELOW INTAKE, ABOVE SPRINGVILLE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MIDDLE FORK TULE RIVER BELOW INTAKE AND SOUTHERN CALIFORNIA
EDISON CO.'S TULE RIVER CONDUIT ABOVE SPRINGVILLE, CA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 21 | 22 | 23 | 20 | 31 | 52 | e62 | 65 | 77 | e22 | 16 | e15 |
| 2 | 21 | 22 | 23 | 30 | 31 | 50 | e65 | 61 | e74 | e23 | 17 | e15 |
| 3 | 22 | 22 | 23 | 25 | 31 | e60 | 65 | 59 | e68 | e22 | 17 | e15 |
| 4 | 22 | 22 | 22 | 23 | 33 | e56 | 67 | 61 | e66 | e22 | 16 | e14 |
| 5 | 21 | 22 | 23 | 24 | 32 | e60 | 64 | 64 | e61 | e22 | e16 | e14 |
| 6 | 20 | 22 | 23 | 23 | e34 | 50 | 70 | 66 | e54 | e23 | e16 | e14 |
| 7 | 20 | 22 | 23 | 23 | e32 | 52 | 70 | 67 | e50 | e23 | e16 | e14 |
| 8 | 20 | 23 | 22 | 23 | 28 | 50 | 69 | 65 | e48 | e16 | e17 | e14 |
| 9 | 19 | 22 | 22 | e25 | 28 | 49 | 62 | 62 | e45 | e22 | 17 | e15 |
| 10 | 18 | 21 | 22 | e25 | 28 | 50 | 66 | 61 | e45 | e20 | 17 | e14 |
| 11 | 18 | 20 | 22 | 26 | 31 | 63 | 69 | 59 | e42 | e20 | 16 | e14 |
| 12 | 18 | 21 | 22 | 26 | 34 | 52 | 72 | 55 | e40 | e20 | 17 | e14 |
| 13 | 19 | 21 | 21 | 54 | 35 | 47 | 73 | 52 | e38 | e20 | 15 | 14 |
| 14 | 19 | 21 | 21 | 51 | 29 | 45 | 76 | 50 | e38 | e21 | 15 | 14 |
| 15 | 19 | 21 | 21 | 36 | 27 | 47 | 76 | 48 | e35 | e18 | 16 | 14 |
| 16 | 20 | 21 | 21 | 37 | 29 | 54 | 77 | 47 | e38 | e18 | 15 | 14 |
| 17 | 20 | 21 | 21 | 34 | 34 | 61 | 74 | 44 | e35 | e19 | 16 | 14 |
| 18 | 19 | 21 | 21 | 32 | 38 | 68 | 70 | 43 | e34 | e19 | 16 | 14 |
| 19 | 19 | 21 | 21 | 30 | 31 | 71 | 67 | 43 | e34 | e19 | 17 | 15 |
| 20 | 19 | 21 | 21 | 29 | 31 | e75 | 68 | 42 | e31 | e19 | 17 | 15 |
| 21 | 20 | 20 | 21 | 29 | 33 | e76 | 67 | 40 | e30 | e19 | 16 | 15 |
| 22 | 25 | 20 | 21 | 30 | 34 | e63 | 66 | 40 | e29 | e17 | 16 | 15 |
| 23 | e23 | 21 | 20 | 29 | 39 | 79 | 73 | 40 | e27 | e17 | 16 | 16 |
| 24 | e25 | 21 | 20 | 30 | 42 | 78 | 73 | 49 | e27 | e17 | 15 | 16 |
| 25 | 33 | 22 | 20 | 30 | 46 | 78 | 68 | 44 | e26 | 17 | 15 | 17 |
| 26 | 28 | 49 | 20 | 29 | 48 | 77 | 69 | 41 | e25 | 17 | 15 | 16 |
| 27 | e26 | e26 | 20 | 28 | 51 | 76 | 70 | 41 | e26 | 17 | 15 | 15 |
| 28 | 25 | e24 | 20 | 28 | 52 | 73 | 74 | 122 | e24 | e17 | 14 | 18 |
| 29 | 24 | e25 | 21 | 27 | --- | 67 | 75 | 86 | e23 | e17 | 14 | 18 |
| 30 | 23 | 23 | 21 | 28 | --- | 61 | 70 | 83 | e23 | 17 | 14 | 15 |
| 31 | 22 | --- | 20 | 30 | --- | e56 | --- | 84 | --- | 16 | 15 | --- |
| TOTAL | 668 | 680 | 662 | 914 | 972 | 1896 | 2087 | 1784 | 1213 | 596 | 490 | 447 |
| MEAN | 21.5 | 22.7 | 21.4 | 29.5 | 34.7 | 61.2 | 69.6 | 57.5 | 40.4 | 19.2 | 15.8 | 14.9 |
| MAX | 33 | 49 | 23 | 54 | 52 | 79 | 77 | 122 | 77 | 23 | 17 | 18 |
| MIN | 18 | 20 | 20 | 20 | 27 | 45 | 62 | 40 | 23 | 16 | 14 | 14 |
| AC-FT | 1320 | 1350 | 1310 | 1810 | 1930 | 3760 | 4140 | 3540 | 2410 | 1180 | 972 | 887 |

CAL YR 1989 TOTAL 17491 MEAN 47.9 MAX 269 MIN 17 AC-FT 34690
WTR YR 1990 TOTAL 12409 MEAN 34.0 MAX 122 MIN 14 AC-FT 24610

e Estimated.

11203220 TULE RIVER AT HIGHWAY 190, 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 mi².

PERIOD OF RECORD.--April 1968 to September 1990 (discontinued). Unpublished records for 1968 to 1988 in files of the U.S. Geological Survey. This record is not equivalent to the record of combined flows of the Tule River plus the Tule River ditch (station 11203221 Tule River at Highway 190 plus diversion, near Springville) which was published from April 1968 to September 1988. Records for a site 1.9 mi upstream (station 11203200, Tule River near Springville) for October 1957 to March 1968 are not equivalent because of inflow between sites.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Many small diversions upstream from station for irrigation. Power is developed on Middle Fork and tributaries. Diversion to Tule River ditch starts 400 ft upstream, most of which is returned to the river 0.5 mi downstream. See schematic diagram of the Tule River basin. Tule River ditch, gaged from 1968 to 1988, is no longer gaged. Records are for flows in the river only.

AVERAGE DISCHARGE.--22 years (water years 1969-90), 165 ft³/s, 119,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,800 ft³/s, Jan. 12, 1980, gage height, 11.97 ft;

no flow Aug. 16, 1977, many days in August and September 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s, Dec. 6, 1966, gage height 16.9 ft, present datum, from high-water profile on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 1415 | *517 | *5.69 | | | | |

No flow for many days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|------|------|------|------|-------|-------|------|------|
| 1 | 7.7 | 11 | 15 | 18 | 34 | 76 | 68 | 58 | 98 | 2.3 | .00 | .03 |
| 2 | 7.7 | 11 | 15 | 34 | 35 | 72 | 67 | 52 | 83 | 1.6 | .00 | .03 |
| 3 | 6.8 | 11 | 15 | 29 | 34 | 90 | 68 | 48 | 70 | 1.1 | .00 | .03 |
| 4 | 7.0 | 11 | 16 | 23 | 47 | 90 | 69 | 47 | 61 | .54 | .00 | .03 |
| 5 | 7.9 | 11 | 18 | 22 | 45 | 116 | 64 | 45 | 53 | .85 | .00 | .02 |
| 6 | 6.9 | 11 | 18 | 22 | 39 | 92 | 66 | 47 | 46 | .99 | .00 | .00 |
| 7 | 6.4 | 11 | 18 | 22 | 47 | 86 | 69 | 47 | 40 | 1.4 | .00 | .00 |
| 8 | 6.1 | 11 | 18 | 22 | 41 | 81 | 73 | 46 | 37 | 2.7 | .00 | .00 |
| 9 | 6.1 | 13 | 18 | 21 | 37 | 80 | 66 | 42 | 34 | 2.1 | .07 | .00 |
| 10 | 5.7 | 11 | 18 | 22 | 37 | 77 | 60 | 41 | 34 | 1.2 | .08 | .00 |
| 11 | 5.5 | 11 | 18 | 22 | 37 | 123 | 63 | 42 | 34 | .58 | .05 | .00 |
| 12 | 5.1 | 9.6 | 18 | 24 | 39 | 112 | 65 | 40 | 28 | .37 | .05 | .00 |
| 13 | 5.6 | 10 | 17 | 43 | 42 | 92 | 66 | 37 | 25 | .34 | .03 | .00 |
| 14 | 6.1 | 10 | 16 | 78 | 38 | 81 | 68 | 34 | 22 | .39 | .04 | .00 |
| 15 | 6.4 | 9.5 | 17 | 48 | 33 | 76 | 69 | 33 | 21 | .77 | .05 | .00 |
| 16 | 6.9 | 11 | 18 | 44 | 34 | 86 | 71 | 31 | 22 | .49 | .03 | .00 |
| 17 | 8.6 | 11 | 17 | 59 | 61 | 96 | 73 | 31 | 20 | .38 | .03 | .00 |
| 18 | 6.2 | 12 | 18 | 39 | 87 | 103 | 69 | 28 | 17 | .34 | .02 | .00 |
| 19 | 6.1 | 11 | 18 | 35 | 66 | 106 | 62 | 28 | 16 | .22 | .01 | .00 |
| 20 | 5.9 | 11 | 17 | 33 | 55 | 110 | 60 | 27 | 13 | .27 | .02 | .01 |
| 21 | 6.7 | 11 | 17 | 30 | 53 | 114 | 58 | 26 | 11 | .31 | .03 | .00 |
| 22 | 8.7 | 11 | 17 | 29 | 52 | 113 | 57 | 22 | 8.9 | .29 | .03 | .03 |
| 23 | 10 | 11 | 18 | 28 | 53 | 110 | 66 | 20 | 7.8 | .22 | .02 | .11 |
| 24 | 8.3 | 12 | 18 | 28 | 57 | 107 | 84 | 34 | 4.6 | .21 | .01 | .18 |
| 25 | 13 | 12 | 18 | 28 | 65 | 103 | 70 | 32 | 5.0 | .25 | .01 | .25 |
| 26 | 15 | 30 | 18 | 28 | 71 | 98 | 66 | 23 | 4.2 | .23 | .03 | .24 |
| 27 | 12 | 26 | 18 | 28 | 75 | 94 | 66 | 25 | 3.3 | .15 | .03 | .18 |
| 28 | 13 | 17 | 18 | 27 | 77 | 87 | 70 | 220 | 3.9 | .16 | .03 | .28 |
| 29 | 13 | 16 | 18 | 27 | --- | 81 | 72 | 164 | 4.2 | .10 | .03 | .54 |
| 30 | 11 | 15 | 18 | 27 | --- | 73 | 66 | 112 | 2.9 | .04 | .02 | .39 |
| 31 | 12 | --- | 18 | 32 | --- | 69 | --- | 101 | --- | .03 | .02 | --- |
| TOTAL | 253.4 | 380.1 | 539 | 972 | 1391 | 2894 | 2011 | 1583 | 829.8 | 20.92 | 0.74 | 2.35 |
| MEAN | 8.17 | 12.7 | 17.4 | 31.4 | 49.7 | 93.4 | 67.0 | 51.1 | 27.7 | .67 | .024 | .078 |
| MAX | 15 | 30 | 18 | 78 | 87 | 123 | 84 | 220 | 98 | 2.7 | .08 | .54 |
| MIN | 5.1 | 9.5 | 15 | 18 | 33 | 69 | 57 | 20 | 2.9 | .03 | .00 | .00 |
| AC-FT | 503 | 754 | 1070 | 1930 | 2760 | 5740 | 3990 | 3140 | 1650 | 41 | 1.5 | 4.7 |

CAL YR 1989 TOTAL 19732.78 MEAN 54.1 MAX 736 MIN .03 AC-FT 39140
WTR YR 1990 TOTAL 10877.31 MEAN 29.8 MAX 220 MIN .00 AC-FT 21580

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 mi².

PERIOD OF RECORD.--June 1930 to December 1954, January 1956 to September 1990 (discontinued). 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.--No estimated daily discharge. Records good. Diversions for irrigation of about 640 acres upstream from station.

AVERAGE DISCHARGE.--58 years, 44.3 ft³/s, 32,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s, Dec. 6, 1966, gage height, 12.50 ft in gage well, 13.3 ft from floodmarks, from rating curve extended above 4,300 ft³/s on basis of slope-area measurement of peak flow; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 325 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|------------------------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 1500 | *177 | *3.39 | | | | |
| No flow for many days. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|-------|--------|------|------|------|
| 1 | .13 | 1.6 | 4.0 | 3.6 | 12 | 23 | 25 | 13 | 19 | .80 | .02 | .00 |
| 2 | .20 | 1.5 | 4.0 | 10 | 11 | 22 | 23 | 11 | 16 | .70 | .04 | .00 |
| 3 | .21 | .67 | 3.4 | 7.9 | 12 | 31 | 21 | 11 | 14 | .52 | 1.2 | .00 |
| 4 | .27 | .65 | 3.4 | 6.0 | 15 | 28 | 23 | 10 | 13 | .65 | 1.2 | .00 |
| 5 | .27 | .63 | 3.8 | 5.4 | 15 | 44 | 22 | 9.6 | 10 | .42 | .06 | .00 |
| 6 | .19 | .84 | 3.2 | 5.2 | 14 | 31 | 20 | 9.3 | 8.8 | .47 | .00 | .00 |
| 7 | .09 | .69 | 3.5 | 5.1 | 17 | 31 | 23 | 9.0 | 9.1 | .51 | .00 | .00 |
| 8 | .06 | 1.1 | 3.4 | 5.3 | 13 | 28 | 25 | 8.1 | 8.6 | .30 | .00 | .00 |
| 9 | .11 | .58 | 3.3 | 6.5 | 10 | 26 | 23 | 6.9 | 8.0 | .20 | .00 | .00 |
| 10 | .03 | .49 | 2.9 | 7.8 | 9.7 | 26 | 19 | 6.7 | 8.5 | .11 | .00 | .00 |
| 11 | .02 | .40 | 2.9 | 8.2 | 9.5 | 41 | 16 | 7.0 | 7.2 | .09 | .00 | .00 |
| 12 | .02 | .39 | 3.3 | 8.7 | 14 | 32 | 16 | 6.7 | 6.5 | .05 | .00 | .00 |
| 13 | .09 | .56 | 3.4 | 16 | 16 | 28 | 16 | 6.0 | 6.2 | .01 | .00 | .00 |
| 14 | .04 | .51 | 3.8 | 38 | 13 | 26 | 16 | 5.5 | 6.1 | .00 | .11 | .00 |
| 15 | .16 | .66 | 4.0 | 23 | 8.4 | 24 | 16 | 5.0 | 6.5 | .00 | .68 | .00 |
| 16 | .40 | .71 | 3.8 | 20 | 8.8 | 30 | 19 | 4.5 | 6.7 | .00 | .02 | .00 |
| 17 | .76 | .74 | 4.3 | 25 | 19 | 34 | 30 | 4.2 | 6.0 | .00 | .00 | .00 |
| 18 | .09 | 1.2 | 3.2 | 16 | 30 | 39 | 20 | 4.1 | 5.6 | .00 | .00 | .00 |
| 19 | .06 | 2.9 | 2.8 | 14 | 18 | 43 | 17 | 4.6 | 5.5 | .00 | .00 | .00 |
| 20 | .04 | 2.8 | 2.8 | 12 | 13 | 46 | 16 | 5.4 | 6.2 | .00 | .00 | .00 |
| 21 | .17 | 3.0 | 3.5 | 12 | 13 | 48 | 15 | 5.6 | 3.9 | .00 | .00 | .00 |
| 22 | .95 | 3.1 | 3.8 | 11 | 13 | 46 | 14 | 4.2 | 2.4 | .02 | .00 | .00 |
| 23 | .57 | 3.1 | 4.4 | 11 | 14 | 44 | 21 | 4.3 | 2.2 | .27 | .00 | .00 |
| 24 | .50 | 2.9 | 3.7 | 11 | 17 | 43 | 27 | 9.9 | 2.1 | .20 | .00 | .00 |
| 25 | 6.2 | 2.8 | 2.9 | 11 | 20 | 41 | 19 | 6.1 | 1.8 | .32 | .00 | .00 |
| 26 | 9.7 | 15 | 3.0 | 11 | 23 | 39 | 16 | 4.5 | 1.6 | .53 | .00 | .00 |
| 27 | 3.6 | 10 | 2.7 | 11 | 23 | 36 | 16 | 4.1 | 1.4 | .28 | .00 | .00 |
| 28 | 2.6 | 5.4 | 1.9 | 10 | 24 | 32 | 15 | 67 | 1.2 | .00 | .00 | .00 |
| 29 | 2.2 | 4.4 | 2.4 | 9.7 | --- | 31 | 14 | 53 | 1.1 | .00 | .00 | .00 |
| 30 | 1.7 | 4.4 | 2.2 | 10 | --- | 27 | 14 | 28 | .99 | .00 | .00 | .00 |
| 31 | 1.5 | --- | 2.5 | 12 | --- | 25 | --- | 20 | --- | .00 | .00 | --- |
| TOTAL | 32.93 | 73.72 | 102.2 | 363.4 | 425.4 | 1045 | 577 | 354.3 | 196.19 | 6.45 | 3.33 | 0.00 |
| MEAN | 1.06 | 2.46 | 3.30 | 11.7 | 15.2 | 33.7 | 19.2 | 11.4 | 6.54 | .21 | .11 | .000 |
| MAX | 9.7 | 15 | 4.4 | 38 | 30 | 48 | 30 | 67 | 19 | .80 | 1.2 | .00 |
| MIN | .02 | .39 | 1.9 | 3.6 | 8.4 | 22 | 14 | 4.1 | .99 | .00 | .00 | .00 |
| AC-FT | 65 | 146 | 203 | 721 | 844 | 2070 | 1140 | 703 | 389 | 13 | 6.6 | .00 |

CAL YR 1989 TOTAL 5591.68 MEAN 15.3 MAX 218 MIN .00 AC-FT 11090
WTR YR 1990 TOTAL 3179.92 MEAN 8.71 MAX 67 MIN .00 AC-FT 6310

TULARE LAKE BASIN

137

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 September 1990 (discontinued). 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.--Records good. Ditch receives water from Success Lake (station 11204700).

AVERAGE DISCHARGE.--31 years, 7.02 ft³/s, 5,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 29 ft³/s, Apr. 15, 1961; no flow at times most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| 1 | 4.6 | 7.9 | 1.2 | .00 | .00 | 1.0 | 8.2 | 9.6 | 2.1 | 16 | 17 | e17 |
| 2 | .00 | 10 | 1.4 | .24 | .75 | 1.0 | 9.0 | 3.6 | 2.8 | 17 | 19 | e15 |
| 3 | .00 | 7.8 | 1.0 | .93 | 1.1 | 1.0 | 9.5 | .00 | 3.3 | 19 | 21 | e14 |
| 4 | .00 | 6.3 | .98 | 1.0 | 1.1 | 1.0 | 9.3 | .00 | 4.6 | 20 | 17 | e12 |
| 5 | .00 | 4.5 | .91 | 1.0 | 1.9 | 1.0 | 8.7 | 2.4 | 9.7 | 18 | 12 | e11 |
| 6 | .00 | 5.4 | 3.9 | 1.0 | 1.0 | 1.0 | 8.6 | 11 | 13 | 15 | 14 | 11 |
| 7 | .00 | 7.2 | 7.4 | 1.0 | .87 | 1.0 | 10 | 18 | 15 | 12 | 18 | 12 |
| 8 | .00 | 8.4 | 8.1 | 1.0 | 1.3 | 1.0 | 10 | 18 | 15 | 11 | 18 | 13 |
| 9 | 4.3 | 8.4 | 8.9 | 1.0 | 3.2 | .98 | 9.4 | 17 | 14 | 11 | 20 | 12 |
| 10 | 14 | 6.5 | 5.3 | .86 | .95 | 1.0 | 4.5 | 17 | 14 | 14 | 19 | 16 |
| 11 | 18 | 5.3 | 4.6 | .71 | .79 | 1.0 | 5.9 | 17 | 17 | 14 | 16 | 19 |
| 12 | 18 | 4.0 | 5.0 | .21 | .32 | 1.1 | 9.6 | 16 | 16 | 15 | 13 | 19 |
| 13 | 18 | 4.7 | 4.6 | .00 | .00 | 1.1 | 11 | 16 | 16 | 14 | 11 | 18 |
| 14 | 15 | 5.4 | 6.2 | .00 | .00 | 1.1 | 11 | 11 | 16 | 13 | 17 | 17 |
| 15 | 14 | 4.1 | 5.3 | .00 | .00 | 1.1 | 9.6 | 9.4 | 16 | 9.6 | 21 | 12 |
| 16 | 14 | 3.4 | 2.9 | .00 | .00 | 1.1 | 11 | 9.2 | 17 | 11 | 21 | 8.9 |
| 17 | 13 | 6.6 | 2.0 | .00 | .00 | 1.1 | 16 | 8.3 | 17 | 15 | 21 | 11 |
| 18 | 10 | 8.4 | 2.6 | .00 | .00 | 1.1 | 16 | 7.9 | 15 | 19 | 20 | 15 |
| 19 | 9.3 | 5.1 | 2.9 | .00 | .00 | 1.1 | 15 | 7.6 | 15 | 21 | 15 | 17 |
| 20 | 7.8 | 3.2 | 2.5 | .00 | .00 | 1.1 | 15 | 7.2 | 15 | 21 | 13 | 17 |
| 21 | 7.0 | 3.2 | 2.7 | .00 | .00 | 5.0 | 9.7 | 11 | 15 | 19 | 13 | 17 |
| 22 | 4.4 | 3.2 | 3.2 | .00 | .00 | 7.2 | 6.1 | 13 | 14 | 17 | 11 | 14 |
| 23 | 3.2 | 3.2 | 3.3 | .00 | .00 | 5.8 | 4.8 | 13 | 13 | 19 | 10 | 11 |
| 24 | 3.2 | 3.2 | 3.2 | .00 | .00 | 5.4 | 3.0 | 13 | 12 | 21 | 12 | 8.4 |
| 25 | 3.2 | 3.2 | 3.2 | .00 | .00 | 5.5 | 2.5 | 14 | 12 | 21 | 10 | 8.1 |
| 26 | 3.2 | 3.2 | 1.3 | 2.0 | 1.2 | 5.8 | 2.5 | 16 | 16 | 19 | 9.0 | 9.1 |
| 27 | 3.2 | 3.1 | .00 | .00 | 1.3 | 3.5 | 2.5 | 11 | 18 | 18 | 13 | 9.3 |
| 28 | 3.2 | 2.1 | .00 | .00 | 1.0 | 2.1 | 3.0 | 5.8 | 19 | 16 | 15 | 9.3 |
| 29 | 3.2 | 1.8 | .00 | .00 | --- | 9.4 | 3.4 | 1.3 | 20 | 15 | 14 | 10 |
| 30 | 3.3 | 1.4 | .00 | .00 | --- | 12 | 4.5 | 1.4 | 18 | 12 | 15 | 9.4 |
| 31 | 6.1 | --- | .00 | .00 | --- | 9.7 | --- | 1.4 | --- | 12 | 18 | --- |
| TOTAL | 203.20 | 150.2 | 94.59 | 10.95 | 16.78 | 92.28 | 249.3 | 307.10 | 410.5 | 494.6 | 483.0 | 392.5 |
| MEAN | 6.55 | 5.01 | 3.05 | .35 | .60 | 2.98 | 8.31 | 9.91 | 13.7 | 16.0 | 15.6 | 13.1 |
| MAX | 18 | 10 | 8.9 | 2.0 | 3.2 | 12 | 16 | 18 | 20 | 21 | 21 | 19 |
| MIN | .00 | 1.4 | .00 | .00 | .00 | .98 | 2.5 | .00 | 2.1 | 9.6 | 9.0 | 8.1 |
| AC-FT | 403 | 298 | 188 | 22 | 33 | 183 | 494 | 609 | 814 | 981 | 958 | 779 |

CAL YR 1989 TOTAL 2919.08 MEAN 8.00 MAX 21 MIN .00 AC-FT 5790
WTR YR 1990 TOTAL 2905.00 MEAN 7.96 MAX 21 MIN .00 AC-FT 5760

e Estimated.

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 mi².

PERIOD OF RECORD.--November 1961 to September 1990 (discontinued).

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, 3,856 acre-ft, Oct. 17, 1972, elevation, 579.52 ft (based on capacity table then in use); minimum elevation, 579.09 ft, Oct. 23-26, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 22,459 acre-ft, June 2, elevation, 612.93 ft; minimum, 5,590 acre-ft, Sept. 30, elevation, 584.35 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

| | | | | | |
|-----|-------|-----|--------|-----|---------|
| 575 | 2,975 | 590 | 7,747 | 640 | 56,084 |
| 580 | 4,241 | 600 | 12,902 | 660 | 102,684 |
| 585 | 5,813 | 620 | 29,183 | 690 | 217,100 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 7997 | 7122 | 7432 | 8284 | 10111 | 12762 | 18336 | 20336 | 22259 | 19082 | 12421 | 8289 |
| 2 | 7989 | 7126 | 7478 | 8410 | 10096 | 12963 | 18490 | 20442 | 22459 | 18746 | 12167 | 8200 |
| 3 | 8002 | 7130 | 7503 | 8497 | 10075 | 13197 | 18652 | 20558 | 22424 | 18359 | 11912 | 8111 |
| 4 | 8010 | 7142 | 7528 | 8570 | 10090 | 13458 | 18808 | 20657 | 22268 | 17977 | 11677 | 7971 |
| 5 | 8024 | 7138 | 7519 | 8629 | 10080 | 13774 | 18949 | 20748 | 22008 | 17593 | 11456 | 7807 |
| 6 | 8041 | 7110 | 7532 | 8694 | 10075 | 14024 | 19098 | 20765 | 21725 | 17222 | 11228 | 7637 |
| 7 | 8054 | 7074 | 7528 | 8759 | 10096 | 14251 | 19256 | 20698 | 21444 | 16841 | 11035 | 7448 |
| 8 | 8037 | 7038 | 7498 | 8824 | 10075 | 14473 | 19431 | 20640 | 21141 | 16438 | 10877 | 7251 |
| 9 | 7997 | 7006 | 7532 | 8890 | 10019 | 14639 | 19590 | 20566 | 20823 | 16054 | 10796 | 7042 |
| 10 | 7932 | 6970 | 7574 | 8956 | 9983 | 14805 | 19735 | 20467 | 20525 | 15725 | 10747 | 6880 |
| 11 | 7854 | 6939 | 7599 | 9027 | 9917 | 15094 | 19719 | 20377 | 20287 | 15684 | 10705 | 6763 |
| 12 | 7773 | 6899 | 7565 | 9113 | 10034 | 15298 | 19663 | 20287 | 20180 | 15628 | 10662 | 6643 |
| 13 | 7696 | 6887 | 7561 | 9257 | 10168 | 15449 | 19598 | 20197 | 20180 | 15587 | 10539 | 6533 |
| 14 | 7616 | 6899 | 7590 | 9536 | 10282 | 15524 | 19510 | 20123 | 20180 | 15538 | 10318 | 6450 |
| 15 | 7540 | 6903 | 7633 | 9715 | 10376 | 15559 | 19423 | 20115 | 20180 | 15490 | 10075 | 6383 |
| 16 | 7498 | 6919 | 7586 | 9881 | 10486 | 15621 | 19319 | 20156 | 20188 | 15305 | 9846 | 6327 |
| 17 | 7486 | 6931 | 7620 | 10085 | 10678 | 15704 | 19240 | 20197 | 20197 | 15108 | 9625 | 6287 |
| 18 | 7448 | 6939 | 7637 | 10126 | 10931 | 15816 | 19122 | 20221 | 20164 | 14885 | 9403 | 6250 |
| 19 | 7386 | 6946 | 7671 | 10075 | 11123 | 15949 | 18980 | 20254 | 20123 | 14645 | 9204 | 6206 |
| 20 | 7325 | 6958 | 7713 | 10034 | 11266 | 16096 | 18870 | 20278 | 20083 | 14375 | 9032 | 6162 |
| 21 | 7267 | 6978 | 7751 | 9998 | 11406 | 16217 | 18792 | 20287 | 20026 | 14108 | 8984 | 6122 |
| 22 | 7207 | 6998 | 7794 | 9927 | 11535 | 16323 | 18824 | 20303 | 19969 | 13838 | 8951 | 6086 |
| 23 | 7170 | 7026 | 7841 | 9896 | 11671 | 16459 | 19011 | 20327 | 19912 | 13578 | 8923 | 6058 |
| 24 | 7142 | 7050 | 7889 | 9978 | 11820 | 16610 | 19232 | 20360 | 19848 | 13477 | 8890 | 5997 |
| 25 | 7130 | 7086 | 7928 | 9968 | 11993 | 16849 | 19415 | 20401 | 19775 | 13421 | 8862 | 5933 |
| 26 | 7130 | 7166 | 7976 | 9998 | 12173 | 17119 | 19574 | 20410 | 19695 | 13365 | 8838 | 5862 |
| 27 | 7114 | 7267 | 8028 | 10029 | 12368 | 17385 | 19735 | 20467 | 19606 | 13315 | 8754 | 5796 |
| 28 | 7094 | 7321 | 8076 | 10116 | 12564 | 17616 | 19904 | 21032 | 19550 | 13271 | 8662 | 5730 |
| 29 | 7086 | 7374 | 8129 | 10080 | --- | 17826 | 20066 | 21495 | 19510 | 13197 | 8570 | 5655 |
| 30 | 7106 | 7424 | 8173 | 10090 | --- | 18008 | 20213 | 21785 | 19383 | 12957 | 8478 | 5590 |
| 31 | 7118 | --- | 8222 | 10096 | --- | 18175 | --- | 22026 | --- | 12678 | 8383 | --- |
| MAX | 8054 | 7424 | 8222 | 10126 | 12564 | 18175 | 20213 | 22026 | 22459 | 19082 | 12421 | 8289 |
| MIN | 7086 | 6887 | 7432 | 8284 | 9917 | 12762 | 18336 | 20115 | 19383 | 12678 | 8383 | 5590 |
| a | 588.48 | 589.23 | 591.09 | 595.00 | 599.44 | 607.69 | 610.27 | 612.43 | 609.24 | 599.63 | 591.45 | 584.35 |
| b | -914 | +306 | +798 | +1874 | +2468 | +5611 | +2038 | +1813 | -2643 | -6705 | -4295 | -2793 |
| c | 160 | 82 | 38 | 40 | 53 | 157 | 275 | 392 | 508 | 534 | 351 | 225 |

CAL YR 1989 b -103

WTR YR 1990 b -2442

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Army Corps of Engineers; not reviewed by the U.S. Geological Survey.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to September 1990 (discontinued). 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 (station 11204700) beginning Nov. 23, 1961. 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.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--37 years, 197 ft³/s, 142,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s, Dec. 23, 1955, gage height, 21.65 ft, site and datum then in use, from rating curve extended above 1,400 ft³/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 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 185 ft³/s, July 8, gage height, 4.79 ft; minimum daily, 0.14 ft³/s, Jan. 11, 14-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|---------|--------|
| 1 | 17 | 3.0 | 18 | .18 | 46 | .30 | .34 | 1.1 | 1.2 | 124 | 104 | 24 |
| 2 | 5.6 | 1.6 | 1.7 | .22 | 55 | .30 | .33 | 1.3 | 2.4 | 141 | 102 | 26 |
| 3 | .21 | 4.7 | 9.7 | .18 | 53 | .30 | .33 | 1.1 | 100 | 159 | 99 | 27 |
| 4 | .26 | 1.8 | 10 | .18 | 71 | .31 | .34 | 1.1 | 140 | 162 | 94 | 50 |
| 5 | .24 | 11 | 29 | .18 | 74 | .30 | .32 | 1.1 | 174 | 163 | 94 | 63 |
| 6 | .24 | 21 | 15 | .16 | 61 | .29 | .30 | 28 | 169 | 165 | 93 | 68 |
| 7 | .24 | 22 | 21 | .16 | 58 | .29 | .31 | 65 | 166 | 169 | 67 | 75 |
| 8 | 13 | 22 | 32 | .16 | 71 | .29 | .30 | 54 | 171 | 180 | 52 | 79 |
| 9 | 18 | 22 | .44 | .15 | 73 | 23 | .29 | 60 | 172 | 174 | 18 | 86 |
| 10 | 23 | 24 | .30 | .15 | 66 | 26 | .98 | 72 | 162 | 143 | 2.3 | 60 |
| 11 | 24 | 25 | 9.4 | .14 | 76 | 24 | 75 | 74 | 134 | 4.9 | .23 | 37 |
| 12 | 24 | 26 | 35 | .19 | 3.6 | 43 | 101 | 71 | 65 | 2.9 | 1.1 | 37 |
| 13 | 24 | 12 | 21 | .18 | .35 | 43 | 106 | 66 | 4.1 | 3.2 | 39 | 34 |
| 14 | 26 | 3.3 | .38 | .14 | .31 | 69 | 116 | 55 | 3.5 | 3.2 | 77 | 23 |
| 15 | 27 | 4.0 | .24 | .14 | .30 | 83 | 118 | 21 | 2.7 | 4.4 | 83 | 18 |
| 16 | 11 | 4.6 | 42 | .14 | .30 | 84 | 127 | 1.2 | 1.6 | 65 | 79 | 18 |
| 17 | .88 | 2.7 | 5.6 | .14 | .30 | 88 | 130 | 1.2 | 1.9 | 75 | 76 | 7.8 |
| 18 | 13 | 2.2 | 14 | 41 | .31 | 90 | 135 | 1.2 | 20 | 78 | 76 | 1.9 |
| 19 | 26 | 4.5 | 4.4 | 76 | .30 | 83 | 132 | 1.2 | 20 | 88 | 70 | 1.9 |
| 20 | 27 | 4.1 | .22 | 67 | .30 | 86 | 120 | 8.1 | 20 | 106 | 61 | 1.9 |
| 21 | 28 | 1.9 | .19 | 64 | .30 | 102 | 101 | 11 | 20 | 106 | 9.3 | 1.3 |
| 22 | 33 | .94 | .19 | 74 | .30 | 106 | 42 | 1.3 | 19 | 110 | .22 | .87 |
| 23 | 27 | .88 | .19 | 57 | .31 | 89 | 8.6 | 1.2 | 19 | 102 | .19 | 1.7 |
| 24 | 19 | .50 | .18 | 5.3 | .32 | 75 | 1.4 | 1.3 | 20 | 25 | .19 | 20 |
| 25 | 17 | .69 | .18 | 48 | .32 | 27 | 1.2 | 1.3 | 20 | 2.8 | .18 | 24 |
| 26 | 16 | .59 | .31 | 26 | .32 | .58 | .98 | 1.3 | 19 | 2.9 | .18 | 22 |
| 27 | 19 | .99 | .21 | 30 | .31 | .51 | .86 | 1.3 | 19 | 2.2 | 20 | 23 |
| 28 | 22 | .58 | .18 | .41 | .31 | .43 | .87 | 1.3 | 7.3 | 1.5 | 24 | 23 |
| 29 | 14 | .52 | .18 | 56 | --- | .41 | 1.1 | 1.2 | 1.2 | 14 | 24 | 23 |
| 30 | 2.4 | .49 | .18 | 39 | --- | .39 | 1.1 | .80 | 30 | 95 | 24 | 23 |
| 31 | 2.1 | --- | .17 | 45 | --- | .35 | --- | 1.2 | --- | 122 | 24 | --- |
| TOTAL | 480.17 | 229.58 | 271.54 | 631.50 | 712.56 | 1146.05 | 1322.95 | 607.80 | 1704.9 | 2594.0 | 1413.89 | 900.37 |
| MEAN | 15.5 | 7.65 | 8.76 | 20.4 | 25.4 | 37.0 | 44.1 | 19.6 | 56.8 | 83.7 | 45.6 | 30.0 |
| MAX | 33 | 26 | 42 | 76 | 76 | 106 | 135 | 74 | 174 | 180 | 104 | 86 |
| MIN | .21 | .49 | .17 | .14 | .30 | .29 | .29 | .80 | 1.2 | 1.5 | .18 | .87 |
| AC-FT | 952 | 455 | 539 | 1250 | 1410 | 2270 | 2620 | 1210 | 3380 | 5150 | 2800 | 1790 |

CAL YR 1989 TOTAL 21579.68 MEAN 59.1 MAX 438 MIN .17 AC-FT 42800 MEAN a 72.4 AC-FT a 52420
WTR YR 1990 TOTAL 12015.31 MEAN 32.9 MAX 180 MIN .14 AC-FT 23830 MEAN a 41.4 AC-FT a 29970

a Adjusted for change in contents and evaporation from Success Lake and diversion to Pioneer Ditch.

TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-69, 1971 to current year.

CHEMICAL DATA: Water years 1962-69, 1971-79.

WATER TEMPERATURE: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction of recording instrument. Water temperature is affected by regulation from Success Dam.

EXTREMES PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 34.5 °C, Aug. 23, 1990; minimum recorded, 3.0 °C, Jan. 3, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 34.5 °C, Aug. 23; minimum recorded, 6.0 °C, Feb. 13-15.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 24.0 | 22.5 | 20.5 | 14.0 | 14.0 | 8.0 | 12.0 | 8.5 | 9.5 | 9.0 | 18.0 | 12.5 |
| 2 | 25.5 | 21.0 | 20.5 | 13.0 | 15.0 | 6.5 | 11.5 | 10.5 | 9.0 | 8.0 | 16.0 | 13.5 |
| 3 | 23.5 | 17.5 | --- | --- | 14.0 | 7.5 | 13.0 | 9.0 | 9.0 | 7.0 | 19.5 | 12.5 |
| 4 | 24.0 | 17.0 | --- | --- | --- | --- | 13.0 | 9.0 | 9.5 | 9.0 | 21.5 | 13.0 |
| 5 | 24.5 | 17.5 | --- | --- | --- | --- | 12.5 | 8.5 | 9.5 | 9.0 | 16.5 | 10.5 |
| 6 | 25.0 | 17.5 | --- | --- | --- | --- | 12.5 | 8.5 | 10.0 | 8.5 | 23.0 | 10.5 |
| 7 | 25.0 | 17.5 | --- | --- | --- | --- | 13.0 | 8.5 | 11.0 | 8.5 | 22.5 | 9.5 |
| 8 | 23.0 | 18.0 | --- | --- | --- | --- | 13.5 | 9.5 | 10.5 | 8.5 | 19.0 | 11.5 |
| 9 | 23.0 | 21.0 | --- | --- | --- | --- | 14.0 | 10.0 | 9.0 | 8.5 | 14.5 | 9.5 |
| 10 | 22.5 | 21.0 | --- | --- | 11.0 | 7.0 | 14.5 | 10.0 | 11.0 | 8.5 | 10.5 | 9.5 |
| 11 | 22.5 | 21.5 | --- | --- | 12.0 | 7.0 | 15.0 | 10.5 | 9.0 | 8.5 | 10.5 | 9.5 |
| 12 | 22.5 | 21.0 | --- | --- | 11.5 | 7.0 | 15.0 | 12.0 | 18.0 | 8.5 | 10.5 | 9.5 |
| 13 | 22.5 | 21.0 | --- | --- | 11.5 | 7.0 | 14.5 | 12.5 | 12.5 | 8.0 | 10.5 | 7.0 |
| 14 | 22.5 | 21.0 | --- | --- | 13.0 | 7.5 | 14.0 | 12.0 | 13.5 | 6.0 | 10.5 | 10.0 |
| 15 | 22.0 | 21.0 | 17.0 | 13.0 | 12.5 | 7.5 | 15.0 | 12.0 | 15.0 | 6.0 | 11.0 | 10.0 |
| 16 | 25.5 | 19.5 | 17.0 | 13.5 | 10.5 | 7.5 | 14.0 | 11.5 | 8.5 | 6.5 | 11.0 | 9.5 |
| 17 | 25.0 | 16.5 | 18.5 | 13.0 | 11.5 | 7.5 | 12.5 | 10.5 | 14.5 | 7.0 | 11.0 | 9.5 |
| 18 | 23.0 | 18.0 | 18.5 | 12.0 | 11.5 | 7.5 | 11.5 | 10.0 | 12.5 | 8.0 | 11.0 | 10.0 |
| 19 | 21.5 | 20.5 | 17.0 | 11.5 | 13.0 | 7.5 | 10.0 | 9.5 | 16.0 | 6.5 | 11.0 | 10.0 |
| 20 | 21.5 | 20.5 | 17.5 | 13.0 | 12.5 | 8.0 | 10.0 | 9.5 | 16.0 | 6.5 | 11.0 | 9.5 |
| 21 | 21.0 | 20.5 | 18.5 | 11.5 | 11.0 | 7.5 | 10.0 | 9.5 | 14.0 | 7.5 | 11.0 | 10.5 |
| 22 | 21.5 | 20.5 | 17.5 | 10.5 | 11.0 | 8.0 | 10.5 | 9.0 | 20.0 | 6.5 | 11.5 | 10.0 |
| 23 | 21.5 | 20.0 | 17.0 | 10.0 | 10.0 | 8.0 | 10.5 | 9.0 | 20.5 | 8.0 | 11.5 | 9.0 |
| 24 | 21.5 | 20.0 | 14.5 | 10.0 | 10.0 | 8.0 | 12.0 | 7.5 | 19.5 | 10.0 | 11.0 | 10.0 |
| 25 | 21.0 | 19.5 | 17.0 | 11.5 | 11.0 | 8.0 | 10.0 | 7.5 | 20.5 | 11.0 | 23.5 | 10.5 |
| 26 | 21.0 | 18.5 | 17.0 | 11.0 | 13.0 | 8.0 | 11.5 | 7.0 | 22.0 | 11.0 | 25.0 | 11.0 |
| 27 | 20.0 | 18.0 | 16.0 | 7.5 | 15.5 | 8.0 | 15.5 | 7.0 | 22.5 | 11.0 | 25.5 | 12.0 |
| 28 | 19.5 | 18.5 | 15.5 | 7.0 | 12.0 | 8.5 | 16.5 | 7.0 | 22.5 | 11.5 | 20.0 | 13.0 |
| 29 | 20.0 | 16.0 | 15.0 | 6.5 | 11.5 | 9.0 | 10.0 | 7.0 | --- | --- | 25.0 | 11.5 |
| 30 | 21.5 | 15.0 | 14.5 | 6.5 | 13.0 | 8.5 | 9.5 | 7.5 | --- | --- | 24.5 | 12.5 |
| 31 | 18.5 | 12.5 | --- | --- | 13.0 | 8.5 | 11.0 | 8.0 | --- | --- | 25.5 | 12.5 |
| MONTH | 25.5 | 12.5 | --- | --- | --- | --- | 16.5 | 7.0 | 22.5 | 6.0 | 25.5 | 7.0 |

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 26.0 | 13.5 | 23.5 | 12.0 | 23.0 | 13.0 | 19.5 | 16.5 | 24.5 | 23.0 | 26.0 | 24.5 |
| 2 | 26.0 | 14.0 | 24.0 | 12.5 | 24.0 | 14.5 | 20.0 | 16.0 | 25.0 | 23.0 | 26.0 | 25.0 |
| 3 | 26.5 | 15.0 | 25.0 | 13.5 | 17.0 | 15.0 | 20.0 | 17.0 | 25.0 | 23.0 | 26.5 | 24.5 |
| 4 | 23.0 | 15.0 | 25.5 | 14.5 | 16.0 | 14.5 | 20.5 | 18.5 | 25.0 | 24.0 | 26.0 | 25.0 |
| 5 | 26.0 | 14.0 | 25.5 | 15.0 | 16.5 | 15.5 | 20.5 | 19.5 | 25.0 | 23.0 | 26.0 | 25.0 |
| 6 | 26.0 | 14.5 | 18.0 | 13.5 | 16.5 | 15.5 | 20.5 | 17.5 | 25.5 | 24.0 | 26.0 | 25.5 |
| 7 | 18.0 | 14.5 | 14.5 | 12.0 | 16.5 | 15.5 | 20.5 | 20.0 | 25.5 | 23.5 | 26.0 | 25.5 |
| 8 | 23.0 | 14.5 | 16.5 | 12.5 | 17.0 | 15.0 | 21.0 | 20.5 | 25.5 | 23.5 | 26.0 | 25.5 |
| 9 | 26.5 | 13.5 | 14.0 | 12.5 | 17.0 | 15.0 | 21.5 | 20.0 | 27.5 | 22.5 | 26.0 | 25.5 |
| 10 | 26.0 | 15.0 | 13.5 | 12.5 | 17.5 | 16.0 | 22.0 | 20.0 | 30.0 | 21.5 | 26.0 | 25.0 |
| 11 | 16.0 | 12.0 | 13.5 | 12.5 | 17.5 | 16.5 | 24.0 | 18.5 | 32.0 | 23.0 | 26.0 | 25.0 |
| 12 | 12.5 | 10.5 | 14.0 | 13.0 | 16.5 | 16.0 | 26.5 | 18.5 | 32.5 | 23.0 | 26.0 | 25.5 |
| 13 | 13.0 | 9.5 | 14.0 | 12.5 | 23.0 | 15.0 | 27.0 | 18.5 | 26.5 | 23.5 | 26.0 | 25.5 |
| 14 | 13.5 | 9.5 | 14.5 | 13.0 | 23.0 | 14.5 | 26.0 | 16.5 | 27.0 | 24.5 | 26.5 | 25.0 |
| 15 | 12.5 | 11.5 | 23.0 | 12.5 | 22.5 | 15.0 | 29.5 | 17.5 | 27.0 | 26.0 | 26.0 | 25.0 |
| 16 | 12.5 | 11.5 | 23.5 | 13.5 | 24.5 | 15.0 | 21.0 | 18.5 | 27.0 | 26.0 | 26.0 | 25.0 |
| 17 | 12.5 | 11.5 | 24.0 | 13.5 | 24.5 | 15.5 | 21.5 | 19.5 | 27.0 | 26.5 | 29.0 | 22.5 |
| 18 | 13.0 | 11.5 | 24.0 | 13.0 | 17.5 | 15.5 | 21.5 | 20.0 | 27.0 | 26.5 | 30.5 | 20.5 |
| 19 | 13.0 | 12.0 | 22.5 | 13.0 | 17.5 | 15.5 | 22.0 | 20.0 | 27.0 | 26.0 | 29.5 | 21.0 |
| 20 | 13.0 | 11.5 | 24.5 | 12.5 | 17.5 | 15.5 | 22.5 | 21.0 | 27.0 | 25.5 | 30.5 | 21.0 |
| 21 | 13.0 | 11.5 | 24.5 | 13.0 | 18.0 | 15.0 | 22.5 | 21.5 | 33.5 | 23.5 | 29.5 | 22.0 |
| 22 | 13.0 | 11.5 | 26.0 | 14.0 | 17.5 | 15.5 | 23.0 | 21.5 | 34.0 | 20.5 | 29.5 | 21.0 |
| 23 | 18.5 | 11.0 | 24.5 | 14.0 | 18.5 | 15.5 | 23.5 | 21.5 | 34.5 | 21.0 | 29.0 | 21.0 |
| 24 | 18.0 | 12.0 | 24.0 | 14.0 | 17.0 | 14.5 | 29.5 | 21.5 | 33.5 | 20.5 | 24.5 | 23.0 |
| 25 | 24.0 | 11.5 | 24.5 | 13.5 | 18.0 | 12.5 | 28.5 | 19.0 | 32.5 | 18.5 | 24.5 | 23.0 |
| 26 | 24.5 | 13.0 | 24.0 | 14.0 | 18.0 | 16.0 | 28.0 | 18.5 | 32.5 | 18.0 | 24.5 | 23.0 |
| 27 | 26.0 | 14.5 | 18.0 | 14.5 | 18.5 | 15.0 | 28.5 | 19.0 | 26.0 | 19.0 | 24.5 | 23.5 |
| 28 | 26.0 | 15.0 | 20.5 | 14.5 | 27.0 | 16.5 | 29.5 | 21.5 | 26.0 | 25.0 | 24.5 | 23.5 |
| 29 | 23.0 | 13.5 | 21.5 | 14.0 | 26.0 | 18.5 | 30.0 | 22.0 | 26.0 | 25.0 | 25.0 | 23.5 |
| 30 | 22.5 | 11.0 | 25.0 | 15.0 | 22.5 | 17.0 | 24.5 | 21.5 | 26.5 | 24.5 | 25.0 | 23.5 |
| 31 | --- | --- | 18.0 | 15.0 | --- | --- | 24.5 | 23.0 | 26.0 | 25.0 | --- | --- |
| MONTH | 26.5 | 9.5 | 26.0 | 12.0 | 27.0 | 12.5 | 30.0 | 16.0 | 34.5 | 18.0 | 30.5 | 20.5 |

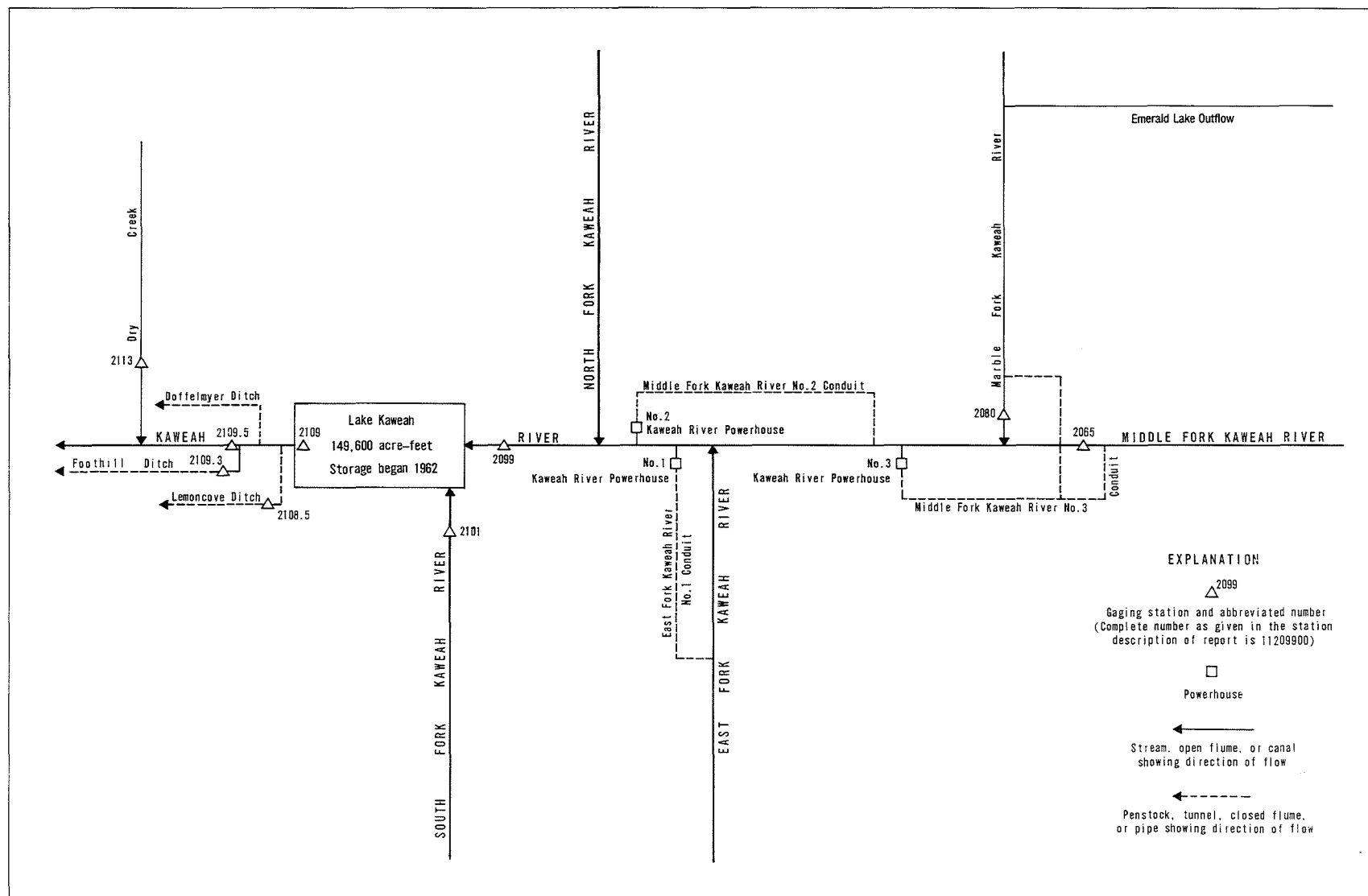


Figure 30. Diversions and storage in Kaweah River basin.

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 mi².

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.--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 powerplant of Southern California Edison Co. Diversion during water year 1990 occurred Oct. 1-12, Oct. 22 to Dec. 29, Jan. 10 to July 30. 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: 41 years, 139 ft³/s, 100,700 acre-ft/yr.
Combined river and diversion: 41 years, 180 ft³/s, 130,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,800 ft³/s, Dec. 23, 1955, gage height, 29.0 ft, from floodmarks, datum then in use, on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft³/s, Nov. 12-15, 1949.

Combined flow, maximum discharge, 46,800 ft³/s, Dec. 23, 1955; minimum daily, 7.0 ft³/s, Sept. 16, 17, 1990.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 361 ft³/s, May 6, gage height, 5.89 ft; minimum daily, 7.0 ft³/s, Sept. 16, 17.

Combined flow, maximum daily discharge, 316 ft³/s, May 28; minimum daily, 7.0 ft³/s, Sept. 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 1 | 20 | 11 | 12 | 15 | 16 | 24 | 59 | 100 | 129 | 20 | 17 | 9.7 |
| 2 | 16 | 10 | 12 | 20 | 16 | 27 | 71 | 102 | 118 | 16 | 17 | 9.3 |
| 3 | 12 | 11 | 12 | 18 | 16 | 54 | 78 | 122 | 136 | 16 | 16 | 8.2 |
| 4 | 12 | 12 | 12 | 18 | 19 | 37 | 79 | 166 | 146 | 16 | 16 | 7.9 |
| 5 | 13 | 12 | 12 | 18 | 17 | 40 | 66 | 213 | 157 | 15 | 15 | 7.7 |
| 6 | 13 | 11 | 12 | 18 | 21 | 30 | 73 | 250 | 153 | 16 | 15 | 7.7 |
| 7 | 13 | 11 | 11 | 18 | 19 | 30 | 75 | 241 | 133 | 16 | 15 | 7.9 |
| 8 | 12 | 11 | 13 | 19 | 16 | 27 | 79 | 217 | 136 | 16 | 15 | 7.9 |
| 9 | 12 | 11 | 15 | 20 | 16 | 25 | 60 | 204 | 148 | 17 | 15 | 7.7 |
| 10 | 11 | 11 | 14 | 17 | 17 | 29 | 81 | 181 | 151 | 17 | 16 | 7.4 |
| 11 | 12 | 11 | 13 | 17 | 22 | 34 | 112 | 136 | 95 | 16 | 15 | 7.2 |
| 12 | 14 | 11 | 12 | 17 | 22 | 24 | 140 | 127 | 81 | 16 | 14 | 7.2 |
| 13 | 14 | 11 | 12 | 38 | 18 | 25 | 169 | 137 | 74 | 16 | 14 | 7.2 |
| 14 | 14 | 11 | 12 | 22 | 15 | 24 | 204 | 127 | 55 | 16 | 14 | 7.2 |
| 15 | 14 | 11 | 12 | 15 | 18 | 31 | 218 | 104 | 46 | 27 | 14 | 7.1 |
| 16 | 14 | 12 | 11 | 15 | 20 | 39 | 218 | 107 | 34 | 21 | 14 | 7.0 |
| 17 | 14 | 13 | 11 | 15 | 17 | 44 | 152 | 105 | 29 | 17 | 14 | 7.0 |
| 18 | 14 | 12 | 11 | 15 | 21 | 57 | 117 | 87 | 36 | 17 | 14 | 7.2 |
| 19 | 13 | 12 | 12 | 15 | 20 | 64 | 106 | 88 | 40 | 17 | 14 | 7.3 |
| 20 | 13 | 12 | 12 | 15 | 19 | 72 | 106 | 64 | 41 | 17 | 14 | 8.6 |
| 21 | 14 | 12 | 12 | 15 | 18 | 88 | 94 | 80 | 45 | 17 | 13 | 8.6 |
| 22 | 22 | 12 | 12 | 15 | 20 | 94 | 84 | 102 | 41 | 17 | 13 | 12 |
| 23 | 19 | 12 | 12 | 16 | 25 | 98 | 121 | 113 | 35 | 17 | 13 | 11 |
| 24 | 23 | 12 | 11 | 17 | 23 | 109 | 109 | 121 | 32 | 17 | 12 | 11 |
| 25 | 51 | 12 | 11 | 17 | 21 | 110 | 93 | 92 | 31 | 16 | 12 | 11 |
| 26 | 21 | 64 | 11 | 17 | 21 | 109 | 132 | 72 | 30 | 18 | 12 | 11 |
| 27 | 20 | 11 | 11 | 16 | 24 | 104 | 199 | 82 | 29 | 19 | 12 | 12 |
| 28 | 14 | 12 | 11 | 16 | 27 | 85 | 241 | 252 | 29 | 19 | 11 | 13 |
| 29 | 11 | 12 | 14 | 16 | --- | 66 | 214 | 191 | 28 | 19 | 9.7 | 12 |
| 30 | 11 | 12 | 15 | 16 | --- | 54 | 142 | 201 | 28 | 19 | 9.7 | e12 |
| 31 | 11 | --- | 16 | 16 | --- | 48 | --- | 156 | --- | 18 | 9.7 | --- |
| TOTAL | 487 | 398 | 379 | 542 | 544 | 1702 | 3692 | 4340 | 2266 | 541 | 425.1 | 268.0 |
| MEAN | 15.7 | 13.3 | 12.2 | 17.5 | 19.4 | 54.9 | 123 | 140 | 75.5 | 17.5 | 13.7 | 8.93 |
| MAX | 51 | 64 | 16 | 38 | 27 | 110 | 241 | 252 | 157 | 27 | 17 | 13 |
| MIN | 11 | 10 | 11 | 15 | 15 | 24 | 59 | 64 | 28 | 15 | 9.7 | 7.0 |
| AC-FT | 966 | 789 | 752 | 1080 | 1080 | 3380 | 7320 | 8610 | 4490 | 1070 | 843 | 532 |

CAL YR 1989 TOTAL 24956.7 MEAN 68.4 MAX 396 MIN 9.7 AC-FT 49500
WTR YR 1990 TOTAL 15584.1 MEAN 42.7 MAX 252 MIN 7.0 AC-FT 30910

e Estimated

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 1989 TO SEPTEMBER 1990

MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|------|------|-------|-------|
| 1 | 21 | 28 | 26 | 15 | 33 | 77 | 122 | 160 | 193 | 58 | 17 | 9.7 |
| 2 | 21 | 25 | 26 | 20 | 32 | 74 | 134 | 164 | 183 | 60 | 17 | 9.3 |
| 3 | 20 | 23 | 26 | 18 | 33 | 106 | 142 | 185 | 201 | 58 | 16 | 8.2 |
| 4 | 20 | 23 | 26 | 18 | 37 | 88 | 143 | 229 | 211 | 54 | 16 | 7.9 |
| 5 | 19 | 23 | 26 | 18 | 33 | 94 | 130 | 277 | 222 | 48 | 15 | 7.7 |
| 6 | 18 | 22 | 25 | 18 | 39 | 83 | 137 | 314 | 218 | 46 | 15 | 7.7 |
| 7 | 18 | 21 | 24 | 18 | 40 | 86 | 138 | 305 | 198 | 44 | 15 | 7.9 |
| 8 | 17 | 21 | 24 | 19 | 35 | 82 | 142 | 281 | 201 | 40 | 15 | 7.9 |
| 9 | 16 | 19 | 23 | 20 | 37 | 79 | 123 | 268 | 213 | 39 | 15 | 7.7 |
| 10 | 15 | 19 | 22 | 17 | 40 | 84 | 145 | 244 | 216 | 37 | 16 | 7.4 |
| 11 | 16 | 18 | 21 | 18 | 46 | 90 | 176 | 199 | 158 | 35 | 15 | 7.2 |
| 12 | 15 | 18 | 20 | 18 | 51 | 76 | 204 | 190 | 144 | 34 | 14 | 7.2 |
| 13 | 14 | 18 | 20 | 57 | 48 | 74 | 233 | 200 | 138 | e34 | 14 | 7.2 |
| 14 | 14 | 18 | 19 | 49 | 36 | 74 | 268 | 191 | 120 | e33 | 14 | 7.2 |
| 15 | 14 | 18 | 20 | 33 | 33 | 84 | 282 | 168 | 111 | e32 | 14 | 7.1 |
| 16 | 14 | 17 | 18 | 33 | 38 | 97 | 282 | 170 | 99 | e31 | 14 | 7.0 |
| 17 | 14 | 17 | 18 | 32 | 35 | 104 | 215 | 168 | 92 | e31 | 14 | 7.0 |
| 18 | 14 | 16 | 17 | 32 | 42 | 118 | 180 | 150 | 94 | e30 | 14 | 7.2 |
| 19 | 13 | 16 | 16 | 32 | 41 | 126 | 168 | 151 | 92 | e30 | 14 | 7.3 |
| 20 | 13 | 16 | 16 | 31 | 44 | 134 | 169 | 126 | 91 | e29 | 14 | 8.6 |
| 21 | 14 | 16 | 16 | 31 | 47 | 150 | 156 | 140 | 95 | e29 | 13 | 8.6 |
| 22 | 22 | 16 | 16 | 32 | 49 | 156 | 146 | 165 | 97 | e28 | 13 | 12 |
| 23 | 19 | 16 | 16 | 32 | 61 | 160 | 183 | 176 | 93 | e28 | 13 | 11 |
| 24 | 29 | 16 | 15 | 34 | 66 | 171 | 171 | 184 | 87 | 27 | 12 | 11 |
| 25 | 75 | 16 | 15 | 35 | 67 | 172 | 155 | 154 | 82 | e27 | 12 | 11 |
| 26 | 52 | 80 | 15 | 35 | 71 | 171 | 194 | 135 | 76 | e25 | 12 | 11 |
| 27 | 50 | 28 | 15 | 33 | 75 | 166 | 261 | 146 | 70 | 21 | 12 | 12 |
| 28 | 43 | 26 | 15 | 32 | 78 | 147 | 302 | 316 | 66 | 20 | 11 | 13 |
| 29 | 37 | 26 | 16 | 32 | --- | 128 | 273 | 253 | 62 | 20 | 9.7 | 12 |
| 30 | 34 | 26 | 15 | 33 | --- | 116 | 201 | 264 | 59 | 19 | 9.7 | e12 |
| 31 | 30 | --- | 16 | 31 | --- | 110 | --- | 219 | --- | 18 | 9.7 | --- |
| TOTAL | 731 | 662 | 603 | 876 | 1287 | 3477 | 5575 | 6292 | 3982 | 1065 | 425.1 | 268.0 |
| MEAN | 23.6 | 22.1 | 19.5 | 28.3 | 46.0 | 112 | 186 | 203 | 133 | 34.4 | 13.7 | 8.93 |
| MAX | 75 | 80 | 26 | 57 | 78 | 172 | 302 | 316 | 222 | 60 | 17 | 13 |
| MIN | 13 | 16 | 15 | 15 | 32 | 74 | 122 | 126 | 59 | 18 | 9.7 | 7.0 |
| AC-FT | 1450 | 1310 | 1200 | 1740 | 2550 | 6900 | 11060 | 12480 | 7900 | 2110 | 843 | 532 |

CAL YR 1989 TOTAL 36575.7 MEAN 100 MAX 459 MIN 9.7 AC-FT 72550
WTR YR 1990 TOTAL 25243.1 MEAN 69.2 MAX 316 MIN 7.0 AC-FT 50070

e Estimated.

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 mi².

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.--Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mi upstream from station. Water is returned to Kaweah River 2.7 mi downstream from confluence of Marble and Middle Forks. Diversion during water year 1990 occurred Oct. 1-12, Oct. 23 to Dec. 29, and Jan. 9 to July 13. 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: 40 years, 77.2 ft³/s, 55,930 acre-ft/yr.
Combined river and diversion: 40 years, 101 ft³/s, 73,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 12,500 ft³/s, Dec. 23, 1955, gage height, 13.4 ft, from rating curve extended above 1,100 ft³/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 ft³/s, Dec. 23, 1955; minimum daily, 0.82 ft³/s, Oct. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 253 ft³/s, Apr. 27, gage height, 4.59 ft; minimum daily, 2.0 ft³/s, Nov. 1-5.
Combined flow, maximum daily discharge, 195 ft³/s, May 6; minimum daily, 2.5 ft³/s, Sept. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|-------|-------|------|------|------|------|-------|-------|------|
| 1 | 4.8 | 2.0 | 2.5 | 6.4 | 7.8 | 11 | 32 | 71 | 67 | 8.7 | 3.8 | 4.4 |
| 2 | 4.0 | 2.0 | 2.5 | 8.0 | 7.7 | 11 | 45 | 79 | 67 | 7.5 | 3.9 | 3.6 |
| 3 | 4.0 | 2.0 | 2.5 | 6.8 | 7.5 | 12 | 48 | 90 | 81 | 7.3 | 3.8 | 3.3 |
| 4 | 3.0 | 2.0 | 2.5 | 6.6 | 7.8 | 11 | 46 | 119 | 83 | 7.1 | 3.7 | 3.1 |
| 5 | 2.2 | 2.0 | 2.7 | 7.1 | 7.6 | 10 | 37 | 148 | 88 | 6.9 | 3.5 | 3.2 |
| 6 | 2.3 | 2.1 | 2.7 | 7.2 | 7.5 | 11 | 46 | 164 | 83 | 6.8 | 3.3 | 3.1 |
| 7 | 2.2 | 2.3 | 2.7 | 7.2 | 7.7 | 11 | 57 | 151 | 72 | 6.8 | 3.7 | 3.3 |
| 8 | 2.2 | 2.3 | 2.7 | 7.6 | 7.5 | 11 | 52 | 137 | 75 | 6.7 | 4.6 | 3.4 |
| 9 | 2.3 | 2.3 | 2.7 | 8.3 | 7.5 | 11 | 42 | 131 | 74 | 7.4 | 5.6 | 3.5 |
| 10 | 2.7 | 2.3 | 2.7 | 8.0 | 7.5 | 11 | 64 | 115 | 76 | 8.6 | 6.1 | 3.4 |
| 11 | 2.7 | 2.3 | 2.7 | 8.2 | 7.5 | 11 | 88 | 87 | 42 | 8.6 | 5.8 | 3.2 |
| 12 | 3.6 | 2.3 | 2.7 | 8.1 | 7.5 | 11 | 97 | 87 | 42 | 8.4 | 5.1 | 3.0 |
| 13 | 4.0 | 2.5 | 2.9 | 10 | 7.5 | 11 | 116 | 91 | 39 | 8.6 | 4.7 | 3.1 |
| 14 | 4.0 | 2.5 | 3.1 | 7.8 | 7.5 | 11 | 131 | 85 | 26 | 8.2 | 5.0 | 3.2 |
| 15 | 4.3 | 2.5 | 3.1 | 7.8 | 7.5 | 11 | 135 | 71 | 24 | 7.7 | 4.9 | 3.1 |
| 16 | 4.3 | 2.6 | 3.3 | 7.9 | 7.6 | 11 | 134 | 74 | 18 | 7.3 | 4.6 | 2.8 |
| 17 | 4.4 | 2.7 | 3.3 | 7.8 | 7.8 | 14 | 78 | 69 | 20 | 7.3 | 4.7 | 2.7 |
| 18 | 4.1 | 2.7 | 3.3 | 7.8 | 7.8 | 28 | 62 | 59 | 23 | 7.0 | 4.8 | 2.7 |
| 19 | 4.0 | 2.7 | 3.3 | 7.8 | 7.8 | 32 | 63 | 61 | 19 | 6.6 | 5.0 | 2.7 |
| 20 | 4.0 | 2.7 | 3.3 | 7.6 | 7.8 | 31 | 68 | 49 | 18 | 6.4 | 5.3 | 2.5 |
| 21 | 4.1 | 2.7 | 3.3 | 7.4 | 7.8 | 47 | 61 | 61 | 19 | 6.0 | 5.3 | 3.3 |
| 22 | 6.1 | 2.7 | 3.3 | 7.5 | 7.8 | 57 | 64 | 75 | 15 | 5.1 | 5.0 | 3.5 |
| 23 | 5.6 | 2.7 | 3.3 | 7.5 | 7.8 | 57 | 75 | 73 | 11 | 4.8 | 4.9 | 3.7 |
| 24 | 5.4 | 2.7 | 3.3 | 7.7 | 7.8 | 68 | 66 | 66 | 11 | 4.6 | 4.7 | 3.5 |
| 25 | 17 | 2.8 | 3.3 | 7.7 | 7.8 | 68 | 63 | 57 | 11 | 4.5 | 4.7 | 3.6 |
| 26 | 7.1 | 7.9 | 3.3 | 7.7 | 7.8 | 65 | 101 | 46 | 10 | 4.4 | 4.8 | 3.2 |
| 27 | 3.5 | 2.5 | 3.3 | 7.7 | 7.8 | 66 | 145 | 51 | 10 | 4.4 | 5.0 | 3.4 |
| 28 | 2.2 | 2.5 | 3.3 | 7.5 | 9.4 | 50 | 156 | 125 | 10 | 4.2 | 4.8 | 3.7 |
| 29 | 2.2 | 2.4 | 5.4 | 7.5 | --- | 34 | 125 | 108 | 10 | 4.1 | 4.3 | 3.9 |
| 30 | 2.2 | 2.3 | 5.9 | 7.7 | --- | 28 | 92 | 115 | 10 | 3.9 | 4.4 | 3.4 |
| 31 | 2.1 | --- | 6.3 | 7.7 | --- | 25 | --- | 82 | --- | 3.8 | 4.5 | --- |
| TOTAL | 126.6 | 78.0 | 101.2 | 237.6 | 216.4 | 846 | 2389 | 2797 | 1154 | 199.7 | 144.3 | 98.5 |
| MEAN | 4.08 | 2.60 | 3.26 | 7.66 | 7.73 | 27.3 | 79.6 | 90.2 | 38.5 | 6.44 | 4.65 | 3.28 |
| MAX | 17 | 7.9 | 6.3 | 10 | 9.4 | 68 | 156 | 164 | 88 | 8.7 | 6.1 | 4.4 |
| MIN | 2.1 | 2.0 | 2.5 | 6.4 | 7.5 | 10 | 32 | 46 | 10 | 3.8 | 3.3 | 2.5 |
| AC-FT | 251 | 155 | 201 | 471 | 429 | 1680 | 4740 | 5550 | 2290 | 396 | 286 | 195 |

CAL YR 1989 TOTAL 14441.5 MEAN 39.6 MAX 269 MIN 2.0 AC-FT 28640
WTR YR 1990 TOTAL 8388.3 MEAN 23.0 MAX 164 MIN 2.0 AC-FT 16640

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 1989 TO SEPTEMBER 1990

MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|------|
| 1 | 6.5 | 11 | 9.7 | 6.4 | 14 | 40 | 61 | 101 | 97 | 17 | 3.8 | 4.4 |
| 2 | 6.4 | 10 | 9.7 | 8.0 | 13 | 34 | 74 | 109 | 97 | 17 | 3.9 | 3.6 |
| 3 | 6.2 | 9.7 | 10 | 6.8 | 13 | 48 | 77 | 120 | 111 | 16 | 3.8 | 3.3 |
| 4 | 6.1 | 9.2 | 10 | 6.6 | 14 | 43 | 75 | 150 | 113 | 15 | 3.7 | 3.1 |
| 5 | 5.9 | 9.0 | 11 | 7.1 | 13 | 36 | 66 | 179 | 118 | 13 | 3.5 | 3.2 |
| 6 | 5.8 | 9.1 | 11 | 7.2 | 15 | 32 | 75 | 195 | 113 | 13 | 3.3 | 3.1 |
| 7 | 5.6 | 9.3 | 10 | 7.2 | 15 | 32 | 87 | 182 | 102 | 12 | 3.7 | 3.3 |
| 8 | 5.4 | 8.8 | 10 | 7.6 | 13 | 34 | 81 | 168 | 105 | 11 | 4.6 | 3.4 |
| 9 | 5.0 | 8.3 | 10 | e9.0 | 14 | 34 | 71 | 162 | 104 | 10 | 5.6 | 3.5 |
| 10 | 5.1 | 8.1 | 10 | e8.9 | 15 | 39 | 94 | 145 | 106 | 9.8 | 6.1 | 3.4 |
| 11 | 5.1 | 7.9 | 9.3 | e8.9 | 18 | 38 | 119 | 117 | 71 | 9.3 | 5.8 | 3.2 |
| 12 | 4.5 | 7.6 | 8.8 | e9.2 | 21 | 31 | 129 | 117 | 71 | 8.7 | 5.1 | 3.0 |
| 13 | 4.0 | 7.8 | 9.2 | e20 | 21 | 28 | 148 | 121 | 68 | 8.7 | 4.7 | 3.1 |
| 14 | 4.0 | 7.7 | 9.1 | 16 | 15 | 27 | 163 | 115 | 54 | 8.2 | 5.0 | 3.2 |
| 15 | 4.3 | 7.4 | 8.9 | 13 | 13 | 30 | 167 | 101 | 52 | 7.7 | 4.9 | 3.1 |
| 16 | 4.3 | 7.3 | 9.0 | 15 | 17 | 40 | 166 | 104 | 45 | 7.3 | 4.6 | 2.8 |
| 17 | 4.4 | 7.0 | 8.5 | 14 | 14 | 46 | 109 | 99 | 47 | 7.3 | 4.7 | 2.7 |
| 18 | 4.1 | 6.8 | 8.4 | 14 | 19 | 58 | 92 | 88 | 50 | 7.0 | 4.8 | 2.7 |
| 19 | 4.0 | 6.8 | 8.6 | 13 | 19 | 62 | 93 | 90 | 46 | 6.6 | 5.0 | 2.7 |
| 20 | 4.0 | 6.6 | 8.3 | 12 | 17 | 61 | 98 | 78 | 45 | 6.4 | 5.3 | 2.5 |
| 21 | 4.1 | 6.4 | 8.6 | 12 | 17 | 78 | 91 | 90 | 46 | 6.0 | 5.3 | 3.3 |
| 22 | 6.1 | 6.4 | 8.2 | 13 | 16 | 88 | 94 | 105 | 43 | 5.1 | 5.0 | 3.5 |
| 23 | 6.3 | 6.2 | 8.2 | 12 | 20 | 87 | 105 | 103 | 38 | 4.8 | 4.9 | 3.7 |
| 24 | 8.6 | 6.2 | 8.2 | 14 | 24 | 99 | 96 | 95 | 33 | 4.6 | 4.7 | 3.5 |
| 25 | 27 | 6.6 | 8.0 | 14 | 26 | 99 | 93 | 86 | 30 | 4.5 | 4.7 | 3.6 |
| 26 | 24 | 26 | 8.0 | 15 | 29 | 96 | 131 | 75 | 26 | 4.4 | 4.8 | 3.2 |
| 27 | 27 | 11 | 7.8 | 14 | 36 | 96 | 176 | 80 | 23 | 4.4 | 5.0 | 3.4 |
| 28 | 22 | 9.5 | 7.6 | 14 | 38 | 80 | 187 | 156 | 21 | 4.2 | 4.8 | 3.7 |
| 29 | 17 | 10 | 7.0 | 14 | --- | 63 | 156 | 139 | 19 | 4.1 | 4.3 | 3.9 |
| 30 | 15 | 9.8 | 5.9 | 15 | --- | 57 | 122 | 146 | 18 | 3.9 | 4.4 | 3.4 |
| 31 | 13 | --- | 6.3 | 14 | --- | 54 | --- | 112 | --- | 3.8 | 4.5 | --- |
| TOTAL | 270.8 | 263.5 | 273.3 | 360.9 | 519 | 1690 | 3296 | 3728 | 1912 | 260.8 | 144.3 | 98.5 |
| MEAN | 8.74 | 8.78 | 8.82 | 11.6 | 18.5 | 54.5 | 110 | 120 | 63.7 | 8.41 | 4.65 | 3.28 |
| MAX | 27 | 26 | 11 | 20 | 38 | 99 | 187 | 195 | 118 | 17 | 6.1 | 4.4 |
| MIN | 4.0 | 6.2 | 5.9 | 6.4 | 13 | 27 | 61 | 75 | 18 | 3.8 | 3.3 | 2.5 |
| AC-FT | 537 | 523 | 542 | 716 | 1030 | 3350 | 6540 | 7390 | 3790 | 517 | 286 | 195 |

CAL YR 1989 TOTAL 19585.0 MEAN 53.7 MAX 302 MIN 2.2 AC-FT 38850
WTR YR 1990 TOTAL 12817.1 MEAN 35.1 MAX 195 MIN 2.5 AC-FT 25420

e Estimated.

TULARE LAKE BASIN

147

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 mi².

PERIOD OF RECORD.--October 1958 to September 1990 (discontinued).

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 upstream from station. Power is developed on the Middle and East Forks Kaweah River.

AVERAGE DISCHARGE.--32 years, 538 ft³/s, 389,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft³/s, Dec. 5, 1966, gage height, 16.69 ft in gage well, 19.0 ft from floodmarks, from rating curve extended above 13,000 ft³/s on basis of slope-area measurements at gage heights 13.68 and 16.69 ft; minimum daily, 14 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|-------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 7 | 0100 | *1,010 | *5.67 | | | | |

Minimum daily, 16 ft³/s, Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|-------|------|------|------|
| 1 | 40 | 58 | 55 | 37 | 90 | 194 | 291 | 429 | 468 | 108 | 31 | 19 |
| 2 | 37 | 54 | 55 | 57 | 83 | 176 | 324 | 419 | 420 | 104 | 31 | 18 |
| 3 | 37 | 51 | 54 | 53 | 84 | 247 | 332 | 452 | 456 | 102 | 30 | 16 |
| 4 | 37 | 49 | 54 | 46 | 96 | 229 | 346 | 551 | 467 | 96 | 29 | 17 |
| 5 | 35 | 48 | 55 | 44 | 88 | 245 | 314 | 678 | 489 | 90 | 28 | 17 |
| 6 | 34 | 47 | 57 | 44 | 95 | 206 | 330 | 770 | 484 | 86 | 27 | 21 |
| 7 | 33 | 47 | 56 | 44 | 108 | 211 | 353 | 763 | 427 | 82 | 28 | 22 |
| 8 | 32 | 46 | 53 | 46 | 91 | 205 | 355 | 698 | 429 | 77 | 28 | 21 |
| 9 | 30 | 43 | 52 | 49 | 91 | 197 | 317 | 662 | 440 | 71 | 28 | 21 |
| 10 | 29 | 41 | 52 | 48 | 94 | 207 | 352 | 639 | 446 | 67 | 29 | 20 |
| 11 | 28 | 40 | 49 | 46 | 102 | 239 | 440 | 501 | 333 | 65 | 28 | 19 |
| 12 | 26 | 38 | 46 | 47 | 116 | 210 | 510 | 466 | 304 | 63 | 26 | 18 |
| 13 | 27 | 37 | 46 | 105 | 122 | 186 | 580 | 497 | 282 | 62 | 25 | 17 |
| 14 | 27 | 36 | 46 | 197 | 99 | 184 | 669 | 468 | 248 | 60 | 25 | 18 |
| 15 | 27 | 36 | 48 | 112 | 80 | 191 | 693 | 410 | 233 | 70 | 25 | 18 |
| 16 | 28 | 35 | 43 | 119 | 96 | 229 | 735 | 402 | 220 | 71 | 25 | 18 |
| 17 | 28 | 34 | 41 | 115 | 118 | 241 | 535 | 394 | 205 | 62 | 24 | 18 |
| 18 | 26 | 34 | 40 | 96 | 131 | 287 | 438 | 355 | 206 | 58 | 25 | 18 |
| 19 | 25 | 33 | 40 | 91 | 107 | 315 | 407 | 353 | 200 | 61 | 26 | 19 |
| 20 | 24 | 32 | 40 | 84 | 115 | 310 | 412 | 303 | 194 | 57 | 26 | 21 |
| 21 | 25 | 32 | 40 | 81 | 112 | 384 | 393 | 315 | 193 | 52 | 20 | 22 |
| 22 | 36 | 32 | 40 | 82 | 114 | 408 | 381 | 368 | 191 | 50 | 24 | 24 |
| 23 | 41 | 31 | 39 | 80 | 131 | 406 | 434 | 390 | 179 | 40 | 24 | 26 |
| 24 | 43 | 31 | 39 | 84 | 148 | 440 | 456 | 390 | 164 | 43 | 24 | 26 |
| 25 | 113 | 32 | 39 | 87 | 155 | 451 | 389 | 382 | 151 | 41 | 25 | 26 |
| 26 | 120 | 156 | 38 | 88 | 159 | 431 | 468 | 310 | 141 | 39 | 23 | 24 |
| 27 | 108 | 91 | 38 | 85 | 170 | 443 | 643 | 299 | 131 | 43 | 23 | 24 |
| 28 | 94 | 62 | 37 | 82 | 184 | 385 | 769 | 785 | 123 | 38 | 21 | 31 |
| 29 | 81 | 59 | 36 | 81 | --- | 332 | 719 | 617 | 118 | 36 | 19 | 28 |
| 30 | 69 | 57 | 36 | 83 | --- | 294 | 547 | 671 | 111 | 34 | 17 | 26 |
| 31 | 59 | --- | 37 | 84 | --- | 273 | --- | 540 | --- | 32 | 18 | --- |
| TOTAL | 1399 | 1422 | 1401 | 2397 | 3179 | 8756 | 13932 | 15277 | 8453 | 1960 | 782 | 633 |
| MEAN | 45.1 | 47.4 | 45.2 | 77.3 | 114 | 282 | 464 | 493 | 282 | 63.2 | 25.2 | 21.1 |
| MAX | 120 | 156 | 57 | 197 | 184 | 451 | 769 | 785 | 489 | 108 | 31 | 31 |
| MIN | 24 | 31 | 36 | 37 | 80 | 176 | 291 | 299 | 111 | 32 | 17 | 16 |
| AC-FT | 2770 | 2820 | 2780 | 4750 | 6310 | 17370 | 27630 | 30300 | 16770 | 3890 | 1550 | 1260 |

CAL YR 1989 TOTAL 91485 MEAN 251 MAX 1190 MIN 18 AC-FT 181500
WTR YR 1990 TOTAL 59591 MEAN 163 MAX 785 MIN 16 AC-FT 118200

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 mi².

PERIOD OF RECORD.--October 1958 to September 1990 (discontinued).

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 upstream from station for irrigation.

AVERAGE DISCHARGE.--32 years, 71.0 ft³/s, 51,440 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s, Dec. 6, 1966, gage height, 9.30 ft in gage well, 10.4 ft from floodmarks, from rating curve extended above 2,600 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 1130 | *233 | *2.91 | | | | |

Minimum daily, 0.03 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|------|------|
| 1 | 1.5 | 4.2 | 4.4 | 4.1 | 10 | 18 | 24 | 62 | 86 | 3.8 | .13 | .07 |
| 2 | 1.4 | 3.6 | 4.4 | 6.4 | 9.8 | 17 | 25 | 58 | 71 | 3.3 | .13 | .06 |
| 3 | 1.4 | 3.4 | 4.3 | 5.7 | 9.0 | 23 | 25 | 69 | 60 | 3.1 | .13 | .05 |
| 4 | 1.4 | 3.5 | 4.3 | 4.9 | 11 | 23 | 27 | 88 | 51 | 2.8 | .13 | .05 |
| 5 | 1.5 | 3.2 | 4.5 | 4.8 | 11 | 36 | 27 | 104 | 45 | 2.7 | .14 | .05 |
| 6 | 1.5 | 2.9 | 4.6 | 4.8 | 10 | 28 | 28 | 117 | 41 | 2.4 | .10 | .05 |
| 7 | 1.5 | 3.2 | 4.8 | 4.6 | 13 | 28 | 32 | 113 | 38 | 2.4 | .08 | .05 |
| 8 | 1.3 | 3.3 | 4.6 | 4.7 | 11 | 25 | 33 | 101 | 34 | 2.1 | .08 | .05 |
| 9 | 1.2 | 3.2 | 4.6 | 5.1 | 9.9 | 23 | 29 | 93 | 31 | 1.8 | .07 | .05 |
| 10 | .90 | 3.3 | 4.6 | 5.2 | 9.6 | 21 | 34 | 90 | 32 | 1.3 | .07 | .03 |
| 11 | .89 | 3.1 | 4.7 | 4.8 | 9.7 | 32 | 44 | 76 | 30 | 1.1 | .06 | .04 |
| 12 | .93 | 2.8 | 4.8 | 5.1 | 10 | 28 | 55 | 70 | 27 | 1.1 | .06 | .04 |
| 13 | .89 | 3.1 | 4.7 | 11 | 11 | 24 | 70 | 68 | 23 | .95 | .06 | .04 |
| 14 | 1.1 | 3.1 | 4.4 | 19 | 10 | 24 | 103 | 62 | 22 | .88 | .06 | .04 |
| 15 | 1.2 | 2.9 | 4.4 | 11 | 8.8 | 23 | 94 | 58 | 22 | .60 | .07 | .05 |
| 16 | 1.5 | 2.8 | 4.5 | 15 | 9.7 | 29 | 93 | 53 | 22 | .38 | .07 | .04 |
| 17 | 1.6 | 2.9 | 4.5 | 17 | 16 | 30 | 61 | 50 | 19 | .29 | .07 | .04 |
| 18 | 1.5 | 2.8 | 4.4 | 11 | 18 | 31 | 47 | 47 | 17 | .35 | .07 | .04 |
| 19 | 1.4 | 2.8 | 4.6 | 9.8 | 14 | 31 | 44 | 44 | 16 | .34 | .07 | .06 |
| 20 | 1.4 | 2.9 | 4.6 | 9.0 | 13 | 32 | 57 | 40 | 14 | .29 | .07 | .07 |
| 21 | 1.6 | 2.7 | 4.6 | 8.4 | 13 | 35 | 53 | 38 | 12 | .27 | .06 | .07 |
| 22 | 2.2 | 2.6 | 4.1 | 8.0 | 13 | 34 | 64 | 38 | 10 | .23 | .06 | .08 |
| 23 | 3.1 | 2.6 | 4.1 | 7.8 | 14 | 34 | 67 | 38 | 9.1 | .22 | .06 | .08 |
| 24 | 3.4 | 2.8 | 4.0 | 7.4 | 15 | 35 | 61 | 44 | 8.1 | .21 | .06 | .05 |
| 25 | 4.7 | 3.2 | 4.2 | 8.1 | 16 | 35 | 55 | 53 | 7.3 | .20 | .06 | .04 |
| 26 | 6.2 | 9.3 | 4.3 | 8.3 | 17 | 35 | 71 | 41 | 6.5 | .19 | .08 | .05 |
| 27 | 5.2 | 7.2 | 4.0 | 8.2 | 17 | 36 | 106 | 40 | 5.6 | .17 | .08 | .06 |
| 28 | 4.8 | 5.3 | 3.7 | 8.1 | 18 | 35 | 127 | 138 | 5.2 | .17 | .07 | .05 |
| 29 | 4.5 | 4.8 | 3.9 | 7.9 | --- | 31 | 125 | 103 | 4.8 | .13 | .07 | .04 |
| 30 | 4.2 | 4.6 | 4.0 | 8.0 | --- | 28 | 85 | 122 | 4.3 | .13 | .07 | .04 |
| 31 | 4.0 | --- | 3.9 | 8.6 | --- | 24 | --- | 106 | --- | .13 | .07 | --- |
| TOTAL | 69.91 | 108.1 | 135.5 | 251.8 | 347.5 | 888 | 1766 | 2224 | 773.9 | 34.03 | 2.46 | 1.53 |
| MEAN | 2.26 | 3.60 | 4.37 | 8.12 | 12.4 | 28.6 | 58.9 | 71.7 | 25.8 | 1.10 | .079 | .051 |
| MAX | 6.2 | 9.3 | 4.8 | 19 | 18 | 36 | 127 | 138 | 86 | 3.8 | .14 | .08 |
| MIN | .89 | 2.6 | 3.7 | 4.1 | 8.8 | 17 | 24 | 38 | 4.3 | .13 | .06 | .03 |
| AC-FT | 139 | 214 | 269 | 499 | 689 | 1760 | 3500 | 4410 | 1540 | 67 | 4.9 | 3.0 |

CAL YR 1989 TOTAL 11632.87 MEAN 31.9 MAX 211 MIN .06 AC-FT 23070
WTR YR 1990 TOTAL 6602.73 MEAN 18.1 MAX 138 MIN .03 AC-FT 13100

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 right bank 75 ft downstream from outlet tunnel of Terminus Dam and 2.4 mi northeast of Lemoncove.

PERIOD OF RECORD.--June 1962 to September 1990 (discontinued).

GAGE.--Water-stage recorder and artificial control. Prior to Dec. 18, 1987, water-stage recorder and Parshall flume at site 175 ft downstream at same datum. 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) after passing through Terminus Powerplant, and is used for irrigation. At times up to 3 ft³/s is diverted 25 ft upstream into Doffelmyer ditch for irrigation.

AVERAGE DISCHARGE.--28 years, 4.88 ft³/s, 3,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 23 ft³/s, Nov. 1-13, 1989; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|-------|------|-------|-------|--------|-------|-------|-------|-------|
| 1 | 6.2 | 23 | 2.4 | 3.1 | .00 | .28 | 7.7 | 7.5 | 2.5 | 8.4 | 8.1 | 6.8 |
| 2 | 6.2 | 23 | 2.4 | 3.1 | .00 | .21 | 7.7 | 6.9 | 3.9 | 8.4 | 8.1 | 6.8 |
| 3 | 6.2 | 23 | 2.4 | 2.4 | .00 | .13 | 8.4 | 6.8 | 4.7 | 8.3 | 8.1 | 5.3 |
| 4 | 6.2 | 23 | 2.4 | 2.0 | .00 | .13 | 7.7 | 6.5 | 6.9 | 8.3 | 8.1 | 6.2 |
| 5 | 6.2 | 23 | 2.4 | 2.1 | .00 | .13 | 7.5 | 6.0 | 8.2 | 8.3 | 8.1 | 7.8 |
| 6 | 5.8 | 23 | 2.4 | 2.1 | .00 | .05 | 6.1 | 6.0 | 8.3 | 8.3 | 8.2 | 8.3 |
| 7 | 5.5 | 23 | 2.4 | 2.0 | .00 | .00 | 5.3 | 6.0 | 8.2 | 8.4 | 8.2 | 8.3 |
| 8 | 5.5 | 23 | 2.6 | .88 | .00 | .00 | 5.1 | 7.1 | 8.2 | 8.5 | 8.2 | 8.3 |
| 9 | 5.5 | 23 | 3.0 | .23 | .00 | .00 | 4.7 | 7.7 | 8.2 | 8.3 | 8.2 | 8.3 |
| 10 | 5.5 | 23 | 3.0 | .23 | .00 | .12 | 4.2 | 7.8 | 8.2 | 8.1 | 8.2 | 8.3 |
| 11 | 5.6 | 23 | 3.1 | .09 | .00 | .06 | 5.4 | 7.8 | 8.2 | 8.3 | 8.2 | 8.3 |
| 12 | 5.5 | 23 | 3.2 | .00 | .00 | .00 | 6.1 | 7.8 | 8.2 | 8.7 | 8.2 | 8.3 |
| 13 | 5.8 | 23 | 3.1 | .00 | .00 | .00 | 6.5 | 7.8 | 8.2 | 8.4 | 8.2 | 8.4 |
| 14 | 6.0 | 10 | 3.1 | .00 | .00 | .00 | 6.5 | 7.8 | 8.2 | 8.2 | 8.2 | 8.4 |
| 15 | 6.0 | 4.0 | 3.1 | .03 | .00 | .00 | 6.2 | 7.8 | 7.3 | 8.2 | 8.2 | 7.6 |
| 16 | 6.0 | 4.1 | 3.1 | .00 | .00 | .00 | 4.9 | 7.8 | 6.7 | 8.3 | 8.2 | 6.7 |
| 17 | 6.0 | 4.1 | 3.1 | .00 | .00 | .00 | 4.1 | 7.8 | 6.7 | 8.4 | 8.2 | 6.7 |
| 18 | 5.9 | 4.0 | 3.1 | .00 | .00 | .00 | 4.9 | 7.9 | 7.7 | 8.2 | 8.2 | 7.7 |
| 19 | 5.9 | 4.0 | 3.1 | .00 | .00 | .00 | 7.0 | 7.9 | 8.3 | 7.5 | 8.2 | 8.3 |
| 20 | 5.9 | 4.0 | 3.2 | .00 | .00 | .00 | 7.7 | 6.9 | 8.4 | 8.2 | 7.6 | 8.4 |
| 21 | 5.9 | 4.0 | 3.1 | .00 | .00 | .00 | 7.7 | 6.4 | 8.4 | 8.1 | 7.3 | 8.4 |
| 22 | 5.9 | 4.0 | 3.1 | .00 | .13 | .00 | 7.7 | 5.1 | 8.4 | 8.1 | 8.0 | 8.4 |
| 23 | 5.9 | 4.1 | 3.1 | .00 | .05 | .12 | 4.7 | 5.4 | 8.4 | 8.1 | 8.3 | 7.3 |
| 24 | 5.9 | 4.1 | 3.1 | .00 | .00 | .13 | 2.5 | 6.2 | 8.4 | 8.1 | 8.3 | 6.2 |
| 25 | 5.9 | 4.0 | 3.2 | .00 | .00 | .13 | 2.2 | 6.2 | 8.4 | 8.0 | 8.3 | 5.8 |
| 26 | 5.3 | 4.1 | 3.2 | .02 | .12 | 1.4 | 2.2 | 6.2 | 8.0 | 8.1 | 8.3 | 6.9 |
| 27 | 3.6 | 3.1 | 3.2 | .00 | .13 | 5.7 | 2.2 | 6.2 | 8.0 | 8.1 | 8.3 | 7.7 |
| 28 | 4.1 | 2.4 | 3.1 | .00 | .13 | 7.7 | 2.2 | 2.0 | 8.3 | 8.1 | 8.2 | 7.7 |
| 29 | 4.1 | 2.4 | 3.1 | .00 | --- | 7.7 | 4.7 | .13 | 8.4 | 8.1 | 8.2 | 7.7 |
| 30 | 14 | 2.4 | 3.1 | .00 | --- | 7.8 | 7.0 | .13 | 8.4 | 7.9 | 7.4 | 7.6 |
| 31 | 22 | --- | 3.1 | .00 | --- | 7.7 | --- | 1.7 | --- | 8.0 | 6.8 | --- |
| TOTAL | 200.0 | 367.8 | 91.0 | 18.28 | 0.56 | 39.49 | 166.8 | 191.26 | 228.3 | 254.4 | 250.3 | 226.9 |
| MEAN | 6.45 | 12.3 | 2.94 | .59 | .020 | 1.27 | 5.56 | 6.17 | 7.61 | 8.21 | 8.07 | 7.56 |
| MAX | 22 | 23 | 3.2 | 3.1 | .13 | 7.8 | 8.4 | 7.9 | 8.4 | 8.7 | 8.3 | 8.4 |
| MIN | 3.6 | 2.4 | 2.4 | .00 | .00 | .00 | 2.2 | .13 | 2.5 | 7.5 | 6.8 | 5.3 |
| AC-FT | 397 | 730 | 180 | 36 | 1.1 | 78 | 331 | 379 | 453 | 505 | 496 | 450 |

CAL YR 1989 TOTAL 2053.12 MEAN 5.62 MAX 23 MIN .18 AC-FT 4070
WTR YR 1990 TOTAL 2035.09 MEAN 5.58 MAX 23 MIN .00 AC-FT 4040

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 mi².

PERIOD OF RECORD.--October 1961 to September 1990 (discontinued). 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, 5,589 acre-ft, Oct. 18, 1988, elevation, 564.87 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 88,804 acre-ft, June 1, elevation, 662.73 ft; minimum, 6,980 acre-ft, Oct. 21, elevation, 570.28 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

| | | | | | | | |
|-----|-----|-----|-------|-----|--------|-----|---------|
| 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 |

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 7086 | 8370 | 9396 | 8867 | 10068 | 12763 | 30252 | 58363 | 88804 | 50818 | 14228 | 10910 |
| 2 | 7098 | 8453 | 9382 | 8923 | 10258 | 13132 | 30878 | 59226 | 88758 | 49342 | 13698 | 10707 |
| 3 | 7101 | 8534 | 9365 | 8964 | 10431 | 13641 | 31555 | 60171 | 88681 | 47846 | 13394 | 10500 |
| 4 | 7095 | 8606 | 9347 | 8981 | 10665 | 14141 | 32233 | 61329 | 88496 | 46333 | 13114 | 10299 |
| 5 | 7086 | 8674 | 9333 | 8994 | 10867 | 14685 | 32779 | 62758 | 88235 | 44838 | 12848 | 10116 |
| 6 | 7075 | 8744 | 9320 | 9004 | 11073 | 15108 | 33358 | 64400 | 87851 | 43402 | 12705 | 9950 |
| 7 | 7064 | 8810 | 9309 | 9014 | 11318 | 15493 | 34042 | 66078 | 87284 | 41964 | 12634 | 9791 |
| 8 | 7050 | 8873 | 9288 | 9031 | 11432 | 15938 | 34745 | 67576 | 86430 | 40564 | 12573 | 9708 |
| 9 | 7033 | 8934 | 9271 | 9052 | 11423 | 16377 | 35197 | 68929 | 85368 | 39223 | 12507 | 9665 |
| 10 | 7025 | 8991 | 9250 | 9079 | 11403 | 16842 | 35737 | 70282 | 84237 | 37861 | 12441 | 9622 |
| 11 | 7025 | 9042 | 9223 | 9096 | 11310 | 17408 | 36414 | 71329 | 82845 | 36499 | 12376 | 9583 |
| 12 | 7019 | 9089 | 9195 | 9130 | 11145 | 17900 | 37061 | 72273 | 81272 | 35123 | 12302 | 9537 |
| 13 | 7014 | 9133 | 9157 | 9250 | 10954 | 18315 | 38201 | 73280 | 79611 | 33744 | 12250 | 9480 |
| 14 | 7011 | 9157 | 9127 | 9658 | 10719 | 18653 | 39600 | 74208 | 77881 | 32356 | 12211 | 9424 |
| 15 | 7008 | 9164 | 9093 | 9863 | 10443 | 19026 | 41041 | 75044 | 76241 | 31049 | 12164 | 9372 |
| 16 | 7005 | 9157 | 9059 | 10068 | 10213 | 19490 | 42565 | 75826 | 74774 | 29710 | 12125 | 9316 |
| 17 | 7002 | 9133 | 9014 | 10280 | 10061 | 20058 | 43655 | 76613 | 73406 | 28402 | 12078 | 9257 |
| 18 | 7000 | 9103 | 8974 | 10280 | 9939 | 20721 | 44548 | 77318 | 72065 | 27164 | 12023 | 9205 |
| 19 | 6994 | 9076 | 8927 | 10135 | 9754 | 21393 | 45365 | 78025 | 70667 | 26032 | 11972 | 9157 |
| 20 | 6986 | 9048 | 8903 | 9950 | 9852 | 21920 | 46235 | 78606 | 69201 | 24992 | 11913 | 9113 |
| 21 | 6980 | 9018 | 8903 | 9751 | 10101 | 22634 | 47037 | 79159 | 67657 | 23960 | 11858 | 9072 |
| 22 | 6989 | 8994 | 8907 | 9562 | 10352 | 22924 | 47846 | 79860 | 66091 | 22910 | 11800 | 9042 |
| 23 | 7036 | 8977 | 8903 | 9438 | 10634 | 23782 | 48799 | 80579 | 64505 | 21933 | 11745 | 9025 |
| 24 | 7095 | 8957 | 8903 | 9358 | 10954 | 24750 | 49763 | 81006 | 62913 | 21000 | 11691 | 9008 |
| 25 | 7263 | 8947 | 8900 | 9326 | 11293 | 25745 | 50587 | 81745 | 61278 | 20051 | 11645 | 8994 |
| 26 | 7518 | 9164 | 8897 | 9323 | 11637 | 26475 | 51559 | 82324 | 59553 | 19099 | 11600 | 8977 |
| 27 | 7726 | 9316 | 8893 | 9351 | 11989 | 27290 | 52942 | 82964 | 57780 | 18238 | 11546 | 8960 |
| 28 | 7908 | 9365 | 8893 | 9396 | 12367 | 28041 | 54657 | 84764 | 55999 | 17442 | 11489 | 8950 |
| 29 | 8062 | 9403 | 8887 | 9516 | --- | 28676 | 56292 | 85974 | 54189 | 16633 | 11432 | 8944 |
| 30 | 8174 | 9410 | 8880 | 9686 | --- | 29231 | 57458 | 87452 | 52388 | 15838 | 11301 | 8913 |
| 31 | 8281 | --- | 8870 | 9863 | --- | 29677 | --- | 88527 | --- | 15037 | 11113 | --- |
| MAX | 8281 | 9410 | 9396 | 10280 | 12367 | 29677 | 57458 | 88527 | 88804 | 50818 | 14228 | 10910 |
| MIN | 6980 | 8370 | 8870 | 8867 | 9754 | 12763 | 30252 | 58363 | 52388 | 15037 | 11113 | 8913 |
| a | 574.66 | 578.05 | 576.47 | 579.32 | 585.61 | 613.34 | 640.20 | 662.55 | 635.99 | 591.29 | 582.60 | 576.60 |
| b | +1223 | +1129 | -540 | +993 | +2504 | +17310 | +27781 | +31069 | -36139 | -37351 | -3924 | -2200 |
| c | 182 | 142 | 79 | 55 | 58 | 188 | 478 | 944 | 1241 | 990 | 449 | 323 |

CAL YR 1989 b -4455

WTR YR 1990 b +1855

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Army Corps of Engineers; not reviewed by the U.S. Geological Survey.

TULARE LAKE BASIN

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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 Lemons Cove.

PERIOD OF RECORD.--October 1961 to September 1990 (discontinued).

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.--Records good. Ditch receives water from Lake Kaweah (station 11210900), which is used for irrigation.

AVERAGE DISCHARGE.--29 years, 15.1 ft³/s, 10,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50 ft³/s, Apr. 7, 1979; no flow for many days in 1975, 1978-85, 1987-88 and several days in 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|-------|------|------|-------|-------|-------|------|------|-------|-------|
| 1 | 13 | 9.5 | .09 | .17 | e.07 | .08 | e9.5 | 13 | 18 | 16 | 13 | 13 |
| 2 | 13 | 9.5 | .04 | .15 | .08 | .08 | e12 | 13 | 19 | 16 | 13 | 13 |
| 3 | 13 | 9.5 | .03 | .15 | .08 | .08 | e11 | 13 | 19 | 16 | 13 | 13 |
| 4 | 12 | 9.5 | .03 | .10 | .09 | .09 | e11 | 13 | 19 | 16 | 12 | 13 |
| 5 | 12 | 9.4 | .01 | .08 | .08 | .11 | e14 | 14 | 19 | 16 | 12 | 12 |
| 6 | 12 | 9.4 | .01 | .08 | .08 | .13 | 16 | 15 | 20 | 16 | 12 | 12 |
| 7 | 13 | 9.4 | .01 | e.03 | e.03 | .16 | 15 | 16 | 20 | 16 | 11 | 12 |
| 8 | 12 | 9.4 | .01 | e.03 | e.03 | .14 | 15 | 16 | 18 | 15 | 11 | 12 |
| 9 | 12 | 9.5 | .02 | e.03 | e.03 | .10 | 18 | 15 | 17 | 16 | 11 | 11 |
| 10 | 12 | 9.5 | .03 | e.03 | e.03 | .09 | 15 | 15 | 17 | 16 | 11 | 11 |
| 11 | 12 | 9.3 | .03 | e.03 | e.03 | .15 | 16 | 15 | 17 | 16 | 10 | 11 |
| 12 | 11 | 9.2 | .03 | e.04 | e.03 | .15 | 16 | 15 | 17 | 16 | 9.9 | 11 |
| 13 | 11 | 9.7 | .03 | .09 | e.04 | .16 | 13 | 15 | 17 | 16 | 10 | 11 |
| 14 | 11 | 10 | 3.5 | .08 | .12 | .18 | 12 | 15 | 17 | 16 | 11 | 11 |
| 15 | 11 | 11 | 5.0 | .10 | .09 | .19 | 12 | 15 | 17 | 16 | 11 | 12 |
| 16 | 11 | 11 | 4.8 | .09 | .08 | .17 | 13 | 15 | 17 | 16 | 11 | 12 |
| 17 | 12 | 11 | 4.7 | .08 | .08 | .09 | 13 | 15 | 17 | 15 | 11 | 12 |
| 18 | 12 | 11 | 4.5 | e.03 | .08 | .08 | 13 | 15 | 17 | 15 | 11 | 10 |
| 19 | 12 | 11 | 4.5 | e.03 | .08 | 2.7 | 13 | 15 | 17 | 17 | 11 | 9.1 |
| 20 | 12 | 11 | 4.3 | e.03 | .08 | 5.0 | 13 | 14 | 17 | 17 | 11 | 9.2 |
| 21 | 12 | 11 | 4.1 | e.03 | .08 | e4.5 | 13 | 15 | 17 | 16 | 11 | 8.8 |
| 22 | 12 | 11 | 4.4 | e.03 | .08 | e4.2 | 13 | 14 | 17 | 17 | 11 | 8.7 |
| 23 | 11 | 11 | 4.8 | e.03 | .08 | e3.4 | 13 | 15 | 17 | 17 | 12 | 8.6 |
| 24 | 11 | 11 | 4.8 | e.03 | .08 | e6.5 | 13 | 16 | 16 | 16 | 12 | 8.8 |
| 25 | 11 | 11 | 4.8 | e.03 | .08 | e7.8 | 13 | 15 | 17 | 15 | 11 | 9.3 |
| 26 | 10 | 11 | 4.8 | e.03 | .08 | e9.5 | 13 | 14 | 17 | 14 | 11 | 10 |
| 27 | 10 | 4.9 | 3.1 | e.03 | .08 | e9.3 | 13 | 14 | 16 | 14 | 11 | 11 |
| 28 | 10 | .30 | 1.9 | e.03 | .08 | e8.6 | 13 | 15 | 16 | 14 | 11 | 11 |
| 29 | 10 | .21 | 1.1 | e.03 | --- | e8.8 | 13 | 11 | 16 | 13 | 11 | 11 |
| 30 | 10 | .15 | .41 | e.03 | --- | e8.4 | 13 | 8.3 | 17 | 14 | 12 | 11 |
| 31 | 9.6 | --- | .24 | e.03 | --- | e8.0 | --- | 13 | --- | 14 | 13 | --- |
| TOTAL | 355.6 | 270.36 | 66.12 | 1.78 | 1.95 | 88.93 | 400.5 | 442.3 | 522 | 483 | 351.9 | 328.5 |
| MEAN | 11.5 | 9.01 | 2.13 | .057 | .070 | 2.87 | 13.3 | 14.3 | 17.4 | 15.6 | 11.4 | 10.8 |
| MAX | 13 | 11 | 5.0 | .17 | .12 | 9.5 | 18 | 16 | 20 | 17 | 13 | 13 |
| MIN | 9.6 | .15 | .01 | .03 | .03 | .08 | 9.5 | 8.3 | 16 | 13 | 9.9 | 8.6 |
| AC-FT | 705 | 536 | 131 | 3.5 | 3.9 | 176 | 794 | 877 | 1040 | 958 | 698 | 652 |

CAL YR 1989 TOTAL 2950.44 MEAN 8.08 MAX 22 MIN .00 AC-FT 5850
WTR YR 1990 TOTAL 3312.94 MEAN 9.08 MAX 20 MIN .01 AC-FT 6570

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to September 1990 (discontinued).

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 ft³/s upstream from station for irrigation. At times some of this water is returned to the river upstream from the station.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--29 years, 658 ft³/s, 476,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,610 ft³/s, June 3, 1969, gage height, 8.77 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s, May 24, gage height, 5.32 ft; no flow Mar. 10-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|--------|--------|---------|--------|------|-------|-------|------|-------|
| 1 | 8.3 | 5.2 | 65 | 44 | 4.0 | 10 | 4.7 | 41 | 391 | 848 | 418 | 88 |
| 2 | 9.7 | 5.5 | 65 | 44 | 3.8 | 11 | 18 | 40 | 508 | 793 | 289 | 88 |
| 3 | 15 | 5.6 | 65 | 44 | 3.7 | 11 | 5.9 | 39 | 529 | 799 | 162 | 90 |
| 4 | 19 | 5.6 | 65 | 45 | 4.0 | 11 | 11 | 39 | 580 | 803 | 147 | 86 |
| 5 | 19 | 5.7 | 66 | 45 | 3.6 | 18 | 50 | 40 | 635 | 787 | 136 | 77 |
| 6 | 19 | 5.9 | 66 | 45 | 3.1 | 27 | 50 | 43 | 685 | 764 | 80 | 68 |
| 7 | 20 | 5.9 | 66 | 45 | 2.6 | 39 | 23 | 44 | 724 | 757 | 30 | 66 |
| 8 | 20 | 5.9 | 65 | 46 | 38 | 6.9 | 20 | 43 | 848 | 740 | 28 | 38 |
| 9 | 20 | 5.9 | 65 | 46 | 95 | .41 | 104 | 42 | 963 | 714 | 28 | 13 |
| 10 | 16 | 6.2 | 65 | 45 | 105 | .00 | 95 | 43 | 1000 | 712 | 28 | 12 |
| 11 | 12 | 6.7 | 65 | 45 | 142 | .00 | 125 | 43 | 1020 | 720 | 30 | 11 |
| 12 | 12 | 6.6 | 64 | 45 | 200 | .00 | 207 | 43 | 1070 | 728 | 31 | 12 |
| 13 | 12 | 7.1 | 64 | 46 | 226 | 4.4 | 53 | 43 | 1100 | 726 | 23 | 15 |
| 14 | 12 | 12 | 62 | 45 | 227 | 37 | 48 | 44 | 1090 | 727 | 15 | 15 |
| 15 | 12 | 20 | 60 | 47 | 222 | 29 | 46 | 44 | 1040 | 694 | 15 | 16 |
| 16 | 12 | 30 | 60 | 46 | 218 | 26 | 60 | 41 | 928 | 710 | 15 | 17 |
| 17 | 11 | 39 | 60 | 47 | 218 | 3.7 | 49 | 37 | 863 | 691 | 16 | 16 |
| 18 | 11 | 39 | 60 | 96 | 217 | .03 | 46 | 33 | 847 | 642 | 19 | 15 |
| 19 | 11 | 39 | 60 | 164 | 215 | 18 | 38 | 30 | 858 | 594 | 19 | 15 |
| 20 | 11 | 40 | 52 | 182 | 102 | 87 | 36 | 31 | 889 | 545 | 19 | 16 |
| 21 | 11 | 40 | 42 | 180 | 9.4 | 75 | 38 | 52 | 913 | 528 | 20 | 16 |
| 22 | 11 | 37 | 41 | 178 | 8.4 | 300 | 38 | 43 | 929 | 528 | 19 | 14 |
| 23 | 7.6 | 34 | 41 | 146 | 7.0 | 34 | 41 | 77 | 924 | 498 | 19 | 11 |
| 24 | 2.9 | 34 | 41 | 118 | 7.2 | 6.1 | 44 | 197 | 908 | 474 | 19 | 10 |
| 25 | 3.3 | 35 | 41 | 103 | 7.3 | .34 | 42 | 60 | 918 | 480 | 17 | 9.6 |
| 26 | 4.4 | 35 | 41 | 92 | 7.3 | 92 | 39 | 46 | 945 | 483 | 15 | 8.0 |
| 27 | 6.3 | 40 | 42 | 80 | 8.8 | 68 | 38 | 46 | 958 | 445 | 17 | 6.5 |
| 28 | 6.4 | 47 | 44 | 69 | 10 | 43 | 38 | 46 | 957 | 417 | 19 | 6.6 |
| 29 | 6.7 | 47 | 45 | 39 | --- | 35 | 41 | 104 | 962 | 419 | 19 | 6.8 |
| 30 | 5.7 | 56 | 45 | 9.7 | --- | 33 | 42 | 63 | 956 | 419 | 45 | 11 |
| 31 | 5.1 | --- | 45 | 6.3 | --- | 59 | --- | 89 | --- | 419 | 80 | --- |
| TOTAL | 352.4 | 701.8 | 1728 | 2233.0 | 2315.2 | 1084.88 | 1490.6 | 1626 | 25938 | 19604 | 1837 | 873.5 |
| MEAN | 11.4 | 23.4 | 55.7 | 72.0 | 82.7 | 35.0 | 49.7 | 52.5 | 865 | 632 | 59.3 | 29.1 |
| MAX | 20 | 56 | 66 | 182 | 227 | 300 | 207 | 197 | 1100 | 848 | 418 | 90 |
| MIN | 2.9 | 5.2 | 41 | 6.3 | 2.6 | .00 | 4.7 | 30 | 391 | 417 | 15 | 6.5 |
| AC-FT | 699 | 1390 | 3430 | 4430 | 4590 | 2150 | 2960 | 3230 | 51450 | 38880 | 3640 | 1730 |

CAL YR 1989 TOTAL 100341.79 MEAN 275 MAX 1900 MIN .25 AC-FT 199000 MEAN a 290 AC-FT a 210000
WTR YR 1990 TOTAL 59784.38 MEAN 164 MAX 1100 MIN .00 AC-FT 118600 MEAN a 188 AC-FT a 136100

a Adjusted for change in contents and evaporation from Lake Kaweah and for diversions to Lemoncove and Foothill ditches.

WATER-QUALITY RECORDS

WATER TEMPERATURE: Water years 1971 to current year.

WATER TEMPERATURE: November 1970 to current year.

WATER TEMPERATURE: Maximum recorded, 30.0 °C, July 25, July 27 to Aug. 1; minimum recorded, 6.0 °C, Feb. 8.

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|-----|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 25.0 | 18.5 | 17.0 | 13.0 | 12.5 | 10.0 | --- | --- | --- | --- | 13.0 | 10.0 |
| 2 | 23.5 | 18.0 | 17.0 | 13.0 | 12.5 | 9.5 | --- | --- | --- | --- | 12.0 | 10.0 |
| 3 | 23.5 | 18.5 | 16.5 | 13.0 | 12.0 | 9.5 | --- | --- | --- | --- | 13.5 | 10.0 |
| 4 | 23.5 | 18.0 | 16.5 | 13.0 | 12.0 | 9.5 | --- | --- | --- | --- | 14.5 | 9.5 |
| 5 | 24.0 | 18.0 | 16.5 | 12.5 | 12.0 | 10.0 | --- | --- | --- | --- | 12.5 | 9.5 |
| 6 | 23.5 | 17.5 | 16.5 | 13.0 | 11.5 | 9.5 | --- | --- | 8.5 | 7.5 | 15.0 | 8.5 |
| 7 | 23.5 | 18.0 | 16.0 | 13.0 | 12.0 | 9.5 | --- | --- | 9.0 | 8.0 | 15.0 | 11.5 |
| 8 | 23.5 | 18.0 | 16.0 | 12.5 | 11.5 | 9.5 | --- | --- | 10.5 | 6.0 | 14.5 | 11.5 |
| 9 | 24.0 | 18.0 | 16.0 | 12.5 | 11.5 | 9.5 | --- | --- | 10.0 | 7.5 | 15.5 | 13.0 |
| 10 | 25.0 | 18.0 | 16.0 | 12.5 | 10.5 | 9.0 | --- | --- | 10.0 | 7.5 | --- | --- |
| 11 | 24.5 | 17.5 | 16.0 | 12.5 | 10.5 | 9.5 | --- | --- | 9.5 | 7.5 | --- | --- |
| 12 | 24.5 | 18.0 | 15.5 | 12.5 | 11.0 | 8.5 | 9.0 | 7.5 | 9.5 | 8.5 | --- | --- |
| 13 | 23.5 | 18.0 | 15.5 | 12.5 | 10.5 | 8.5 | 9.5 | 8.0 | 9.0 | 8.0 | 16.0 | 9.0 |
| 14 | 23.0 | 17.5 | 15.5 | 12.5 | 10.5 | 8.0 | 9.5 | 7.5 | 9.0 | 8.0 | 14.5 | 10.5 |
| 15 | 22.5 | 17.5 | 15.5 | 12.5 | 10.0 | 8.0 | 9.5 | 8.0 | 9.0 | 8.0 | 15.0 | 10.5 |
| 16 | 22.5 | 17.0 | 15.5 | 12.0 | --- | --- | 8.5 | 7.5 | 8.5 | 8.0 | 15.5 | 11.0 |
| 17 | 24.0 | 17.0 | 15.5 | 12.5 | --- | --- | 10.0 | 7.5 | 9.0 | 8.0 | 18.0 | 12.0 |
| 18 | 23.5 | 17.0 | 15.5 | 12.5 | --- | --- | 9.0 | 7.5 | 8.5 | 7.5 | 20.5 | 14.0 |
| 19 | 23.0 | 17.0 | 15.5 | 12.0 | --- | --- | 9.0 | 7.5 | 9.0 | 7.5 | 19.0 | 13.0 |
| 20 | 21.5 | 16.0 | 15.0 | 12.0 | --- | --- | 9.0 | 8.0 | 10.5 | 7.5 | 15.5 | 13.0 |
| 21 | 20.5 | 18.0 | 15.0 | 12.0 | --- | --- | 9.0 | 7.5 | 10.5 | 7.5 | 15.5 | 12.5 |
| 22 | 23.0 | 18.0 | 15.0 | 12.0 | --- | --- | --- | --- | 14.5 | 6.5 | 14.5 | 13.0 |
| 23 | 23.0 | 17.5 | 14.5 | 11.5 | --- | --- | --- | --- | 14.5 | 8.5 | 18.5 | 12.5 |
| 24 | 20.0 | 18.5 | 14.0 | 12.0 | --- | --- | --- | --- | 13.5 | 9.5 | 22.0 | 13.0 |
| 25 | 18.5 | 17.0 | 13.5 | 12.0 | --- | --- | --- | --- | 15.5 | 9.5 | 21.5 | 13.0 |
| 26 | 19.5 | 13.5 | 14.5 | 12.0 | --- | --- | --- | --- | 16.0 | 9.5 | 18.0 | 12.5 |
| 27 | 19.5 | 13.5 | 14.0 | 10.5 | --- | --- | --- | --- | 15.5 | 10.0 | 16.0 | 11.5 |
| 28 | 19.5 | 14.5 | 13.0 | 10.5 | --- | --- | --- | --- | 16.0 | 9.5 | 14.0 | 12.0 |
| 29 | 19.0 | 13.0 | 13.5 | 10.0 | --- | --- | --- | --- | --- | --- | 18.0 | 10.0 |
| 30 | 18.0 | 13.0 | 13.0 | 10.0 | --- | --- | --- | --- | --- | --- | 17.0 | 12.0 |
| 31 | 17.0 | 13.5 | --- | --- | --- | --- | --- | --- | --- | --- | 16.5 | 11.5 |
| MONTH | 25.0 | 13.0 | 17.0 | 10.0 | --- | --- | --- | --- | --- | --- | 22.0 | 8.5 |

TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 20.5 | 12.0 | 19.0 | 10.5 | 15.0 | 12.5 | 21.0 | 19.5 | 30.0 | 29.0 | 20.0 | 16.5 |
| 2 | 18.0 | 12.0 | 19.0 | 10.5 | 15.0 | 14.0 | 21.5 | 17.5 | 29.0 | 15.5 | 20.5 | 17.5 |
| 3 | 20.5 | 10.5 | 21.0 | 11.0 | 15.0 | 13.5 | 22.0 | 20.0 | 17.5 | 15.0 | 20.5 | 18.0 |
| 4 | 17.0 | 10.5 | 21.0 | 12.0 | 15.0 | 14.0 | 22.5 | 20.5 | 17.5 | 14.5 | 22.0 | 18.5 |
| 5 | 15.5 | 9.5 | 21.5 | 12.5 | 15.0 | 14.0 | 23.0 | 21.0 | 17.5 | 15.5 | 22.0 | 18.0 |
| 6 | 16.0 | 9.5 | 20.5 | 12.5 | 14.5 | 14.0 | 23.0 | 21.5 | 20.0 | 15.5 | 23.0 | 19.5 |
| 7 | 11.5 | 9.0 | 20.5 | 12.0 | 15.0 | 13.5 | 23.5 | 23.0 | 20.5 | 16.5 | 23.5 | 20.0 |
| 8 | 16.0 | 9.5 | 20.0 | 12.0 | 15.0 | 14.5 | 24.0 | 23.5 | 19.5 | 15.5 | 25.5 | 20.5 |
| 9 | 16.0 | 9.5 | 19.5 | 12.5 | 15.0 | 14.5 | 24.5 | 23.5 | 20.0 | 15.0 | 25.5 | 18.5 |
| 10 | 15.5 | 10.0 | 16.0 | 12.5 | 15.5 | 14.5 | 25.0 | 18.0 | 21.0 | 16.0 | 26.5 | 19.5 |
| 11 | 15.0 | 10.0 | 19.0 | 12.5 | 15.0 | 14.0 | 25.5 | 25.0 | 20.5 | 16.0 | 26.0 | 19.5 |
| 12 | 15.5 | 9.5 | 19.0 | 12.5 | 15.0 | 13.5 | 26.0 | 25.5 | 20.5 | 16.0 | 26.5 | 20.0 |
| 13 | 17.5 | 10.5 | 18.0 | 12.0 | 16.0 | 13.5 | 26.5 | 25.5 | 22.5 | 15.0 | 26.5 | 20.0 |
| 14 | 17.0 | 10.5 | 19.5 | 12.5 | 16.0 | 14.5 | 26.5 | 26.0 | 22.0 | 16.0 | 26.0 | 20.5 |
| 15 | 16.5 | 10.5 | 19.5 | 12.5 | 16.0 | 15.0 | 27.0 | 26.5 | 22.0 | 16.0 | 25.5 | 20.0 |
| 16 | 14.0 | 10.5 | 19.5 | 12.5 | 16.5 | 16.0 | 27.5 | 25.0 | 22.0 | 15.5 | 25.5 | 20.5 |
| 17 | 13.0 | 10.5 | 20.0 | 12.0 | 16.5 | 16.0 | 28.0 | 25.5 | 22.0 | 15.5 | 25.5 | 19.5 |
| 18 | 14.5 | 11.0 | 19.5 | 12.5 | 16.5 | 16.0 | 28.0 | 26.5 | 20.0 | 15.5 | 26.0 | 20.5 |
| 19 | 18.0 | 10.5 | 19.0 | 12.5 | 17.0 | 16.0 | 28.5 | 17.0 | 21.5 | 15.0 | 24.0 | 21.0 |
| 20 | 16.5 | 10.5 | 20.0 | 12.5 | 17.5 | 16.5 | 29.0 | 28.5 | 21.5 | 15.0 | 26.0 | 20.5 |
| 21 | 18.0 | 10.5 | 18.5 | 12.5 | 17.5 | 16.5 | 29.5 | 28.5 | 21.5 | 15.5 | 25.5 | 21.5 |
| 22 | 17.5 | 11.0 | 20.0 | 13.0 | 17.5 | 16.5 | 29.5 | 29.0 | 21.5 | 15.5 | 25.5 | 21.0 |
| 23 | 14.5 | 11.5 | 16.0 | 13.0 | 18.0 | 17.0 | 29.5 | 22.5 | 21.5 | 15.5 | 26.0 | 21.0 |
| 24 | 15.0 | 11.0 | 17.0 | 12.0 | 18.5 | 17.5 | 29.5 | 29.0 | 21.0 | 15.5 | 26.0 | 20.5 |
| 25 | 18.5 | 10.5 | 18.5 | 12.5 | 18.5 | 17.5 | 30.0 | 29.0 | 21.0 | 15.0 | 26.0 | 20.5 |
| 26 | 19.5 | 10.5 | 18.5 | 13.0 | 19.0 | 17.5 | 29.5 | 29.0 | 21.0 | 15.0 | 26.0 | 20.5 |
| 27 | 20.0 | 11.0 | 15.0 | 13.0 | 19.5 | 18.0 | 30.0 | 27.5 | 21.0 | 15.0 | 25.5 | 20.5 |
| 28 | 18.0 | 11.0 | 17.0 | 13.0 | 19.5 | 16.0 | 30.0 | 28.0 | 21.0 | 15.5 | 26.0 | 19.0 |
| 29 | 18.0 | 10.5 | 15.5 | 13.0 | 20.0 | 18.5 | 30.0 | 29.0 | 22.0 | 15.5 | 26.0 | 20.0 |
| 30 | 18.5 | 10.5 | 18.0 | 13.0 | 20.5 | 19.5 | 30.0 | 29.0 | 19.5 | 16.0 | 26.0 | 20.0 |
| 31 | --- | --- | 16.0 | 12.5 | --- | --- | 30.0 | 29.0 | 19.5 | 16.0 | --- | --- |
| MONTH | 20.5 | 9.0 | 21.5 | 10.5 | 20.5 | 12.5 | 30.0 | 17.0 | 30.0 | 14.5 | 26.5 | 16.5 |

TULARE LAKE BASIN

155

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 mi².

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.--No estimated daily discharges. Records good. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--31 years, 23.4 ft³/s, 16,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft³/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 most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 6,070 ft³/s, from slope-area measurement. Flood of 1867 is believed to have exceeded that of December 1955, from information provided by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Jan. 17 | 0130 | *56 | *2.38 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | 1.4 | 3.9 | 2.0 | .53 | 1.5 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | 1.5 | 3.7 | 1.7 | .44 | 1.0 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | 1.4 | 4.3 | 1.5 | .31 | .71 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | 2.7 | 5.2 | 1.3 | .23 | .56 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | 3.7 | 6.6 | 1.2 | .18 | .43 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | 3.2 | 7.8 | 1.2 | .15 | .27 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | 3.7 | 5.7 | 1.2 | .12 | .19 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | 4.3 | 5.0 | 1.3 | .12 | .14 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | 3.1 | 4.6 | 1.6 | .12 | .12 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | 2.5 | 4.4 | 1.9 | .11 | .12 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | 2.2 | 6.6 | 1.6 | .11 | .09 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | 2.1 | 12 | 1.4 | .10 | .07 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | 2.1 | 7.3 | 1.3 | .08 | .04 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | 2.6 | 2.1 | 6.2 | 1.2 | .07 | .01 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | 9.3 | 2.1 | 5.6 | 1.1 | .05 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | 16 | 2.4 | 5.1 | 1.2 | .03 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | 23 | 10 | 5.0 | 1.4 | .01 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | 5.0 | 15 | 4.9 | 1.7 | .01 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | 3.0 | 11 | 4.8 | 1.6 | .01 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | 2.1 | 6.1 | 4.5 | 1.4 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | 1.6 | 5.2 | 4.3 | 1.3 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | 1.4 | 5.2 | 3.9 | 1.1 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | 1.3 | 5.5 | 3.5 | 1.9 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | 1.1 | 5.6 | 3.2 | 2.6 | .01 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | 1.0 | 5.4 | 2.9 | 2.9 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .99 | 5.0 | 2.7 | 2.7 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .90 | 4.6 | 2.3 | 1.8 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .90 | 4.3 | 2.3 | 1.1 | 13 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .90 | --- | 2.4 | .75 | 17 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | 1.1 | --- | 2.4 | .63 | 5.3 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | 1.0 | --- | 2.2 | --- | 2.7 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 73.19 | 123.4 | 145.3 | 45.58 | 40.79 | 5.25 | 0.00 | 0.00 | 0.00 |
| MEAN | .000 | .000 | .000 | 2.36 | 4.41 | 4.69 | 1.52 | 1.32 | .17 | .000 | .000 | .000 |
| MAX | .00 | .00 | .00 | 23 | 15 | 12 | 2.9 | 17 | 1.5 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | 1.4 | 2.2 | .63 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | 145 | 245 | 288 | 90 | 81 | 10 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 1015.64 MEAN 2.78 MAX 97 MIN .00 AC-FT 2010
WTR YR 1990 TOTAL 433.51 MEAN 1.19 MAX 23 MIN .00 AC-FT 860

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 mi².

PERIOD OF RECORD.--January 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--5 years, 5.93 ft³/s, 4,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft³/s, Feb. 15, 1986, gage height, 5.81 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 35 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 1845 | *20 | *1.57 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|------|------|-------|-------|------|------|------|------|
| 1 | .00 | .00 | .00 | .69 | 1.9 | 2.4 | 1.3 | .29 | .78 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | 1.7 | 1.9 | 2.4 | 1.3 | .26 | .62 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | 1.5 | 1.7 | 2.8 | 1.2 | .20 | .51 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | 1.1 | 3.4 | 2.8 | 1.2 | .16 | .40 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .90 | 3.5 | 3.7 | 1.2 | .13 | .34 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .87 | 2.5 | 3.5 | 1.1 | .09 | .27 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .90 | 3.6 | 2.8 | 1.1 | .07 | .18 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .83 | 2.9 | 2.6 | 1.2 | .05 | .10 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .87 | 2.3 | 2.5 | 1.2 | .00 | .04 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .89 | 2.1 | 2.4 | 1.1 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .82 | 1.9 | 3.5 | .98 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .97 | 1.8 | 4.7 | .94 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | 4.6 | 1.7 | 3.6 | .86 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | 6.1 | 1.7 | 3.0 | .77 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | 8.4 | 1.6 | 2.8 | .77 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | 7.4 | 1.8 | 2.6 | .80 | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | 11 | 11 | 2.5 | .94 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | 3.8 | 11 | 2.4 | .98 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | 2.4 | 6.6 | 2.3 | .94 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | 1.9 | 4.6 | 2.2 | .86 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | 1.7 | 3.8 | 2.0 | .77 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .16 | 1.7 | 3.4 | 1.9 | .68 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .25 | 1.6 | 3.3 | 1.8 | 1.1 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .30 | 1.6 | 3.1 | 1.7 | 1.5 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .37 | 1.5 | 3.0 | 1.6 | 1.3 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .43 | 1.5 | 2.8 | 1.6 | .86 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .50 | 1.5 | 2.7 | 1.5 | .65 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .53 | 1.5 | 2.6 | 1.5 | .53 | 5.6 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .60 | 1.6 | --- | 1.6 | .41 | 5.6 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .60 | 1.7 | --- | 1.6 | .34 | 1.8 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .62 | 1.7 | --- | 1.5 | --- | 1.1 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 4.36 | 75.24 | 94.2 | 75.8 | 28.88 | 15.35 | 3.24 | 0.00 | 0.00 | 0.00 |
| MEAN | .000 | .000 | .14 | 2.43 | 3.36 | 2.45 | .96 | .50 | .11 | .000 | .000 | .000 |
| MAX | .00 | .00 | .62 | 11 | 11 | 4.7 | 1.5 | 5.6 | .78 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .69 | 1.6 | 1.5 | .34 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | 8.6 | 149 | 187 | 150 | 57 | 30 | 6.4 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 425.85 MEAN 1.17 MAX 30 MIN .00 AC-FT 845
WTR YR 1990 TOTAL 297.07 MEAN .81 MAX 11 MIN .00 AC-FT 589

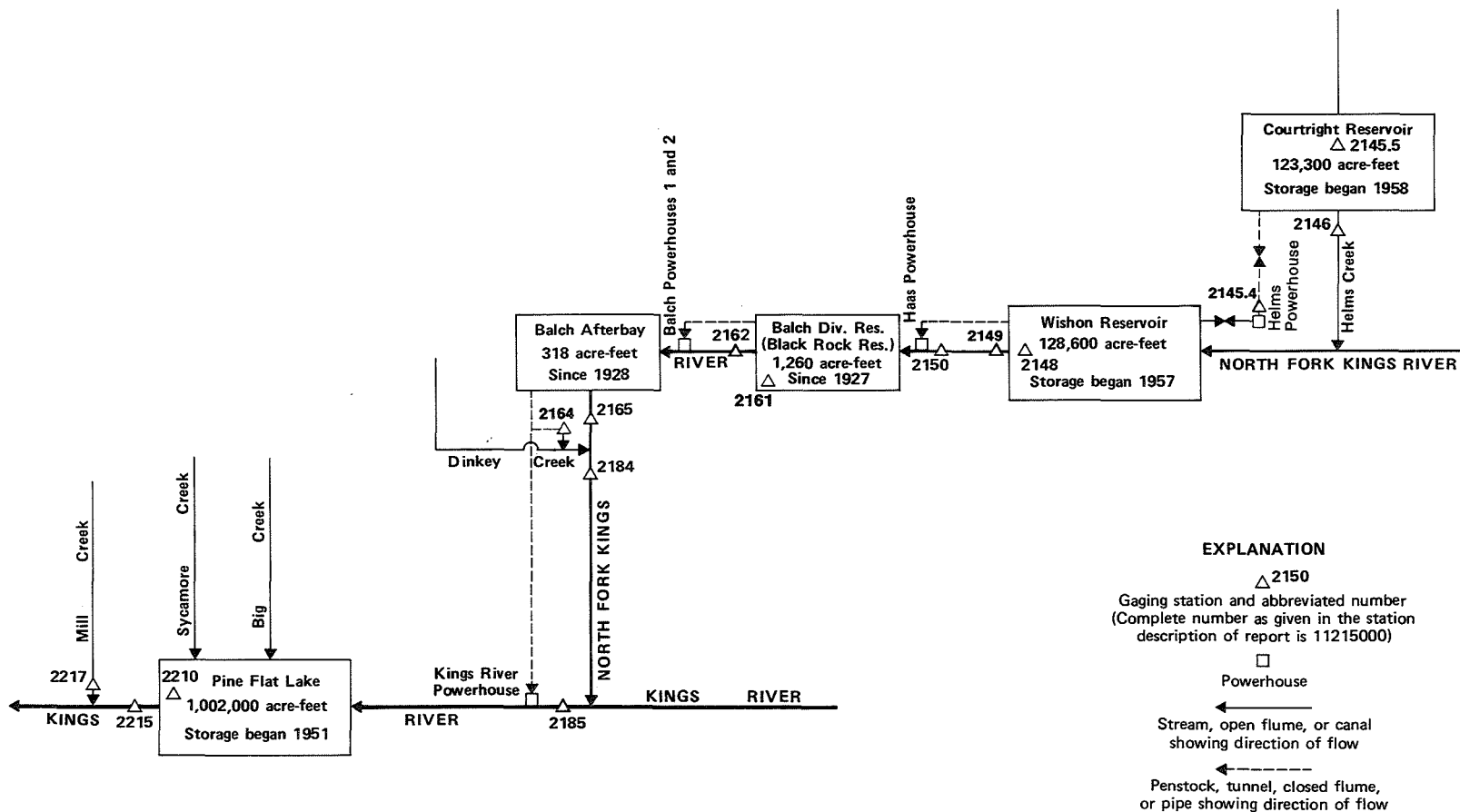


Figure 31. Diversions and storage in Kings River basin.

TULARE LAKE BASIN

11214540 HELMS POWERPLANT NEAR WISHON RESERVOIR, CA

LOCATION.--Lat 37°02'22", long 118°57'16", unsurveyed, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, underground facility, 2.4 mi north of Wishon Dam, and 2.8 mi south of Courtright Dam.

PERIOD OF RECORD.--October 1989 to September 1990.

GAGE.--Acoustic velocity meter in penstock. Elevation of powerplant, approximately 1,000 ft below land surface, is 6,286.0 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & Electric Co.)

REMARKS.--No estimated daily discharges. Flow is diverted from Courtright Reservoir (station 11214550) through a tunnel to the powerplant, then to Wishon Reservoir (station 11214800), generating during peak power demand. During periods of low power demand, reversible turbines pump water from Wishon Reservoir to Courtright Reservoir. Turbines draft up to 9,000 ft³/s and pump up to 7,200 ft³/s. Figures shown represent the net daily flow from Courtright Reservoir to Wishon Reservoir. Negative values represent net flow pumped to Courtright Reservoir. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 3,720 ft³/s, July 13, 1990; maximum daily pumpage, 3,650 ft³/s, May 28, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|----------|--------|-------|---------|---------|----------|---------|---------|---------|---------|
| 1 | -1360 | 1850 | -493 | -106 | .00 | -232 | -1290 | 33 | -713 | -722 | .00 | .00 |
| 2 | -407 | 711 | -887 | .00 | .00 | 222 | -1060 | 337 | -222 | -770 | .00 | .00 |
| 3 | 18 | 457 | -295 | 92 | .00 | -1230 | -561 | 970 | -1040 | 1270 | 518 | .00 |
| 4 | 60 | -1380 | 710 | 48 | 162 | .00 | -210 | 2610 | -367 | .00 | 328 | .00 |
| 5 | 30 | -1570 | 199 | .00 | .00 | 358 | -151 | 748 | -247 | 914 | 516 | .00 |
| 6 | 1010 | 161 | -246 | .00 | .00 | 114 | -444 | .00 | -99 | 1210 | 1160 | .00 |
| 7 | 1010 | -665 | 554 | .00 | .00 | 401 | -925 | 758 | -540 | .00 | 895 | .00 |
| 8 | -1170 | 16 | 1770 | -267 | 172 | 209 | -162 | 183 | 1870 | -746 | 912 | .00 |
| 9 | 1240 | 170 | -1030 | .00 | .00 | 306 | 380 | .00 | -1020 | 591 | 1670 | .00 |
| 10 | 1000 | -515 | -1240 | 635 | .00 | -92 | 1570 | .00 | -1240 | 1710 | 973 | .00 |
| 11 | 115 | -1010 | 2930 | .00 | .00 | -1270 | 284 | .00 | -1010 | 1250 | -556 | .00 |
| 12 | 486 | -1220 | 2630 | .00 | 166 | -681 | 878 | .00 | 1990 | 3000 | -789 | .00 |
| 13 | -215 | 440 | -194 | 57 | 1050 | 73 | .00 | .00 | 184 | 3720 | -458 | .00 |
| 14 | -415 | 1470 | 440 | 65 | 1050 | 51 | .00 | .00 | -598 | -633 | .00 | .00 |
| 15 | -324 | 2290 | -333 | 335 | 718 | .00 | -555 | .00 | 1280 | -979 | 305 | .00 |
| 16 | -520 | 913 | -1980 | 2180 | -74 | 254 | -636 | 216 | .00 | -410 | .00 | .00 |
| 17 | -520 | -346 | -2790 | .00 | -729 | .00 | .00 | 143 | -269 | -945 | .00 | .00 |
| 18 | -520 | -96 | -23 | 150 | -1520 | .00 | 327 | 299 | 49 | -744 | .00 | .00 |
| 19 | 359 | -769 | 767 | 223 | -709 | -346 | 539 | 120 | 2280 | -328 | .00 | .00 |
| 20 | -346 | 498 | 342 | -1150 | 2890 | 51 | 1330 | .00 | 2500 | 71 | .00 | .00 |
| 21 | 213 | 1030 | 56 | -1940 | 476 | 568 | 1200 | .00 | 325 | -375 | .00 | .00 |
| 22 | -983 | 283 | .00 | 135 | -1160 | -512 | .00 | 197 | 5.6 | -1110 | .00 | .00 |
| 23 | 907 | -2200 | -73 | .00 | -1030 | 822 | 44 | .00 | -688 | -1070 | .00 | .00 |
| 24 | 1220 | -1740 | -1190 | .00 | -1040 | .00 | .00 | -172 | -1330 | -783 | .00 | 439 |
| 25 | 301 | -1470 | -1460 | 73 | -1050 | .00 | 625 | 410 | -745 | .00 | .00 | .00 |
| 26 | 104 | -685 | -428 | .00 | 203 | 1210 | 147 | -902 | 688 | 1510 | .00 | .00 |
| 27 | 775 | -224 | 173 | .00 | -179 | 723 | 1180 | -3510 | 698 | 130 | .00 | .00 |
| 28 | -1120 | 335 | .00 | .00 | 700 | .00 | .00 | -3650 | -80 | .00 | .00 | 279 |
| 29 | -1470 | 891 | 444 | -395 | --- | .00 | .00 | -914 | 919 | .00 | .00 | 854 |
| 30 | 2150 | -110 | .00 | .00 | --- | -144 | 125 | 174 | 295 | 702 | .00 | 175 |
| 31 | 945 | --- | .00 | .00 | --- | -1160 | --- | -397 | --- | 45 | .00 | --- |
| TOTAL | 2573 | -2485 | -1647.00 | 135.00 | 96.00 | -305.00 | 2635.00 | -2347.00 | 2875.60 | 6508.00 | 5474.00 | 1547.00 |
| MEAN | 83.0 | -82.8 | -53.1 | 4.35 | 3.43 | -9.84 | 87.8 | -75.7 | 95.9 | 210 | 177 | 51.6 |
| MAX | 2150 | 2290 | 2930 | 2180 | 2890 | 1210 | 1570 | 2610 | 2500 | 3720 | 1670 | 654 |
| MIN | -1470 | -2200 | -2790 | -1940 | -1520 | -1270 | -1290 | -3650 | -1330 | -1110 | -789 | .00 |
| AC-FT | 5100 | -4930 | -3270 | 268 | 190 | -605 | 5230 | -4660 | 5700 | 12910 | 10860 | 3070 |

WTR YR 1990 TOTAL 15059.60 MEAN 41.3 MAX 3720 MIN -3650 AC-FT 29870

TULARE LAKE BASIN

159

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 mi².

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 & Electric Co.).

REMARKS.--Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,286 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 & 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, 80,301 acre-ft, June 11, elevation, 8,153.73 ft; minimum, 36,210 acre-ft, Sept. 30, elevation, 8,107.08 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Apr. 13, 1959)

| | | | | | | | |
|-------|-----|-------|-------|-------|--------|-------|---------|
| 7,902 | 0 | 7,970 | 736 | 8,035 | 6,269 | 8,115 | 42,141 |
| 7,950 | 267 | 7,990 | 1,617 | 8,060 | 12,298 | 8,150 | 75,878 |
| 7,960 | 462 | 8,010 | 3,129 | 8,085 | 22,584 | 8,184 | 123,286 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 53150 | 42220 | 48672 | 51266 | 50984 | 55343 | 59448 | 60192 | 72054 | 67111 | 52833 | 40736 |
| 2 | 53954 | 40844 | 50316 | 51275 | 50957 | 54933 | 60942 | 59804 | 72549 | 68664 | 52833 | 40705 |
| 3 | 53871 | 39957 | 50858 | 51090 | 50957 | 57382 | 62297 | 58213 | 74677 | 66153 | 51284 | 40691 |
| 4 | 53734 | 42717 | 49257 | 50948 | 50885 | 57449 | 62880 | 53460 | 75423 | 66142 | 50597 | 40437 |
| 5 | 53633 | 45714 | 48835 | 50948 | 50676 | 56731 | 63363 | 52364 | 75983 | 64336 | 49568 | 40414 |
| 6 | 51631 | 45483 | 49317 | 50922 | 50702 | 56503 | 64004 | 52724 | 76239 | 61962 | 47288 | 40391 |
| 7 | 51675 | 46061 | 48279 | 50904 | 50711 | 55700 | 66089 | 51551 | 77375 | 61931 | 45566 | 40018 |
| 8 | 53936 | 46028 | 44829 | 51408 | 50369 | 55278 | 66620 | 51471 | 73796 | 63383 | 43769 | 40010 |
| 9 | 51524 | 45673 | 47002 | 51391 | 50360 | 54664 | 66100 | 51711 | 75832 | 62195 | 40567 | 39964 |
| 10 | 49516 | 46718 | 49395 | 50133 | 50360 | 54840 | 63332 | 51907 | 78286 | 58828 | 38538 | 39942 |
| 11 | 49335 | 48655 | 44115 | 50124 | 50325 | 57459 | 63126 | 52086 | 80301 | 56294 | 39631 | 39926 |
| 12 | 48339 | 51037 | 38843 | 50168 | 50002 | 58858 | 61799 | 52238 | 76413 | 50702 | 41121 | 39881 |
| 13 | 48578 | 50168 | 39322 | 50273 | 47685 | 58720 | 62246 | 52391 | 76076 | 43536 | 42047 | 39850 |
| 14 | 49378 | 47280 | 38479 | 50168 | 47685 | 58603 | 62726 | 52526 | 77269 | 44788 | 42016 | 39812 |
| 15 | 49993 | 42772 | 39150 | 49533 | 46268 | 58603 | 64325 | 52679 | 74815 | 46743 | 41392 | 39790 |
| 16 | 50843 | 40506 | 43010 | 45335 | 46568 | 58107 | 65951 | 52274 | 74815 | 47533 | 41361 | 39760 |
| 17 | 50421 | 41191 | 48433 | 45335 | 48109 | 58107 | 66185 | 52220 | 75345 | 49395 | 41322 | 39729 |
| 18 | 51666 | 41345 | 48510 | 45016 | 51134 | 58116 | 65783 | 51720 | 75241 | 50843 | 41291 | 39707 |
| 19 | 50922 | 42859 | 46969 | 44568 | 52598 | 58828 | 65036 | 51568 | 70827 | 51479 | 41260 | 39677 |
| 20 | 51586 | 41867 | 46310 | 46810 | 46927 | 58750 | 62818 | 51639 | 65983 | 51337 | 41229 | 39473 |
| 21 | 51213 | 39858 | 46185 | 50649 | 47744 | 57652 | 60761 | 51720 | 65361 | 52032 | 41198 | 39458 |
| 22 | 53187 | 39172 | 46170 | 50360 | 50089 | 58740 | 61022 | 51408 | 65329 | 54304 | 41167 | 39427 |
| 23 | 51408 | 43552 | 46318 | 50351 | 52140 | 57181 | 61334 | 51559 | 66695 | 56322 | 41129 | 39405 |
| 24 | 49145 | 46944 | 48681 | 50343 | 54248 | 57267 | 61607 | 52059 | 69231 | 57816 | 41106 | 38531 |
| 25 | 48587 | 49941 | 51462 | 50177 | 56285 | 57382 | 60711 | 51346 | 70738 | 57777 | 41067 | 38509 |
| 26 | 48364 | 51266 | 52355 | 50177 | 55925 | 55092 | 60851 | 53187 | 69384 | 54775 | 41028 | 38472 |
| 27 | 46860 | 51648 | 51996 | 50159 | 56256 | 53807 | 59103 | 60281 | 68003 | 54479 | 40898 | 38457 |
| 28 | 49050 | 49283 | 51979 | 50151 | 54877 | 53917 | 59586 | 67637 | 68133 | 54451 | 40874 | 37889 |
| 29 | 51907 | 47524 | 51090 | 50931 | --- | 54000 | 59983 | 69691 | 66354 | 54414 | 40836 | 36575 |
| 30 | 47727 | 47710 | 51081 | 50960 | --- | 54331 | 60013 | 69483 | 65740 | 52996 | 40815 | 36210 |
| 31 | 45829 | --- | 51054 | 50957 | --- | 56750 | --- | 70429 | --- | 52878 | 40782 | --- |
| MAX | 53954 | 51648 | 52355 | 51408 | 56285 | 58858 | 66620 | 70429 | 80301 | 68664 | 52833 | 40736 |
| MIN | 45829 | 39172 | 38479 | 44568 | 46268 | 53807 | 59103 | 51346 | 65329 | 43536 | 38538 | 36210 |
| a | 8119.58 | 8121.83 | 8125.70 | 8125.59 | 8129.92 | 8131.91 | 8135.26 | 8145.19 | 8140.85 | 8127.74 | 8113.25 | 8107.08 |
| b | -4540 | +1881 | +3344 | -97 | +3920 | +1873 | +3263 | +10416 | -4689 | -12862 | -12096 | -4572 |

CAL YR 1989 b +18290

WTR YR 1990 b -14159

a Elevation, in feet, 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 mi².

PERIOD OF RECORD.--October 1958 to current year. Record for water year 1986 is incomplete.

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.--Flow regulated since October 1958 by Courtright Reservoir (station 11214550) 500 ft upstream and by Helms Creek Project pump/generator facility since June 1984. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE (prior to operation of Helms Creek Project pump/generator facility, adjusted for change in contents in Courtright Reservoir).--25 years (water years 1959-83), 82.8 ft³/s, 59,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,340 ft³/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.--Maximum discharge, 8.9 ft³/s, Oct. 16, gage height, 0.71 ft; minimum daily, 3.3 ft³/s, Dec. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 6.0 | 5.4 | 5.1 | 5.4 | e4.3 | e5.2 | e6.7 | 5.7 | 6.7 | 6.5 | 7.4 | 6.1 |
| 2 | 6.0 | 5.5 | 4.2 | 5.4 | e4.3 | e5.4 | e6.8 | 5.6 | 6.7 | 6.5 | 7.3 | 6.0 |
| 3 | 6.0 | 5.6 | 4.3 | 5.4 | e4.3 | e5.5 | e6.8 | 5.6 | 6.7 | 6.5 | 7.3 | 6.0 |
| 4 | 6.1 | 5.3 | 4.2 | 5.4 | e4.3 | e5.6 | e6.9 | 5.5 | 6.9 | 6.5 | 7.1 | 6.0 |
| 5 | 6.2 | 5.6 | 4.2 | 5.4 | e4.3 | e5.7 | e7.2 | 5.2 | 7.0 | 6.4 | 7.1 | 6.0 |
| 6 | 6.2 | 6.0 | 4.2 | 5.4 | e4.2 | e5.7 | e7.1 | 5.2 | 6.9 | 6.2 | 6.8 | 6.0 |
| 7 | 6.4 | 6.0 | 4.2 | 5.4 | e4.2 | e5.7 | e7.1 | 5.0 | 7.0 | 6.0 | 6.7 | 6.0 |
| 8 | 6.1 | 6.0 | 4.1 | 5.4 | e4.1 | e5.8 | e7.0 | 5.0 | 7.0 | 6.0 | 6.7 | 5.8 |
| 9 | 6.0 | 5.8 | 3.9 | 5.4 | e4.1 | e5.8 | e7.0 | 4.8 | 6.8 | 6.0 | 6.6 | 5.8 |
| 10 | 5.9 | 6.0 | 4.0 | 5.4 | e4.1 | e5.8 | e6.9 | 4.8 | 7.0 | 6.2 | 6.3 | 5.8 |
| 11 | 5.9 | 6.2 | 4.1 | 5.4 | e4.1 | e5.9 | e6.9 | 4.8 | 7.3 | 5.9 | 6.2 | 5.8 |
| 12 | 6.1 | 6.2 | 3.7 | 5.4 | e4.1 | e5.9 | e6.8 | 4.8 | 7.5 | 5.6 | 6.2 | 5.8 |
| 13 | 6.1 | 6.2 | 3.5 | 5.4 | e4.0 | e6.0 | e6.8 | 4.8 | 7.2 | 5.6 | 6.2 | 5.8 |
| 14 | 5.7 | 6.0 | 3.4 | 5.4 | e3.7 | e6.0 | e6.7 | 4.8 | 7.2 | 7.1 | 6.2 | 5.8 |
| 15 | 5.5 | 5.8 | 3.3 | 5.4 | e3.6 | e6.0 | e6.7 | 4.8 | 7.3 | 7.1 | 6.2 | 5.6 |
| 16 | 5.5 | 5.4 | 3.5 | 5.2 | e3.7 | e6.0 | e6.6 | 4.8 | 7.1 | 7.0 | 6.2 | 5.6 |
| 17 | 5.6 | 5.2 | 3.8 | 5.0 | e3.8 | e6.1 | e6.6 | 4.8 | 7.1 | 7.1 | 6.2 | 5.6 |
| 18 | 5.5 | 5.2 | 4.0 | 5.0 | e4.1 | e6.1 | e6.5 | 4.8 | 7.1 | 7.1 | 6.2 | 5.6 |
| 19 | 5.9 | 5.2 | 4.0 | 4.4 | e4.2 | e6.2 | e6.4 | 4.8 | 7.0 | 7.1 | 6.2 | 5.6 |
| 20 | 6.1 | 5.4 | 4.6 | 4.0 | e4.3 | e6.2 | e6.4 | 4.7 | 6.6 | 7.1 | 6.2 | 5.6 |
| 21 | 6.1 | 5.2 | 5.2 | 4.2 | e4.4 | e6.2 | e6.3 | 4.6 | 6.4 | 7.1 | 6.2 | 5.6 |
| 22 | 6.1 | 5.2 | 5.1 | e4.2 | e4.6 | e6.3 | e6.3 | 4.6 | 6.2 | 7.2 | 6.2 | 5.6 |
| 23 | 6.1 | 5.3 | 5.0 | e4.2 | e4.8 | e6.3 | e6.2 | 4.6 | 6.2 | 7.4 | 6.2 | 5.6 |
| 24 | 6.1 | 5.7 | 5.1 | e4.2 | e4.8 | e6.3 | e6.2 | 4.8 | 6.2 | 7.7 | 6.2 | 5.6 |
| 25 | 6.2 | 6.0 | 5.3 | e4.2 | e4.8 | e6.4 | 6.1 | 4.8 | 6.4 | 7.7 | 6.2 | 5.6 |
| 26 | 6.3 | 6.2 | 5.5 | e4.2 | e5.0 | e6.4 | 6.0 | 4.8 | 6.5 | 7.7 | 6.2 | 5.5 |
| 27 | 6.4 | 6.2 | 5.6 | e4.3 | e5.2 | e6.4 | 6.0 | 5.0 | 6.5 | 7.5 | 6.2 | 5.4 |
| 28 | 6.2 | 6.2 | 5.6 | e4.3 | e5.2 | e6.5 | 5.9 | 6.1 | 6.5 | 7.3 | 6.2 | 5.4 |
| 29 | 5.9 | 6.0 | 5.4 | e4.3 | --- | e6.5 | 5.8 | 6.6 | 6.5 | 7.3 | 6.2 | 5.4 |
| 30 | 5.5 | 6.0 | 5.4 | e4.3 | --- | e6.5 | 5.8 | 6.7 | 6.5 | 7.5 | 6.2 | 5.4 |
| 31 | 5.5 | --- | 5.4 | e4.3 | --- | e6.6 | --- | 6.7 | --- | 7.5 | 6.2 | --- |
| TOTAL | 185.2 | 172.0 | 138.9 | 151.3 | 120.6 | 187.0 | 196.5 | 159.6 | 204.0 | 211.4 | 199.5 | 171.4 |
| MEAN | 5.97 | 5.73 | 4.48 | 4.88 | 4.31 | 6.03 | 6.55 | 5.15 | 6.80 | 6.82 | 6.44 | 5.71 |
| MAX | 6.4 | 6.2 | 5.6 | 5.4 | 5.2 | 6.6 | 7.2 | 6.7 | 7.5 | 7.7 | 7.4 | 6.1 |
| MIN | 5.5 | 5.2 | 3.3 | 4.0 | 3.6 | 5.2 | 5.8 | 4.6 | 6.2 | 5.6 | 6.2 | 5.4 |
| AC-FT | 367 | 341 | 276 | 300 | 239 | 371 | 390 | 317 | 405 | 419 | 396 | 340 |

CAL YR 1989 TOTAL 3040.1 MEAN 8.33 MAX 19 MIN 3.3 AC-FT 6030
WTR YR 1990 TOTAL 2097.4 MEAN 5.75 MAX 7.7 MIN 3.3 AC-FT 4160

e Estimated.

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 mi².

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 & 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 powerplant. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 73,481 acre-ft, May 20, elevation, 6,489.20 ft; minimum, 37,920 acre-ft, Aug. 18, 19, elevation, 6,437.34 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Apr. 13, 1959)

| | | | | | | | |
|-------|-------|-------|--------|-------|--------|---------|---------|
| 6,317 | 40 | 6,385 | 11,618 | 6,440 | 39,471 | 6,520 | 99,807 |
| 6,360 | 2,810 | 6,400 | 18,359 | 6,460 | 51,900 | 6,550 | 129,118 |
| 6,370 | 5,738 | 6,420 | 28,362 | 6,490 | 74,128 | 6,551.1 | 129,733 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 42149 | 51636 | 44798 | 41992 | 44135 | 42535 | 51242 | 58899 | 54203 | 42650 | 40481 | 38064 |
| 2 | 41297 | 53017 | 43147 | 42034 | 44190 | 43147 | 50614 | 59080 | 53884 | 40238 | 40481 | 38070 |
| 3 | 41350 | 53911 | 42826 | 42239 | 44252 | 40897 | 49402 | 60779 | 52052 | 41794 | 40552 | 38081 |
| 4 | 41482 | 51150 | 44013 | 42354 | 44681 | 41165 | 49010 | 65978 | 51196 | 41848 | 40950 | 38186 |
| 5 | 41542 | 48092 | 44479 | 42372 | 44731 | 42077 | 48627 | 68226 | 50250 | 42771 | 41872 | 38186 |
| 6 | 43573 | 48327 | 44013 | 42390 | 44823 | 42481 | 47895 | 69484 | 49544 | 44160 | 43080 | 38186 |
| 7 | 43531 | 47749 | 45137 | 42414 | 44915 | 43476 | 45775 | 71632 | 47812 | 43683 | 43238 | 38512 |
| 8 | 41159 | 47793 | 48703 | 41908 | 45304 | 44086 | 45168 | 72246 | 50934 | 42209 | 43378 | 38518 |
| 9 | 43610 | 48130 | 46485 | 41950 | 45329 | 44903 | 45508 | 72318 | 48397 | 42469 | 45075 | 38518 |
| 10 | 45607 | 47105 | 44086 | 43239 | 45329 | 44989 | 48486 | 72238 | 46092 | 44823 | 46347 | 38343 |
| 11 | 45775 | 45107 | 49280 | 43257 | 45533 | 42668 | 49113 | 71783 | 43555 | 46641 | 44595 | 38337 |
| 12 | 46710 | 42644 | 54590 | 43354 | 45980 | 41386 | 51130 | 71544 | 46873 | 51373 | 41908 | 38337 |
| 13 | 46460 | 43525 | 54121 | 43653 | 48493 | 41680 | 51610 | 71950 | 46647 | 57867 | 39653 | 38326 |
| 14 | 45626 | 46485 | 55006 | 43842 | 48493 | 41926 | 52218 | 71839 | 44626 | 55887 | 39149 | 38320 |
| 15 | 44946 | 50620 | 54331 | 44571 | 49977 | 42107 | 51834 | 71743 | 46410 | 53763 | 39771 | 38320 |
| 16 | 43897 | 52963 | 50445 | 49030 | 50010 | 42832 | 51150 | 72358 | 45694 | 52403 | 39319 | 38320 |
| 17 | 44142 | 52231 | 44922 | 49030 | 48646 | 43123 | 51071 | 72254 | 44817 | 50705 | 38343 | 38320 |
| 18 | 42487 | 52072 | 44798 | 49351 | 45663 | 43488 | 51459 | 72710 | 44154 | 49389 | 37920 | 38320 |
| 19 | 43232 | 50484 | 46353 | 49856 | 44264 | 43123 | 52251 | 73200 | 47755 | 48818 | 37920 | 38314 |
| 20 | 42505 | 51505 | 47049 | 47673 | 50068 | 43647 | 54597 | 73481 | 51801 | 48403 | 37937 | 38302 |
| 21 | 43062 | 53534 | 47175 | 43775 | 49293 | 45409 | 56422 | 73240 | 51610 | 47307 | 37949 | 38314 |
| 22 | 41153 | 54209 | 47200 | 44093 | 46980 | 44903 | 55818 | 73353 | 50771 | 45026 | 37960 | 38314 |
| 23 | 43050 | 49777 | 47080 | 44160 | 45014 | 47131 | 55624 | 73184 | 48499 | 42989 | 37966 | 38326 |
| 24 | 45694 | 46297 | 44632 | 44233 | 42953 | 47806 | 55164 | 72870 | 45533 | 41344 | 37966 | 38885 |
| 25 | 46497 | 43397 | 41776 | 44448 | 40998 | 48480 | 55942 | 73385 | 43080 | 40956 | 37983 | 38885 |
| 26 | 46766 | 42167 | 40855 | 44516 | 41464 | 51597 | 55956 | 71560 | 43537 | 43099 | 37983 | 38891 |
| 27 | 47793 | 41698 | 41240 | 44571 | 41291 | 53756 | 58597 | 65015 | 43946 | 42300 | 38053 | 38909 |
| 28 | 45589 | 44135 | 41243 | 44638 | 42850 | 54345 | 59152 | 58317 | 42838 | 41848 | 38059 | 39477 |
| 29 | 42680 | 46004 | 42149 | 43903 | --- | 54808 | 59362 | 56716 | 43707 | 41860 | 38059 | 40802 |
| 30 | 46516 | 45799 | 42161 | 43988 | --- | 55006 | 59362 | 57215 | 43982 | 42149 | 38059 | 41153 |
| 31 | 48003 | --- | 42167 | 44043 | --- | 53184 | --- | 56178 | --- | 41560 | 38064 | --- |
| MAX | 48003 | 54209 | 55006 | 49856 | 50068 | 55006 | 59362 | 73481 | 54203 | 57867 | 46347 | 41153 |
| MIN | 41153 | 41698 | 40855 | 41908 | 40998 | 40897 | 45168 | 56178 | 42838 | 40238 | 37920 | 38064 |
| a | 6453.98 | 6450.47 | 6444.53 | 6447.62 | 6445.66 | 6461.93 | 6470.80 | 6466.32 | 6447.52 | 6443.52 | 6437.59 | 6442.84 |
| b | +3001 | -2204 | -3632 | +1876 | -1193 | +10334 | +6178 | -3184 | -12196 | -2422 | -3496 | +3089 |

CAL YR 1989 b -27419

WTR YR 1990 b -3849

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

TULARE LAKE BASIN

11214900 NORTH FORK KINGS RIVER BELOW WISHON RESERVOIR, CA

LOCATION.--Lat 37°00'05", long 118°58'20", in SE 1/4 NE 1/4 sec.1, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 1,700 ft downstream from Wishon Dam and 20 mi southeast of Big Creek.

DRAINAGE AREA.--178 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and 90° V-notch steel control and concrete weir. Elevation of gage is 6,300 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Wishon Reservoir (station 11214800) and Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas powerplant. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 35 ft³/s, Nov. 23, 1988, gage height, 3.59 ft; minimum daily, 7.2 ft³/s, Feb. 18, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft³/s, Oct. 24, gage height, 3.06 ft; minimum daily, 7.2 ft³/s, Feb. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 16 | 17 | 12 | 8.8 | 8.2 | 9.8 | 9.0 | 9.2 | 9.5 | 8.8 | 8.6 | 8.2 |
| 2 | 16 | 17 | 8.7 | 8.9 | 8.1 | 9.9 | 8.8 | 9.1 | 9.4 | 8.7 | 8.5 | 8.2 |
| 3 | 16 | 17 | 8.6 | 8.8 | 8.2 | 11 | 8.7 | 9.2 | 9.2 | 8.6 | 8.6 | 8.2 |
| 4 | 16 | 17 | 8.6 | 8.3 | 8.3 | 10 | 8.6 | 9.3 | 9.1 | 8.7 | 8.5 | 8.2 |
| 5 | 16 | 16 | 8.5 | 7.8 | 8.2 | 9.7 | 8.5 | 9.7 | 9.0 | 8.7 | 8.6 | 8.2 |
| 6 | 16 | 16 | 8.4 | 7.8 | 8.3 | 9.5 | 8.3 | 9.9 | 8.9 | 8.8 | 8.6 | 8.2 |
| 7 | 16 | 16 | 8.4 | 7.8 | 8.3 | 9.7 | 8.3 | 10 | 8.8 | 8.9 | 8.6 | 8.2 |
| 8 | 16 | 16 | 8.5 | 7.8 | 8.2 | 9.9 | 8.6 | 10 | 8.7 | 8.7 | 8.7 | 8.2 |
| 9 | 16 | 16 | 8.6 | 7.7 | 8.3 | 10 | 8.1 | 11 | 8.9 | 8.7 | 8.7 | 8.2 |
| 10 | 16 | 16 | 8.4 | 7.7 | 8.3 | 10 | 8.2 | 11 | 8.6 | 8.8 | 9.0 | 8.2 |
| 11 | 17 | 16 | 8.5 | 7.8 | 8.5 | 9.9 | 8.3 | 11 | 8.5 | 9.0 | 9.0 | 8.2 |
| 12 | 16 | 16 | 9.1 | 8.0 | 8.8 | 9.4 | 8.4 | 10 | 8.4 | 9.1 | 8.7 | 8.2 |
| 13 | 17 | 16 | 9.3 | 8.4 | 8.8 | 9.2 | 8.5 | 10 | 8.5 | 9.7 | 8.4 | 8.2 |
| 14 | 16 | 16 | 9.4 | 8.2 | 8.6 | 9.3 | 8.5 | 10 | 8.5 | 10 | 8.3 | 8.2 |
| 15 | 16 | 16 | 9.0 | 8.2 | 8.7 | 9.5 | 8.5 | 10 | 8.4 | 9.9 | 8.3 | 8.2 |
| 16 | 16 | 17 | 8.3 | 8.4 | 8.3 | 9.8 | 8.6 | 10 | 8.5 | 9.8 | 8.3 | 8.2 |
| 17 | 17 | 17 | 8.0 | 8.6 | 7.6 | 11 | 8.6 | 10 | 8.4 | 9.6 | 8.2 | 8.2 |
| 18 | 17 | 17 | 7.6 | 8.6 | 7.2 | 11 | 8.6 | 10 | 8.3 | 9.5 | 8.2 | 8.2 |
| 19 | 17 | 17 | 8.1 | 8.7 | 8.8 | 11 | 8.6 | 10 | 8.3 | 9.4 | 8.2 | 8.2 |
| 20 | 17 | 17 | 8.4 | 8.6 | 9.1 | 11 | 8.7 | 10 | 8.6 | 9.3 | 8.2 | 8.2 |
| 21 | 17 | 16 | 8.3 | 8.3 | 8.1 | 11 | 8.9 | 10 | 8.9 | 9.3 | 8.2 | 8.2 |
| 22 | 17 | 16 | 8.4 | 8.1 | 8.0 | 9.2 | 8.9 | 10 | 8.9 | 9.1 | 8.2 | 8.2 |
| 23 | 17 | 16 | 8.4 | 8.1 | 8.5 | 9.5 | 10 | 11 | 8.8 | 8.9 | 8.2 | 8.2 |
| 24 | 18 | 16 | 8.2 | 8.2 | 9.2 | 9.6 | 9.5 | 11 | 8.5 | 8.7 | 8.2 | 8.2 |
| 25 | 16 | 16 | 8.0 | 8.2 | 9.1 | 9.4 | 9.1 | 10 | 8.3 | 8.6 | 8.2 | 8.2 |
| 26 | 16 | 16 | 7.9 | 8.2 | 9.3 | 9.3 | 9.0 | 10 | 8.2 | 8.6 | 8.2 | 8.2 |
| 27 | 16 | 16 | 8.0 | 8.2 | 9.7 | 9.4 | 9.0 | 11 | 8.2 | 8.7 | 8.2 | 8.2 |
| 28 | 16 | 16 | 8.5 | 8.2 | 9.9 | 9.4 | 9.1 | 13 | 8.3 | 8.7 | 8.2 | 8.2 |
| 29 | 16 | 16 | 8.8 | 8.2 | --- | 9.2 | 9.2 | 10 | 8.8 | 8.7 | 8.2 | 8.2 |
| 30 | 16 | 16 | 8.8 | 8.2 | --- | 9.2 | 9.2 | 9.9 | 8.8 | 8.7 | 8.2 | 8.3 |
| 31 | 16 | --- | 8.8 | 8.2 | --- | 9.1 | --- | 9.7 | --- | 8.7 | 8.2 | --- |
| TOTAL | 507 | 489 | 266.5 | 255.0 | 238.6 | 304.9 | 262.3 | 315.0 | 260.2 | 279.4 | 260.4 | 246.1 |
| MEAN | 16.4 | 16.3 | 8.60 | 8.23 | 8.52 | 9.84 | 8.74 | 10.2 | 8.67 | 9.01 | 8.40 | 8.20 |
| MAX | 18 | 17 | 12 | 8.9 | 9.9 | 11 | 10 | 13 | 9.5 | 10 | 9.0 | 8.3 |
| MIN | 16 | 16 | 7.6 | 7.7 | 7.2 | 9.1 | 8.1 | 9.1 | 8.2 | 8.6 | 8.2 | 8.2 |
| AC-FT | 1010 | 970 | 529 | 506 | 473 | 605 | 520 | 625 | 516 | 554 | 517 | 488 |

CAL YR 1989 TOTAL 6646.5 MEAN 18.2 MAX 25 MIN 7.6 AC-FT 13180
WTR YR 1990 TOTAL 3684.4 MEAN 10.1 MAX 18 MIN 7.2 AC-FT 7310

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 mi².

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 powerplant since Dec. 10, 1958. See schematic diagram of Kings River basin. Monthly chemical, trace-element, biological, and sediment data are available in files of the U.S. Geological Survey and in U.S. Geological Survey Open-File Report 88-479. Also available in the same report are daily maximum, minimum, and mean specific conductance and water temperature values.

COOPERATION.--Records were provided by Pacific Gas & 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).--69 years, 371 ft³/s, 268,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon Reservoir).--Maximum discharge, 14,000 ft³/s, Dec. 11, 1937, gage height, 18.0 ft, from floodmarks, from rating curve extended above 4,200 ft³/s on basis of velocity-area studies; minimum, 0.6 ft³/s, Dec. 30, 1930.
1957 to current year.--Maximum discharge, 5,110 ft³/s, Sept. 5, 1978, gage height, 11.96 ft; minimum daily, 0.8 ft³/s, Dec. 14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39 ft³/s, Mar. 8, May 28, gage height 3.33 ft; minimum daily, 7.2 ft³/s, Dec. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|-------|------|------|------|-------|-------|-------|-------|
| 1 | 15 | 16 | 12 | 8.1 | 8.6 | 12 | e21 | 11 | 11 | 9.6 | 10 | 9.2 |
| 2 | 15 | 16 | 8.2 | 8.4 | 8.4 | 14 | e18 | 11 | 11 | 9.5 | 10 | 9.2 |
| 3 | 15 | 16 | 8.1 | 8.2 | 8.5 | 15 | e16 | 11 | 10 | 9.5 | 10 | 9.2 |
| 4 | 15 | 16 | 8.1 | 7.9 | 9.0 | 20 | 17 | 11 | 9.8 | 9.6 | 10 | 9.2 |
| 5 | 15 | 16 | 8.1 | 7.3 | 8.7 | 22 | 16 | 11 | 9.7 | 9.6 | 10 | 9.2 |
| 6 | 15 | 15 | 8.0 | 7.3 | 9.0 | 20 | 16 | 11 | 9.5 | 9.7 | 10 | 9.2 |
| 7 | 16 | 16 | 8.0 | 7.4 | 8.8 | 25 | 15 | 11 | 9.1 | 9.8 | 10 | 9.2 |
| 8 | 15 | 15 | 8.0 | 7.5 | 8.6 | 27 | 19 | 11 | 8.8 | 9.7 | 10 | 9.2 |
| 9 | 15 | 15 | 8.1 | 7.5 | 8.7 | 24 | 14 | 11 | 8.9 | 9.7 | 10 | 9.2 |
| 10 | 15 | 15 | 7.9 | 7.4 | 9.2 | 25 | 14 | 11 | 8.7 | 9.7 | 10 | 9.2 |
| 11 | 16 | 15 | 7.9 | 7.5 | 10 | 25 | 14 | 11 | 8.4 | 9.8 | 10 | 9.2 |
| 12 | 16 | 15 | 8.2 | 8.1 | 12 | 24 | 14 | 11 | 8.2 | 10 | 10 | 9.2 |
| 13 | 16 | 14 | 8.5 | 11 | 11 | 23 | 13 | 10 | 8.3 | 11 | 9.8 | 9.1 |
| 14 | 16 | 15 | 8.5 | 9.6 | 9.8 | 22 | 13 | 10 | 8.3 | 11 | 9.7 | 9.1 |
| 15 | 16 | 15 | 8.3 | 9.0 | 9.4 | 20 | 13 | 10 | 8.3 | 11 | 9.6 | 9.0 |
| 16 | 16 | 16 | 7.8 | 9.2 | 8.8 | 17 | 14 | 10 | 8.3 | 11 | 9.6 | 9.0 |
| 17 | 16 | 16 | 7.6 | 9.1 | 8.6 | 17 | 13 | 10 | 8.2 | 11 | 9.4 | 9.0 |
| 18 | 16 | 16 | 7.2 | 9.0 | 8.0 | 18 | 12 | 10 | 8.0 | 11 | 9.4 | 9.0 |
| 19 | 16 | 16 | 7.5 | 9.1 | 9.5 | 18 | 12 | 10 | 8.0 | 11 | 9.3 | 9.0 |
| 20 | 16 | 16 | 7.9 | 9.0 | 12 | 18 | 13 | 10 | 8.2 | 11 | 9.4 | 9.0 |
| 21 | 17 | 15 | 7.9 | 8.8 | 8.5 | e18 | 13 | 10 | 8.4 | 11 | 9.2 | 9.0 |
| 22 | 18 | 15 | 7.9 | 8.7 | 12 | e20 | 12 | 10 | 8.3 | 10 | 9.3 | 9.0 |
| 23 | 16 | 15 | 7.9 | 8.8 | 15 | e19 | 24 | 11 | 8.6 | 10 | 9.2 | 9.1 |
| 24 | 19 | 15 | 7.8 | 9.2 | 16 | e18 | 18 | 12 | 9.4 | 10 | 9.2 | 9.0 |
| 25 | 21 | 15 | 7.6 | 9.2 | 15 | e17 | 14 | 11 | 9.1 | 10 | 9.3 | 9.0 |
| 26 | 16 | 18 | 7.5 | 9.2 | 14 | e18 | 13 | 11 | 8.9 | 10 | 9.3 | 8.9 |
| 27 | 16 | 16 | 7.5 | 9.0 | 12 | e18 | 12 | 13 | 8.9 | 10 | 9.3 | 9.1 |
| 28 | 16 | 16 | 7.8 | 8.9 | 12 | e18 | 12 | 34 | 9.0 | 10 | 9.2 | 9.0 |
| 29 | 15 | 16 | 8.0 | 8.8 | --- | e17 | 12 | 17 | 9.6 | 10 | 9.2 | 9.0 |
| 30 | 15 | 16 | 8.0 | 9.0 | --- | e18 | 11 | 13 | 9.6 | 10 | 9.3 | 9.1 |
| 31 | 15 | --- | 8.0 | 8.6 | --- | e19 | --- | 12 | --- | 10 | 9.3 | --- |
| TOTAL | 495 | 467 | 249.8 | 265.8 | 291.1 | 606 | 438 | 366 | 268.5 | 315.2 | 298.0 | 272.8 |
| MEAN | 16.0 | 15.6 | 8.06 | 8.57 | 10.4 | 19.5 | 14.6 | 11.8 | 8.95 | 10.2 | 9.61 | 9.09 |
| MAX | 21 | 18 | 12 | 11 | 16 | 27 | 24 | 34 | 11 | 11 | 10 | 9.2 |
| MIN | 15 | 14 | 7.2 | 7.3 | 8.0 | 12 | 11 | 10 | 8.0 | 9.5 | 9.2 | 8.9 |
| AC-FT | 982 | 926 | 495 | 527 | 577 | 1200 | 869 | 726 | 533 | 625 | 591 | 541 |

CAL YR 1989 TOTAL 7627.8 MEAN 20.9 MAX 69 MIN 7.2 AC-FT 15130
WTR YR 1990 TOTAL 4333.2 MEAN 11.9 MAX 34 MIN 7.2 AC-FT 8590

e Estimated.

TULARE LAKE BASIN

11216100 BLACK ROCK RESERVOIR NEAR BALCH CAMP, CA

LOCATION.--Lat 36°55'13", long 119°01'20", in NW 1/4 NW 1/4 sec.6, T.12 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank at intake tower on North Fork Kings River, 5.6 mi east-northeast of Balch Camp.

DRAINAGE AREA.--233 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete arch-type dam, completed to elevation 4,054 ft in 1927 and raised to 4,098 ft in 1958. Storage began in 1927. Spillway is ungated. Capacity, 1,260 acre-ft between elevation 4,054 ft, fish release valve, and 4,098 ft, top of spillway crest. Water is diverted from reservoir through tunnel to Balch powerplant 3.7 mi downstream. Flow is diverted from powerplant tailrace in a closed conduit to Kings River powerplant. See schematic diagram of Kings River basin. Records, including extremes, represent contents at 2400 hours.

COOPERATION.--Records were provided by Pacific Gas & 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, 1,255 acre-ft, Nov. 1, 1986, elevation, 4,097.86 ft; minimum, 359 acre-ft, Nov. 3, 1986, elevation 4,064.51 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,251 acre-ft, Aug. 10, elevation, 4,097.85 ft; minimum, 609 acre-ft, Jan. 28, elevation, 4,076.26 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas and Electric Co., dated Dec. 1, 1958)

| | | | | | | | |
|-------|-----|-------|-----|-------|-----|-------|-------|
| 4,050 | 165 | 4,065 | 367 | 4,080 | 706 | 4,095 | 1,157 |
| 4,055 | 219 | 4,070 | 465 | 4,085 | 846 | 4,100 | 1,331 |
| 4,060 | 286 | 4,075 | 579 | 4,090 | 996 | 4,108 | 1,635 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 1044 | 1079 | 1081 | 796 | 813 | 1149 | 1134 | 1114 | 1043 | 994 | 1091 | 857 |
| 2 | 973 | 1063 | 1081 | 773 | 756 | 1181 | 1246 | 1134 | 1199 | 1000 | 1091 | 847 |
| 3 | 1031 | 1028 | 1095 | 765 | 807 | 1009 | 1118 | 1086 | 1050 | 1044 | 1095 | 844 |
| 4 | 882 | 1047 | 1116 | 798 | 850 | 894 | 1202 | 1151 | 1081 | 1076 | 1239 | 841 |
| 5 | 891 | 1000 | 1131 | 756 | 900 | 1035 | 1194 | 1230 | 1066 | 985 | 1006 | 819 |
| 6 | 850 | 1041 | 1086 | 787 | 954 | 1145 | 1212 | 1212 | 1038 | 1073 | 1128 | 810 |
| 7 | 885 | 1051 | 1025 | 784 | 1005 | 1185 | 1233 | 1165 | 1051 | 1112 | 1131 | 801 |
| 8 | 921 | 1000 | 1028 | 729 | 1051 | 1179 | 1226 | 1118 | 1047 | 1134 | 1118 | 798 |
| 9 | 888 | 1038 | 1019 | 768 | 1099 | 1138 | 1222 | 1141 | 1060 | 1009 | 1117 | 793 |
| 10 | 865 | 982 | 973 | 737 | 1100 | 1175 | 1219 | 1145 | 1086 | 981 | 1251 | 936 |
| 11 | 804 | 991 | 973 | 723 | 1158 | 1128 | 1226 | 1108 | 1026 | 1099 | 1226 | 930 |
| 12 | 839 | 1003 | 999 | 766 | 1226 | 1047 | 1205 | 1222 | 1047 | 1185 | 1216 | 871 |
| 13 | 804 | 1005 | 1009 | 849 | 1205 | 1141 | 1205 | 963 | 1069 | 1099 | 1185 | 874 |
| 14 | 784 | 1012 | 960 | 945 | 1205 | 1138 | 1233 | 1073 | 973 | 979 | 1229 | 865 |
| 15 | 764 | 1006 | 945 | 966 | 1236 | 1158 | 1192 | 1199 | 979 | 933 | 1233 | 790 |
| 16 | 804 | 1041 | 928 | 1028 | 1161 | 1168 | 1161 | 1151 | 1098 | 1118 | 994 | 754 |
| 17 | 790 | 1025 | 942 | 1082 | 1212 | 1148 | 1199 | 1147 | 1181 | 1060 | 1154 | 759 |
| 18 | 963 | 1031 | 966 | 1118 | 1158 | 1138 | 1188 | 1099 | 1086 | 1079 | 1051 | 707 |
| 19 | 995 | 1066 | 897 | 1168 | 1205 | 1165 | 1226 | 1174 | 1028 | 1064 | 1057 | 717 |
| 20 | 960 | 1006 | 882 | 1216 | 1151 | 1060 | 1148 | 1066 | 973 | 1092 | 1025 | 861 |
| 21 | 933 | 1016 | 912 | 1199 | 1202 | 1064 | 1122 | 1000 | 951 | 1003 | 985 | 768 |
| 22 | 1047 | 954 | 877 | 1165 | 1161 | 1108 | 1105 | 1094 | 1000 | 966 | 994 | 776 |
| 23 | 1031 | 991 | 906 | 1181 | 1147 | 1044 | 1202 | 1175 | 1076 | 1037 | 939 | 784 |
| 24 | 1047 | 1025 | 933 | 1167 | 1099 | 762 | 1158 | 1066 | 1000 | 1057 | 945 | 1069 |
| 25 | 1019 | 973 | 886 | 1182 | 1135 | 613 | 1131 | 1082 | 1044 | 1082 | 947 | 1003 |
| 26 | 948 | 1019 | 844 | 1208 | 1219 | 754 | 1192 | 1057 | 1012 | 1205 | 954 | 988 |
| 27 | 951 | 1070 | 877 | 810 | 1216 | 1009 | 1226 | 1178 | 1031 | 1165 | 969 | 979 |
| 28 | 1000 | 1060 | 839 | 609 | 1148 | 1133 | 1165 | 1081 | 1092 | 1168 | 918 | 927 |
| 29 | 1003 | 1063 | 816 | 666 | --- | 1178 | 1199 | 1161 | 954 | 1131 | 880 | 906 |
| 30 | 1092 | 1073 | 824 | 727 | --- | 1148 | 1145 | 1026 | 1047 | 1181 | 877 | 885 |
| 31 | 1079 | --- | 790 | 727 | --- | 1086 | --- | 981 | --- | 1006 | 865 | --- |
| MAX | 1092 | 1079 | 1131 | 1216 | 1236 | 1185 | 1246 | 1230 | 1199 | 1205 | 1251 | 1069 |
| MIN | 764 | 954 | 790 | 609 | 756 | 613 | 1105 | 963 | 951 | 933 | 865 | 707 |
| a | 4092.63 | 4092.44 | 4083.05 | 4080.77 | 4094.73 | 4092.84 | 4094.64 | 4089.51 | 4091.63 | 4090.32 | 4085.64 | 4086.32 |
| b | +70 | -6 | -283 | -63 | +421 | -62 | +59 | -164 | +66 | -41 | -141 | +20 |

CAL YR 1989 b -328

WTR YR 1990 b -124

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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.--Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100).

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--7 years, 36.5 ft³/s, 26,440 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,830 ft³/s, Nov. 24, 1983, gage height, 7.63 ft; minimum daily, 0.89 ft³/s, Oct. 21, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 180 ft³/s, Aug. 10, gage height, 3.01 ft; minimum daily, 3.1 ft³/s, Dec. 15-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 6.8 | 7.2 | 7.0 | 3.8 | 5.9 | 7.3 | 6.1 | e4.6 | e4.7 | 4.5 | 4.3 | 3.9 |
| 2 | 6.8 | 7.2 | 5.1 | 4.9 | 5.3 | 7.4 | 6.1 | e4.4 | e4.6 | 4.4 | 4.4 | 3.9 |
| 3 | 6.8 | 7.2 | 4.2 | 4.0 | 5.2 | 8.5 | e6.0 | e4.4 | e4.8 | 4.4 | 4.2 | 3.9 |
| 4 | 6.8 | 7.4 | 3.8 | 3.8 | 6.4 | 9.2 | e5.8 | e4.6 | e4.6 | 4.4 | 4.4 | 3.9 |
| 5 | 6.5 | 7.2 | 3.8 | 3.8 | 5.3 | 12 | e5.3 | e4.6 | e4.4 | 4.4 | 4.5 | 3.8 |
| 6 | 6.3 | 7.2 | 3.8 | 3.7 | 6.2 | 8.8 | e5.1 | e4.6 | e4.4 | 4.4 | 4.3 | 3.8 |
| 7 | 6.3 | 7.2 | 3.6 | 3.8 | 6.5 | 8.2 | e5.3 | e4.6 | e4.4 | 4.4 | 4.4 | 3.8 |
| 8 | 6.3 | 7.2 | 3.6 | 3.8 | 5.7 | 7.7 | e5.9 | e4.4 | e4.4 | 4.4 | 4.3 | 3.8 |
| 9 | 6.3 | 7.2 | 3.6 | 3.8 | 5.6 | 7.3 | e5.3 | e4.4 | e4.4 | 4.4 | 4.4 | 3.8 |
| 10 | 6.3 | e7.2 | 3.6 | 3.8 | 5.7 | 8.2 | e5.1 | e4.4 | e4.4 | 4.3 | 18 | 3.8 |
| 11 | 6.3 | e7.2 | 3.4 | 3.7 | 6.2 | 11 | e5.0 | e4.6 | e4.4 | 4.3 | 8.0 | 4.0 |
| 12 | 6.1 | e7.1 | 3.4 | 4.4 | 6.5 | 8.3 | e5.0 | e4.6 | e4.4 | 4.4 | 4.5 | 4.0 |
| 13 | 6.1 | e7.1 | 3.4 | 16 | 6.3 | 7.6 | e5.0 | e4.6 | e4.8 | 4.5 | 4.4 | 3.9 |
| 14 | 6.1 | 7.1 | 3.2 | 11 | 5.9 | 7.8 | e5.6 | e4.4 | e4.6 | 4.4 | 4.4 | 3.9 |
| 15 | 6.3 | 7.1 | 3.1 | 7.1 | 5.6 | 8.0 | e5.5 | e4.6 | e4.8 | 4.2 | 4.4 | 4.0 |
| 16 | 6.3 | 7.1 | 3.1 | 6.3 | 5.9 | 8.5 | e5.1 | e4.8 | e4.6 | 4.1 | 4.4 | 4.0 |
| 17 | 6.3 | 7.2 | 3.1 | 6.2 | 6.3 | 8.3 | e5.0 | e4.6 | e4.8 | 4.4 | 4.2 | 4.0 |
| 18 | 6.4 | 7.2 | 3.1 | 5.7 | 6.4 | 8.1 | e5.0 | e4.6 | e4.8 | 4.4 | 4.3 | 3.8 |
| 19 | 6.8 | 7.2 | 3.2 | 5.4 | 6.2 | 7.8 | e4.9 | e4.6 | e4.6 | 4.4 | 4.3 | 3.8 |
| 20 | 6.8 | 7.2 | 3.8 | 5.3 | 6.2 | 7.6 | e4.8 | e4.6 | 4.5 | 4.4 | 4.2 | 3.7 |
| 21 | 7.2 | 7.1 | 3.8 | 5.1 | 6.5 | 7.6 | e4.8 | e4.4 | 4.4 | 4.4 | 4.2 | 4.0 |
| 22 | 8.6 | 7.1 | 3.8 | 5.2 | 7.4 | 7.4 | e4.7 | e4.4 | 4.4 | 4.2 | 4.1 | 3.9 |
| 23 | 7.2 | 6.9 | 3.8 | 5.1 | 8.5 | 7.1 | e5.8 | e4.6 | 4.5 | 4.1 | 4.1 | 4.0 |
| 24 | 7.7 | 7.0 | 3.8 | 5.1 | 9.1 | 7.0 | e5.1 | e5.0 | 4.6 | 4.2 | 4.1 | 4.0 |
| 25 | 8.6 | 8.1 | 3.8 | 5.1 | 8.7 | 6.5 | e4.9 | e4.6 | 4.6 | 4.2 | 4.1 | 4.4 |
| 26 | 7.6 | 12 | 3.8 | 5.1 | 8.1 | 5.9 | e4.8 | e4.4 | 4.6 | 4.3 | 4.1 | 4.3 |
| 27 | 7.1 | 7.7 | 3.8 | 5.0 | 7.8 | 6.1 | e4.8 | e5.2 | 4.5 | 4.4 | 4.1 | 4.3 |
| 28 | 7.0 | 7.5 | 3.8 | 4.4 | 7.8 | 6.5 | e4.7 | e9.4 | 4.5 | 4.4 | 4.1 | 4.3 |
| 29 | 7.0 | 7.4 | 3.8 | 4.8 | --- | 6.4 | e4.7 | e5.8 | 4.5 | 4.4 | 4.1 | 4.1 |
| 30 | 7.0 | 7.4 | 3.8 | 5.5 | --- | 6.3 | e4.6 | e5.1 | 4.4 | 4.4 | 4.0 | 4.1 |
| 31 | 7.1 | --- | 3.8 | 5.4 | --- | 6.3 | --- | e4.8 | --- | 4.4 | 4.0 | --- |
| TOTAL | 210.8 | 221.9 | 116.7 | 166.1 | 183.2 | 240.7 | 155.8 | 148.7 | 136.4 | 134.9 | 149.3 | 118.9 |
| MEAN | 6.80 | 7.40 | 3.76 | 5.36 | 6.54 | 7.76 | 5.19 | 4.80 | 4.55 | 4.35 | 4.82 | 3.96 |
| MAX | 8.6 | 12 | 7.0 | 16 | 9.1 | 12 | 6.1 | 9.4 | 4.8 | 4.5 | 18 | 4.4 |
| MIN | 6.1 | 6.9 | 3.1 | 3.7 | 5.2 | 5.9 | 4.6 | 4.4 | 4.4 | 4.1 | 4.0 | 3.7 |
| AC-FT | 418 | 440 | 231 | 329 | 363 | 477 | 309 | 295 | 271 | 268 | 296 | 236 |

CAL YR 1989 TOTAL 2197.0 MEAN 6.02 MAX 24 MIN 2.6 AC-FT 4360
WTR YR 1990 TOTAL 1983.4 MEAN 5.43 MAX 18 MIN 3.1 AC-FT 3930

e Estimated.

TULARE LAKE BASIN

11216400 DINKEY CREEK SIPHON FISH RELEASE AT BALCH CAMP, CA

LOCATION.--Lat 36°54'29", long 119°07'27", in NW 1/4 NE 1/4 sec.10, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, in concrete vault on right bank of Dinkey Creek, 200 ft downstream from Dinkey Creek Siphon at invert of Kings River powerplant conduit, and 1,700 ft northwest of Balch Camp.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Pressure differential flowmeter. Elevation of gage is 1,320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow release required for fishery enhancement from June 1 to Sept. 30 when natural flow of Dinkey Creek is equal to or less than 60 ft³/s. See records for North Fork Kings River above Dinkey Creek (station 11216500), North Fork Kings River below Dinkey Creek (station 11218400), and schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 14 ft³/s, Sept. 14-30, 1990; no flow many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|--------|---------|------------|-------|-------|-------|--------|------|------|------|
| 1 | 10 | .00 | .00 | 5.3 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 11 |
| 2 | 7.7 | .00 | .00 | 4.9 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 11 |
| 3 | 6.3 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 11 |
| 4 | 8.1 | .00 | .00 | 3.8 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 12 |
| 5 | 8.4 | .00 | .00 | 3.9 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 12 |
| 6 | 8.4 | .00 | .00 | 4.4 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 12 |
| 7 | 8.3 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 12 |
| 8 | 8.5 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 12 |
| 9 | 9.1 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 13 |
| 10 | 9.7 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 13 |
| 11 | 10 | .00 | .00 | 4.1 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 13 |
| 12 | 10 | .00 | .00 | 4.2 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 13 |
| 13 | 10 | .00 | .00 | 1.9 | .00 | .00 | .00 | .00 | .00 | 11 | 11 | 13 |
| 14 | 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 1.7 | 11 | 11 | 14 |
| 15 | 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 11 | 14 |
| 16 | 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 17 | 10 | .00 | 1.7 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 18 | 10 | 1.1 | 3.8 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 19 | 10 | 2.0 | 4.0 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 20 | 10 | 2.0 | 4.2 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 21 | 10 | 2.0 | 3.9 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 22 | 10 | 2.0 | 3.8 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 12 | 14 |
| 23 | 10 | 2.0 | 4.1 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 11 | 14 |
| 24 | 10 | 2.2 | 3.8 | .00 | .00 | .00 | .00 | .00 | 5.3 | 11 | 11 | 14 |
| 25 | 4.2 | 2.9 | 3.9 | .00 | .00 | .00 | .00 | .00 | 5.2 | 11 | 11 | 14 |
| 26 | .00 | 1.2 | 4.2 | .00 | .00 | .00 | .00 | .00 | 7.8 | 11 | 11 | 14 |
| 27 | .00 | .00 | 4.3 | .00 | .00 | .00 | .00 | .00 | 10 | 11 | 11 | 14 |
| 28 | .00 | .00 | 4.7 | .00 | .00 | .00 | .00 | .00 | 11 | 10 | 11 | 14 |
| 29 | .00 | .00 | 5.4 | .00 | --- | .00 | .00 | .00 | 10 | 11 | 11 | 14 |
| 30 | .00 | .00 | 5.1 | .00 | --- | .00 | .00 | .00 | 11 | 11 | 11 | 14 |
| 31 | .00 | --- | 5.1 | .00 | --- | .00 | --- | .00 | --- | 11 | 11 | --- |
| TOTAL | 228.70 | 17.40 | 62.00 | 53.00 | 0.00 | 0.00 | 0.00 | 0.00 | 108.80 | 340 | 348 | 396 |
| MEAN | 7.38 | .58 | 2.00 | 1.71 | .0000 | .0000 | .0000 | .0000 | 3.63 | 11.0 | 11.2 | 13.2 |
| MAX | 10 | 2.9 | 5.4 | 5.3 | .00 | .00 | .00 | .00 | 11 | 11 | 12 | 14 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 10 | 11 | 11 |
| AC-FT | 454 | 35 | 123 | 105 | .00 | .00 | .00 | .00 | 216 | 674 | 690 | 785 |
| CAL YR 1989 | TOTAL 1379.70 | MEAN 3.78 | MAX 10 | MIN .00 | AC-FT 2740 | | | | | | | |
| WTR YR 1990 | TOTAL 1553.90 | MEAN 4.26 | MAX 14 | MIN .00 | AC-FT 3080 | | | | | | | |

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 mi².

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 and Cippoletti weir since May 9, 1988. Concrete control Apr. 15, 1966, to May 9, 1988. 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.--Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100); Balch Afterbay, capacity, 318 acre-ft; and Haas and Balch powerplants. Diversion from Balch Afterbay to Kings River powerplant began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Records were provided by Pacific Gas & 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 (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 ft³/s, June 4, 1922, gage height, 12.18 ft, site and datum then in use; minimum, 4.0 ft³/s, Aug. 29 to Sept. 1, 1924.

1960 to current year: Maximum discharge, 14,000 ft³/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 ft³/s; minimum daily, 0.30 ft³/s, Nov. 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 595 ft³/s, Mar. 25, gage height, 2.90 ft; minimum daily, 10 ft³/s, June 22, Sept. 8, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | e18 | e18 | e17 | e14 | 14 | 69 | 110 | 12 | 13 | 13 | 13 | 12 |
| 2 | e18 | e19 | e14 | e14 | 14 | 37 | 59 | 12 | 13 | 13 | 13 | 11 |
| 3 | e17 | e19 | e13 | e12 | 15 | 177 | 17 | 12 | 13 | 12 | 13 | 11 |
| 4 | e17 | e19 | e12 | e12 | 17 | 184 | 14 | 12 | 12 | 13 | 13 | 11 |
| 5 | e18 | e20 | e12 | e12 | 16 | 46 | 13 | 12 | 13 | 13 | 12 | 13 |
| 6 | e17 | e20 | e12 | e12 | 15 | 14 | 13 | 12 | 12 | e13 | 12 | 13 |
| 7 | e17 | e19 | e12 | e14 | 15 | 13 | 13 | 12 | 12 | e14 | 12 | 15 |
| 8 | e16 | e19 | e12 | e14 | 15 | 63 | 14 | 13 | 12 | e13 | 12 | 10 |
| 9 | e16 | e20 | e12 | e15 | 14 | 98 | 13 | 13 | 12 | e13 | 12 | 11 |
| 10 | e16 | e19 | e12 | 15 | 14 | 60 | 13 | 13 | 12 | e13 | 13 | 10 |
| 11 | e17 | e18 | e11 | 14 | 15 | 108 | e13 | 13 | 12 | e12 | 13 | 12 |
| 12 | e17 | e19 | e11 | 14 | 14 | 138 | e13 | 13 | 12 | e12 | 13 | 13 |
| 13 | e17 | e20 | e12 | 19 | 31 | 33 | 13 | 13 | 12 | e12 | 13 | 12 |
| 14 | e17 | e18 | e12 | 16 | 36 | 13 | 13 | 13 | 12 | e13 | 12 | e11 |
| 15 | e17 | e19 | e13 | 16 | 16 | 52 | 14 | 13 | 12 | e12 | 13 | e12 |
| 16 | e18 | e18 | e12 | 18 | 77 | 79 | 13 | 13 | 12 | e11 | 12 | e12 |
| 17 | e18 | e18 | e11 | 18 | 20 | 97 | 13 | 13 | 12 | e12 | 13 | e11 |
| 18 | e18 | e18 | e12 | 16 | 64 | 108 | 13 | 13 | 12 | e12 | 12 | e11 |
| 19 | e18 | e18 | e11 | 15 | 20 | 83 | 13 | 13 | 12 | e12 | 13 | 12 |
| 20 | e18 | e18 | e12 | 15 | 92 | 152 | 13 | 13 | 11 | e12 | 13 | 12 |
| 21 | e18 | e19 | e12 | 17 | 16 | 141 | 13 | 13 | 11 | 13 | 13 | 12 |
| 22 | e18 | e17 | e12 | 15 | 16 | 107 | 13 | 12 | 10 | 13 | 12 | 14 |
| 23 | e17 | e18 | e12 | 15 | 47 | 156 | 14 | 13 | 11 | 12 | 13 | 13 |
| 24 | e18 | e17 | e12 | 13 | 79 | 258 | 13 | 12 | 11 | 13 | 13 | 12 |
| 25 | e19 | e16 | e12 | 15 | 78 | 219 | 13 | 13 | 12 | 12 | 14 | 13 |
| 26 | e18 | e17 | e12 | 14 | 15 | 78 | 12 | 13 | 12 | 12 | 13 | 13 |
| 27 | e18 | e18 | e12 | 15 | 19 | 15 | 12 | 13 | 12 | 13 | 11 | 13 |
| 28 | e18 | e17 | e11 | 14 | 95 | 15 | 13 | 16 | 12 | 12 | 11 | 12 |
| 29 | e18 | e18 | e12 | 15 | --- | 74 | 13 | 14 | 12 | 13 | 12 | 12 |
| 30 | e18 | e18 | e11 | 14 | --- | 96 | 13 | 14 | 13 | 13 | 12 | 12 |
| 31 | e18 | --- | e14 | 16 | --- | 140 | --- | 12 | --- | 13 | 12 | --- |
| TOTAL | 543 | 551 | 377 | 458 | 899 | 2923 | 539 | 398 | 359 | 389 | 388 | 361 |
| MEAN | 17.5 | 18.4 | 12.2 | 14.8 | 32.1 | 94.3 | 18.0 | 12.8 | 12.0 | 12.5 | 12.5 | 12.0 |
| MAX | 19 | 20 | 17 | 19 | 95 | 258 | 110 | 16 | 13 | 14 | 14 | 15 |
| MIN | 16 | 16 | 11 | 12 | 14 | 13 | 12 | 12 | 10 | 11 | 11 | 10 |
| AC-FT | 1080 | 1090 | 748 | 908 | 1780 | 5800 | 1070 | 789 | 712 | 772 | 770 | 716 |

CAL YR 1989 TOTAL 5765.8 MEAN 15.8 MAX 23 MIN 9.8 AC-FT 11440
WTR YR 1990 TOTAL 8185 MEAN 22.4 MAX 258 MIN 10 AC-FT 16230

e Estimated.

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.

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

REMARKS.--No estimated daily discharges. Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), and Black Rock Reservoir (station 11216100); Balch Afterbay, capacity, 318 acre-ft; and Haas and Balch powerplants. Diversion from Balch Afterbay to Kings River powerplant began Mar. 1, 1962. See schematic diagram of Kings River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s, Feb. 1, 1963, gage height, 19.20 ft, from rating curve extended above 10,100 ft³/s; minimum daily, 6.4 ft³/s, Oct. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft³/s, Mar. 24, gage height, 5.39 ft; minimum daily, 25 ft³/s, Sept. 9.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|------|----------|---------|--------|-------------|-------|-------|------|------|------|------|
| 1 | 41 | 48 | 43 | 35 | 62 | 206 | 467 | 304 | 202 | 51 | 31 | 27 |
| 2 | 37 | 46 | 40 | 42 | 54 | 150 | 457 | 301 | 183 | 49 | 31 | 27 |
| 3 | 34 | 44 | 40 | 36 | 59 | 334 | 410 | 309 | 163 | 47 | 31 | 26 |
| 4 | 35 | 43 | 41 | 34 | 66 | 389 | 426 | 331 | 149 | 46 | 31 | 26 |
| 5 | 36 | 43 | 43 | 37 | 57 | 212 | 384 | 348 | 144 | 46 | 29 | 27 |
| 6 | 35 | 43 | 46 | 36 | 66 | 136 | 394 | 360 | 137 | 45 | 29 | 28 |
| 7 | 36 | 41 | 44 | 37 | 67 | 138 | 412 | 340 | 129 | 45 | 29 | 28 |
| 8 | 34 | 41 | 42 | 38 | 56 | 188 | 373 | 310 | 119 | 44 | 29 | 31 |
| 9 | 34 | 40 | 42 | 39 | 61 | 242 | 342 | 284 | 111 | 42 | 29 | 25 |
| 10 | 34 | 38 | 40 | 38 | 62 | 213 | 410 | 271 | 111 | 41 | 30 | 27 |
| 11 | 35 | 38 | 37 | 38 | 72 | 262 | 463 | 237 | 105 | 40 | 30 | 28 |
| 12 | 36 | 37 | 33 | 40 | 80 | 265 | 498 | 225 | 95 | 40 | 30 | 29 |
| 13 | 35 | 37 | 35 | 106 | 111 | 148 | 533 | 217 | 87 | 39 | 29 | 27 |
| 14 | 35 | 37 | 34 | 104 | 92 | 116 | 558 | 206 | 86 | 44 | 28 | 28 |
| 15 | 35 | 37 | 33 | 73 | 59 | 159 | 555 | 194 | 88 | 42 | 29 | 29 |
| 16 | 36 | 36 | 33 | 74 | 130 | 228 | 547 | 187 | 90 | 39 | 29 | 29 |
| 17 | 36 | 35 | 32 | 62 | 77 | 246 | 385 | 176 | 82 | 38 | 30 | 29 |
| 18 | 36 | 36 | 35 | 57 | 120 | 323 | 325 | 167 | 76 | 37 | 30 | 29 |
| 19 | 37 | 37 | 33 | 52 | 81 | 330 | 323 | 159 | 72 | 37 | 31 | 30 |
| 20 | 36 | 35 | 34 | 52 | 213 | 382 | 371 | 149 | 66 | 36 | 31 | 29 |
| 21 | 37 | 36 | 34 | 51 | 394 | 487 | 371 | 143 | 62 | 36 | 31 | 31 |
| 22 | 141 | 35 | 35 | 53 | 377 | 462 | 346 | 141 | 59 | 36 | 31 | 32 |
| 23 | 82 | 34 | 34 | 54 | 111 | 500 | 465 | 143 | 57 | 34 | 29 | 31 |
| 24 | 168 | 34 | 35 | 55 | 163 | 698 | 423 | 206 | 55 | 34 | 29 | 36 |
| 25 | 185 | 35 | 34 | 59 | 166 | 666 | 369 | 209 | 54 | 33 | 29 | 37 |
| 26 | 105 | 109 | 34 | 60 | 102 | 502 | 430 | 161 | 53 | 33 | 31 | 35 |
| 27 | 88 | 51 | 35 | 58 | 122 | 425 | 496 | 156 | 55 | 33 | 27 | 34 |
| 28 | 71 | 46 | 35 | 58 | 225 | 376 | 504 | 477 | 53 | 33 | 27 | 38 |
| 29 | 60 | 47 | 35 | 60 | --- | 354 | 444 | 326 | 52 | 33 | 27 | 36 |
| 30 | 54 | 46 | 34 | 61 | --- | 358 | 361 | 304 | 51 | 32 | 27 | 34 |
| 31 | 50 | --- | 34 | 56 | --- | 432 | --- | 235 | --- | 32 | 27 | --- |
| TOTAL | 1754 | 1265 | 1139 | 1655 | 3305 | 9927 | 12842 | 7576 | 2846 | 1217 | 911 | 903 |
| MEAN | 56.6 | 42.2 | 36.7 | 53.4 | 118 | 320 | 428 | 244 | 94.9 | 39.3 | 29.4 | 30.1 |
| MAX | 185 | 109 | 46 | 106 | 394 | 698 | 558 | 477 | 202 | 51 | 31 | 38 |
| MIN | 34 | 34 | 32 | 34 | 54 | 116 | 323 | 141 | 51 | 32 | 27 | 25 |
| AC-FT | 3480 | 2510 | 2260 | 3280 | 6560 | 19690 | 25470 | 15030 | 5650 | 2410 | 1810 | 1790 |
| CAL YR 1989 | TOTAL 47350 | | MEAN 130 | MAX 710 | MIN 32 | AC-FT 93920 | | | | | | |
| WTR YR 1990 | TOTAL 45340 | | MEAN 124 | MAX 698 | MIN 25 | AC-FT 89930 | | | | | | |

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 mi².

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. WDR 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.--No estimated daily discharges. 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 & Electric Co.
AVERAGE DISCHARGE (adjusted for diversion to Kings River powerplant and change in contents in Wishon and Courtright Reservoirs).--39 years, 2,250 ft³/s, 1,630,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,200 ft³/s, Dec. 23, 1955, gage height, 23.08 ft, from rating curve extended above 22,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 86 ft³/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 ft³/s.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 4,390 ft³/s, May 7, gage height, 7.07 ft; minimum daily, 131 ft³/s, Sept. 17. Combined river and powerplant: Maximum daily discharge, 4,330 ft³/s, May 7; minimum daily, 131 ft³/s, Sept. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---------|-------|-------|-------|-------|-------|-------|--------|--------|--------|-------|-------|------|
| 1 | 309 | 258 | 238 | 169 | 272 | 572 | 1230 | 1930 | 1750 | 866 | 289 | 160 |
| 2 | 289 | 291 | 235 | 194 | 261 | 506 | 1310 | 1780 | 1620 | 887 | 282 | 154 |
| 3 | 274 | 285 | 233 | 184 | 263 | 760 | 1310 | 1800 | 1970 | 863 | 273 | 148 |
| 4 | 265 | 279 | 232 | 171 | 289 | 834 | 1420 | 2090 | 2340 | 787 | 265 | 146 |
| 5 | 257 | 276 | 235 | 164 | 271 | 752 | 1320 | 2560 | 2740 | 712 | 258 | 144 |
| 6 | 247 | 271 | 241 | 172 | 290 | 591 | 1360 | 3260 | 2860 | 656 | 254 | 143 |
| 7 | 240 | 270 | 247 | 175 | 330 | 591 | 1490 | 3630 | 2700 | 613 | 249 | 142 |
| 8 | 231 | 232 | 224 | 181 | 294 | 628 | 1510 | 3290 | 2890 | 579 | 244 | 142 |
| 9 | 220 | 215 | 219 | 181 | 290 | 682 | 1350 | 3100 | 3110 | 547 | 245 | 139 |
| 10 | 213 | 211 | 216 | 179 | 304 | 650 | 1520 | 3130 | 2930 | 518 | 257 | 136 |
| 11 | 209 | 207 | 207 | 176 | 323 | 764 | 1780 | 2290 | 2290 | 499 | 258 | 135 |
| 12 | 203 | 205 | 214 | 181 | 348 | 712 | 2020 | 2060 | 2000 | 479 | 256 | 134 |
| 13 | 197 | 204 | 207 | 372 | 382 | 571 | 2330 | 2140 | 1840 | 485 | 278 | 133 |
| 14 | 196 | 202 | 197 | 497 | 344 | 531 | 2810 | 2120 | 1600 | 619 | 269 | 132 |
| 15 | 194 | 199 | 189 | 331 | 281 | 578 | 2860 | 2020 | 1480 | 1120 | 268 | 132 |
| 16 | 194 | 195 | 190 | 325 | 362 | 683 | 3070 | 1970 | 1350 | 997 | 268 | 132 |
| 17 | 192 | 194 | 186 | 314 | 341 | 708 | 2270 | 2010 | 1250 | 1230 | 257 | 131 |
| 18 | 189 | 191 | 183 | 287 | 399 | 848 | 1920 | 1930 | 1300 | 1060 | 246 | 132 |
| 19 | 186 | 190 | 177 | 273 | 347 | 905 | 1920 | 1850 | 1270 | 971 | 239 | 134 |
| 20 | 182 | 186 | 176 | 258 | 458 | 967 | 2010 | 1640 | 1290 | 801 | 237 | 139 |
| 21 | 188 | 185 | 179 | 255 | 383 | 1160 | 1860 | 1700 | 1380 | 673 | 230 | 139 |
| 22 | 326 | 184 | 180 | 267 | 373 | 1210 | 1760 | 2030 | 1470 | 590 | 218 | 157 |
| 23 | 279 | 181 | 177 | 272 | 430 | 1270 | 1950 | 2140 | 1460 | 536 | 208 | 197 |
| 24 | 358 | 179 | 177 | 310 | 506 | 1520 | 1930 | 2080 | 1340 | 487 | 200 | 205 |
| 25 | 476 | 184 | 175 | 283 | 510 | 1580 | 1770 | 1960 | 1220 | 447 | 194 | 209 |
| 26 | 400 | 373 | 173 | 269 | 444 | 1470 | 1980 | 1650 | 1120 | 413 | 192 | 204 |
| 27 | 353 | 250 | 174 | 263 | 464 | 1450 | 2560 | 1610 | 1050 | 382 | 186 | 203 |
| 28 | 331 | 221 | 173 | 257 | 582 | 1360 | 3290 | 2770 | 979 | 355 | 178 | 212 |
| 29 | 303 | 232 | 172 | 257 | --- | 1200 | 3100 | 2310 | 926 | 334 | 173 | 209 |
| 30 | 279 | 233 | 170 | 259 | --- | 1140 | 2400 | 2670 | 879 | 314 | 167 | 208 |
| 31 | 264 | --- | 168 | 259 | --- | 1160 | --- | 2060 | --- | 298 | 162 | --- |
| TOTAL | 8044 | 6783 | 6164 | 7735 | 10141 | 28353 | 59410 | 69580 | 52404 | 20118 | 7300 | 4731 |
| MEAN | 259 | 226 | 199 | 250 | 362 | 915 | 1980 | 2245 | 1747 | 649 | 235 | 158 |
| MAX | 476 | 373 | 247 | 497 | 582 | 1580 | 3290 | 3630 | 3110 | 1230 | 289 | 212 |
| MIN | 182 | 179 | 168 | 164 | 261 | 506 | 1230 | 1610 | 879 | 298 | 162 | 131 |
| AC-FT | 15960 | 13450 | 12230 | 15340 | 20110 | 56240 | 117800 | 138000 | 103900 | 39900 | 14480 | 9380 |
| MEAN a | 271 | 239 | 207 | 303 | 411 | 1113 | 2764 | 2938 | 1948 | 682 | 214 | 134 |
| AC-FT a | 16660 | 14220 | 12730 | 18630 | 22830 | 68440 | 164500 | 180700 | 115900 | 41930 | 13160 | 7970 |

CAL YR 1989 TOTAL 367692 MEAN 1007 MAX 4850 MIN 151 AC-FT 729300 MEAN a 1240 AC-FT a 897700
WTR YR 1990 TOTAL 280763 MEAN 769 MAX 3630 MIN 131 AC-FT 556900 MEAN a 936 AC-FT a 677600

a Adjusted for diversion to Kings River powerplant and change in contents in Wishon and Courtright Reservoirs.

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KINGS RIVER BELOW NORTH FORK
AND KINGS RIVER POWERPLANT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|--------------|--------------|-------|-------|-------|-------|-------|--------|--------|--------|-------|-------|------|
| 1 | 309 | 258 | 238 | 169 | 272 | 572 | 1230 | 2730 | 2230 | 957 | 781 | 160 |
| 2 | 289 | 291 | 235 | 194 | 261 | 506 | 1310 | 2580 | 1890 | 1290 | 619 | 154 |
| 3 | 274 | 362 | 233 | 184 | 263 | 760 | 1880 | 2580 | 2370 | 1330 | 623 | 148 |
| 4 | 349 | 333 | 404 | 171 | 289 | 834 | 1870 | 2800 | 2880 | 787 | 334 | 146 |
| 5 | 257 | 342 | 235 | 164 | 271 | 752 | 1840 | 3140 | 3360 | 1230 | 432 | 144 |
| 6 | 247 | 271 | 241 | 172 | 290 | 591 | 2000 | 3730 | 3530 | 1100 | 742 | 143 |
| 7 | 240 | 270 | 322 | 175 | 330 | 591 | 2080 | 4330 | 3360 | 844 | 1020 | 142 |
| 8 | 231 | 232 | 224 | 181 | 294 | 628 | 2120 | 4080 | 3540 | 579 | 1000 | 142 |
| 9 | 220 | 215 | 219 | 181 | 290 | 682 | 2000 | 3880 | 3680 | 1040 | 1010 | 139 |
| 10 | 213 | 211 | 216 | 179 | 304 | 650 | 2120 | 3940 | 3160 | 1120 | 542 | 136 |
| 11 | 209 | 207 | 312 | 176 | 323 | 764 | 2390 | 3070 | 2840 | 789 | 560 | 135 |
| 12 | 203 | 205 | 214 | 181 | 348 | 712 | 2600 | 2650 | 2540 | 956 | 809 | 134 |
| 13 | 197 | 204 | 259 | 476 | 382 | 571 | 2930 | 2600 | 2280 | 1040 | 902 | 133 |
| 14 | 196 | 202 | 197 | 497 | 344 | 531 | 3420 | 2820 | 2160 | 1070 | 511 | 132 |
| 15 | 194 | 408 | 189 | 331 | 281 | 578 | 3490 | 2510 | 1950 | 1280 | 268 | 132 |
| 16 | 194 | 195 | 190 | 325 | 362 | 683 | 3670 | 2500 | 1850 | 1220 | 593 | 132 |
| 17 | 354 | 194 | 186 | 314 | 341 | 708 | 2910 | 2550 | 1540 | 1350 | 640 | 131 |
| 18 | 189 | 191 | 183 | 287 | 399 | 848 | 2490 | 2440 | 1840 | 1150 | 521 | 132 |
| 19 | 186 | 190 | 177 | 273 | 347 | 905 | 2530 | 2100 | 1840 | 1080 | 239 | 134 |
| 20 | 182 | 186 | 176 | 258 | 458 | 967 | 2700 | 1900 | 1860 | 1120 | 237 | 183 |
| 21 | 188 | 185 | 179 | 323 | 383 | 1160 | 2670 | 2220 | 1900 | 956 | 230 | 139 |
| 22 | 326 | 257 | 180 | 346 | 373 | 1210 | 2570 | 2530 | 1930 | 642 | 218 | 157 |
| 23 | 279 | 181 | 177 | 272 | 430 | 1270 | 2820 | 2660 | 2070 | 601 | 208 | 197 |
| 24 | 358 | 179 | 177 | 381 | 506 | 1520 | 2710 | 2670 | 1640 | 487 | 200 | 205 |
| 25 | 560 | 184 | 175 | 283 | 510 | 1580 | 2530 | 2530 | 1620 | 656 | 194 | 209 |
| 26 | 484 | 460 | 173 | 322 | 444 | 1470 | 2750 | 2030 | 1620 | 796 | 192 | 204 |
| 27 | 656 | 250 | 174 | 544 | 464 | 1450 | 3370 | 1860 | 1560 | 893 | 186 | 203 |
| 28 | 331 | 221 | 173 | 361 | 582 | 1360 | 4100 | 3430 | 1410 | 605 | 178 | 212 |
| 29 | 303 | 232 | 172 | 257 | --- | 1200 | 3880 | 2790 | 1510 | 334 | 173 | 209 |
| 30 | 468 | 233 | 170 | 259 | --- | 1140 | 3180 | 3350 | 1010 | 837 | 167 | 208 |
| 31 | 481 | --- | 168 | 259 | --- | 1160 | --- | 2640 | --- | 714 | 162 | --- |
| TOTAL | 9167 | 7349 | 6568 | 8495 | 10141 | 28353 | 78160 | 87440 | 66970 | 28853 | 14491 | 4775 |
| MEAN | 296 | 245 | 212 | 274 | 362 | 915 | 2605 | 2821 | 2232 | 931 | 467 | 159 |
| MAX | 656 | 460 | 404 | 544 | 582 | 1580 | 4100 | 4330 | 3680 | 1350 | 1020 | 212 |
| MIN | 182 | 179 | 168 | 164 | 261 | 506 | 1230 | 1860 | 1010 | 334 | 162 | 131 |
| AC-FT | 18180 | 14580 | 13030 | 16850 | 20110 | 56240 | 155000 | 173400 | 132800 | 57230 | 28740 | 9470 |
| CAL YR 1989 | TOTAL 457243 | | | | | | | | | | | |
| WTR YR 1990 | TOTAL 350762 | | | | | | | | | | | |
| MEAN 1253 | MEAN 961 | | | | | | | | | | | |
| MAX 5040 | MAX 4330 | | | | | | | | | | | |
| MIN 151 | MIN 131 | | | | | | | | | | | |
| AC-FT 906900 | AC-FT 695700 | | | | | | | | | | | |

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 1967-88.

SEDIMENT DATA: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1966 to September 1988.

REMARKS.--Quality of water samples are obtained at the gaging station upstream from the powerplant. There was no backwater during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | 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 TOTAL (MG/L AS CACO3) |
|-----------|------|--|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|--|--|--|---|
| NOV, 1989 | | | | | | | | | | | | |
| 16... | 1145 | 194 | 50 | 7.6 | 9.5 | 0.20 | 745 | 11.7 | 105 | <1 | K10 | 17 |
| JAN, 1990 | | | | | | | | | | | | |
| 11... | 1150 | 178 | 55 | 7.8 | 6.5 | 0.20 | 745 | 12.4 | 103 | K3 | K2 | 19 |
| MAR | | | | | | | | | | | | |
| 19... | 1215 | 842 | 39 | 7.6 | 11.0 | 1.5 | 745 | 10.5 | 97 | K3 | K4 | 13 |
| MAY | | | | | | | | | | | | |
| 14... | 1405 | 2180 | 19 | 7.2 | 13.5 | 0.60 | 740 | 10.4 | 103 | K2 | K2 | 7 |
| JUL | | | | | | | | | | | | |
| 09... | 1030 | 541 | 33 | 7.7 | 20.5 | 1.0 | 740 | 8.8 | 101 | K5 | K3 | 11 |
| SEP | | | | | | | | | | | | |
| 17... | 1130 | 133 | 54 | 7.9 | 19.0 | 0.40 | 740 | 9.4 | 104 | K4 | K10 | 18 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM PERCENT | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 | CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 | ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) |
|-------|--|--|--|-------------------|---|---|---|--|---|---|---|
| NOV | | | | | | | | | | | |
| 16... | 5.7 | 0.62 | 4.0 | 33 | 0.4 | 0.90 | 30 | 0 | 25 | 4.0 | 2.0 |
| JAN | | | | | | | | | | | |
| 11... | 6.3 | 0.86 | 4.2 | 31 | 0.4 | 1.0 | 29 | 0 | 24 | 4.0 | 2.6 |
| MAR | | | | | | | | | | | |
| 19... | 4.4 | 0.57 | 2.9 | 31 | 0.3 | 0.70 | 21 | 0 | 17 | 4.7 | 1.2 |
| MAY | | | | | | | | | | | |
| 14... | 2.3 | 0.39 | 1.5 | 29 | 0.2 | 0.40 | 9 | 0 | 7 | 1.5 | 0.70 |
| JUL | | | | | | | | | | | |
| 09... | 3.5 | 0.51 | 2.1 | 28 | 0.3 | 0.50 | 15 | 0 | 12 | 2.8 | 1.3 |
| SEP | | | | | | | | | | | |
| 17... | 6.0 | 0.73 | 3.8 | 30 | 0.4 | 0.90 | 36 | 0 | 30 | 4.1 | 2.6 |

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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) |
|-----------|--|---|--|---|---|---|---|--|---|--|--|
| NOV 16... | 0.10 | 10 | 37 | 42 | 0.05 | <0.010 | <0.100 | <0.010 | <0.010 | 0.40 | 0.020 |
| JAN 11... | 0.10 | 12 | 36 | 45 | 0.05 | <0.010 | <0.100 | 0.030 | 0.030 | 0.20 | <0.010 |
| MAR 19... | <0.10 | 10 | 49 | 35 | 0.07 | <0.010 | <0.100 | 0.020 | 0.010 | 0.30 | 0.020 |
| MAY 14... | <0.10 | 5.6 | 8 | 17 | 0.01 | <0.010 | <0.100 | <0.010 | 0.010 | <0.20 | 0.010 |
| JUL 09... | <0.10 | 6.0 | 22 | 24 | 0.03 | <0.010 | <0.100 | 0.030 | 0.020 | 1.0 | 0.030 |
| SEP 17... | <0.10 | 9.6 | 23 | 46 | 0.03 | <0.010 | <0.100 | <0.010 | 0.020 | <0.20 | 0.030 |

| 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) |
|-----------|---|---|---|--|--|--|--|---|--|--|--|
| NOV 16... | <0.010 | <0.010 | <10 | <1 | 12 | <0.5 | <1.0 | 2 | <3 | 1 | 14 |
| JAN 11... | <0.010 | <0.010 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR 19... | 0.020 | <0.010 | 20 | 1 | 11 | <0.5 | <1.0 | 1 | <3 | 1 | 20 |
| MAY 14... | <0.010 | <0.010 | 20 | 1 | 8 | <0.5 | <1.0 | <1 | <3 | 2 | 10 |
| JUL 09... | 0.020 | <0.010 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 17... | 0.030 | <0.010 | 20 | 1 | 15 | <0.5 | <1.0 | <1 | <3 | 1 | 19 |

| 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 16... | <1 | <4 | <1 | <0.1 | <10 | <1 | <1 | <1.0 | 37 | <6 | 8 |
| JAN 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR 19... | <1 | <4 | <1 | 0.1 | <10 | <1 | <1 | <1.0 | 32 | <6 | 4 |
| MAY 14... | <1 | <4 | <1 | <0.1 | <10 | <1 | <1 | <1.0 | 15 | <6 | 5 |
| JUL 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 17... | <1 | <4 | 2 | <0.1 | <10 | <1 | <1 | <1.0 | 40 | <6 | 4 |

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) | SEDI- MENT, SUS- PENDE (MG/L) |
|--------|------|--|---|---|--------------------------------|--------------------------------------|--|--|--|---|
| JAN | | | | | | | | | | |
| 11...* | 1135 | 1.53 | 18.0 | 56 | 7.8 | 6.5 | 745 | 12.4 | 103 | 2 |
| 11...* | 1140 | 2.00 | 30.0 | 56 | 7.8 | 6.5 | 745 | 12.4 | 103 | 2 |
| 11...* | 1145 | 1.82 | 41.0 | 57 | 7.8 | 6.5 | 745 | 12.4 | 103 | 2 |
| 11...* | 1155 | 1.08 | 59.0 | 57 | 7.8 | 6.5 | 745 | 12.3 | 102 | 3 |
| 11...* | 1205 | 1.96 | 114 | 56 | 7.9 | 6.5 | 745 | 12.5 | 104 | 2 |
| MAY | | | | | | | | | | |
| 14...* | 1345 | 4.12 | 65.0 | 19 | 6.6 | 13.5 | 740 | 10.4 | 103 | -- |
| 14...* | 1355 | 5.03 | 89.0 | 19 | 6.7 | 13.5 | 740 | 10.4 | 103 | -- |
| 14...* | 1410 | 4.08 | 111 | 19 | 6.9 | 13.5 | 740 | 10.4 | 103 | -- |
| 14...* | 1420 | 3.95 | 139 | 18 | 7.0 | 13.5 | 740 | 10.3 | 102 | -- |
| 14...* | 1430 | 4.60 | 169 | 19 | 7.0 | 13.5 | 740 | 10.2 | 101 | -- |

* Instantaneous discharge at the time of cross-sectional measurement: Jan. 11, 178 ft³/s;
May 14, 2,180 ft³/s

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|--|--------------------------------------|---|---|---|
| NOV | | | | | | |
| 16... | 1145 | 194 | 9.5 | 0 | 0.0 | -- |
| JAN | | | | | | |
| 11... | 1150 | 178 | 6.5 | 2 | 0.96 | 72 |
| MAR | | | | | | |
| 19... | 1215 | 842 | 11.0 | 6 | 14 | 61 |
| MAY | | | | | | |
| 14... | 1405 | 2180 | 13.5 | 2 | 12 | 52 |
| JUL | | | | | | |
| 09... | 1030 | 541 | 20.5 | 1 | 1.5 | -- |
| SEP | | | | | | |
| 17... | 1130 | 133 | 19.0 | 1 | 0.36 | -- |

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 mi².

PERIOD OF RECORD.--October 1951 to current year (discontinued). 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, 28,277 acre-ft, Aug. 23, 1990, elevation, 658.42 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 379,554 acre-ft, June 9, elevation, 818.97 ft; minimum, 28,277 acre-ft, Aug. 23, elevation, 658.42 ft.

| Capacity table (elevation, in feet, and contents, in acre-feet) | | | | | | | |
|---|--------|-----|---------|-----|---------|-----|-----------|
| (Based on table provided by U.S. Army Corps of Engineers, dated September 1975) | | | | | | | |
| 660 | 29,723 | 720 | 113,424 | 800 | 315,716 | 890 | 673,065 |
| 670 | 39,773 | 740 | 154,021 | 820 | 383,196 | 920 | 823,775 |
| 680 | 51,373 | 760 | 201,186 | 840 | 457,481 | 950 | 992,146 |
| 700 | 74,248 | 780 | 255,055 | 860 | 538,559 | 960 | 1,052,445 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| 1 | 37283 | 48724 | 58389 | 67461 | 80759 | 99950 | 105053 | 216375 | 362546 | 234253 | 54324 | 29124 |
| 2 | 37587 | 49158 | 58694 | 67675 | 81135 | 100844 | 104569 | 220755 | 363891 | 228301 | 51039 | 29197 |
| 3 | 37840 | 49582 | 58999 | 67846 | 81497 | 102113 | 105179 | 225100 | 365825 | 222455 | 47682 | 29252 |
| 4 | 38051 | 50045 | 59572 | 67947 | 82064 | 103979 | 105863 | 229978 | 368599 | 215458 | 44010 | 29307 |
| 5 | 38316 | 50449 | 59947 | 68047 | 82538 | 105593 | 106513 | 235240 | 371837 | 209326 | 40666 | 29307 |
| 6 | 38475 | 50867 | 60283 | 68161 | 83014 | 106784 | 107473 | 241482 | 375264 | 203237 | 37314 | 29261 |
| 7 | 38603 | 51261 | 60687 | 68291 | 83619 | 107855 | 108712 | 248855 | 377652 | 196594 | 35772 | 29215 |
| 8 | 38709 | 51608 | 60985 | 68492 | 84114 | 108931 | 110013 | 255943 | 378673 | 189920 | 35232 | 29169 |
| 9 | 38806 | 51869 | 61242 | 68679 | 84546 | 110216 | 111027 | 262556 | 379554 | 184115 | 34736 | 29114 |
| 10 | 38902 | 52118 | 61527 | 68808 | 85012 | 111397 | 112343 | 269316 | 377582 | 178262 | 33104 | 29124 |
| 11 | 39041 | 52368 | 61840 | 68938 | 85511 | 112864 | 114172 | 274766 | 374634 | 172137 | 31687 | 29069 |
| 12 | 39191 | 52681 | 62360 | 69155 | 86044 | 114060 | 116452 | 279372 | 370477 | 166399 | 30697 | 28995 |
| 13 | 39331 | 53020 | 62702 | 69806 | 86644 | 114397 | 119350 | 283897 | 364857 | 161234 | 31066 | 28922 |
| 14 | 39514 | 53360 | 63019 | 71236 | 87262 | 114453 | 123180 | 288430 | 358666 | 156332 | 31180 | 28858 |
| 15 | 39708 | 53828 | 63280 | 71928 | 87703 | 113741 | 127410 | 292754 | 352020 | 151510 | 30442 | 28785 |
| 16 | 39893 | 54362 | 63584 | 72771 | 88341 | 113144 | 134417 | 296988 | 345574 | 146660 | 30320 | 28721 |
| 17 | 40208 | 54567 | 63875 | 73529 | 89180 | 112008 | 140030 | 301441 | 338326 | 142208 | 30574 | 28676 |
| 18 | 40798 | 54758 | 64166 | 74082 | 90039 | 110953 | 144764 | 305615 | 331486 | 137146 | 30876 | 28667 |
| 19 | 40951 | 54938 | 64445 | 74547 | 90820 | 110050 | 149560 | 309058 | 324623 | 131655 | 30273 | 28703 |
| 20 | 41083 | 55104 | 64710 | 74938 | 91604 | 109206 | 154657 | 312139 | 317448 | 126143 | 29612 | 28739 |
| 21 | 41293 | 55271 | 64961 | 75360 | 92374 | 108712 | 159666 | 315812 | 310136 | 120003 | 28940 | 28785 |
| 22 | 41669 | 55464 | 65227 | 75829 | 93047 | 108365 | 164395 | 320185 | 303038 | 113237 | 28412 | 28803 |
| 23 | 42114 | 55632 | 65522 | 76239 | 93892 | 107928 | 169682 | 324915 | 296058 | 106260 | 28277 | 28959 |
| 24 | 42550 | 55787 | 65775 | 76696 | 94893 | 107946 | 174939 | 329550 | 288307 | 98990 | 28367 | 29142 |
| 25 | 43588 | 56084 | 66057 | 77230 | 95901 | 108219 | 179710 | 333857 | 281147 | 92056 | 28449 | 29243 |
| 26 | 44456 | 56773 | 66325 | 77613 | 96862 | 108310 | 184886 | 337264 | 273636 | 85818 | 28576 | 29289 |
| 27 | 45635 | 57270 | 66580 | 78320 | 97811 | 108164 | 191196 | 340389 | 265588 | 79978 | 28703 | 29372 |
| 28 | 46171 | 57519 | 66835 | 79201 | 98938 | 107946 | 198770 | 347020 | 257236 | 73783 | 28812 | 29436 |
| 29 | 46641 | 57795 | 67019 | 79589 | --- | 107310 | 205886 | 351681 | 248742 | 66537 | 28895 | 29492 |
| 30 | 47385 | 58085 | 67162 | 79963 | --- | 106657 | 211731 | 356614 | 240870 | 60553 | 28977 | 29547 |
| 31 | 48231 | --- | 67276 | 80352 | --- | 105737 | --- | 360003 | --- | 57296 | 29050 | --- |
| MAX | 48231 | 58085 | 67276 | 80352 | 98938 | 114453 | 211731 | 360003 | 379554 | 234253 | 54324 | 29547 |
| MIN | 37283 | 48724 | 58389 | 67461 | 80759 | 99950 | 104569 | 216375 | 240870 | 57296 | 28277 | 28667 |
| a | 677.42 | 685.25 | 691.95 | 700.71 | 711.97 | 715.81 | 764.12 | 813.35 | 774.97 | 684.65 | 659.27 | 658.81 |
| b | +11303 | +9854 | +9191 | +13076 | +18586 | +6799 | +105994 | +148272 | -119133 | -183574 | -28246 | +497 |
| c | 418 | 241 | 138 | 124 | 168 | 367 | 683 | 1509 | 2021 | 1728 | 797 | 567 |

CAL YR 1989 b -34855

WTR YR 1990 b -7381

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Corps of Engineers; not reviewed by the U.S. Geological Survey.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to September 1990 (discontinued). 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 Courtright and Wishon Reservoirs (stations 11214550 and 11214800). See schematic diagram of Kings River basin.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation).--37 years, 2,334 ft³/s, 1,691,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft³/s, June 3, 4, 8, 9, 1969, gage height, 10.73 ft; minimum daily, 1.1 ft³/s, Feb. 26, 27, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,860 ft³/s, June 29, gage height, 7.08 ft; minimum daily, 51 ft³/s, Nov. 13, 14, Dec. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|------|
| 1 | 163 | 100 | 109 | 112 | 105 | 124 | 1520 | 349 | 946 | 4120 | 2230 | 120 |
| 2 | 162 | 103 | 109 | 112 | 108 | 134 | 1530 | 368 | 1120 | 4150 | 2120 | 120 |
| 3 | 171 | 104 | 109 | 116 | 110 | 141 | 1530 | 380 | 1280 | 4180 | 2080 | 119 |
| 4 | 183 | 105 | 107 | 119 | 102 | 136 | 1520 | 386 | 1380 | 4200 | 2060 | 119 |
| 5 | 184 | 105 | 102 | 119 | 96 | 97 | 1530 | 403 | 1670 | 4170 | 1940 | 139 |
| 6 | 183 | 105 | 101 | 119 | 100 | 107 | 1510 | 411 | 1740 | 4100 | 2120 | 156 |
| 7 | 182 | 105 | 102 | 117 | 100 | 117 | 1500 | 436 | 2060 | 4030 | 1750 | 153 |
| 8 | 182 | 106 | 102 | 113 | 99 | 122 | 1500 | 444 | 2870 | 3760 | 1270 | 153 |
| 9 | 182 | 106 | 102 | 99 | 100 | 122 | 1500 | 445 | 3030 | 3730 | 1260 | 153 |
| 10 | 176 | 98 | 102 | 114 | 99 | 122 | 1480 | 455 | 3930 | 3820 | 1250 | 129 |
| 11 | 159 | 98 | 78 | 118 | 99 | 122 | 1470 | 365 | 4130 | 3700 | 1240 | 156 |
| 12 | 152 | 76 | 51 | 119 | 99 | 227 | 1490 | 318 | 4480 | 3580 | 1190 | 157 |
| 13 | 136 | 51 | 53 | 115 | 101 | 455 | 1480 | 320 | 4980 | 3450 | 762 | 156 |
| 14 | 122 | 51 | 53 | 99 | 103 | 536 | 1500 | 314 | 5180 | 3360 | 648 | 152 |
| 15 | 113 | 60 | 53 | 97 | 100 | 867 | 1430 | 308 | 5210 | 3450 | 594 | 150 |
| 16 | 115 | 84 | 53 | 85 | 93 | 1000 | 282 | 303 | 5000 | 3400 | 518 | 150 |
| 17 | 56 | 100 | 53 | 56 | 76 | 1220 | 240 | 301 | 5050 | 3390 | 515 | 141 |
| 18 | 73 | 109 | 53 | 80 | 67 | 1350 | 234 | 304 | 5190 | 3450 | 516 | 126 |
| 19 | 119 | 109 | 53 | 94 | 66 | 1350 | 249 | 309 | 5260 | 3600 | 516 | 109 |
| 20 | 119 | 113 | 53 | 98 | 76 | 1330 | 250 | 311 | 5420 | 3660 | 513 | 128 |
| 21 | 119 | 119 | 53 | 100 | 80 | 1370 | 252 | 314 | 5530 | 3780 | 510 | 128 |
| 22 | 119 | 117 | 53 | 102 | 82 | 1410 | 254 | 317 | 5420 | 3770 | 446 | 128 |
| 23 | 119 | 114 | 53 | 102 | 65 | 1430 | 253 | 320 | 5400 | 3780 | 275 | 128 |
| 24 | 119 | 114 | 53 | 101 | 65 | 1430 | 248 | 317 | 5470 | 3830 | 159 | 128 |
| 25 | 119 | 115 | 53 | 100 | 83 | 1430 | 225 | 316 | 5240 | 3780 | 151 | 162 |
| 26 | 119 | 106 | 52 | 100 | 75 | 1450 | 204 | 310 | 5420 | 3640 | 137 | 184 |
| 27 | 119 | 107 | 52 | 101 | 60 | 1470 | 216 | 308 | 5570 | 3550 | 128 | 186 |
| 28 | 115 | 111 | 52 | 104 | 79 | 1470 | 230 | 250 | 5590 | 3530 | 128 | 186 |
| 29 | 115 | 109 | 80 | 105 | --- | 1470 | 280 | 444 | 5780 | 3680 | 130 | 184 |
| 30 | 115 | 109 | 108 | 105 | --- | 1480 | 308 | 859 | 4910 | 3510 | 130 | 182 |
| 31 | 106 | --- | 111 | 105 | --- | 1530 | --- | 941 | --- | 2220 | 125 | --- |
| TOTAL | 4216 | 3009 | 2318 | 3226 | 2488 | 25629 | 26215 | 11926 | 124256 | 114370 | 27411 | 4382 |
| MEAN | 136 | 100 | 74.8 | 104 | 88.9 | 827 | 874 | 385 | 4142 | 3689 | 884 | 146 |
| MAX | 184 | 119 | 111 | 119 | 110 | 1530 | 1530 | 941 | 5780 | 4200 | 2230 | 186 |
| MIN | 56 | 51 | 51 | 56 | 60 | 97 | 204 | 250 | 946 | 2220 | 125 | 109 |
| AC-FT | 8360 | 5970 | 4600 | 6400 | 4930 | 50840 | 52000 | 23660 | 246500 | 226900 | 54370 | 8690 |
| MEAN a | 302 | 265 | 222 | 348 | 476 | 1142 | 2825 | 2938 | 1891 | 484 | 184 | 139 |
| AC-FT a | 18570 | 15770 | 13650 | 21400 | 26440 | 70220 | 168100 | 180700 | 112500 | 29760 | 11310 | 8270 |

CAL YR 1989 TOTAL 471102 MEAN 1291 MAX 6690 MIN 40 AC-FT 934400 MEAN a 1242 AC-FT a 899200
WTR YR 1990 TOTAL 349446 MEAN 957 MAX 5780 MIN 51 AC-FT 693100 MEAN a 934 AC-FT a 676200

a Adjusted for change in contents in Wishon and Courtright Reservoirs, and Pine Flat Lake, and evaporation from Pine Flat Lake.

TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1970 to current year.

CHEMICAL DATA: Water years 1956-66.

WATER TEMPERATURE: Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1969 to current year.

INSTRUMENTATION.--Temperature recorder since October 1969.

REMARKS.--Interruptions in record were due to malfunction of recording instrument. Water temperature is affected by regulation from Pine Flat Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 26.0 °C, August 7, 26-28, Sept. 10, 1990; minimum recorded, 6.0 °C, Feb. 13-16, 1989.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 26.0 °C, Aug. 7, 26-28, Sept. 10; minimum recorded, 7.5 °C, Jan. 5, 7, 8.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 22.0 | 19.5 | 18.0 | 15.0 | 14.0 | 11.5 | 10.5 | 9.0 | --- | --- | --- | --- |
| 2 | 21.5 | 17.0 | 17.5 | 14.5 | 14.0 | 11.5 | 10.0 | 9.5 | --- | --- | --- | --- |
| 3 | 21.5 | 19.5 | 17.5 | 14.5 | 13.5 | 11.0 | 11.0 | 9.0 | --- | --- | --- | --- |
| 4 | 22.0 | 19.5 | 17.0 | 14.5 | 13.5 | 11.0 | 11.0 | 9.0 | --- | --- | --- | --- |
| 5 | 21.5 | 18.0 | 17.0 | 14.5 | 13.0 | 11.0 | 10.5 | 7.5 | --- | --- | --- | --- |
| 6 | 21.0 | 19.0 | 17.0 | 14.5 | 13.0 | 10.5 | 11.0 | 9.0 | --- | --- | --- | --- |
| 7 | 21.0 | 18.5 | 17.0 | 14.5 | 13.0 | 10.5 | 11.0 | 7.5 | --- | --- | --- | --- |
| 8 | 21.5 | 18.5 | 16.5 | 14.0 | 13.0 | 10.5 | 11.0 | 7.5 | --- | --- | --- | --- |
| 9 | 21.0 | 18.5 | 17.0 | 14.0 | 12.5 | 9.5 | 11.0 | 8.5 | --- | --- | --- | --- |
| 10 | 20.5 | 18.5 | 17.0 | 14.0 | 11.5 | 10.5 | --- | --- | --- | --- | --- | --- |
| 11 | 21.0 | 18.5 | 17.0 | 14.0 | 12.0 | 10.0 | --- | --- | --- | --- | --- | --- |
| 12 | 21.0 | 18.5 | 17.0 | 14.0 | 12.5 | 9.5 | 11.0 | 9.0 | --- | --- | --- | --- |
| 13 | 21.0 | 18.5 | 16.5 | 13.5 | 12.5 | 9.5 | 11.5 | 9.0 | --- | --- | --- | --- |
| 14 | 20.5 | 18.5 | 16.5 | 13.5 | 12.0 | 9.5 | 11.5 | 8.5 | --- | --- | --- | --- |
| 15 | 21.0 | 18.5 | 16.0 | 13.5 | 12.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 16 | 21.0 | 18.5 | 16.0 | 13.5 | 12.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 17 | 22.0 | 18.0 | 16.0 | 13.5 | 12.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 18 | 21.5 | 18.0 | 16.0 | 13.5 | 11.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 19 | 21.0 | 18.0 | 16.0 | 13.0 | 11.5 | 9.0 | --- | --- | --- | --- | --- | --- |
| 20 | 20.5 | 18.0 | 16.0 | 13.0 | 11.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 21 | 19.0 | 18.5 | 15.5 | 13.5 | 11.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 22 | 21.0 | 18.5 | 15.5 | 13.5 | 11.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 23 | 20.5 | 18.5 | 15.0 | 13.0 | 10.5 | 9.0 | --- | --- | --- | --- | --- | --- |
| 24 | 19.5 | 18.5 | 14.5 | 13.5 | 11.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 25 | 20.0 | 17.5 | 13.5 | 13.0 | 11.5 | 8.5 | --- | --- | --- | --- | --- | --- |
| 26 | 20.0 | 17.5 | 15.0 | 13.0 | 11.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 27 | 18.5 | 16.0 | 15.0 | 12.5 | 11.5 | 8.5 | --- | --- | --- | --- | --- | --- |
| 28 | 18.5 | 16.0 | 15.0 | 12.5 | 11.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 29 | 18.5 | 16.0 | 14.0 | 11.5 | 10.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 30 | 18.0 | 15.5 | 14.0 | 11.5 | 11.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 31 | 18.0 | 15.5 | --- | --- | 11.5 | 9.0 | --- | --- | --- | --- | --- | --- |
| MONTH | 22.0 | 15.5 | 18.0 | 11.5 | 14.0 | 8.5 | --- | --- | --- | --- | --- | --- |

TULARE LAKE BASIN

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11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 16.0 | 10.0 | 11.5 | 11.5 | 14.5 | 14.0 | 24.5 | 24.0 | 25.5 | 22.5 |
| 2 | --- | --- | 16.0 | 14.0 | 11.5 | 11.5 | 14.5 | 14.5 | 24.5 | 24.5 | 25.5 | 22.5 |
| 3 | --- | --- | 16.0 | 14.0 | 11.5 | 11.5 | 15.0 | 14.5 | 25.0 | 24.5 | 25.5 | 22.0 |
| 4 | --- | --- | 16.0 | 14.0 | 11.5 | 11.5 | 15.0 | 15.0 | 25.0 | 24.5 | 25.5 | 22.0 |
| 5 | --- | --- | 16.0 | 14.0 | 11.5 | 11.5 | 15.5 | 15.0 | 25.0 | 25.0 | 25.0 | 22.0 |
| 6 | --- | --- | 15.5 | 13.5 | 11.5 | 11.5 | 15.5 | 15.5 | 25.5 | 25.0 | 25.0 | 22.5 |
| 7 | --- | --- | 15.5 | 13.5 | 11.5 | 11.5 | 15.5 | 15.5 | 26.0 | 25.0 | 25.0 | 22.5 |
| 8 | --- | --- | 15.0 | 13.5 | 11.5 | 11.5 | 16.0 | 15.5 | 25.5 | 24.5 | 25.0 | 22.5 |
| 9 | --- | --- | 15.0 | 13.5 | 11.5 | 11.5 | 16.0 | 16.0 | 25.0 | 24.5 | 25.0 | 22.5 |
| 10 | 12.0 | 11.5 | 14.0 | 13.0 | 11.5 | 11.0 | 16.5 | 16.0 | 25.0 | 24.5 | 26.0 | 22.5 |
| 11 | 12.5 | 11.5 | 15.0 | 13.5 | 12.0 | 11.5 | 17.0 | 16.5 | 25.0 | 24.5 | 25.5 | 22.5 |
| 12 | 12.0 | 11.5 | 15.5 | 13.0 | 12.0 | 11.5 | 17.0 | 16.5 | 25.5 | 24.5 | 25.0 | 22.5 |
| 13 | 12.0 | 12.0 | 15.0 | 13.0 | 12.0 | 11.5 | 17.5 | 17.0 | 25.5 | 25.0 | 25.5 | 22.5 |
| 14 | 12.0 | 12.0 | 15.0 | 13.0 | 12.0 | 11.5 | 18.0 | 17.0 | 25.5 | 24.5 | 25.0 | 23.0 |
| 15 | 12.5 | 11.5 | 15.0 | 12.5 | 12.0 | 11.5 | 18.0 | 17.5 | 24.5 | 24.0 | 25.0 | 22.5 |
| 16 | 11.5 | 10.0 | 15.5 | 13.0 | 12.5 | 12.0 | 18.5 | 18.0 | 25.0 | 24.0 | 25.0 | 22.5 |
| 17 | 11.5 | 9.5 | 15.0 | 13.0 | 12.5 | 12.0 | 18.5 | 18.0 | 25.5 | 24.5 | 24.5 | 22.5 |
| 18 | 11.5 | 10.0 | 15.0 | 12.5 | 12.5 | 12.0 | 19.0 | 18.5 | 24.5 | 24.0 | 25.5 | 22.5 |
| 19 | 12.0 | 9.5 | 14.5 | 12.5 | 12.5 | 12.5 | 19.5 | 19.0 | 24.5 | 23.5 | 25.5 | 22.5 |
| 20 | 11.5 | 10.0 | 15.0 | 12.5 | 12.5 | 12.5 | 20.0 | 19.5 | 24.5 | 23.5 | 25.5 | 22.5 |
| 21 | 12.0 | 9.5 | 15.0 | 13.0 | 13.0 | 12.5 | 20.5 | 20.0 | 25.0 | 23.5 | 24.5 | 22.5 |
| 22 | 12.0 | 9.5 | 15.5 | 13.0 | 13.0 | 12.5 | 21.5 | 20.5 | 25.0 | 23.5 | 25.0 | 22.5 |
| 23 | 11.5 | 10.0 | 14.5 | 13.0 | 13.0 | 13.0 | 21.5 | 15.5 | 25.5 | 23.5 | 25.5 | 23.0 |
| 24 | 11.0 | 9.5 | 15.0 | 12.5 | 13.0 | 13.0 | 18.5 | 16.0 | 25.5 | 23.0 | 25.0 | 23.0 |
| 25 | 12.5 | 9.5 | 15.0 | 12.5 | 13.5 | 13.0 | 19.5 | 18.5 | 25.5 | 23.0 | 24.5 | 22.5 |
| 26 | 12.5 | 10.0 | 15.0 | 12.5 | 13.5 | 13.0 | 21.0 | 19.5 | 26.0 | 23.0 | 24.5 | 22.5 |
| 27 | 12.5 | 10.0 | 13.5 | 13.0 | 14.0 | 13.5 | 22.0 | 21.0 | 26.0 | 23.0 | 24.5 | 22.5 |
| 28 | 12.5 | 10.0 | 14.5 | 13.0 | 14.0 | 13.5 | 23.0 | 22.0 | 26.0 | 22.5 | 24.5 | 22.5 |
| 29 | 12.0 | 10.0 | 14.5 | 11.5 | 14.0 | 14.0 | 23.5 | 23.0 | 25.5 | 22.0 | 24.5 | 22.5 |
| 30 | 12.0 | 9.5 | 12.0 | 11.5 | 14.5 | 14.0 | 24.0 | 23.5 | 25.5 | 22.5 | 24.5 | 22.5 |
| 31 | --- | --- | 11.5 | 11.5 | --- | --- | 24.5 | 24.0 | 25.5 | 22.5 | --- | --- |
| MONTH | --- | --- | 16.0 | 10.0 | 14.5 | 11.0 | 24.5 | 14.0 | 26.0 | 22.0 | 26.0 | 22.0 |

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 mi².

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 upstream from station for irrigation. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--33 years, 43.4 ft³/s, 31,440 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/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 (backwater from debris), Jan. 19, 1969; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Mar. 4 | 1900 | *50 | *2.77 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|--------|-------|-------|-------|-------|-------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | 5.3 | 11 | 7.3 | 2.9 | 4.9 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | 5.5 | 11 | 7.0 | 2.6 | 3.9 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | 5.2 | 11 | 6.8 | 2.2 | 3.3 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | 9.6 | 20 | 6.4 | 2.0 | 2.6 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | 11 | 29 | 6.3 | 1.5 | 2.3 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | 9.3 | 24 | 5.9 | 1.1 | 1.8 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | 9.9 | 18 | 5.9 | .83 | 1.6 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | 11 | 17 | 6.2 | .78 | 1.4 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | 9.2 | 15 | 6.4 | .69 | 1.0 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | 8.0 | 14 | 6.2 | .67 | .61 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .12 | 7.2 | 19 | 5.7 | .78 | .62 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | 1.2 | 6.7 | 25 | 5.3 | .63 | .15 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | 7.6 | 6.4 | 20 | 5.2 | .44 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | 21 | 6.4 | 17 | 5.0 | .35 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | 17 | 6.4 | 16 | 4.9 | .19 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | 23 | 6.5 | 15 | 4.8 | .13 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | 29 | 24 | 15 | 5.0 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | 14 | 33 | 14 | 5.0 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | 9.7 | 26 | 13 | 5.3 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | 7.6 | 17 | 12 | 5.0 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | 6.3 | 14 | 12 | 4.5 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | 5.6 | 12 | 11 | 4.2 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | 5.2 | 12 | 11 | 5.6 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | 4.8 | 13 | 10 | 6.4 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | 4.6 | 14 | 9.6 | 6.7 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | 4.2 | 15 | 9.2 | 5.9 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | 4.2 | 14 | 8.9 | 4.7 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | 4.0 | 12 | 8.6 | 3.8 | 12 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | 3.9 | --- | 8.4 | 3.4 | 26 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | 4.1 | --- | 8.0 | 3.2 | 12 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | 4.6 | --- | 7.9 | --- | 7.3 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 181.72 | 329.6 | 440.6 | 164.0 | 75.09 | 24.18 | 0.00 | 0.00 | 0.00 |
| MEAN | .000 | .000 | .000 | 5.86 | 11.8 | 14.2 | 5.47 | 2.42 | .81 | .000 | .000 | .000 |
| MAX | .00 | .00 | .00 | 29 | 33 | 29 | 7.3 | 26 | 4.9 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | 5.2 | 7.9 | 3.2 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | 360 | 654 | 874 | 325 | 149 | 48 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 2533.38 MEAN 6.94 MAX 173 MIN .00 AC-FT 5020
WTR YR 1990 TOTAL 1215.19 MEAN 3.33 MAX 33 MIN .00 AC-FT 2410

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 mi².

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. Aug. 2, 1959, 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 on right bank at datum 2.00 ft higher.

REMARKS.--Records poor. Minor diversion for irrigation and stock ponds.

AVERAGE DISCHARGE.--45 years, 5.48 ft³/s, 3,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).--Maximum discharge, 4,360 ft³/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 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|----------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Sept. 23 | 1945 | *2,090 | *7.74 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 31 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22.00 |
| MEAN | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .73 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 22 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 44 |

CAL YR 1989 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1990 TOTAL 22.00 MEAN .060 MAX 22 MIN .00 AC-FT 44

e Estimated.

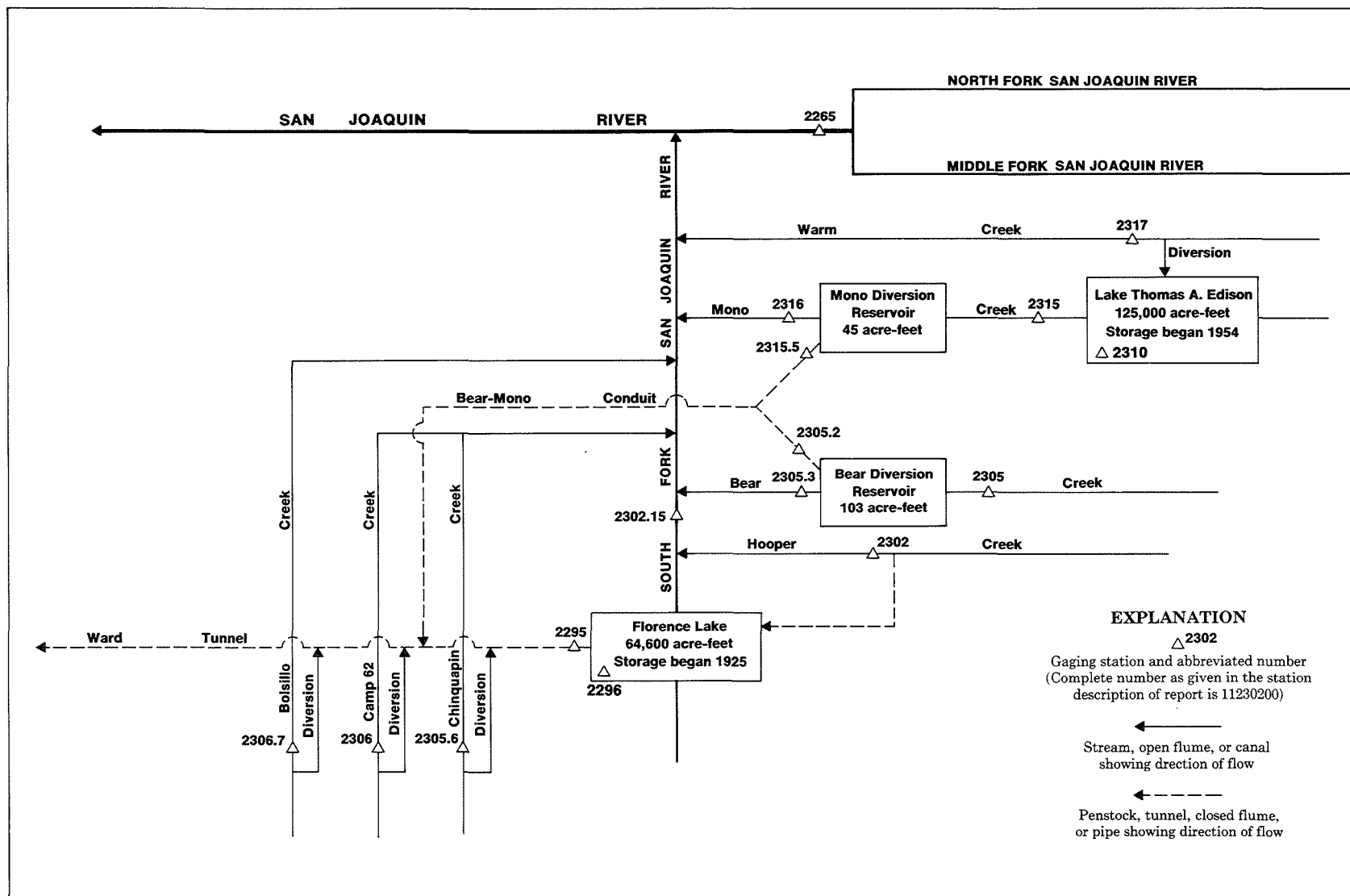


Figure 32. Diversions and storage in upper San Joaquin River basin.

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 mi².

PERIOD OF RECORD.--October 1921 to September 1928, October 1951 to current year. Monthly discharges 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 upstream from station. See schematic diagram of upper 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.--46 years, 605 ft³/s, 438,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,600 ft³/s, Dec. 23, 1955, gage height, 21.28 ft, from rating curve extended above 5,200 ft³/s on basis of contracted-opening measurement of peak flow; minimum, 19 ft³/s, Nov. 17, 1961.

EXTREMES FOR CURRENT YEAR:--Maximum discharge, 3,690 ft³/s, July 13, gage height, 15.69 ft; minimum daily, 40 ft³/s, Sept. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|------|------|
| 1 | 260 | 141 | 131 | 67 | 112 | 228 | 568 | 749 | 549 | 364 | 110 | 50 |
| 2 | 196 | 142 | 129 | 64 | 109 | 215 | 673 | 729 | 621 | 407 | 106 | 49 |
| 3 | 157 | 136 | 132 | 64 | 107 | 265 | 732 | 863 | 850 | 358 | 101 | 48 |
| 4 | 135 | 141 | 138 | 72 | 115 | 258 | 766 | 1040 | 1020 | 306 | 98 | 46 |
| 5 | 118 | 153 | 143 | 69 | 114 | 221 | 731 | 1250 | 1150 | 285 | 97 | 45 |
| 6 | 108 | 146 | 135 | 68 | 124 | 202 | 721 | 1430 | 1140 | 275 | 98 | 45 |
| 7 | 101 | 135 | 124 | 67 | 123 | 208 | 710 | 1370 | 1060 | 258 | 95 | 45 |
| 8 | 94 | 122 | 123 | 71 | 116 | 220 | 680 | 1270 | 1190 | 250 | 94 | 46 |
| 9 | 89 | 122 | 115 | 69 | 124 | 231 | 619 | 1220 | 1240 | 238 | 95 | 46 |
| 10 | 84 | 132 | 105 | 69 | 140 | 245 | 745 | 1150 | 1260 | 229 | 93 | 45 |
| 11 | 80 | 138 | 97 | 69 | 151 | 213 | 894 | 874 | 979 | 216 | 90 | 44 |
| 12 | 76 | 138 | 95 | 90 | 152 | 188 | 987 | 819 | 850 | 308 | 90 | 45 |
| 13 | 72 | 128 | 97 | 99 | 140 | 177 | 1150 | 873 | 756 | 709 | 93 | 44 |
| 14 | 68 | 117 | 90 | 117 | 112 | 174 | 1250 | 896 | 599 | 972 | 88 | 44 |
| 15 | 67 | 106 | 92 | 134 | 107 | 184 | 1270 | 809 | 783 | 718 | 87 | 42 |
| 16 | 65 | 102 | 90 | 136 | 115 | 199 | 1200 | 814 | 715 | 867 | 83 | 41 |
| 17 | 63 | 98 | 80 | 131 | 120 | 253 | 842 | 842 | 609 | 667 | 79 | 41 |
| 18 | 62 | 93 | 78 | 126 | 137 | 334 | 732 | 802 | 620 | 401 | 75 | 40 |
| 19 | 60 | 92 | 79 | 123 | 149 | 390 | 817 | 752 | 611 | 339 | 78 | 40 |
| 20 | 59 | 94 | 78 | 125 | 145 | 464 | 849 | 624 | 664 | 280 | 76 | 46 |
| 21 | 74 | 92 | 78 | 121 | 152 | 551 | 777 | 631 | 722 | 245 | 68 | 42 |
| 22 | 152 | 91 | 76 | 122 | 156 | 562 | 674 | 697 | 760 | 221 | 62 | 43 |
| 23 | 145 | 85 | 78 | 122 | 164 | 554 | 846 | 800 | 690 | 205 | 58 | 44 |
| 24 | 362 | 94 | 76 | 120 | 173 | 645 | 794 | 745 | 592 | 181 | 55 | 53 |
| 25 | 273 | 119 | 74 | 119 | 173 | 670 | 784 | 662 | 532 | 161 | 55 | 51 |
| 26 | 201 | 100 | 74 | 115 | 187 | 662 | 970 | 610 | 486 | 146 | 55 | 47 |
| 27 | 191 | 130 | 73 | 108 | 201 | 642 | 1230 | 687 | 450 | 134 | 52 | 45 |
| 28 | 173 | 139 | 67 | 106 | 225 | 542 | 1340 | 927 | 426 | 126 | 50 | 47 |
| 29 | 155 | 138 | 65 | 105 | --- | 450 | 1180 | 832 | 415 | 121 | 47 | 48 |
| 30 | 143 | 136 | 68 | 108 | --- | 432 | 949 | 797 | 394 | 116 | 47 | 46 |
| 31 | 145 | --- | 67 | 106 | --- | 467 | --- | 628 | --- | 114 | 49 | --- |
| TOTAL | 4028 | 3600 | 2947 | 3082 | 3943 | 11046 | 26480 | 27192 | 22733 | 10217 | 2424 | 1358 |
| MEAN | 130 | 120 | 95.1 | 99.4 | 141 | 356 | 883 | 877 | 758 | 330 | 78.2 | 45.3 |
| MAX | 362 | 153 | 143 | 136 | 225 | 670 | 1340 | 1430 | 1260 | 972 | 110 | 53 |
| MIN | 59 | 85 | 65 | 64 | 107 | 174 | 568 | 610 | 394 | 114 | 47 | 40 |
| AC-FT | 7990 | 7140 | 5850 | 6110 | 7820 | 21910 | 52520 | 53940 | 45090 | 20270 | 4810 | 2690 |

CAL YR 1989 TOTAL 157215 MEAN 431 MAX 2250 MIN 50 AC-FT 311800
WTR YR 1990 TOTAL 119050 MEAN 326 MAX 1430 MIN 40 AC-FT 236100

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.

REVISED RECORDS.--WSP 1515: 1931.

REMARKS.--No estimated daily discharges. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake via Portal powerplant. Water used again in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

AVERAGE DISCHARGE.--65 years, 277 ft³/s, 200,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,990 ft³/s, Apr. 30, 1926; no flow at times.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|----------|-------|-------|------|------|-------|--------|-------|--------|-------|-------|
| 1 | .00 | 20 | 21 | 4.4 | 18 | 41 | 94 | 128 | 276 | 456 | 400 | 13 |
| 2 | .00 | 20 | 20 | 4.8 | 18 | 42 | 108 | 82 | 275 | 502 | 268 | 9.8 |
| 3 | .00 | 20 | 19 | 3.9 | 19 | 43 | 121 | 81 | 275 | 613 | 294 | 8.2 |
| 4 | .00 | 20 | 18 | 3.8 | 19 | 51 | 142 | 76 | 276 | 645 | 301 | 8.3 |
| 5 | .00 | 19 | 19 | 4.1 | 19 | 54 | 147 | 74 | 277 | 630 | 298 | 8.1 |
| 6 | .54 | 19 | 17 | 4.6 | 20 | 52 | 149 | 74 | 279 | 623 | 294 | 7.7 |
| 7 | .95 | 19 | 16 | 5.1 | 20 | 55 | 144 | 52 | 282 | 654 | 217 | 7.8 |
| 8 | 8.4 | 17 | 15 | 5.4 | 21 | 56 | 144 | 45 | 285 | 655 | 156 | 7.7 |
| 9 | 16 | 16 | 15 | 5.9 | 22 | 58 | 135 | 6.8 | 187 | 661 | 131 | 7.4 |
| 10 | 18 | 16 | 13 | 6.1 | 22 | 58 | 143 | 6.5 | 136 | 680 | 119 | 7.1 |
| 11 | 18 | 16 | 11 | 6.4 | 23 | 56 | 193 | 6.3 | 136 | 675 | 265 | 5.4 |
| 12 | 18 | 16 | 10 | 6.6 | 25 | 48 | 235 | 6.1 | 250 | 669 | 385 | 2.8 |
| 13 | 18 | 16 | 11 | 10 | 25 | 42 | 302 | 6.1 | 310 | 581 | 612 | 3.6 |
| 14 | 17 | 14 | 10 | 11 | 22 | 40 | 348 | 6.1 | 375 | 599 | 615 | 4.3 |
| 15 | 16 | 13 | 10 | 11 | 17 | 43 | 427 | 5.9 | 414 | 599 | 611 | 3.9 |
| 16 | 16 | 13 | 9.8 | 13 | 19 | 47 | 392 | 5.6 | 416 | 569 | 613 | 3.4 |
| 17 | 15 | 13 | 8.2 | 15 | 20 | 55 | 335 | 149 | 418 | 565 | 618 | 2.9 |
| 18 | 14 | 13 | 7.0 | 17 | 22 | 72 | 339 | 386 | 420 | 547 | 186 | 2.9 |
| 19 | 14 | 12 | 5.9 | 20 | 28 | 86 | 375 | 389 | 484 | 596 | 111 | 4.7 |
| 20 | 13 | 12 | 5.5 | 23 | 33 | 87 | 358 | 390 | 509 | 616 | 74 | 9.9 |
| 21 | 12 | 11 | 5.9 | 26 | 33 | 97 | 332 | 388 | 521 | 629 | 56 | 18 |
| 22 | 15 | 11 | 6.2 | 27 | 30 | 114 | 288 | 389 | 529 | 644 | 49 | 25 |
| 23 | 18 | 10 | 6.3 | 26 | 32 | 115 | 268 | 364 | 528 | 644 | 38 | 22 |
| 24 | 22 | 10 | 6.5 | 24 | 35 | 123 | 279 | 280 | 527 | 656 | 35 | 20 |
| 25 | 29 | 11 | 6.5 | 23 | 35 | 133 | 226 | 280 | 527 | 659 | 34 | 17 |
| 26 | 30 | 14 | 6.4 | 22 | 37 | 135 | 208 | 279 | 529 | 682 | 28 | 9.3 |
| 27 | 31 | 8.3 | 6.5 | 21 | 38 | 138 | 214 | 275 | 528 | 688 | 24 | 10 |
| 28 | 29 | 15 | 5.8 | 19 | 37 | 123 | 218 | 277 | 491 | 677 | 19 | 17 |
| 29 | 25 | 22 | 5.0 | 18 | --- | 102 | 124 | 279 | 506 | 687 | 12 | 18 |
| 30 | 22 | 23 | 4.6 | 17 | --- | 91 | 158 | 279 | 517 | 687 | 13 | 20 |
| 31 | 21 | --- | 4.6 | 17 | --- | 88 | --- | 276 | --- | 674 | 13 | --- |
| TOTAL | 456.89 | 459.3 | 325.7 | 421.1 | 709 | 2345 | 6946 | 5341.4 | 11483 | 19462 | 6889 | 305.2 |
| MEAN | 14.7 | 15.3 | 10.5 | 13.6 | 25.3 | 75.6 | 232 | 172 | 383 | 628 | 222 | 10.2 |
| MAX | 31 | 23 | 21 | 27 | 38 | 138 | 427 | 390 | 529 | 688 | 618 | 25 |
| MIN | .00 | 8.3 | 4.6 | 3.8 | 17 | 40 | 94 | 5.6 | 136 | 456 | 12 | 2.8 |
| AC-FT | 906 | 911 | 646 | 835 | 1410 | 4650 | 13780 | 10590 | 22780 | 38600 | 13660 | 605 |
| CAL YR 1989 | TOTAL | 63634.64 | MEAN | 174 | MAX | 756 | MIN | .00 | AC-FT | 126200 | | |
| WTR YR 1990 | TOTAL | 55143.59 | MEAN | 151 | MAX | 688 | MIN | .00 | AC-FT | 109400 | | |

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 mi².

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 powerplant and used for further power development in Big Creek powerplants. See schematic diagram of upper 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, 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, 39,283 acre-ft, June 16, elevation, 7,299.30 ft; minimum, 870 acre-ft, Oct. 4, elevation, 7,229.88 ft.

| Capacity table (elevation, in feet, and contents, in acre-feet) | | | | | | | |
|--|-----|-------|-------|-------|--------|-------|--------|
| (Based on table provided by Southern California Edison Co., dated Aug. 26, 1926) | | | | | | | |
| 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 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 951 | 1091 | 1093 | 1047 | 1091 | 1130 | 1210 | 5161 | 26683 | 36478 | 11252 | 1042 |
| 2 | 924 | 1093 | 1091 | 1045 | 1091 | 1146 | 1237 | 5578 | 26879 | 36130 | 10829 | 1044 |
| 3 | 883 | 1091 | 1090 | 1040 | 1091 | 1163 | 1255 | 6020 | 37552 | 35476 | 10337 | 1045 |
| 4 | 870 | 1091 | 1090 | 1040 | 1091 | 1173 | 1269 | 6791 | 38524 | 34709 | 9834 | 1045 |
| 5 | 904 | 1093 | 1090 | 1045 | 1091 | 1171 | 1266 | 7929 | 29774 | 33914 | 9328 | 1044 |
| 6 | 985 | 1095 | 1086 | 1047 | 1091 | 1171 | 1269 | 9730 | 31025 | 33094 | 8808 | 1042 |
| 7 | 1054 | 1088 | 1085 | 1051 | 1091 | 1173 | 1264 | 11113 | 32196 | 32158 | 8482 | 1044 |
| 8 | 1091 | 1081 | 1083 | 1052 | 1091 | 1173 | 1262 | 12625 | 33588 | 31229 | 8282 | 1042 |
| 9 | 1103 | 1083 | 1081 | 1054 | 1091 | 1173 | 1253 | 14245 | 35178 | 30232 | 8164 | 1040 |
| 10 | 1105 | 1086 | 1076 | 1056 | 1091 | 1173 | 1287 | 15703 | 36652 | 29207 | 8131 | 1039 |
| 11 | 1103 | 1086 | 1071 | 1056 | 1091 | 1170 | 1330 | 16709 | 37711 | 28191 | 7340 | 1039 |
| 12 | 1098 | 1086 | 1071 | 1064 | 1093 | 1164 | 1384 | 17645 | 38410 | 27193 | 6782 | 1044 |
| 13 | 1095 | 1083 | 1071 | 1073 | 1093 | 1163 | 1470 | 18609 | 38878 | 26531 | 6150 | 1047 |
| 14 | 1091 | 1078 | 1068 | 1073 | 1091 | 1158 | 1674 | 19696 | 39047 | 26117 | 5034 | 1047 |
| 15 | 1088 | 1074 | 1068 | 1073 | 1090 | 1158 | 1787 | 20655 | 39242 | 25691 | 3790 | 1044 |
| 16 | 1086 | 1076 | 1061 | 1074 | 1091 | 1164 | 1974 | 21564 | 39283 | 25345 | 2573 | 1042 |
| 17 | 1085 | 1076 | 1061 | 1085 | 1095 | 1188 | 1972 | 22380 | 39250 | 25109 | 1425 | 1039 |
| 18 | 1083 | 1074 | 1061 | 1088 | 1095 | 1210 | 1872 | 22610 | 39234 | 24702 | 1188 | 1042 |
| 19 | 1081 | 1071 | 1061 | 1090 | 1095 | 1219 | 1739 | 22854 | 39096 | 24184 | 1103 | 1054 |
| 20 | 1078 | 1073 | 1061 | 1090 | 1091 | 1223 | 1619 | 22861 | 38991 | 23485 | 1076 | 1064 |
| 21 | 1085 | 1071 | 1061 | 1090 | 1093 | 1241 | 1473 | 23057 | 38974 | 22708 | 1069 | 1049 |
| 22 | 1096 | 1069 | 1056 | 1090 | 1093 | 1248 | 1373 | 23331 | 38991 | 21853 | 1061 | 1051 |
| 23 | 1102 | 1066 | 1056 | 1091 | 1093 | 1248 | 1436 | 23816 | 38974 | 20941 | 1064 | 1049 |
| 24 | 1115 | 1073 | 1057 | 1091 | 1093 | 1255 | 1398 | 24241 | 38829 | 19925 | 1064 | 1045 |
| 25 | 1122 | 1083 | 1056 | 1091 | 1095 | 1262 | 1455 | 24531 | 38595 | 18901 | 1054 | 1042 |
| 26 | 1115 | 1066 | 1056 | 1091 | 1095 | 1260 | 1703 | 24752 | 38297 | 17781 | 1049 | 1051 |
| 27 | 1117 | 1066 | 1056 | 1091 | 1096 | 1255 | 2374 | 25052 | 37944 | 16632 | 1040 | 1064 |
| 28 | 1105 | 1093 | 1051 | 1091 | 1119 | 1230 | 3257 | 25605 | 37631 | 15496 | 1036 | 1061 |
| 29 | 1103 | 1100 | 1049 | 1091 | --- | 1207 | 4244 | 26001 | 37216 | 14312 | 1044 | 1044 |
| 30 | 1096 | 1098 | 1047 | 1091 | --- | 1197 | 4778 | 26436 | 36779 | 13118 | 1045 | 1052 |
| 31 | 1095 | --- | 1047 | 1091 | --- | 1198 | --- | 26603 | --- | 11942 | 1045 | --- |
| MAX | 1122 | 1100 | 1093 | 1091 | 1119 | 1262 | 4778 | 26603 | 39283 | 36478 | 11252 | 1064 |
| MIN | 870 | 1066 | 1047 | 1040 | 1090 | 1130 | 1210 | 5161 | 26683 | 11942 | 1036 | 1039 |
| a | 7231.31 | 7231.33 | 7231.03 | 7231.29 | 7231.45 | 7231.92 | 7245.30 | 7282.80 | 7296.18 | 7260.58 | 7231.02 | 7231.06 |
| b | +127 | +3 | -51 | +44 | +28 | +79 | +3580 | +21825 | +10176 | -24837 | -10897 | +7 |

CAL YR 1989 b -43

WTR YR 1990 b +84

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11230200 HOOPER CREEK AT DIVERSION DAM, NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°18'19", long 118°56'57", unsurveyed, T.7 S., R.28 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 80 ft downstream from diversion dam, 0.8 mi upstream from mouth, 2.5 mi north of Florence Lake, and 17.6 mi northeast of town of Big Creek.

DRAINAGE AREA.--7.22 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 7,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow regulated by diversion dam 80 ft upstream and consists of fishery release and spill over diversion dam. Diversion to Florence Lake and Ward tunnel (stations 11229600 and 11229500). See schematic diagram of upper 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 daily discharge, 20 ft³/s, Apr. 18, 1989; minimum daily, 1.2 ft³/s, Apr. 25, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 8.0 ft³/s, Apr. 16; minimum daily, 1.5 ft³/s, Nov. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|------|------|-------|------|------|
| 1 | 2.6 | e2.2 | e2.0 | e1.7 | e1.7 | e2.0 | e2.8 | e3.1 | 3.2 | 3.0 | 3.5 | 2.0 |
| 2 | 2.5 | e2.2 | e2.0 | e1.6 | e1.7 | e1.9 | e2.8 | e3.1 | 3.1 | 3.0 | 3.4 | 2.0 |
| 3 | 2.3 | e2.0 | e2.0 | e1.6 | e1.7 | e1.9 | e2.9 | 3.0 | 3.1 | 3.1 | 3.3 | 2.0 |
| 4 | 2.2 | e2.0 | e2.0 | e1.6 | e1.7 | e1.9 | e3.0 | 3.1 | 3.1 | 3.2 | 3.2 | 1.9 |
| 5 | 2.2 | e2.0 | e2.0 | e1.6 | e1.6 | e1.9 | e3.0 | 3.1 | 3.1 | 3.2 | 3.1 | e1.9 |
| 6 | 2.3 | e2.0 | e2.0 | e1.6 | e1.6 | e1.9 | e3.0 | 3.1 | 3.1 | 3.2 | 3.2 | e1.9 |
| 7 | 2.2 | e2.0 | e2.0 | e1.6 | e1.6 | e1.9 | e3.2 | 3.1 | 3.1 | 3.2 | 3.3 | e1.9 |
| 8 | 2.2 | e2.2 | e2.0 | e1.7 | e1.6 | e1.9 | e3.2 | 3.1 | 3.1 | 3.3 | 3.4 | e1.9 |
| 9 | 2.0 | e2.0 | e2.0 | e1.7 | e1.6 | e1.9 | e3.2 | 3.1 | 3.1 | 3.3 | 3.5 | e1.9 |
| 10 | 2.0 | e2.1 | e1.9 | e1.7 | e1.6 | e1.9 | e3.2 | e3.1 | 3.1 | 3.1 | 3.6 | e1.9 |
| 11 | 2.0 | e2.1 | e1.9 | e1.7 | e1.6 | e1.9 | e3.2 | e3.1 | 3.1 | 3.1 | 3.6 | e1.9 |
| 12 | 1.9 | e2.0 | e1.9 | e1.7 | e1.6 | e1.9 | e4.0 | e3.1 | e3.1 | 3.2 | 3.6 | e1.9 |
| 13 | 1.8 | e2.2 | e1.9 | e1.7 | e1.6 | e1.9 | e4.8 | e3.1 | e3.1 | 3.2 | 3.4 | e1.9 |
| 14 | 1.6 | e2.3 | e1.9 | e1.7 | e1.6 | e1.9 | e5.6 | e3.1 | e3.1 | 3.9 | 3.5 | e1.9 |
| 15 | 1.8 | e2.2 | e1.9 | e1.7 | e1.6 | e1.9 | e6.4 | e3.1 | e3.1 | 3.7 | 3.4 | e1.9 |
| 16 | 1.8 | e1.9 | e1.9 | e1.7 | e1.6 | e1.9 | e8.0 | e3.1 | e3.1 | 3.7 | 3.1 | e1.9 |
| 17 | 1.9 | e1.9 | e1.9 | e1.7 | e1.7 | e1.9 | e5.3 | 3.1 | e3.1 | 3.6 | 2.8 | e1.9 |
| 18 | 1.9 | e1.5 | e1.9 | e1.7 | e1.7 | e2.0 | e3.1 | 3.1 | e3.1 | 3.5 | 3.0 | e1.9 |
| 19 | 2.0 | e2.1 | e1.9 | e1.7 | e1.8 | e2.0 | e3.1 | 3.1 | e3.1 | 4.4 | 3.0 | e1.9 |
| 20 | 1.8 | e1.6 | e1.9 | e1.7 | e1.8 | e2.1 | e3.1 | 3.1 | e3.1 | 4.6 | 3.0 | e1.9 |
| 21 | 2.0 | e1.7 | e1.8 | e1.7 | e1.9 | e2.1 | e3.1 | 3.1 | 3.1 | 4.8 | 3.0 | e1.9 |
| 22 | 2.1 | e1.6 | e1.8 | e1.7 | e1.9 | e2.2 | e3.1 | 3.1 | 3.1 | 4.7 | 2.7 | e1.9 |
| 23 | 2.1 | e1.8 | e1.8 | e1.7 | e1.9 | e2.2 | e3.1 | 3.1 | 3.1 | 4.5 | 2.6 | e1.9 |
| 24 | 2.2 | e1.7 | e1.8 | e1.7 | e1.9 | e2.3 | e3.1 | 3.1 | 3.1 | 4.4 | 2.4 | e1.9 |
| 25 | 2.2 | e1.7 | e1.8 | e1.7 | e1.9 | e2.4 | e3.1 | 3.1 | 3.1 | 4.2 | 2.4 | e1.9 |
| 26 | e2.3 | e1.7 | e1.7 | e1.7 | e1.9 | e2.4 | e3.1 | 3.1 | 3.1 | 4.8 | 2.3 | e1.9 |
| 27 | e2.2 | e2.8 | e1.7 | e1.7 | e2.0 | e2.5 | e3.1 | 3.1 | 3.1 | 4.6 | 2.1 | e1.9 |
| 28 | e2.2 | e2.7 | e1.7 | e1.7 | e2.0 | e2.5 | e3.1 | 3.1 | 3.6 | 3.8 | 2.1 | e1.9 |
| 29 | e2.2 | e2.5 | e1.7 | e1.7 | --- | e2.6 | e3.1 | 3.1 | 3.1 | 3.4 | 1.9 | e1.9 |
| 30 | e2.2 | e2.5 | e1.7 | e1.7 | --- | e2.7 | e3.1 | 3.1 | 3.1 | 3.5 | 2.1 | e1.9 |
| 31 | e2.2 | --- | e1.7 | e1.7 | --- | e2.7 | --- | 3.1 | --- | 3.6 | 2.2 | --- |
| TOTAL | 64.9 | 61.2 | 58.1 | 52.1 | 48.4 | 65.1 | 107.9 | 96.0 | 93.6 | 114.8 | 91.7 | 57.3 |
| MEAN | 2.09 | 2.04 | 1.87 | 1.68 | 1.73 | 2.10 | 3.60 | 3.10 | 3.12 | 3.70 | 2.96 | 1.91 |
| MAX | 2.6 | 2.8 | 2.0 | 1.7 | 2.0 | 2.7 | 8.0 | 3.1 | 3.6 | 4.8 | 3.6 | 2.0 |
| MIN | 1.6 | 1.5 | 1.7 | 1.6 | 1.6 | 1.9 | 2.8 | 3.0 | 3.1 | 3.0 | 1.9 | 1.9 |
| AC-FT | 129 | 121 | 115 | 103 | 96 | 129 | 214 | 190 | 186 | 228 | 182 | 114 |

CAL YR 1989 TOTAL 1041.4 MEAN 2.85 MAX 20 MIN 1.2 AC-FT 2070
WTR YR 1990 TOTAL 911.1 MEAN 2.50 MAX 8.0 MIN 1.5 AC-FT 1810

e Estimated.

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 mi².

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.--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 upper 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).--12 years, 376 ft³/s, 272,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft³/s, Sept. 26, 1982, gage height, 11.42 ft, from rating curve extended above 1,300 ft³/s on basis of spill flow at Florence Lake; minimum daily, 3.9 ft³/s, Oct. 24, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 207 ft³/s, July 14, gage height, 5.27 ft; minimum daily, 11 ft³/s, Nov. 7, Feb. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | e120 | 16 | 13 | 12 | 13 | 13 | 17 | 25 | 27 | 26 | 24 | 24 |
| 2 | e123 | 14 | 13 | e13 | e13 | 14 | 17 | 25 | 27 | 26 | 24 | 24 |
| 3 | e111 | 13 | 13 | e13 | 13 | 15 | 17 | 25 | 27 | 26 | 24 | 24 |
| 4 | e88 | 13 | 13 | e13 | 13 | 16 | 17 | 26 | 27 | 26 | 24 | 24 |
| 5 | 53 | 13 | 14 | e13 | e13 | 16 | 17 | 26 | 27 | 26 | 24 | 24 |
| 6 | 22 | 12 | 14 | e13 | 13 | 15 | 17 | 26 | 27 | 26 | 24 | 24 |
| 7 | 20 | 11 | 14 | 13 | 12 | 16 | 17 | 27 | 27 | 26 | 26 | 24 |
| 8 | 19 | 12 | 13 | 13 | e13 | 16 | 17 | 27 | 27 | 25 | 26 | 24 |
| 9 | 18 | 12 | 13 | 13 | e13 | 16 | 16 | 28 | 27 | 25 | 27 | 24 |
| 10 | 17 | 12 | 14 | 13 | 13 | 16 | 17 | 28 | 27 | 25 | 26 | 24 |
| 11 | 17 | 12 | 14 | 13 | 13 | 16 | 18 | 29 | 27 | 25 | 26 | 24 |
| 12 | 17 | 12 | 14 | 13 | 13 | 15 | 18 | 29 | 27 | 26 | 26 | 24 |
| 13 | 16 | 12 | 13 | e13 | 13 | e16 | 20 | 27 | 28 | 30 | 25 | 24 |
| 14 | 17 | 12 | 13 | 13 | 13 | 16 | 21 | 26 | 28 | 59 | 25 | 24 |
| 15 | 17 | 12 | 13 | e13 | e13 | 16 | 22 | 26 | 28 | 40 | 27 | 24 |
| 16 | 16 | 13 | 13 | e13 | e11 | 16 | 24 | 26 | 28 | 29 | 27 | 24 |
| 17 | 16 | 13 | 13 | e13 | e13 | 19 | 21 | 26 | 28 | 28 | 26 | 24 |
| 18 | 16 | 13 | 13 | e13 | e13 | 22 | 18 | 26 | 27 | 28 | 26 | 24 |
| 19 | 16 | 13 | 13 | e13 | e13 | 22 | 17 | 26 | 27 | 28 | 25 | 24 |
| 20 | 21 | 13 | 13 | e13 | e13 | 23 | 18 | 27 | 27 | 27 | 25 | 24 |
| 21 | 18 | 12 | 12 | e13 | 13 | 23 | 18 | 26 | 27 | 26 | 25 | 24 |
| 22 | 17 | 13 | 12 | e13 | 13 | 22 | 17 | 26 | 27 | 25 | 28 | 24 |
| 23 | 17 | 13 | 13 | e13 | 13 | 21 | 20 | 27 | 27 | 25 | 26 | 24 |
| 24 | 17 | 13 | 13 | e13 | 13 | 21 | 20 | 28 | 27 | 25 | 25 | 24 |
| 25 | 17 | 13 | 12 | e13 | 13 | 21 | 18 | 27 | 27 | 25 | 25 | 24 |
| 26 | 17 | 14 | 12 | 13 | 13 | 21 | 18 | 27 | 27 | 25 | 25 | 24 |
| 27 | 17 | 13 | 12 | e13 | 13 | 19 | 18 | 27 | 27 | 24 | 25 | 25 |
| 28 | 17 | 13 | 13 | e13 | 13 | 18 | 18 | 29 | 27 | 26 | 25 | 25 |
| 29 | 17 | 13 | 13 | 13 | --- | 17 | 19 | 28 | 26 | 26 | 24 | 24 |
| 30 | 16 | 13 | 12 | 13 | --- | 17 | 20 | 28 | 26 | 25 | 24 | 24 |
| 31 | 17 | --- | 12 | e13 | --- | 17 | --- | 28 | --- | 25 | 24 | --- |
| TOTAL | 947 | 383 | 402 | 402 | 361 | 551 | 552 | 832 | 813 | 854 | 783 | 722 |
| MEAN | 30.5 | 12.8 | 13.0 | 13.0 | 12.9 | 17.8 | 18.4 | 26.8 | 27.1 | 27.5 | 25.3 | 24.1 |
| MAX | 123 | 16 | 14 | 13 | 13 | 23 | 24 | 29 | 28 | 59 | 28 | 25 |
| MIN | 16 | 11 | 12 | 12 | 11 | 13 | 16 | 25 | 26 | 24 | 24 | 24 |
| AC-FT | 1880 | 760 | 797 | 797 | 716 | 1090 | 1090 | 1650 | 1610 | 1690 | 1550 | 1430 |

CAL YR 1989 TOTAL 8589 MEAN 23.5 MAX 123 MIN 11 AC-FT 17040
WTR YR 1990 TOTAL 7602 MEAN 20.8 MAX 123 MIN 11 AC-FT 15080

e Estimated.

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 mi².

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.--No storage or diversion upstream from station. See schematic diagram of upper 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.--69 years, 92.0 ft³/s, 66,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft³/s, Sept. 26, 1982, gage height, 8.35 ft, from rating curve extended above 570 ft³/s; minimum daily, 1.2 ft³/s, Sept. 29 to Oct. 5, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 341 ft³/s, May 6, June 8, gage height, 4.82 ft; minimum daily, 5.2 ft³/s, Sept. 14-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|
| 1 | 38 | 12 | e14 | e5.7 | e13 | e24 | 48 | 97 | 94 | 88 | 23 | 9.9 |
| 2 | 33 | 12 | e15 | e5.6 | e13 | e20 | 55 | 97 | 105 | 95 | 22 | 9.2 |
| 3 | 30 | 12 | e14 | e5.8 | e13 | e22 | 60 | 121 | 166 | 88 | 20 | 8.5 |
| 4 | 27 | 12 | e14 | e6.1 | e13 | 27 | 61 | 155 | 222 | 79 | 19 | 7.7 |
| 5 | 24 | 12 | e14 | e6.4 | e14 | e24 | 60 | 207 | 273 | 70 | 19 | 6.8 |
| 6 | 22 | 12 | e14 | e6.3 | e14 | e24 | 57 | 257 | 273 | 64 | 19 | 6.5 |
| 7 | 20 | 10 | e12 | e6.6 | e14 | e25 | 54 | 245 | 256 | 61 | 19 | 6.5 |
| 8 | 18 | 9.9 | e12 | e6.7 | e15 | e25 | 52 | 225 | 295 | 58 | 20 | 6.5 |
| 9 | 17 | 11 | e11 | e6.9 | e15 | 25 | 53 | 223 | 288 | 56 | 22 | 6.5 |
| 10 | 16 | 11 | e11 | e7.0 | e15 | 26 | 67 | 212 | 251 | 53 | 29 | 6.0 |
| 11 | 15 | 11 | e9.6 | e7.0 | e15 | 23 | 83 | 152 | 187 | 51 | 32 | 5.8 |
| 12 | 14 | 11 | e9.8 | e7.1 | e15 | e21 | 100 | 138 | 168 | 50 | 40 | 5.6 |
| 13 | 13 | 10 | e10 | e7.4 | e15 | e22 | 123 | 150 | 153 | 66 | 40 | 5.4 |
| 14 | 12 | 9.3 | e9.1 | e8.1 | e14 | e21 | 154 | 154 | 131 | 91 | 47 | 5.2 |
| 15 | 12 | 9.0 | e8.8 | e8.9 | e15 | 22 | 170 | 136 | 170 | 101 | 43 | 5.2 |
| 16 | 12 | 9.7 | e8.6 | e9.4 | e16 | 23 | 156 | 140 | 148 | 101 | 37 | 5.2 |
| 17 | 11 | 9.8 | e7.9 | e10 | e16 | 28 | 115 | 142 | 128 | 108 | 32 | 5.2 |
| 18 | 10 | 8.5 | e7.1 | e12 | e19 | 37 | 109 | 130 | 128 | 137 | 28 | 5.2 |
| 19 | 10 | 9.1 | e6.6 | e14 | e20 | 41 | 114 | 128 | 124 | 114 | 31 | 5.2 |
| 20 | 10 | 9.4 | e6.7 | e16 | e20 | 41 | 109 | 114 | 136 | 82 | 27 | 5.4 |
| 21 | 10 | 8.5 | e7.1 | e19 | e20 | 51 | 98 | 138 | 158 | 69 | 25 | 5.4 |
| 22 | 14 | 8.4 | e7.3 | e19 | e20 | 54 | 85 | 156 | 169 | 62 | 22 | 9.8 |
| 23 | 13 | 7.4 | e7.3 | e19 | e19 | 49 | 95 | 159 | 158 | 57 | 20 | 9.4 |
| 24 | 16 | 9.6 | e7.3 | e19 | e21 | 55 | 100 | 154 | 139 | 51 | 18 | 10 |
| 25 | 19 | 7.6 | e7.2 | e19 | e23 | 57 | 95 | 131 | 123 | 45 | 17 | 9.4 |
| 26 | 16 | e7.8 | e7.0 | e19 | e24 | 59 | 115 | 111 | 115 | 39 | 15 | 9.0 |
| 27 | 18 | e8.0 | e7.0 | e18 | e23 | 58 | 162 | 118 | 103 | 35 | 14 | 9.0 |
| 28 | 14 | e19 | e6.6 | e18 | e25 | 49 | 187 | 155 | 99 | 31 | 13 | 9.4 |
| 29 | 13 | e18 | e6.0 | e18 | --- | 40 | 154 | 142 | 95 | 27 | 11 | 9.4 |
| 30 | 13 | e16 | e5.9 | e15 | --- | 37 | 119 | 144 | 89 | 26 | 11 | 9.8 |
| 31 | 13 | --- | e6.0 | e13 | --- | 39 | --- | 107 | --- | 24 | 10 | --- |
| TOTAL | 523 | 321.0 | 289.9 | 359.0 | 479 | 1069 | 3010 | 4738 | 4944 | 2079 | 745 | 218.1 |
| MEAN | 16.9 | 10.7 | 9.35 | 11.6 | 17.1 | 34.5 | 100 | 153 | 165 | 67.1 | 24.0 | 7.27 |
| MAX | 38 | 19 | 15 | 19 | 25 | 59 | 187 | 257 | 295 | 137 | 47 | 10 |
| MIN | 10 | 7.4 | 5.9 | 5.6 | 13 | 20 | 48 | 97 | 89 | 24 | 10 | 5.2 |
| AC-FT | 1040 | 637 | 575 | 712 | 950 | 2120 | 5970 | 9400 | 9810 | 4120 | 1480 | 433 |

CAL YR 1989 TOTAL 21226.2 MEAN 58.2 MAX 314 MIN 4.1 AC-FT 42100
WTR YR 1990 TOTAL 18775.0 MEAN 51.4 MAX 295 MIN 5.2 AC-FT 37240

e Estimated.

11230520 BEAR CREEK CONDUIT NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'06", long 118°58'24", unsurveyed, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank at diversion dam, 2.2 mi northeast of Mono Hot Springs, and 2.3 mi south of Lake Thomas A. Edison.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Discharge computed as difference between flows at Bear Creek near Lake Thomas A. Edison (station 11230500) and Bear Creek at diversion dam (station 11230530). Datum of conduit invert, 7,340 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Diversion to Mono-Bear conduit, thence to Ward tunnel and Huntington Lake via Portal Powerplant and used for further power development in Big Creek powerplants. See schematic diagram of upper 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 daily discharge, 396 ft³/s, May 16, 1987; no flow Oct. 18-21, 1988, Sept. 23-27, Oct. 4, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|-------|-------|-------|------|------|------|------|------|------|-------|-------|
| 1 | 36 | 11 | e13 | e4.3 | e11 | e22 | 46 | 94 | 91 | 86 | 20 | 7.3 |
| 2 | 32 | 11 | e13 | e4.2 | e11 | e18 | 53 | 94 | 102 | 93 | 19 | 6.6 |
| 3 | 28 | 11 | e12 | e4.3 | e11 | e20 | 58 | 118 | 163 | 86 | 17 | 5.8 |
| 4 | e.00 | 11 | e12 | e4.6 | e11 | e25 | 59 | 152 | 219 | 76 | 16 | 5.0 |
| 5 | 13 | 11 | e12 | e4.9 | e12 | e22 | 58 | 204 | 270 | 67 | 16 | 4.1 |
| 6 | 20 | 11 | e12 | e4.8 | e12 | e22 | 55 | 254 | 270 | 61 | 16 | 3.8 |
| 7 | 19 | 8.6 | e11 | e5.1 | e12 | e23 | 52 | 242 | 253 | 58 | 16 | 3.8 |
| 8 | 17 | 8.5 | e11 | e5.2 | e13 | e23 | 50 | 222 | 292 | 56 | 17 | 3.8 |
| 9 | 16 | 9.6 | e9.7 | e5.4 | e13 | e23 | 51 | 220 | 285 | 53 | 19 | 3.8 |
| 10 | 15 | 9.6 | e9.7 | e5.5 | e13 | e24 | 65 | 209 | 248 | 50 | 26 | 3.3 |
| 11 | 14 | 9.6 | e8.3 | e5.5 | e13 | e21 | 81 | 149 | 184 | 48 | 29 | 3.1 |
| 12 | 12 | 9.6 | e8.4 | e5.6 | e13 | e19 | 98 | 135 | 165 | 47 | 37 | 3.0 |
| 13 | 11 | 8.6 | e8.5 | e5.9 | e13 | e20 | 121 | 147 | 150 | 63 | 37 | 2.8 |
| 14 | 10 | 7.9 | e7.6 | e6.6 | e12 | e19 | 153 | 151 | 128 | 88 | 44 | 2.6 |
| 15 | 10 | 7.6 | e7.3 | e7.4 | e13 | e20 | 169 | 133 | 167 | 98 | 40 | 2.6 |
| 16 | 10 | 8.3 | e7.1 | e7.9 | e14 | e21 | 155 | 137 | 145 | 98 | 34 | 2.6 |
| 17 | 9.3 | 8.4 | e6.4 | e8.5 | e14 | e26 | 114 | 139 | 125 | 105 | 29 | 2.6 |
| 18 | 8.3 | 7.1 | e5.6 | e10 | e17 | e35 | 108 | 127 | 125 | 134 | 25 | 2.6 |
| 19 | 8.3 | 7.7 | e5.1 | e12 | e18 | e39 | 113 | 125 | 121 | 111 | 28 | 2.6 |
| 20 | 8.3 | 8.0 | e5.2 | e14 | e18 | e39 | 108 | 111 | 133 | 79 | 24 | 2.8 |
| 21 | 8.3 | 7.1 | e5.6 | e17 | e18 | e49 | 97 | 135 | 155 | 66 | 22 | 2.8 |
| 22 | 12 | 7.0 | e5.8 | e17 | e18 | e52 | 84 | 153 | 166 | 59 | 19 | 7.2 |
| 23 | 11 | 6.0 | e5.8 | e17 | e17 | e47 | 94 | 156 | 155 | 54 | 17 | 6.8 |
| 24 | 14 | 8.3 | e5.9 | e17 | e19 | e53 | 99 | 151 | 136 | 48 | 15 | 7.4 |
| 25 | 17 | 6.3 | e5.8 | e17 | e21 | e55 | 94 | 128 | 120 | 42 | 14 | 6.7 |
| 26 | 14 | e6.5 | e5.6 | e17 | e22 | e57 | 114 | 108 | 112 | 36 | 12 | 6.4 |
| 27 | 16 | e6.7 | e5.6 | e16 | e21 | e56 | 161 | 115 | 100 | 32 | 11 | 6.4 |
| 28 | 12 | e18 | e5.2 | e16 | e23 | e47 | 186 | 152 | 96 | 28 | 10 | 6.8 |
| 29 | 11 | e17 | e4.6 | e16 | --- | e38 | 153 | 139 | 92 | 24 | 8.3 | 6.8 |
| 30 | 11 | e15 | e4.5 | e13 | --- | 35 | 117 | 141 | 87 | 23 | 8.4 | 7.2 |
| 31 | 12 | --- | e4.6 | e11 | --- | 37 | --- | 104 | --- | 21 | 7.4 | --- |
| TOTAL | 435.50 | 283.0 | 243.9 | 305.7 | 423 | 1007 | 2966 | 4645 | 4855 | 1990 | 653.1 | 139.1 |
| MEAN | 14.0 | 9.43 | 7.87 | 9.86 | 15.1 | 32.5 | 98.9 | 150 | 162 | 64.2 | 21.1 | 4.64 |
| MAX | 36 | 18 | 13 | 17 | 23 | 57 | 186 | 254 | 292 | 134 | 44 | 7.4 |
| MIN | .00 | 6.0 | 4.5 | 4.2 | 11 | 18 | 46 | 94 | 87 | 21 | 7.4 | 2.6 |
| AC-FT | 864 | 561 | 484 | 606 | 839 | 2000 | 5880 | 9210 | 9630 | 3950 | 1300 | 276 |

CAL YR 1989 TOTAL 20243.40 MEAN 55.5 MAX 311 MIN .00 AC-FT 40150
WTR YR 1990 TOTAL 17946.30 MEAN 49.2 MAX 292 MIN .00 AC-FT 35600

e Estimated.

SAN JOAQUIN RIVER BASIN

11230530 BEAR CREEK AT DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'05", long 118°58'26", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 450 ft downstream from diversion dam, 2.5 mi south of Lake Thomas A. Edison, and 18.3 mi east of town of Big Creek.

DRAINAGE AREA.--52.8 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,338.30 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Flow consists of fishery release and spill over diversion dam. Diversion through Bear conduit at diversion dam to Ward tunnel. See schematic diagram of upper 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 daily discharge, 26 ft³/s, May 15, 1987; minimum daily, 0.94 ft³/s, Oct. 15, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 1.9 | 1.4 | 1.4 | 1.4 | e1.5 | e1.5 | 1.5 | 2.7 | 2.5 | 2.4 | 2.6 | 2.6 |
| 2 | 1.4 | 1.4 | 1.5 | 1.4 | e1.5 | e1.5 | 1.5 | 2.7 | 2.5 | 2.4 | 2.6 | 2.6 |
| 3 | 1.5 | 1.4 | 1.5 | 1.5 | e1.5 | e1.5 | 1.5 | 2.8 | 2.6 | 2.4 | 2.6 | 2.7 |
| 4 | 1.6 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.5 | 2.9 | 2.6 | 2.5 | 2.6 | 2.7 |
| 5 | 11 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.5 | 2.9 | 2.6 | 2.5 | 2.6 | 2.7 |
| 6 | 1.5 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.5 | 2.8 | 2.6 | 2.5 | 2.5 | 2.7 |
| 7 | 1.4 | 1.4 | 1.4 | e1.5 | e1.5 | e1.5 | 1.5 | 2.7 | 2.6 | 2.5 | 2.5 | 2.7 |
| 8 | 1.4 | 1.4 | 1.4 | e1.5 | e1.5 | e1.5 | 1.5 | 2.7 | 2.6 | 2.4 | 2.5 | 2.7 |
| 9 | 1.4 | 1.4 | 1.3 | e1.5 | e1.5 | e1.5 | 1.5 | 2.7 | 2.6 | 2.6 | 2.5 | 2.7 |
| 10 | 1.4 | 1.4 | 1.3 | e1.5 | e1.5 | e1.5 | 1.5 | 2.7 | 2.6 | 2.7 | 2.5 | 2.7 |
| 11 | 1.4 | 1.4 | e1.3 | e1.5 | e1.5 | e1.5 | 1.5 | 2.6 | 2.6 | 2.7 | 2.6 | 2.7 |
| 12 | 1.5 | 1.4 | e1.4 | e1.5 | e1.5 | e1.5 | 1.5 | 2.6 | 2.5 | 2.6 | 2.6 | 2.6 |
| 13 | 1.7 | 1.4 | e1.5 | e1.5 | e1.5 | e1.5 | 1.5 | 2.6 | 2.6 | 2.6 | 2.7 | 2.6 |
| 14 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.4 | 2.6 | 2.6 | 2.7 | 2.7 | 2.6 |
| 15 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.4 | 2.6 | 2.6 | 2.7 | 2.7 | 2.6 |
| 16 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.4 | 2.5 | 2.6 | 2.7 | 2.7 | 2.6 |
| 17 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.4 | 2.5 | 2.5 | 2.7 | 2.7 | 2.6 |
| 18 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.4 | 2.5 | 2.5 | 2.7 | 2.7 | 2.6 |
| 19 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.7 | 2.7 | 2.6 |
| 20 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.6 |
| 21 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.7 | 2.7 | 2.6 |
| 22 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.7 | 2.7 | 2.6 |
| 23 | 1.7 | 1.4 | 1.5 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.6 |
| 24 | 1.7 | 1.3 | 1.4 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.6 |
| 25 | 1.7 | 1.3 | 1.4 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.7 |
| 26 | 1.8 | 1.3 | 1.4 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.6 |
| 27 | 1.8 | 1.3 | 1.4 | e1.5 | e1.5 | e1.5 | 1.3 | 2.5 | 2.5 | 2.6 | 2.7 | 2.6 |
| 28 | 1.8 | 1.3 | 1.4 | e1.5 | e1.5 | e1.5 | 1.3 | 2.6 | 2.5 | 2.6 | 2.7 | 2.6 |
| 29 | 1.9 | 1.3 | 1.4 | e1.5 | --- | e1.5 | 1.3 | 2.6 | 2.5 | 2.6 | 2.7 | 2.6 |
| 30 | 1.8 | 1.3 | 1.4 | e1.5 | --- | 1.5 | 1.8 | 2.6 | 2.4 | 2.6 | 2.6 | 2.6 |
| 31 | 1.4 | --- | 1.4 | e1.5 | --- | 1.5 | --- | 2.5 | --- | 2.6 | 2.6 | --- |
| TOTAL | 60.0 | 41.3 | 44.7 | 46.3 | 42.0 | 46.5 | 42.6 | 80.9 | 76.2 | 80.4 | 81.8 | 79.0 |
| MEAN | 1.94 | 1.38 | 1.44 | 1.49 | 1.50 | 1.50 | 1.42 | 2.61 | 2.54 | 2.59 | 2.64 | 2.63 |
| MAX | 11 | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.8 | 2.9 | 2.6 | 2.7 | 2.7 | 2.7 |
| MIN | 1.4 | 1.3 | 1.3 | 1.4 | 1.5 | 1.5 | 1.3 | 2.5 | 2.4 | 2.4 | 2.5 | 2.6 |
| AC-FT | 119 | 82 | 89 | 92 | 83 | 92 | 84 | 160 | 151 | 159 | 162 | 157 |

CAL YR 1989 TOTAL 893.2 MEAN 2.45 MAX 25 MIN 1.3 AC-FT 1770
WTR YR 1990 TOTAL 721.7 MEAN 1.98 MAX 11 MIN 1.3 AC-FT 1430

e Estimated.

11230560 CHINQUAPIN CREEK AT DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'11", long 119°01'08", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, at diversion dam to Ward tunnel 0.7 mi upstream from mouth, 1.7 mi south of Mono Hot Springs, and 14.0 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.65 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,260 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records of fishery release normally computed only during periods of diversion to Ward tunnel. During the current year diversion occurred from Apr. 15 to June 21. See schematic diagram of upper 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|
| 1 | --- | --- | --- | --- | --- | --- | --- | 1.4 | 1.3 | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | 1.4 | 1.3 | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | 1.4 | 1.4 | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | 1.5 | 1.4 | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | 2.0 | 1.4 | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | 2.0 | 1.4 | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.4 | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.4 | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | .34 | 1.3 | 1.3 | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | .72 | 1.3 | 1.3 | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | .84 | 1.3 | 1.3 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | 1.3 | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | 1.2 | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | 1.1 | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | .95 | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | .70 | 1.4 | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | .70 | 1.4 | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | .70 | 1.3 | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | .80 | 1.3 | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | 1.7 | 1.3 | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | 1.3 | 1.3 | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | 1.1 | 1.3 | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | 1.3 | --- | --- | --- | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | 42.4 | --- | --- | --- | --- |
| MEAN | --- | --- | --- | --- | --- | --- | --- | 1.37 | --- | --- | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | 2.0 | --- | --- | --- | --- |
| MIN | --- | --- | --- | --- | --- | --- | --- | 1.3 | --- | --- | --- | --- |
| AC-FT | --- | --- | --- | --- | --- | --- | --- | 84 | --- | --- | --- | --- |

SAN JOAQUIN RIVER BASIN

11230600 CAMP 62 CREEK AT DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'13", long 119°01'46", unsurveyed, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 30 ft downstream from diversion dam, 0.7 mi upstream from mouth, 1.7 mi southwest of Mono Hot Springs, and 14.2 mi east of town of Big Creek.

DRAINAGE AREA.--1.97 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records of fishery release normally are computed only during periods of diversion to Ward tunnel. Diversion during the current year occurred Apr. 14 to July 6. See schematic diagram of upper 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|------|-------|-------|-----|-----|-----|
| 1 | --- | --- | --- | --- | --- | --- | --- | .60 | .58 | .64 | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | .60 | .59 | .64 | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | .61 | .59 | .64 | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | .61 | .59 | .63 | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | .53 | .59 | .59 | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | .54 | .51 | .55 | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | .60 | .49 | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | .57 | .57 | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | .59 | .64 | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | .57 | .61 | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | .61 | .61 | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | --- | .65 | .61 | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | --- | .63 | .61 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | e1.6 | .61 | .61 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | e.73 | .60 | .64 | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | .47 | .60 | .64 | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | .50 | .56 | .64 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | .51 | .58 | .64 | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | .53 | .61 | .64 | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | .48 | .61 | .64 | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | .49 | .59 | .64 | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | .51 | .58 | .64 | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | .50 | .56 | .64 | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | .49 | .58 | .64 | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | .50 | .57 | .64 | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | .52 | .57 | .64 | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | .52 | .60 | .64 | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | .57 | .62 | .64 | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | .57 | .64 | .64 | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | .59 | .61 | .64 | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | .59 | --- | --- | --- | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | 18.39 | 18.44 | --- | --- | --- |
| MEAN | --- | --- | --- | --- | --- | --- | --- | .59 | .61 | --- | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | .65 | .64 | --- | --- | --- |
| MIN | --- | --- | --- | --- | --- | --- | --- | .53 | .49 | --- | --- | --- |
| AC-FT | --- | --- | --- | --- | --- | --- | --- | 36 | 37 | --- | --- | --- |

e Estimated.

11230670 BOLSILLO CREEK BELOW DIVERSION DAM, NEAR BIG CREEK, CA

LOCATION.--Lat 37°18'40", long 119°02'22", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, 50 ft downstream from diversion dam, 1.5 mi upstream from mouth, 1.7 mi southwest of Mono Hot Springs, and 13.3 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.40 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records of fishery release normally computed only during periods of diversion to Ward tunnel. Diversion during the current water year occurred Apr. 10 to June 20. See schematic diagram of upper 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|
| 1 | --- | --- | --- | --- | --- | --- | --- | .55 | .57 | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | .59 | .56 | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | .56 | .56 | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | e.92 | .56 | .55 | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | e.52 | .56 | .54 | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | e.54 | .56 | .54 | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | e.54 | .56 | .54 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | e.54 | .56 | .54 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | .54 | .56 | .51 | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | .54 | .56 | .51 | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | .54 | .56 | .51 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | .54 | .56 | .51 | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | .54 | .56 | .51 | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | .54 | .56 | .49 | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | .54 | .56 | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | .56 | --- | --- | --- | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | 17.38 | --- | --- | --- | --- |
| MEAN | --- | --- | --- | --- | --- | --- | --- | .56 | --- | --- | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | .59 | --- | --- | --- | --- |
| MIN | --- | --- | --- | --- | --- | --- | --- | .55 | --- | --- | --- | --- |
| AC-FT | --- | --- | --- | --- | --- | --- | --- | 34 | --- | --- | --- | --- |

e Estimated.

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 mi².

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 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 upper 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, 125,983 acre-ft, Sept. 26, 1982, elevation, 7,643.55 ft; minimum since appreciable storage was attained, 4,553 acre-ft, Dec. 27, 1987, elevation, 7,552.07 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,278 acre-ft, July 31, elevation, 7,589.86 ft; minimum, 6,444 acre-ft, Oct. 1, elevation, 7,555.49 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated July 22, 1955)

| | | | | | | | |
|---------|-----|-------|-------|-------|--------|-------|---------|
| 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 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 6444 | 6595 | 6662 | 6632 | 7073 | 7866 | 10395 | 15413 | 24270 | 35839 | 40152 | 25004 |
| 2 | 6468 | 6602 | 6662 | 6626 | 7092 | 7914 | 10538 | 15260 | 24568 | 36144 | 39875 | 24238 |
| 3 | 6480 | 6595 | 6668 | 6620 | 7111 | 7954 | 10720 | 15117 | 24972 | 36351 | 39585 | 23513 |
| 4 | 6492 | 6602 | 6680 | 6608 | 7137 | 8008 | 10887 | 15090 | 25464 | 36497 | 39371 | 22639 |
| 5 | 6498 | 6602 | 6692 | 6608 | 7163 | 8055 | 11061 | 15197 | 26068 | 36656 | 39145 | 21929 |
| 6 | 6505 | 6602 | 6705 | 6602 | 7201 | 8090 | 11224 | 15513 | 26655 | 36766 | 38871 | 21269 |
| 7 | 6511 | 6608 | 6705 | 6602 | 7227 | 8133 | 11387 | 15886 | 27233 | 36889 | 38360 | 20677 |
| 8 | 6511 | 6602 | 6711 | 6608 | 7246 | 8211 | 11550 | 16314 | 27851 | 37013 | 37666 | 20068 |
| 9 | 6511 | 6602 | 6711 | 6608 | 7271 | 8261 | 11680 | 16824 | 28560 | 37124 | 36939 | 19461 |
| 10 | 6517 | 6602 | 6711 | 6602 | 7291 | 8318 | 11859 | 17326 | 29165 | 37247 | 36217 | 18877 |
| 11 | 6517 | 6614 | 6711 | 6602 | 7316 | 8374 | 11933 | 17656 | 29625 | 37333 | 35887 | 18281 |
| 12 | 6517 | 6620 | 6711 | 6620 | 7329 | 8424 | 11933 | 17986 | 30034 | 37469 | 35802 | 17930 |
| 13 | 6529 | 6620 | 6711 | 6686 | 7348 | 8467 | 12059 | 18339 | 30409 | 37629 | 35765 | 17826 |
| 14 | 6529 | 6614 | 6711 | 6692 | 7367 | 8509 | 12318 | 18694 | 30762 | 37875 | 35778 | 17741 |
| 15 | 6523 | 6614 | 6717 | 6698 | 7367 | 8538 | 12619 | 19012 | 31154 | 38173 | 35790 | 17656 |
| 16 | 6517 | 6620 | 6711 | 6705 | 7474 | 8602 | 12958 | 19402 | 31512 | 38447 | 35802 | 17571 |
| 17 | 6511 | 6620 | 6711 | 6779 | 7515 | 8658 | 13069 | 19774 | 31801 | 38722 | 35802 | 17496 |
| 18 | 6511 | 6614 | 6711 | 6791 | 7542 | 8665 | 13146 | 20068 | 32127 | 39070 | 35425 | 17430 |
| 19 | 6511 | 6614 | 6705 | 6798 | 7576 | 8751 | 13317 | 20298 | 32397 | 39308 | 34605 | 17354 |
| 20 | 6511 | 6614 | 6705 | 6823 | 7609 | 8846 | 13480 | 20497 | 32749 | 39485 | 33839 | 17260 |
| 21 | 6511 | 6614 | 6698 | 6849 | 7643 | 8950 | 13626 | 20846 | 33137 | 39636 | 33184 | 17194 |
| 22 | 6498 | 6589 | 6692 | 6868 | 7677 | 9068 | 13722 | 21208 | 33494 | 39774 | 32491 | 17129 |
| 23 | 6498 | 6583 | 6692 | 6881 | 7697 | 9172 | 13792 | 21604 | 33839 | 39875 | 31813 | 17074 |
| 24 | 6529 | 6589 | 6692 | 6907 | 7724 | 9313 | 13766 | 21929 | 34172 | 39950 | 31096 | 17037 |
| 25 | 6529 | 6614 | 6686 | 6926 | 7758 | 9454 | 13941 | 22206 | 34460 | 40013 | 30330 | 17037 |
| 26 | 6529 | 6626 | 6680 | 6939 | 7778 | 9590 | 14177 | 22474 | 34737 | 40101 | 29535 | 17037 |
| 27 | 6583 | 6626 | 6680 | 6951 | 7805 | 9752 | 14483 | 22805 | 34978 | 40127 | 28773 | 16833 |
| 28 | 6583 | 6626 | 6674 | 6971 | 7832 | 9853 | 14849 | 23177 | 35196 | 40177 | 28006 | 16712 |
| 29 | 6595 | 6638 | 6662 | 6990 | --- | 9953 | 15188 | 23482 | 35413 | 40202 | 27255 | 16675 |
| 30 | 6589 | 6644 | 6644 | 7015 | --- | 10184 | 15476 | 23796 | 35607 | 40240 | 26491 | 16638 |
| 31 | 6595 | --- | 6638 | 7035 | --- | 10277 | --- | 24038 | --- | 40278 | 25669 | --- |
| MAX | 6595 | 6644 | 6717 | 7035 | 7832 | 10277 | 15476 | 24038 | 35607 | 40278 | 40152 | 25004 |
| MIN | 6444 | 6583 | 6638 | 6602 | 7073 | 7866 | 10395 | 15090 | 24270 | 35839 | 25669 | 16638 |
| a | 7555.74 | 7555.82 | 7555.81 | 7556.44 | 7557.65 | 7560.98 | 7567.13 | 7575.87 | 7586.09 | 7589.86 | 7577.40 | 7568.40 |
| b | +181 | +49 | -6 | +397 | +797 | +2445 | +5199 | +8562 | +11569 | +4671 | -14609 | -9031 |

CAL YR 1989 b +698

WTR YR 1990 b +10224

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11231500 MONO CREEK BELOW LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°21'40", long 118°59'26", unsurveyed, 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 mi².

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.--Flow regulated by Lake Thomas A. Edison (station 11231000) 1 mi upstream beginning Oct. 12, 1954. No diversion upstream from station. See schematic diagram of upper 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).--69 years, 159 ft³/s, 115,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft³/s, Sept. 26, 1982, gage height, 8.87 ft; minimum daily, 0.3 ft³/s, Nov. 11, 12, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 452 ft³/s, Aug. 19, gage height, 6.52 ft; minimum daily, 11 ft³/s, Mar. 31 to Apr. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|-------|------|
| 1 | 21 | 21 | 23 | 21 | 14 | 14 | e11 | 184 | 28 | 21 | 108 | 393 |
| 2 | 21 | 21 | 23 | 21 | 14 | 14 | e11 | 220 | 15 | 20 | 167 | 390 |
| 3 | 21 | 21 | 23 | 21 | 14 | 14 | e11 | 228 | 18 | 20 | 167 | 388 |
| 4 | 21 | 21 | 23 | 21 | 14 | 14 | e11 | 193 | 17 | 19 | 168 | 384 |
| 5 | 21 | 21 | 23 | 21 | 14 | 14 | e11 | 197 | 17 | 20 | 169 | 380 |
| 6 | 22 | 20 | 23 | 23 | 14 | 14 | e11 | 153 | 17 | 21 | 170 | 337 |
| 7 | 21 | 21 | 23 | 23 | 14 | 14 | e11 | 105 | 17 | 20 | 266 | 304 |
| 8 | 21 | 21 | 23 | 24 | 14 | 14 | e11 | 77 | 17 | 20 | 367 | 311 |
| 9 | 21 | 21 | 23 | 24 | 14 | 14 | e11 | 48 | 17 | 19 | 373 | 311 |
| 10 | 21 | 21 | 23 | 23 | 14 | 14 | e11 | 48 | 17 | 19 | 380 | 311 |
| 11 | 21 | 21 | 23 | 23 | 14 | 14 | e89 | 45 | 17 | 19 | 210 | 311 |
| 12 | 21 | 21 | 23 | 23 | 14 | 14 | e121 | 27 | 17 | 19 | 87 | 197 |
| 13 | 21 | 21 | 23 | 23 | 14 | 14 | e122 | 37 | 17 | 19 | 44 | 67 |
| 14 | 21 | 21 | 23 | 23 | 14 | 14 | e61 | 38 | 17 | 19 | 21 | 53 |
| 15 | 21 | 21 | 23 | 23 | 14 | e14 | 66 | 36 | 18 | 19 | 21 | 53 |
| 16 | 21 | 21 | 24 | 19 | e14 | e14 | e29 | e35 | 19 | 18 | 22 | 53 |
| 17 | 21 | 21 | 24 | 15 | e14 | e14 | e120 | e35 | 19 | 19 | 24 | 52 |
| 18 | 21 | 21 | 24 | 14 | e14 | e14 | e122 | e45 | 20 | 19 | 209 | 52 |
| 19 | 21 | 22 | 24 | 14 | e14 | e14 | e85 | e66 | 19 | 19 | 405 | 52 |
| 20 | 21 | 21 | 24 | 14 | e14 | e14 | 81 | e43 | 19 | 19 | 401 | 52 |
| 21 | 21 | 21 | 24 | 14 | e14 | e14 | 61 | e12 | 19 | 19 | 353 | 52 |
| 22 | 21 | 21 | 22 | 14 | 14 | e14 | 75 | e27 | 19 | 19 | 350 | 51 |
| 23 | 21 | 21 | 21 | 14 | 14 | e14 | 37 | 40 | 19 | 19 | 349 | 50 |
| 24 | 21 | 21 | 21 | 14 | 14 | e14 | e153 | 40 | 19 | 19 | 379 | 50 |
| 25 | 21 | 23 | 21 | 14 | 14 | e14 | 48 | 40 | 19 | 19 | 399 | 50 |
| 26 | 21 | 23 | 21 | 14 | 14 | e14 | 48 | 40 | 19 | 19 | 402 | 50 |
| 27 | 21 | 23 | 21 | 14 | 14 | e14 | 48 | 41 | 19 | 19 | 403 | 50 |
| 28 | 21 | 23 | 21 | 14 | 14 | e14 | 48 | 41 | 19 | 19 | 403 | 44 |
| 29 | 21 | 23 | 21 | 14 | --- | e14 | 48 | 41 | 19 | 19 | 399 | 25 |
| 30 | 21 | 23 | 21 | 14 | --- | e12 | 48 | 41 | 20 | 19 | 398 | 24 |
| 31 | 21 | --- | 21 | 14 | --- | e11 | --- | 40 | --- | 19 | 394 | --- |
| TOTAL | 652 | 642 | 700 | 567 | 392 | 429 | 1620 | 2263 | 553 | 597 | 8008 | 4897 |
| MEAN | 21.0 | 21.4 | 22.6 | 18.3 | 14.0 | 13.8 | 54.0 | 73.0 | 18.4 | 19.3 | 258 | 163 |
| MAX | 22 | 23 | 24 | 24 | 14 | 14 | 153 | 228 | 28 | 21 | 405 | 393 |
| MIN | 21 | 20 | 21 | 14 | 14 | 11 | 11 | 12 | 15 | 18 | 21 | 24 |
| AC-FT | 1290 | 1270 | 1390 | 1120 | 778 | 851 | 3210 | 4490 | 1100 | 1180 | 15880 | 9710 |

CAL YR 1989 TOTAL 37637 MEAN 103 MAX 452 MIN 11 AC-FT 74650
WTR YR 1990 TOTAL 21320 MEAN 58.4 MAX 405 MIN 11 AC-FT 42290

e Estimated.

SAN JOAQUIN RIVER BASIN

11231550 MONO CREEK CONDUIT NEAR MONO HOT SPRINGS, CA

LOCATION.--Lat 37°21'36", long 118°59'54", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank at diversion dam, 1.0 mi southwest of Lake Thomas A. Edison, and 1.9 mi northeast of Mono Hot Springs.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Discharge computed as difference between flow at Mono Creek below Lake Thomas A. Edison (station 11231500) and Mono Creek at diversion dam (station 11231600). Datum of conduit invert is 7,338 ft above National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Diversion to Mono-Bear conduit, thence to Ward tunnel and Huntington Lake (station 11236000) via Portal Powerplant for further power development in Big Creek powerplants. See schematic diagram of upper 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 daily discharge, 442 ft³/s, Aug. 7, 9, 10, 1989; no flow May 28-31 and June 13-16, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|-------|-------|--------|--------|-------|-------|-------|------|
| 1 | 12 | 15 | 17 | 15 | 8.3 | 8.0 | e5.3 | 173 | 17 | 11 | 97 | 382 |
| 2 | 14 | 15 | 17 | 15 | e8.3 | 8.0 | e5.3 | 209 | 5.0 | 10 | 156 | 379 |
| 3 | 14 | 15 | 17 | 15 | e8.3 | 8.0 | e5.3 | 217 | 8.0 | 10 | 156 | 377 |
| 4 | 12 | 15 | 17 | 15 | e8.3 | 7.9 | e5.2 | 182 | 7.0 | 9.0 | 157 | 373 |
| 5 | 10 | 15 | 17 | 15 | e8.3 | 7.9 | e5.1 | 186 | 7.0 | 10 | 158 | 369 |
| 6 | 15 | 14 | 17 | 17 | e8.3 | 7.9 | e5.1 | 142 | 7.1 | 11 | 159 | 325 |
| 7 | 14 | 15 | 17 | 17 | e8.3 | 7.9 | e5.1 | 95 | 7.1 | 10 | 255 | 292 |
| 8 | 14 | 15 | 17 | 18 | e8.3 | 8.0 | e5.1 | 67 | 7.1 | 10 | 356 | 300 |
| 9 | 14 | 15 | 17 | 18 | e8.2 | 8.0 | e5.1 | 38 | 7.1 | 9.0 | 362 | 300 |
| 10 | 14 | 15 | 17 | 17 | e8.2 | 8.1 | e5.1 | 38 | 7.0 | 9.0 | 369 | 300 |
| 11 | 14 | 15 | 17 | 17 | e8.2 | 8.1 | e8.3 | 35 | 7.0 | 9.0 | 199 | 300 |
| 12 | 14 | 15 | 17 | 17 | e8.2 | 8.1 | e11.4 | 17 | 7.1 | 9.0 | 75 | 186 |
| 13 | 14 | 15 | 17 | 17 | e8.2 | 8.1 | e11.5 | 27 | 7.1 | 9.0 | 32 | 57 |
| 14 | 14 | 15 | 17 | 17 | e8.2 | 8.1 | e5.5 | 28 | 7.0 | 9.0 | 10 | 43 |
| 15 | 14 | 15 | 17 | 17 | 8.2 | e8.2 | 60 | 26 | 8.0 | 9.0 | 10 | 43 |
| 16 | 14 | 15 | 18 | e1.3 | e8.0 | e8.2 | e2.3 | e2.5 | 9.0 | 8.0 | 11 | 43 |
| 17 | 14 | 15 | 18 | e9.1 | e8.1 | e8.2 | e11.4 | e2.5 | 9.0 | 9.0 | 13 | 42 |
| 18 | 14 | 15 | 18 | e8.1 | e8.2 | e8.3 | e11.6 | e3.5 | 10 | 9.0 | 197 | 42 |
| 19 | 14 | 16 | 18 | e8.1 | e8.0 | e8.3 | e7.9 | e5.6 | 9.0 | 9.0 | 394 | 42 |
| 20 | 14 | 15 | 18 | e8.2 | e8.0 | e8.3 | 75 | e3.3 | 9.1 | 9.0 | 390 | 42 |
| 21 | 14 | 15 | 18 | e8.2 | e8.0 | e8.3 | 55 | e4.1 | 9.1 | 9.0 | 342 | 42 |
| 22 | 14 | 15 | 16 | e8.2 | 7.9 | e8.3 | 69 | e1.6 | 9.1 | 9.0 | 339 | 41 |
| 23 | 14 | 15 | 15 | 8.2 | 8.0 | e8.3 | 31 | 28 | 9.1 | 9.1 | 338 | 40 |
| 24 | 14 | 15 | 15 | 8.2 | 8.0 | e8.3 | e14.7 | 29 | 9.1 | 9.2 | 368 | 40 |
| 25 | 14 | 17 | 15 | 8.3 | 7.9 | e8.3 | 42 | 30 | 9.1 | 9.2 | 388 | 40 |
| 26 | 14 | 17 | 15 | 8.3 | 8.0 | e8.3 | 42 | 30 | 9.1 | 9.2 | 391 | 40 |
| 27 | 14 | 17 | 15 | 8.3 | 8.1 | e8.3 | 42 | 31 | 9.1 | 9.1 | 392 | 40 |
| 28 | 14 | 17 | 15 | 8.3 | 8.0 | e8.3 | 42 | 31 | 9.1 | 9.1 | 392 | 33 |
| 29 | 14 | 17 | 15 | 8.3 | --- | e8.3 | 42 | 31 | 9.1 | 9.1 | 388 | 14 |
| 30 | 14 | 17 | 15 | 8.3 | --- | e6.4 | 41 | 31 | 10 | 9.1 | 387 | 13 |
| 31 | 14 | --- | 15 | 8.3 | --- | e5.4 | --- | 30 | --- | 9.1 | 383 | --- |
| TOTAL | 427 | 462 | 514 | 384.4 | 228.0 | 248.1 | 1438.7 | 1945.1 | 253.6 | 288.2 | 7664 | 4580 |
| MEAN | 13.8 | 15.4 | 16.6 | 12.4 | 8.14 | 8.00 | 48.0 | 62.7 | 8.45 | 9.30 | 247 | 153 |
| MAX | 15 | 17 | 18 | 18 | 8.3 | 8.3 | 147 | 217 | 17 | 11 | 394 | 382 |
| MIN | 10 | 14 | 15 | 8.1 | 7.9 | 5.4 | 5.1 | 4.1 | 5.0 | 8.0 | 10 | 13 |
| AC-FT | 847 | 916 | 1020 | 762 | 452 | 492 | 2850 | 3860 | 503 | 572 | 15200 | 9080 |

CAL YR 1989 TOTAL 34571.9 MEAN 94.7 MAX 442 MIN 1.0 AC-FT 68570
WTR YR 1990 TOTAL 18433.1 MEAN 50.5 MAX 394 MIN 4.1 AC-FT 36560

e Estimated.

11231600 MONO CREEK AT DIVERSION DAM, NEAR MONO HOT SPRINGS, CA

LOCATION.--Lat 37°21'37", long 118°59'50", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank at diversion dam, 1.0 mi southwest of Lake Thomas A. Edison, and 1.9 mi northeast of Mono Hot Springs.

DRAINAGE AREA.--92.8 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 7,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow consists of fishery release and spill over diversion dam. Diversion to Mono-Bear conduit, then to Ward tunnel and Huntington Lake (station 11236000) via Portal Powerplant for further power development in Big Creek powerplants. See schematic diagram of upper San Joaquin River basin.

COOPERATION.--Records 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 daily discharge, 38 ft³/s, June 21, 1989; minimum daily, 5.6 ft³/s, Mar. 30, 31, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1 | 8.8 | 6.1 | 5.9 | 5.8 | 5.7 | 6.0 | 5.7 | 11 | 11 | 9.9 | 11 | 11 |
| 2 | 7.0 | 5.7 | 6.0 | 5.8 | e5.7 | 6.0 | 5.7 | 11 | 10 | 10 | 11 | 11 |
| 3 | 7.1 | 5.8 | 6.0 | 5.9 | e5.7 | 6.0 | 5.7 | 11 | 10 | 10 | 11 | 11 |
| 4 | 8.9 | 5.8 | 6.0 | 5.8 | e5.7 | 6.1 | 5.8 | 11 | 10 | 10 | 11 | 11 |
| 5 | 11 | 5.8 | 5.9 | 5.8 | e5.7 | 6.1 | 5.9 | 11 | 10 | 9.9 | 11 | 11 |
| 6 | 6.8 | 5.8 | 5.9 | 5.8 | e5.7 | 6.1 | 5.9 | 11 | 9.9 | 10 | 11 | 12 |
| 7 | 6.8 | 5.8 | 5.9 | 5.8 | e5.7 | 6.1 | 5.9 | 10 | 9.9 | 10 | 11 | 12 |
| 8 | 6.8 | 5.8 | 5.9 | 5.8 | e5.7 | 6.0 | 5.9 | 10 | 9.9 | 10 | 11 | 11 |
| 9 | 6.7 | 5.8 | 5.9 | 5.8 | e5.8 | 6.0 | 5.9 | 10 | 9.9 | 10 | 11 | 11 |
| 10 | 6.7 | 5.8 | 5.9 | 5.9 | e5.8 | 5.9 | 5.9 | 10 | 10 | 10 | 11 | 11 |
| 11 | 6.7 | 5.7 | 5.9 | 5.9 | e5.8 | 5.9 | 6.3 | 10 | 10 | 10 | 11 | 11 |
| 12 | 6.7 | 5.7 | 5.9 | 5.9 | e5.8 | 5.9 | 6.5 | 9.8 | 9.9 | 10 | 12 | 11 |
| 13 | 6.7 | 5.7 | 5.9 | 5.9 | e5.8 | 5.9 | 6.5 | 9.9 | 9.9 | 10 | 12 | 10 |
| 14 | 6.7 | 5.7 | 5.9 | 5.9 | e5.8 | 5.9 | 6.2 | 9.8 | 10 | 10 | 11 | 10 |
| 15 | 6.7 | 5.7 | 5.9 | 5.9 | 5.8 | 5.8 | 6.2 | 9.8 | 10 | 10 | 11 | 10 |
| 16 | 6.7 | 5.7 | 5.9 | e5.9 | 6.0 | 5.8 | 6.1 | 9.7 | 10 | 10 | 11 | 10 |
| 17 | 6.7 | 5.7 | 5.9 | e5.9 | 5.9 | 5.8 | 6.3 | 9.8 | 10 | 10 | 11 | 10 |
| 18 | 6.7 | 5.7 | 5.9 | e5.9 | 5.8 | 5.7 | 6.3 | 9.9 | 10 | 10 | 12 | 10 |
| 19 | 6.6 | 5.7 | 5.9 | e5.9 | 6.0 | 5.7 | 6.2 | 10 | 10 | 10 | 11 | 10 |
| 20 | 6.6 | 5.7 | 5.9 | e5.8 | 6.0 | 5.7 | 6.2 | 9.8 | 9.9 | 10 | 11 | 10 |
| 21 | 6.6 | 5.7 | 5.9 | e5.8 | 6.0 | 5.7 | 6.0 | 7.9 | 9.9 | 10 | 11 | 10 |
| 22 | 6.6 | 5.7 | 5.9 | e5.8 | 6.1 | 5.7 | 6.0 | 11 | 9.9 | 10 | 11 | 10 |
| 23 | 6.6 | 5.7 | 5.8 | 5.8 | 6.0 | 5.7 | 6.3 | 12 | 9.9 | 9.9 | 11 | 10 |
| 24 | 6.6 | 5.7 | 5.8 | 5.8 | 6.0 | 5.7 | 6.3 | 11 | 9.9 | 9.8 | 11 | 10 |
| 25 | 6.5 | 5.8 | 5.8 | 5.7 | 6.1 | 5.7 | 6.0 | 10 | 9.9 | 9.8 | 11 | 10 |
| 26 | 6.6 | 5.8 | 5.8 | 5.7 | 6.0 | 5.7 | 6.0 | 10 | 9.9 | 9.8 | 11 | 10 |
| 27 | 6.6 | 5.9 | 5.8 | 5.7 | 5.9 | 5.7 | 6.0 | 10 | 9.9 | 9.9 | 11 | 10 |
| 28 | 6.6 | 5.9 | 5.8 | 5.7 | 6.0 | 5.7 | 5.9 | 10 | 9.9 | 9.9 | 11 | 11 |
| 29 | 6.6 | 5.9 | 5.8 | 5.7 | --- | 5.7 | 5.9 | 10 | 9.9 | 9.9 | 11 | 11 |
| 30 | 6.6 | 5.9 | 5.8 | 5.7 | --- | 5.6 | 7.3 | 10 | 9.9 | 9.9 | 11 | 11 |
| 31 | 6.6 | --- | 5.8 | 5.7 | --- | 5.6 | --- | 10 | --- | 9.9 | 11 | --- |
| TOTAL | 215.9 | 173.2 | 182.3 | 180.2 | 164.0 | 180.9 | 182.8 | 316.4 | 299.3 | 308.6 | 344 | 317 |
| MEAN | 6.96 | 5.77 | 5.88 | 5.81 | 5.86 | 5.84 | 6.09 | 10.2 | 9.98 | 9.95 | 11.1 | 10.6 |
| MAX | 11 | 6.1 | 6.0 | 5.9 | 6.1 | 6.1 | 7.3 | 12 | 11 | 10 | 12 | 12 |
| MIN | 6.5 | 5.7 | 5.8 | 5.7 | 5.7 | 5.6 | 5.7 | 7.9 | 9.9 | 9.8 | 11 | 10 |
| AC-FT | 428 | 344 | 362 | 357 | 325 | 359 | 363 | 628 | 594 | 612 | 682 | 629 |

CAL YR 1989 TOTAL 3044.4 MEAN 8.34 MAX 38 MIN 5.7 AC-FT 6040
WTR YR 1990 TOTAL 2864.6 MEAN 7.85 MAX 12 MIN 5.6 AC-FT 5680

e Estimated.

SAN JOAQUIN RIVER BASIN

11231700 WARM CREEK AT DIVERSION DAM, NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°23'03", long 119°01'33", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank, 40 ft downstream from diversion dam, 3.8 mi north of Mono Hot Springs, and 17 mi northeast of town of Big Creek.

DRAINAGE AREA.--1.76 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and 90° V-notch weir control. Elevation of gage is 7,800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records of fishery release normally computed only during periods of diversion to Lake Thomas A. Edison. During the current year, diversion occurred Apr. 12-15 and Apr. 22 to June 18. See schematic diagram of upper 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|
| 1 | --- | --- | --- | --- | --- | --- | --- | .60 | .40 | --- | --- | --- |
| 2 | --- | --- | --- | --- | --- | --- | --- | .61 | .40 | --- | --- | --- |
| 3 | --- | --- | --- | --- | --- | --- | --- | .50 | .38 | --- | --- | --- |
| 4 | --- | --- | --- | --- | --- | --- | --- | .40 | .34 | --- | --- | --- |
| 5 | --- | --- | --- | --- | --- | --- | --- | .40 | .34 | --- | --- | --- |
| 6 | --- | --- | --- | --- | --- | --- | --- | .40 | .34 | --- | --- | --- |
| 7 | --- | --- | --- | --- | --- | --- | --- | .40 | .37 | --- | --- | --- |
| 8 | --- | --- | --- | --- | --- | --- | --- | .40 | .38 | --- | --- | --- |
| 9 | --- | --- | --- | --- | --- | --- | --- | .40 | .40 | --- | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | .40 | .40 | --- | --- | --- |
| 11 | --- | --- | --- | --- | --- | --- | --- | .40 | .40 | --- | --- | --- |
| 12 | --- | --- | --- | --- | --- | --- | e1.3 | .40 | .40 | --- | --- | --- |
| 13 | --- | --- | --- | --- | --- | --- | e1.9 | .40 | .38 | --- | --- | --- |
| 14 | --- | --- | --- | --- | --- | --- | e1.9 | .40 | .40 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | e1.9 | .40 | .40 | --- | --- | --- |
| 16 | --- | --- | --- | --- | --- | --- | --- | .40 | .42 | --- | --- | --- |
| 17 | --- | --- | --- | --- | --- | --- | --- | .40 | .40 | --- | --- | --- |
| 18 | --- | --- | --- | --- | --- | --- | --- | .40 | .40 | --- | --- | --- |
| 19 | --- | --- | --- | --- | --- | --- | --- | .40 | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | .40 | --- | --- | --- | --- |
| 21 | --- | --- | --- | --- | --- | --- | --- | .38 | --- | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | .97 | .38 | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | --- | .55 | .38 | --- | --- | --- | --- |
| 24 | --- | --- | --- | --- | --- | --- | .56 | .40 | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | .59 | .40 | --- | --- | --- | --- |
| 26 | --- | --- | --- | --- | --- | --- | .60 | .40 | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | .63 | .40 | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | .64 | .40 | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | .64 | .40 | --- | --- | --- | --- |
| 30 | --- | --- | --- | --- | --- | --- | .62 | .40 | --- | --- | --- | --- |
| 31 | --- | --- | --- | --- | --- | --- | --- | .40 | --- | --- | --- | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | --- | 12.85 | --- | --- | --- | --- |
| MEAN | --- | --- | --- | --- | --- | --- | --- | .41 | --- | --- | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | .61 | --- | --- | --- | --- |
| MIN | --- | --- | --- | --- | --- | --- | --- | .38 | --- | --- | --- | --- |
| AC-FT | --- | --- | --- | --- | --- | --- | --- | 25 | --- | --- | --- | --- |

e Estimated.

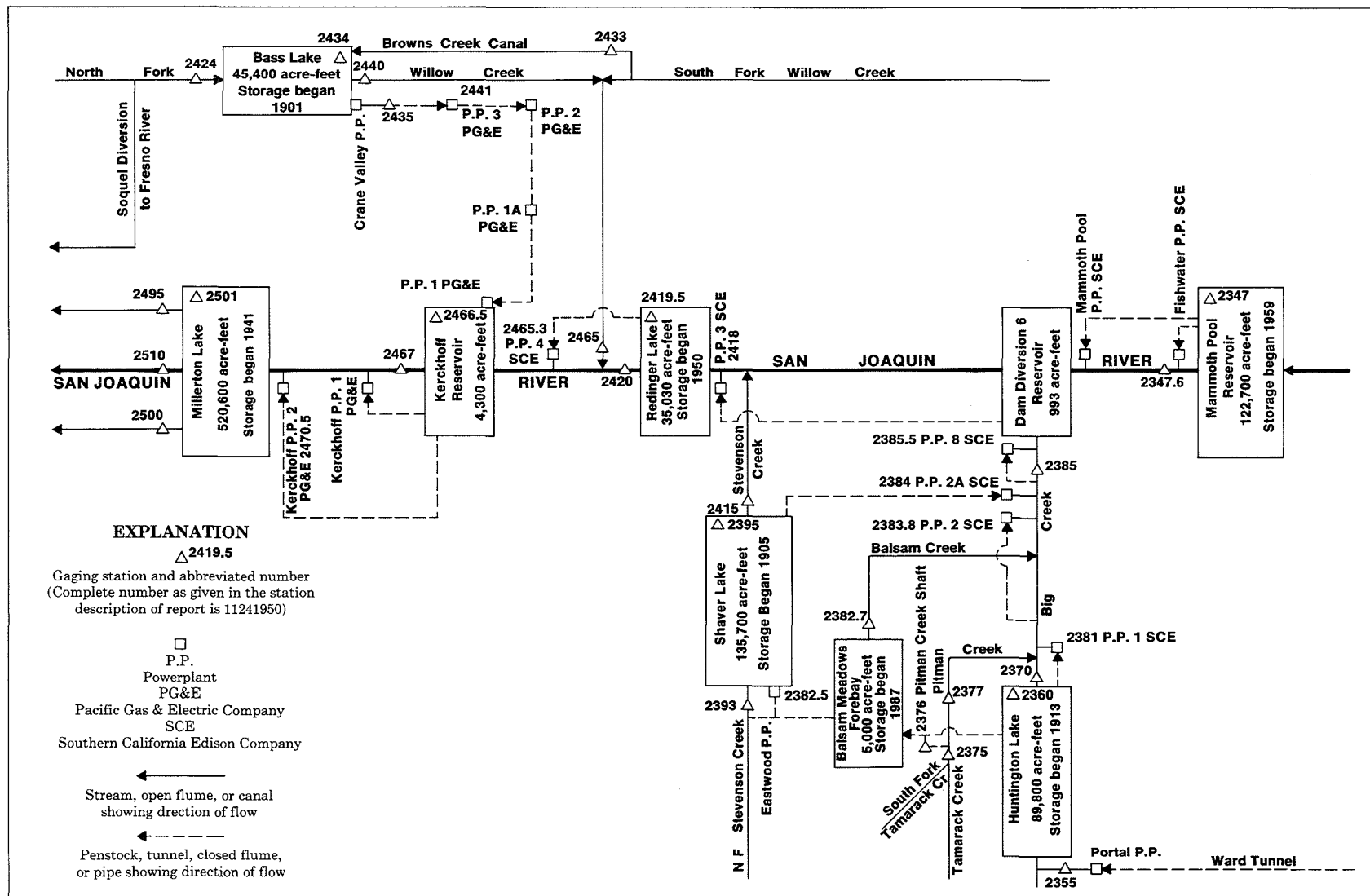


Figure 33. Diversions and storage in lower San Joaquin River basin.

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 mi².

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 lower 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, 100,285 acre-ft, June 25, elevation, 3,311.02 ft; minimum, 19,817 acre-ft, Feb. 19, elevation, 3,196.18 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Nov. 6, 1959)

| | | | | | | | |
|-------|-------|-------|--------|-------|--------|-------|---------|
| 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 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 24872 | 24476 | 25222 | 28402 | 26588 | 26769 | 22500 | 54148 | 65888 | 98065 | 62837 | 42354 |
| 2 | 25193 | 24587 | 25222 | 28495 | 26413 | 26393 | 23568 | 53828 | 67050 | 96939 | 62171 | 41785 |
| 3 | 25407 | 24657 | 25426 | 28474 | 26388 | 26219 | 24203 | 54027 | 68776 | 95677 | 61473 | 41102 |
| 4 | 25478 | 24914 | 25503 | 28443 | 26344 | 26190 | 26170 | 54463 | 70785 | 94784 | 60448 | 40407 |
| 5 | 25541 | 25122 | 25724 | 28407 | 26150 | 25874 | 27222 | 55421 | 73415 | 93466 | 59563 | 39403 |
| 6 | 25531 | 25160 | 25681 | 28443 | 26145 | 25459 | 28243 | 57060 | 75626 | 91884 | 58788 | 38232 |
| 7 | 25450 | 25222 | 25695 | 28459 | 26140 | 25037 | 29405 | 58541 | 78004 | 90844 | 57951 | 37272 |
| 8 | 25341 | 25136 | 25705 | 28562 | 25293 | 24704 | 30472 | 59276 | 80688 | 89781 | 57208 | 36042 |
| 9 | 25146 | 25094 | 25859 | 28536 | 24830 | 24358 | 31066 | 59866 | 83445 | 87822 | 56235 | 34622 |
| 10 | 24989 | 25027 | 25816 | 28207 | 24653 | 24335 | 31045 | 60668 | 86365 | 85964 | 54972 | 33785 |
| 11 | 24690 | 25018 | 25816 | 28053 | 24970 | 24294 | 34164 | 60615 | 88485 | 84141 | 54084 | 33084 |
| 12 | 24381 | 25032 | 25869 | 27929 | 24961 | 23821 | 34628 | 60448 | 90303 | 82116 | 53373 | 32549 |
| 13 | 24093 | 25079 | 25869 | 27516 | 24403 | 23165 | 36031 | 60312 | 91134 | 82259 | 52688 | 31940 |
| 14 | 23799 | 24984 | 25898 | 27091 | 23767 | 22549 | 37879 | 60039 | 91752 | 83987 | 52886 | 31488 |
| 15 | 23482 | 25032 | 25941 | 27040 | 22780 | 22169 | 39834 | 59729 | 92674 | 84756 | 52118 | 31023 |
| 16 | 23156 | 24970 | 25903 | 26954 | 21982 | 21973 | 41703 | 59314 | 93741 | 84484 | 51649 | 30584 |
| 17 | 22700 | 24886 | 25893 | 26964 | 21141 | 21903 | 42047 | 58976 | 94499 | 84023 | 51237 | 30154 |
| 18 | 22416 | 24994 | 25893 | 26984 | 20440 | 21916 | 41984 | 58593 | 95192 | 82241 | 50945 | 29710 |
| 19 | 22121 | 25127 | 25991 | 26804 | 19817 | 22301 | 42435 | 58548 | 95887 | 80512 | 50556 | 29227 |
| 20 | 21807 | 25046 | 26045 | 26884 | 20415 | 22447 | 43117 | 57497 | 96460 | 78611 | 50017 | 28515 |
| 21 | 21781 | 24531 | 26105 | 26974 | 21035 | 23124 | 43780 | 56750 | 97044 | 77255 | 49337 | 28032 |
| 22 | 22108 | 24564 | 27613 | 27010 | 21716 | 24016 | 44730 | 56126 | 97920 | 75891 | 48667 | 27542 |
| 23 | 22288 | 24611 | 27787 | 27025 | 22505 | 24751 | 45636 | 55594 | 98735 | 73592 | 48084 | 27334 |
| 24 | 23012 | 24699 | 27848 | 26949 | 23332 | 24882 | 46699 | 55124 | 99546 | 71392 | 47479 | 26894 |
| 25 | 23377 | 25003 | 27889 | 26914 | 24185 | 25265 | 47334 | 54771 | 100285 | 69513 | 46895 | 26050 |
| 26 | 23608 | 24685 | 27894 | 26889 | 25108 | 25255 | 48151 | 55718 | 100186 | 68637 | 46412 | 25575 |
| 27 | 23776 | 24891 | 28066 | 26859 | 26105 | 25193 | 49886 | 56809 | 100226 | 67391 | 45741 | 25113 |
| 28 | 23971 | 24942 | 28047 | 26889 | 27167 | 24737 | 51824 | 59488 | 100216 | 66451 | 45156 | 24751 |
| 29 | 24102 | 25056 | 28094 | 26829 | --- | 23835 | 53479 | 61321 | 100226 | 65534 | 44331 | 24267 |
| 30 | 24144 | 25170 | 28181 | 26809 | --- | 23008 | 54134 | 63468 | 99105 | 64264 | 43671 | 23654 |
| 31 | 24330 | --- | 28258 | 26683 | --- | 22607 | --- | 65038 | --- | 63015 | 42958 | --- |
| MAX | 25541 | 25222 | 28258 | 28562 | 27167 | 26769 | 54134 | 65038 | 100285 | 98065 | 62837 | 42354 |
| MIN | 21781 | 24476 | 25222 | 26683 | 19817 | 21903 | 22500 | 53828 | 65888 | 63015 | 42958 | 23654 |
| a | 3206.58 | 3208.38 | 3214.58 | 3211.48 | 3212.44 | 3202.76 | 3256.89 | 3271.35 | 3309.82 | 3268.79 | 3240.27 | 3205.09 |
| b | -987 | +840 | +3088 | -1575 | +484 | -4560 | +31527 | +10904 | +34067 | -36090 | -20057 | -19304 |

CAL YR 1989 b +4224

WTR YR 1990 b -1663

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

199

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 mi².

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.--Flow regulated by Mammoth Pool Reservoir (station 11234700) 4,900 ft upstream. Diversions upstream through Ward tunnel (see stations 11229500 and 11235500). See schematic diagrams of upper and lower San Joaquin River basins.

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 ft³/s, June 3, 1969, gage height, 18.38 ft; minimum daily, 0.3 ft³/s, Oct. 14, Dec. 5, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft³/s, Aug. 6, gage height, 2.64 ft; minimum daily, 12 ft³/s, on many days from November through April.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 13 | 14 | 13 | 12 | 12 | 12 | 12 | 16 | 15 | 15 | 15 | e14 |
| 2 | 13 | 14 | 13 | 12 | 12 | 12 | 12 | 16 | 15 | 15 | 15 | e14 |
| 3 | 14 | 15 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 16 | 15 | e15 |
| 4 | 14 | 14 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 16 | 15 | e15 |
| 5 | 15 | 14 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 16 | 15 | e15 |
| 6 | 15 | 15 | 12 | 12 | 13 | 12 | 12 | 15 | 15 | 16 | 17 | e15 |
| 7 | 15 | 15 | 12 | 12 | 13 | 12 | 12 | 15 | 15 | 16 | 16 | e15 |
| 8 | 15 | 13 | 12 | 12 | 13 | 12 | 13 | 15 | 15 | 16 | 15 | 15 |
| 9 | 15 | 12 | 12 | 12 | 13 | 13 | 13 | 15 | 15 | 16 | 15 | 15 |
| 10 | 15 | 12 | 12 | 12 | 12 | 13 | 12 | 15 | 15 | 16 | 15 | 15 |
| 11 | 15 | 12 | 12 | 12 | 12 | 13 | 12 | 15 | 15 | 16 | 15 | 15 |
| 12 | 15 | 12 | 12 | 12 | 12 | 13 | 12 | 15 | 15 | 16 | 15 | 14 |
| 13 | 15 | 12 | 12 | 12 | 12 | 13 | 13 | 15 | 15 | 15 | 15 | 14 |
| 14 | 15 | 12 | 12 | 12 | 12 | 13 | 13 | 15 | 15 | 15 | 15 | 14 |
| 15 | 15 | 12 | 12 | 12 | 12 | 13 | 14 | 15 | 15 | 16 | 15 | 14 |
| 16 | 15 | 12 | 12 | 12 | 12 | 13 | 15 | 15 | 15 | 16 | 15 | 14 |
| 17 | 15 | 13 | 12 | 12 | 12 | 13 | 15 | 15 | 15 | 16 | 15 | 14 |
| 18 | 15 | 13 | 12 | 12 | 12 | 13 | 15 | 15 | 15 | 16 | e14 | 14 |
| 19 | 15 | 13 | 12 | 12 | 12 | 13 | 15 | 15 | 15 | 16 | e14 | 14 |
| 20 | 15 | 13 | 12 | 12 | 12 | 13 | 16 | 15 | 15 | 16 | e14 | 14 |
| 21 | 14 | 13 | 12 | 12 | 12 | 13 | 16 | 15 | 15 | 16 | e14 | 14 |
| 22 | 14 | 13 | 12 | 12 | 12 | 13 | 15 | 15 | 15 | 16 | e14 | 14 |
| 23 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 16 | e14 | e15 |
| 24 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 16 | e14 | e15 |
| 25 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 16 | e15 | e14 |
| 26 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | e15 | e14 |
| 27 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | e15 | e14 |
| 28 | 14 | 13 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | e15 | e15 |
| 29 | 14 | 13 | 12 | 12 | --- | 12 | 16 | 15 | 15 | 15 | e14 | e14 |
| 30 | 14 | 13 | 12 | 12 | --- | 12 | 15 | 15 | 15 | 15 | e14 | e14 |
| 31 | 14 | --- | 12 | 12 | --- | 12 | --- | 15 | --- | 15 | e14 | --- |
| TOTAL | 448 | 392 | 375 | 372 | 340 | 386 | 414 | 467 | 450 | 486 | 458 | 432 |
| MEAN | 14.5 | 13.1 | 12.1 | 12.0 | 12.1 | 12.5 | 13.8 | 15.1 | 15.0 | 15.7 | 14.8 | 14.4 |
| MAX | 15 | 15 | 13 | 12 | 13 | 13 | 16 | 16 | 15 | 16 | 17 | 15 |
| MIN | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 14 | 14 |
| AC-FT | 889 | 778 | 744 | 738 | 674 | 766 | 821 | 926 | 893 | 964 | 908 | 857 |

CAL YR 1989 TOTAL 5002 MEAN 13.7 MAX 16 MIN 12 AC-FT 9920
WTR YR 1990 TOTAL 5020 MEAN 13.8 MAX 17 MIN 12 AC-FT 9960

e Estimated.

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.

GAGE.--Acoustic velocity meter values transmitted to Big Creek Powerplant No. 3 since Dec. 1, 1987. Oct. 1, 1968, to Nov. 30, 1987, pressure-differential recorder recorded 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 (station 11229600) to Huntington Lake (station 11236000) via Portal Powerplant, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See schematic diagrams of upper and lower San Joaquin River basins.

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.--63 years, 490 ft³/s, 355,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,080 ft³/s, June 21, 1935; no flow at times many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|---------|---------|---------|---------|---------|---------|-------|-------|-------|-------|-------|---------|
| 1 | .00 | .00 | 105 | .00 | 134 | 84 | 161 | 487 | 435 | 598 | 607 | 412 |
| 2 | 88 | 127 | .00 | .00 | .00 | 128 | 208 | 446 | 424 | 584 | 460 | 354 |
| 3 | 198 | 50 | 66 | 49 | .00 | .00 | 201 | 494 | 516 | 698 | 524 | 416 |
| 4 | .00 | 51 | 59 | .00 | 107 | 132 | 261 | 500 | 569 | 739 | 535 | 397 |
| 5 | .00 | 53 | 24 | .00 | .00 | 96 | 208 | 537 | 625 | 740 | 493 | 463 |
| 6 | .00 | 56 | 46 | 54 | 84 | 126 | 284 | 569 | 638 | 717 | 499 | 378 |
| 7 | .00 | 47 | 51 | .00 | .00 | .00 | 211 | 548 | 602 | 734 | 518 | 325 |
| 8 | .00 | 71 | 47 | 51 | .00 | 204 | 277 | 405 | 652 | 705 | 568 | 332 |
| 9 | .00 | .00 | 42 | .00 | 117 | .00 | 185 | 339 | 595 | 735 | 642 | 339 |
| 10 | 42 | 79 | 35 | 41 | .00 | 116 | 315 | 321 | 448 | 738 | 573 | 327 |
| 11 | 103 | 30 | 34 | .00 | .00 | 155 | 413 | 251 | 430 | 739 | 537 | 329 |
| 12 | .00 | 65 | 43 | 79 | 117 | .00 | 505 | 173 | 439 | 738 | 560 | 240 |
| 13 | 49 | 80 | 60 | .00 | 80 | 131 | 580 | 249 | 535 | 727 | 727 | .00 |
| 14 | .00 | 35 | .00 | 80 | 40 | .00 | 626 | 227 | 547 | 693 | 693 | 115 |
| 15 | 78 | 46 | 80 | 36 | 63 | 135 | 741 | 186 | 620 | 721 | 749 | .00 |
| 16 | 89 | .00 | .00 | .00 | 121 | 81 | 670 | 201 | 635 | 729 | 698 | .00 |
| 17 | .00 | 37 | .00 | 52 | .00 | 97 | 630 | 353 | 617 | 722 | 723 | 127 |
| 18 | .00 | 45 | 121 | 59 | 103 | 144 | 614 | 660 | 606 | 728 | 452 | .00 |
| 19 | 55 | .00 | .00 | 51 | .00 | 171 | 637 | 631 | 614 | 734 | 507 | .00 |
| 20 | 54 | 131 | .00 | 51 | 129 | 167 | 629 | 627 | 669 | 733 | 618 | 110 |
| 21 | 60 | .00 | .00 | 64 | .00 | 183 | 590 | 593 | 721 | 730 | 480 | 55 |
| 22 | .00 | .00 | 72 | 47 | 43 | 227 | 478 | 578 | 733 | 728 | 378 | 97 |
| 23 | 122 | 101 | .00 | 42 | 118 | 141 | 580 | 655 | 724 | 727 | 343 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | 241 | 587 | 514 | 714 | 725 | 484 | 113 |
| 25 | 159 | .00 | 84 | 113 | 140 | 243 | 465 | 447 | 685 | 725 | 445 | 81 |
| 26 | .00 | 99 | .00 | .00 | .00 | 224 | 422 | 543 | 647 | 726 | 441 | .00 |
| 27 | 76 | .00 | .00 | 119 | 142 | 218 | 480 | 461 | 664 | 731 | 489 | 84 |
| 28 | 101 | .00 | 60 | .00 | 89 | 185 | 532 | 540 | 625 | 731 | 436 | 57 |
| 29 | .00 | 104 | .00 | 35 | --- | 201 | 420 | 508 | 660 | 731 | 413 | .00 |
| 30 | 123 | 39 | .00 | 60 | --- | 158 | 346 | 509 | 621 | 733 | 379 | .00 |
| 31 | .00 | --- | 129 | .00 | --- | 156 | --- | 403 | --- | 731 | 407 | --- |
| TOTAL | 1397.00 | 1346.00 | 1158.00 | 1083.00 | 1627.00 | 4144.00 | 13256 | 13955 | 18010 | 22270 | 16378 | 5151.00 |
| MEAN | 45.1 | 44.9 | 37.4 | 34.9 | 58.1 | 134 | 442 | 450 | 600 | 718 | 528 | 172 |
| MAX | 198 | 131 | 129 | 119 | 142 | 243 | 741 | 660 | 733 | 740 | 749 | 463 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | 161 | 173 | 424 | 584 | 343 | .00 |
| AC-FT | 2770 | 2670 | 2300 | 2150 | 3230 | 8220 | 26290 | 27680 | 35720 | 44170 | 32490 | 10220 |

| | | | | | | | | | | |
|-------------|-------|-----------|------|-----|-----|-----|-----|-----|-------|--------|
| CAL YR 1989 | TOTAL | 130359.00 | MEAN | 357 | MAX | 843 | MIN | .00 | AC-FT | 258600 |
| WTR YR 1990 | TOTAL | 99775.00 | MEAN | 273 | MAX | 749 | MIN | .00 | AC-FT | 197900 |

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 mi².

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 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 lower 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, 2,103 acre-ft, Nov. 6, 1937, elevation, 6,838.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 88,494 acre-ft, Aug. 17, elevation, 6,949.53 ft; minimum, 35,346 acre-ft, Apr. 6, elevation, 6,906.03 ft.

| Capacity table (elevation, in feet, and contents, in acre-feet) (Based on table provided by Southern California Edison Co., dated Sept. 24, 1964) | | | | | | | |
|--|-----|-------|-------|-------|--------|-------|--------|
| 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 |

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 78147 | 65695 | 57514 | 51835 | 50478 | 41558 | 36317 | 60095 | 80885 | 85416 | 86459 | 87097 |
| 2 | 77796 | 65582 | 57301 | 51711 | 50367 | 41232 | 35978 | 61102 | 81325 | 85162 | 86388 | 87041 |
| 3 | 77715 | 65307 | 57219 | 51644 | 50200 | 40950 | 35883 | 61870 | 81752 | 85683 | 86431 | 87055 |
| 4 | 77379 | 65106 | 56983 | 51565 | 50267 | 40981 | 35883 | 62925 | 82221 | 85923 | 86487 | 86729 |
| 5 | 76948 | 65006 | 56523 | 51329 | 50089 | 40900 | 35940 | 64061 | 82845 | 86601 | 86431 | 86416 |
| 6 | 76532 | 64770 | 56020 | 51307 | 50089 | 40598 | 35346 | 65294 | 83469 | 87027 | 86303 | 86601 |
| 7 | 76118 | 64372 | 55751 | 51160 | 49867 | 39997 | 36795 | 66360 | 84070 | 86700 | 85923 | 86445 |
| 8 | 75731 | 64111 | 55494 | 51127 | 49414 | 39789 | 37544 | 67168 | 84448 | 87097 | 85697 | 85881 |
| 9 | 75331 | 63726 | 55284 | 51003 | 49050 | 39212 | 37544 | 68031 | 84867 | 87140 | 86106 | 86064 |
| 10 | 75013 | 63541 | 55099 | 51003 | 48370 | 38888 | 37854 | 68783 | 84881 | 86572 | 86275 | 85613 |
| 11 | 74721 | 63258 | 54810 | 50857 | 47935 | 38408 | 38300 | 69168 | 84601 | 86544 | 86416 | 85444 |
| 12 | 74231 | 62998 | 54485 | 51003 | 47706 | 37206 | 39026 | 69078 | 84853 | 86799 | 86572 | 84923 |
| 13 | 73980 | 62777 | 54173 | 50734 | 46874 | 36776 | 40156 | 69604 | 85317 | 86941 | 87055 | 84322 |
| 14 | 73506 | 62384 | 53783 | 50701 | 47090 | 36422 | 41629 | 69771 | 85697 | 87339 | 87651 | 83916 |
| 15 | 73020 | 62029 | 53588 | 50612 | 46852 | 36251 | 43395 | 69553 | 85881 | 86856 | 88222 | 83012 |
| 16 | 72717 | 61577 | 53324 | 50512 | 46572 | 35987 | 44913 | 69296 | 85965 | 86757 | 88337 | 82069 |
| 17 | 71973 | 61199 | 52777 | 50445 | 46604 | 35846 | 45974 | 69630 | 86021 | 86757 | 88494 | 81821 |
| 18 | 71050 | 60907 | 52686 | 50423 | 46497 | 35742 | 46540 | 70234 | 85543 | 86700 | 88051 | 81312 |
| 19 | 70506 | 60531 | 52663 | 50401 | 46080 | 35723 | 47488 | 71270 | 84965 | 86658 | 87438 | 80583 |
| 20 | 69938 | 60107 | 52652 | 50412 | 45537 | 35647 | 48841 | 72299 | 84671 | 86658 | 87410 | 80214 |
| 21 | 69502 | 58703 | 52549 | 50467 | 44702 | 35581 | 50067 | 72652 | 84308 | 86700 | 87296 | 79504 |
| 22 | 68988 | 58131 | 52561 | 50478 | 44375 | 35591 | 51127 | 73546 | 84560 | 86487 | 87239 | 78771 |
| 23 | 68630 | 58262 | 52470 | 50478 | 44291 | 35591 | 52436 | 74271 | 85261 | 86445 | 87210 | 77998 |
| 24 | 68159 | 58107 | 52345 | 50412 | 43968 | 35638 | 53646 | 75145 | 85655 | 86261 | 86913 | 77608 |
| 25 | 68146 | 58071 | 52379 | 50545 | 43916 | 35704 | 54682 | 75638 | 85430 | 86049 | 86785 | 77083 |
| 26 | 67764 | 58167 | 52277 | 50445 | 43416 | 35808 | 55739 | 76439 | 85331 | 85909 | 87097 | 76238 |
| 27 | 67433 | 57845 | 52129 | 50578 | 42920 | 36053 | 56935 | 77024 | 84965 | 85613 | 87324 | 75424 |
| 28 | 67118 | 57691 | 52072 | 50523 | 42848 | 36176 | 57869 | 78228 | 85106 | 86092 | 87140 | 74682 |
| 29 | 66751 | 57782 | 51970 | 50490 | --- | 36308 | 59025 | 79083 | 85219 | 86416 | 87041 | 74191 |
| 30 | 66549 | 57667 | 51857 | 50490 | --- | 36242 | 59650 | 79818 | 85219 | 86204 | 86998 | 73782 |
| 31 | 66084 | --- | 51925 | 50334 | --- | 36355 | --- | 80392 | --- | 86289 | 87027 | --- |
| MAX | 78147 | 65695 | 57514 | 51835 | 50478 | 41558 | 59650 | 80392 | 86021 | 87339 | 88494 | 87097 |
| MIN | 66084 | 57667 | 51857 | 50334 | 42848 | 35581 | 35346 | 60095 | 80885 | 85162 | 85697 | 73782 |
| a | 6932.84 | 6925.95 | 6920.99 | 6919.57 | 6912.59 | 6906.04 | 6927.61 | 6943.74 | 6947.22 | 6947.98 | 6948.50 | 6938.82 |
| b | -12470 | -8417 | -5742 | -1591 | -7486 | -6493 | +23295 | +20742 | +4827 | +1070 | +738 | -13245 |

CAL YR 1989 b -2088

WTR YR 1990 b -4772

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11237000 BIG CREEK BELOW HUNTINGTON LAKE, CA

LOCATION.--Lat 37°13'19", long 119°12'43", in SW 1/4 NW 1/4 sec.23, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 500 ft upstream from Grouse Creek, 0.8 mi south of main dam of Huntington Lake, and 2.1 mi northeast of town of Big Creek.

DRAINAGE AREA.--81.1 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder with Parshall flume control. Elevation of gage is 6,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow regulated by Huntington Lake with releases for fishery maintenance. See schematic diagram of lower 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, 8.7 ft³/s, Sept. 27, 1988, gage height, 2.70 ft; minimum daily, 1.7 ft³/s, Feb. 14, 15, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.1 ft³/s, May 23, gage height, 2.30 ft; minimum daily, 1.9 ft³/s, several days in March.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | e2.1 | 2.5 | 2.6 | 2.8 | 2.8 | 2.9 | 3.0 |
| 2 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.0 | 2.5 | 2.6 | 2.8 | 2.8 | 2.9 | 3.0 |
| 3 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.2 | 2.6 | 2.6 | 2.8 | 2.9 | 2.9 | 3.0 |
| 4 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.1 | 2.6 | 2.6 | 2.8 | 2.9 | 2.8 | 3.0 |
| 5 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.0 | 2.6 | 2.6 | 2.8 | 2.9 | 2.8 | 3.0 |
| 6 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 1.9 | 2.6 | 2.6 | 2.9 | 2.9 | 2.8 | 3.0 |
| 7 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 1.9 | 2.6 | 2.6 | 2.9 | 3.0 | 2.9 | 3.0 |
| 8 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 1.9 | 2.7 | 2.5 | 2.9 | 3.0 | 2.9 | 3.0 |
| 9 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.0 | 2.6 | 2.5 | 2.9 | 3.0 | 2.8 | 3.0 |
| 10 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 2.0 | 2.6 | 2.5 | 2.9 | 3.0 | 2.9 | 3.0 |
| 11 | 2.8 | 2.6 | 2.5 | 2.3 | e2.1 | 1.9 | 2.5 | 2.5 | 2.8 | 2.9 | 2.9 | 3.0 |
| 12 | 2.8 | 2.5 | 2.5 | 2.4 | e2.1 | 1.9 | 2.6 | 2.5 | 2.8 | 3.0 | 2.9 | 3.0 |
| 13 | 2.7 | 2.6 | 2.4 | 2.4 | e2.1 | 2.0 | 2.6 | 2.5 | 2.8 | 3.0 | 2.9 | 3.0 |
| 14 | 2.7 | 2.5 | 2.4 | 2.4 | e2.1 | 1.9 | 2.6 | 2.5 | 2.8 | 2.9 | 3.0 | 3.0 |
| 15 | 2.7 | 2.5 | 2.4 | 2.3 | e2.1 | 1.9 | 2.6 | 2.5 | 2.8 | 2.9 | 3.0 | 3.0 |
| 16 | 2.7 | 2.5 | 2.4 | 2.4 | e2.1 | 1.9 | 2.6 | 2.5 | 2.8 | 2.9 | 3.2 | 2.9 |
| 17 | 2.7 | 2.6 | 2.4 | e2.4 | e2.1 | 2.0 | 2.6 | 2.5 | 2.8 | 2.9 | 3.2 | 2.9 |
| 18 | 2.7 | 2.6 | 2.4 | e2.3 | e2.1 | 2.1 | 2.6 | 2.5 | 2.8 | 2.9 | 3.1 | 2.9 |
| 19 | 2.7 | 2.5 | 2.4 | e2.3 | e2.1 | 2.1 | 2.6 | 2.5 | 2.8 | 2.9 | 3.1 | 2.9 |
| 20 | 2.7 | 2.5 | 2.4 | e2.3 | e2.1 | 2.3 | 2.7 | 2.6 | 2.9 | 2.9 | 3.1 | 2.8 |
| 21 | 2.8 | 2.5 | 2.4 | e2.3 | e2.1 | 2.4 | 2.6 | 2.6 | 2.9 | 2.9 | 3.0 | 2.8 |
| 22 | 3.0 | 2.4 | 2.4 | e2.3 | e2.1 | 2.3 | 2.6 | 2.6 | 2.8 | 2.9 | 3.0 | 2.8 |
| 23 | 2.7 | 2.4 | 2.4 | e2.3 | e2.1 | 2.4 | 3.2 | 2.8 | 2.8 | 2.9 | 3.0 | 3.1 |
| 24 | 2.9 | 2.4 | 2.4 | e2.3 | e2.1 | 2.5 | 2.9 | 2.8 | 2.8 | 2.9 | 3.0 | 2.9 |
| 25 | 3.0 | 2.4 | 2.4 | e2.2 | e2.1 | 2.5 | 2.8 | 2.7 | 2.8 | 2.9 | 3.0 | 2.8 |
| 26 | 2.8 | 2.5 | 2.4 | e2.2 | e2.1 | 2.5 | 2.7 | 2.6 | 2.8 | 2.9 | 3.1 | 2.8 |
| 27 | 2.8 | 2.4 | 2.5 | e2.2 | e2.1 | 2.6 | 2.7 | 2.9 | 2.8 | 2.9 | 3.1 | 2.8 |
| 28 | 2.8 | 2.4 | 2.4 | e2.2 | e2.1 | 2.5 | 2.7 | 3.2 | 2.8 | 2.9 | 3.0 | 2.8 |
| 29 | 2.7 | 2.4 | 2.4 | e2.1 | --- | 2.4 | 2.6 | 2.9 | 2.8 | 2.9 | 3.0 | 2.8 |
| 30 | 2.7 | 2.4 | 2.4 | e2.1 | --- | 2.4 | 2.6 | 2.9 | 2.8 | 2.8 | 3.0 | 2.8 |
| 31 | 2.6 | --- | 2.4 | e2.1 | --- | 2.5 | --- | 2.9 | --- | 2.8 | 3.0 | --- |
| TOTAL | 86.0 | 75.6 | 75.7 | 70.8 | 58.8 | 67.1 | 79.3 | 81.7 | 84.7 | 90.1 | 92.2 | 87.8 |
| MEAN | 2.77 | 2.52 | 2.44 | 2.28 | 2.10 | 2.16 | 2.64 | 2.64 | 2.82 | 2.91 | 2.97 | 2.93 |
| MAX | 3.0 | 2.6 | 2.5 | 2.4 | 2.1 | 2.6 | 3.2 | 3.2 | 2.9 | 3.0 | 3.2 | 3.1 |
| MIN | 2.6 | 2.4 | 2.4 | 2.1 | 2.1 | 1.9 | 2.5 | 2.5 | 2.8 | 2.8 | 2.8 | 2.8 |
| AC-FT | 171 | 150 | 150 | 140 | 117 | 133 | 157 | 162 | 168 | 179 | 183 | 174 |

CAL YR 1989 TOTAL 999.2 MEAN 2.74 MAX 3.7 MIN 1.7 AC-FT 1980
WTR YR 1990 TOTAL 949.8 MEAN 2.60 MAX 3.2 MIN 1.9 AC-FT 1880

e Estimated.

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 and South Fork Tamarack Creeks, 1.4 mi upstream from mouth, and 1.9 mi east of town of Big Creek.

DRAINAGE AREA.--22.9 mi².

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 upstream from station; practically all flow is diverted below station to Huntington-Shaver conduit. See schematic diagram of lower 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.--63 years, 41.0 ft³/s, 29,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft³/s, Dec. 23, 1955, gage height, 11.20 ft, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement at gage height 10.77 ft; no flow, Oct. 15-18, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 207 ft³/s, Apr. 27, gage height, 5.34 ft; minimum daily, 0.10 ft³/s, Sept. 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|-------|------|------|-------|-------|-------|------|
| 1 | 1.1 | 2.6 | 1.7 | 1.2 | 2.6 | e6.0 | 66 | 88 | 42 | 5.4 | .51 | .17 |
| 2 | .83 | 2.4 | 1.7 | e1.1 | 2.6 | e8.0 | 68 | 88 | 35 | 4.9 | .47 | .15 |
| 3 | .76 | 2.4 | 1.6 | e1.2 | 2.5 | 13 | 71 | 96 | 32 | 4.3 | .45 | .15 |
| 4 | .76 | 2.3 | 1.7 | e1.2 | 2.6 | 19 | 73 | 103 | 28 | 3.8 | .43 | .15 |
| 5 | .72 | 2.2 | e1.7 | e1.3 | 2.8 | 17 | 69 | 109 | 28 | 3.5 | .39 | .14 |
| 6 | .68 | 2.1 | e1.6 | e1.3 | 2.7 | 16 | 77 | 108 | 26 | 3.3 | .39 | .12 |
| 7 | .66 | 2.0 | e1.6 | e1.3 | 2.9 | 15 | 79 | 97 | 24 | 3.1 | .62 | .12 |
| 8 | .61 | 1.9 | e1.5 | e1.4 | 2.8 | 13 | 72 | 84 | 23 | 2.7 | .67 | .12 |
| 9 | .59 | 1.9 | e1.5 | e1.4 | 2.7 | 12 | 78 | 77 | 22 | 2.4 | .45 | .12 |
| 10 | .56 | 1.8 | e1.5 | e1.5 | 2.8 | 13 | 99 | 71 | 21 | 2.2 | .39 | .11 |
| 11 | .52 | 1.8 | 1.5 | e1.6 | 3.1 | 13 | 111 | 62 | 19 | 2.1 | .33 | .11 |
| 12 | .47 | 1.8 | 1.6 | e1.7 | 3.3 | 11 | 124 | 59 | 17 | 3.1 | .31 | .10 |
| 13 | .45 | 1.7 | e1.5 | e1.9 | 3.3 | 10 | 140 | 56 | 17 | 3.0 | .27 | .10 |
| 14 | .45 | 1.7 | e1.5 | 2.2 | 3.2 | 9.9 | 150 | 54 | 16 | 2.0 | .25 | .10 |
| 15 | .45 | 1.6 | e1.5 | 2.5 | 3.1 | 10 | 154 | 50 | 16 | 1.8 | .25 | .10 |
| 16 | .47 | 1.7 | e1.4 | 2.8 | 3.1 | 12 | 132 | 47 | 15 | 1.6 | .25 | .11 |
| 17 | .47 | 1.7 | e1.4 | 3.0 | 3.1 | 13 | 88 | 44 | 14 | 1.5 | .24 | .11 |
| 18 | .47 | 1.6 | e1.3 | 3.3 | 3.1 | 19 | 78 | 41 | 13 | 1.4 | .25 | .12 |
| 19 | .45 | 1.5 | 1.3 | 3.8 | 3.1 | 21 | 91 | 38 | 12 | 1.3 | .27 | .14 |
| 20 | .44 | 1.5 | 1.2 | 3.8 | 3.1 | 23 | 108 | 35 | 11 | 1.2 | .31 | .12 |
| 21 | .84 | 1.4 | 1.1 | 3.4 | 3.1 | 29 | 109 | 34 | 9.9 | 1.1 | .33 | .12 |
| 22 | 6.7 | 1.4 | 1.1 | 2.8 | 3.1 | 33 | 105 | 33 | 8.9 | 1.0 | .31 | .12 |
| 23 | 2.7 | 1.4 | 1.1 | 2.5 | 3.2 | 43 | 133 | 37 | 8.3 | .94 | .27 | .73 |
| 24 | 10 | 1.6 | e1.1 | 2.5 | 3.2 | 57 | 114 | 54 | 8.1 | .86 | .22 | .94 |
| 25 | 9.5 | 1.6 | e1.2 | 2.4 | 3.3 | 67 | 113 | 48 | 7.6 | .79 | .22 | .48 |
| 26 | 6.9 | 1.2 | e1.4 | 2.4 | 3.6 | 75 | 139 | 40 | 7.3 | .78 | .22 | .37 |
| 27 | 6.1 | 1.8 | e1.3 | 2.3 | e3.8 | 76 | 158 | 51 | 7.1 | .74 | .20 | .33 |
| 28 | 4.8 | 2.1 | 1.3 | 2.2 | e5.0 | 62 | 152 | 91 | 6.6 | .70 | .20 | .37 |
| 29 | 3.8 | 2.3 | e1.2 | 2.4 | --- | 51 | 131 | 69 | 6.4 | .64 | .19 | .29 |
| 30 | 3.3 | 1.8 | e1.2 | 2.5 | --- | 48 | 102 | 59 | 6.0 | .56 | .17 | .29 |
| 31 | 2.9 | --- | 1.2 | 2.5 | --- | 58 | --- | 49 | --- | .56 | .17 | --- |
| TOTAL | 69.45 | 54.8 | 43.5 | 67.4 | 86.8 | 872.9 | 3184 | 1972 | 507.2 | 63.27 | 10.00 | 6.50 |
| MEAN | 2.24 | 1.83 | 1.40 | 2.17 | 3.10 | 28.2 | 106 | 63.6 | 16.9 | 2.04 | .32 | .22 |
| MAX | 10 | 2.6 | 1.7 | 3.8 | 5.0 | 76 | 158 | 109 | 42 | 5.4 | .67 | .94 |
| MIN | .44 | 1.2 | 1.1 | 1.1 | 2.5 | 6.0 | 66 | 33 | 6.0 | .56 | .17 | .10 |
| AC-FT | 138 | 109 | 86 | 134 | 172 | 1730 | 6320 | 3910 | 1010 | 125 | 20 | 13 |

CAL YR 1989 TOTAL 7762.36 MEAN 21.3 MAX 201 MIN .12 AC-FT 15400
WTR YR 1990 TOTAL 6937.82 MEAN 19.0 MAX 158 MIN .10 AC-FT 13760

e Estimated.

SAN JOAQUIN RIVER BASIN

11237600 PITMAN CREEK SHAFT BELOW TAMARACK CREEK, CA

LOCATION.--Lat 37°11'48", long 119°12'42", in NW 1/4 NW 1/4 sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank at Huntington-Shaver conduit tunnel, 0.8 mi downstream from confluence of Tamarack and South Fork Tamarack Creeks, 1.3 mi north of Tamarack Mountain, and 1.9 mi east of town of Big Creek.

DRAINAGE AREA.--23.0 mi².

PERIOD OF RECORD.--October 1986 to February 1989, March 1989 to current year.

GAGE.--Discharge computed as difference between Pitman Creek below Tamarack Creek (station 11237500) and Pitman Creek near Tamarack Mountain (station 11237700). Elevation of diversion point is 6,980 ft above National Geodetic Vertical Datum, from topographic map.

REMARKS.--No estimated daily discharges. Flow consists of diversion into Huntington-Shaver conduit for power development in Big Creek powerplants. See schematic diagram of lower 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 daily discharge, 156 ft³/s, Apr. 27, 1990; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|--------|------|------|-------|-------|------|------|
| 1 | .00 | .60 | .00 | .00 | .00 | .00 | 66 | 87 | 41 | 4.6 | .00 | .00 |
| 2 | .00 | .20 | .00 | .00 | .00 | .00 | 68 | 87 | 34 | 4.1 | .00 | .00 |
| 3 | .00 | .30 | .00 | .00 | .00 | .00 | 71 | 94 | 31 | 3.6 | .00 | .00 |
| 4 | .00 | .20 | .00 | .00 | .00 | .00 | 71 | 101 | 27 | 3.1 | .00 | .00 |
| 5 | .00 | .20 | .00 | .00 | .00 | .00 | 66 | 107 | 27 | 2.8 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | 74 | 106 | 25 | 2.7 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | 76 | 95 | 23 | 2.5 | .06 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | 70 | 82 | 22 | 2.1 | .06 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | 76 | 75 | 21 | 1.8 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | 96 | 69 | 20 | 1.5 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | 108 | 61 | 18 | 1.2 | .00 | .00 |
| 12 | .00 | .00 | .20 | .00 | .00 | .00 | 122 | 58 | 16 | 2.2 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | 138 | 55 | 16 | 2.1 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | 148 | 53 | 15 | 1.1 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | 152 | 49 | 15 | .95 | .00 | .00 |
| 16 | .00 | .10 | .00 | .00 | .00 | .00 | 130 | 46 | 14 | .75 | .00 | .00 |
| 17 | .00 | .10 | .00 | .00 | .00 | .00 | 86 | 43 | 13 | .65 | .00 | .00 |
| 18 | .00 | .10 | .00 | .00 | .00 | .00 | 76 | 40 | 12 | .58 | .00 | .00 |
| 19 | .00 | .10 | .00 | .00 | .00 | .00 | 90 | 37 | 11 | .48 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | 106 | 34 | 10 | .38 | .00 | .00 |
| 21 | .00 | .10 | .00 | .00 | .00 | .00 | 107 | 33 | 9.3 | .31 | .00 | .00 |
| 22 | 3.1 | .20 | .00 | .00 | .00 | .00 | 103 | 32 | 8.3 | .21 | .00 | .00 |
| 23 | .00 | .10 | .00 | .00 | .00 | .00 | 131 | 36 | 7.7 | .15 | .00 | .39 |
| 24 | 6.8 | .00 | .00 | .00 | .00 | .00 | 112 | 53 | 7.5 | .10 | .00 | .24 |
| 25 | 6.8 | .00 | .00 | .00 | .00 | .00 | 111 | 47 | 7.1 | .03 | .00 | .00 |
| 26 | 4.4 | .34 | .00 | .00 | .00 | .00 | 137 | 39 | 6.8 | .02 | .00 | .00 |
| 27 | 3.8 | .10 | .00 | .00 | .00 | .00 | 156 | 50 | 6.5 | .00 | .00 | .00 |
| 28 | 2.7 | .20 | .00 | .00 | .00 | .00 | 150 | 90 | 5.8 | .00 | .00 | .00 |
| 29 | 1.8 | .40 | .00 | .00 | --- | .00 | 130 | 68 | 5.6 | .00 | .00 | .00 |
| 30 | 1.4 | .00 | .00 | .00 | --- | 46 | 101 | 58 | 5.2 | .00 | .00 | .00 |
| 31 | 1.1 | --- | .00 | .00 | --- | 57 | --- | 48 | --- | .00 | .00 | --- |
| TOTAL | 31.90 | 3.34 | 0.20 | 0.00 | 0.00 | 103.00 | 3128 | 1933 | 480.8 | 40.01 | 0.12 | 0.63 |
| MEAN | 1.03 | .11 | .006 | .000 | .000 | 3.32 | 104 | 62.4 | 16.0 | 1.29 | .004 | .021 |
| MAX | 6.8 | .60 | .20 | .00 | .00 | 57 | 156 | 107 | 41 | 4.6 | .06 | .39 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | 66 | 32 | 5.2 | .00 | .00 | .00 |
| AC-FT | 63 | 6.6 | .4 | .00 | .00 | 204 | 6200 | 3830 | 954 | 79 | .2 | 1.2 |

WTR YR 1990 TOTAL 5721.00 MEAN 15.7 MAX 156 MIN .00 AC-FT 11350

11237700 PITMAN CREEK NEAR TAMARACK MOUNTAIN, CA

LOCATION.--Lat 37°12'00", long 119°12'55", 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 100 ft downstream from Huntington-Shaver conduit tunnel, 0.9 mi downstream from confluence of Tamarack and South Fork Tamarack Creeks, 1.3 mi upstream from mouth, and 1.8 mi east of town of Big Creek.

DRAINAGE AREA.--23.0 mi².

PERIOD OF RECORD.--October 1986 to February 1989, March 1989 to current year. No record of release for fishery maintenance Feb. 19 to Mar. 24, 1989.

GAGE.--Water-stage recorder and 90° V-notch control. Elevation of gage is 6,970 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Entire flow except for fishery maintenance is diverted upstream from station at Pitman Creek Shaft below Tamarack Creek (station 11237600) to Huntington-Shaver conduit. See schematic diagram of lower 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 daily discharge, 76 ft³/s, Mar. 27, 1990; minimum daily, 0.05 ft³/s, July 28, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 76 ft³/s, Mar. 27; minimum daily, 0.10 ft³/s, Apr. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|------|--------|-------|-------|-------|-------|-------|------|
| 1 | 1.2 | 2.0 | 1.8 | e1.2 | e2.6 | e6.0 | .11 | 1.0 | .82 | .76 | .56 | .18 |
| 2 | .90 | 2.2 | 1.9 | e1.1 | e2.6 | e8.0 | .10 | 1.4 | .82 | .75 | .51 | .17 |
| 3 | .80 | 2.1 | 2.2 | e1.2 | e2.5 | e13 | .10 | 1.8 | .79 | .70 | .49 | .16 |
| 4 | .79 | 2.1 | 2.0 | e1.2 | e2.6 | e19 | 2.0 | 1.7 | .76 | .67 | .44 | .16 |
| 5 | .78 | 2.0 | 1.9 | e1.3 | e2.8 | e17 | 3.4 | 1.7 | .73 | .67 | .40 | .15 |
| 6 | .76 | 2.1 | 1.9 | e1.3 | e2.7 | e16 | 3.3 | 1.6 | .70 | .64 | .42 | .16 |
| 7 | .71 | 2.0 | 1.9 | e1.3 | e2.9 | e15 | 2.7 | 1.6 | .70 | .64 | .56 | .15 |
| 8 | .66 | 1.9 | 1.9 | e1.4 | e2.8 | e13 | 2.3 | 1.6 | .67 | .64 | .61 | .15 |
| 9 | .63 | 1.9 | 1.8 | e1.4 | e2.7 | e12 | 1.7 | 1.5 | .67 | .64 | .49 | .15 |
| 10 | .60 | 1.9 | 1.8 | e1.5 | e2.8 | e13 | 2.5 | 1.5 | .67 | .73 | .42 | .12 |
| 11 | .57 | 2.0 | 1.6 | e1.6 | e3.1 | e13 | 2.5 | 1.2 | .64 | .88 | .36 | .12 |
| 12 | .54 | 1.9 | 1.4 | e1.7 | e3.3 | e11 | 2.3 | .88 | .64 | .89 | .34 | .12 |
| 13 | .52 | 1.9 | 1.5 | e1.9 | e3.3 | e10 | 2.0 | .88 | .64 | .88 | .30 | .12 |
| 14 | .51 | 1.7 | e1.7 | e2.2 | e3.2 | e9.9 | 2.1 | .85 | .64 | .88 | .29 | .12 |
| 15 | .51 | 1.6 | e1.5 | e2.5 | e3.1 | e10 | 1.8 | .82 | .64 | .85 | .27 | .12 |
| 16 | .52 | 1.6 | e1.4 | e2.8 | e3.1 | e12 | 1.8 | .82 | .64 | .85 | .25 | .12 |
| 17 | .52 | 1.6 | e1.4 | e3.0 | e3.1 | e13 | 1.6 | 1.0 | .64 | .85 | .25 | .13 |
| 18 | .50 | 1.5 | e1.3 | e3.3 | e3.1 | e19 | 1.5 | 1.2 | .61 | .82 | .25 | .15 |
| 19 | .48 | 1.4 | e1.3 | e3.8 | e3.1 | e21 | 1.4 | 1.2 | .61 | .82 | .29 | .15 |
| 20 | .47 | 1.5 | e1.2 | e3.8 | e3.1 | e23 | 1.5 | 1.2 | .59 | .82 | .32 | .15 |
| 21 | .92 | 1.3 | e1.1 | e3.4 | e3.1 | e29 | 1.5 | 1.2 | .59 | .79 | .34 | .15 |
| 22 | 3.6 | 1.2 | e1.1 | e2.8 | e3.1 | e33 | 1.5 | 1.2 | .59 | .79 | .32 | .15 |
| 23 | 3.1 | 1.3 | e1.1 | e2.5 | e3.2 | e43 | 1.8 | 1.2 | .56 | .79 | .29 | .34 |
| 24 | 3.2 | 1.6 | e1.1 | e2.5 | e3.2 | e57 | 1.7 | 1.2 | .56 | .76 | .25 | .70 |
| 25 | 2.7 | 1.6 | e1.2 | e2.4 | e3.3 | e67 | 1.7 | 1.2 | .51 | .76 | .22 | .51 |
| 26 | 2.5 | .86 | e1.4 | e2.4 | e3.6 | e75 | 1.7 | 1.2 | .49 | .76 | .24 | .38 |
| 27 | 2.3 | 1.7 | e1.3 | e2.3 | e3.8 | e76 | 1.7 | 1.2 | .63 | .76 | .22 | .34 |
| 28 | 2.1 | e1.9 | e1.3 | e2.2 | e5.0 | e62 | 1.7 | 1.2 | .76 | .76 | .21 | .36 |
| 29 | 2.0 | e1.9 | e1.2 | e2.4 | --- | e51 | 1.4 | .92 | .76 | .70 | .19 | .34 |
| 30 | 1.9 | e1.9 | e1.2 | e2.5 | --- | 2.4 | 1.0 | .88 | .76 | .64 | .18 | .32 |
| 31 | 1.8 | --- | e1.2 | e2.5 | --- | .67 | --- | .85 | --- | .61 | .18 | --- |
| TOTAL | 39.09 | 52.16 | 46.6 | 67.4 | 86.8 | 769.97 | 52.41 | 37.70 | 19.83 | 23.50 | 10.46 | 6.46 |
| MEAN | 1.26 | 1.74 | 1.50 | 2.17 | 3.10 | 24.8 | 1.75 | 1.22 | .66 | .76 | .34 | .22 |
| MAX | 3.6 | 2.2 | 2.2 | 3.8 | 5.0 | .76 | 3.4 | 1.8 | .82 | .89 | .61 | .70 |
| MIN | .47 | .86 | 1.1 | 1.1 | 2.5 | .67 | .10 | .82 | .49 | .61 | .18 | .12 |
| AC-FT | 78 | 103 | 92 | 134 | 172 | 1530 | 104 | 75 | 39 | 47 | 21 | 13 |

WTR YR 1990 TOTAL 1212.38 MEAN 3.32 MAX 76 MIN .10 AC-FT 2400

e Estimated.

SAN JOAQUIN RIVER BASIN

11238250 EASTWOOD POWERPLANT ABOVE SHAVER LAKE, NEAR BIG CREEK, CA

LOCATION.--Lat 37°07'55", long 119°15'39", in NE 1/4 SW 1/4 sec.20, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, 0.25 mi upstream from Shaver Lake and 5.0 mi south of Big Creek.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Acoustic flow meter in powerplant penstock. Elevation of gage is 5,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharge. Flow is diverted from Huntington Lake (station 11236000) to Balsam Meadows Forebay, thence through a tunnel to the powerplant. Water is returned to Shaver Lake (station 11239500) 0.25 mi downstream for further power development in Big Creek powerplants. See schematic diagram of lower 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 daily discharge, 1,750 ft³/s, May 19, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|------|-------|-------|-------|--------|-------|-------|
| 1 | 0 | 89 | 36 | 0 | 0 | 50 | 207 | 190 | 117 | 191 | 229 | 188 |
| 2 | 0 | 8 | 20 | 0 | 0 | 0 | 103 | 300 | 164 | 302 | 248 | 185 |
| 3 | 0 | 0 | 24 | 0 | 0 | 0 | 222 | 363 | 276 | 295 | 255 | 183 |
| 4 | 0 | 0 | 83 | 0 | 0 | 0 | 40 | 351 | 6 | 231 | 236 | 251 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 99 | 286 | 11 | 0 | 232 | 241 |
| 6 | 0 | 26 | 19 | 0 | 0 | 0 | 155 | 238 | 158 | 372 | 390 | 277 |
| 7 | 0 | 38 | 0 | 0 | 249 | 52 | 234 | 236 | 161 | 385 | 275 | 245 |
| 8 | 0 | 46 | 0 | 0 | 188 | 212 | 195 | 70 | 163 | 449 | 250 | 327 |
| 9 | 0 | 25 | 96 | 0 | 113 | 69 | 129 | 211 | 70 | 328 | 171 | 280 |
| 10 | 0 | 44 | 0 | 0 | 0 | 86 | 185 | 167 | 250 | 356 | 196 | 234 |
| 11 | 0 | 56 | 0 | 0 | 126 | 246 | 268 | 272 | 177 | 319 | 168 | 234 |
| 12 | 0 | 0 | 50 | 0 | 53 | 0 | 268 | 235 | 0 | 433 | 204 | 222 |
| 13 | 0 | 58 | 116 | 0 | 132 | 13 | 0 | 156 | 94 | 360 | 0 | 235 |
| 14 | 0 | 0 | 6 | 0 | 116 | 0 | 407 | 210 | 178 | 349 | 0 | 226 |
| 15 | 0 | 3 | 50 | 0 | 110 | 0 | 158 | 227 | 409 | 313 | 120 | 260 |
| 16 | 0 | 27 | 146 | 0 | 60 | 0 | 274 | 396 | 362 | 327 | 368 | 199 |
| 17 | 275 | 0 | 0 | 0 | 211 | 0 | 228 | 255 | 464 | 304 | 368 | 244 |
| 18 | 62 | 0 | 197 | 0 | 127 | 0 | 259 | 313 | 508 | 340 | 369 | 189 |
| 19 | 39 | 0 | 104 | 0 | 110 | 125 | 261 | 0 | 490 | 400 | 304 | 47 |
| 20 | 0 | 308 | 145 | 0 | 255 | 11 | 177 | 0 | 547 | 360 | 371 | 204 |
| 21 | 0 | 215 | 0 | 0 | 51 | 0 | 82 | 305 | 563 | 369 | 232 | 235 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 241 | 175 | 370 | 282 | 235 |
| 23 | 81 | 0 | 0 | 0 | 78 | 0 | 86 | 105 | 299 | 343 | 273 | 155 |
| 24 | 0 | 0 | 0 | 0 | 130 | 177 | 104 | 146 | 259 | 373 | 277 | 240 |
| 25 | 0 | 69 | 0 | 0 | 0 | 69 | 237 | 37 | 382 | 378 | 0 | 314 |
| 26 | 260 | 192 | 0 | 0 | 264 | 74 | 244 | 64 | 497 | 327 | 146 | 286 |
| 27 | 3 | 0 | 0 | 0 | 238 | 0 | 373 | 170 | 404 | 365 | 174 | 166 |
| 28 | 0 | 38 | 0 | 35 | 205 | 57 | 247 | 159 | 387 | 276 | 210 | 342 |
| 29 | 151 | 54 | 0 | 40 | --- | 87 | 245 | 0 | 240 | 255 | 177 | 261 |
| 30 | 0 | 35 | 0 | 117 | --- | 91 | 325 | 99 | 293 | 271 | 145 | 150 |
| 31 | 0 | --- | 0 | 0 | --- | 189 | --- | 63 | --- | 81 | 176 | --- |
| TOTAL | 871 | 1331 | 1092 | 192 | 2816 | 1608 | 5985 | 5865 | 8104 | 9822 | 6846 | 6855 |
| MEAN | 28.1 | 44.4 | 35.2 | 6.19 | 101 | 51.9 | 199 | 189 | 270 | 317 | 221 | 228 |
| MAX | 275 | 308 | 197 | 117 | 264 | 246 | 407 | 396 | 563 | 449 | 390 | 342 |
| MIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 |
| AC-FT | 1730 | 2640 | 2170 | 381 | 5590 | 3190 | 11870 | 11630 | 16070 | 19480 | 13580 | 13600 |
| CAL YR 1989 | TOTAL | 176029 | MEAN | 482 | MAX | 1750 | MIN | 0 | AC-FT | 349200 | | |
| WTR YR 1990 | TOTAL | 51387 | MEAN | 141 | MAX | 563 | MIN | 0 | AC-FT | 101900 | | |

11238270 MIDDLE FORK BALSAM CREEK BELOW BALSAM MEADOWS FOREBAY, NEAR BIG CREEK, CA

LOCATION.--Lat 37°09'46", long 119°15'12", in NE 1/4 NW 1/4 sec.9, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 80 ft downstream from control house at base of Balsam Meadows Dam, 2.6 mi south of Big Creek.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--January 1989 to current year.

GAGE.--Water-stage recorder, 90° V-notch weir and concrete control. Elevation of gage is 6,560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow consists of fishery maintenance release and spill over Balsam Meadows Dam. No record of flow over spillway Apr. 15, 1989. Diversion from Balsam Meadows Dam through penstock to Eastwood powerplant. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records 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, unknown, Apr. 15, 1989, as there was no record of flow over spillway; minimum daily, 0.31 ft³/s, Feb. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.6 ft³/s, June 13, gage height, 0.85 ft; minimum daily, 0.78 ft³/s, many days from October through March.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | 1.4 | .81 | .81 | .81 | .78 | .81 | .84 | .84 | 1.5 | 1.4 | 1.3 | 1.4 |
| 2 | 1.1 | .81 | .81 | .81 | .79 | .81 | .84 | .84 | 1.5 | 1.4 | 1.3 | 1.4 |
| 3 | .78 | .81 | .81 | .81 | .81 | .78 | .84 | .81 | 1.5 | 1.4 | 1.3 | 1.4 |
| 4 | .78 | .81 | .81 | .81 | .81 | .78 | .84 | .81 | 1.5 | 1.4 | 1.3 | 1.4 |
| 5 | .78 | .78 | .81 | .81 | .81 | .78 | .84 | .81 | 1.5 | 1.4 | 1.4 | 1.4 |
| 6 | .78 | .81 | .81 | .81 | .83 | .78 | .84 | .84 | 1.5 | 1.4 | 1.4 | 1.4 |
| 7 | .78 | .81 | .81 | .81 | .81 | .78 | .84 | .84 | 1.5 | 1.4 | 1.3 | 1.4 |
| 8 | .78 | .81 | .84 | .78 | .81 | .81 | .87 | .84 | 1.4 | 1.4 | 1.4 | 1.4 |
| 9 | .81 | .81 | .84 | .78 | .81 | .81 | .87 | .84 | 1.4 | 1.4 | 1.3 | 1.3 |
| 10 | .81 | .81 | .81 | .78 | .81 | .81 | .89 | .84 | 1.4 | 1.4 | 1.3 | 1.3 |
| 11 | .81 | .81 | .78 | .78 | .81 | .81 | .89 | .84 | 1.4 | 1.4 | 1.3 | 1.3 |
| 12 | .78 | .78 | .78 | .78 | .81 | .84 | .92 | .84 | 1.4 | 1.4 | 1.3 | 1.3 |
| 13 | .78 | .78 | .78 | .78 | .81 | .84 | .92 | .84 | 1.5 | 1.4 | 1.3 | 1.3 |
| 14 | .78 | .78 | .78 | .78 | .80 | .84 | .92 | .84 | 1.5 | 1.4 | 1.4 | 1.3 |
| 15 | .81 | .78 | .78 | .78 | .79 | .84 | .92 | .84 | 1.4 | 1.4 | 1.4 | 1.3 |
| 16 | .81 | .78 | .81 | .78 | .78 | .84 | .89 | .84 | 1.4 | 1.4 | 1.4 | 1.3 |
| 17 | .78 | .78 | .78 | .78 | .81 | .78 | .87 | .84 | 1.4 | 1.4 | 1.4 | 1.4 |
| 18 | .78 | .81 | .81 | .78 | .79 | .84 | .87 | .84 | 1.4 | 1.5 | 1.3 | 1.4 |
| 19 | .78 | .81 | .81 | .78 | .78 | .84 | .87 | .84 | 1.4 | 1.4 | 1.3 | 1.4 |
| 20 | .78 | .81 | .81 | .78 | .78 | .84 | .87 | .84 | 1.4 | 1.3 | 1.4 | 1.4 |
| 21 | .78 | .81 | .81 | .81 | .80 | .84 | .84 | .84 | 1.4 | 1.4 | 1.4 | 1.4 |
| 22 | .78 | .81 | .81 | .81 | .81 | .84 | .84 | .84 | 1.4 | 1.3 | 1.4 | 1.4 |
| 23 | .78 | .81 | .78 | .81 | .80 | .84 | .87 | .84 | 1.4 | 1.3 | 1.4 | 1.4 |
| 24 | .78 | .81 | .78 | .81 | .78 | .84 | .87 | .81 | 1.4 | 1.3 | 1.4 | 1.4 |
| 25 | .78 | .81 | .81 | .81 | .78 | e.84 | .87 | .81 | 1.4 | 1.3 | 1.4 | 1.3 |
| 26 | .78 | .81 | .78 | .81 | .81 | e.81 | .84 | .81 | 1.4 | 1.3 | 1.4 | 1.3 |
| 27 | .81 | .81 | .81 | .81 | .81 | .81 | .84 | .81 | 1.4 | 1.4 | 1.4 | 1.2 |
| 28 | .81 | .78 | .81 | .81 | .81 | .81 | .84 | .81 | 1.4 | 1.4 | 1.4 | 1.2 |
| 29 | .81 | .81 | .81 | .81 | --- | .81 | .84 | .81 | 1.4 | 1.4 | 1.4 | 1.2 |
| 30 | .81 | .81 | .81 | .81 | --- | .84 | .84 | .81 | 1.4 | 1.3 | 1.4 | 1.2 |
| 31 | .81 | --- | .81 | .78 | --- | .84 | --- | 1.1 | --- | 1.4 | 1.4 | --- |
| TOTAL | 25.42 | 24.06 | 24.90 | 24.69 | 22.43 | 25.38 | 25.94 | 26.00 | 42.9 | 42.8 | 42.2 | 40.2 |
| MEAN | .82 | .80 | .80 | .80 | .80 | .82 | .86 | .84 | 1.43 | 1.38 | 1.36 | 1.34 |
| MAX | 1.4 | .81 | .84 | .81 | .83 | .84 | .92 | 1.1 | 1.5 | 1.5 | 1.4 | 1.4 |
| MIN | .78 | .78 | .78 | .78 | .78 | .78 | .84 | .81 | 1.4 | 1.3 | 1.3 | 1.2 |
| AC-FT | 50 | 48 | 49 | 49 | 44 | 50 | 51 | 52 | 85 | 85 | 84 | 80 |

WTR YR 1990 TOTAL 366.92 MEAN 1.01 MAX 1.5 MIN .78 AC-FT 728

e Estimated.

11238500 BIG CREEK NEAR MOUTH, NEAR BIG CREEK, CA

LOCATION.--Lat 37°12'28", long 119°19'13", in SE 1/4 NW 1/4 sec.26, T.8 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.6 mi upstream from mouth and 3.9 mi west of town of Big Creek.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Flow regulated by Huntington Lake (station 11236000) and diversions for power development in Big Creek powerplants. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records provided by the 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, 347 ft³/s, July 13, 1989, gage height, 3.32 ft; minimum daily, 1.3 ft³/s, Nov. 17, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113 ft³/s, Mar. 1, gage height, 2.41 ft; minimum daily, 1.5 ft³/s, Jan. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 2.6 | 2.7 | 1.6 | 1.7 | 2.0 | 4.1 | 2.6 | 2.3 | 2.7 | 2.5 | 2.4 | 2.4 |
| 2 | 2.6 | 2.7 | 1.6 | 1.7 | 1.9 | 2.1 | 2.6 | 2.4 | 2.9 | 2.4 | 2.4 | 2.4 |
| 3 | 2.7 | 2.7 | 1.8 | 1.6 | 1.8 | 1.9 | 2.5 | 2.4 | 2.9 | 2.4 | 2.4 | 2.5 |
| 4 | 2.7 | 2.7 | 1.7 | 1.7 | 2.4 | 2.1 | 2.6 | 2.4 | 2.9 | 2.6 | 2.4 | 2.5 |
| 5 | 2.7 | 2.7 | 1.6 | 1.7 | 1.9 | 2.4 | 2.6 | 2.4 | 3.0 | 2.2 | 2.5 | 2.5 |
| 6 | 2.7 | 2.6 | 1.6 | 1.8 | 2.1 | 3.8 | 2.6 | 2.5 | 2.8 | 2.7 | 2.5 | 2.3 |
| 7 | 2.7 | 2.6 | 1.6 | 1.7 | 2.1 | 1.9 | 2.6 | 2.4 | 2.8 | 2.7 | 2.5 | 2.4 |
| 8 | 2.6 | 2.7 | 1.6 | 1.6 | 1.9 | 2.0 | 2.5 | 2.4 | 3.0 | 2.7 | 2.6 | 2.4 |
| 9 | 2.7 | 2.6 | 1.6 | 1.7 | 1.8 | 1.8 | 2.4 | 2.4 | 2.8 | 2.5 | 2.5 | 2.8 |
| 10 | 2.7 | 2.6 | 1.7 | 1.7 | 1.7 | 2.8 | 2.4 | 2.6 | 2.8 | 2.5 | 2.5 | 2.7 |
| 11 | 2.7 | 2.6 | 1.8 | 1.5 | 1.8 | 3.2 | 2.4 | 2.6 | 2.8 | 2.5 | 2.5 | 2.9 |
| 12 | 2.7 | 2.6 | 1.8 | 1.8 | 1.8 | 2.7 | 2.3 | 2.6 | 2.6 | 2.6 | 2.5 | 3.0 |
| 13 | 2.6 | 2.6 | 1.6 | 3.3 | 1.8 | 2.2 | 2.4 | 2.7 | 2.7 | 2.6 | 2.6 | 2.9 |
| 14 | 2.7 | 2.6 | 1.7 | 2.0 | 1.7 | 2.3 | 2.5 | 2.7 | 2.5 | 2.6 | 2.6 | 2.7 |
| 15 | 2.7 | 2.6 | 1.7 | 1.7 | 1.7 | 2.1 | 2.4 | 2.7 | 2.5 | 2.5 | 2.5 | 2.9 |
| 16 | 2.6 | 2.3 | 1.8 | 2.0 | 1.9 | 2.1 | 2.2 | 2.9 | 2.7 | 2.4 | 2.5 | 3.0 |
| 17 | 2.7 | 1.6 | 1.6 | 1.8 | 2.1 | 2.7 | 2.3 | 2.9 | 2.6 | 2.4 | 2.5 | 2.7 |
| 18 | 2.7 | 1.6 | 1.6 | 1.8 | 2.1 | 2.0 | 2.3 | 3.1 | 2.7 | 2.3 | 2.5 | 2.7 |
| 19 | 2.7 | 1.6 | 1.6 | 1.8 | 1.9 | 2.0 | 2.3 | 3.1 | 2.7 | 2.4 | 2.5 | 2.8 |
| 20 | 2.7 | 1.6 | 1.6 | 1.7 | 1.9 | 1.9 | 2.2 | 3.1 | 2.7 | 2.4 | 2.5 | 2.8 |
| 21 | 2.7 | 1.6 | 1.7 | 1.7 | 2.0 | 1.9 | 2.2 | 2.8 | 2.7 | 2.4 | 2.5 | 2.9 |
| 22 | 2.8 | 1.6 | 1.8 | 1.8 | 2.0 | 1.8 | 2.2 | 2.7 | 2.6 | 2.3 | 2.6 | 2.7 |
| 23 | 2.8 | 1.7 | 1.8 | 1.7 | 2.0 | 2.0 | 2.7 | 3.0 | 2.7 | 2.3 | 2.5 | 2.8 |
| 24 | 3.0 | 1.6 | 1.8 | 1.7 | 2.1 | 2.1 | 2.3 | 2.8 | 2.6 | 2.3 | 2.6 | 2.6 |
| 25 | 3.4 | 2.0 | 1.7 | 1.7 | 2.1 | 2.0 | 2.2 | 2.8 | 2.5 | 2.3 | 2.6 | 2.8 |
| 26 | 2.7 | 2.5 | 1.7 | 1.7 | 2.1 | 2.1 | 2.2 | 3.0 | 2.6 | 2.3 | 2.6 | 2.6 |
| 27 | 2.7 | 1.6 | 1.8 | 1.9 | 2.0 | 2.0 | 2.5 | 3.1 | 2.6 | 2.3 | 2.6 | 2.6 |
| 28 | 2.7 | 1.6 | 1.6 | 1.8 | 2.0 | 2.0 | 2.3 | 3.1 | 2.5 | 2.4 | 2.6 | 2.7 |
| 29 | 2.6 | 1.6 | 1.6 | 1.8 | --- | 4.0 | 2.5 | 2.7 | 2.5 | 2.4 | 2.7 | 2.9 |
| 30 | 2.6 | 1.6 | 1.6 | 1.9 | --- | 2.2 | 2.3 | 2.7 | 2.5 | 2.4 | 2.6 | 3.0 |
| 31 | 2.7 | --- | 1.7 | 1.8 | --- | 2.1 | --- | 2.8 | --- | 2.5 | 2.5 | --- |
| TOTAL | 84.2 | 65.7 | 52.0 | 55.8 | 54.6 | 72.3 | 72.1 | 84.1 | 80.9 | 75.8 | 78.3 | 80.9 |
| MEAN | 2.72 | 2.19 | 1.68 | 1.80 | 1.95 | 2.33 | 2.40 | 2.71 | 2.70 | 2.45 | 2.53 | 2.70 |
| MAX | 3.4 | 2.7 | 1.8 | 3.3 | 2.4 | 4.1 | 2.7 | 3.1 | 3.0 | 2.7 | 2.7 | 3.0 |
| MIN | 2.6 | 1.6 | 1.6 | 1.5 | 1.7 | 1.8 | 2.2 | 2.3 | 2.5 | 2.2 | 2.4 | 2.3 |
| AC-FT | 167 | 130 | 103 | 111 | 108 | 143 | 143 | 167 | 160 | 150 | 155 | 160 |

CAL YR 1989 TOTAL 841.9 MEAN 2.31 MAX 11 MIN 1.4 AC-FT 1670
WTR YR 1990 TOTAL 856.7 MEAN 2.35 MAX 4.1 MIN 1.5 AC-FT 1700

11239300 NORTH FORK STEVENSON CREEK AT PERIMETER ROAD, NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'14", long 119°15'13", in SE 1/4 NW 1/4 sec.21, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 150 ft upstream from Perimeter Road and 4.8 mi south of town of Big Creek.

DRAINAGE AREA.--4.42 mi².

PERIOD OF RECORD.--January 1989 to current year.

GAGE.--Water-stage recorder, Montana flume and concrete control. Elevation of gage is 5,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No diversion upstream from station. Releases for fishery maintenance from Balsam Meadows Forebay enter creek in NE 1/4 NW 1/4 sec.15, T.9 S., R.25 E. See schematic diagram of lower 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, 17 ft³/s, Apr. 23, 1990, gage height, 2.47 ft; minimum daily, 3.7 ft³/s, July 22, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft³/s, Apr. 23, gage height, 2.47 ft; minimum daily, 3.8 ft³/s, Aug. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 4.1 | 4.3 | 4.2 | 4.7 | e5.0 | 6.6 | 12 | 7.7 | 5.7 | 4.8 | 4.0 | 4.1 |
| 2 | 3.9 | 4.1 | 4.2 | 4.9 | e5.0 | 6.3 | 12 | 7.2 | 5.3 | 4.3 | 4.0 | 4.1 |
| 3 | 3.9 | 4.1 | 4.2 | e4.8 | 5.1 | 7.2 | 13 | 6.8 | 5.0 | 4.4 | 4.0 | 4.1 |
| 4 | 3.9 | 4.0 | 4.3 | e4.8 | e5.1 | 6.8 | 13 | 6.6 | 4.7 | 4.4 | 4.0 | 4.2 |
| 5 | 3.9 | 4.1 | 4.3 | e4.8 | e5.1 | 6.2 | 12 | 6.4 | 4.4 | 4.4 | 4.0 | 4.6 |
| 6 | 4.0 | 4.1 | 4.5 | e4.8 | 5.2 | 6.0 | 12 | 6.1 | 4.3 | 4.5 | 4.0 | 4.0 |
| 7 | 4.0 | 4.0 | 4.4 | 4.7 | 5.1 | 6.0 | 13 | 5.6 | 4.3 | 4.5 | 4.0 | 4.1 |
| 8 | 4.0 | 4.0 | 4.3 | 4.8 | e5.2 | 6.2 | 12 | 5.0 | 5.2 | 4.5 | 3.9 | 4.4 |
| 9 | 3.9 | 4.0 | 4.2 | 4.7 | e5.1 | 6.5 | 11 | 4.6 | 6.0 | 4.5 | 3.9 | 4.5 |
| 10 | 3.9 | 4.1 | 4.1 | 4.7 | e5.2 | 6.7 | 9.8 | 4.8 | 5.9 | 4.5 | e3.9 | 4.4 |
| 11 | 4.0 | 4.1 | 4.1 | 4.7 | 5.5 | e6.6 | 11 | 5.6 | 6.1 | 4.5 | e3.9 | 4.0 |
| 12 | 4.0 | 4.1 | 4.2 | 5.5 | 5.6 | e6.7 | 11 | 5.4 | 5.5 | 4.3 | e3.9 | 4.2 |
| 13 | 4.0 | 4.1 | 4.2 | e5.5 | 5.5 | e6.6 | 12 | 4.9 | 5.3 | 4.4 | e3.8 | 4.2 |
| 14 | 4.0 | 4.1 | 4.1 | e5.6 | e5.4 | e6.2 | 12 | 4.7 | 5.4 | 4.6 | e3.8 | 4.1 |
| 15 | 4.0 | 4.1 | 4.1 | 5.6 | e5.2 | 6.2 | 13 | 4.6 | 5.7 | 4.5 | e3.8 | 4.1 |
| 16 | 4.0 | 4.2 | 4.2 | e5.6 | e5.3 | 6.4 | 12 | 4.7 | 6.1 | 4.5 | e4.1 | 4.3 |
| 17 | 3.9 | 4.1 | 4.3 | e5.2 | e5.4 | 7.1 | 10 | 5.6 | 5.8 | 4.5 | 4.4 | 4.1 |
| 18 | 4.3 | 4.1 | 4.4 | e5.2 | e5.4 | 8.1 | 10 | 5.5 | 6.1 | 4.6 | 4.4 | 4.0 |
| 19 | 4.0 | 4.0 | 4.8 | e5.1 | 8.5 | 8.2 | 10 | 5.1 | 6.1 | 4.6 | 4.7 | 4.2 |
| 20 | 4.0 | 4.0 | 4.8 | e5.1 | 7.2 | 9.5 | 11 | 4.9 | 6.0 | 4.5 | 4.6 | 3.9 |
| 21 | 4.6 | 4.7 | 4.8 | e5.2 | 6.3 | 10 | 10 | 5.0 | 5.8 | 4.4 | 4.6 | 4.1 |
| 22 | 5.0 | 4.4 | 4.9 | 5.0 | 5.5 | 10 | 9.8 | 4.7 | 5.6 | 4.5 | 4.4 | 4.3 |
| 23 | 4.3 | 4.0 | 4.9 | 5.0 | 5.3 | 10 | 14 | 5.7 | 4.7 | 4.4 | 4.4 | 4.6 |
| 24 | 5.9 | 4.1 | 4.8 | 5.0 | 5.2 | 11 | 12 | 6.1 | 5.1 | 4.3 | 4.4 | 4.5 |
| 25 | 5.8 | 4.6 | 4.8 | 4.9 | 5.3 | 11 | 12 | 5.3 | 5.3 | 4.4 | 4.4 | 4.4 |
| 26 | 4.7 | 5.4 | 4.8 | 4.9 | 5.8 | 11 | 11 | 4.8 | 5.3 | 4.4 | 4.2 | 4.4 |
| 27 | 4.6 | 4.6 | 4.8 | e4.9 | 6.4 | 11 | 11 | 6.1 | 5.3 | 4.3 | 4.0 | 4.3 |
| 28 | 4.5 | 4.4 | 4.7 | e4.9 | 6.5 | 10 | 11 | 10 | 5.1 | 4.1 | 4.4 | 4.3 |
| 29 | 4.3 | 4.3 | 4.8 | 5.0 | --- | 9.6 | 9.7 | 7.8 | 4.9 | 4.0 | 4.3 | 4.0 |
| 30 | 4.3 | 4.2 | 4.8 | e5.0 | --- | 9.9 | 8.5 | 6.6 | 5.0 | 4.1 | 4.1 | 4.1 |
| 31 | 4.4 | --- | 4.7 | e5.2 | --- | 11 | --- | 6.0 | --- | 4.2 | 4.1 | --- |
| TOTAL | 132.1 | 126.4 | 138.7 | 155.8 | 156.4 | 250.6 | 340.8 | 179.9 | 161.0 | 136.9 | 128.4 | 126.6 |
| MEAN | 4.26 | 4.21 | 4.47 | 5.03 | 5.59 | 8.08 | 11.4 | 5.80 | 5.37 | 4.42 | 4.14 | 4.22 |
| MAX | 5.9 | 5.4 | 4.9 | 5.6 | 8.5 | 11 | 14 | 10 | 6.1 | 4.8 | 4.7 | 4.6 |
| MIN | 3.9 | 4.0 | 4.1 | 4.7 | 5.0 | 6.0 | 8.5 | 4.6 | 4.3 | 4.0 | 3.8 | 3.9 |
| AC-FT | 262 | 251 | 275 | 309 | 310 | 497 | 676 | 357 | 319 | 272 | 255 | 251 |

WTR YR 1990 TOTAL 2033.6 MEAN 5.57 MAX 14 MIN 3.8 AC-FT 4030

e Estimated.

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 mi².

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) 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 rockfill dam a short distance upstream at different datum.

REMARKS.--Storage began prior to 1905. Original lake formed by rockfill 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 and released for power development in Big Creek powerplants. See schematic diagram of lower 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, 56,507 acre-ft, Oct. 1, elevation, 5,327.00 ft; minimum, 24,242 acre-ft, Sept. 4, elevation, 5,300.25 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Oct. 1, 1967)

| | | | | | | | |
|-------|-----|-------|-------|-------|--------|-------|---------|
| 5,225 | 0 | 5,250 | 700 | 5,280 | 9,189 | 5,330 | 60,942 |
| 5,230 | 42 | 5,255 | 1,254 | 5,290 | 15,598 | 5,340 | 76,741 |
| 5,235 | 97 | 5,260 | 2,070 | 5,300 | 24,004 | 5,350 | 94,568 |
| 5,240 | 191 | 5,265 | 3,206 | 5,310 | 34,455 | 5,360 | 114,220 |
| 5,245 | 379 | 5,270 | 4,748 | 5,320 | 46,797 | 5,371 | 137,476 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 56507 | 48984 | 43304 | 40714 | 39827 | 38272 | 35031 | 36065 | 35794 | 36215 | 30929 | 24957 |
| 2 | 56072 | 48645 | 43035 | 40651 | 39754 | 37851 | 35146 | 35203 | 35852 | 36180 | 30854 | 24728 |
| 3 | 55710 | 48293 | 42756 | 40552 | 39680 | 37374 | 35410 | 35479 | 35852 | 36087 | 30735 | 24509 |
| 4 | 55362 | 47969 | 42528 | 40465 | 39680 | 37004 | 35318 | 35805 | 35629 | 36040 | 30574 | 24242 |
| 5 | 54987 | 47646 | 42301 | 40379 | 39582 | 36544 | 35353 | 36004 | 35272 | 35422 | 30402 | 24366 |
| 6 | 54631 | 47322 | 42137 | 40342 | 39484 | 36215 | 35491 | 36145 | 35042 | 35502 | 30466 | 24452 |
| 7 | 54274 | 47080 | 41923 | 40256 | 39815 | 35969 | 35782 | 36251 | 34731 | 35491 | 30413 | 24471 |
| 8 | 53961 | 46851 | 41683 | 40207 | 39803 | 36016 | 35399 | 36063 | 34455 | 35560 | 30305 | 24871 |
| 9 | 53563 | 46587 | 41708 | 40158 | 39644 | 35829 | 35376 | 36110 | 33776 | 35410 | 30036 | 25435 |
| 10 | 56213 | 46403 | 41558 | 40158 | 39399 | 35700 | 35479 | 36087 | 33595 | 35307 | 29794 | 25621 |
| 11 | 52863 | 46206 | 41347 | 40121 | 39350 | 35922 | 35665 | 36239 | 33190 | 35157 | 29509 | 25738 |
| 12 | 52499 | 45917 | 41235 | 40305 | 39154 | 35606 | 35840 | 36321 | 32443 | 35169 | 29383 | 25826 |
| 13 | 52151 | 45733 | 41210 | 40453 | 39130 | 35295 | 35261 | 36297 | 32099 | 35077 | 28786 | 25953 |
| 14 | 51890 | 45484 | 41024 | 40354 | 39069 | 35019 | 35491 | 36333 | 31935 | 34881 | 28238 | 26083 |
| 15 | 51629 | 45238 | 40912 | 40244 | 39009 | 34881 | 35238 | 36497 | 32376 | 34651 | 27745 | 26283 |
| 16 | 51341 | 45017 | 41136 | 40305 | 39118 | 34927 | 35262 | 36861 | 32711 | 34365 | 27765 | 26383 |
| 17 | 51547 | 44758 | 40999 | 40256 | 39570 | 34892 | 35284 | 36969 | 33257 | 34059 | 27765 | 26562 |
| 18 | 51423 | 44550 | 41248 | 40207 | 39717 | 34823 | 35272 | 37064 | 33788 | 33856 | 27806 | 26632 |
| 19 | 51258 | 44343 | 41421 | 40158 | 39815 | 35203 | 35295 | 36602 | 34444 | 33731 | 27765 | 26512 |
| 20 | 50942 | 44628 | 41721 | 40060 | 39987 | 35146 | 35100 | 36145 | 35157 | 33550 | 27816 | 26602 |
| 21 | 50765 | 44771 | 41645 | 39999 | 39705 | 35134 | 34766 | 36239 | 35864 | 33369 | 27582 | 26872 |
| 22 | 50533 | 44485 | 41546 | 39938 | 39337 | 35100 | 34731 | 36215 | 35805 | 33213 | 27440 | 27135 |
| 23 | 50465 | 44343 | 41459 | 39864 | 39130 | 35100 | 34570 | 36063 | 35817 | 33001 | 27289 | 27237 |
| 24 | 50370 | 44343 | 41359 | 39803 | 39009 | 35203 | 34297 | 35782 | 35782 | 32833 | 27349 | 27481 |
| 25 | 50180 | 44576 | 41272 | 39742 | 38671 | 35088 | 34274 | 35031 | 35981 | 32666 | 26782 | 27816 |
| 26 | 50343 | 44874 | 41185 | 39693 | 38779 | 35100 | 34263 | 35077 | 36239 | 32465 | 26462 | 28155 |
| 27 | 50084 | 44511 | 41099 | 39668 | 38791 | 34984 | 34559 | 35433 | 36450 | 32332 | 26203 | 28103 |
| 28 | 49785 | 44239 | 41123 | 39668 | 38695 | 34938 | 34720 | 35969 | 36626 | 32154 | 26003 | 28455 |
| 29 | 49771 | 43969 | 40925 | 39668 | --- | 34984 | 34846 | 35876 | 36497 | 31913 | 25767 | 28765 |
| 30 | 49499 | 43624 | 40838 | 39889 | --- | 34996 | 35123 | 35911 | 36450 | 31704 | 25513 | 28000 |
| 31 | 49133 | --- | 40776 | 39827 | --- | 34973 | --- | 35887 | --- | 31069 | 25260 | --- |
| MAX | 56507 | 48984 | 43304 | 40714 | 39987 | 38272 | 35840 | 37064 | 36626 | 36215 | 30929 | 28765 |
| MIN | 49133 | 43624 | 40776 | 39668 | 38671 | 34823 | 34263 | 35031 | 31935 | 31069 | 25260 | 24242 |
| a | 5321.73 | 5317.56 | 5315.30 | 5314.53 | 5313.60 | 5310.45 | 5310.58 | 5311.24 | 5311.72 | 5306.96 | 5301.31 | 5304.05 |
| b | -7711 | -5509 | -2848 | -949 | -1132 | -3722 | +150 | +764 | +563 | -5381 | -5809 | +2740 |

CAL YR 1989 b +22683

WTR YR 1990 b -28844

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

211

11241500 STEVENSON CREEK AT SHAVER LAKE, CA

LOCATION.--Lat 37°08'41", long 119°18'27", in NE 1/4 SW 1/4 sec.13, T.9 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,600 ft downstream from Shaver Lake dam, 2.6 mi north of town of Shaver Lake, and 5.1 mi southwest of town of Big Creek.

DRAINAGE AREA.--29.4 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 5,200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow regulated by Shaver Lake (station 11239500). Flow diverted into basin through Eastwood powerplant (station 11238250). Flow diverted out of basin for power development in Big Creek powerplants. See schematic diagram of lower 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, 590 ft³/s, Nov. 10, 1987, gage height, 5.51 ft; minimum daily, 2.2 ft³/s, Dec. 3, 1987, and many days in December 1989 and January 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.4 ft³/s, Oct. 24, gage height, 3.79 ft; minimum daily, 2.2 ft³/s, many days in December and January.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1 | 3.5 | 3.6 | 2.3 | 2.2 | 2.4 | 2.4 | 3.3 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 2 | 3.5 | 3.6 | e2.3 | 2.2 | 2.4 | 2.5 | 3.3 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 3 | 3.5 | 3.6 | e2.3 | 2.2 | 2.4 | 2.6 | 3.5 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 4 | 3.5 | 3.6 | e2.3 | 2.3 | 2.4 | 2.6 | 3.5 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 5 | 3.4 | 3.6 | e2.2 | 2.4 | 2.4 | 2.6 | 3.4 | 3.4 | 3.5 | 3.4 | 3.2 | 3.4 |
| 6 | 3.4 | 3.5 | e2.2 | 2.4 | 2.4 | 2.6 | 3.4 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 7 | 3.4 | 3.5 | e2.2 | 2.4 | 2.4 | 2.6 | 3.5 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 |
| 8 | 3.4 | 3.5 | e2.2 | 2.4 | 2.4 | 2.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.2 | 3.4 |
| 9 | 3.5 | 3.5 | 2.2 | 2.4 | 2.4 | 2.5 | 3.4 | 3.4 | 3.4 | 3.4 | 3.2 | 3.4 |
| 10 | 3.6 | 3.5 | e2.2 | 2.4 | 2.4 | 2.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.2 | 3.4 |
| 11 | 3.6 | 3.5 | 2.2 | 2.4 | 2.4 | 2.5 | 3.5 | 3.5 | 3.4 | 3.4 | 3.2 | 3.4 |
| 12 | 3.6 | 3.6 | 2.2 | 2.6 | 2.4 | 2.5 | 3.5 | 3.5 | 3.4 | 3.4 | 3.2 | 3.4 |
| 13 | 3.6 | 3.6 | 2.2 | 3.2 | 2.4 | 2.5 | 3.5 | 3.5 | 3.4 | 3.4 | 3.2 | 3.4 |
| 14 | 3.6 | 3.5 | 2.2 | 2.8 | 2.4 | 2.5 | 3.5 | 3.5 | 3.4 | 3.3 | 3.2 | 3.4 |
| 15 | 3.6 | 3.5 | 2.2 | 2.6 | 2.4 | 2.5 | 3.4 | 3.5 | 3.4 | 3.4 | 3.2 | 3.4 |
| 16 | 3.6 | 3.5 | 2.3 | 2.6 | 2.4 | 2.5 | 3.5 | 3.5 | 3.4 | 3.4 | 3.2 | 3.4 |
| 17 | 3.6 | 3.5 | 2.3 | 2.6 | 2.4 | 2.6 | 3.4 | 3.4 | 3.4 | 3.3 | 3.3 | 3.4 |
| 18 | 3.6 | 2.4 | 2.2 | 2.5 | 2.4 | 2.6 | 3.4 | 3.4 | 3.4 | 3.3 | 3.4 | 3.5 |
| 19 | 3.6 | 2.3 | 2.2 | 2.5 | 2.3 | 2.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.5 | 3.5 |
| 20 | 3.6 | 2.3 | 2.2 | 2.5 | 2.3 | 2.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.5 | 3.5 |
| 21 | 3.6 | e2.3 | 2.2 | 2.5 | 2.3 | 2.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.5 | 3.5 |
| 22 | 3.6 | e2.3 | 2.2 | 2.5 | 2.4 | 2.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.4 | 3.5 |
| 23 | 3.6 | e2.3 | 2.2 | 2.5 | 2.4 | 2.6 | 3.7 | 3.6 | 3.4 | 3.3 | 3.4 | 3.5 |
| 24 | 3.7 | e2.3 | 2.2 | 2.4 | 2.4 | 2.6 | 3.6 | 3.5 | 3.4 | 3.3 | 3.4 | 3.5 |
| 25 | 3.7 | e2.3 | 2.2 | 2.4 | 2.4 | 2.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.5 | 3.5 |
| 26 | 3.6 | e2.3 | 2.2 | 2.4 | 2.5 | 2.6 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 | 3.5 |
| 27 | 3.6 | e2.3 | 2.2 | 2.4 | 2.4 | 2.6 | 3.5 | 3.5 | 3.4 | 3.2 | 3.4 | 3.5 |
| 28 | 3.6 | e2.3 | 2.2 | 2.4 | 2.4 | 2.6 | 3.5 | 3.9 | 3.4 | 3.2 | 3.4 | 3.5 |
| 29 | 3.6 | e2.3 | 2.2 | 2.4 | --- | 2.7 | 3.5 | 3.6 | 3.4 | 3.2 | 3.4 | 3.5 |
| 30 | 3.6 | e2.3 | 2.2 | 2.4 | --- | 2.7 | 3.5 | 3.6 | 3.4 | 3.2 | 3.4 | 3.5 |
| 31 | 3.6 | --- | 2.2 | 2.4 | --- | 2.9 | --- | 3.6 | --- | 3.2 | 3.4 | --- |
| TOTAL | 110.5 | 90.2 | 68.8 | 76.3 | 67.0 | 79.9 | 104.3 | 108.7 | 102.7 | 103.2 | 102.5 | 103.3 |
| MEAN | 3.56 | 3.01 | 2.22 | 2.46 | 2.39 | 2.58 | 3.48 | 3.51 | 3.42 | 3.33 | 3.31 | 3.44 |
| MAX | 3.7 | 3.6 | 2.3 | 3.2 | 2.5 | 2.9 | 3.7 | 3.9 | 3.5 | 3.4 | 3.5 | 3.5 |
| MIN | 3.4 | 2.3 | 2.2 | 2.2 | 2.3 | 2.4 | 3.3 | 3.4 | 3.4 | 3.2 | 3.2 | 3.4 |
| AC-FT | 219 | 179 | 136 | 151 | 133 | 158 | 207 | 216 | 204 | 205 | 203 | 205 |

CAL YR 1989 TOTAL 1169.9 MEAN 3.21 MAX 3.9 MIN 2.2 AC-FT 2320
WTR YR 1990 TOTAL 1117.4 MEAN 3.06 MAX 3.9 MIN 2.2 AC-FT 2220

e Estimated.

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 mi².

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 not available for release. Water is used for power development in Big Creek powerplant No. 4. See schematic diagram of lower 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, 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, 25,773 acre-ft, July 6, elevation, 1,402.25 ft; minimum, 19,592 acre-ft, Dec. 15, elevation, 1,387.97 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Southern California Edison Co., dated Oct. 27, 1950)

| | | | | | | | |
|-------|-------|-------|-------|-------|--------|-------|--------|
| 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 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 24309 | 20498 | 23106 | 21227 | 20962 | 20975 | 25374 | 24623 | 25209 | 24609 | 24685 | 24300 |
| 2 | 24493 | 20427 | 23464 | 21105 | 20886 | 21088 | 25282 | 24843 | 25123 | 24861 | 24780 | 24136 |
| 3 | 24506 | 20377 | 23583 | 21055 | 21025 | 21202 | 25447 | 24717 | 25146 | 25269 | 24708 | 24016 |
| 4 | 24609 | 20291 | 23878 | 21008 | 21033 | 21320 | 24915 | 24811 | 25037 | 25547 | 25155 | 23821 |
| 5 | 24484 | 20187 | 23711 | 21181 | 21181 | 21642 | 24947 | 24753 | 24884 | 25722 | 25328 | 23963 |
| 6 | 24506 | 20154 | 23728 | 21198 | 21261 | 22451 | 24965 | 24762 | 25205 | 25773 | 24902 | 24304 |
| 7 | 24618 | 20084 | 23627 | 21193 | 21257 | 22923 | 24789 | 24582 | 24829 | 25433 | 24816 | 24627 |
| 8 | 24618 | 20382 | 23561 | 21139 | 21532 | 23469 | 23900 | 25073 | 24434 | 25024 | 24798 | 24911 |
| 9 | 24605 | 20544 | 23535 | 21156 | 22005 | 24042 | 23241 | 25515 | 24251 | 25110 | 24902 | 24969 |
| 10 | 24020 | 20686 | 23522 | 21139 | 22357 | 24149 | 23905 | 25291 | 24118 | 25415 | 25237 | 25155 |
| 11 | 23390 | 20736 | 22589 | 21248 | 22585 | 24399 | 21903 | 25164 | 23914 | 25561 | 25159 | 25042 |
| 12 | 22771 | 20882 | 21575 | 21231 | 23053 | 24623 | 22832 | 25105 | 23689 | 25346 | 24888 | 24879 |
| 13 | 22181 | 21042 | 20398 | 20802 | 23733 | 24654 | 23267 | 25051 | 24114 | 25119 | 24820 | 24920 |
| 14 | 22107 | 21050 | 19657 | 21122 | 24145 | 24780 | 23684 | 25246 | 24273 | 25114 | 23693 | 24811 |
| 15 | 22031 | 20811 | 19592 | 21198 | 24690 | 24546 | 24149 | 25269 | 24273 | 24816 | 23931 | 24591 |
| 16 | 22052 | 20966 | 19985 | 21164 | 24875 | 24367 | 24470 | 25273 | 24349 | 24726 | 24416 | 24542 |
| 17 | 21766 | 21139 | 20569 | 20945 | 24475 | 24488 | 24956 | 25186 | 24434 | 24672 | 24884 | 24381 |
| 18 | 21282 | 21337 | 21071 | 20924 | 24582 | 24336 | 25264 | 25092 | 24564 | 24870 | 24811 | 24349 |
| 19 | 21126 | 21575 | 21126 | 20903 | 24551 | 23442 | 25351 | 25110 | 24775 | 24915 | 24875 | 24340 |
| 20 | 21122 | 22107 | 21080 | 20836 | 23980 | 22689 | 25575 | 25001 | 24884 | 25042 | 24920 | 24457 |
| 21 | 21130 | 22241 | 20983 | 21388 | 23215 | 21689 | 25433 | 24933 | 25150 | 25110 | 25001 | 24363 |
| 22 | 21109 | 22503 | 20970 | 20857 | 22750 | 20911 | 24632 | 24798 | 25128 | 25255 | 25105 | 24220 |
| 23 | 21122 | 22473 | 20928 | 20852 | 21962 | 20212 | 24938 | 25250 | 25209 | 25460 | 24933 | 23838 |
| 24 | 20777 | 22473 | 20937 | 20911 | 21971 | 20382 | 24879 | 25479 | 25105 | 25310 | 24820 | 23706 |
| 25 | 20769 | 22353 | 20916 | 20941 | 20949 | 20531 | 24712 | 25745 | 24988 | 25360 | 24735 | 24162 |
| 26 | 20719 | 22198 | 20907 | 20983 | 20903 | 21033 | 24847 | 25593 | 24861 | 25237 | 24614 | 24211 |
| 27 | 20794 | 22211 | 20958 | 21055 | 20361 | 22103 | 24933 | 25424 | 24564 | 25250 | 24502 | 24211 |
| 28 | 20744 | 22236 | 21071 | 21033 | 19764 | 23337 | 25237 | 25579 | 24372 | 25101 | 24461 | 23847 |
| 29 | 20440 | 22559 | 21122 | 20899 | --- | 23967 | 25069 | 25685 | 24367 | 24997 | 24591 | 23786 |
| 30 | 20448 | 22879 | 21160 | 20869 | --- | 24560 | 24784 | 25273 | 24047 | 24969 | 24515 | 23198 |
| 31 | 20510 | --- | 21214 | 20949 | --- | 25001 | --- | 25006 | --- | 24676 | 24367 | --- |
| MAX | 24618 | 22879 | 23878 | 21388 | 24875 | 25001 | 25575 | 25745 | 25209 | 25773 | 25328 | 25155 |
| MIN | 20440 | 20084 | 19592 | 20802 | 19764 | 20212 | 21903 | 24582 | 23689 | 24609 | 23693 | 23198 |
| a | 1390.20 | 1395.77 | 1391.88 | 1391.25 | 1388.39 | 1400.56 | 1400.08 | 1400.57 | 1398.43 | 1399.84 | 1399.15 | 1396.50 |
| b | -2910 | +2369 | -1665 | -265 | -1185 | +5237 | -217 | +222 | -959 | +629 | -309 | -1169 |

CAL YR 1989 b -3431

WTR YR 1990 b -222

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 Redinger Lake (station 11241950). Conduit to powerplant No. 4 diverts 1,000 ft upstream from station. See schematic diagram of lower 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.--39 years, 456 ft³/s, 330,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,200 ft³/s, Dec. 23, 1955, gage height, 54.2 ft, from floodmarks, from rating curve extended above 7,000 ft³/s on basis of computed flow over dam; no flow Sept. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128 ft³/s, Aug. 13, gage height, 5.35 ft; minimum daily, 5.3 ft³/s, Apr. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|
| 1 | 28 | 23 | 24 | 23 | 17 | 11 | 10 | 11 | 20 | 22 | 23 | 24 |
| 2 | 28 | 23 | 24 | 23 | 15 | 9.7 | 12 | 12 | 20 | 21 | 23 | 24 |
| 3 | 28 | 24 | 24 | 23 | 16 | 9.9 | 8.8 | 12 | 20 | 21 | 23 | 24 |
| 4 | 29 | 23 | 24 | 23 | 17 | 9.9 | 6.0 | 14 | 20 | 21 | 23 | 24 |
| 5 | 29 | 23 | 24 | 23 | 17 | 9.9 | 5.8 | 14 | 20 | 21 | 23 | 24 |
| 6 | 29 | 23 | 24 | 23 | 16 | 9.9 | 5.7 | 16 | 20 | 21 | 22 | 24 |
| 7 | 28 | 23 | 24 | 24 | 31 | 9.9 | 5.9 | 16 | 20 | 21 | 23 | 24 |
| 8 | 29 | 23 | 24 | 23 | 17 | 10 | 5.8 | 16 | 19 | 21 | 23 | 24 |
| 9 | 29 | 23 | 24 | 23 | 19 | 10 | 5.6 | 17 | 19 | 21 | 23 | 24 |
| 10 | 28 | 23 | 24 | 23 | 17 | 10 | 5.5 | 17 | 20 | 21 | 23 | 24 |
| 11 | 29 | 23 | 24 | 23 | 17 | 10 | 5.4 | 17 | 20 | 22 | 25 | 24 |
| 12 | 28 | 23 | 24 | 23 | 17 | 10 | 5.3 | 17 | 20 | 22 | 26 | 24 |
| 13 | 28 | 23 | 24 | 24 | 17 | 10 | 5.4 | 17 | 20 | 22 | 35 | 24 |
| 14 | 28 | 23 | 23 | 24 | 17 | 10 | 5.6 | 17 | 21 | 22 | 59 | 24 |
| 15 | 29 | 23 | 23 | 23 | 18 | 10 | 5.7 | 17 | 21 | 22 | 59 | 24 |
| 16 | 27 | 23 | 23 | 24 | 20 | 10 | 5.8 | 17 | 21 | 22 | 60 | 24 |
| 17 | 25 | 23 | 23 | 23 | 18 | 10 | 5.9 | 17 | 21 | 23 | 44 | 24 |
| 18 | 23 | 23 | 23 | 23 | 16 | 10 | 7.8 | 17 | 21 | 23 | 24 | 24 |
| 19 | 23 | 23 | 23 | 23 | 9.6 | 10 | 9.6 | 17 | 21 | 23 | 24 | 24 |
| 20 | 23 | 23 | 23 | 24 | 9.9 | 10 | 10 | 17 | 21 | 23 | 24 | 24 |
| 21 | 23 | 23 | 23 | 23 | 10 | 10 | 9.9 | 19 | 22 | 22 | 24 | 24 |
| 22 | 23 | 23 | 24 | 23 | 12 | 10 | 9.8 | 19 | 22 | 23 | 25 | 24 |
| 23 | 23 | 24 | 24 | 22 | 13 | 9.9 | 9.8 | 21 | 22 | 23 | 25 | 24 |
| 24 | 24 | 24 | 24 | 21 | 14 | 9.9 | 9.7 | 20 | 21 | 23 | 25 | 24 |
| 25 | 23 | 24 | 24 | 18 | 16 | 9.9 | 9.7 | 21 | 21 | 23 | 25 | 24 |
| 26 | 23 | 23 | 23 | 19 | 14 | 9.9 | 9.7 | 21 | 21 | 23 | 24 | 24 |
| 27 | 23 | 23 | 23 | 20 | 12 | 9.9 | 9.9 | 21 | 21 | 23 | 24 | 24 |
| 28 | 23 | 23 | 23 | 20 | 11 | 9.9 | 9.9 | 21 | 21 | 23 | 24 | 24 |
| 29 | 23 | 27 | 23 | 20 | --- | 9.9 | 9.8 | 21 | 21 | 23 | 24 | 24 |
| 30 | 23 | 25 | 23 | 20 | --- | 10 | 14 | 21 | 22 | 23 | 24 | 24 |
| 31 | 23 | --- | 23 | 20 | --- | 9.9 | --- | 20 | --- | 23 | 24 | --- |
| TOTAL | 802 | 700 | 730 | 691 | 443.5 | 309.4 | 239.8 | 540 | 619 | 687 | 877 | 720 |
| MEAN | 25.9 | 23.3 | 23.5 | 22.3 | 15.8 | 9.98 | 7.99 | 17.4 | 20.6 | 22.2 | 28.3 | 24.0 |
| MAX | 29 | 27 | 24 | 24 | 31 | 11 | 14 | 21 | 22 | 23 | 60 | 24 |
| MIN | 23 | 23 | 23 | 18 | 9.6 | 9.7 | 5.3 | 11 | 19 | 21 | 22 | 24 |
| AC-FT | 1590 | 1390 | 1450 | 1370 | 880 | 614 | 476 | 1070 | 1230 | 1360 | 1740 | 1430 |

CAL YR 1989 TOTAL 7231.1 MEAN 19.8 MAX 38 MIN 6.5 AC-FT 14340
WTR YR 1990 TOTAL 7358.7 MEAN 20.2 MAX 60 MIN 5.3 AC-FT 14600

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 mi².

PERIOD OF RECORD.--August 1965 to current year.

REVISED RECORDS.--WDR CA-67-2: 1966(M). WDR CA-72-2: 1970, 1971. WDR CA-85-3: 1983, 1984(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. No storage upstream from station. Madera Irrigation District has water rights to divert up to 50 ft³/s from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) from October through July each year. See schematic diagram of lower San Joaquin River basin.

AVERAGE DISCHARGE.--25 years, 25.8 ft³/s, 18,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft³/s, Jan. 13, 1980, gage height, 7.41 ft, from rating curve extended above 1,100 ft³/s on basis of a step-backwater survey; minimum daily, 0.27 ft³/s, Oct. 4, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 23 | 1845 | *94 | *3.67 | | | | |
| Minimum daily, 0.96 ft ³ /s, Sept. 11. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|------|-------|
| 1 | 2.8 | 5.0 | 4.6 | 3.3 | e5.5 | 13 | 35 | 35 | 19 | 5.1 | 2.1 | 1.5 |
| 2 | 2.6 | 4.8 | 4.5 | 3.7 | e5.7 | 14 | 39 | 35 | 17 | 4.8 | 2.0 | 1.4 |
| 3 | 2.6 | 4.6 | 4.4 | 3.3 | 5.5 | 21 | 42 | 35 | 15 | 4.8 | 2.0 | 1.4 |
| 4 | 2.6 | 4.5 | 4.4 | 3.5 | 6.2 | 20 | 43 | 33 | 14 | 4.6 | 1.9 | 1.3 |
| 5 | 2.6 | 4.4 | 4.5 | 3.7 | 6.4 | 17 | 40 | 33 | 13 | 4.5 | 1.8 | 1.2 |
| 6 | 2.5 | 4.3 | 4.3 | 3.7 | 6.0 | 15 | 39 | 32 | 12 | 4.5 | 1.8 | 1.2 |
| 7 | 2.6 | 4.3 | 4.3 | 3.9 | 5.6 | 14 | 43 | 28 | 12 | 4.4 | 1.7 | 1.1 |
| 8 | 2.5 | 4.3 | 4.2 | 4.1 | 6.0 | 16 | 41 | 26 | 11 | 4.3 | 1.7 | 1.1 |
| 9 | 2.5 | 4.3 | 3.9 | 3.8 | 6.0 | 17 | 36 | 24 | 10 | 4.1 | 1.7 | 1.2 |
| 10 | 2.5 | 4.2 | 3.8 | 3.7 | 6.0 | 18 | 42 | 22 | 10 | 4.0 | 1.7 | 1.0 |
| 11 | 2.5 | 4.1 | 3.7 | 3.8 | 6.5 | e16 | 46 | 22 | 9.5 | 3.8 | 1.6 | .96 |
| 12 | 2.4 | 4.1 | 3.6 | 8.2 | 6.6 | e15 | 50 | 20 | 8.9 | 3.6 | 1.6 | .99 |
| 13 | 2.4 | 4.1 | 3.7 | 17 | 6.4 | e14 | 55 | 18 | 8.8 | 3.5 | 1.5 | .97 |
| 14 | 2.4 | 4.1 | 3.6 | 9.3 | 6.4 | e14 | 57 | 17 | 8.8 | 3.3 | 1.5 | .99 |
| 15 | 2.5 | 4.1 | 3.7 | 7.6 | e5.9 | e15 | 58 | 16 | 9.0 | 3.2 | 1.5 | 1.0 |
| 16 | 2.5 | 3.9 | e3.5 | 6.1 | e6.1 | 17 | 55 | 15 | 9.1 | 3.2 | 1.6 | 1.1 |
| 17 | 2.5 | 3.3 | e2.8 | 7.2 | e6.5 | 20 | 40 | 14 | 8.6 | 3.1 | 1.6 | 1.1 |
| 18 | 2.3 | 3.3 | e3.0 | 6.5 | e6.4 | 24 | 36 | 14 | 7.9 | 3.0 | 1.7 | 1.1 |
| 19 | 2.2 | 3.3 | e3.0 | 6.1 | e6.2 | 22 | 37 | 14 | 7.8 | 3.0 | 2.0 | 1.2 |
| 20 | 2.3 | 3.2 | e3.0 | 5.9 | e5.8 | 26 | 44 | 13 | 7.4 | 2.9 | 2.1 | 1.4 |
| 21 | 4.9 | 3.1 | e3.0 | 5.9 | e6.1 | 32 | 40 | 13 | 7.0 | 2.8 | 1.9 | 1.2 |
| 22 | 11 | 3.1 | 3.5 | 6.1 | e6.9 | 33 | 36 | 13 | 6.8 | 2.8 | 1.7 | 1.3 |
| 23 | 6.4 | 3.1 | 3.5 | 5.8 | e7.7 | 35 | 63 | 17 | 6.6 | 2.7 | 1.7 | 1.4 |
| 24 | 29 | 3.9 | 3.5 | 5.8 | e9.0 | 40 | 49 | 19 | 6.4 | 2.7 | 1.6 | 1.5 |
| 25 | 18 | 8.1 | 3.5 | 5.7 | 10 | 42 | 44 | 15 | 6.1 | 2.6 | 1.6 | 1.6 |
| 26 | 8.2 | 21 | 3.5 | 5.7 | 11 | 41 | 46 | 13 | 5.7 | 2.6 | 1.7 | 1.7 |
| 27 | 7.1 | 6.9 | 3.4 | 5.5 | 13 | 39 | 51 | 22 | 5.5 | 2.6 | 1.7 | 1.7 |
| 28 | 6.5 | 5.8 | 3.4 | 5.6 | 13 | 34 | 51 | 41 | 5.4 | 2.5 | 1.6 | 1.8 |
| 29 | 6.1 | 5.2 | 3.4 | 5.4 | --- | 29 | 45 | 26 | 5.3 | 2.4 | 1.5 | 1.6 |
| 30 | 5.6 | 4.9 | 3.4 | 5.2 | --- | 28 | 38 | 23 | 5.3 | 2.2 | 1.4 | 1.3 |
| 31 | 5.1 | --- | 3.4 | 6.0 | --- | 30 | --- | 23 | --- | 2.2 | 1.5 | --- |
| TOTAL | 157.7 | 147.3 | 114.0 | 177.1 | 198.4 | 731 | 1341 | 691 | 278.9 | 105.8 | 53.0 | 38.31 |
| MEAN | 5.09 | 4.91 | 3.68 | 5.71 | 7.09 | 23.6 | 44.7 | 22.3 | 9.30 | 3.41 | 1.71 | 1.28 |
| MAX | 29 | 21 | 4.6 | 17 | 13 | 42 | 63 | 41 | 19 | 5.1 | 2.1 | 1.8 |
| MIN | 2.2 | 3.1 | 2.8 | 3.3 | 5.5 | 13 | 35 | 13 | 5.3 | 2.2 | 1.4 | .96 |
| AC-FT | 313 | 292 | 226 | 351 | 394 | 1450 | 2660 | 1370 | 553 | 210 | 105 | 76 |

CAL YR 1989 TOTAL 4535.4 MEAN 12.4 MAX 75 MIN 1.1 AC-FT 9000
WTR YR 1990 TOTAL 4033.51 MEAN 11.1 MAX 63 MIN .96 AC-FT 8000

e Estimated.

SAN JOAQUIN RIVER BASIN

215

11243300 BROWNS CREEK CANAL AT BASS LAKE, CA

LOCATION.--Lat 37°17'19", long 119°31'09", in SE 1/4 SW 1/4 sec.25, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 900 ft upstream from Bass Lake, and 3.0 mi southeast of town of Bass Lake.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and concrete canal. Elevation of gage is 3,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Canal diverts from South Fork Willow Creek at diversion dam 1.5 mi upstream from gage, in NW 1/4 NE 1/4 sec.30, T.7 S., R.23 E. Flow enters Bass Lake for power development in San Joaquin River powerplants. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 86 ft³/s, Mar. 8, 1989; no flow at times in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|------|-------|-------|------|------|------|-------|-------|------|------|
| 1 | 2.0 | 5.2 | 6.0 | 2.2 | 10 | 38 | 58 | 33 | 23 | 1.7 | .00 | .00 |
| 2 | 1.8 | 4.6 | 4.8 | 2.7 | 9.7 | 33 | 62 | 31 | 20 | 1.4 | .00 | .00 |
| 3 | 1.7 | 4.3 | 3.6 | 2.7 | 11 | 50 | 65 | 29 | 17 | 1.9 | .00 | .00 |
| 4 | 1.7 | 4.0 | 3.1 | 2.4 | 9.5 | 49 | 66 | 27 | 16 | 3.0 | .00 | .00 |
| 5 | 1.7 | 3.3 | 3.5 | 2.7 | 12 | 38 | 63 | 25 | 14 | 3.3 | .00 | .00 |
| 6 | 1.6 | 2.7 | 3.5 | 2.6 | 13 | 31 | 57 | 24 | 14 | 3.5 | .00 | .00 |
| 7 | 1.4 | 2.6 | 3.1 | 2.8 | 10 | 29 | 62 | 22 | 13 | 3.7 | .00 | .00 |
| 8 | 1.4 | 2.6 | 2.8 | 2.6 | 9.7 | 32 | 66 | 21 | 12 | 2.2 | .00 | .00 |
| 9 | 1.5 | 2.4 | 2.6 | 2.6 | 9.2 | 33 | 55 | 20 | 11 | .83 | .00 | .00 |
| 10 | 1.3 | 2.2 | 2.6 | 2.6 | 12 | 35 | 55 | 19 | 11 | 1.2 | .00 | .00 |
| 11 | 1.2 | 1.9 | 3.0 | 2.5 | 16 | 34 | 57 | 19 | 10 | 2.2 | .00 | .00 |
| 12 | 1.1 | 1.6 | 2.9 | 4.0 | 17 | 30 | 58 | 18 | 9.9 | 2.1 | .00 | .00 |
| 13 | .98 | .85 | 3.1 | 34 | 18 | 26 | 60 | 17 | 9.3 | 1.2 | .00 | .00 |
| 14 | .98 | .96 | 2.8 | 20 | 14 | 25 | 61 | 16 | 9.1 | 1.1 | .00 | .00 |
| 15 | 1.0 | .91 | 2.7 | 14 | 16 | 24 | 61 | 15 | 8.6 | .89 | .00 | .00 |
| 16 | 2.2 | .98 | 2.6 | 11 | 9.5 | 28 | 61 | 14 | 8.6 | .88 | .00 | .00 |
| 17 | 1.3 | .98 | 2.5 | 10 | 7.2 | 36 | 52 | 13 | 8.2 | .79 | .00 | .00 |
| 18 | 1.1 | .98 | 2.5 | 10 | 9.4 | 46 | 46 | 13 | 7.9 | .81 | .00 | .00 |
| 19 | .90 | 1.0 | 2.5 | 9.4 | 15 | 50 | 42 | 13 | 7.1 | .88 | .00 | .00 |
| 20 | .78 | 1.5 | 2.4 | 8.9 | 11 | 54 | 45 | 13 | 6.6 | .88 | .00 | .00 |
| 21 | 1.3 | 1.6 | 2.6 | 8.9 | 11 | 62 | 43 | 12 | 6.1 | .84 | .00 | .00 |
| 22 | 8.9 | 2.7 | 2.4 | 9.6 | 12 | 70 | 40 | 12 | 5.7 | .88 | .00 | .00 |
| 23 | 5.0 | 2.8 | 2.5 | 9.3 | 16 | 70 | 68 | 21 | 5.5 | .80 | .00 | .00 |
| 24 | 51 | 2.8 | 2.8 | 11 | 19 | 75 | 69 | 24 | 5.1 | .46 | .00 | .00 |
| 25 | 47 | 4.3 | 2.6 | 11 | 21 | 76 | 53 | 17 | 4.6 | .00 | .00 | .00 |
| 26 | 17 | 43 | 2.3 | 12 | 26 | 74 | 48 | 14 | 4.3 | .00 | .00 | .00 |
| 27 | 14 | 13 | 2.4 | 11 | 35 | 70 | 45 | 21 | 3.9 | .00 | .00 | .00 |
| 28 | 10 | 9.0 | 2.3 | 10 | 40 | 63 | 44 | 75 | 3.7 | .00 | .00 | .00 |
| 29 | 8.1 | 7.8 | 2.5 | 10 | --- | 53 | 38 | 48 | 3.3 | .00 | .00 | .00 |
| 30 | 6.7 | 7.1 | 2.3 | 10 | --- | 50 | 36 | 34 | 2.0 | .00 | .00 | .00 |
| 31 | 5.8 | --- | 2.3 | 10 | --- | 53 | --- | 28 | --- | .00 | .00 | --- |
| TOTAL | 202.44 | 139.66 | 89.6 | 262.5 | 419.2 | 1437 | 1636 | 708 | 280.5 | 37.44 | 0.00 | 0.00 |
| MEAN | 6.53 | 4.66 | 2.89 | 8.47 | 15.0 | 46.4 | 54.5 | 22.8 | 9.35 | 1.21 | .000 | .000 |
| MAX | 51 | 43 | 6.0 | 34 | 40 | 76 | 69 | 75 | 23 | 3.7 | .00 | .00 |
| MIN | .78 | .85 | 2.3 | 2.2 | 7.2 | 24 | 36 | 12 | 2.0 | .00 | .00 | .00 |
| AC-FT | 402 | 277 | 178 | 521 | 831 | 2850 | 3250 | 1400 | 556 | 74 | .00 | .00 |

CAL YR 1989 TOTAL 5877.97 MEAN 16.1 MAX 86 MIN .00 AC-FT 11660
WTR YR 1990 TOTAL 5212.34 MEAN 14.3 MAX 76 MIN .00 AC-FT 10340

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 mi².

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 & 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 powerplant below dam for use in three small powerplants before being discharged into Kerckhoff Reservoir station 11246650) at Wishon powerplant. 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 ft³/s from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) from October through July each year. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 43,440 acre-ft, June 19, elevation, 3,374.72 ft; minimum, 22,661 acre-ft, Nov. 17, elevation, 3,353.80 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated March 1937)

| | | | | | | | |
|-------|-------|-------|-------|-------|--------|---------|--------|
| 3,280 | 290 | 3,310 | 3,404 | 3,340 | 13,227 | 3,370 | 38,218 |
| 3,290 | 890 | 3,320 | 5,584 | 3,350 | 19,663 | 3,376.4 | 45,410 |
| 3,300 | 1,896 | 3,330 | 8,717 | 3,360 | 28,121 | | |

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 26689 | 26860 | 23434 | 23316 | 25215 | 27397 | 33021 | 39504 | 42672 | 42983 | 36350 | 28623 |
| 2 | 26689 | 26581 | 23476 | 23341 | 25242 | 27572 | 33224 | 39635 | 42767 | 42983 | 36350 | 28335 |
| 3 | 26689 | 26311 | 23501 | 23350 | 25259 | 27786 | 33458 | 39777 | 42855 | 42994 | 35748 | 28168 |
| 4 | 26698 | 26023 | 23341 | 23367 | 25445 | 28019 | 33683 | 39886 | 42913 | 43006 | 35461 | 28149 |
| 5 | 26707 | 25756 | 23073 | 23383 | 25445 | 28177 | 33764 | 40017 | 42984 | 43018 | 35154 | 28140 |
| 6 | 26707 | 25462 | 22980 | 23392 | 25534 | 28372 | 34083 | 40136 | 43018 | 43041 | 34881 | 28140 |
| 7 | 26707 | 25180 | 22989 | 23417 | 25578 | 28502 | 33764 | 40224 | 43087 | 43041 | 34589 | 28130 |
| 8 | 26707 | 24891 | 23014 | 23425 | 25605 | 28633 | 34537 | 40333 | 43122 | 43052 | 34289 | 28130 |
| 9 | 26716 | 24648 | 23039 | 23442 | 25658 | 28772 | 34776 | 40420 | 43157 | 42960 | 34011 | 28102 |
| 10 | 26716 | 24364 | 23056 | 23467 | 25703 | 28967 | 35028 | 40496 | 43204 | 42536 | 33703 | 28093 |
| 11 | 26716 | 24088 | 23073 | 23484 | 25765 | 29173 | 35238 | 40572 | 43227 | 42296 | 33428 | 28093 |
| 12 | 26725 | 23799 | 23073 | 23586 | 25845 | 29286 | 35472 | 40660 | 43251 | 41982 | 33132 | 28084 |
| 13 | 26725 | 23501 | 23081 | 24020 | 25934 | 29361 | 35706 | 40758 | 43286 | 41707 | 32840 | 28065 |
| 14 | 26725 | 23207 | 23089 | 24286 | 25934 | 29474 | 35962 | 40845 | 43298 | 41368 | 32560 | 28056 |
| 15 | 26725 | 22980 | 23098 | 24321 | 25970 | 29588 | 36188 | 40899 | 43333 | 41161 | 32261 | 28047 |
| 16 | 26725 | 22770 | 23115 | 24432 | 25996 | 29730 | 36469 | 40954 | 43369 | 40878 | 31964 | 28028 |
| 17 | 26734 | 22661 | 23123 | 24450 | 26275 | 29863 | 36664 | 41008 | 43404 | 40572 | 31787 | 28009 |
| 18 | 26734 | 22678 | 23140 | 24458 | 26338 | 30034 | 36836 | 41052 | 43416 | 40267 | 31767 | 28000 |
| 19 | 26734 | 22695 | 23148 | 24527 | 26365 | 30216 | 37009 | 41085 | 43440 | 40060 | 31748 | 28000 |
| 20 | 26725 | 22695 | 23157 | 24561 | 26410 | 30389 | 37183 | 41161 | 43357 | 39788 | 31699 | 28000 |
| 21 | 26761 | 22703 | 23173 | 24630 | 26455 | 30609 | 37357 | 41205 | 43064 | 39472 | 31767 | 27972 |
| 22 | 26815 | 22711 | 23182 | 24674 | 26527 | 30860 | 37488 | 41226 | 42994 | 39068 | 31562 | 27972 |
| 23 | 26878 | 22711 | 23190 | 24717 | 26599 | 31083 | 37967 | 41368 | 42960 | 38763 | 31277 | 27972 |
| 24 | 27196 | 22745 | 23215 | 24769 | 26680 | 31336 | 38240 | 41466 | 42936 | 38501 | 30967 | 27963 |
| 25 | 27388 | 22745 | 23232 | 24822 | 26779 | 31581 | 38458 | 41543 | 42948 | 38305 | 30667 | 27954 |
| 26 | 27443 | 23257 | 23241 | 24874 | 26950 | 31836 | 38643 | 41597 | 42960 | 38033 | 30379 | 27954 |
| 27 | 27489 | 23316 | 23257 | 24918 | 27096 | 32083 | 38894 | 41762 | 42948 | 37760 | 30091 | 27954 |
| 28 | 27517 | 23375 | 23266 | 24961 | 27260 | 32290 | 39101 | 42182 | 42948 | 37477 | 29797 | 27954 |
| 29 | 27545 | 23392 | 23247 | 24996 | --- | 32490 | 39286 | 42319 | 42971 | 37204 | 29521 | 27944 |
| 30 | 27397 | 23417 | 23291 | 25092 | --- | 32660 | 39308 | 42467 | 42971 | 36955 | 29211 | 27935 |
| 31 | 27132 | --- | 23308 | 25118 | --- | 32820 | --- | 42581 | --- | 36642 | 28921 | --- |
| MAX | 27545 | 26860 | 23501 | 25118 | 27260 | 32820 | 39308 | 42581 | 43440 | 43052 | 36350 | 28623 |
| MIN | 26689 | 22661 | 22980 | 23316 | 25215 | 27397 | 33021 | 39504 | 42672 | 36642 | 28921 | 27935 |
| a | 3358.93 | 3354.70 | 3354.57 | 3356.68 | 3359.07 | 3364.89 | 3371.00 | 3373.98 | 3374.32 | 3368.55 | 3360.86 | 3359.80 |
| b | +452 | -3715 | -109 | +1810 | +2142 | +5560 | +6488 | +3273 | +390 | -6329 | -7721 | -986 |

CAL YR 1989 b -2226

WTR YR 1990 b +1255

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11243500 PACIFIC GAS & 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 powerplant 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.--Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passes through Crane Valley powerplant, then to powerplant No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverts to powerplants No. 2 and 1A before it enters San Joaquin River at Kerkhoff Reservoir through San Joaquin powerplant No. 1. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--50 years, 69.4 ft³/s, 50,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 167 ft³/s, June 23, 24, 1965; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|---------|--------|-------|-------|-------|------|-------|--------|--------|---------|--------|
| 1 | .00 | 146 | .54 | 3.2 | 1.3 | 1.5 | 1.1 | 1.2 | .03 | e1.0 | 136 | 139 |
| 2 | .00 | 146 | 1.0 | 2.9 | 1.6 | 1.5 | 1.1 | .58 | .03 | e1.0 | 136 | 139 |
| 3 | .00 | 146 | 1.0 | 2.7 | 6.8 | 1.5 | 1.1 | .03 | .03 | e1.0 | 136 | 71 |
| 4 | .00 | 146 | .85 | 2.7 | 14 | 1.5 | 1.1 | .05 | .03 | e1.0 | 136 | .01 |
| 5 | .00 | 146 | 148 | 2.7 | 14 | 1.4 | 1.1 | .04 | .38 | e1.0 | 136 | .00 |
| 6 | .00 | 146 | .59 | 2.7 | 14 | 1.4 | 1.1 | .04 | .97 | e1.0 | 137 | .00 |
| 7 | .00 | 146 | .01 | 2.7 | 14 | .92 | 1.1 | .57 | .97 | e1.0 | 137 | .00 |
| 8 | .00 | 146 | .01 | 2.7 | 14 | .00 | 1.1 | 1.2 | 9.0 | e1.0 | 136 | .00 |
| 9 | .00 | 146 | .01 | 2.7 | 14 | .00 | 1.1 | 1.2 | 1.0 | e75 | 136 | .00 |
| 10 | .00 | 149 | .87 | 2.7 | 9.0 | .00 | 1.1 | 1.2 | 1.0 | e156 | 136 | .00 |
| 11 | .00 | 149 | 6.6 | 2.7 | 1.8 | 4.9 | 1.1 | 1.1 | 1.0 | e154 | 135 | .00 |
| 12 | .00 | 149 | 13 | 2.7 | 2.0 | 8.9 | 1.1 | .81 | 1.0 | e154 | 135 | .00 |
| 13 | .00 | 149 | 13 | 2.7 | 2.2 | 4.9 | 1.1 | .81 | 1.0 | e154 | 135 | .00 |
| 14 | .00 | 149 | 13 | 2.7 | 2.2 | .00 | 1.1 | .44 | 1.0 | e154 | 135 | .00 |
| 15 | .00 | 123 | 7.7 | 2.7 | 2.2 | .00 | 1.1 | .01 | 1.8 | e154 | 135 | .00 |
| 16 | .00 | 105 | 1.4 | 6.0 | 8.7 | .40 | 1.1 | .47 | 2.4 | e154 | 135 | .00 |
| 17 | .00 | 62 | 1.4 | 9.3 | 13 | .91 | 1.2 | 1.0 | 2.2 | e154 | 78 | .00 |
| 18 | .00 | .03 | 1.4 | 4.6 | 13 | .93 | 1.2 | 1.0 | 1.1 | e154 | .02 | .00 |
| 19 | .00 | .60 | 2.0 | .00 | 13 | .96 | 1.2 | 1.1 | e1.0 | e125 | .02 | .00 |
| 20 | 3.2 | 3.7 | 2.7 | .00 | 13 | .97 | 1.2 | 1.1 | e111 | e145 | .02 | .00 |
| 21 | 6.4 | 1.3 | 2.7 | .00 | 13 | .97 | 1.2 | 1.1 | e155 | e145 | .70 | .00 |
| 22 | 6.4 | 1.3 | 2.7 | .00 | 7.0 | .97 | 1.2 | 1.1 | e1.0 | e150 | 77 | .00 |
| 23 | 6.4 | 1.3 | 2.7 | .00 | 1.5 | .97 | 1.2 | 1.2 | e1.0 | e143 | 136 | .00 |
| 24 | 6.4 | 1.3 | 2.7 | .00 | 1.5 | .97 | 1.2 | 1.4 | e1.0 | e150 | 139 | .00 |
| 25 | 6.4 | .62 | 2.7 | .38 | 1.5 | .97 | 1.2 | 1.4 | e1.0 | e132 | 139 | .00 |
| 26 | 6.4 | .02 | 2.7 | .86 | 1.4 | .97 | 1.2 | 1.4 | e1.0 | e134 | 139 | .00 |
| 27 | 3.1 | .02 | 2.7 | .86 | 1.5 | 1.0 | 1.2 | 1.4 | e1.0 | e136 | 139 | .01 |
| 28 | .00 | .02 | 2.7 | .86 | 1.5 | 1.1 | 1.2 | 1.4 | e1.0 | e140 | 140 | .03 |
| 29 | .00 | .01 | 2.9 | .86 | --- | 1.1 | 1.2 | .86 | e1.0 | e141 | 140 | .42 |
| 30 | 80 | .00 | 3.2 | 5.1 | --- | 1.1 | 1.2 | .03 | e1.0 | e135 | 139 | .58 |
| 31 | 146 | --- | 3.2 | 4.5 | --- | 1.1 | --- | .03 | --- | e132 | 139 | --- |
| TOTAL | 270.70 | 2359.22 | 388.54 | 74.52 | 202.7 | 43.81 | 34.4 | 25.27 | 300.94 | 3279.0 | 3577.76 | 350.05 |
| MEAN | 8.73 | 78.6 | 12.5 | 2.40 | 7.24 | 1.41 | 1.15 | .82 | 10.0 | 106 | 115 | 11.7 |
| MAX | 146 | 149 | 148 | 9.3 | 14 | 8.9 | 1.2 | 1.4 | 155 | 156 | 140 | 139 |
| MIN | .00 | .00 | .01 | .00 | 1.3 | .00 | 1.1 | .01 | .03 | 1.0 | .02 | .00 |
| AC-FT | 537 | 4680 | 771 | 148 | 402 | 87 | 68 | 50 | 597 | 6500 | 7100 | 694 |

CAL YR 1989 TOTAL 14906.53 MEAN 40.8 MAX 158 MIN .00 AC-FT 29570
WTR YR 1990 TOTAL 10906.91 MEAN 29.9 MAX 156 MIN .00 AC-FT 21630

e Estimated.

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 mi².

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.--Flow regulated by Bass Lake (station 11243400) 1,500 ft upstream and by diversion into Pacific Gas & Electric Co. conduit No. 3 near Bass Lake (station 11243500). Soquel ditch diverts up to 50 ft³/s from North Fork Willow Creek into Nelder Creek in Fresno River basin. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--50 years, 13.6 ft³/s, 9,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,100 ft³/s, Feb. 19, 1986; minimum daily, 0.01 ft³/s, Dec. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.1 ft³/s, Nov. 26, gage height, 2.01 ft; minimum daily, 0.01 ft³/s, Dec. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|-------|-------|-------|------|------|-------|-------|-------|
| 1 | .31 | .27 | .44 | .24 | .34 | .38 | .50 | 1.3 | 1.7 | 1.5 | .58 | .23 |
| 2 | .41 | .26 | .31 | .25 | .32 | .39 | .52 | 1.2 | 1.7 | 1.5 | .57 | .23 |
| 3 | .41 | .26 | .06 | .22 | .28 | .45 | .68 | 1.2 | 1.7 | 1.5 | .55 | .23 |
| 4 | e.39 | .26 | .01 | .22 | .36 | .42 | .99 | 1.2 | 1.7 | 1.5 | .53 | .28 |
| 5 | .38 | .26 | .22 | .22 | .35 | .59 | 1.0 | 1.1 | 1.7 | 1.5 | .50 | .37 |
| 6 | .38 | .25 | .28 | .22 | .43 | .48 | 1.0 | 1.2 | 1.7 | 1.5 | .48 | .37 |
| 7 | .38 | .25 | .28 | .21 | .45 | .41 | 1.0 | 1.1 | 1.6 | 1.5 | .47 | .37 |
| 8 | .39 | .25 | .28 | .21 | .37 | .38 | 1.1 | 1.2 | 1.6 | 1.5 | .47 | .37 |
| 9 | .41 | .25 | .28 | .21 | .35 | .35 | 1.1 | 1.2 | 1.6 | 1.4 | .44 | .37 |
| 10 | .40 | .25 | .27 | .20 | .31 | .38 | 1.1 | 1.2 | 1.6 | 1.3 | .41 | .37 |
| 11 | .39 | .24 | .27 | .20 | .30 | .48 | 1.1 | 1.2 | 1.6 | .95 | .40 | .38 |
| 12 | .39 | .25 | .26 | .26 | .30 | .47 | 1.1 | 1.2 | 1.6 | .90 | .38 | .40 |
| 13 | .39 | .25 | .26 | .94 | .29 | .47 | 1.2 | 1.2 | 1.6 | .89 | .36 | .40 |
| 14 | .38 | .25 | .26 | .60 | .28 | .45 | 1.3 | 1.2 | 1.7 | .85 | .35 | .40 |
| 15 | .38 | .25 | .26 | .39 | .28 | .43 | 1.3 | 1.2 | 1.7 | .84 | .34 | .41 |
| 16 | .39 | .25 | .27 | .40 | .30 | .41 | 1.3 | 1.3 | 1.7 | .84 | .33 | .41 |
| 17 | .40 | .24 | .27 | .38 | .30 | .40 | 1.3 | 1.3 | 1.7 | e.84 | .32 | .41 |
| 18 | .39 | .25 | .26 | .34 | .32 | .39 | 1.4 | 1.3 | 1.7 | e.88 | .31 | .41 |
| 19 | .39 | .25 | .26 | .31 | .32 | .38 | 1.4 | 1.3 | 1.6 | e.86 | .31 | .41 |
| 20 | .33 | .25 | .26 | .29 | .32 | .37 | 1.4 | 1.3 | 1.6 | e.83 | .31 | .41 |
| 21 | .27 | .24 | .26 | .28 | .34 | .37 | 1.4 | 1.3 | 1.6 | e.80 | .31 | .42 |
| 22 | .29 | .25 | .26 | .28 | .47 | .37 | 1.4 | 1.3 | 1.6 | e.78 | .31 | .43 |
| 23 | .27 | .25 | .25 | .27 | .59 | .38 | 1.5 | 1.4 | 1.5 | e.76 | .30 | .44 |
| 24 | .60 | .25 | .25 | .26 | .59 | e.38 | 1.5 | 1.5 | 1.5 | e.74 | .29 | .44 |
| 25 | .51 | .26 | .25 | .26 | .60 | e.40 | 1.4 | 1.4 | 1.4 | e.72 | .28 | .44 |
| 26 | .34 | 1.1 | .25 | .25 | .56 | e.41 | 1.4 | 1.5 | 1.4 | e.70 | .27 | .44 |
| 27 | .30 | .49 | .24 | .25 | .49 | e.42 | 1.3 | 1.6 | 1.5 | e.68 | .26 | .43 |
| 28 | .29 | .36 | .25 | .25 | .42 | .43 | 1.4 | 2.0 | 1.5 | e.66 | .26 | .31 |
| 29 | .29 | .32 | .24 | .25 | --- | .46 | 1.3 | 1.8 | 1.5 | e.64 | .25 | .29 |
| 30 | .28 | .45 | .24 | .29 | --- | .47 | 1.3 | 1.7 | 1.5 | e.62 | .24 | .28 |
| 31 | .29 | --- | .23 | .28 | --- | .48 | --- | 1.7 | --- | e.60 | .23 | --- |
| TOTAL | 11.42 | 9.01 | 7.78 | 9.23 | 10.63 | 13.05 | 35.69 | 41.6 | 48.1 | 31.08 | 11.41 | 11.15 |
| MEAN | .37 | .30 | .25 | .30 | .38 | .42 | 1.19 | 1.34 | 1.60 | 1.00 | .37 | .37 |
| MAX | .60 | 1.1 | .44 | .94 | .60 | .59 | 1.5 | 2.0 | 1.7 | 1.5 | .58 | .44 |
| MIN | .27 | .24 | .01 | .20 | .28 | .35 | .50 | 1.1 | 1.4 | .60 | .23 | .23 |
| AC-FT | 23 | 18 | 15 | 18 | 21 | 26 | 71 | 83 | 95 | 62 | 23 | 22 |

CAL YR 1989 TOTAL 211.11 MEAN .58 MAX 2.3 MIN .01 AC-FT 419
WTR YR 1990 TOTAL 240.15 MEAN .66 MAX 2.0 MIN .01 AC-FT 476

e Estimated.

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 mi².

PERIOD OF RECORD.--January 1952 to September 1988, October 1989 to September 1990.

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.--Flow regulated by Bass Lake (station 11243400) 10 mi upstream and diversion into Pacific Gas & Electric Co. conduit No. 1. See schematic diagram of lower 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.--37 years (water years 1953-88, 1990), 67.3 ft³/s, 48,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s, Dec. 23, 1955, gage height, 28.5 ft, from floodmarks, from rating curve extended above 4,700 ft³/s; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44 ft³/s, Apr. 24, gage height, 5.58 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|-------|------|------|-------|-------|-------|------|------|
| 1 | 1.8 | 3.0 | e3.7 | e2.1 | 7.1 | 13 | 23 | 11 | 10 | 1.7 | .10 | .00 |
| 2 | 2.3 | 2.3 | e3.4 | e2.1 | 6.8 | 14 | 24 | 10 | 9.1 | 1.7 | .10 | .00 |
| 3 | 2.2 | 2.1 | e3.2 | e2.1 | 5.7 | 19 | 25 | 9.7 | 8.0 | 1.5 | .10 | .00 |
| 4 | 2.0 | 2.0 | e3.1 | e2.1 | 9.3 | 18 | 26 | 9.0 | 7.1 | 1.5 | .07 | .00 |
| 5 | 1.9 | 1.9 | e2.9 | e2.1 | 7.9 | 17 | 25 | 8.4 | 6.5 | 1.4 | .06 | .00 |
| 6 | 1.9 | 1.9 | e2.7 | e2.1 | 7.3 | 14 | 24 | 8.0 | 6.0 | 1.3 | .03 | .00 |
| 7 | 1.6 | 1.8 | e2.6 | e2.2 | 8.8 | 13 | 25 | 7.8 | 5.6 | 1.3 | .02 | .00 |
| 8 | 1.6 | 4.4 | e2.4 | e2.2 | 6.9 | 13 | 26 | 7.9 | 5.4 | 1.5 | .00 | .00 |
| 9 | 1.5 | 4.5 | e2.4 | e2.2 | 6.4 | 14 | 22 | 7.4 | 4.8 | 1.3 | .00 | .00 |
| 10 | 1.4 | 2.2 | e2.3 | 2.2 | 6.0 | 17 | 22 | 7.2 | 4.4 | 1.1 | .00 | .00 |
| 11 | 1.4 | 1.9 | e2.2 | 2.1 | 6.3 | 18 | 21 | 9.6 | 4.0 | 1.0 | .00 | .00 |
| 12 | 1.3 | 1.8 | e2.2 | 2.1 | 7.0 | 16 | 21 | 8.2 | 3.8 | 1.0 | .00 | .00 |
| 13 | 1.3 | 1.7 | e2.1 | 17 | 7.5 | 14 | 21 | 7.4 | 3.6 | .82 | .00 | .00 |
| 14 | 1.4 | 1.6 | e2.1 | 23 | 5.5 | 13 | 20 | 6.5 | 3.5 | .64 | .00 | .00 |
| 15 | 1.4 | 1.6 | e2.3 | 11 | 4.8 | 13 | 19 | 6.2 | 3.6 | .56 | .00 | .00 |
| 16 | 1.3 | 1.6 | e2.0 | 16 | 7.5 | 14 | 19 | 5.9 | 3.8 | .48 | .00 | .00 |
| 17 | 1.3 | 1.5 | e1.9 | 11 | 18 | 14 | 18 | 5.4 | 3.5 | .45 | .00 | .00 |
| 18 | 1.5 | 1.5 | e1.9 | 8.5 | 24 | 17 | 16 | 5.1 | 3.3 | .36 | .00 | .00 |
| 19 | 1.3 | 1.5 | e1.8 | 6.8 | 17 | 19 | 16 | 4.9 | 3.2 | .30 | .00 | .00 |
| 20 | 1.3 | 1.6 | e1.8 | 5.8 | 15 | 19 | 16 | 5.0 | 3.0 | .30 | .00 | .00 |
| 21 | 1.1 | 3.8 | e1.8 | 4.8 | 9.6 | 25 | 16 | 4.8 | 8.6 | .23 | .00 | .00 |
| 22 | 1.3 | 3.6 | e1.8 | 4.1 | 8.3 | 26 | 14 | 4.6 | 3.4 | .36 | .00 | .00 |
| 23 | 2.6 | 3.3 | e1.9 | 3.9 | 12 | 25 | 23 | 5.5 | 2.7 | .64 | .00 | .00 |
| 24 | 8.8 | 2.3 | e1.9 | 5.8 | 13 | 27 | 32 | 12 | 2.6 | .36 | .00 | .00 |
| 25 | 18 | 2.3 | e1.9 | 6.0 | 13 | 28 | 21 | 8.1 | 2.5 | .23 | .00 | .00 |
| 26 | 8.7 | 20 | e1.2 | 4.1 | 13 | 27 | 18 | 6.5 | 2.3 | .23 | .00 | .00 |
| 27 | 4.6 | 9.3 | e2.0 | 3.9 | 12 | 27 | 16 | 6.7 | 2.3 | .17 | .00 | .00 |
| 28 | 3.5 | 5.1 | e2.0 | 3.7 | 12 | 25 | 14 | 31 | 2.1 | .17 | .00 | .01 |
| 29 | 2.9 | 3.6 | e2.0 | 3.8 | --- | 23 | 13 | 23 | 2.0 | .13 | .00 | .01 |
| 30 | 6.4 | 3.3 | e2.0 | 4.3 | --- | 22 | 12 | 14 | 1.9 | .13 | .00 | .01 |
| 31 | 6.9 | --- | e2.0 | 5.5 | --- | 22 | --- | 11 | --- | .13 | .00 | --- |
| TOTAL | 96.5 | 99.0 | 69.5 | 174.6 | 277.7 | 586 | 608 | 277.8 | 132.6 | 22.99 | 0.48 | 0.03 |
| MEAN | 3.11 | 3.30 | 2.24 | 5.63 | 9.92 | 18.9 | 20.3 | 8.96 | 4.42 | .74 | .015 | .001 |
| MAX | 18 | 20 | 3.7 | 23 | 24 | 28 | 32 | 31 | 10 | 1.7 | .10 | .01 |
| MIN | 1.1 | 1.5 | 1.2 | 2.1 | 4.8 | 13 | 12 | 4.6 | 1.9 | .13 | .00 | .00 |
| AC-FT | 191 | 196 | 138 | 346 | 551 | 1160 | 1210 | 551 | 263 | 46 | 1.0 | .06 |

WTR YR 1990 TOTAL 2345.20 MEAN 6.43 MAX 32 MIN .00 AC-FT 4650

e Estimated.

SAN JOAQUIN RIVER BASIN

11246650 KERCKHOFF RESERVOIR NEAR AUBERRY, CA

LOCATION.--Lat 37°07'40", long 119°31'25", in SE 1/4 SW 1/4 sec.24, R.9 S., T.22 E., Fresno County, Hydrologic Unit 18040006, near center of Kerckhoff Dam on San Joaquin River, 2.0 mi downstream from A.G. Wishon powerplant, and 7.9 mi northwest of Auberry.

DRAINAGE AREA.--1,460 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.--Reservoir is formed by concrete arch dam with spillway completed in 1920. Usable contents, 4,247 acre-ft between elevations 900.14 ft, invert of sluice gates, and 985.68 ft, top of spillway gates. Water is released for use in Kerckhoff powerplants 1 and 2 before being discharged into the San Joaquin River above Millerton Lake. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 4,140 acre-ft, June 7, 1987, Nov. 26, 1989, May 19, 1990, elevation, 985.0 ft; minimum, 2,104 acre-ft, Nov. 14-17, 1988, elevation, 970.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,140 acre-ft, Nov. 26, May 19, elevation, 985.0 ft; minimum, 3,202 acre-ft, Nov. 7, elevation, 978.7 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas and Electric Co., dated July 16, 1919)

| | | | | | | | |
|-----|-------|-----|-------|-----|-------|-----|-------|
| 960 | 1,090 | 970 | 2,092 | 980 | 3,387 | 990 | 4,964 |
| 965 | 1,549 | 975 | 2,703 | 985 | 4,140 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 3800 | 3861 | 3876 | 3517 | 3620 | 3815 | 3992 | 3620 | 3800 | 3968 | 3679 | 4093 |
| 2 | 3679 | 3855 | 3937 | 3937 | 3800 | 3891 | 3937 | 3650 | 3860 | 3906 | 3679 | 4030 |
| 3 | 3694 | 3800 | 3784 | 3230 | 3644 | 3953 | 3922 | 3784 | 3694 | 3620 | 3922 | 3992 |
| 4 | 3830 | 3694 | 4030 | 3754 | 3937 | 3860 | 3650 | 3754 | 3401 | 3739 | 3984 | 4062 |
| 5 | 3749 | 3830 | 4030 | 3330 | 3876 | 3937 | 3650 | 3860 | 3387 | 3709 | 3830 | 3891 |
| 6 | 3769 | 3401 | 3754 | 3724 | 3644 | 3784 | 3605 | 3876 | 3488 | 3784 | 3922 | 3927 |
| 7 | 3815 | 3202 | 3769 | 3724 | 3576 | 3517 | 3984 | 4109 | 3644 | 3664 | 3815 | 3984 |
| 8 | 3612 | 3459 | 3769 | 3387 | 3891 | 3739 | 3845 | 3937 | 3860 | 3891 | 3845 | 3876 |
| 9 | 3800 | 3754 | 3576 | 3610 | 3615 | 3772 | 3815 | 3644 | 3800 | 3815 | 3517 | 4046 |
| 10 | 3860 | 3754 | 3387 | 3815 | 3815 | 3953 | 3906 | 3922 | 3937 | 3992 | 3876 | 3891 |
| 11 | 3891 | 3546 | 3739 | 3576 | 3640 | 3935 | 3830 | 3769 | 3876 | 3784 | 3724 | 3845 |
| 12 | 3784 | 3459 | 3330 | 3984 | 3589 | 3845 | 3800 | 3644 | 3891 | 3784 | 3650 | 3845 |
| 13 | 3709 | 3576 | 3576 | 3576 | 3815 | 3830 | 3620 | 3502 | 3815 | 3532 | 3830 | 4062 |
| 14 | 3488 | 3517 | 3644 | 3488 | 3815 | 3784 | 3860 | 4030 | 3812 | 3724 | 4093 | 3968 |
| 15 | 3754 | 3546 | 3906 | 3679 | 3784 | 3876 | 3953 | 3886 | 3922 | 3815 | 4015 | 3984 |
| 16 | 3546 | 3650 | 3946 | 3546 | 3664 | 3739 | 3876 | 4030 | 3984 | 3784 | 3953 | 3968 |
| 17 | 3800 | 3561 | 3876 | 3922 | 3891 | 3876 | 3724 | 4062 | 4030 | 3769 | 3860 | 3980 |
| 18 | 3769 | 3647 | 3815 | 3709 | 3620 | 3650 | 3739 | 4093 | 3953 | 3953 | 3860 | 3937 |
| 19 | 3664 | 3670 | 3709 | 3739 | 3898 | 3769 | 3968 | 4140 | 3891 | 3800 | 4062 | 3970 |
| 20 | 3845 | 3754 | 3650 | 3860 | 3517 | 3488 | 3860 | 3906 | 4015 | 3830 | 3922 | 3876 |
| 21 | 3644 | 3532 | 3922 | 3800 | 3860 | 3937 | 3965 | 3860 | 4077 | 3891 | 3968 | 3937 |
| 22 | 3860 | 3590 | 3664 | 3664 | 3416 | 3605 | 3906 | 3937 | 3891 | 3650 | 3891 | 3922 |
| 23 | 3739 | 3605 | 3891 | 3576 | 3694 | 3590 | 3876 | 3694 | 3891 | 3800 | 4015 | 3953 |
| 24 | 3664 | 3891 | 3230 | 3650 | 3845 | 3521 | 3860 | 3860 | 3910 | 3906 | 4030 | 3937 |
| 25 | 3754 | 3891 | 3644 | 3876 | 3860 | 3984 | 4046 | 3968 | 3937 | 3845 | 3980 | 3937 |
| 26 | 3830 | 4140 | 3984 | 3532 | 3922 | 3845 | 3620 | 3937 | 3830 | 3984 | 3984 | 3922 |
| 27 | 3694 | 3860 | 3244 | 3984 | 3891 | 3532 | 3769 | 3968 | 3845 | 3780 | 4062 | 3845 |
| 28 | 3709 | 3620 | 3510 | 3372 | 3953 | 3532 | 3754 | 4015 | 3992 | 3824 | 4062 | 3590 |
| 29 | 3968 | 3694 | 3739 | 3546 | --- | 3953 | 3984 | 3992 | 3937 | 3526 | 3992 | 3620 |
| 30 | 3769 | 3845 | 3502 | 3664 | --- | 4125 | 3968 | 3754 | 4015 | 3769 | 4062 | 3953 |
| 31 | 3937 | --- | 3244 | 3576 | --- | 3984 | --- | 3830 | --- | 3650 | 4077 | --- |
| MAX | 3968 | 4140 | 4030 | 3984 | 3953 | 4125 | 4046 | 4140 | 4077 | 3992 | 4093 | 4093 |
| MIN | 3488 | 3202 | 3230 | 3230 | 3416 | 3488 | 3605 | 3502 | 3387 | 3526 | 3517 | 3590 |
| a | 983.7 | 983.1 | 979.0 | 981.3 | 983.8 | 984.0 | 983.9 | 983.0 | 984.2 | 981.8 | 984.6 | 983.8 |
| b | +46 | -92 | -601 | +332 | +377 | +31 | -16 | -138 | +185 | -365 | +427 | -124 |

CAL YR 1989 b -586

WTR YR 1990 b +62

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11246700 SAN JOAQUIN RIVER NEAR AUBERRY, CA

LOCATION.--Lat 37°07'56", long 119°31'50", in NW 1/4 SW 1/4 sec.24, T.9 S., R.22 E., Fresno County, Hydrologic Unit 18040006, on left bank 2,300 ft downstream from Kerckhoff Dam, 2.8 mi northwest of Auberry, and 6.7 mi south of town of North Fork.

DRAINAGE AREA.--1,461 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 870.11 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & Electric Co.).

REMARKS.--No estimated daily discharges. Flow regulated by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by Pacific Gas & 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, 1,800 ft³/s, Apr. 7, 1988, gage height, 8.99 ft; minimum daily, 16 ft³/s, May 9-18, 1987, Sept. 29, 30, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 567 ft³/s, May 14, gage height, 7.01 ft; minimum daily, 20 ft³/s, June 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 36 | 36 | 35 | 35 | 33 | 33 | 33 | 30 | 21 | 21 | 41 | 25 |
| 2 | 36 | 36 | 35 | 36 | 33 | 33 | 33 | 24 | 21 | 21 | 41 | 25 |
| 3 | 36 | 36 | 35 | 36 | 33 | 33 | 33 | 23 | 21 | 21 | 41 | 25 |
| 4 | 36 | 35 | 35 | 35 | 33 | 33 | 33 | 21 | 21 | 21 | 41 | 25 |
| 5 | 36 | 35 | 35 | 36 | 33 | 33 | 33 | 21 | 21 | 21 | 41 | 25 |
| 6 | 35 | 35 | 35 | 35 | 33 | 33 | 32 | 21 | 21 | 21 | 41 | 25 |
| 7 | 36 | 35 | 35 | 36 | 33 | 33 | 32 | 21 | 20 | 22 | 41 | 25 |
| 8 | 36 | 34 | 35 | 33 | 33 | 32 | 33 | 21 | 21 | 22 | 41 | 25 |
| 9 | 36 | 35 | 35 | 31 | 33 | 33 | 33 | 21 | 21 | 22 | 41 | 25 |
| 10 | 36 | 35 | 35 | 31 | 33 | 33 | 33 | 21 | 21 | 22 | 41 | 24 |
| 11 | 36 | 35 | 34 | 32 | 33 | 33 | 33 | 21 | 21 | 22 | 41 | 22 |
| 12 | 36 | 35 | 34 | 32 | 33 | 33 | 33 | 24 | 21 | 21 | 41 | 22 |
| 13 | 36 | 35 | 34 | 33 | 33 | 33 | 33 | 24 | 21 | 22 | 41 | 22 |
| 14 | 36 | 35 | 34 | 33 | 33 | 33 | 33 | 34 | 21 | 21 | 41 | 23 |
| 15 | 35 | 35 | 35 | 33 | 33 | 33 | 33 | 21 | 21 | 21 | 42 | 22 |
| 16 | 35 | 35 | 36 | 34 | 34 | 33 | 33 | 21 | 21 | 22 | 42 | 22 |
| 17 | 35 | 35 | 36 | 33 | 33 | 33 | 33 | 21 | 27 | 22 | 42 | 22 |
| 18 | 36 | 35 | 36 | 33 | 33 | 33 | 33 | 21 | 21 | 22 | 41 | 22 |
| 19 | 36 | 35 | 51 | 33 | 33 | 33 | 33 | 21 | 21 | 22 | 41 | 22 |
| 20 | 36 | 35 | 36 | 33 | 33 | 33 | 33 | 21 | 21 | 24 | 41 | 22 |
| 21 | 36 | 55 | 36 | 33 | 33 | 33 | 33 | 21 | 21 | 31 | 41 | 22 |
| 22 | 35 | 82 | 37 | 33 | 33 | 33 | 33 | 21 | 21 | 32 | 39 | 22 |
| 23 | 36 | 35 | 36 | 33 | 32 | 33 | 33 | 22 | 21 | 34 | 32 | 22 |
| 24 | 36 | 35 | 36 | 33 | 33 | 33 | 33 | 21 | 21 | 36 | 33 | 22 |
| 25 | 36 | 36 | 35 | 33 | 33 | 33 | 33 | 21 | 21 | 39 | 33 | 22 |
| 26 | 35 | 36 | 36 | 33 | 33 | 34 | 33 | 21 | 21 | 41 | 33 | 22 |
| 27 | 35 | 36 | 36 | 32 | 33 | 33 | 33 | 21 | 21 | 42 | 33 | 22 |
| 28 | 35 | 35 | 35 | 33 | 33 | 33 | 33 | 22 | 21 | 41 | 33 | 22 |
| 29 | 35 | 35 | 36 | 32 | --- | 33 | 33 | 21 | 21 | 41 | 29 | 21 |
| 30 | 36 | 35 | 36 | 32 | --- | 33 | 33 | 21 | 21 | 41 | 25 | 21 |
| 31 | 36 | --- | 35 | 33 | --- | 33 | --- | 21 | --- | 41 | 25 | --- |
| TOTAL | 1107 | 1122 | 1110 | 1033 | 924 | 1023 | 988 | 686 | 635 | 852 | 1179 | 688 |
| MEAN | 35.7 | 37.4 | 35.8 | 33.3 | 33.0 | 33.0 | 32.9 | 22.1 | 21.2 | 27.5 | 38.0 | 22.9 |
| MAX | 36 | 82 | 51 | 36 | 34 | 34 | 33 | 34 | 27 | 42 | 42 | 25 |
| MIN | 35 | 34 | 34 | 31 | 32 | 32 | 32 | 21 | 20 | 21 | 25 | 21 |
| AC-FT | 2200 | 2230 | 2200 | 2050 | 1830 | 2030 | 1960 | 1360 | 1260 | 1690 | 2340 | 1360 |

CAL YR 1989 TOTAL 10779 MEAN 29.5 MAX 82 MIN 18 AC-FT 21380
WTR YR 1990 TOTAL 11347 MEAN 31.1 MAX 82 MIN 20 AC-FT 22510

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.--June 1951 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.--No estimated daily discharges. Canal diverts from Millerton Lake (station 11250100) at right end of Friant Dam for irrigation between San Joaquin and Chowchilla Rivers. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation and reviewed by the U.S. Geological Survey.

AVERAGE DISCHARGE.--47 years (water years 1944-90), 328 ft³/s, 237,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,330 ft³/s, July 2, 1983; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|--------|----------|-------|-------|--------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 922 | 1029 | 262 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 922 | 1012 | 223 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 125 | .00 | 889 | 995 | 201 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 50 | .00 | 875 | 993 | 50 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 875 | 978 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 129 | 914 | 964 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 265 | 935 | 960 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 300 | 991 | 971 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 300 | 1006 | 957 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 483 | 951 | 792 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 500 | 901 | 437 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 464 | 841 | 430 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 351 | 807 | 443 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 310 | 819 | 431 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 310 | 862 | 375 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 362 | 945 | 330 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 409 | 954 | 320 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 452 | 927 | 307 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 509 | 894 | 287 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 530 | 864 | 267 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 530 | 855 | 260 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 494 | 874 | 221 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 475 | 924 | 200 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 501 | 997 | 200 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 541 | 999 | 200 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 587 | 969 | 213 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 618 | 944 | 220 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 625 | 919 | 220 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | 612 | 910 | 220 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | 605 | 949 | 246 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .00 | --- | 996 | 262 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 175.00 | 11262.00 | 28430 | 15740 | 736.00 |
| MEAN | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 5.65 | 375 | 917 | 508 | 24.5 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 125 | 625 | 1006 | 1029 | 262 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 807 | 200 | .00 |
| AC-FT | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 347 | 22340 | 56390 | 31220 | 1460 |

CAL YR 1989 TOTAL 74632.00 MEAN 204 MAX 1110 MIN .00 AC-FT 148000
WTR YR 1990 TOTAL 56343.00 MEAN 154 MAX 1030 MIN .00 AC-FT 111800

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, efficiency of generator coefficient, and net head on turbines. Prior to January 1986, discharge computed on basis of valve openings and head on valves. Prior to July 8, 1949, nonrecording gages at various sites and datums. July 8 to Sept. 30, 1949, water-stage recorder at site 0.2 mi downstream.

REMARKS.--No estimated daily discharges. Canal diverts from Millerton Lake (station 11250100) at left end of Friant Dam for irrigation in upper San Joaquin Valley. See schematic diagram of lower San Joaquin River basin.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation and reviewed by the U.S. Geological Survey.

AVERAGE DISCHARGE.--41 years, 1,378 ft³/s, 998,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,330 ft³/s, June 25, 1982; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 540 | 470 | 127 | 93 | 251 | 277 | 744 | 440 | 202 | 1210 | 2340 | 763 |
| 2 | 637 | 482 | 140 | 128 | 251 | 249 | 773 | 455 | 284 | 1530 | 2520 | 756 |
| 3 | 670 | 446 | 174 | 45 | 252 | 243 | 818 | 512 | 495 | 1920 | 2500 | 882 |
| 4 | 682 | 365 | 191 | 81 | 252 | 260 | 807 | 550 | 779 | 2040 | 2340 | 998 |
| 5 | 690 | 418 | 215 | .00 | 253 | 272 | 772 | 550 | 1050 | 2030 | 2370 | 1060 |
| 6 | 670 | 511 | 234 | .00 | 232 | 319 | 708 | 632 | 1260 | 1920 | 2430 | 1080 |
| 7 | 622 | 539 | 191 | .00 | 200 | 369 | 606 | 801 | 1470 | 1770 | 2220 | 1030 |
| 8 | 697 | 532 | 139 | 44 | 201 | 383 | 583 | 880 | 1490 | 1790 | 1900 | 913 |
| 9 | 740 | 527 | 126 | .00 | 204 | 347 | 600 | 906 | 1440 | 1700 | 1570 | 961 |
| 10 | 798 | 484 | 127 | .00 | 204 | 344 | 600 | 900 | 1370 | 1460 | 1420 | 1030 |
| 11 | 840 | 419 | 129 | 77 | 204 | 378 | 658 | 850 | 1160 | 1320 | 1340 | 1080 |
| 12 | 820 | 428 | 55 | 132 | 178 | 426 | 700 | 850 | 918 | 1380 | 1330 | 1130 |
| 13 | 746 | 474 | .00 | 45 | 180 | 450 | 667 | 906 | 930 | 1340 | 1400 | 1130 |
| 14 | 655 | 482 | .00 | .00 | 192 | 450 | 571 | 914 | 883 | 1260 | 1560 | 1060 |
| 15 | 677 | 496 | .00 | .00 | 193 | 450 | 625 | 825 | 774 | 1340 | 1590 | 889 |
| 16 | 726 | 486 | .00 | .00 | 182 | 462 | 692 | 812 | 720 | 1480 | 1520 | 872 |
| 17 | 727 | 447 | .00 | .00 | 176 | 470 | 683 | 820 | 738 | 1590 | 1360 | 889 |
| 18 | 710 | 381 | .00 | .00 | 177 | 510 | 808 | 756 | 785 | 1570 | 1210 | 884 |
| 19 | 658 | 347 | .00 | .00 | 191 | 672 | 802 | 685 | 833 | 1560 | 1240 | 840 |
| 20 | 569 | 378 | .00 | .00 | 224 | 771 | 701 | 687 | 917 | 1440 | 1260 | 808 |
| 21 | 461 | 382 | .00 | .00 | 264 | 823 | 605 | 778 | 1030 | 1310 | 1280 | 764 |
| 22 | 475 | 329 | 76 | 100 | 281 | 840 | 600 | 802 | 1030 | 1360 | 1300 | 667 |
| 23 | 482 | 247 | 55 | 152 | 374 | 817 | 482 | 776 | 957 | 1400 | 1280 | 672 |
| 24 | 458 | 217 | .00 | 41 | 440 | 765 | 330 | 672 | 992 | 1380 | 1240 | 700 |
| 25 | 427 | 209 | 78 | .00 | 441 | 763 | 343 | 558 | 1060 | 1400 | 1150 | 698 |
| 26 | 410 | 213 | 75 | .00 | 442 | 815 | 370 | 508 | 1060 | 1380 | 1120 | 695 |
| 27 | 374 | 179 | 79 | .00 | 407 | 817 | 341 | 500 | 1060 | 1320 | 1120 | 658 |
| 28 | 320 | 137 | 45 | .00 | 334 | 823 | 300 | 334 | 1050 | 1340 | 1140 | 589 |
| 29 | 365 | 126 | .00 | .00 | --- | 822 | 300 | 213 | 1040 | 1530 | 1080 | 492 |
| 30 | 441 | 126 | 77 | .00 | --- | 758 | 370 | 201 | 1130 | 2000 | 1000 | 571 |
| 31 | 470 | --- | 59 | 88 | --- | 720 | --- | 202 | --- | 2280 | 917 | --- |
| TOTAL | 18557 | 11277 | 2392.00 | 1026.00 | 7180 | 16865 | 17959 | 20275 | 28907 | 48350 | 48047 | 25561 |
| MEAN | 599 | 376 | 77.2 | 33.1 | 256 | 544 | 599 | 654 | 964 | 1560 | 1550 | 852 |
| MAX | 840 | 539 | 234 | 152 | 442 | 840 | 818 | 914 | 1490 | 2280 | 2520 | 1130 |
| MIN | 320 | 126 | .00 | .00 | 176 | 243 | 300 | 201 | 202 | 1210 | 917 | 492 |
| AC-FT | 36810 | 22370 | 4740 | 2040 | 14240 | 33450 | 35620 | 40220 | 57340 | 95900 | 95300 | 50700 |

CAL YR 1989 TOTAL 357148.00 MEAN 978 MAX 3960 MIN .00 AC-FT 708400
WTR YR 1990 TOTAL 246396.00 MEAN 675 MAX 2520 MIN .00 AC-FT 488700

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 mi².

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 the 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, 352,100 acre-ft, June 3, elevation, 539.79 ft; minimum, 137,200 acre-ft, Oct. 17, elevation, 469.47 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated 1921)

| | | | | | | | | | |
|-----|--------|-----|---------|-----|---------|-----|---------|-----|---------|
| 400 | 36,400 | 440 | 83,300 | 480 | 161,700 | 520 | 279,400 | 560 | 436,500 |
| 420 | 57,000 | 460 | 117,500 | 500 | 215,000 | 540 | 353,000 | 580 | 530,400 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 140400 | 142300 | 149600 | 162400 | 184100 | 205700 | 250700 | 308100 | 351100 | 314900 | 263200 | 198400 |
| 2 | 140100 | 142700 | 149700 | 162100 | 184400 | 207400 | 252000 | 310400 | 351800 | 312800 | 257700 | 198400 |
| 3 | 139800 | 143200 | 150100 | 163300 | 184600 | 209200 | 253200 | 312300 | 352100 | 310300 | 252900 | 198200 |
| 4 | 139200 | 143700 | 150300 | 163100 | 185000 | 211100 | 254400 | 313400 | 352100 | 306400 | 248000 | 197900 |
| 5 | 139100 | 143800 | 151000 | 163700 | 185500 | 212700 | 255300 | 316100 | 351300 | 303500 | 243600 | 197500 |
| 6 | 138700 | 144700 | 151900 | 163700 | 186300 | 214000 | 256400 | 318000 | 349900 | 300700 | 239400 | 196900 |
| 7 | 138300 | 145100 | 152300 | 163900 | 187000 | 215600 | 257500 | 319500 | 348000 | 298400 | 235400 | 196100 |
| 8 | 138000 | 145100 | 153000 | 164400 | 188100 | 216600 | 259700 | 320800 | 345700 | 295800 | 231500 | 195600 |
| 9 | 137400 | 144800 | 153600 | 164800 | 189200 | 217900 | 261700 | 322300 | 343700 | 294300 | 228800 | 194700 |
| 10 | 137300 | 144800 | 154200 | 164900 | 189600 | 219100 | 263500 | 323300 | 341400 | 293000 | 226100 | 194200 |
| 11 | 137400 | 145500 | 155100 | 165300 | 190200 | 220800 | 265400 | 324900 | 339600 | 292600 | 224900 | 193400 |
| 12 | 137700 | 145800 | 157300 | 165400 | 190700 | 222600 | 267100 | 326300 | 338400 | 292400 | 223700 | 192400 |
| 13 | 138000 | 146000 | 158900 | 168600 | 191500 | 224200 | 269100 | 327600 | 337200 | 292200 | 221700 | 190800 |
| 14 | 138000 | 146400 | 160500 | 170900 | 192100 | 225800 | 270800 | 328200 | 336200 | 292900 | 219400 | 189900 |
| 15 | 137600 | 146800 | 160800 | 171900 | 193000 | 227100 | 272500 | 329800 | 335400 | 289800 | 217500 | 189100 |
| 16 | 137600 | 146800 | 160800 | 173300 | 194600 | 228200 | 274500 | 331000 | 334600 | 288900 | 215400 | 188300 |
| 17 | 137200 | 146900 | 160700 | 174200 | 196300 | 228700 | 276500 | 332300 | 333600 | 287800 | 213600 | 187500 |
| 18 | 137800 | 146500 | 160600 | 175300 | 198000 | 229900 | 278100 | 333800 | 332600 | 286900 | 212100 | 186700 |
| 19 | 137800 | 146200 | 160800 | 176200 | 198900 | 231700 | 279400 | 335300 | 331200 | 286200 | 210400 | 185800 |
| 20 | 137700 | 146000 | 160600 | 176700 | 200100 | 233700 | 281300 | 337200 | 329800 | 285600 | 209200 | 185400 |
| 21 | 137900 | 146500 | 160500 | 176800 | 200800 | 235100 | 283000 | 338800 | 328400 | 284600 | 207700 | 184800 |
| 22 | 137700 | 146200 | 160800 | 178000 | 201800 | 237100 | 285100 | 340100 | 327200 | 283800 | 206500 | 184600 |
| 23 | 138000 | 146400 | 160700 | 178500 | 202000 | 238900 | 287400 | 342000 | 325800 | 283200 | 205200 | 184200 |
| 24 | 139000 | 145900 | 161700 | 179000 | 202200 | 240800 | 290000 | 343500 | 324200 | 282700 | 204300 | 184000 |
| 25 | 139900 | 146000 | 161500 | 179400 | 202500 | 242000 | 292300 | 345400 | 322400 | 281700 | 203500 | 183400 |
| 26 | 140300 | 147300 | 161300 | 180400 | 203100 | 243900 | 295400 | 345500 | 321600 | 279800 | 202400 | 182800 |
| 27 | 140800 | 148200 | 161900 | 180600 | 203800 | 245100 | 297600 | 345900 | 320300 | 278500 | 201800 | 182800 |
| 28 | 141300 | 149000 | 162000 | 181800 | 204700 | 246000 | 300200 | 346900 | 318900 | 276600 | 200500 | 183200 |
| 29 | 141400 | 149100 | 162000 | 182500 | --- | 247000 | 302600 | 347800 | 317500 | 274800 | 199800 | 183200 |
| 30 | 141900 | 149100 | 162300 | 183100 | --- | 248100 | 305200 | 349300 | 316500 | 271700 | 199100 | 183300 |
| 31 | 141800 | --- | 162600 | 183800 | --- | 249500 | --- | 350200 | --- | 268500 | 198700 | --- |
| MAX | 141900 | 149100 | 162600 | 183800 | 204700 | 249500 | 305200 | 350200 | 352100 | 314900 | 263200 | 198400 |
| MIN | 137200 | 142300 | 149600 | 162100 | 184100 | 205700 | 250700 | 308100 | 316500 | 268500 | 198700 | 182800 |
| a | 471.52 | 474.73 | 480.36 | 488.62 | 496.22 | 511.00 | 527.33 | 539.30 | 530.42 | 516.79 | 494.08 | 488.44 |
| b | +1900 | +7300 | +13500 | +21200 | +20900 | +44800 | +55700 | +45000 | -33700 | -48000 | -69800 | -15400 |
| c | 690 | 370 | 170 | 230 | 350 | 730 | 1410 | 2160 | 2860 | 2880 | 2070 | 1390 |

CAL YR 1989 b -22700

WTR YR 1990 b +43400

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Bureau of Reclamation, not reviewed by U.S. Geological Survey

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 mi².

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 fair. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by nine powerplants and eight reservoirs with combined capacity of about 609,300 acre-ft. Diversion for irrigation to Madera and Friant-Kern Canals (stations 11249500 and 11250000) began in 1943 and 1949, respectively. See schematic diagram of lower 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).--83 years, 2,402 ft³/s, 1,740,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft³/s, Dec. 11, 1937, gage height, 23.8 ft, site and datum then in use; minimum, 38 ft³/s, regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 15,500 ft³/s, Feb. 18, 1986, gage height, 13.41 ft; minimum, 5.5 ft³/s, Oct. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 253 ft³/s, Aug. 6, gage height, 2.90 ft; minimum daily, 20 ft³/s, Jan. 22-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|
| 1 | 120 | 103 | 104 | 88 | 45 | 120 | 145 | 124 | 146 | 188 | 223 | 190 |
| 2 | 120 | 101 | 104 | 88 | 46 | 122 | 145 | 132 | 146 | 188 | 223 | 189 |
| 3 | 120 | 101 | 104 | 83 | 46 | 123 | 142 | 139 | 146 | 188 | 228 | 186 |
| 4 | 120 | 99 | 104 | 73 | 49 | 120 | 127 | 140 | 145 | 188 | 237 | 185 |
| 5 | 120 | 99 | 104 | 72 | 47 | 119 | 133 | 141 | 144 | 188 | 236 | 185 |
| 6 | 117 | 101 | 104 | 69 | 47 | 118 | 162 | 141 | 145 | 188 | 230 | 185 |
| 7 | 114 | 102 | 104 | 69 | 49 | 114 | 177 | 145 | 156 | 188 | 227 | 180 |
| 8 | 113 | 110 | 104 | 69 | 56 | 109 | 176 | 154 | 170 | 188 | 228 | 177 |
| 9 | 112 | 110 | 104 | 69 | 56 | 102 | 174 | 154 | 182 | 194 | 230 | 177 |
| 10 | 116 | 109 | 104 | 69 | 57 | 92 | 174 | 154 | 184 | 196 | 228 | 176 |
| 11 | 118 | 105 | 105 | 68 | 57 | 94 | 173 | 156 | 182 | 193 | 229 | 176 |
| 12 | 118 | 104 | 104 | 66 | 62 | 94 | 172 | 164 | 182 | 193 | 227 | 177 |
| 13 | 122 | 104 | 103 | 60 | 76 | 94 | 160 | 164 | 182 | 201 | 227 | 177 |
| 14 | 125 | 104 | 103 | 60 | 77 | 95 | 151 | 185 | 182 | 219 | 220 | 177 |
| 15 | 123 | 104 | 103 | 46 | 92 | 95 | 150 | 201 | 182 | 219 | 215 | 177 |
| 16 | 123 | 104 | 103 | 22 | 108 | 97 | 146 | 201 | 182 | 211 | 204 | 177 |
| 17 | 123 | 106 | 103 | 21 | 107 | 97 | 144 | 201 | 182 | 206 | 199 | 177 |
| 18 | 123 | 106 | 103 | 24 | 106 | 96 | 144 | 186 | 184 | 213 | 199 | 177 |
| 19 | 123 | 104 | 98 | 37 | 104 | 101 | 144 | 174 | 185 | 222 | 199 | 177 |
| 20 | 121 | 104 | 93 | 22 | 102 | 107 | 144 | 174 | 179 | 221 | 198 | 177 |
| 21 | 125 | 104 | 90 | 21 | 104 | 106 | 144 | 173 | 177 | 222 | 198 | 180 |
| 22 | 125 | 104 | 89 | 20 | 110 | 109 | 144 | 170 | 177 | 222 | 198 | 180 |
| 23 | 132 | 104 | 88 | 20 | 122 | 110 | 146 | 170 | 177 | 222 | 199 | 180 |
| 24 | 128 | 102 | 88 | 20 | 120 | 110 | 146 | 169 | 177 | 222 | 199 | 182 |
| 25 | 123 | 101 | 88 | 20 | 118 | 111 | 141 | 169 | 176 | 222 | 199 | 170 |
| 26 | 119 | 101 | 88 | 20 | 117 | 117 | 136 | 169 | 182 | 224 | 199 | 160 |
| 27 | 112 | 100 | 88 | 20 | 119 | 135 | 131 | 169 | 188 | 223 | 199 | 159 |
| 28 | 108 | 101 | 88 | 20 | 118 | 149 | 124 | 177 | 188 | 222 | 199 | 159 |
| 29 | 108 | 104 | 88 | 20 | --- | 149 | 123 | 157 | 188 | 222 | 199 | 148 |
| 30 | 108 | 104 | 88 | 23 | --- | 149 | 123 | 145 | 188 | 222 | 194 | 159 |
| 31 | 107 | --- | 88 | 44 | --- | 148 | --- | 146 | --- | 222 | 190 | --- |
| TOTAL | 3686 | 3105 | 3029 | 1423 | 2317 | 3502 | 4441 | 5044 | 5204 | 6437 | 6580 | 5276 |
| MEAN | 119 | 103 | 97.7 | 45.9 | 82.7 | 113 | 148 | 163 | 173 | 208 | 212 | 176 |
| MAX | 132 | 110 | 105 | 88 | 122 | 149 | 177 | 201 | 188 | 224 | 237 | 190 |
| MIN | 107 | 99 | 88 | 20 | 45 | 92 | 123 | 124 | 144 | 188 | 190 | 148 |
| AC-FT | 7310 | 6160 | 6010 | 2820 | 4600 | 6950 | 8810 | 10000 | 10320 | 12770 | 13050 | 10460 |
| MEAN a | 760 | 608 | 397 | 428 | 722 | 1398 | 1706 | 1589 | 994 | 1951 | 1168 | 817 |
| AC-FT a | 46730 | 36180 | 24410 | 26320 | 40100 | 85960 | 101500 | 97700 | 59150 | 120000 | 71820 | 48610 |

CAL YR 1989 TOTAL 43654 MEAN 120 MAX 205 MIN 22 AC-FT 86590 MEAN a 1290 AC-FT a 933900
WTR YR 1990 TOTAL 50044 MEAN 137 MAX 237 MIN 20 AC-FT 99260 MEAN a 1048 AC-FT a 758700

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 mi².

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.--Records fair. Some small dams for stock use upstream from station.

AVERAGE DISCHARGE.--24 years, 2.97 ft³/s, 2,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft³/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 ft³/s and maximum (*), from floodmarks:

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|----------|------|-----------------------------------|---------------------|
| Jan. 13 | 0830 | 194 | 2.76 | Sept. 23 | 1930 | *2,430 | *5.05 |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|------|------|------|------|------|------|------|-------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | 34 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | 7.4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | 3.3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .95 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .45 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .09 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .02 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | e.10 |
| 25 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | e.00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | e.00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | e.00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .00 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 46.26 | 0.05 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 26.10 |
| MEAN | .000 | .000 | .000 | 1.49 | .002 | .000 | .000 | .001 | .000 | .000 | .000 | .87 |
| MAX | .00 | .00 | .00 | 34 | .03 | .00 | .00 | .02 | .00 | .00 | .00 | .26 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | 92 | .1 | .00 | .00 | .04 | .00 | .00 | .00 | .52 |

CAL YR 1989 TOTAL 1.14 MEAN .003 MAX 1.1 MIN .00 AC-FT 2.3
WTR YR 1990 TOTAL 72.43 MEAN .20 MAX 34 MIN .00 AC-FT 144

e Estimated.

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 data 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 upstream from 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.--43 years, 262 ft³/s, 189,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,570 ft³/s, June 7, 1969; no flow for all or most of each year.

EXTREMES FOR CURRENT YEAR.--No flow for 1990 water year.

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 mi².

PERIOD OF RECORD.--September 1911 to August 1913, November 1915 to September 1990 (discontinued).

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.--Records fair except for periods of estimated daily discharge, which are poor. Diversions for irrigation of 160 acres upstream from station. Diversions into the Fresno River basin upstream from station of up to 60 ft³/s at times since 1888 from the Merced River basin. Diversions are for irrigation downstream from station.

AVERAGE DISCHARGE.--75 years (water years 1912, 1917-90), 82.8 ft³/s, 59,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s, Dec. 23, 1955, gage height, 11.52 ft, from rating curve extended above 4,500 ft³/s, on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 590 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Jan. 14 | 0115 | *266 | *2.20 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|--------|------|------|------|------|-------|-------|------|------|
| 1 | e1.1 | e4.8 | e12 | e8.0 | e37 | e35 | 44 | e25 | 41 | e4.5 | .00 | .00 |
| 2 | e1.8 | e4.6 | e11 | e8.4 | e38 | 37 | 47 | e24 | 38 | e4.1 | .00 | .00 |
| 3 | e1.5 | e4.2 | e9.7 | e8.8 | e60 | 49 | e46 | e23 | 35 | e3.8 | .00 | .00 |
| 4 | e1.5 | e4.1 | e9.5 | e9.6 | 106 | 56 | e46 | e21 | e33 | e3.7 | .00 | .00 |
| 5 | 1.3 | e3.8 | e9.0 | e9.9 | 90 | 75 | 45 | e20 | e31 | e3.6 | .00 | .00 |
| 6 | 1.3 | e3.6 | e9.0 | e10 | 74 | 56 | 40 | e19 | e30 | e3.6 | .00 | .00 |
| 7 | 1.2 | e3.4 | e8.9 | e10 | 83 | 45 | 40 | e18 | e29 | e3.6 | .00 | .00 |
| 8 | 1.1 | e3.3 | e8.5 | e11 | 71 | 39 | 47 | e17 | e28 | e3.6 | .00 | .00 |
| 9 | 1.2 | 3.5 | e8.4 | e10 | e60 | 37 | 44 | e16 | e27 | e3.6 | .00 | .00 |
| 10 | 1.5 | 4.3 | e8.1 | e9.9 | e49 | 38 | 40 | e16 | e25 | e3.7 | .00 | .00 |
| 11 | 1.4 | 7.0 | e7.8 | e10 | e43 | 59 | e38 | e16 | e23 | e3.9 | .00 | .00 |
| 12 | 1.3 | 9.5 | e7.7 | e15 | e42 | 55 | e35 | e15 | e21 | e3.4 | .00 | .00 |
| 13 | e1.2 | e6.3 | e7.6 | 134 | e41 | 44 | e32 | e15 | e18 | e3.0 | .00 | .00 |
| 14 | e1.2 | e5.2 | e7.5 | 215 | e38 | 36 | e30 | e15 | e16 | e2.5 | .00 | .00 |
| 15 | e1.1 | e4.7 | e7.7 | 133 | e36 | 36 | e28 | e15 | e13 | e1.9 | .00 | .00 |
| 16 | e1.1 | e4.4 | e8.0 | 125 | e40 | 39 | e29 | e15 | e11 | e1.0 | .00 | .00 |
| 17 | e1.0 | e4.2 | e7.9 | 120 | e54 | 39 | e32 | e14 | e12 | e.39 | .00 | .00 |
| 18 | e1.0 | e4.2 | e7.7 | 72 | e60 | 41 | e35 | e13 | e14 | e.23 | .00 | .00 |
| 19 | e1.0 | e4.3 | e7.8 | 63 | e50 | 44 | e34 | e12 | e13 | e.16 | .00 | .00 |
| 20 | e.98 | e4.3 | e7.9 | e54 | e39 | 46 | e32 | e12 | e12 | e.08 | .00 | .00 |
| 21 | e.97 | e4.3 | e7.8 | e44 | e34 | 52 | e28 | e12 | e11 | e.02 | .00 | .00 |
| 22 | e.95 | e4.2 | e7.8 | e37 | e30 | 57 | e30 | e15 | e10 | e.00 | .00 | .00 |
| 23 | e.94 | e4.2 | e7.7 | e34 | e37 | 56 | 41 | e17 | e9.0 | e.00 | .00 | .00 |
| 24 | e.92 | e4.4 | e7.7 | e32 | e47 | 57 | 49 | e20 | e8.0 | e.00 | .00 | .00 |
| 25 | e.92 | e6.4 | e7.9 | e31 | e54 | 60 | 39 | e25 | e7.6 | e.00 | .00 | .00 |
| 26 | e12 | e13 | e8.2 | e29 | e45 | 59 | 36 | e24 | e7.0 | e.00 | .00 | .00 |
| 27 | e11 | e41 | e8.0 | e28 | e36 | 57 | 34 | e28 | e6.4 | .00 | .00 | .00 |
| 28 | e9.4 | e30 | e7.8 | e27 | e33 | 52 | e31 | 125 | e6.1 | .00 | .00 | .00 |
| 29 | e8.0 | e19 | e7.9 | e26 | --- | 47 | e28 | 85 | e5.6 | .00 | .00 | .00 |
| 30 | e5.7 | e14 | e7.8 | e25 | --- | 45 | e26 | 53 | e4.9 | .00 | .00 | .00 |
| 31 | e5.3 | --- | e7.8 | e33 | --- | 44 | --- | 44 | --- | .00 | .00 | --- |
| TOTAL | 80.88 | 234.2 | 258.1 | 1382.6 | 1427 | 1492 | 1106 | 789 | 545.6 | 54.38 | 0.00 | 0.00 |
| MEAN | 2.61 | 7.81 | 8.33 | 44.6 | 51.0 | 48.1 | 36.9 | 25.5 | 18.2 | 1.75 | .000 | .000 |
| MAX | 12 | 41 | 12 | 215 | 106 | 75 | 49 | 125 | 41 | 4.5 | .00 | .00 |
| MIN | .92 | 3.3 | 7.5 | 8.0 | 30 | 35 | 26 | 12 | 4.9 | .00 | .00 | .00 |
| AC-FT | 160 | 465 | 512 | 2740 | 2830 | 2960 | 2190 | 1560 | 1080 | 108 | .00 | .00 |

CAL YR 1989 TOTAL 7557.28 MEAN 20.7 MAX 350 MIN .00 AC-FT 14990
WTR YR 1990 TOTAL 7369.76 MEAN 20.2 MAX 215 MIN .00 AC-FT 14620

e Estimated.

NOTE: Beaver activity affected stage-discharge relation.

SAN JOAQUIN RIVER BASIN

229

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 mi².

PERIOD OF RECORD.--October 1975 to September 1990 (discontinued).

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, 5,758 acre-ft, Sept. 29, 30, 1990, elevation, 450.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,267 acre-ft, June 19-22, elevation, 471.94 ft; minimum, 5,758 acre-ft, Sept. 29, 30, elevation, 450.63 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Army Corps of Engineers in 1975)

| | | | | | | | |
|-----|-------|-----|--------|-----|--------|-----|--------|
| 435 | 2,134 | 460 | 9,185 | 490 | 28,556 | 520 | 61,525 |
| 445 | 4,173 | 470 | 14,138 | 500 | 38,094 | 530 | 75,247 |
| 455 | 7,217 | 480 | 20,569 | 510 | 49,115 | 540 | 90,259 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 6065 | 6107 | 6527 | 7002 | 8110 | 9400 | 11982 | 14042 | 15071 | 15183 | 6854 | 5886 |
| 2 | 6062 | 6107 | 6544 | 7019 | 8145 | 9469 | 12058 | 14081 | 15106 | 15165 | 6756 | 5880 |
| 3 | 6058 | 6110 | 6564 | 7034 | 8188 | 9543 | 12135 | 14115 | 15136 | 15148 | 6653 | 5874 |
| 4 | 6052 | 6116 | 6581 | 7052 | 8248 | 9640 | 12212 | 14149 | 15160 | 15130 | 6554 | 5867 |
| 5 | 6049 | 6116 | 6598 | 7069 | 8303 | 9755 | 12295 | 14184 | 15177 | 15112 | 6460 | 5864 |
| 6 | 6046 | 6120 | 6615 | 7076 | 8343 | 9857 | 12367 | 14212 | 15189 | 15100 | 6366 | 5858 |
| 7 | 6042 | 6126 | 6632 | 7098 | 8379 | 9929 | 12445 | 14240 | 15207 | 15088 | 6270 | 5855 |
| 8 | 6039 | 6129 | 6650 | 7112 | 8415 | 10005 | 12518 | 14269 | 15225 | 15077 | 6172 | 5849 |
| 9 | 6036 | 6133 | 6670 | 7130 | 8443 | 10064 | 12602 | 14292 | 15243 | 14947 | 6074 | 5842 |
| 10 | 6036 | 6139 | 6684 | 7148 | 8476 | 10136 | 12681 | 14320 | 15243 | 14724 | 6020 | 5839 |
| 11 | 6033 | 6142 | 6701 | 7163 | 8500 | 10228 | 12750 | 14343 | 15249 | 14441 | 6013 | 5833 |
| 12 | 6029 | 6152 | 6715 | 7199 | 8532 | 10338 | 12830 | 14372 | 15249 | 14081 | 6004 | 5827 |
| 13 | 6026 | 6162 | 6729 | 7253 | 8557 | 10412 | 12905 | 14401 | 15249 | 13706 | 5997 | 5820 |
| 14 | 6023 | 6172 | 6742 | 7407 | 8585 | 10482 | 12979 | 14412 | 15249 | 13337 | 5988 | 5814 |
| 15 | 6020 | 6178 | 6756 | 7496 | 8618 | 10547 | 13060 | 14435 | 15249 | 12947 | 5982 | 5811 |
| 16 | 6017 | 6188 | 6774 | 7570 | 8655 | 10622 | 13152 | 14452 | 15255 | 12518 | 5972 | 5805 |
| 17 | 6010 | 6198 | 6788 | 7656 | 8720 | 10697 | 13233 | 14470 | 15255 | 12099 | 5966 | 5798 |
| 18 | 6007 | 6204 | 6801 | 7702 | 8803 | 10768 | 13315 | 14481 | 15261 | 11694 | 5959 | 5792 |
| 19 | 6004 | 6214 | 6815 | 7736 | 8865 | 10844 | 13375 | 14493 | 15267 | 11303 | 5956 | 5789 |
| 20 | 5997 | 6224 | 6829 | 7770 | 8911 | 10925 | 13441 | 14504 | 15267 | 10921 | 5950 | 5783 |
| 21 | 6001 | 6231 | 6843 | 7804 | 8961 | 11012 | 13490 | 14516 | 15267 | 10533 | 5946 | 5783 |
| 22 | 6001 | 6240 | 6857 | 7831 | 9007 | 11108 | 13534 | 14533 | 15267 | 10127 | 5940 | 5780 |
| 23 | 6004 | 6250 | 6871 | 7858 | 9054 | 11205 | 13639 | 14568 | 15261 | 9693 | 5934 | 5780 |
| 24 | 6017 | 6260 | 6885 | 7885 | 9092 | 11303 | 13711 | 14579 | 15249 | 9270 | 5927 | 5777 |
| 25 | 6020 | 6293 | 6899 | 7912 | 9151 | 11401 | 13778 | 14608 | 15243 | 8865 | 5921 | 5773 |
| 26 | 6052 | 6323 | 6913 | 7935 | 9206 | 11500 | 13834 | 14631 | 15237 | 8480 | 5918 | 5770 |
| 27 | 6071 | 6406 | 6927 | 7962 | 9270 | 11594 | 13890 | 14690 | 15225 | 8129 | 5912 | 5767 |
| 28 | 6084 | 6449 | 6942 | 7985 | 9339 | 11689 | 13924 | 14800 | 15213 | 7797 | 5908 | 5764 |
| 29 | 6084 | 6480 | 6959 | 8012 | --- | 11769 | 13963 | 14929 | 15207 | 7470 | 5899 | 5758 |
| 30 | 6097 | 6507 | 6973 | 8043 | --- | 11845 | 14002 | 14988 | 15195 | 7184 | 5893 | 5758 |
| 31 | 6100 | --- | 6988 | 8071 | --- | 11916 | --- | 15029 | --- | 6980 | 5889 | --- |
| MAX | 6100 | 6507 | 6988 | 8071 | 9339 | 11916 | 14002 | 15029 | 15267 | 15183 | 6854 | 5886 |
| MIN | 5997 | 6107 | 6527 | 7002 | 8110 | 9400 | 11982 | 14042 | 15071 | 6980 | 5889 | 5758 |
| a | 451.74 | 452.97 | 454.36 | 457.27 | 460.36 | 465.86 | 469.76 | 471.54 | 471.82 | 454.34 | 451.08 | 450.63 |
| b | +32 | +407 | +481 | +1083 | +1268 | +2577 | +2086 | +1027 | +166 | -8215 | -1091 | -131 |
| c | 170 | 86 | 41 | 42 | 59 | 124 | 253 | 342 | 496 | 548 | 313 | 248 |
| CAL YR 1989 | b | -3517 | | | | | | | | | | |
| WTR YR 1990 | b | -310 | | | | | | | | | | |

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Army Corps of Engineers; not reviewed by U.S. Geological Survey.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to September 1990 (discontinued). 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.--Records fair except those for flows below 25 ft³/s, which are poor. Flow completely regulated by Hensley Lake (station 11257950) since October 1975.

AVERAGE DISCHARGE.--49 years, 112 ft³/s, 81,140 acre-ft/yr, adjusted for change in contents and evaporation from Hensley Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft³/s, Dec. 23, 1955, gage height, 17.64 ft, site and datum then in use, from rating curve extended above 6,400 ft³/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 ft³/s, Mar. 1, 1983, gage height, 8.83 ft; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 3, 1938, reached a discharge of 15,000 ft³/s, provided by the U.S. Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 251 ft³/s, July 23, gage height, 5.07 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|---------|--------|------|
| 1 | .00 | .00 | .06 | .03 | .16 | .05 | .03 | .00 | .00 | .00 | 67 | .00 |
| 2 | .00 | .00 | .07 | .03 | .14 | .05 | .03 | .00 | .00 | .00 | 48 | .00 |
| 3 | .00 | .00 | .07 | .03 | .15 | .07 | .03 | .00 | .00 | .00 | 47 | .00 |
| 4 | .00 | .00 | .08 | .03 | .42 | .08 | .02 | .00 | .00 | .00 | 46 | .00 |
| 5 | .00 | .00 | .09 | .03 | .38 | .10 | .01 | .00 | .00 | .00 | 46 | .00 |
| 6 | .00 | .00 | .10 | .04 | .30 | .11 | .01 | .00 | .00 | .00 | 46 | .00 |
| 7 | .00 | .00 | .10 | .04 | .28 | .11 | .01 | .00 | .00 | .00 | 46 | .00 |
| 8 | .00 | .00 | .11 | .05 | .23 | .11 | .00 | .00 | .00 | .00 | 46 | .00 |
| 9 | .00 | .00 | .11 | .05 | .20 | .12 | .00 | .00 | .00 | e40 | 46 | .00 |
| 10 | .00 | .00 | .11 | .06 | .19 | .13 | .00 | .00 | .00 | 103 | 28 | .00 |
| 11 | .00 | .00 | .11 | .06 | .18 | .18 | .00 | .00 | .00 | 143 | .02 | .00 |
| 12 | .00 | .00 | .11 | .08 | .17 | .19 | .00 | .00 | .00 | 185 | .05 | .00 |
| 13 | .00 | .00 | .11 | .15 | .15 | .21 | .00 | .00 | .00 | 197 | .01 | e.00 |
| 14 | .00 | .00 | .11 | .12 | .13 | .22 | .00 | .00 | .00 | 195 | .01 | e.00 |
| 15 | .00 | .00 | .11 | .08 | .11 | .16 | .00 | .00 | .00 | 207 | .01 | e.00 |
| 16 | .00 | .00 | .11 | .07 | .11 | .11 | .00 | .00 | .00 | 225 | .02 | e.00 |
| 17 | 1.0 | .00 | .11 | .08 | .16 | .09 | .00 | .00 | .00 | 227 | .02 | e.00 |
| 18 | e.49 | .01 | .11 | .08 | .17 | .09 | .00 | .00 | .00 | 218 | .01 | e.00 |
| 19 | e.31 | .01 | .09 | 1.7 | .13 | .07 | .00 | .00 | .00 | 213 | .01 | e.00 |
| 20 | e.23 | .02 | .08 | .05 | .10 | .07 | .00 | .00 | .00 | 213 | .01 | e.00 |
| 21 | e.17 | .73 | .08 | .06 | .08 | .07 | .00 | .00 | .00 | 214 | .00 | e.00 |
| 22 | e.12 | .01 | .07 | .07 | .07 | .07 | .00 | .00 | .00 | 221 | .00 | e.00 |
| 23 | e.08 | .02 | .06 | .08 | .05 | .07 | .00 | .00 | .00 | 238 | .00 | e.00 |
| 24 | e.06 | .03 | .06 | .09 | .04 | .07 | .01 | .00 | .00 | 234 | .00 | e.00 |
| 25 | e.05 | .04 | .05 | .08 | .03 | .07 | .01 | .00 | .00 | 222 | .00 | e.00 |
| 26 | e.04 | .08 | .05 | .09 | .03 | .06 | .01 | .00 | .00 | 218 | .00 | e.00 |
| 27 | e.03 | .06 | .05 | .10 | .04 | .06 | .00 | .00 | .00 | 200 | .00 | e.00 |
| 28 | e.02 | .04 | .04 | .11 | .04 | .05 | .00 | .00 | .00 | 186 | .00 | e.00 |
| 29 | e.01 | .04 | .04 | .12 | --- | .05 | .00 | .00 | .00 | 185 | .00 | e.00 |
| 30 | e.00 | .06 | .04 | .13 | --- | .05 | .00 | .00 | .00 | 160 | .00 | e.00 |
| 31 | .00 | --- | .04 | .15 | --- | .04 | --- | .00 | --- | 114 | .00 | --- |
| TOTAL | 2.61 | 1.15 | 2.53 | 3.94 | 4.24 | 2.98 | 0.17 | 0.00 | 0.00 | 4358.00 | 466.17 | 0.00 |
| MEAN | .084 | .038 | .082 | .13 | .15 | .096 | .006 | .000 | .000 | 141 | 15.0 | .000 |
| MAX | 1.0 | .73 | .11 | 1.7 | .42 | .22 | .03 | .00 | .00 | 238 | 67 | .00 |
| MIN | .00 | .00 | .04 | .03 | .03 | .04 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | 5.2 | 2.3 | 5.0 | 7.8 | 8.4 | 5.9 | .3 | .00 | .00 | 8640 | 925 | .00 |

CAL YR 1989 TOTAL 8276.76 MEAN 22.7 MAX 249 MIN .00 AC-FT 16420 MEAN a 22.3 AC-FT a 16140
WTR YR 1990 TOTAL 4841.79 MEAN 13.3 MAX 238 MIN .00 AC-FT 9600 MEAN a 16.6 AC-FT a 12020

e Estimated.

a Adjusted for change in contents and evaporation from Hensley Lake.

NOTE.--Backwater from beaver dams Oct. 1 to Sept. 30.

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WATER-QUALITY RECORDS

WATER TEMPERATURE: Maximum recorded, 30.0 °C, Aug. 8; minimum recorded, 12.0 °C, July 10, 11.

[illegible]

SAN JOAQUIN RIVER BASIN

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|------|--------|------|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | | | | | | | --- | --- | 26.5 | 23.0 | | |
| 2 | | | | | | | --- | --- | 26.0 | 22.5 | | |
| 3 | | | | | | | --- | --- | 26.0 | 23.0 | | |
| 4 | | | | | | | --- | --- | 26.5 | 23.5 | | |
| 5 | | | | | | | --- | --- | 27.5 | 23.5 | | |
| 6 | | | | | | | --- | --- | 27.5 | 24.5 | | |
| 7 | | | | | | | --- | --- | 28.5 | 25.0 | | |
| 8 | | | | | | | --- | --- | 30.0 | 25.0 | | |
| 9 | | | | | | | --- | --- | 28.5 | 25.5 | | |
| 10 | | | | | | | 13.5 | 12.0 | --- | --- | | |
| 11 | | | | | | | 13.5 | 12.0 | --- | --- | | |
| 12 | | | | | | | 14.0 | 12.5 | --- | --- | | |
| 13 | | | | | | | 14.5 | 13.5 | --- | --- | | |
| 14 | | | | | | | 14.5 | 13.5 | --- | --- | | |
| 15 | | | | | | | 15.5 | 13.5 | --- | --- | | |
| 16 | | | | | | | 15.5 | 15.0 | --- | --- | | |
| 17 | | | | | | | 16.5 | 15.0 | --- | --- | | |
| 18 | | | | | | | 17.0 | 15.5 | --- | --- | | |
| 19 | | | | | | | 17.5 | 16.5 | --- | --- | | |
| 20 | | | | | | | 19.0 | 17.5 | --- | --- | | |
| 21 | | | | | | | 20.0 | 19.0 | --- | --- | | |
| 22 | | | | | | | 22.0 | 19.5 | --- | --- | | |
| 23 | | | | | | | 23.5 | 21.0 | --- | --- | | |
| 24 | | | | | | | 23.0 | 22.5 | --- | --- | | |
| 25 | | | | | | | 24.0 | 23.0 | --- | --- | | |
| 26 | | | | | | | 25.5 | 23.5 | --- | --- | | |
| 27 | | | | | | | 26.0 | 24.0 | --- | --- | | |
| 28 | | | | | | | 26.5 | 24.5 | --- | --- | | |
| 29 | | | | | | | 27.5 | 25.0 | --- | --- | | |
| 30 | | | | | | | 29.0 | 25.0 | --- | --- | | |
| 31 | | | | | | | 29.5 | 24.5 | --- | --- | | |
| MONTH | | | | | | | --- | --- | --- | --- | | |

SAN JOAQUIN RIVER BASIN

233

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 mi².

PERIOD OF RECORD.--August 1980 to September 1990 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No storage or diversions upstream from station.

AVERAGE DISCHARGE.--10 years, 91.4 ft³/s, 66,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Jan. 15 | 0400 | *66 | *4.06 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|-------|------|-------|-------|--------|-------|------|------|------|
| 1 | .00 | 1.3 | 3.2 | 2.2 | 11 | 28 | 9.6 | 4.9 | 7.2 | .00 | .00 | .00 |
| 2 | .00 | 1.3 | 2.9 | 2.4 | 11 | 25 | 9.3 | 4.5 | 5.6 | .00 | .00 | .00 |
| 3 | .00 | 1.2 | 2.7 | 2.5 | 11 | 27 | 8.8 | 4.0 | 4.5 | .00 | .00 | .00 |
| 4 | .00 | 1.2 | 2.6 | 2.8 | 19 | 30 | 8.7 | 3.6 | 3.6 | .00 | .00 | .00 |
| 5 | .00 | 1.1 | 2.5 | 2.8 | 23 | 33 | 8.3 | 3.3 | 2.9 | .00 | .00 | .00 |
| 6 | .00 | 1.1 | 2.5 | 2.8 | 20 | 38 | 7.9 | 2.8 | 2.4 | .00 | .00 | .00 |
| 7 | .00 | 1.1 | 2.4 | 2.8 | 21 | 31 | 7.7 | 2.5 | 2.1 | .00 | .00 | .00 |
| 8 | .00 | 1.1 | 2.4 | 2.9 | 21 | 27 | 8.1 | 2.2 | 1.7 | .00 | .00 | .00 |
| 9 | .00 | 1.1 | 2.3 | 2.9 | 16 | 24 | 8.8 | 2.0 | 1.5 | .00 | .00 | .00 |
| 10 | .00 | 1.6 | 2.3 | 2.8 | 13 | 22 | 8.6 | 1.8 | 1.3 | .00 | .00 | .00 |
| 11 | .00 | 2.8 | 2.3 | 2.8 | 12 | 30 | 8.1 | 1.7 | 1.1 | .00 | .00 | .00 |
| 12 | .00 | 2.0 | 2.2 | 3.4 | 12 | 37 | 7.5 | 1.6 | .92 | .00 | .00 | .00 |
| 13 | .00 | 1.6 | 2.2 | 10 | 11 | 34 | 6.9 | 1.6 | .75 | .00 | .00 | .00 |
| 14 | .00 | 1.4 | 2.2 | 47 | 11 | 31 | 6.6 | 1.7 | .65 | .00 | .00 | .00 |
| 15 | .00 | 1.3 | 2.2 | 55 | 10 | 29 | 6.1 | 1.5 | .59 | .00 | .00 | .00 |
| 16 | .00 | 1.2 | 2.3 | 34 | 11 | 28 | 6.2 | 1.3 | .49 | .00 | .00 | .00 |
| 17 | .00 | 1.2 | 2.3 | 40 | 31 | 26 | 7.1 | 1.2 | .42 | .00 | .00 | .00 |
| 18 | .00 | 1.2 | 2.2 | 26 | 39 | 24 | 8.0 | 1.1 | .32 | .00 | .00 | .00 |
| 19 | .00 | 1.2 | 2.2 | 18 | 32 | 22 | 7.7 | .99 | .27 | .00 | .00 | .00 |
| 20 | .00 | 1.2 | 2.2 | 14 | 24 | 20 | 7.1 | .94 | .40 | .00 | .00 | .00 |
| 21 | .00 | 1.2 | 2.2 | 12 | 22 | 18 | 6.5 | .89 | .34 | .00 | .00 | .00 |
| 22 | .00 | 1.2 | 2.2 | 10 | 21 | 18 | 6.0 | .86 | .22 | .00 | .00 | .00 |
| 23 | .00 | 1.2 | 2.2 | 9.5 | 27 | 17 | 10 | 1.0 | .15 | .00 | .00 | .00 |
| 24 | .00 | 1.2 | 2.2 | 8.9 | 36 | 15 | 14 | 1.5 | .10 | .00 | .00 | .00 |
| 25 | .00 | 1.4 | 2.2 | 8.5 | 38 | 14 | 15 | 1.6 | .07 | .00 | .00 | .00 |
| 26 | 2.5 | 4.4 | 2.3 | 8.2 | 35 | 13 | 11 | 2.0 | .04 | .00 | .00 | .00 |
| 27 | 3.5 | 12 | 2.3 | 7.9 | 32 | 12 | 8.6 | 2.0 | .03 | .00 | .00 | .00 |
| 28 | 2.6 | 7.0 | 2.2 | 7.7 | 31 | 11 | 7.2 | 9.9 | .00 | .00 | .00 | .00 |
| 29 | 2.0 | 4.8 | 2.2 | 7.4 | --- | 11 | 6.2 | 29 | .00 | .00 | .00 | .00 |
| 30 | 1.6 | 3.7 | 2.2 | 7.6 | --- | 11 | 5.4 | 15 | .00 | .00 | .00 | .00 |
| 31 | 1.5 | --- | 2.2 | 9.0 | --- | 9.9 | --- | 9.5 | --- | .00 | .00 | --- |
| TOTAL | 13.70 | 65.3 | 72.5 | 373.8 | 601 | 715.9 | 247.0 | 118.48 | 39.66 | 0.00 | 0.00 | 0.00 |
| MEAN | .44 | 2.18 | 2.34 | 12.1 | 21.5 | 23.1 | 8.23 | 3.82 | 1.32 | .000 | .000 | .000 |
| MAX | 3.5 | 12 | 3.2 | 55 | 39 | 38 | 15 | 29 | 7.2 | .00 | .00 | .00 |
| MIN | .00 | 1.1 | 2.2 | 2.2 | 10 | 9.9 | 5.4 | .86 | .00 | .00 | .00 | .00 |
| AC-FT | 27 | 130 | 144 | 741 | 1190 | 1420 | 490 | 235 | 79 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 3807.06 MEAN 10.4 MAX 370 MIN .00 AC-FT 7550
WTR YR 1990 TOTAL 2247.34 MEAN 6.16 MAX 55 MIN .00 AC-FT 4460

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 mi².

PERIOD OF RECORD.--January 1976 to September 1990 (discontinued).

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 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 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, 14,248 acre-ft, June 1-4, elevation, 473.67 ft; minimum, 9,528 acre-ft, Sept. 30, elevation, 464.69 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Army Corps of Engineers in 1975)

| | | | | | | | | | |
|-----|-------|-----|-------|-----|--------|-----|--------|-----|---------|
| 438 | 1,519 | 455 | 5,620 | 470 | 12,190 | 500 | 34,039 | 560 | 106,476 |
| 442 | 2,197 | 460 | 7,485 | 475 | 15,038 | 520 | 54,354 | 580 | 138,394 |
| 446 | 3,043 | 465 | 9,673 | 480 | 18,213 | 540 | 78,560 | 600 | 174,809 |
| 450 | 4,069 | | | 490 | 25,520 | | | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 10179 | 10087 | 10092 | 10208 | 11123 | 12487 | 13900 | 14219 | 14248 | 13888 | 10082 | 9758 |
| 2 | 10174 | 10082 | 10097 | 10218 | 11149 | 12547 | 13911 | 14213 | 14248 | 13882 | 10073 | 9739 |
| 3 | 10165 | 10082 | 10102 | 10218 | 11185 | 12607 | 13923 | 14213 | 14248 | 13865 | 10063 | 9734 |
| 4 | 10160 | 10078 | 10107 | 10223 | 11231 | 12679 | 13940 | 14213 | 14248 | 13859 | 10054 | 9725 |
| 5 | 10155 | 10073 | 10107 | 10228 | 11277 | 12739 | 13946 | 14213 | 14242 | 13802 | 10039 | 9720 |
| 6 | 10145 | 10073 | 10111 | 10232 | 11323 | 12816 | 13958 | 14207 | 14231 | 13607 | 10034 | 9711 |
| 7 | 10140 | 10068 | 10116 | 10237 | 11364 | 12882 | 13963 | 14202 | 14225 | 13408 | 10020 | 9696 |
| 8 | 10131 | 10063 | 10121 | 10247 | 11406 | 12938 | 13975 | 14196 | 14225 | 13206 | 10010 | 9687 |
| 9 | 10131 | 10063 | 10126 | 10257 | 11442 | 12982 | 13986 | 14184 | 14207 | 13016 | 10001 | 9678 |
| 10 | 10121 | 10058 | 10126 | 10262 | 11473 | 13032 | 13998 | 14178 | 14196 | 12805 | 9991 | 9673 |
| 11 | 10116 | 10058 | 10131 | 10266 | 11499 | 13099 | 14004 | 14167 | 14184 | 12602 | 9977 | 9664 |
| 12 | 10111 | 10058 | 10131 | 10305 | 11525 | 13178 | 14015 | 14155 | 14167 | 12390 | 9967 | 9654 |
| 13 | 10107 | 10054 | 10135 | 10369 | 11540 | 13239 | 14027 | 14149 | 14155 | 12185 | 9958 | 9645 |
| 14 | 10102 | 10049 | 10135 | 10492 | 11561 | 13301 | 14033 | 14143 | 14137 | 11956 | 9943 | 9631 |
| 15 | 10097 | 10044 | 10140 | 10571 | 11577 | 13357 | 14039 | 14132 | 14126 | 11723 | 9934 | 9621 |
| 16 | 10092 | 10044 | 10140 | 10660 | 11634 | 13408 | 14056 | 14126 | 14120 | 11520 | 9919 | 9612 |
| 17 | 10087 | 10044 | 10145 | 10750 | 11702 | 13459 | 14056 | 14114 | 14108 | 11302 | 9905 | 9603 |
| 18 | 10082 | 10039 | 10150 | 10800 | 11797 | 13505 | 14068 | 14108 | 14097 | 11098 | 9891 | 9598 |
| 19 | 10078 | 10039 | 10150 | 10845 | 11876 | 13550 | 14073 | 14091 | 14079 | 10885 | 9881 | 9588 |
| 20 | 10068 | 10034 | 10165 | 10875 | 11924 | 13584 | 14079 | 14079 | 14079 | 10685 | 9872 | 9584 |
| 21 | 10068 | 10034 | 10165 | 10905 | 11966 | 13613 | 14085 | 14073 | 14068 | 10482 | 9857 | 9574 |
| 22 | 10073 | 10029 | 10169 | 10926 | 12019 | 13647 | 14091 | 14068 | 14050 | 10340 | 9848 | 9570 |
| 23 | 10078 | 10029 | 10169 | 10946 | 12067 | 13676 | 14161 | 14073 | 14039 | 10223 | 9843 | 9570 |
| 24 | 10126 | 10029 | 10169 | 10966 | 12142 | 13704 | 14178 | 14085 | 14021 | 10174 | 9829 | 9560 |
| 25 | 10121 | 10073 | 10174 | 10986 | 12223 | 13727 | 14196 | 14097 | 13998 | 10160 | 9819 | 9556 |
| 26 | 10116 | 10063 | 10174 | 11006 | 12298 | 13750 | 14207 | 14108 | 13975 | 10150 | 9810 | 9546 |
| 27 | 10111 | 10058 | 10179 | 11017 | 12368 | 13767 | 14207 | 14132 | 13952 | 10140 | 9796 | 9542 |
| 28 | 10107 | 10068 | 10194 | 11037 | 12433 | 13785 | 14225 | 14155 | 13929 | 10126 | 9791 | 9537 |
| 29 | 10102 | 10078 | 10194 | 11047 | --- | 13859 | 14219 | 14196 | 13911 | 10111 | 9777 | 9532 |
| 30 | 10097 | 10087 | 10198 | 11078 | --- | 13877 | 14219 | 14225 | 13894 | 10102 | 9772 | 9528 |
| 31 | 10092 | --- | 10203 | 11093 | --- | 13888 | --- | 14242 | --- | 10092 | 9763 | --- |
| MAX | 10179 | 10087 | 10203 | 11093 | 12433 | 13888 | 14225 | 14242 | 14248 | 13888 | 10082 | 9758 |
| MIN | 10068 | 10029 | 10092 | 10208 | 11123 | 12487 | 13900 | 14068 | 13894 | 10092 | 9763 | 9528 |
| a | 465.83 | 465.87 | 466.12 | 467.90 | 470.45 | 473.05 | 473.62 | 473.66 | 473.06 | 465.88 | 465.19 | 464.69 |
| b | -92 | -5 | +116 | +890 | +1340 | +1455 | +331 | +23 | -348 | -3802 | -329 | -235 |
| c | 201 | 83 | 42 | 51 | 65 | 124 | 244 | 336 | 437 | 487 | 409 | 339 |

CAL YR 1989 b -1115

WTR YR 1990 b -656

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, published as provided by U.S. Army Corps of Engineers; not reviewed by U.S. Geological Survey.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1923, October 1930 to September 1972, October 1975 to September 1990 (discontinued). 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.--No estimated daily discharges. Records good. Flow completely regulated by H. V. Eastman Lake (station 11258990) 1,800 ft upstream beginning Jan. 1, 1976.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from H. V. Eastman Lake since 1976).--59 years (water years 1922-23, 1931-72, 1976-90), 101 ft³/s, 73,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s, Dec. 23, 1955, gage height, 16.50 ft, site and datum then in use, from rating curve extended above 6,000 ft³/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 ft³/s, Mar. 1, 1983, gage height, 11.67 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 112 ft³/s, July 6, gage height, 4.21 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|---------|------|------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .01 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .01 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 27 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 86 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 99 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 98 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 98 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 | 101 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 101 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 100 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 100 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 100 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 68 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .01 | .01 | .00 | .00 | 51 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | 18 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .16 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .23 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .18 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .15 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .00 | .00 | .06 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .00 | .00 | .04 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .01 | --- | .00 | --- | .01 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.04 | 0.00 | 0.00 | 1754.83 | 0.02 | 0.00 |
| MEAN | .000 | .000 | .000 | .000 | .000 | .009 | .001 | .000 | .000 | 56.6 | .001 | .000 |
| MAX | .00 | .00 | .00 | .00 | .00 | .02 | .01 | .00 | .00 | 101 | .01 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | .00 | .00 | .6 | .08 | .00 | .00 | 3480 | .04 | .00 |

CAL YR 1989 TOTAL 3866.65 MEAN 10.6 MAX 141 MIN .00 AC-FT 7670 MEAN a 13.2 AC-FT a 9560
WTR YR 1990 TOTAL 1755.17 MEAN 4.81 MAX 101 MIN .00 AC-FT 3480 MEAN a 7.79 AC-FT a 5640

a Adjusted for change in contents and evaporation from H. V. Eastman Lake.

WATER-QUALITY RECORDS

WATER TEMPERATURE: Water years 1976 to current year

WATER TEMPERATURE: October 1975 to current year.

REMARKS.--Water temperatures since October 1985 for periods when discharge was less than 1 ft³/s are not reliable and are not published. Water temperature is affected by regulation from Buchanan Dam.

WATER TEMPERATURE: Maximum recorded, 33.5 °C, June 7, 1977; minimum recorded, 0.0 °C, Jan. 2, 4, 1976.

WATER TEMPERATURE: Maximum recorded, 29.0 °C, May 15, 1987; minimum recorded, 0.5 °C, Dec. 25-27, 1987.

WATER TEMPERATURE: Maximum recorded, 16.5 °C, July 23; minimum recorded, 11.5 °C, July 6-8.

[illegible]

SAN JOAQUIN RIVER BASIN

237

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|------|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | | | | | | | --- | --- | | | | |
| 2 | | | | | | | --- | --- | | | | |
| 3 | | | | | | | --- | --- | | | | |
| 4 | | | | | | | --- | --- | | | | |
| 5 | | | | | | | --- | --- | | | | |
| 6 | | | | | | | 13.0 | 11.5 | | | | |
| 7 | | | | | | | 13.0 | 11.5 | | | | |
| 8 | | | | | | | 13.0 | 11.5 | | | | |
| 9 | | | | | | | 13.0 | 12.0 | | | | |
| 10 | | | | | | | 13.0 | 12.0 | | | | |
| 11 | | | | | | | 13.0 | 12.0 | | | | |
| 12 | | | | | | | 13.5 | 12.5 | | | | |
| 13 | | | | | | | 13.5 | 12.5 | | | | |
| 14 | | | | | | | 13.5 | 12.5 | | | | |
| 15 | | | | | | | 14.0 | 13.0 | | | | |
| 16 | | | | | | | 14.0 | 13.0 | | | | |
| 17 | | | | | | | 14.5 | 13.5 | | | | |
| 18 | | | | | | | 15.0 | 13.5 | | | | |
| 19 | | | | | | | 15.0 | 14.0 | | | | |
| 20 | | | | | | | 15.5 | 14.5 | | | | |
| 21 | | | | | | | 16.0 | 15.0 | | | | |
| 22 | | | | | | | 16.0 | 15.0 | | | | |
| 23 | | | | | | | 16.5 | 15.0 | | | | |
| 24 | | | | | | | --- | --- | | | | |
| 25 | | | | | | | --- | --- | | | | |
| 26 | | | | | | | --- | --- | | | | |
| 27 | | | | | | | --- | --- | | | | |
| 28 | | | | | | | --- | --- | | | | |
| 29 | | | | | | | --- | --- | | | | |
| 30 | | | | | | | --- | --- | | | | |
| 31 | | | | | | | --- | --- | | | | |
| MONTH | | | | | | | --- | --- | | | | |

SAN JOAQUIN RIVER BASIN

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 37°14'52", long 120°51'00", in NE 1/4 SE 1/4 sec.27, T.7 S., R.10 E., Merced County, Hydrologic Unit 18040001, on left bank at bridge on Highway 165 and 2.0 mi south of Stevinson.

DRAINAGE AREA.--7,388 mi², approximately.

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: Water year 1989 to current year.

WATER TEMPERATURE: Water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Maximum and minimum values are affected by upstream regulation of flow.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,090 microsiemens, Aug. 19, 1990; minimum recorded, 290 microsiemens, Mar. 2, 3, 1989.

WATER TEMPERATURE: Maximum recorded, 31.0 °C, Aug. 9, 10, 1990; minimum recorded, 4.0 °C, Dec. 29, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,090 microsiemens, Aug. 19; minimum recorded, 340 microsiemens, Feb. 21.

WATER TEMPERATURE: Maximum recorded, 31.0 °C, Aug. 9, 10; minimum recorded, 5.5 °C, Dec. 27, 31.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 990 | 940 | --- | --- | 1250 | 1200 | 1300 | 1260 | 1250 | 1200 | 490 | 430 |
| 2 | --- | --- | --- | --- | 1250 | 1200 | 1310 | 1260 | 1290 | 1240 | 660 | 460 |
| 3 | --- | --- | --- | --- | 1250 | 1210 | 1310 | 1290 | 1290 | 1270 | 800 | 660 |
| 4 | --- | --- | --- | --- | 1290 | 1240 | 1310 | 1290 | 1290 | 1270 | 950 | 800 |
| 5 | 1170 | 1100 | --- | --- | 1310 | 1280 | 1310 | 1300 | 1290 | 1230 | 1020 | 900 |
| 6 | 1100 | 1050 | --- | --- | 1310 | 1240 | 1320 | 1310 | 1240 | 1170 | 1090 | 980 |
| 7 | 1050 | 970 | --- | --- | 1310 | 1290 | 1310 | 1260 | 1200 | 1170 | 1120 | 1040 |
| 8 | --- | --- | 1100 | 1050 | 1320 | 1290 | 1310 | 1290 | 1190 | 1130 | 1280 | 1090 |
| 9 | --- | --- | 1120 | 1060 | 1330 | 1320 | 1330 | 1310 | 1170 | 1120 | 1440 | 1280 |
| 10 | --- | --- | 1160 | 1110 | 1330 | 1320 | 1360 | 1320 | 1130 | 1090 | 1490 | 1440 |
| 11 | --- | --- | 1160 | 810 | 1380 | 1320 | 1410 | 1360 | 1130 | 1080 | 1490 | 1440 |
| 12 | --- | --- | 920 | 750 | 1390 | 1340 | 1440 | 1370 | 1090 | 980 | 1480 | 1470 |
| 13 | --- | --- | 900 | 800 | 1400 | 1390 | 1480 | 1430 | 1080 | 1020 | 1480 | 1470 |
| 14 | --- | --- | 920 | 810 | 1400 | 1380 | 1490 | 1470 | 1070 | 1020 | 1480 | 1470 |
| 15 | --- | --- | 910 | 890 | 1400 | 1390 | 1550 | 1490 | 1030 | 1010 | 1580 | 1470 |
| 16 | --- | --- | 920 | 890 | 1400 | 1290 | 1690 | 1550 | 1020 | 970 | 1670 | 1580 |
| 17 | --- | --- | 910 | 900 | 1390 | 1280 | 1700 | 1640 | 980 | 910 | 1640 | 1510 |
| 18 | --- | --- | 940 | 900 | 1390 | 1280 | 1660 | 1550 | 950 | 910 | 1510 | 1420 |
| 19 | --- | --- | 950 | 910 | 1340 | 1300 | 1590 | 1430 | 1120 | 910 | 1430 | 1360 |
| 20 | --- | --- | 1000 | 940 | 1370 | 1180 | 1440 | 1350 | 1120 | 420 | 1460 | 1400 |
| 21 | --- | --- | 1000 | 980 | 1350 | 1240 | 1410 | 1300 | 460 | 340 | 1520 | 1460 |
| 22 | --- | --- | 1040 | 990 | 1310 | 1250 | 1300 | 1100 | 570 | 460 | 1530 | 1510 |
| 23 | --- | --- | 1050 | 1000 | 1300 | 1240 | 1120 | 1070 | 570 | 410 | 1560 | 1520 |
| 24 | --- | --- | 1080 | 1040 | 1290 | 1210 | 1110 | 1010 | 410 | 360 | 1560 | 1550 |
| 25 | --- | --- | 1110 | 1050 | 1290 | 1240 | 1020 | 970 | 370 | 360 | 1600 | 1550 |
| 26 | --- | --- | 1140 | 1050 | 1250 | 1140 | 1030 | 920 | 400 | 360 | 1620 | 1550 |
| 27 | --- | --- | 1150 | 1100 | 1250 | 1240 | 1020 | 980 | 410 | 390 | 1650 | 1600 |
| 28 | --- | --- | 1150 | 1140 | 1290 | 1240 | 1020 | 980 | 430 | 390 | 1650 | 1600 |
| 29 | --- | --- | 1180 | 1110 | 1280 | 1240 | 1040 | 990 | --- | --- | 1650 | 1610 |
| 30 | --- | --- | 1210 | 1150 | 1290 | 1260 | 1130 | 1030 | --- | --- | 1680 | 1640 |
| 31 | --- | --- | --- | --- | 1300 | 1260 | 1210 | 1130 | --- | --- | 1700 | 1640 |
| MONTH | --- | --- | --- | --- | 1400 | 1140 | 1700 | 920 | 1290 | 340 | 1700 | 430 |

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 1750 | 1690 | 2120 | 2060 | 890 | 770 | 2170 | 2110 | 2870 | 2830 | 1740 | 1690 |
| 2 | 1830 | 1740 | 2130 | 2070 | 940 | 890 | 2170 | 2130 | 2920 | 2830 | 1770 | 1700 |
| 3 | 1850 | 1740 | 2130 | 2040 | 1050 | 930 | 2230 | 2160 | 2910 | 2840 | 1800 | 1730 |
| 4 | 1900 | 1830 | 2120 | 2040 | 1150 | 1040 | 2280 | 2180 | 2930 | 2880 | 1830 | 1790 |
| 5 | 1900 | 1840 | 2120 | 2040 | 1220 | 1150 | 2290 | 2250 | 2920 | 2880 | 1890 | 1820 |
| 6 | 1940 | 1890 | 2130 | 2050 | 1250 | 1200 | 2330 | 2280 | 2950 | 2880 | 1930 | 1880 |
| 7 | 2030 | 1930 | 2110 | 2060 | 1350 | 1250 | 2380 | 2320 | 2950 | 2920 | 1990 | 1920 |
| 8 | 2040 | 1990 | 2140 | 2100 | 1380 | 1300 | 2380 | 2320 | 2950 | 2930 | 2020 | 1970 |
| 9 | 2070 | 2030 | 2170 | 2110 | 1310 | 1140 | 2390 | 2320 | 2990 | 2940 | 2060 | 1980 |
| 10 | 2090 | 2030 | 2180 | 2160 | 1250 | 1190 | 2430 | 2360 | 3030 | 2950 | 2150 | 2010 |
| 11 | 2100 | 2040 | 2190 | 2180 | 1270 | 1190 | 2480 | 2390 | 3060 | 2990 | 2180 | 2100 |
| 12 | 2140 | 2090 | 2240 | 2180 | 1340 | 1270 | 2500 | 2430 | 3030 | 2950 | 2260 | 2170 |
| 13 | 2180 | 2130 | 2240 | 2190 | 1440 | 1330 | 2500 | 2480 | 3050 | 2990 | 2300 | 2230 |
| 14 | 2190 | 2130 | 2310 | 2240 | 1500 | 1430 | 2540 | 2480 | 3000 | 2850 | 2340 | 2290 |
| 15 | 2190 | 2140 | 2350 | 2300 | 1530 | 1490 | 2580 | 2510 | 3000 | 2880 | 2410 | 2300 |
| 16 | 2170 | 2130 | 2320 | 1820 | 1590 | 1520 | 2580 | 2540 | 2960 | 2890 | 2430 | 2400 |
| 17 | 2140 | 2090 | 2230 | 1890 | 1630 | 1580 | 2570 | 2530 | 2970 | 2920 | 2440 | 2420 |
| 18 | 2130 | 2090 | 2280 | 2200 | 1720 | 1620 | 2610 | 2560 | 2970 | 2930 | 2530 | 2430 |
| 19 | 2100 | 2060 | 2330 | 2270 | 1750 | 1660 | 2620 | 2570 | 3090 | 2930 | 2560 | 2450 |
| 20 | 2090 | 2060 | 2340 | 2280 | 1710 | 1670 | 2640 | 2580 | 3080 | 2800 | 2600 | 2540 |
| 21 | 2080 | 2020 | 2350 | 2290 | 1810 | 1700 | 2650 | 2600 | 2800 | 2370 | 2670 | 2560 |
| 22 | 2060 | 2020 | 2350 | 2270 | 1840 | 1770 | 2660 | 2600 | 2500 | 2280 | 2730 | 2620 |
| 23 | 2030 | 1990 | 2320 | 2270 | 1850 | 1800 | 2710 | 2620 | 2220 | 2010 | 2770 | 2700 |
| 24 | 2030 | 1990 | 2320 | 2280 | 1930 | 1840 | 2740 | 2630 | 2090 | 1930 | 2790 | 2740 |
| 25 | 2030 | 2020 | 2350 | 2290 | 1960 | 1890 | 2780 | 2690 | 2030 | 1900 | 2850 | 2780 |
| 26 | 2060 | 2020 | 2350 | 2300 | 1990 | 1930 | 2800 | 2730 | 1900 | 1640 | 2910 | 2820 |
| 27 | 2070 | 2000 | 2360 | 2310 | 2030 | 1950 | 2800 | 2750 | 1740 | 1650 | 2930 | 2870 |
| 28 | 2040 | 1990 | 2310 | 2270 | 2080 | 1990 | 2820 | 2750 | 1710 | 1640 | 2940 | 2910 |
| 29 | 2050 | 1910 | 2420 | 1420 | 2080 | 2030 | 2830 | 2770 | 1710 | 1640 | 2990 | 2930 |
| 30 | 2100 | 2020 | 1210 | 360 | 2140 | 2070 | 2870 | 2800 | 1710 | 1650 | 3040 | 2940 |
| 31 | --- | --- | 780 | 490 | --- | --- | 2880 | 2810 | 1700 | 1690 | --- | --- |
| MONTH | 2190 | 1690 | 2420 | 360 | 2140 | 770 | 2880 | 2110 | 3090 | 1640 | 3040 | 1690 |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 22.5 | 20.0 | 16.5 | 13.5 | 10.5 | 9.5 | 7.0 | 6.0 | 10.5 | 9.5 | 14.5 | 13.0 |
| 2 | 21.5 | 20.0 | 15.5 | 13.5 | 11.0 | 9.0 | 7.0 | 6.5 | 11.0 | 9.0 | 13.5 | 13.0 |
| 3 | 21.5 | 19.5 | 16.5 | 13.5 | 10.0 | 9.0 | 7.5 | 6.5 | 10.0 | 9.5 | 17.0 | 13.0 |
| 4 | 20.5 | 19.5 | 16.0 | 13.5 | 10.0 | 8.5 | 8.0 | 6.0 | 10.0 | 9.5 | 15.5 | 14.0 |
| 5 | 22.0 | 18.5 | 16.0 | 13.5 | 10.5 | 9.0 | 7.0 | 6.0 | 12.0 | 9.0 | 14.5 | 13.0 |
| 6 | 22.0 | 19.0 | 15.5 | 13.5 | 10.5 | 9.0 | 7.0 | 6.0 | 10.0 | 9.0 | 17.0 | 13.0 |
| 7 | 22.0 | 19.0 | 15.0 | 14.0 | 10.5 | 9.0 | 7.0 | 7.0 | 9.5 | 8.5 | 15.0 | 13.0 |
| 8 | 24.0 | 19.5 | 15.5 | 13.5 | 10.0 | 9.0 | 8.5 | 7.0 | 11.0 | 8.5 | 15.5 | 13.5 |
| 9 | 24.0 | 19.5 | 15.0 | 13.0 | 10.0 | 9.5 | 8.5 | 8.0 | 11.5 | 9.0 | 15.5 | 13.0 |
| 10 | 22.5 | 20.0 | 15.5 | 13.0 | 10.5 | 9.5 | 9.0 | 8.0 | 12.5 | 9.0 | 14.0 | 13.0 |
| 11 | 22.0 | 19.5 | 15.0 | 12.5 | 10.0 | 9.0 | 9.0 | 8.5 | 11.0 | 9.0 | 15.0 | 12.5 |
| 12 | 21.5 | 19.5 | 15.0 | 13.0 | 9.5 | 8.5 | 9.5 | 9.0 | 11.0 | 9.5 | 14.5 | 12.5 |
| 13 | 21.0 | 19.5 | 15.5 | 13.0 | 9.0 | 8.0 | 10.0 | 9.5 | 10.0 | 9.0 | 14.0 | 12.0 |
| 14 | 21.5 | 19.0 | 14.5 | 13.5 | 9.0 | 7.5 | 10.5 | 10.0 | 9.0 | 7.0 | 14.5 | 12.0 |
| 15 | 20.0 | 18.5 | 14.0 | 13.0 | 8.5 | 7.0 | 11.5 | 10.0 | 8.5 | 7.0 | 15.5 | 12.0 |
| 16 | 20.5 | 18.5 | 13.5 | 12.5 | 8.0 | 7.0 | 11.0 | 10.5 | 7.5 | 6.5 | 15.0 | 12.5 |
| 17 | 22.5 | 18.5 | 13.5 | 12.0 | 8.0 | 6.5 | 10.5 | 10.0 | 7.0 | 6.5 | 18.0 | 13.5 |
| 18 | 22.0 | 18.5 | 13.5 | 12.0 | 8.0 | 6.5 | 10.5 | 10.0 | 7.5 | 6.5 | 19.5 | 14.0 |
| 19 | 21.5 | 19.0 | 13.5 | 12.0 | 7.0 | 6.5 | 10.5 | 9.5 | 8.5 | 6.5 | 18.0 | 15.5 |
| 20 | 20.5 | 19.0 | 13.5 | 12.0 | 7.0 | 6.5 | 10.5 | 9.0 | 8.0 | 6.0 | 19.5 | 15.5 |
| 21 | 19.5 | 18.5 | 13.5 | 12.0 | 7.0 | 6.5 | 9.5 | 9.0 | 8.5 | 7.0 | 19.5 | 16.0 |
| 22 | 19.5 | 18.0 | 12.5 | 12.0 | 7.0 | 6.5 | 9.5 | 8.5 | 10.0 | 7.5 | 19.5 | 17.0 |
| 23 | 18.5 | 17.5 | 12.5 | 11.5 | 6.5 | 6.5 | 8.5 | 8.0 | 14.0 | 8.5 | 19.5 | 16.5 |
| 24 | 18.5 | 17.5 | 13.0 | 12.0 | 6.5 | 6.0 | 9.5 | 8.5 | 14.0 | 9.5 | 20.0 | 17.0 |
| 25 | 18.0 | 17.0 | 12.5 | 12.0 | 6.5 | 6.0 | 9.5 | 9.0 | 14.0 | 10.5 | 20.0 | 17.0 |
| 26 | 18.0 | 16.0 | 13.5 | 11.5 | 6.5 | 6.0 | 9.5 | 9.0 | 16.0 | 12.0 | 19.0 | 16.5 |
| 27 | 17.5 | 16.0 | 12.0 | 11.0 | 6.0 | 5.5 | 9.5 | 9.0 | 16.0 | 12.5 | 19.0 | 16.5 |
| 28 | 16.0 | 15.0 | 12.0 | 10.5 | 6.5 | 6.0 | 10.0 | 9.5 | 16.0 | 12.5 | 18.5 | 16.5 |
| 29 | 16.5 | 14.5 | 11.5 | 9.5 | 7.5 | 6.0 | 10.0 | 9.5 | --- | --- | 19.0 | 16.5 |
| 30 | 15.5 | 14.0 | 11.0 | 10.0 | 6.5 | 6.0 | 10.5 | 10.0 | --- | --- | 18.5 | 16.5 |
| 31 | 17.0 | 14.0 | --- | --- | 7.0 | 5.5 | 11.5 | 10.0 | --- | --- | 19.5 | 17.0 |
| MONTH | 24.0 | 14.0 | 16.5 | 9.5 | 11.0 | 5.5 | 11.5 | 6.0 | 16.0 | 6.0 | 20.0 | 12.0 |

SAN JOAQUIN RIVER BASIN

11260815 SAN JOAQUIN RIVER NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 19.5 | 17.5 | 21.0 | 18.0 | 21.5 | 19.5 | 28.5 | 26.5 | 28.5 | 25.5 | 27.0 | 24.5 |
| 2 | 19.5 | 17.5 | 23.0 | 18.5 | 21.5 | 20.0 | 29.0 | 26.0 | 28.5 | 26.0 | 27.0 | 24.5 |
| 3 | 20.0 | 18.0 | 24.0 | 20.5 | 24.5 | 21.0 | 29.0 | 26.0 | 29.5 | 26.0 | 26.5 | 24.5 |
| 4 | 20.5 | 19.0 | 26.5 | 21.5 | 25.5 | 22.0 | 29.0 | 25.5 | 29.0 | 26.0 | 27.0 | 24.0 |
| 5 | 21.0 | 19.0 | 28.0 | 22.5 | 25.5 | 22.5 | 28.5 | 25.0 | 29.0 | 26.0 | 27.0 | 24.0 |
| 6 | 21.0 | 19.0 | 27.5 | 22.5 | 26.0 | 23.0 | 28.5 | 25.5 | 30.5 | 26.5 | 26.5 | 24.5 |
| 7 | 20.5 | 19.0 | 23.5 | 21.5 | 25.5 | 23.0 | 28.0 | 25.5 | 30.0 | 27.5 | 26.5 | 24.5 |
| 8 | 19.5 | 18.0 | 23.0 | 20.5 | 27.0 | 24.0 | 29.0 | 25.5 | 29.5 | 27.5 | 26.0 | 24.0 |
| 9 | 20.5 | 18.0 | 24.0 | 21.0 | 27.0 | 24.5 | 29.0 | 25.5 | 31.0 | 28.0 | 26.0 | 23.5 |
| 10 | 20.5 | 19.0 | 25.0 | 21.0 | 27.5 | 24.5 | 29.5 | 26.0 | 31.0 | 28.0 | 26.5 | 24.0 |
| 11 | 21.0 | 19.0 | 25.0 | 21.0 | 26.0 | 24.0 | 29.0 | 27.0 | 29.5 | 27.5 | 26.0 | 24.0 |
| 12 | 21.5 | 19.5 | 25.5 | 21.0 | 25.5 | 23.5 | 30.5 | 27.0 | 29.5 | 26.5 | 26.0 | 24.0 |
| 13 | 21.0 | 20.0 | 24.0 | 21.0 | 25.5 | 23.5 | 30.0 | 28.0 | 29.0 | 26.5 | 26.0 | 23.5 |
| 14 | 23.0 | 21.0 | 23.5 | 21.0 | 25.0 | 22.5 | 30.5 | 27.5 | 28.5 | 26.5 | 25.5 | 23.5 |
| 15 | 22.5 | 21.0 | 25.0 | 21.0 | 25.5 | 22.5 | 30.5 | 27.5 | 29.5 | 26.0 | 25.0 | 23.0 |
| 16 | 22.0 | 20.0 | 26.5 | 21.5 | 25.0 | 23.0 | 29.0 | 27.0 | 28.5 | 25.5 | 25.0 | 23.0 |
| 17 | 21.5 | 19.5 | 25.5 | 21.0 | 25.5 | 23.0 | 29.5 | 26.5 | 28.5 | 25.5 | 25.0 | 23.0 |
| 18 | 22.0 | 20.0 | 24.0 | 21.0 | 26.0 | 23.0 | 29.0 | 26.5 | 26.5 | 25.0 | 25.5 | 23.0 |
| 19 | 22.0 | 20.5 | 24.5 | 20.5 | 25.5 | 23.5 | 29.5 | 26.5 | 27.5 | 24.5 | 25.0 | 22.5 |
| 20 | 22.0 | 20.5 | 22.5 | 21.0 | 26.0 | 24.5 | 30.0 | 26.5 | 27.5 | 24.5 | 25.0 | 23.0 |
| 21 | 23.0 | 21.0 | 24.0 | 21.0 | 28.0 | 25.5 | 29.5 | 27.0 | 27.5 | 25.0 | 24.0 | 23.0 |
| 22 | 22.5 | 21.5 | 26.0 | 21.5 | 28.0 | 25.5 | 29.5 | 27.0 | 27.5 | 24.5 | 24.5 | 22.5 |
| 23 | 23.0 | 21.5 | 24.5 | 22.0 | 28.0 | 25.0 | 29.0 | 26.5 | 28.5 | 25.0 | 24.5 | 22.0 |
| 24 | 22.0 | 21.0 | 24.0 | 21.0 | 28.5 | 26.0 | 29.0 | 26.0 | 27.0 | 25.0 | 24.5 | 22.5 |
| 25 | 22.5 | 20.5 | 23.0 | 21.5 | 28.0 | 25.5 | 27.5 | 25.5 | 26.5 | 24.5 | 24.0 | 22.0 |
| 26 | 22.5 | 21.0 | 23.0 | 21.0 | 27.5 | 25.0 | 27.5 | 25.5 | 27.0 | 24.0 | 24.0 | 22.0 |
| 27 | 23.5 | 21.5 | 22.5 | 21.0 | 28.5 | 25.5 | 27.0 | 25.5 | 26.5 | 24.0 | 24.0 | 22.0 |
| 28 | 23.0 | 21.5 | 21.5 | 20.0 | 28.0 | 25.5 | 27.5 | 26.0 | 27.0 | 24.5 | 24.0 | 22.0 |
| 29 | 22.0 | 19.5 | 22.5 | 19.5 | 28.5 | 26.0 | 28.0 | 26.0 | 27.5 | 25.0 | 24.0 | 22.0 |
| 30 | 19.5 | 18.0 | 22.0 | 20.0 | 29.5 | 26.0 | 28.0 | 25.5 | 26.5 | 25.0 | 25.0 | 22.5 |
| 31 | --- | --- | 22.0 | 19.5 | --- | --- | 28.5 | 25.5 | 26.5 | 24.5 | --- | --- |
| MONTH | 23.5 | 17.5 | 28.0 | 18.0 | 29.5 | 19.5 | 30.5 | 25.0 | 31.0 | 24.0 | 27.0 | 22.0 |

SAN JOAQUIN RIVER BASIN

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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 mi south of Stevinson.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--5 years, 260 ft³/s, 188,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 810 ft³/s, Feb. 20, 1986; minimum daily, 36 ft³/s, Dec. 27, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 417 ft³/s, Nov. 3, elevation, 67.41 ft; minimum daily, 125 ft³/s, June 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | e350 | 343 | 227 | 152 | 217 | 267 | 257 | 204 | 259 | 269 | 284 | 232 |
| 2 | e306 | 398 | 228 | 160 | 211 | 274 | 258 | 213 | 264 | 299 | 261 | 245 |
| 3 | e260 | 395 | 241 | 168 | 214 | 298 | 248 | 186 | 249 | 338 | 237 | 256 |
| 4 | e247 | 343 | 231 | 184 | 229 | 350 | 224 | 165 | 231 | 290 | 277 | 241 |
| 5 | e246 | 301 | 236 | 175 | 237 | 366 | 206 | 173 | 210 | 269 | 339 | 227 |
| 6 | e246 | 286 | 234 | 167 | 241 | 370 | 214 | 208 | 190 | 273 | 381 | 233 |
| 7 | e218 | 285 | 218 | 158 | e260 | 327 | 217 | 235 | 147 | 270 | 384 | 201 |
| 8 | e228 | 285 | 212 | 157 | e260 | 323 | 225 | 241 | 151 | 278 | 314 | 218 |
| 9 | e242 | 267 | 198 | 159 | 266 | 293 | 255 | 201 | 154 | 282 | 247 | 238 |
| 10 | e221 | 273 | 196 | 164 | e283 | 280 | 262 | 163 | 127 | 269 | 251 | 246 |
| 11 | e231 | 290 | 187 | 183 | e287 | 289 | 253 | 175 | 125 | 215 | 301 | 236 |
| 12 | e240 | 293 | 175 | 185 | 283 | 316 | 199 | 188 | 153 | 179 | 307 | 199 |
| 13 | e193 | 286 | 193 | 174 | e280 | 337 | 184 | 195 | 166 | 157 | 336 | 158 |
| 14 | e155 | 271 | e242 | 173 | e266 | 314 | 199 | 185 | 139 | 164 | 366 | 133 |
| 15 | e151 | 248 | e224 | 182 | e265 | 293 | 218 | 153 | 185 | 210 | 322 | 140 |
| 16 | e171 | 239 | 194 | 191 | e266 | 278 | 251 | 160 | 196 | 229 | 298 | 129 |
| 17 | e228 | 236 | 173 | 178 | e290 | 310 | 258 | 158 | 186 | 254 | 293 | 152 |
| 18 | 256 | 249 | 172 | 190 | e296 | 324 | 239 | 153 | 175 | 248 | 278 | 166 |
| 19 | 224 | 253 | 185 | 181 | e306 | 332 | 266 | 178 | 162 | 246 | 299 | 157 |
| 20 | 212 | 235 | 187 | 175 | e312 | 368 | 269 | 206 | 207 | 240 | 361 | 167 |
| 21 | 208 | 242 | 178 | 181 | 278 | 400 | 266 | 211 | 195 | 271 | 323 | 165 |
| 22 | 237 | 244 | 168 | 187 | e255 | 342 | 239 | 170 | 178 | 280 | 260 | 191 |
| 23 | 261 | 217 | 168 | 180 | 250 | 306 | 251 | 149 | 175 | 323 | 266 | 218 |
| 24 | 305 | 211 | 168 | 171 | 273 | 309 | 294 | 190 | 159 | 324 | 281 | 251 |
| 25 | 358 | 218 | 169 | 168 | 301 | 324 | 259 | 236 | 146 | 295 | 278 | 267 |
| 26 | 356 | 249 | 171 | 158 | 318 | 329 | 210 | 226 | 165 | 275 | 304 | 238 |
| 27 | 325 | 266 | 171 | 176 | 303 | 288 | 187 | 220 | 177 | 245 | 341 | e227 |
| 28 | 314 | 258 | 171 | 190 | 266 | 260 | 193 | 284 | 162 | 287 | 308 | 201 |
| 29 | 316 | 264 | 166 | e203 | --- | 243 | 190 | 376 | 190 | 263 | 243 | 187 |
| 30 | 309 | 237 | 165 | 192 | --- | 217 | 192 | 356 | 209 | 250 | 227 | 187 |
| 31 | 303 | --- | 152 | 196 | --- | 233 | --- | 283 | --- | 276 | 215 | --- |
| TOTAL | 7917 | 8182 | 6000 | 5458 | 7513 | 9560 | 6983 | 6441 | 5432 | 8068 | 9182 | 6106 |
| MEAN | 255 | 273 | 194 | 176 | 268 | 308 | 233 | 208 | 181 | 260 | 296 | 204 |
| MAX | 358 | 398 | 242 | 203 | 318 | 400 | 294 | 376 | 264 | 338 | 384 | 267 |
| MIN | 151 | 211 | 152 | 152 | 211 | 217 | 184 | 149 | 125 | 157 | 215 | 129 |
| AC-FT | 15700 | 16230 | 11900 | 10830 | 14900 | 18960 | 13850 | 12780 | 10770 | 16000 | 18210 | 12110 |

CAL YR 1989 TOTAL 99843 MEAN 274 MAX 495 MIN 118 AC-FT 198000
WTR YR 1990 TOTAL 86842 MEAN 238 MAX 400 MIN 125 AC-FT 172300

e Estimated.

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: Water year 1989 to current year.

WATER TEMPERATURE: Water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,270 microsiemens, Mar. 29, 1990; minimum recorded, 1,060 microsiemens, Aug. 1, 1989, Sept. 10, 19, 1990.

WATER TEMPERATURE: Maximum recorded, 31.0 °C, July 14, 1990; minimum recorded, 4.5 °C, Feb. 7, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,270 microsiemens, Mar. 29; minimum recorded, 1,060 microsiemens, Sept. 10, 19.

WATER TEMPERATURE: Maximum recorded, 31.0 °C, July 14; minimum recorded, 5.0 °C, Feb. 15.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 1550 | 1510 | 1510 | 1380 | 1690 | 1630 | 2750 | 2660 | 2970 | 2650 | 3000 | 2850 |
| 2 | 1550 | 1520 | 1400 | 1360 | 1750 | 1640 | 2830 | 2760 | 3030 | 2890 | 2960 | 2820 |
| 3 | 1610 | 1550 | 1510 | 1360 | 1640 | 1550 | 2810 | 2620 | 3100 | 2940 | 2900 | 2720 |
| 4 | --- | --- | 1540 | 1450 | 1870 | 1640 | 2690 | 2550 | 2940 | 2830 | 2710 | 2500 |
| 5 | --- | --- | 1570 | 1550 | 1870 | 1740 | 2770 | 2520 | 2880 | 2740 | 2560 | 2450 |
| 6 | --- | --- | 1650 | 1570 | 1880 | 1770 | 2830 | 2510 | 3000 | 2760 | 2690 | 2360 |
| 7 | --- | --- | 1650 | 1560 | 2090 | 1880 | 2950 | 2840 | 2900 | 2740 | 2690 | 2610 |
| 8 | --- | --- | 1600 | 1540 | --- | --- | 3000 | 2920 | 2860 | 2820 | --- | --- |
| 9 | --- | --- | 1610 | 1540 | --- | --- | 3010 | 2880 | 2900 | 2810 | --- | --- |
| 10 | --- | --- | 1680 | 1550 | 2360 | 2120 | 2920 | 2860 | 2800 | 2530 | --- | --- |
| 11 | --- | --- | 1690 | 1550 | 2400 | 2210 | 2950 | 2710 | 2550 | 2410 | --- | --- |
| 12 | --- | --- | 1650 | 1620 | 2450 | 2200 | 2790 | 2710 | 2400 | 2250 | --- | --- |
| 13 | --- | --- | 1660 | 1630 | 2340 | 2080 | 2990 | 2770 | 2770 | 2170 | --- | --- |
| 14 | --- | --- | 1710 | 1610 | 2100 | 1870 | 2990 | 2960 | 2870 | 2660 | --- | --- |
| 15 | --- | --- | 1700 | 1660 | 2200 | 2010 | 2980 | 2910 | 2930 | 2650 | --- | --- |
| 16 | --- | --- | 1690 | 1620 | 2440 | 2210 | 2970 | 2910 | 3090 | 2770 | --- | --- |
| 17 | --- | --- | 1670 | 1570 | 2480 | 2400 | 2910 | 2700 | 2860 | 2720 | --- | --- |
| 18 | 1480 | 1330 | 1750 | 1580 | 2560 | 2420 | 2770 | 2650 | 2890 | 2650 | --- | --- |
| 19 | 1470 | 1330 | 1740 | 1670 | --- | --- | 2920 | 2770 | 2730 | 2630 | --- | --- |
| 20 | 1480 | 1420 | 1840 | 1730 | 2620 | 2560 | 2960 | 2920 | 2750 | 2690 | --- | --- |
| 21 | 1480 | 1430 | 1740 | 1700 | 2590 | 2560 | 3020 | 2880 | 3040 | 2770 | --- | --- |
| 22 | 1480 | 1400 | 1710 | 1650 | 2670 | 2580 | 2900 | 2850 | 3160 | 2990 | --- | --- |
| 23 | 1440 | 1390 | 1900 | 1720 | 2670 | 2570 | 2920 | 2880 | 3130 | 2810 | --- | --- |
| 24 | 1410 | 1330 | 1880 | 1690 | 2610 | 2520 | 3030 | 2890 | 2870 | 2780 | --- | --- |
| 25 | 1340 | 1280 | 1700 | 1620 | 2510 | 2480 | 3030 | 2960 | 2950 | 2780 | --- | --- |
| 26 | 1410 | 1350 | 1650 | 1530 | 2550 | 2480 | 3030 | 2930 | 2750 | 2680 | --- | --- |
| 27 | 1450 | 1410 | 1540 | 1490 | 2540 | 2470 | 3020 | 2870 | 2830 | 2650 | --- | --- |
| 28 | 1450 | 1430 | 1670 | 1520 | 2540 | 2490 | 2930 | 2800 | 3040 | 2790 | --- | --- |
| 29 | 1480 | 1440 | 1520 | 1360 | 2570 | 2540 | 2800 | 2690 | --- | --- | 3270 | 2720 |
| 30 | 1490 | 1460 | 1690 | 1500 | 2660 | 2570 | 2770 | 2710 | --- | --- | 3000 | 2720 |
| 31 | 1510 | 1420 | --- | --- | 2670 | 2610 | 2890 | 2680 | --- | --- | 2820 | 2560 |
| MONTH | --- | --- | 1900 | 1360 | --- | --- | 3030 | 2510 | 3160 | 2170 | --- | --- |

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 2610 | 2410 | 2700 | 2450 | 2450 | 2070 | 1830 | 1710 | 1590 | 1480 | 1460 | 1220 |
| 2 | 2600 | 2430 | 2540 | 2210 | 2310 | 1990 | 1840 | 1670 | 1890 | 1570 | 1520 | 1430 |
| 3 | 2760 | 2590 | 2750 | 2500 | 2470 | 2190 | 1780 | 1600 | --- | --- | --- | --- |
| 4 | 2900 | 2680 | 2990 | 2680 | 2490 | 2270 | 1990 | 1800 | 1860 | 1580 | --- | --- |
| 5 | 3000 | 2810 | 3100 | 2750 | 2710 | 2400 | 1940 | 1810 | 1600 | 1540 | --- | --- |
| 6 | 2890 | 2820 | 2690 | 2300 | 2750 | 2500 | 1970 | 1820 | 1640 | 1500 | --- | --- |
| 7 | 2850 | 2710 | 2370 | 2140 | 2930 | 2710 | 2070 | 1830 | 1630 | 1570 | 1420 | 1200 |
| 8 | 2800 | 2580 | 2380 | 2060 | 2980 | 2700 | 1940 | 1680 | 1750 | 1580 | 1400 | 1170 |
| 9 | 2580 | 2460 | 2540 | 2190 | 2800 | 2570 | 2020 | 1920 | 1750 | 1540 | 1420 | 1190 |
| 10 | 2540 | 2340 | 2860 | 2560 | 2990 | 2630 | 2000 | 1880 | 1610 | 1490 | 1200 | 1060 |
| 11 | 2540 | 2350 | 2840 | 2520 | 3240 | 2800 | 1980 | 1940 | 1490 | 1360 | 1170 | 1080 |
| 12 | 2890 | 2540 | 2530 | 2380 | 3250 | 3010 | 2100 | 1840 | 1420 | 1270 | 1250 | 1130 |
| 13 | 2920 | 2820 | 2620 | 2350 | 3000 | 2540 | 2410 | 2070 | 1390 | 1200 | 1310 | 1150 |
| 14 | 2990 | 2640 | 2660 | 2490 | 2970 | 2790 | 2190 | 1810 | 1320 | 1200 | 1430 | 1220 |
| 15 | 2980 | 2530 | 2980 | 2580 | 2980 | 1920 | 1800 | 1660 | 1430 | 1320 | 1570 | 1350 |
| 16 | 2510 | 2450 | 3010 | 2850 | 2380 | 1910 | 1730 | 1550 | --- | --- | 1380 | 1280 |
| 17 | 2500 | 2320 | 2900 | 2710 | 2270 | 2060 | 1630 | 1490 | 1390 | 1260 | 1420 | 1280 |
| 18 | 2660 | 2520 | 3000 | 2790 | 2470 | 2210 | 1630 | 1510 | 1400 | 1280 | --- | --- |
| 19 | 2620 | 2440 | 2810 | 2420 | 2840 | 2260 | 1610 | 1480 | 1300 | 1180 | 1360 | 1060 |
| 20 | 2580 | 2360 | 2450 | 2230 | 2810 | 2480 | 1680 | 1440 | 1390 | 1200 | 1330 | 1090 |
| 21 | 2560 | 2360 | 2400 | 2200 | 2810 | 2460 | 1530 | 1420 | 1430 | 1320 | 1370 | 1150 |
| 22 | 2470 | 2350 | 2780 | 2300 | 2940 | 2540 | 1540 | 1440 | 1450 | 1350 | 1400 | 1070 |
| 23 | 2650 | 2240 | 2890 | 2510 | 2790 | 2490 | 1450 | 1350 | 1420 | 1360 | 1230 | 1080 |
| 24 | 2220 | 2130 | 2950 | 2330 | 2470 | 2030 | 1500 | 1370 | 1520 | 1290 | --- | --- |
| 25 | 2450 | 2210 | 2490 | 1920 | 2080 | 1920 | 1550 | 1510 | 1440 | 1320 | --- | --- |
| 26 | 2700 | 2420 | 2250 | 1850 | 2070 | 1810 | 1710 | 1540 | 1430 | 1190 | 1250 | 1190 |
| 27 | 2890 | 2650 | 2250 | 2000 | 1980 | 1770 | 1880 | 1700 | 1220 | 1120 | 1260 | 1090 |
| 28 | 2870 | 2580 | 2000 | 1530 | 2170 | 1920 | 1800 | 1550 | 1270 | 1150 | 1260 | 1100 |
| 29 | 2720 | 2500 | 1790 | 1500 | 2140 | 1810 | 1840 | 1550 | 1550 | 1280 | 1180 | 1030 |
| 30 | 2790 | 2690 | 2090 | 1790 | 1930 | 1780 | 1790 | 1600 | 1530 | 1410 | 1290 | 1090 |
| 31 | --- | --- | 2270 | 1970 | --- | --- | 1650 | 1480 | 1490 | 1300 | --- | --- |
| MONTH | 3000 | 2130 | 3100 | 1500 | 3250 | 1770 | 2410 | 1350 | --- | --- | --- | --- |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 21.5 | 19.0 | 15.0 | 13.0 | 10.5 | 8.5 | 8.5 | 6.5 | 11.5 | 9.5 | 15.5 | 14.0 |
| 2 | 20.5 | 19.0 | 15.0 | 13.0 | 10.5 | 8.5 | 9.0 | 7.5 | 11.5 | 9.0 | 14.5 | 13.5 |
| 3 | 20.0 | 17.5 | 15.0 | 13.0 | 10.0 | 9.0 | 8.5 | 6.5 | 11.0 | 9.5 | 16.0 | 13.5 |
| 4 | --- | --- | 15.5 | 13.5 | 10.5 | 8.5 | 8.0 | 6.5 | 11.0 | 9.5 | 16.0 | 14.5 |
| 5 | --- | --- | 15.5 | 14.0 | 11.0 | 9.0 | 7.5 | 6.5 | 11.0 | 8.5 | 15.0 | 13.5 |
| 6 | --- | --- | 15.5 | 14.0 | 11.5 | 10.0 | 8.0 | 6.0 | 10.5 | 9.5 | 15.0 | 12.5 |
| 7 | --- | --- | 15.5 | 13.5 | 11.5 | 10.0 | 9.5 | 8.0 | 9.5 | 8.0 | 15.5 | 13.0 |
| 8 | --- | --- | 15.0 | 13.0 | 10.5 | 10.0 | 11.0 | 8.5 | 10.0 | 7.5 | 15.5 | 13.0 |
| 9 | --- | --- | 14.5 | 13.0 | 11.0 | 10.0 | 11.0 | 10.0 | 11.0 | 9.0 | 15.5 | 13.0 |
| 10 | --- | --- | 14.5 | 13.0 | 12.0 | 10.5 | 11.5 | 10.0 | 11.5 | 9.5 | 14.0 | 12.5 |
| 11 | --- | --- | 15.0 | 13.0 | 11.0 | 9.5 | 11.0 | 10.5 | 11.5 | 10.0 | 13.5 | 11.5 |
| 12 | --- | --- | 15.0 | 13.5 | 9.5 | 8.5 | 11.5 | 10.5 | 12.5 | 10.5 | 13.5 | 11.5 |
| 13 | --- | --- | 15.0 | 13.5 | 8.5 | 8.0 | 12.0 | 11.0 | 11.5 | 9.5 | 13.5 | 11.0 |
| 14 | --- | --- | 15.0 | 14.0 | 8.0 | 7.0 | 11.5 | 10.5 | 9.5 | 6.5 | 14.0 | 11.5 |
| 15 | --- | --- | 14.0 | 13.0 | 8.0 | 6.5 | 12.5 | 11.0 | 7.5 | 5.0 | 15.5 | 13.0 |
| 16 | --- | --- | 13.5 | 12.0 | 8.0 | 6.5 | 12.0 | 10.5 | 7.0 | 6.0 | 16.5 | 14.0 |
| 17 | --- | --- | 13.5 | 12.0 | 8.0 | 6.5 | 10.5 | 9.5 | 8.0 | 6.5 | 18.0 | 15.0 |
| 18 | 21.0 | 18.0 | 13.5 | 11.5 | 8.5 | 6.5 | 10.5 | 9.5 | 9.0 | 6.5 | 19.5 | 16.0 |
| 19 | 21.0 | 18.5 | 13.5 | 12.0 | 7.5 | 7.0 | 10.0 | 8.5 | 9.5 | 7.0 | 18.5 | 17.0 |
| 20 | 20.0 | 19.0 | 14.0 | 12.0 | 7.5 | 7.0 | 10.5 | 8.0 | 9.5 | 8.0 | 19.5 | 16.5 |
| 21 | 19.5 | 18.0 | 13.5 | 12.0 | 7.5 | 7.5 | 9.5 | 8.0 | 11.0 | 9.0 | 20.0 | 17.5 |
| 22 | 18.5 | 17.0 | 13.5 | 12.0 | 7.5 | 7.0 | 9.0 | 7.5 | 12.5 | 9.5 | 20.0 | 18.5 |
| 23 | 18.0 | 16.5 | 13.0 | 12.0 | 7.5 | 7.0 | 9.0 | 7.5 | 13.5 | 11.0 | 20.0 | 17.5 |
| 24 | 18.0 | 16.5 | 13.5 | 12.0 | 7.5 | 7.0 | 10.0 | 8.0 | 14.5 | 12.0 | 20.5 | 17.5 |
| 25 | 17.5 | 16.5 | 13.0 | 12.5 | 7.0 | 6.5 | 10.0 | 8.5 | 15.0 | 13.5 | 20.0 | 18.0 |
| 26 | 17.0 | 15.0 | 13.0 | 11.5 | 7.0 | 6.5 | 10.5 | 8.0 | 16.0 | 14.0 | 19.0 | 16.5 |
| 27 | 17.0 | 15.0 | 12.0 | 11.0 | 6.5 | 5.5 | 9.5 | 7.5 | 16.5 | 14.0 | 19.5 | 16.5 |
| 28 | 16.0 | 14.5 | 11.5 | 10.0 | 6.5 | 6.0 | 10.0 | 7.5 | 16.5 | 14.0 | 19.0 | 16.5 |
| 29 | 15.5 | 13.5 | 11.0 | 9.5 | 8.0 | 6.0 | 10.5 | 8.0 | --- | --- | 18.5 | 15.5 |
| 30 | 15.5 | 13.5 | 10.5 | 9.0 | 7.5 | 7.0 | 11.0 | 9.5 | --- | --- | 19.0 | 15.0 |
| 31 | 15.0 | 13.5 | --- | --- | 8.0 | 6.0 | 11.5 | 9.0 | --- | --- | 19.5 | 16.0 |
| MONTH | --- | --- | 15.5 | 9.0 | 12.0 | 5.5 | 12.5 | 6.0 | 16.5 | 5.0 | 20.5 | 11.0 |

SAN JOAQUIN RIVER BASIN

11261100 SALT SLOUGH AT HIGHWAY 165, NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 20.0 | 16.5 | 20.0 | 15.5 | 21.5 | 17.5 | 26.5 | 24.0 | 28.0 | 24.5 | 26.0 | 22.5 |
| 2 | 20.0 | 17.0 | 21.5 | 17.5 | 23.5 | 19.0 | 26.5 | 23.0 | 28.0 | 24.5 | 25.5 | 22.5 |
| 3 | 21.0 | 17.5 | 24.0 | 19.5 | 25.0 | 21.0 | 26.5 | 22.5 | --- | --- | 25.0 | 22.0 |
| 4 | 20.5 | 18.5 | 25.5 | 20.5 | 25.0 | 22.0 | 25.5 | 22.0 | 27.5 | 24.0 | 25.5 | 22.0 |
| 5 | 20.0 | 17.0 | 26.5 | 22.0 | 25.0 | 21.5 | 26.0 | 22.0 | 28.0 | 25.0 | 26.0 | 22.5 |
| 6 | 20.5 | 17.0 | 26.0 | 22.5 | 26.0 | 22.0 | 27.0 | 23.0 | 29.0 | 25.5 | 26.0 | 23.0 |
| 7 | 18.0 | 16.5 | 23.5 | 21.5 | 26.0 | 21.5 | 27.0 | 23.0 | 29.5 | 27.0 | 25.5 | 22.5 |
| 8 | 18.0 | 15.5 | 22.5 | 18.5 | 27.0 | 22.0 | 26.5 | 23.5 | 30.0 | 27.0 | 24.5 | 22.0 |
| 9 | 19.5 | 15.5 | 23.5 | 19.5 | 28.5 | 23.5 | 26.5 | 22.5 | 30.0 | 27.0 | 24.5 | 21.5 |
| 10 | 20.5 | 17.5 | 22.0 | 18.0 | 27.0 | 23.5 | 28.0 | 24.0 | 29.5 | 27.0 | 25.5 | 22.5 |
| 11 | 21.5 | 18.5 | 22.5 | 18.0 | 26.0 | 21.0 | 28.5 | 26.0 | 28.0 | 26.0 | 25.5 | 22.5 |
| 12 | 22.0 | 18.5 | 22.0 | 18.0 | 24.5 | 21.0 | 30.5 | 26.0 | 28.5 | 25.0 | 25.0 | 22.0 |
| 13 | 23.5 | 19.0 | 21.5 | 18.0 | 23.5 | 20.0 | 30.5 | 27.5 | 28.0 | 25.5 | 25.5 | 21.5 |
| 14 | 23.5 | 20.5 | 22.0 | 18.5 | 23.0 | 18.0 | 31.0 | 26.5 | 26.5 | 24.0 | 25.0 | 21.0 |
| 15 | 21.5 | 19.0 | 22.0 | 16.5 | 22.5 | 19.0 | 29.5 | 26.5 | 24.5 | 21.5 | 24.5 | 20.0 |
| 16 | 20.0 | 18.0 | 23.5 | 18.5 | 24.0 | 19.0 | 28.5 | 25.5 | 25.0 | 20.5 | 24.5 | 20.0 |
| 17 | 20.0 | 17.0 | 23.0 | 19.5 | 25.5 | 20.5 | 28.5 | 25.0 | 26.0 | 22.5 | 24.5 | 21.0 |
| 18 | 21.5 | 18.0 | 20.5 | 17.0 | 24.0 | 20.5 | 28.5 | 25.5 | 24.5 | 23.0 | 23.5 | 20.5 |
| 19 | 21.0 | 19.0 | 20.5 | 16.5 | 26.5 | 20.5 | 29.0 | 25.5 | 24.0 | 21.5 | 23.0 | 20.0 |
| 20 | 21.5 | 18.5 | 21.0 | 17.5 | 28.5 | 23.0 | 29.5 | 26.0 | 25.0 | 21.5 | 24.5 | 20.5 |
| 21 | 22.0 | 18.5 | 22.5 | 18.5 | 29.5 | 25.0 | 30.0 | 26.5 | 25.0 | 21.5 | 22.5 | 21.0 |
| 22 | 21.0 | 19.0 | 24.0 | 19.0 | 27.0 | 23.0 | 29.5 | 26.0 | 26.0 | 22.5 | 23.5 | 20.0 |
| 23 | 20.5 | 18.5 | 21.5 | 18.5 | 27.5 | 22.0 | 28.0 | 25.0 | 27.0 | 23.5 | 23.0 | 20.5 |
| 24 | 19.5 | 17.0 | 21.0 | 16.5 | 27.5 | 23.0 | 26.5 | 23.5 | 24.5 | 21.5 | 23.5 | 21.0 |
| 25 | 21.0 | 17.0 | 21.5 | 18.0 | 27.0 | 22.5 | 25.5 | 22.0 | 22.5 | 19.5 | 23.0 | 21.0 |
| 26 | 21.5 | 18.5 | 22.0 | 18.5 | 27.0 | 22.5 | 25.5 | 21.5 | 23.5 | 20.0 | 23.0 | 20.5 |
| 27 | 23.5 | 19.0 | 20.5 | 19.0 | 27.0 | 23.0 | 27.5 | 23.0 | 24.5 | 21.0 | 23.0 | 20.5 |
| 28 | 23.5 | 20.5 | 20.0 | 18.0 | 27.0 | 22.5 | 28.0 | 24.0 | 25.5 | 22.0 | 23.5 | 20.5 |
| 29 | 21.0 | 18.0 | 21.0 | 17.5 | 28.0 | 23.0 | 28.5 | 24.5 | 26.5 | 23.5 | 24.5 | 21.0 |
| 30 | 19.0 | 15.5 | 20.5 | 19.0 | 28.0 | 24.0 | 28.5 | 25.0 | 26.0 | 23.5 | 25.5 | 22.0 |
| 31 | --- | --- | 20.0 | 18.0 | --- | --- | 28.0 | 25.0 | 25.5 | 22.0 | --- | --- |
| MONTH | 23.5 | 15.5 | 26.5 | 15.5 | 29.5 | 17.5 | 31.0 | 21.5 | --- | --- | 26.0 | 20.0 |

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

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.--Records fair.

AVERAGE DISCHARGE.--5 years, 58.2 ft³/s, 42,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 570 ft³/s, Mar. 16, 1986; minimum daily, 0.07 ft³/s, Aug. 25, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 203 ft³/s, Oct. 24, gage height, 7.16 ft; minimum daily, 0.07 ft³/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|--------|-------|
| 1 | 21 | e79 | e63 | 49 | 41 | 53 | 20 | 17 | 20 | 12 | 20 | 1.4 |
| 2 | 20 | e74 | e70 | 51 | 37 | 51 | 15 | 10 | 17 | 8.9 | 14 | 1.2 |
| 3 | 21 | e69 | e78 | 53 | 31 | 50 | 11 | 8.4 | 12 | 13 | 8.6 | 1.1 |
| 4 | 21 | e66 | e85 | 51 | 33 | 49 | 10 | 7.3 | 8.8 | 13 | 7.8 | 4.1 |
| 5 | 20 | e62 | 83 | 51 | 33 | 47 | 9.5 | 6.7 | 6.8 | 13 | 10 | 21 |
| 6 | 21 | e58 | 76 | 49 | 31 | 44 | 9.1 | 5.8 | 5.5 | 11 | 11 | 11 |
| 7 | 22 | e60 | 67 | 50 | 30 | 43 | 8.5 | 5.7 | 4.8 | 8.0 | 6.5 | 1.2 |
| 8 | 22 | 64 | 65 | 52 | 27 | 40 | 8.5 | 5.5 | 4.4 | 5.5 | 4.5 | .46 |
| 9 | 22 | 61 | 63 | 54 | 24 | 35 | 8.7 | 5.1 | 3.9 | 4.8 | 2.3 | .91 |
| 10 | 20 | 60 | 64 | 52 | 24 | 32 | 8.9 | 5.2 | 5.5 | 6.5 | 1.5 | 1.3 |
| 11 | 21 | 58 | 64 | 51 | 28 | 32 | 8.8 | 5.4 | 11 | 7.0 | 1.2 | 1.2 |
| 12 | 20 | e57 | 65 | 50 | 29 | 32 | 9.6 | 5.5 | 10 | 6.5 | 2.1 | 1.2 |
| 13 | 20 | e56 | 67 | 51 | 31 | 31 | 11 | 4.5 | 9.4 | 6.8 | 7.0 | 1.2 |
| 14 | 22 | e55 | 67 | 52 | 36 | 27 | 11 | 4.4 | 13 | 9.0 | 6.0 | 1.4 |
| 15 | 25 | e54 | 64 | 56 | 39 | 25 | 10 | 4.5 | 11 | 9.6 | 5.0 | 1.3 |
| 16 | 30 | e55 | 64 | 55 | 41 | 23 | 10 | 4.4 | 11 | 9.4 | 4.1 | 1.2 |
| 17 | 32 | e56 | 64 | 56 | 46 | 23 | 10 | 5.8 | 11 | 9.2 | 1.6 | 1.2 |
| 18 | 33 | e55 | 67 | 58 | 47 | 23 | 12 | 6.3 | 9.5 | 9.2 | 4.5 | 1.6 |
| 19 | 50 | e53 | 73 | 59 | 48 | 18 | 27 | 6.0 | 14 | 9.7 | 14 | 3.7 |
| 20 | 75 | e52 | 88 | 58 | 49 | 17 | 34 | 6.0 | 14 | 10 | 7.0 | 2.9 |
| 21 | 93 | e46 | 109 | 56 | 48 | 18 | 55 | 6.0 | 17 | 11 | 1.7 | 2.3 |
| 22 | 130 | e47 | 91 | 55 | 47 | 16 | 61 | 6.2 | 14 | 12 | .67 | 2.7 |
| 23 | 164 | e52 | 86 | 53 | 50 | 15 | 51 | 7.4 | 13 | 13 | .39 | 3.3 |
| 24 | e185 | e61 | 80 | 48 | 54 | 14 | 47 | 7.8 | 12 | 12 | .26 | 2.4 |
| 25 | e150 | e72 | 77 | 47 | 51 | 16 | 38 | 12 | 5.3 | 11 | .07 | 1.9 |
| 26 | e126 | e68 | 76 | 49 | 50 | 17 | 39 | 13 | 7.5 | 11 | 5.7 | 1.6 |
| 27 | e90 | e65 | 76 | 49 | 50 | 15 | 51 | 13 | 13 | 15 | 14 | 1.4 |
| 28 | e78 | e62 | 73 | 48 | 53 | 15 | 42 | 17 | 14 | 17 | 15 | 1.3 |
| 29 | e71 | e60 | 63 | 49 | --- | 14 | 40 | 16 | 15 | 16 | 6.0 | 1.3 |
| 30 | e70 | e61 | 55 | 49 | --- | 15 | 40 | 18 | 15 | 18 | 2.3 | 1.2 |
| 31 | e75 | --- | 51 | 47 | --- | 17 | --- | 20 | --- | 19 | 1.8 | --- |
| TOTAL | 1770 | 1798 | 2234 | 1608 | 1108 | 867 | 716.6 | 265.9 | 328.4 | 337.1 | 186.59 | 79.97 |
| MEAN | 57.1 | 59.9 | 72.1 | 51.9 | 39.6 | 28.0 | 23.9 | 8.58 | 10.9 | 10.9 | 6.02 | 2.67 |
| MAX | 185 | 79 | 109 | 59 | 54 | 53 | 61 | 20 | 20 | 19 | 20 | 21 |
| MIN | 20 | 46 | 51 | 47 | 24 | 14 | 8.5 | 4.4 | 3.9 | 4.8 | .07 | .46 |
| AC-FT | 3510 | 3570 | 4430 | 3190 | 2200 | 1720 | 1420 | 527 | 651 | 669 | 370 | 159 |

CAL YR 1989 TOTAL 13473.0 MEAN 36.9 MAX 185 MIN 4.4 AC-FT 26720
WTR YR 1990 TOTAL 11299.56 MEAN 31.0 MAX 185 MIN .07 AC-FT 22410

e Estimated.

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: Water year 1989 to current year.

WATER TEMPERATURE: Water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Maximum and minimum values are affected by the drainage of holding ponds located immediately upstream from the station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 10,100 microsiemens, June 24, July 1, 30, 1989; minimum recorded, 610 microsiemens, Oct. 24, 25, 1989.

WATER TEMPERATURE: Maximum recorded, 34.5 °C, Aug. 6, 1990; minimum recorded, 5.5 °C, Dec. 27, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 8,740 microsiemens, May 16; minimum recorded, 610 microsiemens, Oct. 24, 25.

WATER TEMPERATURE: Maximum recorded, 34.5 °C, Aug. 6; minimum recorded, 5.5 °C, Dec. 27.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 1340 | 1160 | 830 | 710 | 2370 | 1780 | 3090 | 2910 | 3510 | 3330 | 2880 | 2780 |
| 2 | 1390 | 1290 | 1040 | 810 | --- | --- | 3170 | 2770 | 3290 | 2870 | 2850 | 2680 |
| 3 | 1360 | 1190 | 1210 | 870 | 1700 | 1600 | 2720 | 2570 | 3210 | 3050 | 3140 | 2770 |
| 4 | 1340 | 1230 | 1350 | 1230 | 1620 | 1560 | 2700 | 2660 | 3290 | 3080 | 3370 | 3000 |
| 5 | 1360 | 1290 | 1440 | 1350 | 1690 | 1570 | 2710 | 2630 | 3110 | 2930 | 3150 | 2910 |
| 6 | 1370 | 1070 | 1480 | 1430 | 2050 | 1690 | 2760 | 2590 | 3310 | 2980 | 3220 | 3100 |
| 7 | 1200 | 1040 | 1510 | 1360 | 2020 | 1980 | 2580 | 2500 | 3330 | 3230 | 3250 | 3060 |
| 8 | 1330 | 1070 | 1440 | 1320 | 2040 | 1940 | 2590 | 2350 | 3430 | 3120 | 3270 | 3160 |
| 9 | 1430 | 1170 | 1440 | 1400 | 2100 | 1970 | 2510 | 2420 | 3690 | 3280 | 3380 | 3210 |
| 10 | 1690 | 1460 | 1460 | 1400 | 2080 | 1990 | 2610 | 2510 | 3780 | 3590 | 3350 | 3230 |
| 11 | 1670 | 1230 | 1510 | 1450 | 2060 | 1850 | 2630 | 2570 | 3870 | 3730 | 3380 | 3250 |
| 12 | 1880 | 1690 | 1490 | 1300 | 1870 | 1730 | 2670 | 2510 | 3860 | 3290 | 3350 | 3190 |
| 13 | 1890 | 1840 | 1420 | 1310 | 1880 | 1760 | 2830 | 2540 | 3360 | 2610 | 3320 | 3120 |
| 14 | 1890 | 1720 | 1400 | 1340 | 1940 | 1830 | 2800 | 2640 | 3480 | 3280 | 3400 | 3180 |
| 15 | 1850 | 1090 | 1430 | 1390 | 2040 | 1950 | 2730 | 2360 | 3520 | 2980 | 3620 | 3200 |
| 16 | 1120 | 1030 | 1580 | 1440 | 2160 | 1980 | 2370 | 2340 | 3800 | 3520 | 3650 | 3440 |
| 17 | 1200 | 1000 | 1670 | 1590 | 2190 | 1960 | 2620 | 2340 | 3740 | 3400 | 3480 | 3120 |
| 18 | 1230 | 1150 | 1700 | 1580 | 1960 | 1800 | 2620 | 2430 | 3570 | 3380 | 3700 | 3230 |
| 19 | 1270 | 1080 | 1570 | 1520 | 1800 | 1640 | 2590 | 2450 | 3370 | 3220 | 4160 | 3510 |
| 20 | 1060 | 950 | 1530 | 1480 | 1620 | 1310 | --- | --- | 3320 | 3250 | 4410 | 3370 |
| 21 | 940 | 850 | 1650 | 1470 | 1400 | 1200 | 2480 | 2430 | 3400 | 3270 | --- | --- |
| 22 | 930 | 710 | 1650 | 1490 | 1490 | 1400 | 2590 | 2470 | 3370 | 3210 | --- | --- |
| 23 | 740 | 690 | 1700 | 1560 | 1600 | 1490 | 2640 | 2540 | 3460 | 3010 | --- | --- |
| 24 | 690 | 610 | 1660 | 1550 | 1610 | 1560 | 2760 | 2650 | 3130 | 2900 | --- | --- |
| 25 | 780 | 610 | 1550 | 1500 | 1680 | 1610 | 2990 | 2760 | 3320 | 2960 | --- | --- |
| 26 | 860 | 740 | 1510 | 1340 | 1690 | 1610 | 3130 | 3000 | 3240 | 2970 | --- | --- |
| 27 | 910 | 790 | 1500 | 1350 | 1660 | 1580 | 3190 | 3000 | 3000 | 2610 | --- | --- |
| 28 | 790 | 740 | 1780 | 1510 | 2060 | 1620 | 3350 | 3000 | 2770 | 2510 | --- | --- |
| 29 | 780 | 750 | 1850 | 1520 | 2640 | 2000 | 3440 | 3060 | --- | --- | --- | --- |
| 30 | 760 | 720 | 1770 | 1610 | 2690 | 2290 | 3290 | 2310 | --- | --- | 5080 | 4470 |
| 31 | 770 | 700 | --- | --- | 2950 | 2700 | 3430 | 3280 | --- | --- | 4520 | 4370 |
| MONTH | 1890 | 610 | 1850 | 710 | --- | --- | --- | --- | 3870 | 2510 | --- | --- |

SAN JOAQUIN RIVER BASIN

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11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4560 | 3850 | 4330 | 4000 | 3240 | 2950 | 4060 | 3670 | 2850 | 2680 | 3100 | 2600 |
| 2 | 5050 | 3920 | 4800 | 4120 | 3420 | 3110 | 4090 | 3430 | 2890 | 2820 | 3500 | 2700 |
| 3 | 5680 | 5020 | 5260 | 4730 | 3720 | 3330 | 3480 | 3050 | 3020 | 2670 | 3400 | 3000 |
| 4 | 5940 | 5580 | 6040 | 5230 | 4340 | 3760 | 3240 | 2980 | 2690 | 2580 | 3600 | 2800 |
| 5 | 6100 | 5790 | 6830 | 5730 | 5100 | 4410 | 3280 | 3020 | 2750 | 2570 | 3800 | 2900 |
| 6 | 6460 | 5950 | 8070 | 6290 | 5690 | 5140 | 3270 | 3140 | 2540 | 2400 | 3000 | 2900 |
| 7 | 6610 | 6310 | --- | --- | 6380 | 5710 | 3680 | 3270 | 2560 | 2480 | 3200 | 2900 |
| 8 | 6450 | 6090 | --- | --- | 6990 | 6440 | 4240 | 3720 | 2820 | 2490 | 3600 | 3200 |
| 9 | 6280 | 5950 | --- | --- | 7550 | 6960 | 4830 | 3930 | --- | --- | 3800 | 3000 |
| 10 | 6450 | 6080 | --- | --- | 6800 | 4400 | 3930 | 3720 | 2950 | 2780 | 2810 | 2420 |
| 11 | 6490 | 6220 | --- | --- | 4450 | 4110 | 3930 | 3590 | 2830 | 2680 | 2470 | 2340 |
| 12 | 6390 | 5510 | 6520 | 5980 | 4540 | 4130 | 3790 | 3700 | 2770 | 2590 | 2600 | 2370 |
| 13 | 5390 | 4620 | 8390 | 6470 | 4640 | 4180 | 3770 | 3510 | 2770 | 2470 | 2820 | 2600 |
| 14 | 4810 | 4560 | 8550 | 8040 | 4300 | 4140 | 3550 | 3430 | 2540 | 2230 | 2820 | 2620 |
| 15 | 5330 | 4800 | 8600 | 8080 | 4100 | 3880 | 3540 | 3310 | 2820 | 2640 | 2820 | 2720 |
| 16 | 5320 | 5200 | 8740 | 8290 | 4260 | 3740 | 3390 | 3270 | 2880 | 2640 | 2720 | 2520 |
| 17 | 5420 | 5210 | 8710 | 4950 | 4070 | 3780 | 3380 | 3200 | 3280 | 2780 | 2720 | 2520 |
| 18 | 5470 | 4590 | 5000 | 4610 | 3940 | 3790 | 3380 | 3160 | 3480 | 2880 | 2720 | 2620 |
| 19 | 4500 | 4160 | 5370 | 4650 | 4000 | 3270 | 3340 | 3080 | 3180 | 2480 | 3020 | 2420 |
| 20 | 4350 | 3020 | 5250 | 5070 | 3630 | 3280 | 3110 | 2780 | 2580 | 2380 | 2420 | 1240 |
| 21 | 3450 | 2970 | 5180 | 5010 | 3300 | 1370 | 3060 | 2790 | 2680 | 2480 | 1240 | 950 |
| 22 | 3760 | 3420 | 5680 | 4940 | 1630 | 1370 | 3100 | 2920 | 3280 | 2580 | 2180 | 960 |
| 23 | 3950 | 3040 | 5710 | 4270 | 1660 | 1530 | 2980 | 2740 | 4280 | 3280 | 1580 | 1190 |
| 24 | 4010 | 3020 | 4260 | 4050 | 2310 | 1480 | 2770 | 2650 | 4080 | 3780 | 1220 | 1110 |
| 25 | 3650 | 2790 | 4020 | 3450 | 3970 | 2360 | 2860 | 2740 | 4580 | 3780 | 1230 | 1040 |
| 26 | 3290 | 2830 | 3660 | 3400 | 4150 | 1810 | 3050 | 2890 | 4680 | 3080 | 1160 | 1050 |
| 27 | 3630 | 2980 | 3470 | 2980 | 3270 | 2980 | 3240 | 3030 | 3400 | 2330 | 1180 | 1070 |
| 28 | 3440 | 3070 | 3370 | 2800 | 3460 | 3120 | 3140 | 2910 | 2760 | 2470 | 1290 | 1010 |
| 29 | 4140 | 3220 | 3340 | 3200 | 3620 | 3470 | 3100 | 3010 | 2710 | 2500 | 1130 | 1010 |
| 30 | 4070 | 3830 | 3570 | 3220 | 3760 | 3500 | 3100 | 2750 | 2600 | 2400 | 1150 | 1030 |
| 31 | --- | --- | 3510 | 2980 | --- | --- | 2800 | 2630 | 2700 | 2400 | --- | --- |
| MONTH | 6610 | 2790 | --- | --- | 7550 | 1370 | 4830 | 2630 | --- | --- | 3800 | 950 |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 24.0 | 18.0 | 15.5 | 13.5 | 11.0 | 8.5 | 10.0 | 7.0 | 13.0 | 9.5 | --- | --- |
| 2 | 21.5 | 18.5 | 16.0 | 13.5 | 11.0 | 8.5 | 10.5 | 8.0 | 13.0 | 9.0 | --- | --- |
| 3 | 22.0 | 17.0 | 16.0 | 13.5 | 10.5 | 8.5 | 8.5 | 6.5 | 13.0 | 9.5 | --- | --- |
| 4 | 21.5 | 16.5 | 16.5 | 13.5 | 11.5 | 8.5 | 8.5 | 6.0 | 12.5 | 10.0 | --- | --- |
| 5 | 22.0 | 17.0 | 16.5 | 13.5 | 11.5 | 9.5 | 8.0 | 6.0 | 13.5 | 8.5 | --- | --- |
| 6 | 22.5 | 17.0 | 16.5 | 13.5 | 12.5 | 10.5 | 8.5 | 6.0 | 12.0 | 10.0 | --- | --- |
| 7 | 23.5 | 18.0 | 16.0 | 13.0 | 12.5 | 10.5 | 9.5 | 7.5 | 12.0 | 8.5 | --- | --- |
| 8 | 23.5 | 19.0 | 15.5 | 13.0 | --- | --- | 11.0 | 8.0 | 13.5 | 7.5 | --- | --- |
| 9 | 24.0 | 19.0 | 15.5 | 12.5 | 13.0 | 11.5 | 11.0 | 9.0 | 14.5 | 10.5 | --- | --- |
| 10 | 23.5 | 19.0 | 15.5 | 13.0 | 13.0 | 11.5 | 11.0 | 9.0 | 16.0 | 10.5 | --- | --- |
| 11 | 23.5 | 18.5 | 15.5 | 13.0 | 12.0 | 10.0 | 11.0 | 9.5 | 15.0 | 11.0 | --- | --- |
| 12 | 23.0 | 17.5 | 16.0 | 13.5 | 10.5 | 9.0 | 11.5 | 9.5 | 16.5 | 12.5 | --- | --- |
| 13 | 22.0 | 17.5 | 15.5 | 13.5 | 10.5 | 8.5 | 11.5 | 10.5 | 14.5 | 10.0 | --- | --- |
| 14 | 22.0 | 17.0 | 15.0 | 13.5 | 9.5 | 7.5 | 11.0 | 10.0 | --- | --- | --- | --- |
| 15 | 21.0 | 16.5 | 13.5 | 12.5 | 9.5 | 7.5 | 12.0 | 10.0 | --- | --- | --- | --- |
| 16 | 20.5 | 17.0 | 14.0 | 11.5 | 9.5 | 7.5 | 11.0 | 9.5 | --- | --- | --- | --- |
| 17 | 21.5 | 17.5 | 13.5 | 12.0 | 9.5 | 7.0 | 10.5 | 8.0 | --- | --- | --- | --- |
| 18 | 22.5 | 18.0 | 14.0 | 11.5 | 9.5 | 7.0 | 10.0 | 8.5 | --- | --- | --- | --- |
| 19 | 22.5 | 18.5 | 14.0 | 11.5 | 8.5 | 7.5 | 9.5 | 7.5 | --- | --- | --- | --- |
| 20 | 21.0 | 19.0 | 14.0 | 11.5 | 8.0 | 7.5 | 10.0 | 7.0 | --- | --- | --- | --- |
| 21 | 19.0 | 17.5 | 14.0 | 11.5 | 7.5 | 7.0 | 9.5 | 7.0 | --- | --- | --- | --- |
| 22 | 18.5 | 16.5 | 13.5 | 11.5 | 7.5 | 7.0 | 8.5 | 6.5 | --- | --- | --- | --- |
| 23 | --- | --- | 13.0 | 11.5 | 7.0 | 7.0 | 9.0 | 6.5 | --- | --- | --- | --- |
| 24 | --- | --- | 13.5 | 12.0 | 7.0 | 6.5 | 11.0 | 8.0 | --- | --- | --- | --- |
| 25 | 19.0 | 17.0 | 12.5 | 12.0 | 7.0 | 6.5 | 10.5 | 8.5 | --- | --- | --- | --- |
| 26 | 18.0 | 15.0 | 13.0 | 11.0 | 7.0 | 6.5 | 11.0 | 8.0 | --- | --- | --- | --- |
| 27 | 18.0 | 15.5 | 11.5 | 10.0 | 6.5 | 5.5 | 10.5 | 7.5 | --- | --- | --- | --- |
| 28 | 16.5 | 14.5 | 11.0 | 9.0 | 7.0 | 6.0 | 11.5 | 7.0 | --- | --- | --- | --- |
| 29 | 15.5 | 13.0 | 11.0 | 9.0 | 9.0 | 6.5 | 12.0 | 8.0 | --- | --- | --- | --- |
| 30 | 16.0 | 13.5 | 11.0 | 9.0 | 8.0 | 7.0 | 12.0 | 10.5 | --- | --- | --- | --- |
| 31 | 16.0 | 13.5 | --- | --- | 9.0 | 6.0 | 12.5 | 9.0 | --- | --- | 24.0 | 15.5 |
| MONTH | --- | --- | 16.5 | 9.0 | --- | --- | 12.5 | 6.0 | --- | --- | --- | --- |

SAN JOAQUIN RIVER BASIN

11262900 MUD SLOUGH NEAR GUSTINE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 23.5 | 15.5 | 22.0 | 13.5 | 26.0 | 16.0 | 29.0 | 21.5 | 33.0 | 23.0 | 29.0 | 20.5 |
| 2 | 24.0 | 15.5 | 23.0 | 15.5 | 28.5 | 17.5 | 31.0 | 20.0 | 34.0 | 23.5 | 28.5 | 20.5 |
| 3 | 26.5 | 15.5 | 24.5 | 17.5 | 29.5 | 19.0 | 31.5 | 19.5 | 32.5 | 23.5 | 27.5 | 20.0 |
| 4 | 25.5 | 16.5 | 26.5 | 18.0 | 28.5 | 18.5 | 30.0 | 19.5 | 32.0 | 23.0 | 29.0 | 19.5 |
| 5 | 25.0 | 15.5 | 26.5 | 18.5 | 28.5 | 18.0 | --- | --- | 31.5 | 22.0 | 29.0 | 20.5 |
| 6 | 26.0 | 15.5 | 25.5 | 18.0 | 29.0 | 18.5 | 31.0 | 20.5 | 34.5 | 22.5 | 28.5 | 20.5 |
| 7 | 20.5 | 15.0 | 22.5 | 17.0 | 27.5 | 18.0 | 32.5 | 18.5 | 33.5 | 24.5 | 28.5 | 20.0 |
| 8 | 21.0 | 15.0 | 22.5 | 16.5 | 28.5 | 19.0 | 31.5 | 20.0 | 33.0 | 24.5 | 27.0 | 18.0 |
| 9 | 25.5 | 13.5 | 23.0 | 17.5 | 29.5 | 20.5 | 31.0 | 19.5 | 32.0 | 25.0 | 28.0 | 17.0 |
| 10 | 25.5 | 15.0 | 22.0 | 17.5 | 29.0 | 21.0 | 32.5 | 20.0 | 32.0 | 25.0 | 28.5 | 19.5 |
| 11 | 25.5 | 15.0 | 25.5 | 18.0 | 29.5 | 18.0 | 31.5 | 21.5 | 31.0 | 24.0 | 27.5 | 19.0 |
| 12 | 24.5 | 15.0 | 25.0 | 15.5 | 27.5 | 18.0 | 33.5 | 23.0 | --- | --- | 27.5 | 19.0 |
| 13 | 27.0 | 16.5 | 23.5 | 15.5 | 27.0 | 16.0 | 33.0 | 24.0 | 32.0 | 22.5 | 27.5 | 18.5 |
| 14 | 27.5 | 18.0 | 24.0 | 16.5 | 28.0 | 16.0 | 34.0 | 23.0 | 29.5 | 21.5 | 27.0 | 18.5 |
| 15 | 26.0 | 16.5 | 25.0 | 15.0 | 28.0 | 18.0 | 33.5 | 22.5 | 30.5 | 19.0 | 26.5 | 18.0 |
| 16 | 19.5 | 16.5 | 25.5 | 17.0 | 29.5 | 17.5 | 31.0 | 22.0 | --- | --- | 26.5 | 18.0 |
| 17 | 24.5 | 15.5 | 25.0 | 17.5 | 29.5 | 18.5 | 33.0 | 21.5 | 30.5 | 20.0 | 28.0 | 19.0 |
| 18 | 27.0 | 16.0 | 24.5 | 15.0 | 29.0 | 17.5 | 31.5 | 23.0 | 26.5 | 18.5 | 26.5 | 19.0 |
| 19 | 23.5 | 18.5 | 24.0 | 15.0 | 30.0 | 18.0 | 33.5 | 22.0 | 28.0 | 19.5 | 26.0 | 18.5 |
| 20 | 23.0 | 17.0 | 23.5 | 16.5 | 32.5 | 21.0 | 34.0 | 22.5 | 30.5 | 20.0 | 26.0 | 19.0 |
| 21 | 23.5 | 18.0 | 25.5 | 16.5 | 32.0 | 23.0 | 34.0 | 23.0 | 29.0 | 19.5 | 22.5 | 19.5 |
| 22 | 23.0 | 19.0 | 28.0 | 17.0 | 30.5 | 21.0 | 33.5 | 23.0 | --- | --- | 26.0 | 18.5 |
| 23 | 21.5 | 18.0 | 21.0 | 18.0 | 31.5 | 20.5 | 33.0 | 22.5 | 30.5 | 20.0 | 24.5 | 18.5 |
| 24 | 21.5 | 16.0 | 24.5 | 15.0 | 31.0 | 21.0 | 32.0 | 22.0 | 26.5 | 19.5 | 26.5 | 19.0 |
| 25 | 23.0 | 16.0 | 26.0 | 15.5 | 29.5 | 16.5 | 31.5 | 20.0 | 25.5 | 19.0 | 26.5 | 20.0 |
| 26 | 22.0 | 17.5 | 26.0 | 16.5 | 32.0 | 17.5 | 31.5 | 20.0 | 28.0 | 20.5 | 26.0 | 19.0 |
| 27 | 24.5 | 18.0 | 21.0 | 18.5 | 30.0 | 20.0 | 32.5 | 21.5 | 28.5 | 19.0 | 26.0 | 19.0 |
| 28 | 24.0 | 20.0 | 23.0 | 17.0 | 30.0 | 20.0 | 32.5 | 21.5 | 29.0 | 20.0 | 26.0 | 19.0 |
| 29 | 21.0 | 16.5 | 27.0 | 16.0 | 32.0 | 21.0 | 32.5 | 23.0 | 29.5 | 20.5 | 27.0 | 20.0 |
| 30 | 21.0 | 12.5 | 24.0 | 18.0 | 31.5 | 20.5 | 32.0 | 23.0 | 28.0 | 20.5 | 28.0 | 20.5 |
| 31 | --- | --- | 23.0 | 17.5 | --- | --- | 32.5 | 24.0 | 28.0 | 19.0 | --- | --- |
| MONTH | 27.5 | 12.5 | 28.0 | 13.5 | 32.5 | 16.0 | --- | --- | --- | --- | 29.0 | 17.0 |

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 mi².

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.--Records good. Up to 5 ft³/s can be diverted upstream from station for Yosemite Valley water supply.

AVERAGE DISCHARGE.--75 years, 348 ft³/s, 252,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft³/s, Dec. 23, 1955, gage height, 12.73 ft, from rating curve extended above 4,000 ft³/s on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum, 1.5 ft³/s, Sept. 30, 1926, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 28 | 0200 | *1,090 | *4.93 | | | | |
| Minimum daily, 4.8 ft ³ /s, Sept. 21. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|------|-------|
| 1 | 188 | 71 | 67 | 20 | 40 | 96 | 291 | 455 | 301 | 188 | 41 | 9.8 |
| 2 | 137 | 67 | 67 | e16 | 38 | 92 | 339 | 469 | 282 | 201 | 38 | 9.0 |
| 3 | 107 | 64 | 67 | e13 | 39 | 105 | 374 | 550 | 371 | 197 | 36 | 8.5 |
| 4 | 88 | 64 | 69 | e14 | 41 | 112 | 413 | 687 | 491 | 168 | 33 | 8.0 |
| 5 | 74 | 67 | 72 | e14 | 43 | 106 | 416 | 834 | 628 | 146 | 32 | 7.6 |
| 6 | 63 | 68 | 73 | e17 | 46 | 99 | 383 | 964 | 649 | 135 | 33 | 7.1 |
| 7 | 55 | 63 | 68 | 20 | 44 | 104 | 379 | 901 | 547 | 128 | 33 | 6.9 |
| 8 | 48 | 57 | 64 | 23 | 42 | 111 | 381 | 809 | 628 | 122 | 35 | 6.9 |
| 9 | 43 | 52 | 60 | 22 | 45 | 116 | 340 | 774 | 681 | 115 | 36 | 6.8 |
| 10 | 38 | 50 | 54 | 21 | 49 | 122 | 385 | 717 | 613 | 108 | 36 | 6.7 |
| 11 | 34 | 51 | 48 | 21 | 57 | 113 | 473 | 503 | 483 | 109 | 34 | 6.6 |
| 12 | 31 | 52 | 45 | 25 | 59 | 102 | 540 | 460 | 414 | 139 | 31 | 6.4 |
| 13 | 28 | 52 | 45 | 34 | 54 | 95 | 667 | 492 | 370 | 281 | 28 | 6.3 |
| 14 | 26 | 49 | 41 | 39 | e45 | 93 | 830 | 510 | 315 | 832 | 26 | 6.0 |
| 15 | 24 | 45 | 40 | 41 | e39 | 93 | 830 | 466 | 365 | 535 | 25 | 5.5 |
| 16 | 23 | 42 | 38 | 40 | e41 | 106 | 820 | 444 | 412 | 346 | 25 | 5.5 |
| 17 | 21 | 39 | 35 | 40 | e42 | 123 | 535 | 435 | 338 | 273 | 25 | 5.3 |
| 18 | 20 | 37 | 32 | 40 | e44 | 154 | 416 | 410 | 308 | 246 | 23 | 5.2 |
| 19 | 19 | 35 | 30 | 36 | e45 | 192 | 458 | 389 | 298 | 365 | 22 | 5.1 |
| 20 | 18 | 33 | 29 | 38 | e47 | 214 | 548 | 326 | 310 | 223 | 24 | 5.0 |
| 21 | 18 | 32 | 29 | 41 | e48 | 263 | 462 | 325 | 350 | 166 | 24 | 4.8 |
| 22 | 29 | 32 | 28 | 44 | 53 | 291 | 417 | 342 | 381 | 136 | 22 | 5.2 |
| 23 | 35 | 30 | 27 | 41 | 60 | 289 | 591 | 411 | 355 | 115 | 20 | 5.6 |
| 24 | 102 | 37 | 27 | 42 | 69 | 325 | 536 | 421 | 298 | 100 | 18 | 6.4 |
| 25 | 126 | 45 | 26 | 43 | 72 | 364 | 506 | 422 | 262 | 88 | 17 | 6.6 |
| 26 | 115 | 57 | 26 | 43 | 75 | 374 | 630 | 373 | 241 | 77 | 15 | 6.7 |
| 27 | 112 | 48 | 25 | 39 | 78 | 357 | 821 | 389 | 221 | 68 | 14 | 7.1 |
| 28 | 100 | 67 | 24 | 38 | 90 | 317 | 954 | 535 | 207 | 60 | 13 | 7.9 |
| 29 | 89 | 72 | 22 | 38 | --- | 271 | 858 | 451 | 202 | 53 | 12 | 8.5 |
| 30 | 80 | 71 | 21 | 38 | --- | 250 | 604 | 409 | 199 | 48 | 11 | 8.6 |
| 31 | 75 | --- | 20 | 37 | --- | 251 | --- | 354 | --- | 45 | 10 | --- |
| TOTAL | 1966 | 1549 | 1319 | 978 | 1445 | 5700 | 16197 | 16027 | 11520 | 5813 | 792 | 201.6 |
| MEAN | 63.4 | 51.6 | 42.5 | 31.5 | 51.6 | 184 | 540 | 517 | 384 | 188 | 25.5 | 6.72 |
| MAX | 188 | 72 | 73 | 44 | 90 | 374 | 954 | 964 | 681 | 832 | 41 | 9.8 |
| MIN | 18 | 30 | 20 | 13 | 38 | 92 | 291 | 325 | 199 | 45 | 10 | 4.8 |
| AC-FT | 3900 | 3070 | 2620 | 1940 | 2870 | 11310 | 32130 | 31790 | 22850 | 11530 | 1570 | 400 |

CAL YR 1989 TOTAL 95605.7 MEAN 262 MAX 1490 MIN 6.1 AC-FT 189600
WTR YR 1990 TOTAL 63507.6 MEAN 174 MAX 964 MIN 4.8 AC-FT 126000

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 instrument. Water-quality samples were obtained 1.0 mile downstream of the gage at or below Clarks Bridge.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 20.0 °C, July 15, 1979, July 13, 1990; minimum recorded, 0.0 °C, on many days during winter period most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 20.0 °C, July 13; minimum recorded, 0.5 °C, several days November through March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS-CHARGE, INST. CUBIC FEET PER SECOND | SPE-CIFIC CON-DUCT-ANCE (US/CM) | PH (STAND-ARD UNITS) | TEMPER-ATURE WATER (DEG C) | TUR-BID-ITY (NTU) | BARO-METRIC PRES-SURE (MM OF HG) | OXYGEN, DIS-SOLVED (MG/L) | OXYGEN, (PER-CENT SATUR-ATION) | COLI-FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML) | STREP-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) |
|-----------|------|---|---------------------------------|----------------------|----------------------------|-------------------|----------------------------------|---------------------------|--------------------------------|--|---|
| NOV, 1989 | | | | | | | | | | | |
| 14... | 1015 | 50 | 24 | 7.3 | 4.0 | 0.20 | 670 | 12.1 | 105 | K2 | K7 |
| JAN, 1990 | | | | | | | | | | | |
| 09... | 1045 | 21 | 32 | 7.4 | 2.5 | 0.20 | 670 | 12.6 | 105 | <1 | <1 |
| MAY | | | | | | | | | | | |
| 17... | 1145 | 439 | 10 | 7.2 | 8.5 | 0.30 | 665 | 10.8 | 106 | <1 | K2 |
| JUL | | | | | | | | | | | |
| 12... | 1200 | 125 | 15 | 7.3 | 19.0 | 1.5 | 670 | 8.0 | 98 | 51 | 110 |
| AUG | | | | | | | | | | | |
| 24... | 1115 | 18 | 32 | 7.2 | 13.5 | -- | -- | -- | -- | -- | -- |

[illegible][illegible]

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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) |
|-----------|--|---|---|---|--|--|--|--|---|--|--|
| NOV 14... | 0.020 | <0.010 | <0.010 | 20 | <1 | 7 | <0.5 | <1.0 | <1 | <3 | 1 |
| JAN 09... | <0.010 | <0.010 | <0.010 | 10 | <1 | 8 | <0.5 | <1.0 | 1 | <3 | <1 |
| MAY 17... | 0.010 | <0.010 | <0.010 | 40 | <1 | 7 | <0.5 | <1.0 | <1 | <3 | 1 |
| JUL 12... | <0.010 | <0.010 | 0.010 | <10 | 1 | <2 | <0.5 | <1.0 | <1 | <3 | 1 |
| AUG 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | IRON, DIS- SOLVED (UG/L AS FE) | 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) |
|-----------|--|--|--|--|--|---|--|---|--|--|
| NOV 14... | 38 | <1 | 6 | <1 | <0.1 | <10 | <1 | <1 | <1.0 | 37 |
| JAN 09... | 23 | <1 | 9 | <1 | 0.2 | <10 | 1 | <1 | <1.0 | 54 |
| MAY 17... | 21 | 1 | <4 | 1 | <0.1 | <10 | <1 | <1 | <1.0 | 12 |
| JUL 12... | 25 | <1 | 4 | 2 | <0.1 | <10 | <1 | <1 | <1.0 | 21 |
| AUG 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | VANA- DIUM, DIS- SOLVED (UG/L AS V) | ZINC, DIS- SOLVED (UG/L AS ZN) | GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) | GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) | GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) | GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) | GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) | GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) | RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) | URANIUM NATURAL DIS- SOLVED (UG/L AS U) |
|-----------|--|--|--|--|---|---|--|--|---|--|
| NOV 14... | <6 | 6 | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 09... | <6 | 9 | 1.2 | <0.4 | 1.6 | <0.4 | 1.5 | <0.4 | 0.09 | 0.91 |
| MAY 17... | <6 | 18 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 12... | <6 | 6 | 0.5 | 0.8 | 1.1 | <0.4 | 1.1 | <0.4 | -- | -- |
| AUG 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | BARO- METRIC PRES- SURE OF (MM HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, (PER- CENT SATUR- ATION) | SEDI- MENT, SUS- PENDED (MG/L) |
|-----------|------|--|---|---|--------------------------------|--------------------------------------|--|-------------------------------------|--|--|
| MAY 17... | 1135 | 2.62 | 13.0 | 11 | 7.2 | 8.5 | 665 | 10.8 | 106 | -- |
| 17... | 1140 | 2.63 | 28.0 | 12 | 7.2 | 8.5 | 665 | 10.8 | 106 | -- |
| 17... | 1150 | 2.75 | 41.0 | 10 | 7.2 | 8.5 | 665 | 10.9 | 107 | -- |
| 17... | 1155 | 2.80 | 55.0 | 12 | 7.1 | 8.5 | 665 | 10.8 | 106 | -- |
| 17... | 1200 | 2.06 | 70.0 | 10 | 7.1 | 8.5 | 665 | 10.8 | 106 | -- |
| JUL 12... | 1201 | 2.50 | 18.0 | 15 | 7.2 | 19.0 | 670 | 7.8 | 98 | 0 |
| 12... | 1203 | 2.34 | 31.0 | 15 | 7.2 | 19.0 | 670 | 8.0 | 98 | 0 |
| 12... | 1206 | 2.32 | 42.0 | 15 | 7.2 | 19.0 | 670 | 8.0 | 98 | 0 |
| 12... | 1209 | 2.22 | 55.0 | 15 | 7.3 | 19.0 | 670 | 8.0 | 98 | 0 |
| 12... | 1212 | 2.00 | 68.0 | 15 | 7.2 | 18.0 | 670 | 7.8 | 94 | 0 |

* Instantaneous discharge at the time of cross-sectional measurement: May 17, 439 ft³/s; July 12, 125 ft³/s.

SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDE (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|--|--------------------------------------|---|---|---|
| NOV 14... | 1015 | 50 | 4.0 | 4 | 0.54 | 50 |
| JAN 09... | 1045 | 21 | 2.5 | 2 | 0.11 | 76 |
| MAY 17... | 1145 | 439 | 8.5 | 1 | 1.2 | 51 |
| JUL 12... | 1200 | 125 | 19.0 | 0 | -- | -- |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX OCTOBER | MIN OCTOBER | MAX NOVEMBER | MIN NOVEMBER | MAX DECEMBER | MIN DECEMBER | MAX JANUARY | MIN JANUARY | MAX FEBRUARY | MIN FEBRUARY | MAX MARCH | MIN MARCH |
|-------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|--------------|--------------|
| 1 | 12.5 | 9.0 | 5.0 | 2.5 | 2.0 | 1.0 | 2.5 | 1.5 | 1.5 | 1.0 | 3.0 | 2.0 |
| 2 | 11.5 | 9.5 | 5.0 | 3.0 | 2.5 | 1.0 | 2.0 | 1.5 | 1.5 | 1.0 | 4.0 | 2.5 |
| 3 | 9.5 | 7.0 | 5.5 | 3.0 | 2.5 | 1.5 | 2.0 | 1.0 | 2.0 | 1.0 | 4.5 | 2.5 |
| 4 | 9.5 | 7.0 | 6.0 | 4.0 | 3.5 | 2.0 | 2.0 | 1.0 | 1.5 | .5 | 4.0 | 2.0 |
| 5 | 9.5 | 7.5 | 6.0 | 3.0 | 4.0 | 2.5 | 2.0 | 1.5 | 1.0 | .5 | 2.0 | 1.0 |
| 6 | 9.5 | 7.5 | 6.0 | 3.5 | 3.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.0 | 3.5 | 1.0 |
| 7 | 9.5 | 7.5 | 5.0 | 3.0 | 4.0 | 2.0 | 2.5 | 2.0 | 1.5 | .5 | 5.0 | 3.0 |
| 8 | 10.0 | 8.5 | 5.0 | 2.5 | 4.0 | 3.0 | 3.5 | 2.5 | 1.0 | .5 | 6.0 | 3.0 |
| 9 | 10.0 | 8.5 | 5.5 | 3.0 | 3.0 | 2.0 | 3.0 | 2.5 | 1.0 | 1.0 | 6.0 | 2.0 |
| 10 | 10.5 | 9.5 | 6.0 | 4.5 | 2.5 | 1.5 | 3.0 | 2.5 | 1.5 | 1.0 | 4.0 | 1.5 |
| 11 | 10.0 | 8.0 | 6.0 | 5.0 | 2.0 | 1.0 | 3.5 | 3.0 | 1.5 | 1.0 | 1.5 | .5 |
| 12 | 9.5 | 8.5 | 6.0 | 4.5 | 1.5 | 1.0 | 4.0 | 3.5 | 2.0 | 1.5 | 1.0 | .5 |
| 13 | 9.0 | 8.0 | 5.5 | 4.0 | 1.5 | 1.0 | 3.5 | 1.5 | 1.5 | 1.0 | 1.0 | .5 |
| 14 | 9.0 | 8.5 | 5.0 | 3.5 | 1.5 | 1.0 | 2.5 | 1.5 | 1.0 | .5 | 1.5 | .5 |
| 15 | 8.5 | 8.0 | 5.0 | 3.0 | 2.0 | 1.5 | 2.0 | 1.5 | .5 | .5 | 3.0 | 1.0 |
| 16 | 9.0 | 7.5 | 5.0 | 3.5 | 2.0 | 2.0 | 1.5 | 1.0 | .5 | .5 | 5.5 | 2.0 |
| 17 | 8.5 | 7.5 | 5.0 | 4.0 | 2.0 | 1.5 | 1.5 | 1.0 | .5 | .5 | 6.5 | 3.5 |
| 18 | 9.0 | 8.0 | 5.0 | 4.0 | 2.0 | 1.0 | 1.5 | 1.0 | .5 | .5 | 7.0 | 3.5 |
| 19 | 9.0 | 7.5 | 5.0 | 4.0 | 2.0 | 1.0 | 1.5 | 1.0 | 1.0 | .5 | 7.0 | 4.0 |
| 20 | 8.0 | 7.0 | 5.0 | 4.5 | 2.0 | 1.5 | 1.5 | 1.0 | 1.0 | .5 | 8.0 | 4.0 |
| 21 | 8.5 | 8.0 | 4.5 | 3.5 | 2.0 | 1.5 | 1.5 | 1.0 | 1.0 | 1.0 | 7.0 | 3.0 |
| 22 | 8.5 | 7.5 | 4.5 | 4.0 | 2.0 | 2.0 | 1.5 | 1.0 | 1.5 | 1.0 | 7.0 | 3.5 |
| 23 | 9.0 | 7.5 | 4.5 | 3.5 | 2.5 | 2.0 | 1.5 | 1.0 | 2.0 | 1.5 | 8.0 | 3.0 |
| 24 | 8.5 | 6.0 | 5.0 | 4.5 | 3.0 | 2.5 | 1.5 | 1.0 | 2.0 | 1.5 | 8.0 | 3.5 |
| 25 | 5.0 | 3.5 | 4.5 | 4.0 | 2.5 | 2.5 | 2.0 | 1.0 | 3.0 | 2.0 | 8.0 | 4.0 |
| 26 | 4.5 | 2.5 | 4.0 | 1.0 | 3.0 | 2.5 | 2.0 | 1.5 | 3.0 | 2.0 | 7.5 | 3.0 |
| 27 | 6.0 | 3.0 | 1.5 | 1.0 | 3.0 | 2.5 | 1.5 | 1.0 | 4.0 | 2.0 | 7.5 | 3.0 |
| 28 | 5.5 | 2.5 | 1.0 | .5 | 2.5 | 1.5 | 1.5 | 1.0 | 4.0 | 1.0 | 6.5 | 3.0 |
| 29 | 4.5 | 2.0 | 1.5 | 1.0 | 2.5 | 1.5 | 1.5 | 1.0 | --- | --- | 6.5 | 2.0 |
| 30 | 5.0 | 2.5 | 1.5 | 1.0 | 2.5 | 1.5 | 1.5 | 1.0 | --- | --- | 7.0 | 3.0 |
| 31 | 4.5 | 2.0 | --- | --- | 2.5 | 2.0 | 1.5 | 1.0 | --- | --- | 8.0 | 3.5 |
| MONTH | 12.5 | 2.0 | 6.0 | .5 | 4.0 | 1.0 | 4.0 | 1.0 | 4.0 | .5 | 8.0 | .5 |

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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

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 mi².

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.--Records good. No diversions between stations at Happy Isles bridge and Pohono bridge.

AVERAGE DISCHARGE.--74 years, 611 ft³/s, 442,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,400 ft³/s, Dec. 23, 1955, gage height, 21.52 ft, from floodmarks in well, from rating curve extended above 17,000 ft³/s on basis of computation of flow over diversion dam for Yosemite powerplant 1 mi downstream at gage heights 20.1 and 21.98 ft, present datum; minimum, 3.3 ft³/s, Sept. 29, Oct. 1, 1924.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 28 | 0245 | *1,850 | *5.81 | | | | |

Minimum daily, 17 ft³/s, Sept. 17-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|------|------|
| 1 | 245 | 117 | 114 | 49 | 87 | 212 | 676 | 958 | 630 | 240 | 64 | 26 |
| 2 | 171 | 110 | 114 | e44 | 82 | 201 | 774 | 952 | 557 | 243 | 61 | 25 |
| 3 | 135 | 105 | 116 | e42 | 84 | 221 | 827 | 1040 | 623 | 247 | 57 | 24 |
| 4 | 112 | 102 | 121 | e41 | 90 | 258 | 915 | 1170 | 747 | 217 | 54 | 23 |
| 5 | 95 | 104 | 128 | e42 | 84 | 225 | 947 | 1330 | 879 | 189 | 51 | 22 |
| 6 | 82 | 105 | 133 | e44 | 96 | 212 | 887 | 1500 | 903 | 172 | 51 | 22 |
| 7 | 74 | 100 | 122 | 50 | 91 | 224 | 861 | 1430 | 806 | 163 | 51 | 21 |
| 8 | 67 | 92 | 117 | 54 | 81 | 244 | 860 | 1290 | 852 | 154 | 53 | 21 |
| 9 | 61 | 85 | 108 | 58 | 90 | 261 | 769 | 1220 | 914 | 147 | 52 | 20 |
| 10 | 57 | 82 | 100 | 57 | 98 | 279 | 856 | 1180 | 887 | 138 | 54 | 20 |
| 11 | 53 | 81 | 89 | 57 | 112 | 239 | 1020 | 934 | 729 | 133 | 51 | 19 |
| 12 | 49 | 82 | 85 | 65 | 122 | 210 | 1110 | 840 | 620 | 151 | 49 | 19 |
| 13 | 46 | 82 | 86 | 93 | 116 | 186 | 1260 | 859 | 548 | 314 | 46 | 18 |
| 14 | 44 | 80 | 78 | 93 | 92 | 196 | 1490 | 869 | 475 | 996 | 44 | 18 |
| 15 | 42 | 75 | 78 | 97 | 79 | 206 | 1500 | 810 | 555 | 729 | 42 | 18 |
| 16 | 40 | 72 | 76 | 101 | 84 | 236 | 1540 | 766 | 632 | 458 | 41 | 18 |
| 17 | 39 | 69 | 71 | 91 | 84 | 269 | 1120 | 746 | 511 | 362 | 40 | 17 |
| 18 | 38 | 67 | 68 | 94 | 92 | 349 | 909 | 698 | 453 | 296 | 39 | 17 |
| 19 | 36 | 64 | 66 | 84 | 91 | 430 | 969 | 665 | 431 | 454 | 38 | 17 |
| 20 | 35 | 61 | 64 | 83 | 96 | 483 | 1120 | 574 | 423 | 300 | 38 | 17 |
| 21 | 37 | 59 | 63 | 84 | 100 | 587 | 1050 | 545 | 458 | 223 | 39 | 17 |
| 22 | 49 | 58 | 61 | 89 | 106 | 645 | 923 | 559 | 492 | 180 | 38 | 17 |
| 23 | 61 | 56 | 60 | 88 | 118 | 641 | 1300 | 662 | 464 | 152 | 37 | 18 |
| 24 | 247 | 62 | 59 | 88 | 130 | 727 | 1210 | 734 | 396 | 134 | 35 | 18 |
| 25 | 264 | 80 | 58 | 90 | 138 | 812 | 1130 | 762 | 349 | 118 | 33 | 18 |
| 26 | 213 | 111 | 57 | 92 | 143 | 819 | 1230 | 660 | 320 | 105 | 32 | 18 |
| 27 | 202 | 84 | 57 | 86 | 153 | 805 | 1460 | 681 | 295 | 94 | 31 | 19 |
| 28 | 176 | 111 | 55 | 82 | 182 | 721 | 1650 | 1060 | 272 | 85 | 30 | 20 |
| 29 | 150 | 119 | 53 | 83 | --- | 618 | 1550 | 899 | 262 | 78 | 28 | 20 |
| 30 | 135 | 118 | 50 | 87 | --- | 581 | 1180 | 800 | 255 | 72 | 27 | 20 |
| 31 | 124 | --- | 51 | 82 | --- | 594 | --- | 735 | --- | 68 | 27 | --- |
| TOTAL | 3179 | 2593 | 2558 | 2290 | 2921 | 12691 | 33093 | 27928 | 16738 | 7412 | 1333 | 587 |
| MEAN | 103 | 86.4 | 82.5 | 73.9 | 104 | 409 | 1103 | 901 | 558 | 239 | 43.0 | 19.6 |
| MAX | 264 | 119 | 133 | 101 | 182 | 819 | 1650 | 1500 | 914 | 996 | 64 | 26 |
| MIN | 35 | 56 | 50 | 41 | 79 | 186 | 676 | 545 | 255 | 68 | 27 | 17 |
| AC-FT | 6310 | 5140 | 5070 | 4540 | 5790 | 25170 | 65640 | 55400 | 33200 | 14700 | 2640 | 1160 |

CAL YR 1989 TOTAL 170264 MEAN 466 MAX 2670 MIN 20 AC-FT 337700
WTR YR 1990 TOTAL 113323 MEAN 310 MAX 1650 MIN 17 AC-FT 224800

e Estimated.

11267350 BIG CREEK DIVERSION NEAR FISH CAMP, CA

LOCATION.--Lat 37°28'10", long 119°36'51", in SE 1/4 NE 1/4 sec.25, T.5 S., R.21 E., Mariposa County, Hydrologic Unit 18040008, Sierra National Forest, on right bank 0.5 mi downstream from diversion weir, 0.5 mi upstream from Rainier Creek, and 1.2 mi southeast of Fish Camp.

PERIOD OF RECORD.--October 1969 to June 1977, April 1987 to current year.

GAGE.--Water-stage recorder, crest-stage gage and culvert control. Elevation of gage is 5,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for periods of estimated daily discharges, which are poor. Flow is diverted from the left bank of Big Creek, a tributary to the Merced River, to Rainier Creek which is tributary to the Fresno River. Flow is used for domestic and irrigation purposes.

AVERAGE DISCHARGE.--10 years (water years 1970-76, 1988-90), 10.4 ft³/s, 7,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 66 ft³/s, June 1, 2, 1975; no flow for several days in summer months of most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|-------|-------|------|-------|-------|-------|-------|-------|
| 1 | .00 | .00 | e3.0 | e2.4 | e2.8 | e15 | 27 | 16 | 12 | 2.1 | .23 | .49 |
| 2 | .00 | .00 | e2.9 | e2.5 | e2.9 | e14 | 29 | 16 | 12 | 1.9 | .19 | .50 |
| 3 | .00 | .00 | e2.8 | e2.6 | e3.0 | e13 | 29 | 16 | 11 | 2.1 | .22 | .40 |
| 4 | .00 | .00 | 2.8 | e2.8 | e3.1 | e12 | 30 | 15 | 10 | 2.2 | .24 | .39 |
| 5 | .25 | .00 | 3.1 | e2.9 | e3.0 | 12 | 28 | 15 | 9.6 | 2.2 | .24 | .40 |
| 6 | .76 | .00 | e2.9 | e2.9 | e3.0 | 11 | 28 | 16 | 9.2 | 2.1 | .29 | .40 |
| 7 | .74 | 1.2 | e2.9 | e3.0 | e3.1 | 12 | 29 | 15 | 8.4 | 2.1 | .29 | .40 |
| 8 | .68 | 2.2 | 3.0 | e3.1 | e3.1 | 12 | 29 | 14 | 7.4 | 2.1 | .26 | .39 |
| 9 | .62 | 2.2 | e3.0 | e3.0 | e3.2 | 14 | 27 | 14 | 7.4 | 2.1 | .30 | .39 |
| 10 | .60 | 2.2 | e2.9 | 3.0 | e3.2 | 14 | 30 | 13 | 7.4 | 2.0 | .33 | .41 |
| 11 | .51 | 2.1 | e2.9 | e3.0 | e3.3 | 9.9 | 31 | 13 | 6.6 | 2.0 | .39 | .41 |
| 12 | .49 | 2.0 | e2.8 | e3.0 | e3.3 | 9.5 | 32 | 13 | 6.0 | 2.0 | .44 | .39 |
| 13 | .44 | 2.0 | e2.8 | e3.0 | e3.2 | 9.4 | 34 | 12 | 5.7 | 1.8 | .38 | .38 |
| 14 | .38 | 1.9 | e2.8 | e3.0 | e3.3 | 9.8 | 34 | 11 | 5.7 | 1.8 | .33 | .38 |
| 15 | .33 | 1.9 | 2.6 | e3.0 | e3.4 | 11 | 34 | 11 | 6.3 | 1.6 | .33 | .37 |
| 16 | .31 | 1.7 | 2.5 | e3.0 | e3.5 | 13 | 33 | 10 | 6.4 | 1.5 | .41 | .37 |
| 17 | .31 | 1.6 | e2.4 | e3.0 | e3.6 | 15 | 28 | 9.8 | 5.4 | .85 | .42 | .37 |
| 18 | .31 | 1.5 | e2.3 | e3.0 | e3.5 | 17 | 26 | 9.5 | 5.0 | .29 | .39 | .37 |
| 19 | .30 | 1.5 | e2.3 | e3.0 | e3.5 | 19 | 20 | 9.5 | 4.6 | .26 | .39 | .36 |
| 20 | .26 | 1.4 | e2.4 | e3.0 | e4.1 | 23 | 16 | 9.2 | 4.6 | .23 | .42 | .36 |
| 21 | .22 | 1.4 | e2.3 | e3.0 | e5.8 | 26 | 16 | 9.0 | 4.3 | .19 | .48 | .31 |
| 22 | .03 | 1.4 | e2.3 | 3.0 | e9.2 | 26 | 16 | 9.0 | 3.8 | .20 | .48 | .30 |
| 23 | .05 | 1.4 | e2.2 | e2.9 | e9.8 | 27 | 17 | 10 | 3.6 | .15 | .48 | .29 |
| 24 | .04 | 1.7 | e2.2 | e2.9 | e11 | 30 | 18 | 12 | 3.2 | .15 | .45 | .29 |
| 25 | .01 | 4.2 | e2.3 | e2.9 | 12 | 31 | 17 | 10 | 3.0 | .15 | .44 | .27 |
| 26 | .00 | 8.6 | e2.4 | e2.9 | e14 | 30 | 17 | 9.7 | 2.8 | .15 | .47 | .29 |
| 27 | .00 | e4.5 | e2.4 | e2.9 | e20 | 28 | 17 | 12 | 2.6 | .19 | .49 | .26 |
| 28 | .00 | e3.9 | e2.3 | e2.8 | e17 | 24 | 16 | 14 | 2.5 | .19 | .50 | .25 |
| 29 | .00 | e3.5 | e2.4 | e2.7 | --- | 22 | 16 | 14 | 2.4 | .19 | .47 | .22 |
| 30 | .00 | e3.2 | e2.4 | e2.7 | --- | 22 | 15 | 13 | 2.1 | .19 | .45 | .22 |
| 31 | .00 | --- | e2.3 | e2.8 | --- | 23 | --- | 13 | --- | .19 | .45 | --- |
| TOTAL | 7.64 | 59.20 | 80.6 | 89.7 | 163.9 | 554.6 | 739 | 383.7 | 181.0 | 35.17 | 11.65 | 10.63 |
| MEAN | .25 | 1.97 | 2.60 | 2.89 | 5.85 | 17.9 | 24.6 | 12.4 | 6.03 | 1.13 | .38 | .35 |
| MAX | .76 | 8.6 | 3.1 | 3.1 | 20 | 31 | 34 | 16 | 12 | 2.2 | .50 | .50 |
| MIN | .00 | .00 | 2.2 | 2.4 | 2.8 | 9.4 | 15 | 9.0 | 2.1 | .15 | .19 | .22 |
| AC-FT | 15 | 117 | 160 | 178 | 325 | 1100 | 1470 | 761 | 359 | 70 | 23 | 21 |

CAL YR 1989 TOTAL 2814.31 MEAN 7.71 MAX 41 MIN .00 AC-FT 5580
WTR YR 1990 TOTAL 2316.79 MEAN 6.35 MAX 34 MIN .00 AC-FT 4600

e Estimated.

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 mi².

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 powerplant 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, 261,800 acre-ft, June 10, elevation, 699.5 ft; minimum, 107,800 acre-ft, Sept. 30, elevation, 620.7 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Merced Irrigation District, dated June 1966)

| | | | | | | | |
|-----|---------|-----|---------|-----|---------|-----|-----------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 140300 | 146600 | 145200 | 139700 | 142700 | 152700 | 185100 | 238500 | 257900 | 235200 | 175900 | 117600 |
| 2 | 140800 | 146600 | 145600 | 139400 | 142900 | 153500 | 185800 | 239000 | 258500 | 233400 | 173500 | 115900 |
| 3 | 141000 | 146600 | 146000 | 139000 | 143000 | 154500 | 186300 | 240000 | 260000 | 231600 | 171600 | 114600 |
| 4 | 141600 | 146500 | 145500 | 139200 | 143700 | 155500 | 187000 | 241100 | 260000 | 229800 | 169700 | 114400 |
| 5 | 141800 | 146500 | 145100 | 138300 | 144000 | 156100 | 187800 | 242500 | 260200 | 228000 | 167700 | 114200 |
| 6 | 141800 | 146500 | 144900 | 138100 | 143900 | 157100 | 187600 | 244600 | 260900 | 226000 | 166000 | 113900 |
| 7 | 141800 | 146500 | 144800 | 138100 | 144000 | 158100 | 188300 | 247300 | 260900 | 224300 | 163900 | 113700 |
| 8 | 141800 | 146700 | 144400 | 138100 | 144100 | 158600 | 189300 | 248500 | 261400 | 222500 | 162000 | 113400 |
| 9 | 141900 | 146800 | 144200 | 137400 | 144500 | 159400 | 189400 | 249600 | 261500 | 220400 | 159900 | 112900 |
| 10 | 141900 | 145900 | 144000 | 136900 | 144800 | 160400 | 190200 | 251500 | 261800 | 218500 | 158400 | 112300 |
| 11 | 141800 | 145900 | 144000 | 136500 | 145200 | 161400 | 191500 | 251000 | 261600 | 216700 | 156000 | 112100 |
| 12 | 141900 | 145800 | 143900 | 135900 | 145000 | 161900 | 193000 | 251700 | 260900 | 214500 | 153800 | 112000 |
| 13 | 141900 | 145700 | 143800 | 136500 | 145400 | 162800 | 194900 | 251400 | 259900 | 212500 | 152100 | 111700 |
| 14 | 141900 | 145400 | 143800 | 139100 | 145700 | 163700 | 197600 | 251800 | 258400 | 211600 | 150500 | 111600 |
| 15 | 141800 | 145100 | 143900 | 139500 | 145500 | 164600 | 200300 | 251800 | 257200 | 210900 | 148300 | 111400 |
| 16 | 141600 | 145100 | 143700 | 140600 | 146000 | 165500 | 203400 | 251700 | 256500 | 209900 | 146200 | 111300 |
| 17 | 141000 | 145200 | 143600 | 141300 | 146000 | 166700 | 205900 | 251800 | 256500 | 208600 | 144100 | 110800 |
| 18 | 141000 | 145000 | 143400 | 141500 | 146800 | 167900 | 207200 | 250600 | 254800 | 206900 | 142500 | 110700 |
| 19 | 140900 | 145000 | 143000 | 141900 | 147100 | 169400 | 208300 | 250700 | 253300 | 205100 | 140100 | 110400 |
| 20 | 140700 | 144600 | 143000 | 142000 | 147300 | 170700 | 209200 | 250300 | 252200 | 203400 | 138400 | 110200 |
| 21 | 140500 | 144200 | 142800 | 142100 | 147700 | 172400 | 210900 | 248700 | 251500 | 201700 | 136500 | 109800 |
| 22 | 140300 | 143500 | 142500 | 142200 | 148300 | 173500 | 212000 | 248000 | 249700 | 199500 | 134800 | 109400 |
| 23 | 140400 | 143500 | 142300 | 142400 | 148700 | 175700 | 215000 | 248200 | 248300 | 197500 | 132900 | 109300 |
| 24 | 141400 | 143500 | 142100 | 142700 | 149600 | 177800 | 218600 | 247500 | 247400 | 195300 | 131500 | 109200 |
| 25 | 143400 | 143100 | 142000 | 142600 | 150400 | 180300 | 220900 | 247500 | 245500 | 193000 | 129800 | 109100 |
| 26 | 144400 | 143200 | 141600 | 142600 | 150900 | 182400 | 223800 | 247600 | 243800 | 190400 | 127900 | 109000 |
| 27 | 145000 | 143500 | 141500 | 142700 | 151600 | 183800 | 227400 | 248100 | 242700 | 188100 | 126200 | 108600 |
| 28 | 145500 | 143900 | 141500 | 142800 | 151900 | 184300 | 231700 | 251100 | 240900 | 185900 | 124200 | 107900 |
| 29 | 145800 | 144400 | 141300 | 143100 | --- | 184900 | 235500 | 252900 | 239000 | 183500 | 122100 | 107900 |
| 30 | 146200 | 144800 | 140700 | 142600 | --- | 185300 | 237200 | 255200 | 237100 | 181000 | 121000 | 107800 |
| 31 | 146500 | --- | 139900 | 142900 | --- | 185100 | --- | 257400 | --- | 178500 | 118900 | --- |
| MAX | 146500 | 146800 | 146000 | 143100 | 151900 | 185300 | 237200 | 257400 | 261800 | 235200 | 175900 | 117600 |
| MIN | 140300 | 143100 | 139900 | 135900 | 142700 | 152700 | 185100 | 237100 | 237100 | 178500 | 118900 | 107800 |
| a | 645.1 | 644.1 | 641.2 | 643.0 | 648.3 | 665.8 | 689.5 | 697.8 | 689.5 | 662.5 | 628.1 | 620.7 |
| b | +7000 | -1700 | -4900 | +3000 | +9000 | +33200 | +52100 | +20200 | -20300 | -58600 | -59600 | -11100 |
| CAL YR 1989 | b | +5500 | | | | | | | | | | |
| WTR YR 1990 | b | -31700 | | | | | | | | | | |

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11270800 NORTHSIDE CANAL AT MERCED FALLS, CA

LOCATION.--Lat 37°31'22", long 120°20'00", in SE 1/4 SW 1/4 sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on left bank 1,200 ft downstream from Merced Falls Dam, 0.2 mi west of Merced Falls, and 5.8 mi east of Snelling.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and sharp-crested rectangular weir. Elevation of gage is 340 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow diverted at Merced Falls Dam for irrigation of 4,100 acres below gage. Flow regulated by three powerplants and Lake McClure (station 11269500) and McSwain Reservoir, combined capacity, 1,035,000 acre-ft.

COOPERATION.--Records were provided by Merced Irrigation District 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, 72 ft³/s, July 21, 1987; no flow for many days in 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|------|------|-------|
| 1 | 5.3 | 2.6 | 3.5 | 4.7 | 5.0 | 5.0 | 36 | 39 | 9.3 | 62 | e61 | e32 |
| 2 | 5.7 | 2.6 | 3.5 | 4.7 | 5.0 | 5.3 | 40 | 47 | 9.3 | e62 | e60 | e32 |
| 3 | 5.7 | 2.6 | 3.2 | 4.7 | 5.0 | 5.3 | 42 | 51 | 9.3 | 62 | e56 | e33 |
| 4 | 5.3 | 2.6 | 3.8 | 4.7 | 4.7 | 5.7 | 42 | 51 | 26 | 62 | e53 | e14 |
| 5 | 5.3 | 2.9 | 3.8 | 4.7 | 4.7 | 5.7 | 42 | 51 | 36 | 61 | e53 | e6.1 |
| 6 | 5.3 | 3.2 | 4.1 | 4.7 | 4.7 | 5.7 | 42 | 51 | 42 | 61 | e52 | e9.8 |
| 7 | 5.3 | 3.5 | 4.1 | 4.7 | 4.7 | 5.7 | 42 | 51 | 46 | 61 | e52 | e8.9 |
| 8 | 5.0 | 3.8 | 4.1 | 4.7 | 4.7 | 5.7 | 42 | 54 | 46 | 61 | e52 | e8.5 |
| 9 | 5.0 | 4.1 | 4.4 | 4.7 | 5.0 | 5.7 | 43 | 57 | 48 | 61 | e52 | e7.7 |
| 10 | 5.0 | 4.1 | 5.0 | 4.7 | 5.0 | 5.7 | 46 | 57 | 49 | e61 | e51 | e6.9 |
| 11 | 5.3 | 4.1 | 5.0 | 4.7 | 5.0 | 5.7 | 47 | 57 | 49 | e63 | e47 | e6.1 |
| 12 | 5.3 | 4.4 | 5.0 | 4.7 | 5.0 | 6.1 | 47 | 57 | 49 | e63 | e47 | e6.1 |
| 13 | 5.3 | 4.4 | 5.0 | 4.7 | 5.0 | 5.7 | 50 | 57 | 51 | e62 | e46 | e6.1 |
| 14 | 5.3 | 4.7 | 5.0 | 4.7 | 5.3 | 5.7 | 52 | 57 | 52 | e62 | e41 | e7.7 |
| 15 | 5.3 | 4.7 | 5.0 | 4.7 | 5.3 | 5.7 | 52 | 57 | 53 | e62 | e41 | e12 |
| 16 | 5.3 | 4.4 | 5.0 | 4.7 | 4.7 | 5.7 | 54 | 58 | 52 | e62 | e41 | e12 |
| 17 | 5.7 | 4.4 | 5.0 | 4.7 | 4.4 | 5.7 | 56 | 58 | 52 | e62 | e41 | e12 |
| 18 | 5.7 | 4.7 | 5.0 | 4.7 | 4.4 | 5.7 | 54 | 55 | 52 | e62 | e41 | e12 |
| 19 | 5.7 | 4.4 | 5.0 | 4.7 | 4.1 | 5.7 | 53 | 54 | 52 | e62 | e41 | e12 |
| 20 | 5.7 | 3.8 | 5.0 | 4.4 | 3.8 | 5.7 | 52 | 54 | 53 | e62 | e38 | e12 |
| 21 | 5.3 | 3.2 | 5.0 | 4.1 | 4.1 | 5.7 | 49 | 54 | 55 | e62 | e37 | e12 |
| 22 | 5.0 | 2.9 | 5.0 | 4.1 | 4.1 | 5.7 | 48 | 53 | 57 | e62 | e37 | e12 |
| 23 | 4.7 | 2.9 | 5.0 | 4.1 | 4.1 | 5.7 | 28 | 53 | 57 | e62 | e37 | e12 |
| 24 | 4.4 | 3.5 | 5.0 | 4.1 | 4.1 | 5.7 | 11 | 50 | 57 | e63 | e37 | e12 |
| 25 | 4.4 | 3.2 | 5.3 | 4.4 | 4.4 | 5.7 | 8.1 | 46 | 57 | e62 | e37 | e12 |
| 26 | 4.4 | 2.9 | 5.3 | 4.4 | 4.4 | 20 | 7.7 | 40 | 57 | e62 | e37 | e12 |
| 27 | 4.1 | 2.9 | 5.3 | 4.4 | 4.7 | 31 | 17 | 36 | 57 | e62 | e37 | e12 |
| 28 | 3.8 | 2.9 | 5.3 | 5.0 | 5.0 | 33 | 23 | 17 | e57 | e62 | e35 | e12 |
| 29 | 3.5 | 3.2 | 5.3 | 5.0 | --- | 36 | 29 | 10 | e60 | e61 | e32 | e12 |
| 30 | 3.2 | 3.2 | 5.0 | 5.0 | --- | 36 | 35 | 9.8 | e62 | e61 | e32 | e12 |
| 31 | 2.6 | --- | 4.7 | 5.0 | --- | 36 | --- | 9.3 | --- | e61 | e32 | --- |
| TOTAL | 152.9 | 106.8 | 145.7 | 143.3 | 130.4 | 333.4 | 1189.8 | 1451.1 | 1411.9 | 1916 | 1356 | 376.9 |
| MEAN | 4.93 | 3.56 | 4.70 | 4.62 | 4.66 | 10.8 | 39.7 | 46.8 | 47.1 | 61.8 | 43.7 | 12.6 |
| MAX | 5.7 | 4.7 | 5.3 | 5.0 | 5.3 | 36 | 56 | 58 | 62 | 63 | 61 | 33 |
| MIN | 2.6 | 2.6 | 3.2 | 4.1 | 3.8 | 5.0 | 7.7 | 9.3 | 9.3 | 61 | 32 | 6.1 |
| AC-FT | 303 | 212 | 289 | 284 | 259 | 661 | 2360 | 2880 | 2800 | 3800 | 2690 | 748 |

CAL YR 1989 TOTAL 9928.00 MEAN 27.2 MAX 66 MIN .70 AC-FT 19690
WTR YR 1990 TOTAL 8714.2 MEAN 23.9 MAX 63 MIN 2.6 AC-FT 17280

e Estimated.

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 mi².

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 (station 11270800) and change in contents in Lake McClure (station 11269500) 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 excellent. Merced Falls Dam diverts water to North Side Canal to irrigate 4,100 acres downstream from station. Flow regulated by Exchequer, McSwain, and Merced Falls powerplants, Lake McClure 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).--89 years, 1,342 ft³/s, 972,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-90): Maximum discharge observed, 47,700 ft³/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 ft³/s, Dec. 4, 1950, gage height, 22.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft³/s on basis of computation of peak flow over dam; minimum daily, 3.4 ft³/s, Mar. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,220 ft³/s, Mar. 29, gage height, 7.35 ft; minimum daily, 84 ft³/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 93 | 162 | 193 | 195 | 198 | 196 | 1040 | 953 | 438 | 1110 | 1090 | 758 |
| 2 | 88 | 196 | 198 | 192 | 196 | 197 | 1090 | 1080 | 524 | 1080 | 1090 | 717 |
| 3 | 90 | 201 | 193 | 189 | 200 | 194 | 1090 | 1140 | 541 | 1060 | 1010 | 695 |
| 4 | 92 | 198 | 188 | 193 | 211 | 196 | 1110 | 1120 | 643 | 1060 | 961 | 312 |
| 5 | 87 | 200 | 192 | 189 | 197 | 194 | 1130 | 1100 | 729 | 1040 | 963 | 97 |
| 6 | 88 | 197 | 194 | 192 | 196 | 194 | 1160 | 1090 | 801 | 1040 | 959 | 100 |
| 7 | 92 | 197 | 196 | 188 | 198 | 192 | 1100 | 1080 | 839 | 1040 | 949 | 96 |
| 8 | 85 | 197 | 196 | 188 | 199 | 187 | 1060 | 1080 | 912 | 1030 | 956 | 99 |
| 9 | 86 | 194 | 197 | 192 | 199 | 191 | 1030 | 1080 | 963 | 1040 | 961 | 98 |
| 10 | 84 | 194 | 194 | 192 | 197 | 193 | 1020 | 1080 | 977 | 1080 | 954 | 96 |
| 11 | 84 | 200 | 196 | 192 | 195 | 192 | 1030 | 1080 | 990 | 1100 | 955 | 104 |
| 12 | 89 | 195 | 192 | 192 | 194 | 193 | 1030 | 1080 | 1080 | 1140 | 950 | 111 |
| 13 | 88 | 199 | 196 | 192 | 195 | 193 | 983 | 1080 | 1120 | 1150 | 944 | 108 |
| 14 | 89 | 195 | 190 | 192 | 195 | 192 | 971 | 1060 | 1100 | 1130 | 937 | 112 |
| 15 | 110 | 195 | 191 | 189 | 193 | 192 | 937 | 1050 | 1100 | 1130 | 944 | 109 |
| 16 | 117 | 193 | 194 | 189 | 200 | 194 | 909 | 1060 | 1090 | 1130 | 955 | 110 |
| 17 | 115 | 194 | 192 | 191 | 206 | 192 | 887 | 1050 | 1090 | 1130 | 957 | 110 |
| 18 | 117 | 189 | 192 | 190 | 219 | 188 | 888 | 1060 | 1080 | 1110 | 943 | 109 |
| 19 | 114 | 195 | 191 | 189 | 199 | 189 | 894 | 1060 | 1100 | 1140 | 930 | 110 |
| 20 | 136 | 187 | 192 | 189 | 198 | 189 | 901 | 1050 | 1100 | 1160 | 905 | 111 |
| 21 | 135 | 181 | 192 | 189 | 198 | 189 | 909 | 1050 | 1090 | 1160 | 850 | 109 |
| 22 | 129 | 194 | 189 | 189 | 197 | 192 | 905 | 1040 | 1090 | 1160 | 847 | 110 |
| 23 | 138 | 201 | 192 | 188 | 197 | 193 | 618 | 1010 | 1110 | 1190 | 845 | 105 |
| 24 | 129 | 197 | 192 | 186 | 197 | 191 | 484 | 986 | 1100 | 1200 | 834 | 94 |
| 25 | 117 | 197 | 191 | 197 | 196 | 189 | 532 | 990 | 1110 | 1210 | 833 | 88 |
| 26 | 114 | 195 | 191 | 194 | 192 | 501 | 550 | 922 | 1110 | 1210 | 834 | 88 |
| 27 | 115 | 202 | 192 | 194 | 196 | 830 | 587 | 825 | 1100 | 1210 | 836 | 88 |
| 28 | 115 | 202 | 192 | 195 | 192 | 895 | 614 | 492 | 1110 | 1210 | 813 | 88 |
| 29 | 116 | 193 | 189 | 193 | --- | 901 | 730 | 338 | 1120 | 1200 | 798 | 85 |
| 30 | 117 | 193 | 188 | 196 | --- | 898 | 847 | 374 | 1120 | 1200 | 771 | 85 |
| 31 | 119 | --- | 191 | 190 | --- | 926 | --- | 386 | --- | 1140 | 751 | --- |
| TOTAL | 3288 | 5833 | 5966 | 5926 | 5550 | 9753 | 27036 | 29846 | 29277 | 34990 | 28325 | 5102 |
| MEAN | 106 | 194 | 192 | 191 | 198 | 315 | 901 | 963 | 976 | 1129 | 914 | 170 |
| MAX | 138 | 202 | 198 | 197 | 219 | 926 | 1160 | 1140 | 1120 | 1210 | 1090 | 758 |
| MIN | 84 | 162 | 188 | 186 | 192 | 187 | 484 | 338 | 438 | 1030 | 751 | 85 |
| AC-FT | 6520 | 11570 | 11830 | 11750 | 11010 | 19350 | 53630 | 59200 | 58070 | 69400 | 56180 | 10120 |

CAL YR 1989 TOTAL 248736 MEAN 681 MAX 1450 MIN 84 AC-FT 493400 MEAN a 722 AC-FT a 522500
WTR YR 1990 TOTAL 190892 MEAN 523 MAX 1210 MIN 84 AC-FT 378600 MEAN a 503 AC-FT a 364200

a Adjusted for diversion to Northside Canal and change in contents in Lake McClure and McSwain Reservoir.

SAN JOAQUIN RIVER BASIN

259

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 mi².

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 fair. 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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-----|-----|-----|-----|-----|-----|------|------|------|
| 1 | 52 | 90 | 178 | 188 | 194 | 190 | 151 | 168 | --- | 134 | 47 | 66 |
| 2 | 57 | 107 | 180 | --- | 191 | 191 | 165 | 190 | --- | 144 | 43 | 93 |
| 3 | 61 | 145 | 184 | 190 | 194 | --- | 165 | 196 | --- | 118 | 45 | 100 |
| 4 | 58 | 158 | 180 | 186 | --- | --- | 167 | --- | 190 | 94 | 48 | 67 |
| 5 | 59 | 161 | 182 | 183 | --- | --- | 164 | 184 | 143 | 96 | 27 | 45 |
| 6 | 54 | 169 | 181 | 182 | --- | 198 | 174 | 159 | 150 | 83 | 53 | 46 |
| 7 | 53 | 172 | 181 | 181 | --- | 190 | 176 | 147 | 146 | 87 | 55 | 34 |
| 8 | 53 | 173 | 181 | 183 | --- | 192 | 177 | 127 | 148 | 96 | 48 | 27 |
| 9 | 49 | 169 | 179 | 182 | --- | 189 | 174 | 133 | 157 | 93 | 56 | 24 |
| 10 | 51 | 163 | 180 | 180 | --- | 190 | 175 | 126 | 141 | 78 | 51 | 23 |
| 11 | 45 | 164 | 182 | 180 | --- | --- | 182 | 137 | 142 | 71 | 49 | 19 |
| 12 | 41 | 167 | 176 | 184 | --- | --- | 187 | 145 | 127 | 67 | 61 | 19 |
| 13 | 46 | 166 | 182 | 189 | --- | 193 | 197 | 154 | 143 | 80 | 68 | 21 |
| 14 | 41 | 167 | 182 | 192 | 194 | 191 | 196 | 157 | 160 | 84 | 38 | 30 |
| 15 | 42 | 169 | 181 | 189 | 191 | 192 | 197 | 153 | 162 | 77 | 23 | 28 |
| 16 | 43 | 172 | 180 | 191 | 196 | 189 | --- | 159 | 159 | 84 | 24 | 14 |
| 17 | 30 | 172 | 181 | 199 | --- | 190 | --- | 176 | 162 | 90 | 31 | 10 |
| 18 | 36 | 170 | 178 | 191 | --- | 193 | --- | 181 | 164 | 81 | 53 | 16 |
| 19 | 35 | 168 | 179 | --- | --- | 192 | --- | 174 | 150 | 47 | 72 | 15 |
| 20 | 32 | 169 | 178 | 198 | --- | 188 | --- | 191 | 138 | 34 | 66 | 17 |
| 21 | 57 | 168 | 178 | 189 | 199 | 188 | --- | 198 | 136 | 38 | 48 | 46 |
| 22 | 97 | 164 | 180 | 189 | --- | 187 | --- | 181 | 132 | 44 | 47 | 50 |
| 23 | 105 | 171 | 181 | 187 | 197 | 187 | 199 | 182 | 132 | 44 | 45 | 54 |
| 24 | 146 | 186 | 183 | 189 | 193 | 191 | 197 | 189 | 137 | 50 | 62 | 61 |
| 25 | 153 | 188 | 182 | 188 | 194 | 187 | 186 | 172 | 147 | 34 | 60 | 55 |
| 26 | 125 | 196 | 182 | 193 | 193 | 181 | 179 | 155 | 132 | 43 | 68 | 40 |
| 27 | 109 | 189 | 181 | 192 | 188 | 168 | 183 | 175 | 132 | 53 | 61 | 31 |
| 28 | 102 | 182 | 186 | 195 | 190 | 175 | 179 | --- | 128 | 45 | 54 | 25 |
| 29 | 97 | 183 | 187 | 195 | --- | 165 | 189 | --- | 119 | 44 | 61 | 29 |
| 30 | 94 | 179 | 184 | 197 | --- | 151 | 179 | --- | 127 | 46 | 81 | 31 |
| 31 | 97 | --- | 185 | --- | --- | 153 | --- | --- | --- | 42 | 92 | --- |
| TOTAL | 2120 | 4997 | 5614 | --- | --- | --- | --- | --- | --- | 2221 | 1637 | 1136 |
| MEAN | 68.4 | 167 | 181 | --- | --- | --- | --- | --- | --- | 71.6 | 52.8 | 37.9 |
| MAX | 153 | 196 | 187 | --- | --- | --- | --- | --- | --- | 144 | 92 | 100 |
| MIN | 30 | 90 | 176 | --- | --- | --- | --- | --- | --- | 34 | 23 | 10 |
| AC-FT | 4210 | 9910 | 11140 | --- | --- | --- | --- | --- | --- | 4410 | 3250 | 2250 |

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 mi².

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.--No estimated daily discharges. Records fair. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

AVERAGE DISCHARGE.--24 years, 19.4 ft³/s, 14,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,710 ft³/s, Jan. 21, 1969, gage height, 17.01 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Feb. 17 | 2100 | *378 | *6.25 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|--------|--------|------|-------|------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | .73 | .27 | .05 | .00 | 1.7 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .49 | .25 | .04 | .00 | .44 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | 4.2 | 2.4 | .03 | .00 | .16 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | 55 | 11 | .03 | .00 | .09 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | 20 | 22 | .03 | .00 | .05 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | 9.6 | 17 | .03 | .00 | .02 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | 6.5 | 8.7 | .03 | .00 | .01 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | 4.4 | 5.2 | .03 | .00 | .01 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | 3.1 | 2.9 | .02 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | 2.2 | 2.0 | .02 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | 1.5 | 19 | .01 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .95 | 20 | .01 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .56 | 19 | .01 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .01 | .81 | 11 | .01 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .04 | .33 | 6.8 | .01 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .07 | 28 | 4.5 | .01 | .00 | .94 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | 1.2 | 117 | 2.9 | .01 | .00 | 2.0 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | 3.2 | 124 | 1.8 | .01 | .00 | .40 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | 2.0 | 27 | 1.0 | .01 | .00 | .16 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .76 | 13 | .48 | .01 | .00 | .09 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .32 | 8.7 | .36 | .00 | .00 | .04 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .23 | 6.3 | .25 | .00 | .00 | .01 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .17 | 4.2 | .20 | .01 | .00 | .01 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .13 | 2.6 | .15 | .02 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .11 | 1.8 | .13 | .01 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .09 | 1.0 | .12 | .01 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .07 | .52 | .09 | .00 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .07 | .31 | .07 | .00 | 24 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .07 | --- | .07 | .00 | 13 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .17 | --- | .07 | .00 | 6.9 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .19 | --- | .07 | --- | 3.7 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 8.90 | 444.80 | 159.78 | 0.46 | 47.60 | 6.13 | 0.00 | 0.00 | 0.00 |
| MEAN | .000 | .000 | .000 | .29 | 15.9 | 5.15 | .015 | 1.54 | .20 | .000 | .000 | .000 |
| MAX | .00 | .00 | .00 | 3.2 | 124 | 22 | .05 | 24 | 2.0 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .31 | .07 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | 18 | 882 | 317 | .9 | 94 | 12 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 979.23 MEAN 2.68 MAX 293 MIN .00 AC-FT 1940
WTR YR 1990 TOTAL 667.67 MEAN 1.83 MAX 124 MIN .00 AC-FT 1320

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 mi².

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.--Records fair except those for summer months, which are poor. Practically entire flow is diverted upstream from station for irrigation of 120,000 acres during low runoff years. Some return flow enters upstream from station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft, the largest of which is Lake McClure (station 11269500).

AVERAGE DISCHARGE.--50 years, 691 ft³/s, 500,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/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 discharge, 434 ft³/s, Feb. 19, elevation, 58.61 ft; minimum daily, 7.2 ft³/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| 1 | 55 | 108 | 205 | 192 | 206 | 188 | 110 | 146 | 185 | 50 | e16 | 22 |
| 2 | 61 | 110 | 202 | 196 | 200 | 193 | 119 | 138 | 177 | 60 | e14 | 31 |
| 3 | 63 | 102 | 202 | 204 | 194 | 193 | 102 | 148 | 174 | 73 | e10 | 24 |
| 4 | 65 | 122 | 202 | 206 | 198 | 194 | 117 | 145 | 182 | 76 | e19 | 35 |
| 5 | 71 | 149 | 193 | 199 | 216 | 192 | 124 | 133 | 166 | 73 | 27 | 44 |
| 6 | 78 | 161 | 194 | 197 | 285 | 200 | 113 | 142 | 145 | 68 | 26 | 23 |
| 7 | 72 | 163 | 192 | 197 | 263 | 199 | 116 | 127 | 117 | 54 | 24 | 27 |
| 8 | 74 | 165 | 190 | 195 | 250 | 197 | 117 | 105 | 97 | 22 | e14 | 20 |
| 9 | 68 | 165 | 195 | 193 | 239 | 190 | 133 | 83 | 87 | 26 | e10 | 18 |
| 10 | 75 | 174 | 196 | 192 | 241 | 187 | 120 | 82 | 101 | 30 | e13 | 22 |
| 11 | 87 | 176 | 188 | 190 | 239 | 190 | 109 | 86 | 99 | 22 | e10 | 14 |
| 12 | 83 | 181 | 183 | 188 | 235 | 196 | 112 | 88 | 96 | 16 | e9.0 | 18 |
| 13 | 60 | 184 | 180 | 186 | 231 | 198 | 110 | 106 | 90 | 14 | e11 | e15 |
| 14 | 59 | 179 | 182 | 191 | 228 | 193 | 121 | 101 | 83 | 13 | e16 | e7.9 |
| 15 | 61 | 175 | 186 | 198 | 225 | 185 | 145 | 139 | 95 | 11 | e16 | 7.2 |
| 16 | 65 | 180 | 187 | 193 | 225 | 187 | 151 | 134 | 106 | 16 | e11 | 10 |
| 17 | 61 | 183 | 186 | 191 | 242 | 178 | 142 | 110 | 101 | 22 | e13 | 8.6 |
| 18 | 54 | 184 | 185 | 213 | 308 | 174 | 154 | 87 | 113 | 29 | 23 | 14 |
| 19 | 69 | 181 | 182 | 206 | 403 | 168 | 157 | 108 | 114 | 21 | 21 | 10 |
| 20 | 48 | 177 | 183 | 197 | 381 | 151 | 160 | 95 | 115 | 22 | e18 | e8.0 |
| 21 | 58 | 177 | 185 | 198 | 304 | 150 | 165 | 105 | 88 | 17 | e15 | e20 |
| 22 | 58 | 178 | 189 | 192 | 261 | 140 | 158 | 123 | 60 | e10 | 23 | 14 |
| 23 | 78 | 175 | 189 | 187 | 243 | 123 | 189 | 115 | 60 | e11 | 29 | 17 |
| 24 | 101 | 173 | 189 | 183 | 226 | 111 | 205 | 130 | 51 | 11 | 24 | 41 |
| 25 | 117 | 183 | 188 | 183 | 211 | 130 | 194 | 131 | 65 | e8.5 | 40 | 79 |
| 26 | 154 | 198 | 187 | 185 | 207 | 129 | 170 | 121 | 57 | 15 | 39 | 59 |
| 27 | 158 | 220 | 188 | 187 | 203 | 129 | 136 | 127 | 58 | 16 | 20 | 38 |
| 28 | 141 | 235 | 186 | 190 | 188 | 134 | 123 | 193 | 42 | 14 | 25 | 32 |
| 29 | 130 | 225 | 187 | 193 | --- | 133 | 142 | 216 | 42 | 11 | 25 | 38 |
| 30 | 122 | 212 | 192 | 196 | --- | 109 | 144 | 210 | 46 | 10 | e8.5 | 25 |
| 31 | 113 | --- | 189 | 199 | --- | 112 | --- | 192 | --- | 18 | e18 | --- |
| TOTAL | 2559 | 5195 | 5882 | 6017 | 6852 | 5153 | 4158 | 3966 | 3012 | 859.5 | 587.5 | 741.7 |
| MEAN | 82.5 | 173 | 190 | 194 | 245 | 166 | 139 | 128 | 100 | 27.7 | 19.0 | 24.7 |
| MAX | 158 | 235 | 205 | 213 | 403 | 200 | 205 | 216 | 185 | 76 | 40 | 79 |
| MIN | 48 | 102 | 180 | 183 | 188 | 109 | 102 | 82 | 42 | 8.5 | 8.5 | 7.2 |
| AC-FT | 5080 | 10300 | 11670 | 11930 | 13590 | 10220 | 8250 | 7870 | 5970 | 1700 | 1170 | 1470 |

CAL YR 1989 TOTAL 52563.0 MEAN 144 MAX 559 MIN 5.4 AC-FT 104300
WTR YR 1990 TOTAL 44982.7 MEAN 123 MAX 403 MIN 7.2 AC-FT 89220

e Estimated.

SAN JOAQUIN RIVER BASIN

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1989 to current year. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: Water year 1989 to current year.

WATER TEMPERATURE: Water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

WATER TEMPERATURES: October 1988 to current year

INSTRUMENTATION.--Water-quality monitor since October 1985.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Specific conductance and water temperature values are affected by irrigation return flow from a canal located 30 ft upstream from the gage.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,010 microsiemens, Nov. 11, 14, 19, 1989; minimum recorded, 87 microsiemens, May 29, 1990.

WATER TEMPERATURE: Maximum recorded, 32.0 °C, several days in July 1990; minimum recorded, 6.0 °C, Dec. 27, 31, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,010 microsiemens, Nov. 11, 14, 19; minimum recorded, 87 microsiemens, May 29.

WATER TEMPERATURE: Maximum recorded, 32.0 °C, several days in July; minimum recorded, 6.0 °C, Dec. 27, 31.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

SAN JOAQUIN RIVER BASIN

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11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 384 | 189 | --- | --- | 410 | 147 | 440 | 172 | 584 | 409 | 840 | 313 |
| 2 | 373 | 163 | --- | --- | 341 | 229 | 304 | 172 | 566 | 360 | 898 | 289 |
| 3 | 347 | 190 | --- | --- | 240 | 101 | 525 | 154 | 662 | 289 | 578 | 333 |
| 4 | 317 | 211 | --- | --- | 223 | 102 | 215 | 172 | 589 | 275 | 463 | 211 |
| 5 | 321 | 196 | 462 | 167 | 334 | 139 | 455 | 194 | --- | --- | 278 | 159 |
| 6 | 392 | 204 | 340 | 161 | 328 | 137 | 348 | 122 | --- | --- | 456 | 187 |
| 7 | 309 | 199 | 476 | 170 | 388 | 163 | 172 | 128 | --- | --- | 533 | 286 |
| 8 | 282 | 207 | 516 | 176 | 488 | 159 | 255 | 174 | --- | --- | 546 | 330 |
| 9 | --- | --- | 558 | 212 | 500 | 180 | 327 | 197 | --- | --- | 671 | 417 |
| 10 | --- | --- | 352 | 212 | 404 | 177 | 361 | 211 | --- | --- | 630 | 383 |
| 11 | --- | --- | 413 | 250 | 361 | 193 | 423 | 311 | --- | --- | 898 | 383 |
| 12 | --- | --- | 470 | 300 | 406 | 193 | 504 | 345 | --- | --- | 634 | 327 |
| 13 | --- | --- | 383 | 158 | 434 | 345 | 564 | 471 | --- | --- | 750 | 177 |
| 14 | --- | --- | 324 | 164 | 417 | 244 | 560 | 470 | --- | --- | 639 | 433 |
| 15 | --- | --- | 287 | 121 | 456 | 254 | 599 | 511 | --- | --- | 794 | 342 |
| 16 | --- | --- | 230 | 142 | 393 | 230 | 652 | 327 | 860 | 251 | 828 | 350 |
| 17 | --- | --- | 440 | 144 | 308 | 169 | 582 | 302 | 962 | 241 | 914 | 439 |
| 18 | --- | --- | 445 | 181 | 587 | 204 | 538 | 267 | 747 | 143 | --- | --- |
| 19 | --- | --- | 384 | 221 | 390 | 189 | 509 | 227 | 565 | 135 | 984 | 557 |
| 20 | --- | --- | 350 | 212 | 510 | 160 | 580 | 244 | 883 | 292 | 896 | 531 |
| 21 | --- | --- | 471 | 123 | 508 | 199 | 623 | 281 | 522 | 313 | 971 | 238 |
| 22 | --- | --- | 206 | 120 | 378 | 200 | 483 | 388 | 503 | 231 | --- | --- |
| 23 | --- | --- | 677 | 142 | 302 | 186 | 625 | 409 | 340 | 191 | --- | --- |
| 24 | --- | --- | 314 | 155 | 262 | 179 | 548 | 394 | 553 | 263 | 927 | 513 |
| 25 | --- | --- | 320 | 141 | 402 | 143 | 537 | 435 | 900 | 354 | 556 | 460 |
| 26 | --- | --- | 396 | 156 | 491 | 138 | 953 | 417 | 600 | 236 | 579 | 474 |
| 27 | --- | --- | 395 | 126 | 340 | 129 | 758 | 504 | 941 | 314 | 575 | 451 |
| 28 | --- | --- | 174 | 116 | 514 | 162 | 653 | 445 | 531 | 228 | 551 | 443 |
| 29 | --- | --- | 243 | 87 | 689 | 179 | 670 | 319 | 683 | 309 | 586 | 476 |
| 30 | --- | --- | 207 | 88 | 503 | 143 | 695 | 332 | 749 | 483 | 521 | 468 |
| 31 | --- | --- | 280 | 104 | --- | --- | 592 | 397 | 573 | 451 | --- | --- |
| MONTH | --- | --- | --- | --- | 689 | 101 | 953 | 122 | --- | --- | --- | --- |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 19.5 | 18.5 | 14.5 | 14.0 | 11.5 | 9.5 | 8.5 | 6.5 | 10.5 | 9.0 | 14.5 | 13.0 |
| 2 | 19.5 | 19.0 | 14.5 | 14.0 | 11.5 | 10.0 | 10.0 | 8.0 | 10.0 | 8.5 | 14.5 | 13.0 |
| 3 | 19.0 | 18.0 | 14.5 | 14.0 | 11.5 | 10.0 | 9.5 | 8.0 | 10.0 | 9.0 | 16.0 | 13.5 |
| 4 | 20.0 | 18.0 | 14.5 | 14.0 | 11.5 | 10.0 | 10.0 | 7.0 | 10.5 | 9.5 | 16.0 | 14.0 |
| 5 | 20.0 | 19.0 | 14.5 | 14.5 | 11.5 | 10.0 | 9.0 | 7.0 | 10.0 | 8.5 | 15.5 | 13.0 |
| 6 | 20.0 | 19.5 | 14.5 | 14.0 | 12.0 | 10.5 | 9.5 | 7.0 | 10.0 | 9.0 | 16.0 | 12.5 |
| 7 | 20.5 | 19.5 | 14.0 | 13.5 | 12.0 | 10.5 | 10.5 | 8.5 | 9.5 | 7.5 | 15.5 | 13.0 |
| 8 | 20.5 | 20.0 | 13.5 | 12.5 | 11.5 | 10.0 | 11.0 | 9.0 | 10.0 | 8.0 | 16.0 | 13.0 |
| 9 | 20.5 | 20.0 | 13.5 | 12.5 | 12.0 | 10.5 | 11.0 | 9.5 | 11.0 | 9.0 | --- | --- |
| 10 | 20.5 | 20.0 | 13.5 | 12.5 | 12.0 | 11.0 | 10.5 | 9.0 | 12.5 | 9.5 | --- | --- |
| 11 | 20.5 | 20.0 | 14.0 | 12.5 | 11.5 | 10.5 | 10.5 | 9.5 | 12.0 | 9.5 | --- | --- |
| 12 | 20.5 | 19.5 | 14.0 | 12.5 | 11.0 | 9.5 | 11.5 | 9.5 | 12.0 | 9.5 | --- | --- |
| 13 | 20.0 | 19.5 | 14.5 | 13.0 | 10.5 | 9.0 | 11.0 | 10.5 | 11.0 | 9.5 | --- | --- |
| 14 | 20.0 | 19.0 | 14.0 | 13.0 | 10.0 | 8.5 | 10.5 | 10.0 | 10.0 | 6.5 | --- | --- |
| 15 | 19.5 | 18.5 | 13.0 | 12.5 | 10.5 | 8.0 | 11.0 | 10.0 | 9.0 | 6.5 | --- | --- |
| 16 | 19.0 | 18.0 | 13.5 | 12.0 | 10.0 | 8.0 | 11.0 | 10.5 | 9.0 | 8.0 | --- | --- |
| 17 | 19.0 | 18.0 | 13.0 | 12.0 | 10.0 | 8.0 | 10.5 | 9.5 | 9.5 | 7.5 | --- | --- |
| 18 | 19.5 | 18.5 | 12.5 | 11.5 | 9.5 | 7.0 | 10.0 | 9.0 | 9.5 | 8.0 | --- | --- |
| 19 | 19.5 | 18.5 | 12.5 | 12.0 | 7.5 | 7.0 | 9.5 | 8.5 | 9.0 | 7.5 | --- | --- |
| 20 | 19.5 | 19.0 | 12.5 | 11.5 | 7.5 | 7.0 | 9.5 | 8.5 | 9.0 | 7.5 | --- | --- |
| 21 | 19.5 | 18.5 | 12.5 | 11.5 | 8.0 | 7.0 | 9.0 | 8.0 | 11.0 | 8.5 | --- | --- |
| 22 | 18.5 | 18.0 | 12.5 | 11.5 | 9.0 | 8.0 | 8.5 | 7.5 | 12.0 | 9.0 | --- | --- |
| 23 | 18.0 | 17.5 | 12.0 | 11.5 | 9.0 | 8.0 | 8.5 | 7.5 | 12.5 | 9.5 | --- | --- |
| 24 | 18.0 | 17.5 | 13.0 | 12.0 | 9.0 | 8.0 | 9.5 | 8.0 | 13.5 | 10.5 | --- | --- |
| 25 | 17.5 | 17.5 | 13.0 | 12.5 | 9.0 | 6.5 | 9.0 | 8.5 | 13.5 | 11.5 | --- | --- |
| 26 | 17.0 | 16.5 | 13.5 | 12.0 | 7.0 | 6.5 | 9.5 | 8.0 | 15.5 | 11.5 | --- | --- |
| 27 | 16.5 | 16.0 | 12.5 | 11.5 | 6.5 | 6.0 | 9.0 | 7.5 | 14.5 | 12.0 | --- | --- |
| 28 | 16.0 | 15.0 | 12.5 | 10.5 | 7.0 | 6.5 | 9.0 | 7.5 | 15.5 | 12.5 | --- | --- |
| 29 | 15.5 | 15.0 | 12.0 | 10.0 | 8.0 | 6.5 | 9.5 | 7.5 | --- | --- | 19.5 | 16.0 |
| 30 | 15.5 | 14.5 | 12.0 | 10.5 | 7.5 | 7.0 | 10.0 | 9.0 | --- | --- | 20.0 | 16.0 |
| 31 | 15.0 | 14.5 | --- | --- | 7.0 | 6.0 | 10.0 | 9.0 | --- | --- | 20.5 | 16.5 |
| MONTH | 20.5 | 14.5 | 14.5 | 10.0 | 12.0 | 6.0 | 11.5 | 6.5 | 15.5 | 6.5 | --- | --- |

SAN JOAQUIN RIVER BASIN

11272500 MERCED RIVER NEAR STEVINSON, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 20.5 | 16.5 | 23.0 | 20.5 | 23.5 | 17.5 | 27.0 | 22.0 | 31.0 | 21.0 | 26.0 | 19.5 |
| 2 | 20.5 | 16.0 | 24.0 | 21.5 | 25.5 | 19.0 | 26.0 | 21.0 | 31.5 | 21.0 | 25.0 | 19.5 |
| 3 | 22.0 | 16.5 | 24.5 | 22.0 | 25.0 | 20.5 | 29.0 | 20.5 | 27.5 | 21.0 | 25.5 | 20.0 |
| 4 | 21.5 | 17.5 | 26.0 | 22.5 | 25.5 | 20.5 | 28.0 | 22.5 | 28.5 | 21.5 | 27.0 | 20.5 |
| 5 | 21.0 | 17.5 | 26.0 | 20.5 | 25.5 | 20.5 | 28.5 | 20.5 | 26.5 | 22.0 | 25.5 | 21.0 |
| 6 | 21.5 | 17.5 | 26.0 | 20.5 | 26.5 | 21.5 | 28.0 | 22.5 | 30.5 | 22.0 | 25.0 | 21.5 |
| 7 | 19.5 | 17.0 | 24.0 | 19.5 | 25.5 | 21.0 | 27.5 | 21.5 | 30.5 | 22.5 | 24.0 | 20.0 |
| 8 | 20.0 | 16.5 | 24.0 | 18.5 | 27.0 | 21.0 | 32.0 | 21.0 | 28.0 | 23.0 | 25.0 | 19.5 |
| 9 | 21.0 | 16.0 | 25.5 | 19.0 | 28.5 | 22.0 | 30.0 | 21.0 | 31.0 | 23.0 | 25.5 | 19.5 |
| 10 | 21.0 | 18.0 | 24.5 | 19.0 | 27.0 | 22.0 | 30.5 | 22.0 | 30.5 | 21.5 | 23.5 | 20.0 |
| 11 | 22.5 | 19.0 | 25.0 | 19.0 | 26.5 | 20.5 | 31.5 | 22.0 | 29.5 | 22.5 | 23.5 | 18.5 |
| 12 | 23.0 | 20.0 | 25.0 | 19.0 | 26.0 | 20.0 | 32.0 | 22.0 | 29.5 | 22.0 | 26.0 | 19.0 |
| 13 | 24.0 | 21.5 | 24.5 | 18.5 | 24.5 | 19.5 | 28.5 | 21.0 | 28.0 | 22.0 | 23.5 | 18.0 |
| 14 | 24.5 | 22.0 | 25.0 | 19.5 | 26.0 | 19.0 | 32.0 | 21.5 | --- | --- | 23.5 | 18.5 |
| 15 | 24.0 | 21.5 | 24.5 | 19.0 | 27.0 | 20.5 | 31.0 | 21.0 | --- | --- | 24.0 | 18.0 |
| 16 | 22.5 | 21.0 | 24.5 | 19.0 | 26.0 | 20.5 | 27.5 | 21.5 | 27.5 | 20.0 | 23.0 | 18.0 |
| 17 | 22.5 | 20.0 | 24.5 | 19.0 | 27.0 | 20.5 | 30.0 | 22.5 | 28.0 | 20.5 | 23.5 | 18.5 |
| 18 | 23.5 | 21.0 | 24.0 | 18.5 | 26.5 | 21.0 | 26.5 | 22.0 | 24.5 | 20.0 | 22.5 | 18.0 |
| 19 | 23.0 | 21.0 | 23.0 | 18.5 | 28.0 | 21.5 | 31.5 | 22.0 | 26.5 | 19.5 | 24.0 | 18.0 |
| 20 | 23.5 | 20.0 | 22.5 | 19.0 | 29.5 | 23.0 | 30.5 | 21.5 | 26.0 | 20.0 | 24.0 | 19.0 |
| 21 | 23.5 | 20.5 | 24.0 | 18.5 | 31.0 | 23.0 | 32.0 | 22.0 | 27.0 | 20.5 | 21.0 | 18.5 |
| 22 | 22.5 | 21.0 | 25.0 | 20.0 | 29.0 | 23.0 | 32.0 | 23.0 | 27.5 | 20.5 | 23.5 | 18.5 |
| 23 | 23.0 | 21.0 | 21.5 | 19.5 | 29.5 | 21.5 | 29.0 | 21.0 | 28.0 | 20.0 | 23.0 | 18.0 |
| 24 | 22.5 | 20.5 | 23.0 | 17.0 | 29.0 | 22.0 | 27.0 | 19.0 | 26.5 | 19.5 | 23.0 | 19.0 |
| 25 | 23.0 | 20.5 | 23.5 | 18.0 | 28.5 | 21.5 | 32.0 | 19.5 | 24.5 | 18.5 | 23.0 | 21.5 |
| 26 | 23.0 | 21.5 | 23.5 | 18.5 | 26.0 | 21.5 | 29.5 | 20.0 | 25.0 | 19.0 | 23.0 | 21.5 |
| 27 | 24.0 | 21.5 | 21.5 | 19.5 | 27.5 | 21.5 | 25.0 | 20.5 | 26.0 | 19.5 | 22.5 | 21.5 |
| 28 | 24.0 | 22.5 | 21.5 | 18.5 | 28.0 | 22.0 | 26.0 | 21.0 | 26.5 | 21.0 | 22.5 | 21.5 |
| 29 | 23.0 | 21.0 | 23.5 | 18.5 | 30.0 | 21.0 | 30.5 | 21.5 | 26.5 | 20.5 | 23.0 | 21.5 |
| 30 | 22.5 | 20.0 | 23.0 | 19.5 | 29.5 | 22.0 | 29.0 | 21.5 | 28.0 | 20.5 | 23.0 | 21.5 |
| 31 | --- | --- | 22.0 | 19.0 | --- | --- | 27.0 | 21.0 | 26.5 | 19.0 | --- | --- |
| MONTH | 24.5 | 16.0 | 26.0 | 17.0 | 31.0 | 17.5 | 32.0 | 19.0 | --- | --- | 27.0 | 18.0 |

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 mi².

PERIOD OF RECORD.--April 1912 to current year.

SPECIFIC CONDUCTANCE: October 1988 to September 1989.

WATER TEMPERATURE: October 1988 to September 1989.

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, 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.--78 years, 2,027 ft³/s, 1,469,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river only), 30,700 ft³/s, Mar. 4, 1983, elevation, 65.78 ft; river and Merced River Slough, 34,400 ft³/s, Feb. 26, 1969, elevation, 65.90 ft, present datum; minimum, 15 ft³/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, 890 ft³/s, Feb. 20, elevation, 49.91 ft; minimum daily, 150 ft³/s, Sept. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 493 | 609 | 630 | 495 | 569 | 642 | 471 | 478 | 648 | 338 | 335 | 254 |
| 2 | 499 | 635 | 611 | 511 | 575 | 630 | 476 | 452 | 612 | 393 | 327 | 265 |
| 3 | 470 | 643 | 626 | 510 | 566 | 646 | 478 | 430 | 572 | 425 | 299 | 275 |
| 4 | 422 | 620 | 638 | 523 | 580 | 656 | 470 | 397 | 559 | 444 | 283 | 275 |
| 5 | 380 | 593 | 644 | 530 | 595 | 677 | 464 | 344 | 512 | 404 | 335 | 277 |
| 6 | 378 | 568 | 656 | 523 | 624 | 686 | 454 | 370 | 466 | 384 | 387 | 267 |
| 7 | 363 | 553 | 641 | 523 | 633 | 686 | 446 | 411 | 399 | 382 | 392 | 264 |
| 8 | 345 | 558 | 614 | 530 | 631 | 669 | 445 | 416 | 313 | 343 | 376 | 244 |
| 9 | 346 | 566 | 606 | 531 | 625 | 660 | 449 | 377 | 292 | 349 | 317 | 249 |
| 10 | 341 | 561 | 595 | 541 | 620 | 642 | 463 | 319 | 290 | 352 | 278 | 261 |
| 11 | 337 | 584 | 582 | 540 | 630 | 637 | 469 | 306 | 289 | 325 | 291 | 268 |
| 12 | 354 | 606 | 555 | 549 | 633 | 634 | 465 | 303 | 295 | 273 | 309 | 255 |
| 13 | 348 | 613 | 538 | 568 | 633 | 639 | 437 | 346 | 321 | 225 | 312 | 219 |
| 14 | 302 | 605 | 554 | 583 | 633 | 653 | 421 | 351 | 283 | 205 | 339 | 181 |
| 15 | 277 | 589 | 604 | 608 | 629 | 652 | 435 | 364 | 294 | 229 | 366 | 161 |
| 16 | 293 | 575 | 593 | 616 | 623 | 634 | 466 | 363 | 361 | 255 | 333 | 157 |
| 17 | 344 | 572 | 560 | 607 | 642 | 622 | 481 | 350 | 348 | 280 | 319 | 150 |
| 18 | 386 | 576 | 544 | 608 | 692 | 621 | 475 | 306 | 350 | 306 | 326 | 164 |
| 19 | 407 | 588 | 550 | 622 | 827 | 636 | 501 | 320 | 332 | 302 | 321 | 161 |
| 20 | 395 | 584 | 566 | 613 | 885 | 631 | 567 | 342 | 333 | 289 | 352 | 171 |
| 21 | 400 | 568 | 584 | 606 | 851 | 622 | 616 | 381 | 342 | 286 | 381 | 180 |
| 22 | 433 | 573 | 593 | 599 | 789 | 632 | 640 | 403 | 303 | 297 | 351 | 185 |
| 23 | 491 | 574 | 587 | 599 | 741 | 609 | 641 | 389 | 292 | 310 | 322 | 193 |
| 24 | 584 | 557 | 586 | 585 | 711 | 563 | 655 | 370 | 272 | 342 | 311 | 213 |
| 25 | 675 | 564 | 576 | 558 | 698 | 538 | 658 | 384 | 276 | 344 | 336 | 250 |
| 26 | 691 | 600 | 568 | 552 | 693 | 545 | 587 | 425 | 267 | 344 | 340 | 272 |
| 27 | 665 | 651 | 564 | 543 | 686 | 549 | 487 | 428 | 286 | 332 | 363 | 270 |
| 28 | 637 | 675 | 562 | 548 | 666 | 537 | 463 | 515 | 269 | 315 | 386 | 255 |
| 29 | 631 | 664 | 553 | 556 | --- | 520 | 476 | 661 | 267 | 346 | 364 | 229 |
| 30 | 621 | 652 | 526 | 559 | --- | 503 | 480 | 754 | 291 | 314 | 284 | 203 |
| 31 | 606 | --- | 513 | 558 | --- | 477 | --- | 733 | --- | 316 | 258 | --- |
| TOTAL | 13924 | 17876 | 18119 | 17394 | 18680 | 19048 | 15036 | 12788 | 10734 | 10049 | 10293 | 6768 |
| MEAN | 449 | 596 | 584 | 561 | 667 | 614 | 501 | 413 | 358 | 324 | 332 | 226 |
| MAX | 691 | 675 | 656 | 622 | 885 | 686 | 658 | 754 | 648 | 444 | 392 | 277 |
| MIN | 277 | 553 | 513 | 495 | 566 | 477 | 421 | 303 | 267 | 205 | 258 | 150 |
| AC-FT | 27620 | 35460 | 35940 | 34500 | 37050 | 37780 | 29820 | 25360 | 21290 | 19930 | 20420 | 13420 |

CAL YR 1989 TOTAL 195398 MEAN 535 MAX 1270 MIN 277 AC-FT 387600
WTR YR 1990 TOTAL 170709 MEAN 468 MAX 885 MIN 150 AC-FT 338600

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 mi².

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 fair. No storage or diversion upstream from station except for minor stock ponds.

AVERAGE DISCHARGE.--58 years, 16.4 ft³/s, 11,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s, Apr. 2, 1958, gage height, 6.57 ft, site and datum then in use, from rating curve extended above 5,000 ft³/s; no flow for all or parts of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 28 | 0245 | *4.0 | *3.19 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .29 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .00 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| MEAN | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .009 | .000 | .000 | .000 | .000 |
| MAX | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .29 | .00 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .6 | .00 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1990 TOTAL 0.29 MEAN .001 MAX .29 MIN .00 AC-FT .6

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 37°29'54", long 121°04'54", in SW 1/4 SW 1/4 sec.15, T.5 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.2 mi below bridge on Palm Avenue, 2.3 mi northeast of Patterson.

DRAINAGE AREA.--9,760 mi², approximately.

PERIOD OF RECORD.--October 1988 to September 1989, January to September 1990. Data for the period October 1985 to March 1987 are available in U.S. Geological Survey Open-File Report 88-479. Data for the period April 1987 to September 1988 are available in files of the U.S. Geological Survey.

SPECIFIC CONDUCTANCE: October 1988 to September 1989, January to September 1990.

WATER TEMPERATURE: October 1988 to September 1989, January to September 1990.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to September 1989, January to September 1990.

WATER TEMPERATURE: October 1988 to September 1989, January to September 1990.

INSTRUMENTATION.--Water-quality monitor October 1985 to September 1989 and since January 1990.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument. Specific conductance data for September 5-30, 1989, published in WDR-89-3, are unreliable, should not be used, and have been deleted from the files of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,210 microsiemens, Mar. 1, 1989; minimum recorded, 820 microsiemens, Sept. 21, 1989.

WATER TEMPERATURE: Maximum recorded, 29.5 °C, July 14, Aug. 7, 9, 1990; minimum recorded, 4.5 °C, Feb. 6, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,150 microsiemens, Apr. 29, 30; minimum recorded, 1,050 microsiemens, May 28.

WATER TEMPERATURE: Maximum recorded, 29.5 °C, July 14, Aug. 7, 9; minimum recorded, 6.5 °C, Feb. 15, 17.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR JANUARY 1990 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1940 | 1850 | 1930 | 1820 |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | 1860 | 1800 | 2010 | 1900 |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | 1990 | 1800 | 2030 | 1910 |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | 1930 | 1860 | 2000 | 1960 |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 1990 | 1900 | 2010 | 1860 |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | 1920 | 1810 | 1860 | 1740 |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | 1850 | 1740 | 1780 | 1700 |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | 1940 | 1820 | 1850 | 1700 |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | 1920 | 1830 | 1860 | 1810 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 1920 | 1880 | 1950 | 1860 |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | 1970 | 1900 | 2030 | 1950 |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | 1900 | 1820 | 2030 | 1950 |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | 1950 | 1830 | 1960 | 1870 |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | 2010 | 1940 | 1860 | 1780 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 2000 | 1890 | 1850 | 1750 |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | 1980 | 1860 | 1940 | 1830 |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | 1940 | 1760 | 1920 | 1840 |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | 1950 | 1870 | 1960 | 1830 |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | 1910 | 1740 | 1950 | 1830 |
| 20 | --- | --- | --- | --- | --- | --- | 1750 | 1670 | 1730 | 1490 | 1850 | 1750 |
| 21 | --- | --- | --- | --- | --- | --- | 1880 | 1760 | 1580 | 1490 | 1990 | 1850 |
| 22 | --- | --- | --- | --- | --- | --- | 1910 | 1870 | 1650 | 1570 | 2000 | 1880 |
| 23 | --- | --- | --- | --- | --- | --- | 2000 | 1880 | 1770 | 1650 | 1910 | 1820 |
| 24 | --- | --- | --- | --- | --- | --- | 1910 | 1870 | 1850 | 1770 | 2030 | 1910 |
| 25 | --- | --- | --- | --- | --- | --- | 1940 | 1900 | 1860 | 1810 | 2060 | 1970 |
| 26 | --- | --- | --- | --- | --- | --- | 2000 | 1910 | 1850 | 1790 | 2050 | 1890 |
| 27 | --- | --- | --- | --- | --- | --- | 2040 | 1970 | 1880 | 1830 | 1910 | 1870 |
| 28 | --- | --- | --- | --- | --- | --- | 2010 | 1950 | 1910 | 1820 | 1980 | 1860 |
| 29 | --- | --- | --- | --- | --- | --- | 2000 | 1870 | --- | --- | 2020 | 1890 |
| 30 | --- | --- | --- | --- | --- | --- | 1950 | 1820 | --- | --- | 2010 | 1850 |
| 31 | --- | --- | --- | --- | --- | --- | 1850 | 1800 | --- | --- | 2050 | 1920 |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | 2010 | 1490 | 2060 | 1700 |

SAN JOAQUIN RIVER BASIN

11274570 SAN JOAQUIN RIVER AT PATTERSON BRIDGE, NEAR PATTERSON, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR JANUARY 1990 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 2090 | 1980 | 1950 | 1860 | 1510 | 1180 | 1710 | 1510 | 1640 | 1510 | 1550 | 1380 |
| 2 | 1990 | 1770 | 1980 | 1900 | 1240 | 1180 | 1620 | 1510 | 1510 | 1380 | 1430 | 1340 |
| 3 | 1840 | 1730 | 1970 | 1910 | 1200 | 1150 | 1500 | 1310 | 1490 | 1380 | 1400 | 1270 |
| 4 | 1910 | 1830 | 1880 | 1600 | 1230 | 1080 | 1450 | 1330 | 1490 | 1430 | 1410 | 1310 |
| 5 | 1880 | 1810 | 1930 | 1770 | 1650 | 1110 | 1470 | 1380 | 1610 | 1460 | 1430 | 1310 |
| 6 | 1950 | 1820 | 1990 | 1840 | 1680 | 1580 | 1590 | 1470 | 1570 | 1390 | 1380 | 1260 |
| 7 | 1950 | 1820 | 1980 | 1750 | 1770 | 1650 | 1520 | 1480 | 1460 | 1380 | 1350 | 1260 |
| 8 | 1960 | 1820 | 1770 | 1600 | 1790 | 1690 | 1580 | 1460 | 1480 | 1380 | 1600 | 1320 |
| 9 | 1890 | 1740 | 1690 | 1600 | 1940 | 1750 | 1640 | 1450 | 1510 | 1410 | 1540 | 1370 |
| 10 | 1850 | 1740 | 1800 | 1680 | 1980 | 1850 | 1650 | 1420 | 1580 | 1490 | 1440 | 1370 |
| 11 | 1750 | 1620 | 1890 | 1750 | 2030 | 1790 | 1720 | 1600 | 1530 | 1450 | 1430 | 1330 |
| 12 | 1830 | 1730 | 1970 | 1640 | 1800 | 1660 | 1730 | 1590 | 1470 | 1430 | 1410 | 1340 |
| 13 | 1890 | 1780 | 2040 | 1890 | 1960 | 1710 | 1710 | 1610 | 1420 | 1270 | 1350 | 1310 |
| 14 | 2020 | 1860 | 1880 | 1700 | 2000 | 1690 | 1670 | 1540 | 1350 | 1300 | 1450 | 1350 |
| 15 | 2060 | 1940 | 1700 | 1660 | 1760 | 1390 | 1700 | 1530 | 1370 | 1210 | 1460 | 1330 |
| 16 | 1920 | 1680 | 1700 | 1630 | 1570 | 1470 | 1760 | 1680 | 1260 | 1200 | 1530 | 1450 |
| 17 | 1800 | 1620 | 1780 | 1620 | 1670 | 1360 | 1750 | 1430 | 1380 | 1240 | 1460 | 1320 |
| 18 | 1780 | 1670 | 1850 | 1720 | 1380 | 1320 | 1510 | 1380 | 1430 | 1300 | 1490 | 1420 |
| 19 | 1750 | 1650 | 1950 | 1820 | 1390 | 1240 | 1450 | 1330 | 1340 | 1190 | 1520 | 1480 |
| 20 | 2020 | 1790 | 1880 | 1740 | 1510 | 1160 | 1420 | 1390 | 1220 | 1120 | 1520 | 1280 |
| 21 | 2040 | 1940 | 1870 | 1730 | 1860 | 1430 | 1550 | 1440 | 1310 | 1190 | 1340 | 1270 |
| 22 | 2110 | 2020 | 1740 | 1470 | 1870 | 1760 | 1570 | 1440 | 1390 | 1310 | 1410 | 1260 |
| 23 | 2030 | 1920 | 1520 | 1380 | 1970 | 1790 | 1500 | 1380 | 1380 | 1320 | 1420 | 1280 |
| 24 | 1920 | 1790 | 1620 | 1410 | 1900 | 1700 | 1500 | 1430 | 1410 | 1370 | 1310 | 1210 |
| 25 | 1920 | 1690 | 1640 | 1400 | 1860 | 1650 | 1480 | 1370 | 1440 | 1370 | 1340 | 1230 |
| 26 | 1740 | 1650 | 1630 | 1410 | 1740 | 1590 | 1380 | 1340 | 1460 | 1320 | 1300 | 1150 |
| 27 | 1870 | 1720 | 1570 | 1460 | 1620 | 1540 | 1460 | 1340 | 1360 | 1290 | 1180 | 1100 |
| 28 | 2130 | 1890 | 1420 | 1050 | 1520 | 1430 | 1520 | 1350 | 1400 | 1310 | 1230 | 1190 |
| 29 | 2150 | 1990 | 1280 | 1060 | 1530 | 1460 | 1560 | 1490 | 1420 | 1330 | 1240 | 1210 |
| 30 | 2150 | 1730 | 1230 | 1130 | 1710 | 1530 | 1540 | 1430 | 1400 | 1330 | 1260 | 1200 |
| 31 | --- | --- | 1460 | 1180 | --- | --- | 1650 | 1410 | 1560 | 1410 | --- | --- |
| MONTH | 2150 | 1620 | 2040 | 1050 | 2030 | 1080 | 1760 | 1310 | 1640 | 1120 | 1600 | 1100 |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR JANUARY 1990 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | --- | --- | --- | --- | --- | --- | 11.5 | 10.0 | 15.0 | 14.5 |
| 2 | --- | --- | --- | --- | --- | --- | --- | --- | 11.5 | 10.0 | 14.5 | 14.0 |
| 3 | --- | --- | --- | --- | --- | --- | --- | --- | 11.0 | 10.0 | 15.5 | 14.0 |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | 11.0 | 10.0 | 16.0 | 14.5 |
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 11.0 | 9.5 | 15.5 | 14.0 |
| 6 | --- | --- | --- | --- | --- | --- | --- | --- | 10.5 | 10.0 | 16.0 | 13.5 |
| 7 | --- | --- | --- | --- | --- | --- | --- | --- | 10.0 | 8.5 | 16.0 | 14.0 |
| 8 | --- | --- | --- | --- | --- | --- | --- | --- | 10.0 | 8.5 | 15.5 | 13.5 |
| 9 | --- | --- | --- | --- | --- | --- | --- | --- | 11.5 | 9.5 | 15.5 | 13.5 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 12.0 | 10.0 | 14.0 | 13.0 |
| 11 | --- | --- | --- | --- | --- | --- | --- | --- | 12.0 | 10.5 | 14.5 | 12.5 |
| 12 | --- | --- | --- | --- | --- | --- | --- | --- | 12.5 | 11.0 | 14.0 | 12.5 |
| 13 | --- | --- | --- | --- | --- | --- | --- | --- | 11.5 | 9.5 | 14.0 | 12.0 |
| 14 | --- | --- | --- | --- | --- | --- | --- | --- | 9.5 | 7.0 | 14.0 | 12.0 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 8.5 | 6.5 | 15.5 | 12.5 |
| 16 | --- | --- | --- | --- | --- | --- | --- | --- | 7.5 | 7.0 | 16.0 | 14.0 |
| 17 | --- | --- | --- | --- | --- | --- | --- | --- | 7.5 | 6.5 | 17.5 | 14.5 |
| 18 | --- | --- | --- | --- | --- | --- | --- | --- | 8.5 | 7.0 | 18.5 | 16.0 |
| 19 | --- | --- | --- | --- | --- | --- | --- | --- | 9.5 | 7.0 | 18.5 | 17.0 |
| 20 | --- | --- | --- | --- | --- | --- | 10.0 | 8.5 | 9.0 | 7.5 | 19.0 | 16.5 |
| 21 | --- | --- | --- | --- | --- | --- | 9.5 | 8.5 | 10.0 | 8.0 | 19.5 | 17.0 |
| 22 | --- | --- | --- | --- | --- | --- | 8.5 | 8.0 | 11.5 | 9.0 | 19.5 | 17.5 |
| 23 | --- | --- | --- | --- | --- | --- | 8.5 | 7.5 | 12.5 | 10.0 | 20.0 | 17.5 |
| 24 | --- | --- | --- | --- | --- | --- | 9.5 | 8.0 | 13.5 | 11.5 | 20.0 | 17.5 |
| 25 | --- | --- | --- | --- | --- | --- | 9.5 | 9.0 | 14.5 | 12.5 | 20.0 | 17.5 |
| 26 | --- | --- | --- | --- | --- | --- | 10.5 | 9.0 | 15.5 | 13.5 | 19.0 | 16.5 |
| 27 | --- | --- | --- | --- | --- | --- | 9.5 | 8.0 | 16.0 | 14.0 | 19.0 | 16.5 |
| 28 | --- | --- | --- | --- | --- | --- | 9.5 | 8.0 | 16.0 | 14.0 | 19.0 | 16.5 |
| 29 | --- | --- | --- | --- | --- | --- | 10.5 | 8.5 | --- | --- | 19.0 | 16.5 |
| 30 | --- | --- | --- | --- | --- | --- | 11.0 | 9.5 | --- | --- | 19.0 | 16.5 |
| 31 | --- | --- | --- | --- | --- | --- | 11.0 | 9.5 | --- | --- | 19.5 | 17.0 |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | 16.0 | 6.5 | 20.0 | 12.0 |

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR JANUARY 1990 TO SEPTEMBER 1990

[illegible]

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 mi².

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.--Records fair. Some stock ponds and small diversions upstream from station.

AVERAGE DISCHARGE.--25 years, 6.74 ft³/s, 4,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft³/s, Feb. 16, 1959, gage height, 14.68 ft, site and datum then in use, from rating curve extended above 690 ft³/s; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|----------|------|-----------------------------------|---------------------|
| May 27 | 2130 | *371 | *4.11 | Sept. 25 | 0030 | 225 | 3.51 |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|------|--------|------|-------|-------|--------|
| 1 | e.00 | .00 | .00 | .00 | .00 | e.50 | .05 | e.00 | 1.9 | .00 | .00 | .00 |
| 2 | e.00 | .00 | .00 | .00 | .00 | e.77 | e.00 | e.00 | 1.0 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | 1.4 | e.00 | e.00 | .59 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | 1.1 | e.00 | e.00 | .51 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | 1.1 | e.00 | e.00 | .28 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | 1.0 | e.00 | e.00 | .09 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .86 | e.00 | e.00 | .09 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .83 | e.00 | e.00 | .05 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .79 | e.00 | .00 | .02 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .79 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .78 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | e.00 | .76 | e.00 | .00 | .02 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | e.00 | .71 | e.00 | .00 | .01 | e.00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | e.00 | .60 | e.00 | .00 | .02 | e.00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | e.00 | .62 | e.00 | .00 | .02 | e.00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | e1.5 | .59 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | e2.8 | .55 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | e2.0 | .47 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | e1.4 | .43 | e.00 | .00 | .01 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | e.90 | .39 | e.00 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | e.72 | .31 | e.00 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | e.60 | .24 | e.00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | e.47 | .23 | e.00 | .00 | .00 | e.00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | e.38 | .18 | e.00 | .00 | .00 | e.00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | e.33 | .15 | e.00 | .00 | .00 | e.00 | .00 | .97 |
| 26 | .00 | .00 | .00 | .00 | e.31 | .12 | e.00 | .00 | .00 | e.00 | .00 | .24 |
| 27 | .00 | .00 | .00 | .00 | e.28 | .11 | e.00 | 40 | .00 | e.00 | .00 | .11 |
| 28 | .00 | .00 | .00 | .00 | e.22 | .08 | e.00 | 98 | .00 | .00 | .00 | .2.4 |
| 29 | .00 | .00 | .00 | .00 | --- | .05 | e.00 | 9.3 | .00 | .00 | .00 | .01 |
| 30 | .00 | .00 | .00 | .00 | --- | .05 | e.00 | 2.5 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .06 | --- | 2.0 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 12.21 | 16.62 | 0.05 | 151.80 | 4.66 | 0.00 | 0.00 | 134.41 |
| MEAN | .0000 | .0000 | .0000 | .0000 | .44 | .54 | .002 | 4.90 | .16 | .0000 | .0000 | 4.48 |
| MAX | .00 | .00 | .00 | .00 | 2.8 | 1.4 | .05 | 98 | 1.9 | .00 | .00 | 97 |
| MIN | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .00 | .00 | .00 | .00 | 24 | 33 | .1 | 301 | 9.2 | .00 | .00 | 267 |

CAL YR 1989 TOTAL 42.44 MEAN .12 MAX 1.2 MIN .00 AC-FT 84
WTR YR 1990 TOTAL 319.75 MEAN .88 MAX 98 MIN .00 AC-FT 634

e Estimated.

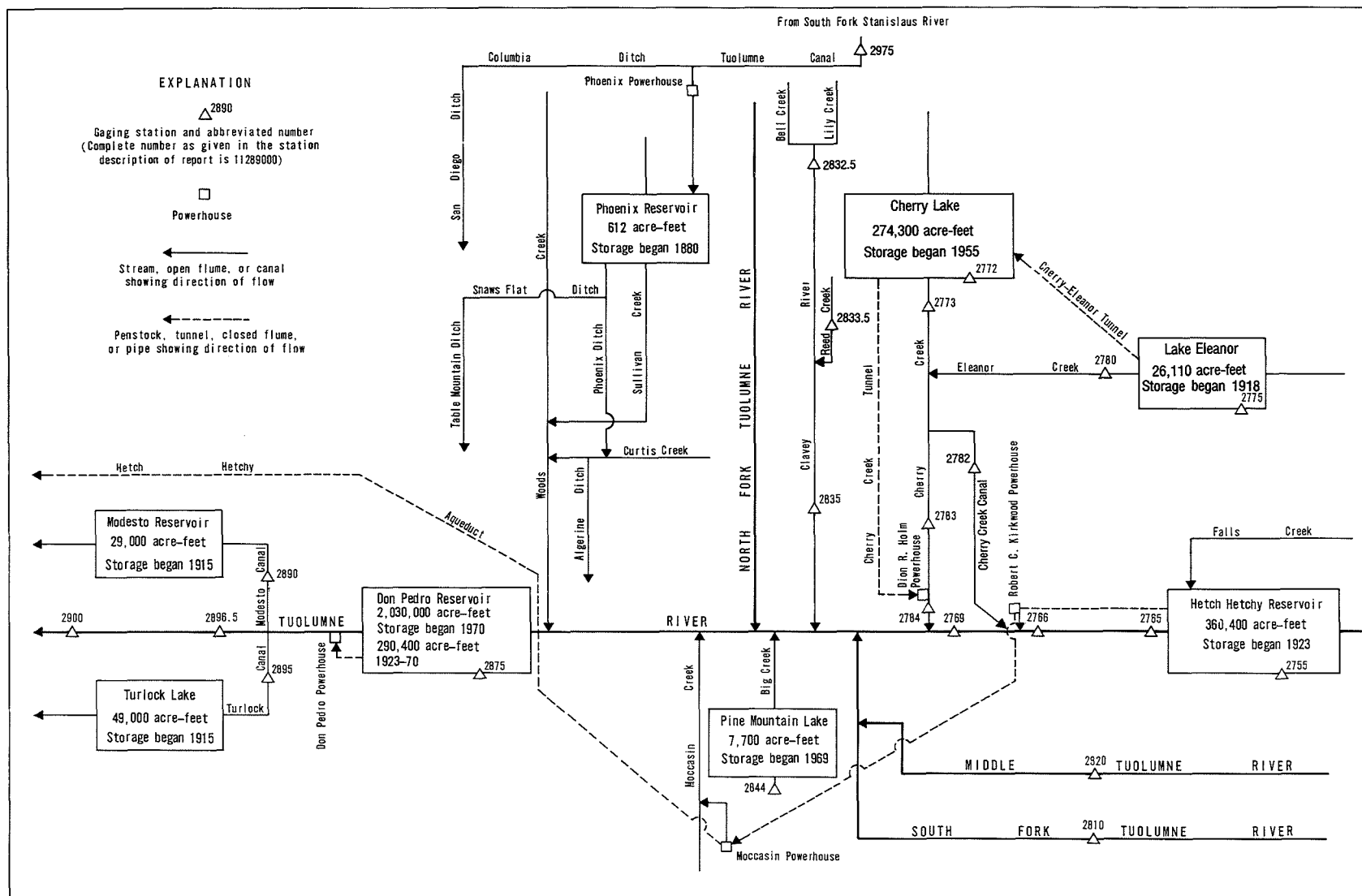


Figure 34. Diversions and storage in Tuolumne River basin.

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 mi².

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 downriver is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is the 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.--Records 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, 259,600 acre-ft, June 12, 13, gage height, 3,752.0 ft; minimum, 88,000 acre-ft, Mar. 17, gage height, 3,631.4 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 20, 1971)

| | | | | | | | | | |
|-------|-----|-------|--------|-------|---------|-------|---------|---------|---------|
| 3,512 | 0 | 3,530 | 3,300 | 3,600 | 57,400 | 3,680 | 146,200 | 3,760 | 273,700 |
| 3,513 | 51 | 3,540 | 8,700 | 3,620 | 76,500 | 3,700 | 175,000 | 3,780 | 310,400 |
| 3,515 | 154 | 3,560 | 22,900 | 3,640 | 97,000 | 3,720 | 206,000 | 3,800 | 348,600 |
| 3,520 | 410 | 3,580 | 39,500 | 3,660 | 119,900 | 3,740 | 238,900 | 3,810.4 | 369,100 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 08:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 237900 | 207800 | 175300 | 141100 | 112600 | 91800 | 95400 | 163900 | 236200 | 244200 | 218400 | 177600 |
| 2 | 237200 | 206800 | 174300 | 139900 | 111600 | 91300 | 97400 | 166000 | 237200 | 243500 | 217300 | 176400 |
| 3 | 236200 | 205800 | 173400 | 138800 | 110700 | 91200 | 98500 | 168900 | 239200 | 242800 | 216000 | 175200 |
| 4 | 235200 | 204400 | 172300 | 138000 | 109800 | 91600 | 99600 | 170000 | 241100 | 242100 | 214700 | 173700 |
| 5 | 234200 | 203500 | 171600 | 136800 | 109300 | 91200 | 100700 | 173800 | 243700 | 242100 | 213400 | 172200 |
| 6 | 232800 | 202500 | 170400 | 135700 | 108200 | 91100 | 101800 | 178300 | 246800 | 240600 | 212400 | 171000 |
| 7 | 231800 | 201100 | 169500 | 134300 | 107400 | 90900 | 103500 | 183200 | 249000 | 239200 | 210800 | 169400 |
| 8 | 231000 | 200300 | 168300 | 133400 | 106400 | 90500 | 105200 | 187800 | 251400 | 239100 | 209500 | 168000 |
| 9 | 229700 | 198900 | 167600 | 132400 | 105300 | 90200 | 106500 | 191500 | 254000 | 239100 | 208200 | 166700 |
| 10 | 228500 | 197900 | 166600 | 131400 | 104400 | 90100 | 107400 | 194800 | 256300 | 238700 | 207100 | 165100 |
| 11 | 227500 | 196700 | 165700 | 130300 | 104100 | 90100 | 108700 | 197900 | 258400 | 236400 | 206000 | 163900 |
| 12 | 226300 | 195600 | 164500 | 129400 | 103400 | 90100 | 110700 | 200200 | 259600 | 235500 | 204600 | 162300 |
| 13 | 225200 | 194800 | 163300 | 128700 | 102800 | 89900 | 112800 | 202400 | 259600 | 234800 | 203300 | 160800 |
| 14 | 223800 | 193500 | 162300 | 128100 | 101900 | 89300 | 116200 | 204700 | 258900 | 234200 | 202700 | 159400 |
| 15 | 223000 | 192600 | 160800 | 127600 | 101000 | 88800 | 120200 | 207000 | 258000 | 234000 | 200800 | 158000 |
| 16 | 222200 | 191500 | 160200 | 126900 | 100200 | 88400 | 124300 | 208900 | 257000 | 233800 | 199500 | 156700 |
| 17 | 220900 | 190200 | 158800 | 126200 | 99400 | 88000 | 127500 | 211000 | 256100 | 233800 | 198600 | 155200 |
| 18 | 219600 | 189000 | 157800 | 125400 | 98600 | 88400 | 129200 | 212700 | 254700 | 233000 | 197200 | 153900 |
| 19 | 218400 | 187800 | 156600 | 124300 | 98000 | 88600 | 130800 | 214200 | 253300 | 232700 | 196000 | 152400 |
| 20 | 217300 | 186700 | 155300 | 123500 | 97300 | 88900 | 132700 | 215700 | 252100 | 232000 | 194600 | 151000 |
| 21 | 215700 | 185500 | 154300 | 122700 | 96500 | 89000 | 135400 | 217000 | 251100 | 231000 | 193000 | 149600 |
| 22 | 214700 | 184100 | 153200 | 122200 | 95600 | 89500 | 137600 | 217900 | 249900 | 230500 | 191800 | 148200 |
| 23 | 213900 | 183100 | 151800 | 120800 | 94800 | 90100 | 139600 | 219400 | 249000 | 229500 | 190200 | 146900 |
| 24 | 213100 | 181800 | 150800 | 119900 | 94200 | 90700 | 140100 | 221100 | 248100 | 228000 | 188800 | 145400 |
| 25 | 213200 | 180900 | 149400 | 119000 | 93400 | 91800 | 144700 | 222400 | 248000 | 226800 | 187500 | 144000 |
| 26 | 212700 | 180200 | 148000 | 117900 | 92800 | 93000 | 146600 | 223800 | 247400 | 225800 | 186100 | 142700 |
| 27 | 212300 | 179300 | 146900 | 117200 | 92300 | 93800 | 150000 | 225200 | 246900 | 224500 | 184700 | 141300 |
| 28 | 211300 | 178000 | 145900 | 116300 | 92000 | 94700 | 153500 | 227800 | 246200 | 223500 | 183200 | 141300 |
| 29 | 210800 | 177000 | 144800 | 115500 | --- | 95100 | 158000 | 231000 | 245400 | 222400 | 181800 | 138600 |
| 30 | 209500 | 176200 | 143400 | 114400 | --- | 95300 | 161500 | 233000 | 244700 | 221200 | 180600 | 137400 |
| 31 | 208600 | --- | 142200 | 113300 | --- | 95700 | --- | 234500 | --- | 219900 | 179000 | --- |
| MAX | 237900 | 207800 | 175300 | 141100 | 112600 | 95700 | 161500 | 234500 | 259600 | 244200 | 218400 | 177600 |
| MIN | 208600 | 176200 | 142200 | 113300 | 92000 | 88000 | 95400 | 163900 | 236200 | 219900 | 179000 | 137400 |
| a | 3721.6 | 3700.8 | 3677.0 | 3654.4 | 3635.2 | 3638.8 | 3690.9 | 3737.4 | 3743.4 | 3728.6 | 3702.6 | 3673.5 |
| b | -29600 | -32400 | -34000 | -28900 | -21300 | +3700 | +65800 | +73000 | +10200 | -24800 | -40900 | -41600 |

CAL YR 1989 b -2200
WTR YR 1990 b -100800

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

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 mi².

WATER-DISCHARGE RECORDS

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, crest-stage gage 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.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 0.9 mi upstream beginning in April 1923. Flow diverted upstream from 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 ft³/s, 723,800 acre-ft/yr; 23 years (water years 1968-90), 392 ft³/s, 284,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft³/s, June 1, 1943, gage height, 13.90 ft; no flow at times in 1968-70.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 193 ft³/s, July 17, gage height, 4.06 ft; minimum daily, 33 ft³/s, several days during April.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 60 | 62 | 60 | e50 | 51 | 48 | 42 | 48 | 85 | 94 | 126 | 73 |
| 2 | 56 | 62 | 60 | e50 | 51 | 47 | 35 | 55 | 117 | 75 | 126 | 73 |
| 3 | 56 | 62 | 60 | e50 | 50 | 47 | 35 | 47 | 117 | 72 | 124 | 73 |
| 4 | 56 | 61 | 60 | e51 | 49 | 47 | 35 | 47 | 117 | 72 | 123 | 73 |
| 5 | 55 | 59 | 60 | e50 | 49 | 47 | 33 | 48 | 117 | 72 | 123 | 73 |
| 6 | 55 | 59 | 60 | e50 | 49 | 47 | 33 | 48 | 117 | 72 | 123 | 72 |
| 7 | 56 | 59 | e60 | e49 | 49 | 47 | 34 | 48 | 114 | 72 | 123 | 72 |
| 8 | 56 | 58 | e60 | e50 | 48 | 47 | 34 | 48 | 113 | 73 | 123 | 72 |
| 9 | 56 | 58 | e60 | e50 | 48 | 47 | 33 | 49 | 113 | 74 | 122 | 73 |
| 10 | 56 | 58 | e60 | e50 | 48 | 46 | 33 | 49 | 113 | 75 | 123 | 73 |
| 11 | 55 | 58 | e60 | e50 | 48 | 45 | 33 | 51 | 113 | 75 | 125 | 73 |
| 12 | 55 | 58 | e60 | e50 | 48 | 45 | 33 | 51 | 114 | 75 | 125 | 73 |
| 13 | 55 | 58 | e60 | 51 | 54 | 48 | 34 | 51 | 155 | 75 | 125 | 74 |
| 14 | 55 | 60 | e59 | 52 | 59 | 53 | 35 | 51 | 182 | 75 | 125 | 74 |
| 15 | 55 | 60 | e58 | 52 | 55 | 53 | 35 | 51 | 175 | 75 | 125 | e60 |
| 16 | 55 | 60 | e59 | 52 | 50 | 53 | 35 | 51 | 176 | 75 | 125 | e48 |
| 17 | 56 | 60 | e59 | 52 | 50 | 53 | 35 | 51 | 177 | 112 | 125 | e45 |
| 18 | 58 | 60 | e58 | 52 | 50 | 53 | 35 | 49 | 177 | 124 | 125 | e44 |
| 19 | 58 | 60 | e52 | 50 | 48 | 53 | 35 | 48 | 177 | 125 | 125 | e45 |
| 20 | 58 | 60 | e49 | 50 | 48 | 53 | 35 | 48 | 179 | 127 | 125 | e46 |
| 21 | 58 | 60 | e49 | 50 | 48 | 53 | 35 | 48 | 179 | 127 | 125 | e46 |
| 22 | 58 | 60 | e50 | 50 | 48 | 53 | 35 | 48 | 179 | 127 | 124 | e46 |
| 23 | 58 | 60 | e50 | 49 | 49 | 53 | 35 | 49 | 178 | 127 | 123 | e46 |
| 24 | 60 | 60 | e51 | 48 | 50 | 53 | 34 | 48 | 138 | 127 | 123 | e45 |
| 25 | 60 | 60 | e51 | 48 | 50 | 53 | 33 | 47 | 112 | 127 | 123 | e48 |
| 26 | 58 | 59 | e51 | 48 | 50 | 53 | 33 | 47 | 109 | 127 | 123 | e49 |
| 27 | 58 | 58 | e52 | 48 | 50 | 53 | 33 | 47 | 110 | 126 | 123 | e49 |
| 28 | 58 | 59 | e52 | 48 | 49 | 53 | 33 | 49 | 112 | 126 | 123 | e48 |
| 29 | 60 | 59 | e50 | 46 | --- | 53 | 33 | 49 | 114 | 102 | 123 | e48 |
| 30 | 62 | 60 | e50 | 47 | --- | 53 | 33 | 49 | 114 | 106 | 104 | e47 |
| 31 | 62 | --- | e50 | 52 | --- | 54 | --- | 49 | --- | 126 | 87 | --- |
| TOTAL | 1774 | 1787 | 1730 | 1545 | 1396 | 1563 | 1029 | 1519 | 4093 | 3037 | 3787 | 1781 |
| MEAN | 57.2 | 59.6 | 55.8 | 49.8 | 49.9 | 50.4 | 34.3 | 49.0 | 136 | 98.0 | 122 | 59.4 |
| MAX | 62 | 62 | 60 | 52 | 59 | 54 | 42 | 55 | 182 | 127 | 126 | 75 |
| MIN | 55 | 58 | 49 | 46 | 48 | 45 | 33 | 47 | 85 | 72 | 87 | 44 |
| AC-FT | 3520 | 3540 | 3430 | 3060 | 2770 | 3100 | 2040 | 3010 | 8120 | 6020 | 7510 | 3530 |

CAL YR 1989 TOTAL 62848 MEAN 172 MAX 2890 MIN 45 AC-FT 124700
WTR YR 1990 TOTAL 25041 MEAN 68.6 MAX 182 MIN 33 AC-FT 49670

e Estimated.

SAN JOAQUIN RIVER BASIN

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.--Temperature recorder since August 1987.

REMARKS.--Temperature recorder installed Aug. 13, 1987, located 0.6 mi upstream from gaging station on left bank at road bridge. Interruptions in record were due to malfunction of recording instrument. Water temperature is affected by releases from O'Shaughnessy Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 13.5 °C, several days during September; minimum recorded, 4.5 °C, Feb. 5, 7, 8, 15, 1989, Feb. 16, 1990.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 13.5 °C, several days during September; minimum recorded, 4.5 °C, Feb. 16.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 12.0 | 10.5 | 12.0 | 10.5 | 12.0 | 11.0 | 9.5 | 8.0 | 7.0 | 6.0 | 7.0 | 5.5 |
| 2 | 11.5 | 10.5 | 12.0 | 10.5 | 12.0 | 10.5 | 9.5 | 8.0 | 7.5 | 6.0 | 6.5 | 6.0 |
| 3 | 12.0 | 10.0 | 12.5 | 10.5 | 12.0 | 10.5 | 9.5 | 8.5 | 7.5 | 6.0 | 7.0 | 6.0 |
| 4 | 12.0 | 10.0 | 12.5 | 11.0 | 12.0 | 11.0 | 9.5 | 8.0 | 7.5 | 6.0 | 6.5 | 5.0 |
| 5 | 11.5 | 10.0 | 12.5 | 10.5 | 12.0 | 11.0 | 9.0 | 8.0 | 7.0 | 5.5 | 6.5 | 5.0 |
| 6 | 12.0 | 10.0 | 12.5 | 11.0 | 12.0 | 10.5 | 9.5 | 8.0 | 7.0 | 6.0 | 7.0 | 5.0 |
| 7 | 12.0 | 10.5 | 12.5 | 10.5 | 12.0 | 10.5 | 9.0 | 9.0 | 6.5 | 5.5 | 7.0 | 5.0 |
| 8 | 12.0 | 10.0 | 12.5 | 10.5 | 11.5 | 10.5 | 9.5 | 8.5 | 7.0 | 5.5 | 7.0 | 5.5 |
| 9 | 12.0 | 10.5 | 12.5 | 11.0 | 11.5 | 10.5 | 9.0 | 8.0 | 7.5 | 5.5 | 7.0 | 5.0 |
| 10 | 12.0 | 10.5 | 12.5 | 11.0 | 11.5 | 10.5 | 9.0 | 8.0 | 7.5 | 5.5 | 6.5 | 5.5 |
| 11 | 12.0 | 10.5 | 12.5 | 11.0 | 11.0 | 9.5 | 9.5 | 8.5 | 7.0 | 5.5 | 6.5 | 5.0 |
| 12 | 12.0 | 10.5 | 12.5 | 11.5 | 11.0 | 10.0 | 9.0 | 8.0 | 7.5 | 6.0 | 6.5 | 5.0 |
| 13 | 12.0 | 10.5 | 12.5 | 11.0 | 11.0 | 10.0 | 9.0 | 7.5 | 6.5 | 5.0 | 6.5 | 5.0 |
| 14 | 12.0 | 10.5 | 12.5 | 10.5 | 11.0 | 10.0 | 8.5 | 7.5 | 6.0 | 5.0 | 6.5 | 5.5 |
| 15 | 12.0 | 11.0 | 12.5 | 11.0 | 11.0 | 10.0 | 8.5 | 7.5 | 6.5 | 5.0 | 7.5 | 5.5 |
| 16 | 12.0 | 10.5 | 12.5 | 11.5 | 11.0 | 10.0 | 8.5 | 7.0 | 6.0 | 4.5 | 7.0 | 5.5 |
| 17 | 12.0 | 11.0 | 13.0 | 11.5 | 11.0 | 10.0 | 8.0 | 7.0 | 6.0 | 5.0 | 7.0 | 5.5 |
| 18 | 12.0 | 10.5 | 13.0 | 11.5 | 10.5 | 10.0 | 8.5 | 7.0 | 6.0 | 5.0 | 7.5 | 5.5 |
| 19 | 12.0 | 10.5 | 12.5 | 11.0 | 10.5 | 9.5 | 8.0 | 7.0 | 6.5 | 5.0 | 7.0 | 5.5 |
| 20 | 12.0 | 11.0 | 12.5 | 11.0 | 10.5 | 9.5 | 8.0 | 7.0 | 6.0 | 5.0 | 7.5 | 5.5 |
| 21 | 12.0 | 11.0 | 12.5 | 11.0 | 10.0 | 9.5 | 8.5 | 6.5 | 6.0 | 5.0 | 7.5 | 5.5 |
| 22 | 12.0 | 10.5 | 13.0 | 11.5 | 10.0 | 9.5 | 8.0 | 7.0 | 7.0 | 5.0 | 7.5 | 6.0 |
| 23 | 12.0 | 11.0 | 12.5 | 11.0 | 10.5 | 10.0 | 8.5 | 7.0 | 6.5 | 5.0 | 7.5 | 6.0 |
| 24 | 11.5 | 10.5 | 12.5 | 12.0 | 10.5 | 9.5 | 8.5 | 7.0 | 6.5 | 5.0 | 7.5 | 6.0 |
| 25 | 11.5 | 10.5 | 12.5 | 11.5 | 10.5 | 9.5 | 8.5 | 7.0 | 7.0 | 5.0 | 7.5 | 6.0 |
| 26 | 11.5 | 10.0 | 12.5 | 11.0 | 10.5 | 9.5 | 8.0 | 7.0 | 7.5 | 5.5 | 7.5 | 6.0 |
| 27 | 12.0 | 11.0 | 12.5 | 11.0 | 10.0 | 9.0 | 7.5 | 6.5 | 7.0 | 5.5 | 7.5 | 5.5 |
| 28 | 11.5 | 10.5 | 12.5 | 11.0 | 9.5 | 8.5 | 8.0 | 6.5 | 7.5 | 5.5 | 7.5 | 6.0 |
| 29 | 12.0 | 10.0 | 12.5 | 11.0 | 10.0 | 8.5 | 7.5 | 6.5 | --- | --- | 7.5 | 5.5 |
| 30 | 12.0 | 10.0 | 12.5 | 11.0 | 10.0 | 8.5 | 7.5 | 6.0 | --- | --- | 8.5 | 6.0 |
| 31 | 12.0 | 10.0 | --- | --- | 10.0 | 9.0 | 7.5 | 6.0 | --- | --- | 8.0 | 6.0 |
| MONTH | 12.0 | 10.0 | 13.0 | 10.5 | 12.0 | 8.5 | 9.5 | 6.0 | 7.5 | 4.5 | 8.5 | 5.0 |

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|------|-----|------|-----|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 8.0 | 6.0 | 9.0 | 7.0 | 10.0 | 8.0 | 11.0 | 9.5 | 11.5 | 10.0 | 12.5 | 11.0 |
| 2 | 8.0 | 6.0 | 9.5 | 7.0 | 10.0 | 8.0 | 11.5 | 9.5 | 11.5 | 10.0 | 12.0 | 11.0 |
| 3 | 8.0 | 6.5 | 9.0 | 7.5 | 10.0 | 8.5 | 11.0 | 9.5 | 11.5 | 10.0 | 12.0 | 11.0 |
| 4 | 8.5 | 6.0 | 9.5 | 7.5 | 10.0 | 9.0 | 11.5 | 9.0 | 11.5 | 10.0 | 12.0 | 11.0 |
| 5 | 8.5 | 6.5 | 9.5 | 7.5 | 10.0 | 8.5 | 11.5 | 9.5 | 11.5 | 11.0 | 12.0 | 11.0 |
| 6 | 8.0 | 6.0 | 9.5 | 8.0 | 10.5 | 8.5 | 11.5 | 9.5 | 11.5 | 11.0 | 12.0 | 11.0 |
| 7 | 8.0 | 6.0 | 9.0 | 7.5 | 10.0 | 9.0 | 11.5 | 9.5 | 11.5 | 10.5 | 12.5 | 11.5 |
| 8 | 8.5 | 6.5 | 9.5 | 7.5 | 10.5 | 8.5 | 11.0 | 9.5 | 12.0 | 11.0 | 12.5 | 11.5 |
| 9 | 8.5 | 6.5 | 10.0 | 7.5 | 10.0 | 9.0 | 11.0 | 9.5 | 11.5 | 11.0 | 12.5 | 11.5 |
| 10 | 8.5 | 6.5 | 9.0 | 8.0 | 10.5 | 9.0 | 11.0 | 10.0 | 12.0 | 11.0 | 12.5 | 11.5 |
| 11 | 8.5 | 6.5 | 10.0 | 8.0 | 10.0 | 8.5 | 11.5 | 10.0 | 11.5 | 11.0 | 12.5 | 11.0 |
| 12 | 9.0 | 6.5 | 9.5 | 8.0 | 10.0 | 8.5 | 11.5 | 10.0 | 11.5 | 11.0 | 12.5 | 11.5 |
| 13 | 8.5 | 6.5 | 9.5 | 7.5 | 10.0 | 8.5 | 11.5 | 10.0 | 11.5 | 10.0 | 13.5 | 11.0 |
| 14 | 8.5 | 7.0 | 10.0 | 8.0 | 10.0 | 8.5 | 11.5 | 10.0 | 11.5 | 11.0 | 12.5 | 12.0 |
| 15 | 9.5 | 7.0 | 9.5 | 7.5 | 10.0 | 9.0 | 11.5 | 10.0 | 11.5 | 10.0 | 13.0 | 12.0 |
| 16 | 8.0 | 6.5 | 10.0 | 8.0 | 10.0 | 9.0 | 11.5 | 10.0 | 11.5 | 11.0 | 13.0 | 11.5 |
| 17 | 8.0 | 6.5 | 10.0 | 8.0 | 10.5 | 9.0 | 11.5 | 10.0 | 11.5 | 10.0 | 12.5 | 12.0 |
| 18 | 9.0 | 7.0 | 10.0 | 7.5 | 10.5 | 9.5 | 11.5 | 10.0 | 11.5 | 10.5 | 13.5 | 12.0 |
| 19 | 8.5 | 7.0 | 10.0 | 8.0 | 10.0 | 9.5 | 11.5 | 10.0 | 12.0 | 10.5 | 13.0 | 12.0 |
| 20 | 8.5 | 7.0 | 10.0 | 8.0 | 10.5 | 9.0 | 11.0 | 10.5 | 12.0 | 10.5 | 13.0 | 12.0 |
| 21 | 9.0 | 6.5 | 10.0 | 8.0 | 10.5 | 9.5 | 11.5 | 10.0 | 11.5 | 10.5 | 13.5 | 12.0 |
| 22 | 9.0 | 7.0 | 10.5 | 8.5 | 10.5 | 9.5 | 11.5 | 10.0 | 11.5 | 11.0 | 13.5 | 12.0 |
| 23 | 8.5 | 7.0 | 9.5 | 8.5 | 10.5 | 9.5 | 11.0 | 10.0 | 11.5 | 11.0 | 13.0 | 11.5 |
| 24 | 9.5 | 6.5 | 10.0 | 8.0 | 10.5 | 9.5 | 11.0 | 10.0 | 12.0 | 11.0 | 13.5 | 12.0 |
| 25 | 9.5 | 7.0 | 10.5 | 8.0 | 10.5 | 9.0 | 11.0 | 10.0 | 12.0 | 10.5 | 13.0 | 11.5 |
| 26 | 10.0 | 7.0 | 10.0 | 8.5 | 10.5 | 9.0 | 11.5 | 10.0 | 12.0 | 11.0 | 13.5 | 11.5 |
| 27 | 9.5 | 7.5 | 9.5 | 8.5 | 10.5 | 9.5 | 11.5 | 10.0 | 11.5 | 11.0 | 13.0 | 11.5 |
| 28 | 10.5 | 7.5 | 9.5 | 8.5 | 10.5 | 9.5 | 11.0 | 10.5 | 12.0 | 11.0 | 13.0 | 11.5 |
| 29 | 9.5 | 7.0 | 10.5 | 8.5 | 11.0 | 9.5 | 11.5 | 10.0 | 12.0 | 10.5 | 13.0 | 12.0 |
| 30 | 10.0 | 6.5 | 9.5 | 8.5 | 10.5 | 9.5 | 11.5 | 10.0 | 12.5 | 11.0 | 13.0 | 11.5 |
| 31 | --- | --- | 10.0 | 8.5 | --- | --- | 11.5 | 10.0 | 12.0 | 11.0 | --- | --- |
| MONTH | 10.5 | 6.0 | 10.5 | 7.0 | 11.0 | 8.0 | 11.5 | 9.0 | 12.5 | 10.0 | 13.5 | 11.0 |

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 mi².

WATER-DISCHARGE RECORDS

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.--No estimated daily discharges. Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 12 mi upstream. Flow diverted upstream from station through tunnel to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--20 years, 417 ft³/s, 302,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s, July 7, 1983, gage height, 21.38 ft; minimum daily, 25 ft³/s, Oct. 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943, reached a stage of 22.1 ft, discharge, 12,900 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 182 ft³/s, June 14, gage height, 13.10 ft; minimum daily, 46 ft³/s, Apr. 30, May 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 78 | 68 | 67 | 56 | 72 | 83 | 70 | 46 | 64 | 110 | 124 | 78 |
| 2 | 62 | 68 | 67 | 60 | 69 | 81 | 59 | 65 | 115 | 83 | 123 | 77 |
| 3 | 60 | 67 | 66 | 56 | 67 | 92 | 56 | 61 | 119 | 76 | 123 | 76 |
| 4 | 60 | 67 | 66 | 55 | 76 | 90 | 56 | 59 | 119 | 75 | 120 | 75 |
| 5 | 60 | 64 | 66 | 55 | 75 | 98 | 54 | 59 | 119 | 74 | 120 | 75 |
| 6 | 59 | 62 | 66 | 54 | 75 | 91 | 51 | 59 | 119 | 74 | 120 | 75 |
| 7 | 59 | 62 | 66 | 55 | 76 | 84 | 52 | 59 | 118 | 74 | 119 | 75 |
| 8 | 59 | 62 | 65 | 55 | 71 | 82 | 55 | 59 | 114 | 74 | 120 | 77 |
| 9 | 59 | 62 | 65 | 55 | 69 | 79 | 53 | 59 | 114 | 77 | 120 | 77 |
| 10 | 59 | 61 | 65 | 54 | 69 | 78 | 51 | 59 | 113 | 77 | 120 | 76 |
| 11 | 59 | 61 | 65 | 54 | 70 | 84 | 50 | 60 | 113 | 77 | 123 | 76 |
| 12 | 58 | 61 | 65 | 55 | 72 | 84 | 49 | 60 | 114 | 77 | 123 | 75 |
| 13 | 58 | 61 | 65 | 76 | 72 | 82 | 49 | 60 | 121 | 77 | 123 | 75 |
| 14 | 58 | 64 | 64 | 93 | 78 | 84 | 49 | 60 | 175 | 77 | 123 | 79 |
| 15 | 58 | 65 | 64 | 79 | 77 | 86 | 50 | 60 | 166 | 77 | 123 | 78 |
| 16 | 58 | 65 | 64 | 79 | 75 | 86 | 51 | 60 | 167 | 77 | 123 | 55 |
| 17 | 58 | 65 | 63 | 77 | 75 | 84 | 50 | 59 | 170 | 83 | 123 | 48 |
| 18 | 60 | 64 | 63 | 71 | 74 | 84 | 49 | 59 | 169 | 120 | 123 | 47 |
| 19 | 60 | 64 | 56 | 69 | 73 | 82 | 48 | 57 | 169 | 119 | 122 | 47 |
| 20 | 60 | 65 | 54 | 66 | 75 | 79 | 48 | 57 | 170 | 122 | 122 | 47 |
| 21 | 61 | 64 | 53 | 64 | 74 | 78 | 54 | 57 | 168 | 123 | 121 | 49 |
| 22 | 62 | 64 | 53 | 63 | 79 | 76 | 52 | 56 | 168 | 123 | 121 | 49 |
| 23 | 66 | 64 | 55 | 62 | 85 | 75 | 59 | 61 | 167 | 122 | 122 | 49 |
| 24 | 108 | 67 | 56 | 60 | 88 | 74 | 66 | 64 | 159 | 122 | 121 | 49 |
| 25 | 107 | 68 | 56 | 60 | 88 | 74 | 55 | 58 | 113 | 122 | 121 | 48 |
| 26 | 73 | 97 | 56 | 59 | 87 | 73 | 50 | 58 | 109 | 122 | 122 | 51 |
| 27 | 67 | 71 | 55 | 59 | 88 | 72 | 48 | 62 | 109 | 122 | 122 | 51 |
| 28 | 65 | 69 | 55 | 59 | 85 | 72 | 48 | 79 | 111 | 122 | 121 | 51 |
| 29 | 64 | 68 | 55 | 58 | --- | 71 | 47 | 69 | 113 | 118 | 120 | 51 |
| 30 | 67 | 68 | 55 | 60 | --- | 72 | 46 | 64 | 113 | 86 | 116 | 50 |
| 31 | 69 | --- | 55 | 65 | --- | 71 | --- | 64 | --- | 122 | 100 | --- |
| TOTAL | 2011 | 1978 | 1886 | 1943 | 2134 | 2501 | 1575 | 1869 | 3978 | 3004 | 3744 | 1886 |
| MEAN | 64.9 | 65.9 | 60.8 | 62.7 | 76.2 | 80.7 | 52.5 | 60.3 | 133 | 96.9 | 121 | 62.9 |
| MAX | 108 | 97 | 67 | 93 | 88 | 98 | 70 | 79 | 175 | 123 | 124 | 79 |
| MIN | 58 | 61 | 53 | 54 | 67 | 71 | 46 | 46 | 64 | 74 | 100 | 47 |
| AC-FT | 3990 | 3920 | 3740 | 3850 | 4230 | 4960 | 3120 | 3710 | 7890 | 5960 | 7430 | 3740 |

CAL YR 1989 TOTAL 67980 MEAN 186 MAX 2940 MIN 52 AC-FT 134800
WTR YR 1990 TOTAL 28509 MEAN 78.1 MAX 175 MIN 46 AC-FT 56550

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1987 to current year.

INSTRUMENTATION.--Temperature recorder since Aug. 12, 1987.

REMARKS.--Temperature recorder located 150 ft upstream from gaging station on right bank. Interruptions in record were due to malfunction of recording instrument. Water temperature is affected by regulation from O'Shaughnessy Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 23.5 °C, July 16, 17, 1990; minimum recorded, 1.5 °C, Dec. 27, 29, 30, 1988, Feb. 6-8, 1989.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 23.5 °C, July 16, 17; minimum recorded, 2.0 °C, Feb. 16.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|-----|----------|-----|---------|-----|----------|-----|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 16.0 | 13.5 | 9.5 | 8.0 | 6.5 | 6.0 | 5.5 | 4.5 | 6.5 | 5.0 | 10.0 | 8.5 |
| 2 | 15.0 | 13.5 | 9.5 | 8.0 | 6.5 | 6.0 | 5.0 | 4.5 | 6.0 | 5.0 | 9.5 | 9.0 |
| 3 | 14.5 | 12.5 | 9.5 | 8.0 | 7.0 | 6.0 | 5.0 | 4.5 | 6.5 | 5.0 | 10.0 | 9.0 |
| 4 | 15.0 | 12.5 | 10.0 | 8.5 | 7.0 | 6.0 | 4.5 | 4.0 | 6.5 | 4.5 | 9.5 | 8.0 |
| 5 | 14.5 | 12.5 | 10.0 | 8.5 | 7.0 | 6.5 | 4.0 | 3.5 | 6.0 | 5.0 | 9.0 | 7.5 |
| 6 | 14.5 | 12.0 | 10.5 | 9.0 | 7.0 | 6.5 | 4.5 | 3.5 | 5.5 | 5.0 | 9.0 | 7.0 |
| 7 | 15.0 | 12.0 | 10.0 | 8.5 | 7.5 | 6.5 | 5.5 | 4.0 | 6.0 | 4.5 | 9.5 | 7.0 |
| 8 | 15.0 | 12.5 | 9.5 | 8.5 | 7.5 | 6.5 | 6.5 | 5.5 | 5.5 | 4.0 | 10.0 | 8.0 |
| 9 | 15.5 | 13.0 | 10.0 | 8.5 | 7.0 | 6.5 | 6.0 | 5.0 | 5.5 | 4.0 | 10.5 | 8.0 |
| 10 | 15.0 | 13.0 | 10.0 | 8.5 | 6.5 | 6.0 | 7.0 | 5.5 | 6.0 | 4.5 | 9.5 | 8.0 |
| 11 | 15.5 | 13.0 | 10.0 | 8.5 | 6.0 | 5.5 | 7.5 | 6.0 | 6.5 | 5.0 | 8.5 | 7.5 |
| 12 | 15.5 | 13.0 | 10.0 | 9.0 | 6.0 | 5.5 | 8.0 | 6.5 | 8.0 | 6.0 | 8.0 | 6.0 |
| 13 | 15.0 | 13.0 | 10.0 | 9.0 | 5.5 | 5.0 | 8.0 | 7.5 | 7.0 | 5.5 | 8.0 | 5.5 |
| 14 | 15.0 | 13.0 | 9.5 | 8.5 | 5.5 | 5.0 | 8.0 | 7.5 | 5.5 | 3.5 | 8.0 | 6.0 |
| 15 | 14.5 | 13.0 | 10.0 | 8.5 | 5.5 | 5.0 | 7.5 | 7.0 | 5.0 | 3.5 | 9.5 | 6.5 |
| 16 | 14.5 | 12.5 | 9.5 | 8.5 | 5.5 | 5.0 | 7.0 | 5.5 | 4.0 | 2.0 | 10.0 | 7.5 |
| 17 | 14.5 | 12.5 | 9.5 | 8.5 | 5.5 | 5.0 | 6.0 | 5.0 | 4.0 | 3.0 | 11.5 | 9.0 |
| 18 | 14.5 | 12.5 | 9.5 | 8.5 | 5.5 | 4.5 | 5.0 | 4.5 | 4.0 | 3.0 | 12.0 | 9.0 |
| 19 | 14.5 | 12.5 | 9.5 | 8.5 | 5.0 | 4.5 | 4.5 | 4.0 | 4.5 | 2.5 | 12.0 | 10.0 |
| 20 | 14.0 | 11.5 | 9.0 | 8.0 | 5.0 | 4.5 | 4.5 | 3.5 | 4.5 | 3.0 | 13.0 | 10.5 |
| 21 | 13.5 | 13.0 | 9.5 | 8.0 | 5.0 | 4.5 | 4.5 | 3.5 | 6.0 | 4.0 | 13.0 | 10.5 |
| 22 | 13.5 | 12.5 | 9.0 | 8.0 | 5.0 | 4.5 | 4.5 | 3.5 | 6.5 | 4.5 | 13.5 | 11.0 |
| 23 | 13.0 | 12.5 | 9.0 | 8.0 | 5.0 | 4.5 | 5.0 | 4.0 | 7.5 | 5.5 | 13.5 | 10.5 |
| 24 | 12.5 | 11.5 | 10.0 | 9.0 | 5.5 | 4.5 | 5.0 | 4.0 | 8.0 | 6.0 | 14.5 | 11.0 |
| 25 | 11.5 | 10.5 | 9.5 | 9.0 | 5.5 | 5.0 | 5.5 | 4.0 | 8.5 | 7.0 | 14.5 | 11.5 |
| 26 | 11.0 | 9.5 | 10.0 | 8.5 | 6.5 | 5.0 | 6.0 | 4.5 | 9.5 | 7.0 | 14.5 | 11.0 |
| 27 | 11.0 | 9.0 | 8.5 | 7.0 | 6.5 | 5.5 | 5.5 | 4.5 | 10.0 | 7.5 | 14.5 | 11.0 |
| 28 | 10.5 | 9.0 | 7.0 | 6.5 | 5.5 | 5.0 | 5.5 | 4.0 | 10.0 | 8.0 | 13.0 | 11.0 |
| 29 | 10.0 | 8.5 | 7.0 | 6.0 | 5.5 | 5.0 | 5.5 | 4.5 | --- | --- | 13.0 | 10.0 |
| 30 | 10.0 | 8.5 | 7.0 | 6.0 | 5.0 | 4.5 | 5.5 | 5.0 | --- | --- | 13.5 | 10.0 |
| 31 | 10.0 | 8.5 | --- | --- | 5.0 | 4.5 | 5.5 | 4.5 | --- | --- | 14.0 | 10.0 |
| MONTH | 16.0 | 8.5 | 10.5 | 6.0 | 7.5 | 4.5 | 8.0 | 3.5 | 10.0 | 2.0 | 14.5 | 5.5 |

SAN JOAQUIN RIVER BASIN

11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 14.0 | 10.5 | 18.5 | 14.0 | 16.5 | 13.0 | --- | --- | 19.5 | 17.0 | 18.5 | 15.5 |
| 2 | 15.0 | 10.5 | 18.0 | 14.5 | 17.0 | 14.5 | --- | --- | 18.5 | 16.5 | 19.0 | 15.5 |
| 3 | 15.5 | 11.5 | 19.5 | 14.5 | 17.5 | 14.5 | --- | --- | 19.5 | 16.5 | 19.0 | 16.0 |
| 4 | 16.0 | 12.0 | 20.5 | 15.5 | --- | --- | --- | --- | 19.0 | 16.0 | 19.0 | 16.0 |
| 5 | 15.0 | 12.0 | 21.0 | 16.0 | --- | --- | --- | --- | 19.5 | 16.5 | 19.0 | 16.0 |
| 6 | 16.0 | 12.0 | 21.0 | 16.5 | --- | --- | --- | --- | 18.5 | 17.0 | 19.5 | 16.0 |
| 7 | 14.5 | 12.5 | 21.0 | 16.0 | --- | --- | --- | --- | 19.0 | 16.5 | 19.5 | 16.0 |
| 8 | 14.5 | 12.0 | 20.5 | 16.0 | --- | --- | --- | --- | 18.5 | 16.0 | 19.5 | 16.5 |
| 9 | 16.0 | 12.0 | 20.5 | 16.0 | --- | --- | --- | --- | 18.5 | 15.0 | 19.5 | 16.0 |
| 10 | 16.0 | 12.0 | 19.0 | 16.0 | --- | --- | --- | --- | 18.0 | 16.0 | 19.5 | 16.0 |
| 11 | 17.0 | 13.0 | 18.0 | 15.0 | --- | --- | --- | --- | 18.0 | 15.0 | 19.5 | 16.5 |
| 12 | 17.5 | 13.0 | 17.0 | 14.5 | --- | --- | 23.0 | 18.5 | 18.5 | 15.5 | 19.0 | 16.0 |
| 13 | 18.5 | 14.0 | 18.5 | 14.5 | --- | --- | 20.0 | 20.0 | 18.0 | 15.5 | 19.0 | 16.0 |
| 14 | 18.0 | 15.0 | 19.5 | 15.0 | --- | --- | 22.0 | 19.0 | 17.5 | 15.5 | 18.0 | 16.0 |
| 15 | 18.0 | 15.0 | 18.0 | 15.0 | --- | --- | 22.5 | 19.0 | 17.5 | 14.5 | 18.0 | 15.0 |
| 16 | 16.0 | 13.5 | 19.5 | 15.0 | --- | --- | 23.5 | 20.0 | 18.0 | 14.5 | 18.0 | 15.0 |
| 17 | 14.0 | 13.0 | 20.0 | 15.5 | --- | --- | 23.5 | 19.0 | 18.0 | 15.0 | 18.0 | 15.0 |
| 18 | 15.0 | 13.0 | 19.0 | 15.0 | --- | --- | 22.0 | 20.0 | 16.5 | 15.0 | 18.5 | 15.0 |
| 19 | 14.5 | 13.5 | 19.0 | 15.0 | --- | --- | 21.5 | 18.5 | 15.5 | 14.0 | 18.5 | 15.5 |
| 20 | 14.5 | 13.0 | 17.0 | 15.5 | --- | --- | 21.0 | 18.0 | 16.0 | 13.5 | 18.5 | 15.0 |
| 21 | 16.0 | 12.0 | 19.0 | 14.5 | --- | --- | 20.0 | 17.5 | 16.5 | 13.5 | 17.0 | 15.5 |
| 22 | 16.0 | 12.5 | 18.5 | 15.0 | --- | --- | 20.5 | 17.0 | 17.5 | 14.0 | 17.0 | 15.5 |
| 23 | 15.0 | 13.5 | 16.5 | 14.5 | --- | --- | 20.5 | 17.0 | 18.5 | 15.0 | 17.0 | 15.0 |
| 24 | 15.0 | 12.5 | 18.0 | 13.5 | --- | --- | 19.0 | 16.5 | 17.0 | 15.0 | 17.0 | 14.5 |
| 25 | 17.5 | 12.0 | 18.0 | 14.0 | --- | --- | 19.5 | 16.0 | 16.5 | 14.5 | 16.0 | 15.0 |
| 26 | 18.5 | 13.5 | 16.5 | 15.0 | --- | --- | 18.0 | 15.5 | 17.0 | 14.5 | 17.0 | 14.5 |
| 27 | 19.0 | 14.5 | 15.5 | 14.5 | --- | --- | 19.0 | 15.5 | 16.5 | 13.5 | 16.0 | 14.5 |
| 28 | 20.0 | 15.5 | 14.5 | 13.5 | --- | --- | 20.0 | 16.0 | 17.0 | 14.0 | 17.0 | 14.0 |
| 29 | 19.0 | 15.5 | 16.5 | 13.5 | --- | --- | 20.0 | 16.5 | 18.0 | 14.5 | 17.5 | 14.5 |
| 30 | 18.5 | 15.0 | 14.5 | 13.5 | --- | --- | 21.0 | 17.0 | 17.0 | 15.0 | 17.5 | 15.0 |
| 31 | --- | --- | 16.5 | 13.5 | --- | --- | 19.5 | 17.0 | 18.0 | 15.0 | --- | --- |
| MONTH | 20.0 | 10.5 | 21.0 | 13.5 | --- | --- | --- | --- | 19.5 | 13.5 | 19.5 | 14.0 |

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 mi².

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.--No estimated daily discharges. Records good. 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.--24 years, 522 ft³/s, 378,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft³/s, June 4, 1969, gage height, 9.82 ft; minimum daily, 12 ft³/s, Nov. 28-30, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 725 ft³/s, June 21, gage height, 4.95 ft; minimum daily, 46 ft³/s, Apr. 30, May 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|-------|------|------|------|
| 1 | 76 | 67 | 76 | 54 | 56 | 79 | 52 | 46 | 68 | 113 | 127 | 77 |
| 2 | 60 | 71 | 70 | 54 | 56 | 77 | 53 | 53 | 106 | 82 | 127 | 74 |
| 3 | 58 | 76 | 74 | 54 | 57 | 88 | 53 | 60 | 120 | 73 | 127 | 74 |
| 4 | 58 | 75 | 71 | 54 | 71 | 87 | 53 | 57 | 120 | 71 | 127 | 73 |
| 5 | 58 | 73 | 102 | 54 | 71 | 96 | 53 | 56 | 120 | 71 | 125 | 80 |
| 6 | 62 | 76 | 62 | 51 | 70 | 122 | 49 | 56 | 120 | 71 | 125 | 79 |
| 7 | 57 | 73 | 63 | 50 | 73 | 86 | 49 | 56 | 120 | 70 | 125 | 79 |
| 8 | 57 | 108 | 66 | 50 | 77 | 81 | 52 | 56 | 118 | 70 | 125 | 76 |
| 9 | 57 | 68 | 65 | 51 | 70 | 79 | 51 | 56 | 117 | 72 | 125 | 76 |
| 10 | 57 | 64 | 64 | 51 | 65 | 78 | 49 | 56 | 126 | 73 | 124 | 86 |
| 11 | 57 | 65 | 63 | 51 | 65 | 82 | 49 | 56 | 120 | 74 | 125 | 81 |
| 12 | 57 | 63 | 67 | 51 | 66 | 84 | 48 | 56 | 332 | 74 | 127 | 80 |
| 13 | 57 | 61 | 70 | 69 | 67 | 83 | 47 | 56 | 647 | 74 | 127 | 81 |
| 14 | 57 | 64 | 74 | 91 | 73 | 84 | 47 | 56 | 713 | 74 | 127 | 83 |
| 15 | 56 | 69 | 72 | 76 | 74 | 87 | 47 | 56 | 703 | 74 | 127 | 76 |
| 16 | 56 | 67 | 61 | 74 | 72 | 87 | 47 | 56 | 698 | 74 | 127 | 55 |
| 17 | 56 | 71 | 59 | 75 | 72 | 85 | 47 | 56 | 695 | 77 | 127 | 52 |
| 18 | 59 | 73 | 61 | 69 | 71 | 85 | 47 | 56 | 696 | 124 | 127 | 64 |
| 19 | 59 | 62 | 64 | 66 | 69 | 83 | 47 | 55 | 700 | 121 | 127 | 56 |
| 20 | 60 | 69 | 61 | 63 | 70 | 80 | 47 | 54 | 575 | 124 | 127 | 67 |
| 21 | 59 | 65 | 60 | 61 | 71 | 80 | 48 | 54 | 716 | 125 | 129 | 61 |
| 22 | 60 | 68 | 58 | 60 | 74 | 78 | 49 | 54 | 713 | 125 | 130 | 70 |
| 23 | 64 | 69 | 57 | 59 | 81 | 77 | 55 | 56 | 708 | 125 | 126 | 53 |
| 24 | 117 | 72 | 56 | 58 | 84 | 75 | 64 | 64 | 178 | 125 | 129 | 54 |
| 25 | 113 | 74 | 58 | 59 | 84 | 74 | 54 | 57 | 115 | 125 | 126 | 68 |
| 26 | 81 | 109 | 74 | 76 | 83 | 74 | 50 | 57 | 112 | 125 | 123 | 62 |
| 27 | 75 | 71 | 65 | 57 | 84 | 72 | 48 | 59 | 112 | 125 | 124 | 59 |
| 28 | 65 | 82 | 59 | 56 | 82 | 72 | 47 | 76 | 112 | 125 | 129 | 49 |
| 29 | 63 | 83 | 56 | 55 | --- | 72 | 47 | 68 | 117 | 129 | 126 | 49 |
| 30 | 65 | 66 | 59 | 96 | --- | 63 | 46 | 64 | 116 | 89 | 125 | 49 |
| 31 | 67 | --- | 55 | 64 | --- | 48 | --- | 64 | --- | 124 | 105 | --- |
| TOTAL | 2003 | 2174 | 2022 | 1909 | 2008 | 2498 | 1495 | 1782 | 10013 | 2998 | 3897 | 2043 |
| MEAN | 64.6 | 72.5 | 65.2 | 61.6 | 71.7 | 80.6 | 49.8 | 57.5 | 334 | 96.7 | 126 | 68.1 |
| MAX | 117 | 109 | 102 | 96 | 84 | 122 | 64 | 76 | 716 | 129 | 130 | 86 |
| MIN | 56 | 61 | 55 | 50 | 56 | 48 | 46 | 46 | 68 | 70 | 105 | 49 |
| AC-FT | 3970 | 4310 | 4010 | 3790 | 3980 | 4950 | 2970 | 3530 | 19860 | 5950 | 7730 | 4050 |

CAL YR 1989 TOTAL 107650 MEAN 295 MAX 3260 MIN 49 AC-FT 213500
WTR YR 1990 TOTAL 34842 MEAN 95.5 MAX 716 MIN 46 AC-FT 69110

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 mi².

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 (station 11277500) into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Dion R. Holm powerplant 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; minimum since reservoir first filled, 7,660 acre-ft, Jan. 24, 1960, gage height, 4,502.1 ft. Reservoir drained for inspection in 1961, 1964, and 1989.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 165,100 acre-ft, May 14, gage height, 4,636.9 ft; minimum, 65,200 acre-ft, Sept. 30, gage height, 4,563.7 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 15, 1971)

| | | | | | | | |
|-------|-------|-------|--------|-------|---------|-------|---------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|
| 1 | e144500 | 163400 | 153700 | 140000 | 127800 | 118900 | 127400 | 157800 | 162900 | 138800 | e112800 | e86300 |
| 2 | e145200 | 163100 | 153700 | 139400 | 127300 | 118900 | 127900 | 158100 | 162700 | 138100 | e112000 | e86200 |
| 3 | e145600 | 162700 | 154400 | 138800 | 127100 | 119500 | 128700 | 158400 | 162600 | 137200 | e111000 | e85900 |
| 4 | e146100 | 162900 | 154100 | 138200 | 127000 | 120800 | 129600 | 159200 | 162400 | 136800 | e110400 | e85100 |
| 5 | e146500 | 163300 | 153900 | 137000 | 126600 | 121000 | 130400 | 160200 | 162100 | 136000 | e109800 | e84400 |
| 6 | e146900 | 163200 | 153600 | 136500 | 126200 | 121000 | 131200 | 162000 | 161800 | 135100 | e108700 | e83400 |
| 7 | e147600 | 162600 | 153300 | 136500 | 125600 | 120700 | 132600 | 162700 | 161300 | 134600 | e107600 | e82600 |
| 8 | e148000 | 162300 | 152800 | 136300 | 125100 | 120500 | 133800 | 163200 | 160900 | 134300 | e106500 | e82100 |
| 9 | e148200 | 161800 | 152600 | 135700 | 124600 | 120500 | 134200 | 163700 | 160900 | 133300 | e105500 | e82100 |
| 10 | e148400 | 161300 | 152600 | 135100 | 124400 | 120900 | 134700 | 164100 | 161400 | 132400 | e104600 | e81300 |
| 11 | e148600 | 161200 | 151800 | 134500 | 124400 | 121500 | 135500 | 164300 | 161200 | 131400 | e103900 | 80800 |
| 12 | e148800 | 161200 | 151000 | 133900 | 124000 | 121400 | 136500 | 164500 | 160800 | 130400 | e103200 | 79800 |
| 13 | e149100 | 160900 | 150200 | 134200 | 123500 | 121000 | 137900 | 165000 | 159500 | 129300 | e102100 | 78800 |
| 14 | e149600 | 160300 | 149300 | 134700 | 122900 | 120800 | 139800 | 165100 | 158000 | 128700 | e101300 | 77900 |
| 15 | e149600 | 159600 | 148600 | 134900 | 122200 | 120500 | 142000 | 164800 | 156500 | 128400 | e100200 | 77300 |
| 16 | e149100 | 158900 | 148700 | 134500 | 121800 | 120200 | 143600 | 164500 | 154900 | 127500 | e99100 | 76900 |
| 17 | e148400 | 158300 | 148700 | 134100 | 121600 | 120200 | 144200 | 164100 | 153900 | e126400 | e98200 | 76000 |
| 18 | e148100 | 158200 | 147700 | 133700 | 121600 | 120700 | 144700 | 163500 | 152400 | e125100 | e97700 | 75100 |
| 19 | e148300 | 158100 | 147000 | 133200 | 121600 | 120600 | 145400 | 163000 | 150800 | e124300 | e97300 | 74000 |
| 20 | e148500 | 157500 | 146300 | 133100 | 121000 | 120500 | 146600 | 162800 | 149300 | e123300 | e96400 | 72900 |
| 21 | e149500 | 156800 | 145700 | 133100 | 120400 | 120700 | 147500 | 162100 | 147700 | e122800 | e95500 | 71800 |
| 22 | e150700 | 156000 | 145100 | 132800 | 119800 | 120900 | 148500 | 161200 | 146100 | e122400 | e94500 | 71400 |
| 23 | e152300 | 155500 | 144800 | 132100 | 119300 | 121400 | 150300 | 160600 | 144600 | e121500 | e93400 | 71100 |
| 24 | e158000 | 155000 | 144800 | 131400 | 119200 | 122500 | 151100 | 160300 | 144200 | e120400 | e92700 | 70200 |
| 25 | e159600 | 155500 | 144400 | 130800 | 119200 | 123800 | 151500 | 159900 | 143400 | e119300 | e92000 | 69200 |
| 26 | e160600 | 155700 | 143600 | 130200 | 119000 | 124600 | 152300 | 159700 | 142500 | e118100 | e91500 | 68200 |
| 27 | e161300 | 155300 | 142700 | 130000 | 118900 | 125100 | 153500 | 161100 | 141700 | e116900 | e90500 | 67300 |
| 28 | e162000 | 155000 | 141700 | 129900 | 118900 | 125500 | 155500 | 162900 | 140700 | e116400 | e89500 | 66000 |
| 29 | e163100 | 154700 | 140700 | 129200 | --- | 125800 | 157300 | 163100 | 139800 | e115800 | e88500 | 65400 |
| 30 | e163600 | 154000 | 140200 | 128800 | --- | 125800 | 157800 | 162800 | 139300 | e114700 | e87500 | 65200 |
| 31 | e163600 | --- | 140000 | 128200 | --- | 126100 | --- | 163000 | --- | e113900 | e86700 | --- |
| MAX | 163600 | 163400 | 154400 | 140000 | 127800 | 126100 | 157800 | 165100 | 162900 | 138800 | 112800 | 86300 |
| MIN | 144500 | 154000 | 140000 | 128200 | 118900 | 118900 | 127400 | 157800 | 139300 | 113900 | 86700 | 65200 |
| a | 4636.0 | 4629.6 | 4620.0 | 4611.8 | 4605.1 | 4610.3 | 4632.1 | 4635.6 | 4619.6 | 4601.5 | 4581.2 | 4563.7 |
| b | +19700 | -9600 | -14000 | -11800 | -9300 | +7200 | +31700 | +5200 | -23700 | -25400 | -27200 | -21500 |

CAL YR 1989 b +131180

WTR YR 1990 b -78700

e Estimated.

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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.--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).--30 years (water years 1961-90), 35.7 ft³/s, 25,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,210 ft³/s, July 10, 1974, gage height, 10.53 ft; minimum daily, 0.77 ft³/s, Dec. 1-4, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft³/s, Sept. 24, gage height, 3.70 ft; minimum daily, 4.4 ft³/s, Apr. 3-6, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1 | 11 | 6.8 | 8.3 | 8.5 | 9.1 | 5.2 | 4.6 | 4.6 | 4.6 | e9.5 | 16 | 18 |
| 2 | 5.8 | 6.8 | 8.3 | 8.4 | 9.1 | 5.1 | 4.6 | 4.6 | 4.8 | e13 | 18 | 18 |
| 3 | 5.8 | 6.8 | 8.3 | 8.3 | 8.8 | 5.2 | 4.4 | 7.4 | 4.8 | e15 | 19 | 17 |
| 4 | 5.8 | 6.8 | 8.3 | 8.3 | 9.3 | 5.3 | 4.4 | 6.6 | 4.7 | e16 | 19 | 17 |
| 5 | 5.8 | 6.8 | 8.3 | 8.3 | 9.2 | 5.2 | 4.4 | 4.6 | 4.6 | e16 | 19 | 17 |
| 6 | 5.8 | 6.8 | 8.3 | 8.3 | 9.3 | 5.2 | 4.4 | 4.6 | 4.6 | e16 | 19 | 17 |
| 7 | 5.8 | 6.8 | 8.3 | 8.4 | 9.1 | 5.2 | 4.5 | 4.9 | 4.6 | e16 | 19 | 17 |
| 8 | 5.9 | 6.8 | 8.3 | 8.3 | 9.2 | 5.2 | 4.4 | 4.9 | 4.6 | e16 | 19 | 17 |
| 9 | 6.1 | 6.8 | 8.3 | 8.2 | 6.8 | 5.2 | 4.5 | 4.9 | e4.6 | e16 | 19 | 17 |
| 10 | 6.1 | 6.8 | 8.3 | 7.9 | 4.9 | 5.3 | 4.6 | 4.9 | e4.6 | e16 | 19 | 17 |
| 11 | 6.1 | 6.8 | 8.3 | 7.5 | 4.9 | 5.3 | 4.6 | 4.9 | e4.6 | 16 | 19 | 17 |
| 12 | 6.1 | 6.8 | 8.3 | 7.9 | 4.9 | 5.2 | 4.6 | 4.9 | e4.6 | 16 | 19 | 18 |
| 13 | 6.1 | 6.8 | 8.3 | 8.4 | 4.9 | 5.2 | 4.6 | 4.9 | e4.6 | 16 | 19 | 18 |
| 14 | 6.1 | 6.8 | 8.3 | 8.5 | 4.9 | 5.2 | 4.6 | 4.9 | e4.6 | 16 | 19 | 18 |
| 15 | 6.3 | 6.8 | 8.3 | 8.3 | 4.9 | 5.2 | 4.6 | 4.6 | e5.2 | 16 | 18 | 19 |
| 16 | 6.4 | 6.8 | 8.3 | 8.1 | 5.9 | 5.2 | 4.7 | e4.6 | e10 | 16 | 18 | 19 |
| 17 | 6.4 | 5.9 | 8.3 | 7.9 | 4.9 | 5.2 | 4.6 | e4.6 | e10 | 16 | 18 | 19 |
| 18 | 6.4 | 6.6 | 8.3 | 7.9 | 4.8 | 4.9 | 4.6 | e4.6 | e10 | 16 | 18 | 18 |
| 19 | 6.4 | 8.3 | 8.3 | 7.9 | 4.9 | 4.9 | 4.6 | e4.6 | e10 | 16 | 19 | 18 |
| 20 | 6.4 | 8.3 | 8.3 | 7.9 | 4.9 | 4.9 | 4.6 | e4.6 | e10 | 16 | 19 | 18 |
| 21 | 6.5 | 8.3 | 8.3 | 7.9 | 4.6 | 4.9 | 4.6 | e4.6 | e9.5 | 16 | 18 | 18 |
| 22 | 6.4 | 8.3 | 8.3 | 7.9 | 4.8 | 4.9 | 4.6 | e4.6 | e9.5 | 16 | 18 | 18 |
| 23 | 7.1 | 8.3 | 8.3 | 7.3 | 4.9 | 4.9 | 4.9 | e4.6 | e9.5 | 16 | 18 | 18 |
| 24 | 7.9 | 8.4 | 8.3 | 8.1 | 4.9 | 4.9 | 4.7 | e4.6 | e9.5 | 16 | 18 | 18 |
| 25 | 7.2 | 9.1 | 8.3 | 8.7 | 4.9 | 4.9 | 4.6 | e4.6 | e9.5 | 16 | 18 | 18 |
| 26 | 6.8 | 9.2 | 8.3 | 8.7 | 4.9 | 4.8 | 4.6 | e4.9 | e9.5 | 16 | 18 | 18 |
| 27 | 6.8 | 8.5 | 8.3 | 8.7 | 4.9 | 4.6 | 4.6 | e4.9 | e9.5 | 16 | 18 | 18 |
| 28 | 6.8 | 8.3 | 8.3 | 8.7 | 5.2 | 4.6 | 4.6 | e4.9 | e9.5 | 16 | 18 | 18 |
| 29 | 6.8 | 8.3 | 8.3 | 8.3 | --- | 4.6 | 4.6 | e4.6 | e9.1 | 16 | 18 | 18 |
| 30 | 6.8 | 8.3 | 8.3 | 8.2 | --- | 4.6 | 4.6 | e4.6 | e9.5 | 16 | 18 | 18 |
| 31 | 6.8 | --- | 8.3 | 9.3 | --- | 4.6 | --- | e4.6 | --- | 16 | 18 | --- |
| TOTAL | 202.5 | 222.9 | 257.3 | 255.0 | 173.8 | 155.6 | 137.3 | 150.7 | 214.7 | 485.5 | 570 | 534 |
| MEAN | 6.53 | 7.43 | 8.30 | 8.23 | 6.21 | 5.02 | 4.58 | 4.86 | 7.16 | 15.7 | 18.4 | 17.8 |
| MAX | 11 | 9.2 | 8.3 | 9.3 | 9.3 | 5.3 | 4.9 | 7.4 | 10 | 16 | 19 | 19 |
| MIN | 5.8 | 5.9 | 8.3 | 7.3 | 4.6 | 4.6 | 4.4 | 4.6 | 4.6 | 9.5 | 16 | 17 |
| AC-FT | 402 | 442 | 510 | 506 | 345 | 309 | 272 | 299 | 426 | 963 | 1130 | 1060 |

CAL YR 1989 TOTAL 16477.8 MEAN 45.1 MAX 1000 MIN 4.2 AC-FT 32680
WTR YR 1990 TOTAL 3359.3 MEAN 9.20 MAX 19 MIN 4.4 AC-FT 6660

e Estimated.

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, 710 ft from left bank on upstream 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 mi².

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 2.39 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, 20,700 acre-ft, Oct. 1, June 28 to July 7, gage height, 4,654.1 ft; no usable contents Jan. 2-7.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by San Francisco Public Utilities Commission, dated May 1941)

| | | | | | | | |
|-------|----|-------|-----|-------|--------|-------|--------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 20700 | 7370 | 3050 | 27 | 1650 | 2400 | 2950 | 5440 | 15300 | 20700 | 19700 | 18300 |
| 2 | 19800 | 7150 | 2960 | e0 | 1650 | 2470 | 3050 | 5370 | 15700 | 20700 | 19700 | 18200 |
| 3 | 18800 | 6950 | 2920 | e0 | 1660 | 2720 | 3150 | 5370 | 16100 | 20700 | 19600 | 18200 |
| 4 | 17900 | 6740 | 2900 | e0 | 1680 | 2780 | 3210 | 5460 | 16500 | 20700 | 19600 | 18100 |
| 5 | 16900 | 6590 | 2880 | e0 | 1670 | 2720 | 3250 | 5670 | 16800 | 20700 | 19600 | 18100 |
| 6 | 16000 | 6440 | 2840 | e0 | 1670 | 2590 | 3260 | 5980 | 17100 | 20700 | 19500 | 18000 |
| 7 | 15100 | 6280 | 2750 | e0 | 1670 | 2500 | 3250 | 6280 | 17500 | 20700 | 19500 | 18000 |
| 8 | 14200 | 6100 | 2790 | 68 | 1650 | 2450 | 3230 | 6520 | 17800 | 20600 | 19400 | 17900 |
| 9 | 13400 | 5910 | 2930 | 838 | 1640 | 2440 | 3110 | 6700 | 18200 | 20600 | 19400 | 17900 |
| 10 | 12500 | 5690 | 3050 | 966 | 1640 | 2470 | 3090 | 6890 | 18400 | 20600 | 19300 | 17900 |
| 11 | 11600 | 5490 | 3140 | 1050 | 1700 | 2480 | 3140 | 7050 | 18700 | 20600 | 19300 | 17800 |
| 12 | 10700 | 5330 | 3220 | 1190 | 1750 | 2410 | 3190 | 7120 | 18900 | 20600 | 19200 | 17700 |
| 13 | 9810 | 5190 | 3290 | 1450 | 1770 | 2320 | 3290 | 7170 | 19100 | 20600 | 19200 | 17700 |
| 14 | 8900 | 5040 | 3340 | 1630 | 1750 | 2260 | 3450 | 7250 | 19300 | 20500 | 19100 | 17600 |
| 15 | 8420 | 4870 | 3100 | 1730 | 1720 | 2240 | 3530 | 7300 | 19400 | 20500 | 19100 | 17600 |
| 16 | 8430 | 4670 | 2760 | 1810 | 1730 | 2250 | 3670 | 7430 | 19600 | 20400 | 19000 | 17500 |
| 17 | 8430 | 4450 | 2690 | 1840 | 1720 | 2310 | 3570 | 7690 | 19700 | 20400 | 19000 | 17500 |
| 18 | 8030 | 4250 | 2720 | 1840 | 1720 | 2460 | 3330 | 7930 | 19900 | 20400 | 18900 | 17400 |
| 19 | 7170 | 4090 | 2490 | 1810 | 1720 | 2690 | 3290 | 8140 | 20000 | 20400 | 18800 | 17400 |
| 20 | 6290 | 3920 | 2230 | 1780 | 1710 | 2910 | 3460 | 8350 | 20100 | 20300 | 18800 | 17400 |
| 21 | 5480 | 3720 | 2030 | 1750 | 1690 | 3090 | 3680 | 8510 | 20200 | 20300 | 18800 | 17300 |
| 22 | 4910 | 3510 | 1880 | 1730 | 1680 | 3190 | 3670 | 8670 | 20300 | 20300 | 18700 | 17300 |
| 23 | 5240 | 3310 | 1760 | 1710 | 1700 | 3240 | 4500 | 8930 | 20400 | 20200 | 18700 | 17200 |
| 24 | 7770 | 3150 | 1660 | 1700 | 1750 | 3320 | 4860 | 9290 | 20500 | 20100 | 18600 | 17200 |
| 25 | 8330 | 3180 | 1570 | 1690 | 1820 | 3400 | 4910 | 9640 | 20600 | 20000 | 18500 | 17200 |
| 26 | 8370 | 3310 | 1500 | 1680 | 1930 | 3430 | 4910 | 9940 | 20600 | 20000 | 18500 | 17100 |
| 27 | 8270 | 3340 | 1440 | 1660 | 2100 | 3380 | 4980 | 10700 | 20600 | 20000 | 18500 | 17100 |
| 28 | 8120 | 3330 | 151 | 1640 | 2280 | 3240 | 5180 | 12300 | 20700 | 19900 | 18500 | 17100 |
| 29 | 7940 | 3280 | 937 | 1610 | --- | 3070 | 5420 | 13300 | 20700 | 19900 | 18400 | 17000 |
| 30 | 7760 | 3160 | 76 | 1610 | --- | 2960 | 5550 | 13900 | 20700 | 19800 | 18400 | 17000 |
| 31 | 7560 | --- | 36 | 1620 | --- | 2910 | --- | 14600 | --- | 19800 | 18300 | --- |
| MAX | 20700 | 7370 | 3340 | 1840 | 2280 | 3430 | 5550 | 14600 | 20700 | 20700 | 19700 | 18300 |
| MIN | 4910 | 3150 | 36 | 0 | 1640 | 2240 | 2950 | 5370 | 15300 | 19800 | 18300 | 17000 |
| a | 4638.3 | 4631.3 | 4619.9 | 4628.3 | 4629.7 | 4630.8 | 4635.4 | 4647.2 | 4654.1 | 4653.1 | 4651.5 | 4650.0 |
| b | -13640 | -4400 | -3124 | +1584 | +660 | +630 | +2640 | +9050 | +6100 | -900 | -1500 | -1300 |

CAL YR 1989 b -6894

WTR YR 1990 b -4200

e Estimated

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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 (station 11277200) 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 ft³/s, 161,400 acre-ft/yr; 31 years (water years 1960-90), 84.0 ft³/s, 60,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s, Nov. 19, 1950, gage height, 14.95 ft, from rating curve extended above 1,600 ft³/s on basis of slope-area measurements at gage heights 9.94 and 12.24 ft; no flow at times in 1910, 1930-31, 1933, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 225 ft³/s, Dec. 28, gage height, 3.52 ft; minimum daily, 4.6 ft³/s, Oct. 10, 11, 21, June 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| 1 | 7.5 | 5.7 | 7.2 | 75 | 8.2 | 10 | 6.3 | 7.2 | 6.1 | 13 | 15 | 16 |
| 2 | 5.4 | 5.6 | 7.2 | 68 | 8.7 | 10 | 5.9 | 7.2 | 4.6 | 17 | 15 | 16 |
| 3 | 5.2 | 5.6 | 7.2 | 59 | 9.4 | 10 | 5.9 | 7.6 | 5.8 | 15 | 15 | 16 |
| 4 | 5.0 | 6.0 | 7.2 | 51 | 9.2 | 10 | 5.9 | 7.6 | 5.9 | 15 | 15 | 16 |
| 5 | 4.8 | 6.3 | 7.2 | 47 | 8.1 | 11 | 5.9 | 7.6 | 5.7 | 15 | 15 | 16 |
| 6 | 4.8 | 6.3 | 7.2 | 44 | 8.1 | 11 | 6.0 | 7.2 | 5.9 | 15 | 15 | 16 |
| 7 | 4.9 | 6.3 | 6.7 | 44 | 8.1 | 11 | 6.3 | 7.2 | 5.9 | 15 | 15 | 16 |
| 8 | 4.9 | 6.3 | 6.7 | 24 | 8.3 | 11 | 6.3 | 7.2 | 5.9 | 15 | 15 | 16 |
| 9 | 4.7 | 6.3 | 6.7 | 7.2 | 8.8 | 11 | 6.3 | 7.2 | 5.3 | 15 | 15 | 16 |
| 10 | 4.6 | 6.3 | 6.7 | 6.5 | 8.9 | 11 | 6.1 | 7.2 | 5.2 | 15 | 15 | 16 |
| 11 | 4.6 | 6.1 | 6.7 | 7.2 | 8.5 | 11 | 5.9 | 7.2 | 5.2 | 15 | 15 | 16 |
| 12 | 5.0 | 5.9 | 6.7 | 7.5 | 8.8 | 11 | 5.9 | 7.2 | 5.2 | 15 | 15 | 15 |
| 13 | 5.2 | 5.9 | 6.7 | 8.3 | 9.4 | 11 | 6.3 | 7.2 | 5.2 | 15 | 15 | 15 |
| 14 | 5.2 | 5.9 | 6.7 | 8.5 | 9.4 | 9.6 | 6.3 | 7.2 | 6.1 | 15 | 15 | 15 |
| 15 | 5.2 | 5.9 | 6.7 | 8.5 | 9.4 | 9.4 | 6.3 | 7.2 | 7.2 | 15 | 15 | 15 |
| 16 | 5.2 | 6.1 | 6.7 | 8.5 | 9.5 | 9.4 | 6.4 | 7.2 | 7.2 | 15 | 15 | 15 |
| 17 | 5.2 | 6.3 | 6.7 | 8.5 | 8.7 | 9.4 | 6.7 | 7.2 | 7.2 | 15 | 15 | 15 |
| 18 | 5.2 | 6.3 | 6.7 | 8.5 | 9.4 | 9.4 | 6.7 | 7.2 | 7.2 | 15 | 15 | 15 |
| 19 | 4.9 | 6.3 | 6.7 | 8.5 | 9.8 | 9.4 | 6.7 | 7.2 | 7.2 | 15 | 15 | 16 |
| 20 | 4.9 | 6.3 | 6.7 | 8.5 | 10 | 8.7 | 6.7 | 7.2 | 7.2 | 15 | 15 | 16 |
| 21 | 4.6 | 6.3 | 6.4 | 8.5 | 9.7 | 8.1 | 6.7 | 7.2 | 7.2 | 15 | 15 | 16 |
| 22 | 4.9 | 6.1 | 6.6 | 8.5 | 8.2 | 8.1 | 6.7 | 7.2 | 7.2 | 15 | 15 | 16 |
| 23 | 5.3 | 5.9 | 6.7 | 8.5 | 8.7 | 8.1 | 7.4 | 7.6 | 7.2 | 15 | 15 | 16 |
| 24 | 7.4 | 5.7 | 6.7 | 8.5 | 9.4 | 8.4 | 7.6 | 7.6 | 7.2 | 15 | 15 | 16 |
| 25 | 6.7 | 7.0 | 6.7 | 8.5 | 9.5 | 8.6 | 7.6 | 7.6 | 7.2 | 15 | 16 | 16 |
| 26 | 6.3 | 8.3 | 6.7 | 8.5 | 9.6 | 7.8 | 7.6 | 7.6 | 7.2 | 15 | 16 | 16 |
| 27 | 6.0 | 8.1 | 6.7 | 8.5 | 11 | 6.3 | 7.6 | 7.7 | 7.2 | 15 | 16 | 16 |
| 28 | 5.9 | 8.1 | 111 | 8.5 | 10 | 6.3 | 7.6 | 8.5 | 7.2 | 15 | 16 | 16 |
| 29 | 5.9 | 7.6 | 104 | 8.5 | --- | 6.3 | 8.1 | 8.5 | 7.2 | 15 | 16 | 16 |
| 30 | 5.9 | 7.2 | 84 | 8.5 | --- | 6.3 | 7.4 | 8.5 | 7.2 | 15 | 16 | 16 |
| 31 | 5.9 | --- | 99 | 8.3 | --- | 6.3 | --- | 8.5 | --- | 15 | 16 | --- |
| TOTAL | 167.2 | 192.0 | 581.5 | 601.5 | 254.8 | 284.9 | 199.1 | 231.7 | 193.2 | 465 | 472 | 473 |
| MEAN | 5.39 | 6.40 | 18.8 | 19.4 | 9.10 | 9.19 | 6.64 | 7.47 | 6.44 | 15.0 | 15.2 | 15.8 |
| MAX | 7.5 | 8.3 | 111 | 75 | 11 | 11 | 8.1 | 8.5 | 7.2 | 17 | 16 | 16 |
| MIN | 4.6 | 5.6 | 6.4 | 6.5 | 8.1 | 6.3 | 5.9 | 7.2 | 4.6 | 13 | 15 | 15 |
| AC-FT | 332 | 381 | 1150 | 1190 | 505 | 565 | 395 | 460 | 383 | 922 | 936 | 938 |

CAL YR 1989 TOTAL 6603.9 MEAN 18.1 MAX 225 MIN 4.6 AC-FT 13100
WTR YR 1990 TOTAL 4115.9 MEAN 11.3 MAX 111 MIN 4.6 AC-FT 8160

SAN JOAQUIN RIVER BASIN

11278200 CHERRY CREEK CANAL NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'36", long 119°57'17", in SW 1/4 SW 1/4 sec.36, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1.3 mi northeast of Early Intake and 10 mi southwest of Hetch Hetchy Reservoir.

PERIOD OF RECORD.--April 1956 to May 1971, July 1987 to current year.

GAGE.--Water-stage recorder and concrete canal. Elevation of gage is 2,700 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from left bank of Cherry Creek in NW 1/4 SW 1/4 sec.31, T.1 N., R.19 E., to supplement Tuolumne River flows exported to city of San Francisco via the Hetch Hetchy Aqueduct. No diversions for export have been made since September 1988. Canal was originally constructed in 1915 to provide flow for domestic use and power development at Early Intake powerplant during initial construction of Hetch Hetchy project facilities.

AVERAGE DISCHARGE.--17 years (water years 1957-70, 1988-90), 48.0 ft³/s, 34,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 194 ft³/s, July 30, 1959; no flow at times in 1964, 1969, 1971, 1988-90.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 |
| 24 | .10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 25 | .01 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .00 | --- | .00 | .00 | --- |
| TOTAL | 0.15 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| MEAN | .005 | .001 | .000 | .001 | .000 | .000 | .000 | .002 | .000 | .000 | .000 | .000 |
| MAX | .10 | .02 | .00 | .03 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
| MIN | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | .3 | .08 | .00 | .08 | .00 | .00 | .00 | .1 | .00 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 2.16 MEAN .006 MAX .35 MIN .00 AC-FT 4.3
WTR YR 1990 TOTAL 0.28 MEAN .001 MAX .10 MIN .00 AC-FT .6

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 mi².

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).--30 years (water years 1961-90), 138 ft³/s, 99,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s, Feb. 1, 1963, gage height, 14.50 ft, from rating curve extended above 4,600 ft³/s; minimum daily, 0.30 ft³/s, Apr. 5, 6, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 230 ft³/s, Dec. 30, gage height, 4.73 ft; minimum daily, 11 ft³/s, several days during October and June.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 25 | 14 | 17 | 96 | 23 | 35 | 22 | 17 | 19 | 15 | 29 | 32 |
| 2 | 15 | 13 | 17 | 85 | 21 | 35 | 21 | 17 | 15 | 31 | 29 | 32 |
| 3 | 12 | 13 | 17 | 71 | 20 | 50 | 21 | 16 | 14 | 30 | 32 | 32 |
| 4 | 11 | 13 | 17 | 61 | 24 | 57 | 20 | 19 | 14 | 30 | 33 | 31 |
| 5 | 11 | 14 | 17 | 56 | 22 | 53 | 20 | 16 | 14 | 30 | 32 | 31 |
| 6 | 11 | 14 | 17 | 52 | 23 | 47 | 19 | 15 | 13 | 30 | 32 | 31 |
| 7 | 11 | 14 | 17 | 50 | 22 | 43 | 19 | 15 | 13 | 30 | 32 | 31 |
| 8 | 11 | 14 | 17 | 51 | 22 | 41 | 23 | 15 | 13 | 30 | 32 | 31 |
| 9 | 11 | 14 | 16 | 19 | 21 | 40 | 22 | 15 | 12 | 30 | 32 | 31 |
| 10 | 11 | 14 | 16 | 16 | 18 | 39 | 20 | 14 | 12 | 30 | 32 | 31 |
| 11 | 11 | 14 | 16 | 16 | 18 | 45 | 19 | 14 | 12 | 30 | 32 | 31 |
| 12 | 11 | 13 | 16 | 17 | 19 | 40 | 19 | 14 | 12 | 30 | 32 | 31 |
| 13 | 11 | 13 | 16 | 29 | 19 | 36 | 18 | 14 | 11 | 30 | 32 | 32 |
| 14 | 11 | 13 | 16 | 33 | 19 | 36 | 18 | 14 | 11 | 30 | 32 | 31 |
| 15 | 11 | 13 | 16 | 27 | 17 | 37 | 18 | 14 | 16 | 30 | 32 | 32 |
| 16 | 11 | 13 | 16 | 25 | 20 | 41 | 17 | 14 | 19 | 30 | 32 | 32 |
| 17 | 11 | 14 | 16 | 23 | 21 | 43 | 18 | 14 | 18 | 30 | 32 | 32 |
| 18 | 12 | 13 | 16 | 21 | 20 | 43 | 18 | 14 | 17 | 30 | 32 | 32 |
| 19 | 12 | 14 | 16 | 20 | 18 | 40 | 18 | 14 | 17 | 30 | 32 | 32 |
| 20 | 11 | 15 | 16 | 20 | 19 | 39 | 18 | 14 | 17 | 30 | 32 | 32 |
| 21 | 12 | 15 | 16 | 19 | 19 | 36 | 18 | 13 | 16 | 30 | 32 | 31 |
| 22 | 13 | 15 | 16 | 19 | 20 | 34 | 18 | 13 | 16 | 30 | 32 | 32 |
| 23 | 15 | 15 | 16 | 19 | 23 | 32 | 23 | 16 | 16 | 29 | 32 | 32 |
| 24 | 39 | 17 | 16 | 18 | 25 | 31 | 29 | 20 | 16 | 29 | 32 | 32 |
| 25 | 32 | 17 | 16 | 18 | 27 | 29 | 25 | 15 | 16 | 29 | 32 | 33 |
| 26 | 18 | 36 | 16 | 19 | 28 | 28 | 22 | 15 | 16 | 29 | 32 | 32 |
| 27 | 15 | 22 | 16 | 19 | 33 | 26 | 20 | 17 | 16 | 29 | 32 | 32 |
| 28 | 15 | 19 | 71 | 19 | 36 | 26 | 19 | 31 | 15 | 29 | 32 | 32 |
| 29 | 14 | 19 | 179 | 19 | --- | 25 | 18 | 23 | 15 | 30 | 32 | 32 |
| 30 | 14 | 18 | 66 | 20 | --- | 24 | 18 | 20 | 15 | 29 | 32 | 32 |
| 31 | 14 | --- | 122 | 21 | --- | 23 | --- | 20 | --- | 29 | 32 | --- |
| TOTAL | 442 | 465 | 878 | 998 | 617 | 1154 | 598 | 502 | 446 | 908 | 987 | 950 |
| MEAN | 14.3 | 15.5 | 28.3 | 32.2 | 22.0 | 37.2 | 19.9 | 16.2 | 14.9 | 29.3 | 31.8 | 31.7 |
| MAX | 39 | 36 | 179 | 96 | 36 | 57 | 29 | 31 | 19 | 31 | 33 | 33 |
| MIN | 11 | 13 | 16 | 16 | 17 | 23 | 17 | 13 | 11 | 15 | 29 | 31 |
| AC-FT | 877 | 922 | 1740 | 1980 | 1220 | 2290 | 1190 | 996 | 885 | 1800 | 1960 | 1880 |

CAL YR 1989 TOTAL 27305 MEAN 74.8 MAX 1010 MIN 11 AC-FT 54160
WTR YR 1990 TOTAL 8945 MEAN 24.5 MAX 179 MIN 11 AC-FT 17740

SAN JOAQUIN RIVER BASIN

11278400 CHERRY CREEK BELOW DION R. HOLM POWERPLANT, 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 powerplant, 0.8 mi northwest of Early Intake, and 6.2 mi west of Mather.

DRAINAGE AREA.--234 mi².

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. Datum of gage is 2,133.50 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) 11 mi upstream and Lake Eleanor (station 11277500) 10 mi upstream. Flow diverted, at times, into Cherry Creek Canal (station 11278200) 2 mi upstream from station for domestic use and to supplement flow to Hetch Hetchy aqueduct. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--27 years, 665 ft³/s, 481,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s, Apr. 11, 1982, gage height, 15.36 ft, from rating curve extended above 4,400 ft³/s on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm powerplant; minimum daily, 1.6 ft³/s, June 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 962 ft³/s, Dec. 28, gage height, 8.28 ft; minimum daily, 30 ft³/s, Dec. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 249 | 544 | 511 | 187 | 502 | 577 | 282 | 654 | 707 | 262 | 481 | 258 |
| 2 | 490 | 544 | 187 | 509 | 436 | 578 | 739 | 661 | 594 | 519 | 515 | 90 |
| 3 | 457 | 539 | 30 | 384 | 287 | 360 | 760 | 661 | 449 | 523 | 508 | 105 |
| 4 | 433 | 205 | 513 | 358 | 305 | 72 | 767 | 677 | 727 | 212 | 405 | 464 |
| 5 | 396 | 157 | 493 | 362 | 421 | 480 | 772 | 651 | 723 | 517 | 298 | 474 |
| 6 | 398 | 511 | 513 | 295 | 490 | 472 | 801 | 333 | 719 | 513 | 567 | 488 |
| 7 | 208 | 556 | 491 | 83 | 476 | 640 | 584 | 700 | 748 | 309 | 603 | 484 |
| 8 | 294 | 546 | 517 | 491 | 375 | 643 | 519 | 632 | 748 | 190 | 559 | 239 |
| 9 | 508 | 545 | 202 | 487 | 416 | 580 | 744 | 654 | 530 | 545 | 554 | 46 |
| 10 | 503 | 553 | 120 | 476 | 302 | 362 | 757 | 706 | 165 | 569 | 551 | 448 |
| 11 | 410 | 240 | 468 | 474 | 277 | 244 | 764 | 675 | 514 | 576 | 422 | 486 |
| 12 | 459 | 213 | 464 | 476 | 528 | 419 | 743 | 567 | 571 | 590 | 313 | 529 |
| 13 | 423 | 504 | 478 | 247 | 537 | 405 | 732 | 350 | 909 | 577 | 544 | 532 |
| 14 | 242 | 559 | 525 | 104 | 412 | 479 | 643 | 722 | 910 | 389 | 503 | 528 |
| 15 | 219 | 561 | 545 | 361 | 393 | 523 | 517 | 710 | 916 | 181 | 539 | 295 |
| 16 | 457 | 574 | 262 | 500 | 512 | 595 | 688 | 714 | 921 | 557 | 540 | 242 |
| 17 | 390 | 549 | 162 | 427 | 314 | 536 | 725 | 714 | 722 | 578 | 527 | 489 |
| 18 | 350 | 211 | 477 | 407 | 176 | 365 | 738 | 738 | 920 | 563 | 301 | 518 |
| 19 | 429 | 234 | 450 | 392 | 307 | 831 | 748 | 643 | 924 | 561 | 180 | 545 |
| 20 | 435 | 513 | 467 | 243 | 434 | 845 | 719 | 326 | 922 | 553 | 526 | 582 |
| 21 | 109 | 572 | 492 | 143 | 531 | 812 | 645 | 708 | 923 | 386 | 498 | 584 |
| 22 | 150 | 598 | 481 | 438 | 386 | 807 | 490 | 730 | 925 | 163 | 500 | 278 |
| 23 | 407 | 398 | 296 | 457 | 417 | 813 | 715 | 745 | 922 | 517 | 527 | 199 |
| 24 | 414 | 503 | 166 | 524 | 299 | 504 | 717 | 750 | 278 | 564 | 536 | 508 |
| 25 | 409 | 298 | 291 | 518 | 305 | 494 | 762 | 738 | 571 | 585 | 382 | 548 |
| 26 | 383 | 280 | 543 | 509 | 537 | 774 | 725 | 621 | 546 | 612 | 284 | 559 |
| 27 | 370 | 519 | 539 | 349 | 558 | 770 | 715 | 431 | 517 | 625 | 540 | 531 |
| 28 | 132 | 438 | 544 | 259 | 563 | 771 | 477 | 470 | 546 | 379 | 518 | 605 |
| 29 | 43 | 478 | 666 | 485 | --- | 767 | 431 | 755 | 546 | 298 | 515 | 428 |
| 30 | 386 | 700 | 374 | 505 | --- | 776 | 658 | 697 | 328 | 549 | 527 | 105 |
| 31 | 405 | --- | 220 | 503 | --- | 642 | --- | 676 | --- | 532 | 526 | --- |
| TOTAL | 10958 | 13642 | 12487 | 11953 | 11496 | 17936 | 20077 | 19809 | 20441 | 14494 | 14789 | 12187 |
| MEAN | 353 | 455 | 403 | 386 | 411 | 579 | 669 | 639 | 681 | 468 | 477 | 406 |
| MAX | 508 | 700 | 666 | 524 | 563 | 845 | 801 | 755 | 925 | 625 | 603 | 605 |
| MIN | 43 | 157 | 30 | 83 | 176 | 72 | 282 | 326 | 165 | 163 | 180 | 46 |
| AC-FT | 21740 | 27060 | 24770 | 23710 | 22800 | 35580 | 39820 | 39290 | 40540 | 28750 | 29330 | 24170 |

CAL YR 1989 TOTAL 152925 MEAN 419 MAX 1790 MIN 14 AC-FT 303300
WTR YR 1990 TOTAL 180269 MEAN 494 MAX 925 MIN 30 AC-FT 357600

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 mi².

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.--Records good. No diversion upstream from station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi upstream. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--67 years, 95.7 ft³/s, 69,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s, Dec. 23, 1955, gage height, 11.9 ft, from floodmarks, present datum, from rating curve extended above 3,300 ft³/s on basis of slope-area measurements at gage heights 9.08 and 11.9 ft; minimum, 0.3 ft³/s, Aug 23, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Oct. 24 | 1227 | *338 | *4.87 | | | | |

Minimum daily, 2.9 ft³/s, Sept. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 12 | 18 | 20 | 13 | 22 | 70 | 101 | 93 | 62 | 12 | 4.7 | e3.5 |
| 2 | 9.0 | 17 | 17 | 13 | 22 | 71 | 112 | 91 | 50 | 12 | 4.6 | e3.5 |
| 3 | 7.9 | 16 | 17 | 13 | 22 | 105 | 115 | 93 | 44 | 12 | 4.5 | e3.4 |
| 4 | 7.3 | 16 | 17 | 12 | 24 | 103 | 115 | 94 | 38 | 12 | 4.4 | e3.3 |
| 5 | 7.1 | 16 | 17 | 12 | 23 | 89 | 113 | 96 | 34 | 12 | 4.3 | e3.2 |
| 6 | 6.6 | 16 | 18 | 12 | 23 | 76 | 110 | 94 | 32 | 11 | 4.3 | e3.3 |
| 7 | 6.4 | 15 | 18 | 13 | 23 | 71 | 121 | 85 | 30 | 6.3 | 4.3 | e3.4 |
| 8 | 6.3 | 14 | 17 | 13 | 21 | 71 | 114 | 74 | 28 | 8.3 | 4.4 | e3.3 |
| 9 | 6.1 | 13 | 17 | 14 | 21 | 73 | 104 | 68 | 26 | 9.6 | 4.3 | e3.4 |
| 10 | 6.1 | 13 | 16 | 18 | 21 | 80 | 109 | 61 | 26 | 9.2 | 4.3 | e3.4 |
| 11 | 6.4 | 13 | 14 | 16 | 22 | 82 | 125 | 58 | 25 | 9.4 | 4.2 | e3.2 |
| 12 | 6.2 | 13 | 14 | 16 | 23 | 68 | 132 | 54 | 25 | 9.7 | 4.3 | e3.0 |
| 13 | 6.1 | 13 | 15 | 51 | 25 | 59 | 141 | 51 | 24 | 8.9 | 4.2 | e2.9 |
| 14 | 6.0 | 12 | 14 | 89 | 24 | 61 | 162 | 49 | 23 | 8.2 | 4.0 | e2.9 |
| 15 | 6.0 | 12 | 14 | 51 | 24 | 62 | 155 | 46 | 22 | 7.6 | 3.8 | e2.9 |
| 16 | 6.0 | 11 | 14 | 40 | 23 | 69 | 162 | 44 | 19 | 7.3 | 3.8 | e3.0 |
| 17 | 6.0 | 11 | 13 | 30 | 24 | 74 | 119 | 41 | 20 | 7.1 | 3.9 | e3.0 |
| 18 | 6.0 | 11 | 13 | 28 | 23 | 85 | 102 | 38 | 20 | 6.9 | 4.0 | e3.1 |
| 19 | 5.8 | 11 | 13 | 27 | 24 | 94 | 107 | 36 | 20 | 6.7 | 4.2 | e3.2 |
| 20 | 5.7 | 11 | 13 | 26 | 24 | 99 | 119 | 35 | 19 | 6.5 | 4.3 | e3.3 |
| 21 | 6.2 | 10 | 14 | 24 | 24 | 112 | 136 | 33 | 19 | 6.3 | 4.3 | e3.5 |
| 22 | 6.4 | 10 | 13 | 24 | 25 | 117 | 119 | 32 | 19 | 6.2 | 4.2 | e3.7 |
| 23 | 22 | 10 | 13 | 23 | 26 | 112 | 158 | 40 | 12 | 6.1 | 4.0 | e3.9 |
| 24 | 210 | 12 | 13 | 22 | 29 | 120 | 162 | 53 | 12 | 6.1 | 3.9 | e4.5 |
| 25 | 118 | 18 | 13 | 22 | 40 | 126 | 136 | 51 | 12 | 6.1 | 3.8 | e5.9 |
| 26 | 48 | 78 | 13 | 21 | 49 | 121 | 140 | 44 | 13 | 6.1 | 3.8 | e5.3 |
| 27 | 34 | 33 | 13 | 21 | 60 | 121 | 150 | 46 | 13 | 4.2 | 3.9 | e5.0 |
| 28 | 27 | 28 | 12 | 20 | 68 | 109 | 151 | 121 | 13 | 4.1 | e4.0 | e5.2 |
| 29 | 35 | 26 | 11 | 20 | --- | 95 | 139 | 93 | 13 | 5.3 | e3.7 | e5.7 |
| 30 | 34 | 24 | 10 | 21 | --- | 93 | 108 | 68 | 13 | 5.0 | e3.6 | e4.9 |
| 31 | 18 | --- | 12 | 21 | --- | 92 | --- | 61 | --- | 4.8 | e3.6 | --- |
| TOTAL | 693.6 | 521 | 448 | 746 | 779 | 2780 | 3837 | 1943 | 726 | 243.0 | 127.6 | 111.8 |
| MEAN | 22.4 | 17.4 | 14.5 | 24.1 | 27.8 | 89.7 | 128 | 62.7 | 24.2 | 7.84 | 4.12 | 3.73 |
| MAX | 210 | 78 | 20 | 89 | 68 | 126 | 162 | 121 | 62 | 12 | 4.7 | 5.9 |
| MIN | 5.7 | 10 | 10 | 12 | 21 | 59 | 101 | 32 | 12 | 4.1 | 3.6 | 2.9 |
| AC-FT | 1380 | 1030 | 889 | 1480 | 1550 | 5510 | 7610 | 3850 | 1440 | 482 | 253 | 222 |

CAL YR 1989 TOTAL 17618.3 MEAN 48.3 MAX 373 MIN 1.8 AC-FT 34950
WTR YR 1990 TOTAL 12956.0 MEAN 35.5 MAX 210 MIN 2.9 AC-FT 25700

e Estimated.

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 mi².

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.--Records good except those for summer months, which are poor. No regulation but small diversion upstream from station for irrigation. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--74 years, 76.9 ft³/s, 55,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft³/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 ft³/s on basis of slope-area measurement of peak flow; no flow at times in 1924, 1931, 1934, 1961, 1977, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 28 | 0345 | *270 | *3.74 | | | | |
| Minimum daily, 0.04 ft ³ /s, Sept. 13-17. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|------|
| 1 | 8.4 | 7.5 | 7.1 | 5.3 | e8.3 | 27 | 51 | 122 | 73 | 7.9 | e2.1 | e.35 |
| 2 | 5.5 | 7.2 | 6.9 | 6.1 | e8.6 | 29 | 60 | 122 | 58 | 7.5 | e2.0 | e.34 |
| 3 | 4.2 | 6.8 | 7.0 | 5.1 | e8.6 | 44 | 61 | 129 | 50 | 7.1 | e1.9 | e.30 |
| 4 | 3.4 | 6.7 | 7.0 | 4.8 | e8.7 | 42 | 65 | 138 | 44 | 6.6 | e1.8 | e.25 |
| 5 | 2.8 | 6.9 | 7.1 | 5.8 | e9.0 | 40 | 67 | 148 | 39 | 6.4 | e2.1 | e.21 |
| 6 | 2.3 | 6.8 | 7.1 | 5.7 | e9.5 | 34 | 70 | 152 | 36 | 6.2 | e1.9 | e.17 |
| 7 | 2.0 | 7.0 | 7.0 | 5.9 | e9.6 | 32 | 74 | 135 | 34 | 5.9 | e1.5 | e.14 |
| 8 | 1.7 | 6.5 | 7.1 | 6.6 | e9.3 | 32 | 76 | 119 | 32 | e5.8 | e1.6 | e.12 |
| 9 | 1.6 | 6.0 | 6.8 | 7.1 | e9.0 | 32 | 68 | 109 | 28 | e5.4 | e1.3 | e.10 |
| 10 | 1.6 | 5.9 | 6.2 | 6.8 | e9.2 | 35 | 72 | 105 | 30 | e4.9 | e1.2 | e.07 |
| 11 | 1.6 | 5.8 | 5.7 | 6.8 | e9.4 | 36 | 87 | 91 | 29 | e5.1 | e1.1 | e.06 |
| 12 | 1.5 | 5.9 | 6.0 | 7.4 | e10 | 30 | 98 | 85 | 25 | e4.9 | e1.0 | e.05 |
| 13 | 1.4 | 6.1 | 6.3 | 24 | e10 | 26 | 111 | 80 | 23 | e4.6 | e.89 | e.04 |
| 14 | 1.4 | 6.2 | 5.6 | 34 | e11 | 26 | 140 | 76 | 22 | e4.4 | e.83 | e.04 |
| 15 | 1.5 | 5.6 | 6.3 | 19 | e10 | 26 | 147 | 68 | 26 | e4.6 | e.77 | e.04 |
| 16 | 1.4 | 5.1 | 6.0 | 15 | e10 | 27 | 168 | 63 | 35 | e4.5 | e.74 | e.04 |
| 17 | 1.3 | 5.5 | 5.4 | 11 | e10 | 29 | 112 | 59 | 29 | e4.2 | e.67 | e.04 |
| 18 | 1.4 | 5.1 | 5.3 | 10 | e10 | 31 | 92 | 55 | 24 | e3.9 | e.68 | e.05 |
| 19 | 1.4 | 4.9 | 5.3 | e9.5 | e10 | 35 | 110 | 52 | 21 | e3.7 | e.69 | e.05 |
| 20 | 1.3 | 4.6 | 5.4 | e9.0 | 10 | 36 | 132 | 48 | 19 | e3.6 | e.70 | e.05 |
| 21 | 1.4 | 4.5 | 5.9 | e8.8 | 11 | 40 | 166 | 46 | 17 | e3.5 | e.63 | e.05 |
| 22 | 1.9 | 4.3 | 5.4 | e8.6 | 12 | 43 | 132 | 44 | 15 | e3.2 | e.58 | e.05 |
| 23 | 5.2 | 4.3 | 5.6 | e8.6 | 14 | 44 | 175 | 49 | 14 | e3.1 | e.56 | e.15 |
| 24 | 78 | 4.7 | 5.7 | e8.3 | 15 | 51 | 184 | 64 | 13 | e3.0 | e.54 | e.54 |
| 25 | 68 | 10 | 5.4 | e8.3 | 17 | 59 | 147 | 75 | 12 | e2.9 | e.53 | e.69 |
| 26 | 25 | 33 | 5.6 | e8.0 | 19 | 62 | 168 | 59 | 11 | e2.8 | e.52 | e.81 |
| 27 | 16 | 11 | 5.6 | e7.9 | 24 | 62 | 194 | 60 | 10 | e2.7 | e.52 | e.82 |
| 28 | 13 | 7.8 | 4.9 | e7.7 | 26 | 59 | 206 | 114 | 9.8 | e2.6 | e.49 | e.73 |
| 29 | 11 | 8.0 | 5.6 | e7.8 | --- | 50 | 199 | 103 | 9.0 | e2.5 | e.44 | e.66 |
| 30 | 8.9 | 7.9 | 4.6 | e7.9 | --- | 47 | 147 | 77 | 8.4 | e2.3 | e.40 | e.61 |
| 31 | 8.3 | --- | 5.6 | e8.2 | --- | 47 | --- | 73 | --- | e2.2 | e.37 | --- |
| TOTAL | 284.4 | 217.6 | 186.5 | 295.0 | 328.2 | 1213 | 3579 | 2720 | 796.2 | 138.0 | 31.05 | 7.62 |
| MEAN | 9.17 | 7.25 | 6.02 | 9.52 | 11.7 | 39.1 | 119 | 87.7 | 26.5 | 4.45 | 1.00 | .25 |
| MAX | 78 | 33 | 7.1 | 34 | 26 | 62 | 206 | 152 | 73 | 7.9 | 2.1 | .82 |
| MIN | 1.3 | 4.3 | 4.6 | 4.8 | 8.3 | 26 | 51 | 44 | 8.4 | 2.2 | .37 | .04 |
| AC-FT | 564 | 432 | 370 | 585 | 651 | 2410 | 7100 | 5400 | 1580 | 274 | 62 | 15 |

CAL YR 1989 TOTAL 16096.18 MEAN 44.1 MAX 321 MIN .08 AC-FT 31930
WTR YR 1990 TOTAL 9796.57 MEAN 26.8 MAX 206 MIN .04 AC-FT 19430

e Estimated.

SAN JOAQUIN RIVER BASIN

289

11283250 CLAVEY RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°04'36", long 120°00'37", in NW 1/4 NW 1/4 sec.33, T.3 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 10 ft upstream from Forest Service road bridge, 0.4 mi downstream from Trout Creek, and 7.0 mi east of town of Long Barn.

DRAINAGE AREA.--48.9 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 5,160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for periods of estimated discharge, which are fair. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft³/s, Mar. 8, 1989, gage height, 6.97 ft; minimum daily, 0.07 ft³/s, Sept. 9, 15-19, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| Oct. 24 | 0330 | *1,010 | *5.06 | Apr. 23 | 1745 | 459 | 3.50 |
| Apr. 14 | 0100 | 419 | 3.36 | May 28 | 0400 | 389 | 3.24 |

Minimum daily, 0.19 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|------|------|------|------|-------|------|--------|-------|-------|-------|
| 1 | 20 | 38 | e23 | e11 | 24 | e68 | 185 | 117 | 92 | 7.6 | 1.2 | .49 |
| 2 | 13 | 34 | e22 | e12 | e22 | 73 | 199 | 124 | 93 | 7.1 | 1.2 | .48 |
| 3 | 9.3 | 32 | e23 | e11 | e21 | e84 | 223 | 133 | 84 | 6.6 | 1.2 | .48 |
| 4 | 7.1 | 31 | e24 | e11 | 23 | e78 | 233 | 139 | e67 | 6.3 | 1.1 | .44 |
| 5 | 5.8 | 35 | e26 | e10 | e22 | e74 | 202 | 146 | 65 | 5.8 | .95 | .38 |
| 6 | 4.9 | 32 | e28 | e10 | 25 | 72 | 220 | 144 | e58 | 5.3 | .94 | .30 |
| 7 | 4.2 | 28 | 31 | e11 | e22 | 78 | 214 | 125 | 52 | 5.2 | .92 | .29 |
| 8 | 3.6 | 24 | 29 | e13 | e19 | 86 | 212 | 113 | 48 | 5.1 | 1.3 | .31 |
| 9 | 3.2 | 21 | 26 | e16 | e22 | 96 | 169 | 105 | e45 | 4.4 | 1.1 | .32 |
| 10 | 2.9 | 20 | 24 | e15 | e22 | 102 | 193 | 104 | e39 | 4.6 | 1.0 | .28 |
| 11 | 2.6 | 21 | 22 | e18 | e29 | 79 | 229 | 78 | e35 | 5.8 | 1.0 | .24 |
| 12 | 2.3 | 21 | 22 | e20 | e28 | 66 | 236 | 72 | 30 | 4.5 | .94 | .20 |
| 13 | 2.3 | 20 | 22 | e19 | e27 | 63 | 267 | 73 | 27 | 3.9 | .79 | .22 |
| 14 | 2.1 | 18 | 21 | e19 | e25 | 59 | 302 | 70 | 25 | 3.6 | .73 | .19 |
| 15 | 2.1 | 16 | 21 | e18 | e24 | 62 | 291 | 61 | e25 | 3.1 | .70 | .21 |
| 16 | 2.1 | 14 | e19 | e20 | e23 | 80 | 273 | 58 | e24 | 11 | .66 | .21 |
| 17 | 2.0 | 13 | e18 | e21 | e25 | 97 | 171 | 58 | 22 | 6.7 | .67 | .23 |
| 18 | 1.8 | 13 | e17 | e20 | e24 | 130 | 150 | 50 | 20 | 4.6 | .67 | .22 |
| 19 | 1.7 | 12 | e16 | e20 | e23 | 152 | 179 | 47 | 18 | 3.7 | .75 | .21 |
| 20 | 1.7 | 12 | e15 | e19 | e22 | 169 | 191 | 40 | e17 | 3.1 | .82 | .27 |
| 21 | 3.4 | 11 | e14 | e20 | e25 | 192 | 199 | 37 | 15 | 2.8 | 1.1 | .48 |
| 22 | 43 | 10 | e15 | e21 | 28 | 187 | 161 | 36 | 14 | 2.4 | .95 | .28 |
| 23 | 216 | 10 | e14 | e20 | 32 | 193 | 331 | 54 | 14 | 2.2 | .78 | 1.6 |
| 24 | 534 | 13 | e14 | e20 | 38 | 212 | 246 | 78 | e13 | 2.0 | .70 | 2.0 |
| 25 | 143 | 21 | e14 | e22 | 46 | 232 | 205 | 101 | e12 | 1.9 | .67 | 1.2 |
| 26 | 84 | 22 | e14 | e21 | 47 | 214 | 216 | 84 | 11 | 1.8 | .67 | .94 |
| 27 | 70 | 29 | e14 | e20 | 61 | 200 | 229 | 141 | e10 | 1.7 | .61 | .91 |
| 28 | 64 | 31 | e14 | e19 | e70 | 183 | 231 | 298 | 9.7 | 1.6 | .59 | .96 |
| 29 | 52 | 28 | 14 | e21 | --- | 155 | 200 | 174 | 9.3 | 1.5 | .56 | .79 |
| 30 | 46 | e25 | e13 | 23 | --- | 151 | 142 | 123 | 8.4 | 1.3 | .52 | .73 |
| 31 | 41 | --- | e12 | 25 | --- | 162 | --- | 148 | --- | 1.3 | .50 | --- |
| TOTAL | 1391.1 | 655 | 601 | 546 | 819 | 3849 | 6499 | 3131 | 1002.4 | 128.5 | 26.29 | 15.86 |
| MEAN | 44.9 | 21.8 | 19.4 | 17.6 | 29.2 | 124 | 217 | 101 | 33.4 | 4.15 | .85 | .53 |
| MAX | 534 | 38 | 31 | 25 | 70 | 232 | 331 | 298 | 93 | 11 | 1.3 | 2.0 |
| MIN | 1.7 | 10 | 12 | 10 | 19 | 59 | 142 | 36 | 8.4 | 1.3 | .50 | .19 |
| AC-FT | 2760 | 1300 | 1190 | 1080 | 1620 | 7630 | 12890 | 6210 | 1990 | 255 | 52 | 31 |

CAL YR 1989 TOTAL 34968.60 MEAN 95.8 MAX 1470 MIN .19 AC-FT 69360
WTR YR 1990 TOTAL 18664.15 MEAN 51.1 MAX 534 MIN .19 AC-FT 37020

e Estimated.

SAN JOAQUIN RIVER BASIN

11283350 REED CREEK NEAR LONG BARN, CA

LOCATION.--Lat 38°00'17", long 120°01'16", in NW 1/4 NE 1/4 sec.29, T.2 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1.0 mi upstream from Niagara Creek and 8.7 mi southeast of town of Long Barn.

DRAINAGE AREA.--27.2 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,575 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1987, at datum 1.00 ft higher.

REMARKS.--Records good except for periods of estimated daily discharge, which are fair. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 348 ft³/s, Mar. 8, 1989, gage height, 4.13 ft; minimum daily, 0.25 ft³/s, Sept. 9, 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 175 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Oct. 23 | 2330 | *215 | *3.74 | | | | |
| Minimum daily, 0.36 ft ³ /s, Sept. 14, 15. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|
| 1 | 3.6 | 12 | 11 | e6.6 | 13 | 37 | 84 | 53 | 41 | 7.9 | e1.8 | e.72 |
| 2 | 2.9 | 11 | 11 | e6.8 | 12 | 35 | 88 | 49 | 34 | 7.8 | e1.7 | e.69 |
| 3 | 2.7 | 10 | 11 | e7.0 | 13 | e62 | 91 | 46 | 30 | 7.4 | e1.7 | e.68 |
| 4 | 2.6 | 10 | 11 | e7.2 | 12 | 56 | 92 | 44 | 27 | 6.9 | e1.6 | e.66 |
| 5 | 2.3 | 9.7 | 12 | e6.8 | 13 | 44 | 89 | 42 | 25 | 6.7 | e1.5 | e.58 |
| 6 | 2.1 | 9.4 | 13 | e6.9 | 13 | 42 | 89 | 39 | 23 | 6.8 | e1.4 | .50 |
| 7 | 2.0 | 9.1 | 12 | e8.8 | 12 | 44 | 90 | 36 | 22 | 7.0 | e1.3 | .47 |
| 8 | 1.9 | 8.8 | 12 | 13 | 13 | 48 | 95 | 33 | 21 | 7.3 | e1.6 | .46 |
| 9 | 1.8 | 8.4 | 11 | 12 | 13 | 50 | 86 | 31 | 19 | e6.7 | e1.8 | .46 |
| 10 | 1.7 | 8.1 | 11 | 11 | 14 | 52 | 87 | 29 | 19 | e6.4 | e1.5 | .42 |
| 11 | 1.7 | 7.9 | 9.6 | 11 | 15 | 44 | 88 | 29 | 18 | e6.8 | e1.4 | .40 |
| 12 | 1.6 | 7.8 | 9.4 | 14 | e16 | 39 | 86 | 27 | 17 | e7.3 | e1.4 | .37 |
| 13 | 1.6 | 7.2 | 9.7 | 21 | e16 | 37 | 88 | 25 | 16 | e6.0 | e1.2 | .37 |
| 14 | 1.5 | 7.0 | 9.2 | 17 | 15 | 35 | 88 | 24 | 16 | e5.5 | e1.1 | .36 |
| 15 | 1.5 | 6.7 | 9.5 | 15 | 18 | 38 | 87 | 22 | 18 | e5.0 | e1.0 | .36 |
| 16 | 1.6 | 6.7 | 9.2 | 15 | e13 | 42 | 86 | 21 | 17 | e8.8 | e.98 | .40 |
| 17 | 1.6 | 6.6 | 8.4 | 14 | e12 | 49 | 76 | 20 | 15 | e7.7 | e.94 | .42 |
| 18 | 1.5 | 6.2 | 8.1 | 13 | e14 | 59 | 74 | 19 | 14 | e6.4 | e.95 | .42 |
| 19 | 1.4 | 6.0 | 8.2 | 12 | e13 | 66 | 74 | 19 | 13 | e5.3 | e1.0 | .43 |
| 20 | 1.4 | 6.0 | 8.3 | 12 | e13 | 76 | 72 | 18 | 13 | e4.7 | e1.1 | .73 |
| 21 | 4.0 | 5.8 | 8.6 | 13 | 15 | 90 | 73 | 18 | 12 | e4.3 | e1.4 | .62 |
| 22 | 8.6 | 5.8 | 8.2 | 13 | 15 | 94 | 69 | 17 | 11 | e3.8 | e1.6 | .52 |
| 23 | 49 | 5.7 | 8.3 | 13 | 16 | 95 | 108 | 29 | 11 | e3.3 | e1.3 | .77 |
| 24 | 126 | 8.6 | 8.3 | 13 | 17 | 108 | 94 | 31 | 10 | e3.1 | e1.1 | 1.8 |
| 25 | 51 | 16 | 8.0 | 13 | 18 | 104 | 80 | 28 | 9.8 | e2.8 | e.99 | 1.1 |
| 26 | 28 | 20 | 7.9 | 13 | e19 | 96 | 76 | 25 | 9.3 | e2.7 | e.97 | .96 |
| 27 | 21 | 13 | 8.0 | 13 | 26 | 93 | 73 | 39 | 8.9 | e2.5 | e.95 | 1.1 |
| 28 | 18 | 12 | 7.4 | 12 | 35 | 88 | 69 | 93 | 8.6 | e2.4 | e.88 | 2.2 |
| 29 | 16 | 12 | 7.2 | 12 | --- | 81 | 65 | 63 | 8.4 | e2.3 | e.84 | 1.3 |
| 30 | 14 | 11 | 7.0 | 12 | --- | 80 | 57 | 49 | 8.1 | e2.1 | e.80 | .96 |
| 31 | 13 | --- | 7.3 | 13 | --- | 81 | --- | 50 | --- | e1.9 | e.75 | --- |
| TOTAL | 387.6 | 274.5 | 290.8 | 370.1 | 434 | 1965 | 2474 | 1068 | 515.1 | 165.6 | 38.55 | 21.23 |
| MEAN | 12.5 | 9.15 | 9.38 | 11.9 | 15.5 | 63.4 | 82.5 | 34.5 | 17.2 | 5.34 | 1.24 | .71 |
| MAX | 126 | 20 | 13 | 21 | 35 | 108 | 108 | 93 | 41 | 8.8 | 1.8 | 2.2 |
| MIN | 1.4 | 5.7 | 7.0 | 6.6 | 12 | 35 | 57 | 17 | 8.1 | 1.9 | .75 | .36 |
| AC-FT | 769 | 544 | 577 | 734 | 861 | 3900 | 4910 | 2120 | 1020 | 328 | 76 | 42 |

CAL YR 1989 TOTAL 12768.25 MEAN 35.0 MAX 293 MIN .77 AC-FT 25330
WTR YR 1990 TOTAL 8004.48 MEAN 21.9 MAX 126 MIN .36 AC-FT 15880

e Estimated.

11283500 CLAVEY RIVER NEAR BUCK MEADOWS, CA

LOCATION.--Lat 37°54'02", long 120°04'15", in SW 1/4 NE 1/4 sec.35, T.1 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 300 ft upstream from Forest Service Road bridge, 1.7 mi downstream from Quilty Creek, and 6 mi north of Buck Meadows Post Office.

DRAINAGE AREA.--144 mi².

PERIOD OF RECORD.--October 1959 to September 1983, October 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,374.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No storage or diversion upstream from station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--28 years (water years 1960-83, 1987-90), 260 ft³/s, 188,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft³/s, Jan. 13, 1980, gage height, 21.47 ft, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement at gage height 21.40 ft; minimum daily, 1.2 ft³/s Sept. 11, 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|------|------|--------------------------------|------------------|
| Oct. 24 | 0600 | *1,310 | *9.06 | | | | |

Minimum daily, 2.8 ft³/s, Sept. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|------|------|------|-------|-------|------|------|-------|-------|-------|
| 1 | 45 | 69 | 56 | 28 | 64 | 201 | 326 | 192 | 195 | 23 | 7.0 | 4.1 |
| 2 | 28 | 64 | 55 | 32 | 58 | 190 | 351 | 189 | 159 | 21 | 6.7 | 4.1 |
| 3 | 21 | 59 | 58 | 26 | 62 | 264 | 362 | 196 | 142 | 20 | 6.5 | 4.0 |
| 4 | 18 | 56 | 60 | 28 | 67 | 293 | 361 | 201 | 127 | 20 | 6.3 | 3.8 |
| 5 | 16 | 58 | 66 | 29 | 62 | 228 | 349 | 206 | 116 | 19 | 6.1 | 3.6 |
| 6 | 15 | 57 | 68 | 29 | 72 | 207 | 357 | 204 | 108 | 18 | 5.7 | 3.6 |
| 7 | 14 | 51 | 64 | 33 | 60 | 203 | 354 | 187 | 100 | 18 | 5.6 | 3.6 |
| 8 | 13 | 46 | 59 | 47 | 53 | 214 | 365 | 168 | 92 | 18 | 5.5 | 3.4 |
| 9 | 12 | 42 | 55 | 68 | 65 | 227 | 315 | 157 | 85 | 17 | 5.5 | 3.2 |
| 10 | 12 | 40 | 50 | 59 | 63 | 245 | 318 | 153 | 79 | 16 | 5.7 | 3.1 |
| 11 | 11 | 40 | 44 | 53 | 71 | 218 | 353 | 134 | 71 | 15 | 5.4 | 3.0 |
| 12 | 11 | 41 | 43 | 52 | 84 | 190 | 356 | 124 | 64 | 17 | 5.1 | 2.9 |
| 13 | 10 | 40 | 44 | 130 | 84 | 169 | 368 | 120 | 58 | 15 | 4.8 | 2.8 |
| 14 | 10 | 37 | 40 | 124 | 63 | 167 | 407 | 116 | 56 | e14 | 4.6 | 2.8 |
| 15 | 10 | 34 | 41 | 101 | 62 | 169 | 394 | 108 | 57 | e13 | 4.6 | 2.8 |
| 16 | 10 | 32 | 39 | 92 | 76 | 191 | 398 | 102 | 59 | e20 | 4.5 | 2.9 |
| 17 | 10 | 30 | 36 | 69 | 51 | 211 | 302 | 100 | 52 | e14 | 4.6 | 3.0 |
| 18 | 10 | 29 | 35 | 74 | 61 | 269 | 250 | 93 | 47 | e13 | 4.6 | 3.1 |
| 19 | 9.8 | 28 | 34 | 65 | 72 | 312 | 289 | 86 | 44 | e12 | 4.7 | 3.3 |
| 20 | 9.6 | 27 | 33 | 60 | 75 | 337 | 285 | 81 | 41 | e11 | 5.2 | 3.4 |
| 21 | 10 | 26 | 36 | 59 | 72 | 371 | 304 | 75 | 38 | e11 | 5.4 | 3.6 |
| 22 | 30 | 26 | 33 | 62 | 74 | 382 | 263 | 70 | 35 | e10 | 5.3 | 3.9 |
| 23 | 156 | 25 | 34 | 61 | 87 | 376 | 394 | 88 | 33 | e9.6 | 5.1 | 4.6 |
| 24 | 871 | 29 | 33 | 59 | 103 | 394 | 399 | 137 | 31 | e9.4 | 4.9 | 4.9 |
| 25 | 311 | 46 | 31 | 61 | 117 | 415 | 320 | 155 | 30 | e9.0 | 4.6 | 6.4 |
| 26 | 167 | 156 | 31 | 62 | 128 | 400 | 319 | 129 | 28 | 8.7 | 4.6 | 7.4 |
| 27 | 130 | 71 | 32 | 58 | 150 | 382 | 323 | 151 | 27 | 8.6 | 4.7 | 6.4 |
| 28 | 114 | 70 | 29 | 55 | 180 | 364 | 327 | 424 | 25 | 8.4 | 4.8 | 6.1 |
| 29 | 96 | 63 | 28 | 56 | --- | 317 | 302 | 307 | 25 | 8.0 | 4.6 | 7.1 |
| 30 | 84 | 59 | 26 | 61 | --- | 304 | 228 | 200 | 24 | 7.7 | 4.3 | 6.3 |
| 31 | 75 | --- | 30 | 61 | --- | 306 | --- | 227 | --- | 7.4 | 4.1 | --- |
| TOTAL | 2339.4 | 1451 | 1323 | 1854 | 2236 | 8516 | 10059 | 4880 | 2048 | 431.8 | 161.1 | 123.2 |
| MEAN | 75.5 | 48.4 | 42.7 | 59.8 | 79.9 | 275 | 335 | 157 | 68.3 | 13.9 | 5.20 | 4.11 |
| MAX | 871 | 156 | 68 | 130 | 180 | 415 | 407 | 424 | 195 | 23 | 7.0 | 7.4 |
| MIN | 9.6 | 25 | 26 | 26 | 51 | 167 | 228 | 70 | 24 | 7.4 | 4.1 | 2.8 |
| AC-FT | 4640 | 2880 | 2620 | 3680 | 4440 | 16890 | 19950 | 9680 | 4060 | 856 | 320 | 244 |

CAL YR 1989 TOTAL 63053.3 MEAN 173 MAX 2400 MIN 4.7 AC-FT 125100
WTR YR 1990 TOTAL 35422.5 MEAN 97.0 MAX 871 MIN 2.8 AC-FT 70260

e Estimated.

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 mi².

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 upstream from station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--21 years, 8.88 ft³/s, 6,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft³/s, Feb. 17, 1986, gage height, 7.03 ft, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement at gage height 6.51 ft; no flow for 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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Feb. 25 | 0036 | *19 | *2.57 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|--------|--------|-------|------|------|------|------|------|
| 1 | .00 | .01 | .07 | .03 | 1.4 | 5.3 | .73 | .28 | .54 | .00 | .00 | .00 |
| 2 | .00 | .01 | .05 | .06 | 1.8 | 4.7 | .70 | .25 | .35 | .00 | .00 | .00 |
| 3 | .00 | .01 | .05 | .04 | 1.4 | 9.0 | .65 | .22 | .25 | .00 | .00 | .00 |
| 4 | .00 | .01 | .05 | .03 | 3.8 | 6.7 | .68 | .21 | .20 | .00 | .00 | .00 |
| 5 | .00 | .01 | .06 | .03 | 5.5 | 9.9 | .56 | .19 | .15 | .00 | .00 | .00 |
| 6 | .00 | .01 | .05 | .03 | 5.0 | 8.9 | .61 | .16 | .12 | .00 | .00 | .00 |
| 7 | .00 | .02 | .04 | .04 | 4.5 | 6.1 | .62 | .14 | .09 | .00 | .00 | .00 |
| 8 | .00 | .02 | .03 | .05 | 2.6 | 4.7 | .65 | .10 | .08 | .00 | .00 | .00 |
| 9 | .00 | .01 | .05 | .06 | 2.0 | 3.9 | .67 | .08 | .06 | .00 | .00 | .00 |
| 10 | .00 | .01 | .06 | .04 | 1.6 | 4.0 | .55 | .08 | .05 | .00 | .00 | .00 |
| 11 | .00 | .01 | .04 | .04 | 1.3 | 7.8 | .60 | .07 | .05 | .00 | .00 | .00 |
| 12 | .00 | .01 | .06 | .05 | 1.2 | 8.7 | .41 | .07 | .05 | .00 | .00 | .00 |
| 13 | .00 | .01 | .05 | .91 | 1.1 | 7.5 | .48 | .06 | .05 | .00 | .00 | .00 |
| 14 | .00 | .01 | .05 | 3.7 | .89 | 8.2 | .40 | .05 | .05 | .00 | .00 | .00 |
| 15 | .00 | .01 | .04 | 2.1 | .76 | 6.5 | .38 | .05 | .05 | .00 | .00 | .00 |
| 16 | .00 | .01 | .05 | 1.0 | .73 | 5.4 | .49 | .04 | .05 | .00 | .00 | .00 |
| 17 | .00 | .01 | .05 | 1.4 | 1.5 | 4.5 | .47 | .04 | .03 | .00 | .00 | .00 |
| 18 | .00 | .01 | .04 | 1.2 | 2.1 | 3.7 | .58 | .03 | .03 | .00 | .00 | .00 |
| 19 | .00 | .01 | .05 | .93 | 1.8 | 3.0 | .50 | .03 | .03 | .00 | .00 | .00 |
| 20 | .00 | .01 | .04 | .74 | 1.7 | 2.6 | .48 | .03 | .03 | .00 | .00 | .00 |
| 21 | .00 | .01 | .04 | .56 | 1.7 | 2.2 | .34 | .03 | .02 | .00 | .00 | .00 |
| 22 | .00 | .01 | .06 | .45 | 2.2 | 1.9 | .31 | .03 | .02 | .00 | .00 | .00 |
| 23 | .00 | .01 | .06 | .37 | 5.3 | 1.7 | 1.0 | .03 | .02 | .00 | .00 | .00 |
| 24 | .54 | .01 | .05 | .33 | 10 | 1.5 | 2.3 | .03 | .02 | .00 | .00 | .00 |
| 25 | .33 | 1.5 | .05 | .30 | 14 | 1.3 | 1.2 | .03 | .01 | .00 | .00 | .00 |
| 26 | .06 | 2.1 | .08 | .27 | 14 | 1.2 | .80 | .03 | .01 | .00 | .00 | .00 |
| 27 | .04 | .38 | .09 | .28 | 11 | 1.1 | .59 | .06 | .01 | .00 | .00 | .00 |
| 28 | .02 | .19 | .10 | .25 | 7.0 | .99 | .50 | 1.9 | .01 | .00 | .00 | .00 |
| 29 | .02 | .12 | .05 | .22 | --- | .94 | .39 | 1.2 | .01 | .00 | .00 | .00 |
| 30 | .02 | .09 | .03 | .30 | --- | .91 | .33 | .65 | .00 | .00 | .00 | .00 |
| 31 | .02 | --- | .03 | 1.7 | --- | .82 | --- | .66 | --- | .00 | .00 | --- |
| TOTAL | 1.05 | 4.64 | 1.62 | 17.51 | 107.88 | 135.66 | 18.97 | 6.83 | 2.44 | 0.00 | 0.00 | 0.00 |
| MEAN | .034 | .15 | .052 | .56 | 3.85 | 4.38 | .63 | .22 | .081 | .000 | .000 | .000 |
| MAX | .54 | 2.1 | .10 | 3.7 | 14 | 9.9 | 2.3 | 1.9 | .54 | .00 | .00 | .00 |
| MIN | .00 | .01 | .03 | .03 | .73 | .82 | .31 | .03 | .00 | .00 | .00 | .00 |
| AC-FT | 2.1 | 9.2 | 3.2 | 35 | 214 | 269 | 38 | 14 | 4.8 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 656.06 MEAN 1.80 MAX 78 MIN .00 AC-FT 1300
WTR YR 1990 TOTAL 296.60 MEAN .81 MAX 14 MIN .00 AC-FT 588

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 mi².

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, 1,309,000 acre-ft, Mar. 24, elevation, 764.6 ft; minimum, 988,200 acre-ft, Sept. 20-24, elevation, 726.4 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Modesto and Turlock Irrigation Districts, dated August 1970)

| | | | | | |
|-----|---------|-----|-----------|-----|-----------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|----------|---------|----------|----------|----------|---------|---------|---------|----------|----------|----------|---------|
| 1 | e1071000 | 1103000 | 1137000 | e1168000 | e1214000 | 1265000 | 1294000 | 1287000 | 1251000 | 1218000 | e1093000 | e997400 |
| 2 | e1072000 | 1104000 | 1138000 | e1170000 | e1216000 | 1266000 | 1292000 | 1285000 | 1251000 | 1214000 | e1090000 | e996600 |
| 3 | e1073000 | 1106000 | 1139000 | e1171000 | e1218000 | 1269000 | 1290000 | 1282000 | 1252000 | 1210000 | e1086000 | e995800 |
| 4 | e1074000 | 1107000 | e1138000 | e1172000 | e1220000 | 1272000 | 1288000 | 1279000 | 1251000 | 1208000 | e1083000 | e994300 |
| 5 | e1074000 | 1108000 | e1139000 | e1173000 | e1221000 | 1274000 | 1287000 | 1276000 | 1251000 | 1203000 | e1080000 | e993600 |
| 6 | e1075000 | 1109000 | e1141000 | e1175000 | e1223000 | 1277000 | 1286000 | 1274000 | 1251000 | e1199000 | e1075000 | e994300 |
| 7 | e1076000 | 1110000 | e1142000 | e1176000 | e1225000 | 1279000 | 1285000 | 1273000 | e1250000 | e1195000 | e1069000 | e993600 |
| 8 | e1077000 | 1111000 | e1143000 | e1177000 | e1226000 | 1281000 | 1283000 | 1271000 | e1249000 | e1189000 | e1064000 | e992800 |
| 9 | e1078000 | 1113000 | e1144000 | e1178000 | e1227000 | 1283000 | 1283000 | 1269000 | e1247000 | e1184000 | e1059000 | e992000 |
| 10 | e1078000 | 1114000 | e1144000 | e1179000 | e1229000 | 1285000 | 1284000 | 1268000 | e1246000 | e1178000 | e1054000 | e991300 |
| 11 | e1080000 | 1115000 | e1145000 | e1181000 | e1231000 | 1287000 | 1285000 | 1267000 | e1244000 | e1173000 | e1050000 | e991300 |
| 12 | e1081000 | 1115000 | e1146000 | e1183000 | e1232000 | 1289000 | 1286000 | 1265000 | e1243000 | e1168000 | e1047000 | e990500 |
| 13 | e1082000 | 1116000 | e1148000 | e1185000 | e1233000 | 1292000 | 1287000 | 1263000 | e1243000 | e1168000 | e1043000 | e991300 |
| 14 | e1082000 | 1118000 | e1149000 | e1186000 | e1234000 | 1294000 | 1287000 | 1261000 | e1243000 | e1157000 | e1041000 | e991300 |
| 15 | e1081000 | 1119000 | e1151000 | e1188000 | e1235000 | 1296000 | 1288000 | 1260000 | e1242000 | e1153000 | e1038000 | e991300 |
| 16 | e1080000 | 1120000 | e1152000 | e1190000 | e1236000 | 1299000 | 1289000 | 1258000 | e1243000 | e1150000 | e1034000 | e990500 |
| 17 | e1081000 | 1121000 | e1153000 | 1192000 | e1239000 | 1301000 | 1290000 | 1258000 | e1244000 | e1146000 | e1031000 | 990500 |
| 18 | e1082000 | 1122000 | e1153000 | 1193000 | e1242000 | 1303000 | 1288000 | 1257000 | e1243000 | e1143000 | e1027000 | 989800 |
| 19 | e1083000 | 1123000 | e1153000 | e1195000 | e1243000 | 1305000 | 1286000 | 1256000 | e1243000 | e1139000 | e1024000 | 989000 |
| 20 | 1084000 | 1123000 | e1154000 | e1196000 | e1244000 | 1306000 | 1286000 | 1255000 | e1242000 | e1135000 | 1020000 | 988200 |
| 21 | 1085000 | 1124000 | e1155000 | e1198000 | e1246000 | 1307000 | 1286000 | 1254000 | e1242000 | e1132000 | 1016000 | 988200 |
| 22 | 1085000 | 1125000 | e1155000 | e1199000 | e1248000 | 1308000 | 1286000 | 1251000 | e1243000 | e1128000 | 1014000 | 988200 |
| 23 | 1087000 | 1126000 | e1156000 | e1200000 | e1250000 | 1308000 | 1287000 | 1249000 | e1244000 | e1124000 | e1011000 | 988200 |
| 24 | 1092000 | 1127000 | e1157000 | e1201000 | e1252000 | 1309000 | 1288000 | 1248000 | e1243000 | e1120000 | e1010000 | 988200 |
| 25 | 1095000 | 1129000 | e1158000 | e1203000 | e1254000 | 1307000 | 1290000 | 1247000 | e1246000 | e1117000 | e1007000 | 989000 |
| 26 | 1097000 | 1131000 | e1159000 | e1204000 | 1257000 | 1307000 | 1291000 | 1246000 | e1246000 | e1114000 | e1004000 | 989800 |
| 27 | 1098000 | 1132000 | e1161000 | e1206000 | 1260000 | 1305000 | 1291000 | 1246000 | e1237000 | e1110000 | e1003000 | 990500 |
| 28 | 1099000 | 1133000 | e1162000 | e1208000 | 1262000 | 1304000 | 1291000 | 1247000 | e1230000 | e1106000 | e1001000 | 991300 |
| 29 | 1100000 | 1134000 | e1165000 | e1208000 | --- | 1302000 | 1291000 | 1247000 | 1226000 | e1104000 | e999600 | 991300 |
| 30 | 1101000 | 1135000 | e1167000 | e1207000 | --- | 1300000 | 1289000 | 1248000 | 1221000 | e1100000 | e998900 | 992000 |
| 31 | 1102000 | --- | e1167000 | e1210000 | --- | 1297000 | --- | 1249000 | --- | e1096000 | e998100 | --- |
| MAX | 1102000 | 1135000 | 1167000 | 1210000 | 1262000 | 1309000 | 1294000 | 1287000 | 1252000 | 1218000 | 1093000 | 997400 |
| MIN | 1071000 | 1103000 | 1137000 | 1168000 | 1214000 | 1265000 | 1283000 | 1246000 | 1221000 | 1096000 | 998100 | 988200 |
| a | 740.8 | 744.9 | 748.7 | 753.7 | 759.6 | 763.4 | 762.5 | 758.1 | 754.9 | 740.1 | 727.7 | 726.9 |
| b | +32000 | +33000 | +32000 | +43000 | +52000 | +35000 | -8000 | -40000 | -28000 | -125000 | -97900 | -6100 |

CAL YR 1989 b +145000

WTR YR 1990 b -78000

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11289000 MODESTO CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°40'21", long 120°28'26", in NE 1/4 SW 1/4 sec.18, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.9 mi northwest of La Grange and 1.7 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 and concrete control. Datum of gage is 267.47 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 Apr. 27, 1988, at site 1.1 mi upstream at different 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.--87 years, 413 ft³/s, 299,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,820 ft³/s, July 1, 1935; no flow at times most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|---------|--------|---------|--------|-------|-------|-------|-------|-------|-------|
| 1 | .40 | .61 | 51 | .66 | 78 | 153 | 805 | 894 | 106 | 97 | 630 | 457 |
| 2 | .39 | .61 | .89 | 70 | 32 | 179 | 798 | 868 | 190 | 864 | 749 | 410 |
| 3 | .15 | 6.7 | .83 | 114 | 20 | 1.7 | 734 | 891 | 277 | 927 | 872 | 435 |
| 4 | .01 | .56 | 236 | .78 | 14 | 1.4 | 786 | 872 | 601 | 628 | 277 | 362 |
| 5 | .00 | .55 | 153 | .75 | 1.3 | 238 | 870 | 826 | 572 | 706 | 600 | 377 |
| 6 | .00 | .54 | 117 | .74 | 1.3 | 181 | 837 | 590 | 237 | 935 | 1110 | 424 |
| 7 | .00 | .56 | 229 | .72 | 1.2 | 147 | 682 | 366 | 510 | 930 | 1160 | 574 |
| 8 | .00 | .56 | 295 | .69 | 1.2 | 159 | 622 | 738 | 833 | 1010 | 1090 | 549 |
| 9 | 68 | .54 | 5.4 | 48 | 1.3 | 154 | 158 | 798 | 637 | 844 | 1080 | 596 |
| 10 | 110 | .55 | .76 | 13 | 1.2 | 33 | 433 | 739 | 511 | 1120 | 1100 | 529 |
| 11 | 111 | .54 | 143 | 15 | 1.3 | 1.5 | 428 | 950 | 792 | 1110 | 711 | 63 |
| 12 | 110 | .53 | 167 | 8.1 | 42 | 274 | 562 | 793 | 811 | 1030 | 624 | 380 |
| 13 | 108 | .54 | 90 | .70 | 104 | 245 | 493 | 689 | 697 | 1000 | 738 | 446 |
| 14 | 114 | .52 | 64 | .72 | 313 | 56 | 633 | 771 | 769 | 803 | 290 | 359 |
| 15 | 129 | .51 | 2.3 | .70 | 217 | 60 | 96 | 508 | 922 | 515 | 393 | 417 |
| 16 | 145 | .51 | 31 | 20 | 325 | 80 | 745 | 770 | 834 | 890 | 621 | 408 |
| 17 | .64 | .51 | 50 | 6.3 | 14 | 18 | 787 | 507 | 979 | 751 | 932 | 568 |
| 18 | .64 | .51 | 311 | .82 | .91 | 18 | 904 | 276 | 843 | 712 | 304 | 549 |
| 19 | .63 | .51 | 461 | 27 | .86 | 60 | 852 | 386 | 939 | 939 | 573 | 441 |
| 20 | .62 | 247 | 438 | 4.7 | 174 | 223 | 646 | 496 | 877 | 879 | 831 | 566 |
| 21 | .61 | 202 | 449 | .76 | 59 | 232 | 567 | 685 | 828 | 801 | 767 | 424 |
| 22 | .62 | 201 | 114 | 99 | 38 | 118 | 122 | 662 | 370 | 548 | 825 | 295 |
| 23 | .80 | 2.6 | 53 | 230 | 10 | 110 | 308 | 534 | 763 | 699 | 651 | 158 |
| 24 | .75 | .38 | 13 | 15 | 1.3 | 111 | 383 | 580 | 567 | 867 | 358 | 93 |
| 25 | .62 | .45 | .69 | 1.2 | 1.3 | 112 | 456 | 618 | 709 | 746 | 533 | 173 |
| 26 | .62 | .43 | 54 | 1.2 | 1.2 | 225 | 514 | 472 | 755 | 855 | 543 | 258 |
| 27 | .62 | 55 | 116 | 1.3 | 1.2 | 738 | 574 | 429 | 737 | 1090 | 582 | 248 |
| 28 | .61 | 107 | 72 | 1.4 | 1.2 | 793 | 563 | 427 | 957 | 795 | 489 | 272 |
| 29 | .61 | 117 | 7.0 | 89 | --- | 776 | 144 | 163 | 811 | 659 | 421 | 321 |
| 30 | .62 | 4.1 | .63 | 64 | --- | 780 | 858 | 114 | 612 | 905 | 331 | 305 |
| 31 | .60 | --- | .63 | 68 | --- | 698 | --- | 235 | --- | 855 | 458 | --- |
| TOTAL | 905.56 | 953.42 | 3726.13 | 904.24 | 1456.77 | 6975.6 | 17360 | 18647 | 20046 | 25510 | 20643 | 11457 |
| MEAN | 29.2 | 31.8 | 120 | 29.2 | 52.0 | 225 | 579 | 602 | 668 | 823 | 666 | 382 |
| MAX | 145 | 247 | 461 | 230 | 325 | 793 | 904 | 950 | 979 | 1120 | 1160 | 596 |
| MIN | .00 | .38 | .63 | .66 | .86 | 1.4 | 96 | 114 | 106 | 97 | 277 | 63 |
| AC-FT | 1800 | 1890 | 7390 | 1790 | 2890 | 13840 | 34430 | 36990 | 39760 | 50600 | 40950 | 22720 |

CAL YR 1989 TOTAL 120423.63 MEAN 330 MAX 1010 MIN .00 AC-FT 238900
WTR YR 1990 TOTAL 128584.72 MEAN 352 MAX 1160 MIN .00 AC-FT 255000

SAN JOAQUIN RIVER BASIN

295

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.--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 autumn 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.--92 years, 644 ft³/s, 466,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,400 ft³/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 and many days during 1989-90.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|---------|---------|------|-------|-------|-------|-------|--------|-------|-------|
| 1 | 129 | e.00 | e173 | .00 | 148 | 136 | 1730 | 944 | 467 | 1570 | 1710 | 303 |
| 2 | e23 | e.00 | 128 | e.00 | 93 | 86 | 1790 | 1050 | 640 | 1480 | 1790 | 271 |
| 3 | e.00 | e.00 | 132 | 8.0 | 100 | 69 | 1900 | 1380 | 701 | 1480 | 1480 | 430 |
| 4 | e.00 | e.00 | 136 | e.00 | 102 | 170 | 1950 | 1920 | 706 | 1450 | 1720 | 540 |
| 5 | e168 | e.00 | 175 | .00 | 215 | 120 | 1490 | 1520 | 853 | 2000 | 1650 | 466 |
| 6 | 43 | e.00 | 112 | .00 | 243 | 146 | 1270 | 1430 | 723 | 2120 | 2070 | 247 |
| 7 | 19 | e.00 | 118 | .00 | 334 | 97 | 1350 | 1220 | 628 | 2220 | 2260 | 229 |
| 8 | 14 | e.00 | 159 | .00 | 211 | 158 | 1280 | 1150 | 1060 | 2170 | 2140 | 403 |
| 9 | 14 | e.00 | 101 | e.00 | 149 | 165 | 1330 | 1100 | 1450 | 2230 | 2200 | 311 |
| 10 | 19 | e.00 | 99 | 58 | 116 | 225 | 936 | 895 | 658 | 2050 | 2050 | 486 |
| 11 | 9.0 | e.00 | 98 | 113 | 130 | 105 | 763 | 939 | 872 | 2330 | 1610 | 544 |
| 12 | 7.9 | e.00 | 229 | 94 | 167 | 214 | 696 | 910 | 837 | 2450 | 1180 | 433 |
| 13 | 4.9 | e.00 | 50 | 86 | 274 | 160 | 503 | 909 | 622 | 2660 | 1600 | 187 |
| 14 | 8.5 | e.00 | 166 | 86 | 200 | 146 | 849 | 1170 | 1060 | 2230 | 1410 | 190 |
| 15 | 19 | e.00 | 133 | 131 | 171 | 141 | 306 | 1220 | 1340 | 1320 | 1870 | 182 |
| 16 | 18 | e.00 | 148 | 176 | 157 | 173 | 447 | 1080 | 466 | 1260 | 1630 | 302 |
| 17 | 13 | e.00 | 121 | 156 | 154 | 227 | 993 | 880 | 483 | 1700 | 1630 | 337 |
| 18 | 9.1 | e.00 | 45 | 180 | 98 | 288 | 1610 | 855 | 967 | 1570 | 1340 | 530 |
| 19 | 8.3 | e.00 | 225 | 148 | 128 | 315 | 1420 | 692 | 1390 | 1630 | 1150 | 549 |
| 20 | 3.5 | e.00 | 227 | 110 | 132 | 1210 | 1120 | 738 | 1480 | 1650 | 1970 | 715 |
| 21 | e56 | e.00 | 6.1 | 96 | 62 | 1460 | 892 | 894 | 1010 | 1790 | 1640 | 430 |
| 22 | e25 | e.00 | 39 | 180 | 80 | 1590 | 814 | 1560 | 403 | 1290 | 1460 | 312 |
| 23 | e.00 | e.00 | 8.3 | 105 | 103 | 1550 | 631 | 1430 | 1120 | 1700 | 1610 | 71 |
| 24 | e.00 | e.00 | 1.0 | 114 | 121 | 1850 | 618 | 1060 | 899 | 1520 | 1100 | 486 |
| 25 | e.00 | e.00 | e.00 | 140 | 130 | 1640 | 543 | 1190 | 1430 | 1460 | 981 | 329 |
| 26 | e.00 | e.00 | .00 | 111 | 130 | 1720 | 602 | 981 | 1720 | 1520 | 1120 | 118 |
| 27 | e.00 | e.00 | .00 | 136 | 129 | 1830 | 1260 | 525 | 1350 | 1320 | 822 | 75 |
| 28 | e.00 | e.00 | e.00 | 138 | 141 | 1780 | 1170 | 590 | 1930 | 1460 | 988 | 106 |
| 29 | e.00 | e289 | 14 | 333 | --- | 1810 | 257 | 863 | 2060 | 1090 | 1240 | 253 |
| 30 | e.00 | e231 | 26 | 118 | --- | 1780 | 863 | 320 | 2290 | 1520 | 752 | 395 |
| 31 | e.00 | --- | e.00 | 142 | --- | 1960 | --- | 492 | --- | 1590 | 645 | --- |
| TOTAL | 611.20 | 520.00 | 2869.40 | 2959.00 | 4218 | 23321 | 31383 | 31907 | 31615 | 53830 | 46818 | 10230 |
| MEAN | 19.7 | 17.3 | 92.6 | 95.5 | 151 | 752 | 1046 | 1029 | 1054 | 1736 | 1510 | 341 |
| MAX | 168 | 289 | 229 | 333 | 334 | 1960 | 1950 | 1920 | 2290 | 2660 | 2260 | 715 |
| MIN | .00 | .00 | .00 | .00 | 62 | 69 | 257 | 320 | 403 | 1090 | 645 | 71 |
| AC-FT | 1210 | 1030 | 5690 | 5870 | 8370 | 46260 | 62250 | 63290 | 62710 | 106800 | 92860 | 20290 |

CAL YR 1989 TOTAL 231060.60 MEAN 633 MAX 2260 MIN .00 AC-FT 458300
WTR YR 1990 TOTAL 240281.60 MEAN 658 MAX 2660 MIN .00 AC-FT 476600

e Estimated.

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 mi².

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 342 ft³/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).--20 years, 933 ft³/s, 676,000 acre-ft/yr.
(Combined river and canals).--20 years, 2,197 ft³/s, 1,592,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 10,400 ft³/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 ft³/s, May 26, 1983; minimum daily, 0.45 ft³/s, Nov. 2, 1970.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 718 ft³/s, Apr. 30, gage height, 5.09 ft; minimum daily, 16 ft³/s, several days during July.
Combined flow, maximum daily discharge, 3,680 ft³/s, July 13; minimum daily, 77 ft³/s, Oct. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|------|------|------|-------|------|------|------|------|------|
| 1 | 73 | 223 | 193 | 149 | 155 | 229 | 142 | 573 | 17 | 17 | 22 | 25 |
| 2 | 76 | 225 | 195 | 168 | 148 | 240 | 144 | 559 | 17 | 17 | 26 | 24 |
| 3 | 77 | 216 | 200 | 148 | 145 | 167 | 150 | 572 | 18 | 18 | 20 | 25 |
| 4 | 77 | 224 | 208 | 194 | 145 | 162 | 151 | 299 | 18 | 18 | 21 | 24 |
| 5 | 79 | 220 | 207 | 162 | 146 | 143 | 147 | 131 | 18 | 18 | 19 | 25 |
| 6 | 71 | 216 | 196 | 160 | 145 | 143 | 146 | 77 | 17 | 17 | 21 | 25 |
| 7 | 71 | 219 | 200 | 160 | 146 | 167 | 147 | 35 | 18 | 17 | 24 | 25 |
| 8 | 68 | 229 | 212 | 161 | 158 | 174 | 149 | 18 | 22 | 17 | 20 | 26 |
| 9 | 70 | 224 | 194 | 161 | 164 | 143 | 148 | 18 | 26 | 17 | 24 | 27 |
| 10 | 70 | 216 | 191 | 160 | 145 | 141 | 151 | 18 | 24 | 17 | 21 | 25 |
| 11 | 72 | 219 | 211 | 182 | 142 | 160 | 150 | 18 | 23 | 17 | 21 | 25 |
| 12 | 70 | 223 | 246 | 149 | 144 | 180 | 149 | 18 | 19 | 17 | 25 | 25 |
| 13 | 68 | 229 | 226 | 151 | 174 | 147 | 148 | 18 | 20 | 17 | 24 | 25 |
| 14 | 183 | 229 | 219 | 154 | 155 | 172 | 153 | 17 | 20 | 17 | 23 | 26 |
| 15 | 861 | 233 | 223 | 155 | 149 | 174 | 146 | 18 | 19 | 16 | 24 | 26 |
| 16 | 271 | 232 | 166 | 147 | 154 | 148 | 149 | 18 | 19 | 16 | 23 | 28 |
| 17 | 209 | 226 | 183 | 149 | 154 | 147 | 151 | 18 | 19 | 17 | 23 | 27 |
| 18 | 207 | 221 | 158 | 147 | 146 | 146 | 151 | 18 | 19 | 16 | 23 | 26 |
| 19 | 207 | 217 | 178 | 147 | 156 | 146 | 157 | 17 | 19 | 16 | 23 | 26 |
| 20 | 212 | 220 | 187 | 158 | 166 | 148 | 160 | 17 | 17 | 16 | 23 | 26 |
| 21 | 205 | 222 | 173 | 153 | 161 | 143 | 184 | 18 | 17 | 16 | 23 | 26 |
| 22 | 206 | 221 | 162 | 160 | 153 | 145 | 183 | 17 | 17 | 16 | 24 | 25 |
| 23 | 211 | 219 | 162 | 155 | 149 | 149 | 187 | 18 | 18 | 16 | 24 | 26 |
| 24 | 208 | 220 | 162 | 160 | 149 | 150 | 203 | 18 | 18 | 16 | 24 | 25 |
| 25 | 205 | 219 | 162 | 187 | 147 | 148 | 189 | 17 | 18 | 16 | 25 | 26 |
| 26 | 207 | 216 | 170 | 162 | 147 | 153 | 207 | 18 | 18 | 16 | 25 | 25 |
| 27 | 209 | 217 | 162 | 161 | 148 | 150 | 188 | 18 | 18 | 21 | 25 | 24 |
| 28 | 219 | 216 | 151 | 160 | 155 | 149 | 187 | 20 | 18 | 23 | 25 | 26 |
| 29 | 216 | 220 | 152 | 151 | --- | 157 | 548 | 18 | 18 | 23 | 24 | 26 |
| 30 | 218 | 226 | 151 | 146 | --- | 150 | 599 | 18 | 18 | 23 | 24 | 27 |
| 31 | 225 | --- | 149 | 157 | --- | 142 | --- | 18 | --- | 22 | 24 | --- |
| TOTAL | 5421 | 6657 | 5749 | 4914 | 4246 | 4913 | 5664 | 2675 | 567 | 546 | 717 | 767 |
| MEAN | 175 | 222 | 185 | 159 | 152 | 158 | 189 | 86.3 | 18.9 | 17.6 | 23.1 | 25.6 |
| MAX | 861 | 233 | 246 | 194 | 174 | 240 | 599 | 573 | 26 | 23 | 26 | 28 |
| MIN | 68 | 216 | 149 | 146 | 142 | 141 | 142 | 17 | 17 | 16 | 19 | 24 |
| AC-FT | 10750 | 13200 | 11400 | 9750 | 8420 | 9740 | 11230 | 5310 | 1120 | 1080 | 1420 | 1520 |

CAL YR 1989 TOTAL 40407 MEAN 111 MAX 861 MIN 38 AC-FT 80150
WTR YR 1990 TOTAL 42836 MEAN 117 MAX 861 MIN 16 AC-FT 84970

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, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
| 1 | 202 | e224 | e417 | 150 | 381 | 518 | 2680 | 2410 | 590 | 1680 | 2360 | 785 |
| 2 | e99 | e226 | 324 | e238 | 273 | 505 | 2730 | 2480 | 847 | 2360 | 2560 | 705 |
| 3 | e77 | e223 | 333 | 270 | 265 | 238 | 2780 | 2840 | 996 | 2420 | 2370 | 890 |
| 4 | e77 | e225 | 580 | e195 | 261 | 333 | 2890 | 3090 | 1320 | 2100 | 2020 | 926 |
| 5 | e247 | e221 | 535 | 163 | 362 | 501 | 2510 | 2480 | 1440 | 2720 | 2270 | 868 |
| 6 | 114 | e217 | 425 | 161 | 389 | 470 | 2250 | 2100 | 977 | 3070 | 3200 | 696 |
| 7 | 90 | e220 | 547 | 161 | 481 | 411 | 2180 | 1620 | 1160 | 3170 | 3440 | 828 |
| 8 | 82 | e230 | 666 | 162 | 370 | 491 | 2050 | 1910 | 1910 | 3200 | 3250 | 978 |
| 9 | 152 | e225 | 300 | e209 | 314 | 462 | 1640 | 1920 | 2110 | 3090 | 3300 | 934 |
| 10 | 199 | e217 | 291 | 231 | 262 | 399 | 1520 | 1650 | 1190 | 3190 | 3170 | 1040 |
| 11 | 192 | e220 | 452 | 310 | 273 | 266 | 1340 | 1910 | 1690 | 3460 | 2340 | 632 |
| 12 | 188 | e224 | 642 | 251 | 353 | 668 | 1410 | 1720 | 1670 | 3500 | 1830 | 838 |
| 13 | 181 | e230 | 366 | 238 | 552 | 552 | 1140 | 1620 | 1340 | 3680 | 2360 | 658 |
| 14 | 305 | e230 | 449 | 241 | 668 | 374 | 1630 | 1960 | 1850 | 3050 | 1720 | 575 |
| 15 | 1010 | e234 | 358 | 287 | 537 | 375 | 548 | 1750 | 2280 | 1850 | 2290 | 625 |
| 16 | 434 | e233 | 345 | 343 | 636 | 401 | 1340 | 1870 | 1320 | 2170 | 2270 | 738 |
| 17 | 223 | e227 | 354 | 311 | 322 | 392 | 1930 | 1400 | 1480 | 2470 | 2580 | 932 |
| 18 | 217 | e222 | 514 | 328 | 245 | 452 | 2660 | 1150 | 1830 | 2300 | 1670 | 1100 |
| 19 | 216 | e218 | 864 | 322 | 285 | 521 | 2430 | 1090 | 2350 | 2580 | 1750 | 1020 |
| 20 | 216 | e467 | 852 | 273 | 472 | 1580 | 1930 | 1250 | 2370 | 2540 | 2820 | 1310 |
| 21 | e262 | e424 | 628 | 250 | 282 | 1830 | 1640 | 1600 | 1850 | 2610 | 2430 | 880 |
| 22 | e232 | e422 | 315 | 439 | 271 | 1850 | 1120 | 2240 | 790 | 1850 | 2310 | 632 |
| 23 | e212 | e222 | 223 | 490 | 262 | 1810 | 1130 | 1980 | 1900 | 2410 | 2280 | 255 |
| 24 | e209 | e220 | 176 | 289 | 271 | 2110 | 1200 | 1660 | 1480 | 2400 | 1480 | 604 |
| 25 | e206 | e219 | e163 | 328 | 278 | 1900 | 1190 | 1820 | 2160 | 2220 | 1540 | 528 |
| 26 | e208 | e216 | 224 | 274 | 278 | 2100 | 1320 | 1470 | 2490 | 2390 | 1690 | 401 |
| 27 | e210 | e272 | 278 | 298 | 278 | 2720 | 2020 | 972 | 2100 | 2430 | 1430 | 347 |
| 28 | e220 | e323 | e223 | 299 | 297 | 2720 | 1920 | 1040 | 2900 | 2280 | 1500 | 404 |
| 29 | e217 | e626 | 173 | 573 | --- | 2740 | 949 | 1040 | 2890 | 1770 | 1680 | 600 |
| 30 | e219 | e461 | 178 | 328 | --- | 2710 | 2320 | 452 | 2920 | 2450 | 1110 | 727 |
| 31 | e226 | --- | e150 | 367 | --- | 2800 | --- | 745 | --- | 2470 | 1130 | --- |
| TOTAL | 6942 | 8138 | 12345 | 8779 | 9918 | 35199 | 54397 | 53239 | 52200 | 79880 | 68150 | 22456 |
| MEAN | 224 | 271 | 398 | 283 | 354 | 1135 | 1813 | 1717 | 1740 | 2577 | 2198 | 749 |
| MAX | 1010 | 626 | 864 | 573 | 668 | 2800 | 2890 | 3090 | 2920 | 3680 | 3440 | 1310 |
| MIN | 77 | 216 | 150 | 150 | 245 | 238 | 548 | 452 | 590 | 1680 | 1110 | 255 |
| AC-FT | 13770 | 16140 | 24490 | 17410 | 19670 | 69820 | 107900 | 105600 | 103500 | 158400 | 135200 | 44540 |

CAL YR 1989 TOTAL 391729 MEAN 1073 MAX 3260 MIN 77 AC-FT 777000
WTR YR 1990 TOTAL 411643 MEAN 1128 MAX 3680 MIN 77 AC-FT 816500

e Estimated.

SAN JOAQUIN RIVER BASIN

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

REMARKS.--Interruptions in record were due to malfunction of recording instrument. Water temperature can be affected by releases from La Grange Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: 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 TEMPERATURE: Maximum recorded, 20.5 °C, June 6; minimum recorded, 9.5 °C, several days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 15.0 | 13.0 | 12.0 | 11.0 | 11.5 | 11.0 | 10.5 | 10.5 | 11.0 | 10.5 | 11.5 | 10.5 |
| 2 | 14.5 | 13.0 | 12.0 | 11.0 | 11.5 | 11.0 | 10.5 | 10.5 | 11.0 | 10.5 | 10.5 | 10.5 |
| 3 | 14.5 | 12.5 | 12.0 | 11.0 | 11.5 | 11.0 | 11.0 | 10.0 | 10.5 | 10.0 | 11.5 | 10.5 |
| 4 | 14.5 | 12.5 | 12.0 | 11.5 | 11.5 | 11.0 | 10.5 | 10.0 | 10.5 | 10.0 | 11.5 | 10.5 |
| 5 | 15.0 | 12.5 | 12.0 | 11.5 | 12.0 | 11.5 | 10.5 | 10.0 | 11.0 | 10.0 | 11.5 | 10.5 |
| 6 | 14.5 | 12.5 | 12.0 | 11.5 | 11.5 | 11.5 | 10.5 | 10.0 | 10.5 | 10.0 | 11.5 | 10.0 |
| 7 | 14.0 | 12.0 | 12.0 | 11.0 | 11.5 | 11.5 | 11.0 | 10.5 | 10.5 | 10.0 | 11.5 | 10.5 |
| 8 | 14.5 | 12.5 | 12.0 | 11.0 | 11.5 | 11.5 | 11.5 | 11.0 | 10.5 | 10.0 | 11.5 | 10.0 |
| 9 | 15.0 | 13.0 | 12.0 | 11.0 | 11.5 | 11.5 | 11.5 | 11.0 | 11.0 | 10.0 | 11.5 | 10.0 |
| 10 | 14.5 | 13.0 | 12.0 | 11.5 | 11.5 | 11.0 | 11.5 | 11.0 | 11.5 | 10.0 | 10.5 | 10.0 |
| 11 | 14.0 | 12.5 | 12.0 | 11.5 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.5 | 11.0 | 10.0 |
| 12 | 14.0 | 12.5 | 12.0 | 11.5 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 10.5 | 11.0 | 10.0 |
| 13 | 14.0 | 12.0 | 12.0 | 11.5 | 11.5 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | 11.0 | 9.5 |
| 14 | 14.0 | 12.0 | 11.5 | 11.5 | 11.5 | 11.0 | 11.0 | 11.0 | 10.0 | 9.5 | 11.0 | 10.0 |
| 15 | 12.0 | 11.0 | 11.5 | 11.0 | 11.5 | 11.0 | 11.5 | 11.0 | 10.5 | 9.5 | 11.5 | 10.0 |
| 16 | 12.0 | 11.0 | 11.5 | 11.0 | 11.0 | 10.5 | 11.0 | 10.5 | 9.5 | 9.5 | 11.5 | 10.5 |
| 17 | 13.0 | 11.5 | 12.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 | 9.5 | 12.5 | 10.5 |
| 18 | 13.0 | 12.0 | 12.0 | 11.5 | 11.0 | 10.5 | 10.5 | 10.0 | 10.5 | 9.5 | 12.5 | 11.0 |
| 19 | 13.0 | 12.0 | 12.0 | 11.0 | 11.0 | 11.0 | 10.5 | 10.0 | 10.5 | 9.5 | 12.0 | 11.0 |
| 20 | 13.0 | 12.0 | 12.0 | 11.5 | 11.0 | 11.0 | 10.5 | 10.0 | 10.0 | 9.5 | 12.0 | 10.5 |
| 21 | 12.5 | 12.0 | 11.5 | 11.0 | 11.0 | 11.0 | 10.5 | 10.0 | 11.0 | 10.0 | 12.0 | 10.0 |
| 22 | 12.5 | 12.0 | 11.5 | 11.5 | 11.0 | 11.0 | 10.5 | 10.0 | 11.0 | 10.0 | 11.5 | 10.0 |
| 23 | 12.0 | 12.0 | 11.5 | 11.5 | 11.0 | 11.0 | 11.0 | 10.5 | 11.5 | 10.0 | 12.0 | 10.0 |
| 24 | 12.5 | 12.0 | 11.5 | 11.5 | 11.0 | 11.0 | 11.0 | 10.5 | 11.5 | 10.5 | 12.0 | 10.0 |
| 25 | 12.0 | 11.5 | 11.5 | 11.5 | 11.0 | 11.0 | 10.5 | 10.0 | 11.5 | 10.5 | 12.0 | 10.0 |
| 26 | 12.0 | 11.5 | 11.5 | 11.5 | 11.0 | 10.5 | 11.0 | 10.0 | 12.0 | 10.5 | 12.0 | 10.0 |
| 27 | 12.5 | 11.5 | 11.5 | 11.0 | 11.0 | 10.5 | 11.0 | 10.0 | 12.0 | 11.0 | 12.0 | 10.0 |
| 28 | 12.0 | 11.5 | 11.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 12.0 | 11.0 | 12.0 | 10.0 |
| 29 | 12.0 | 11.0 | 11.5 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | --- | --- | 11.5 | 10.0 |
| 30 | 12.0 | 11.0 | 11.5 | 11.0 | 11.0 | 10.5 | 11.0 | 10.5 | --- | --- | 11.5 | 10.0 |
| 31 | 12.0 | 11.0 | --- | --- | 11.0 | 10.5 | 11.0 | 10.5 | --- | --- | 11.5 | 9.5 |
| MONTH | 15.0 | 11.0 | 12.0 | 11.0 | 12.0 | 10.5 | 11.5 | 10.0 | 12.0 | 9.5 | 12.5 | 9.5 |

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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

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 mi².

WATER-DISCHARGE RECORDS

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, crest-stage gage, and concrete control. 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.--Records good. Flow regulated by reservoirs and powerplants upstream from 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 Tuolumne River below La Grange Dam (station 11289650). See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--51 years (water years 1896, 1941-90), 1,385 ft³/s, 1,003,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1895-96, 1941-90).--Maximum discharge observed, 57,000 ft³/s, Dec. 9, 1950, elevation, 69.19 ft; minimum, 56 ft³/s, Aug. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 680 ft³/s, Oct. 16, elevation, 40.60 ft; minimum daily, 100 ft³/s, June 10, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | 179 | e293 | e297 | 233 | 247 | 232 | 254 | 556 | 144 | 125 | 115 | 134 |
| 2 | 149 | e296 | e292 | 240 | 250 | 285 | 259 | 589 | 139 | 129 | 110 | 151 |
| 3 | 158 | e298 | e260 | 251 | 247 | 345 | 258 | 582 | 138 | 123 | 107 | 150 |
| 4 | 156 | e292 | e265 | 249 | 258 | 295 | 246 | 588 | 131 | 118 | 117 | 154 |
| 5 | 156 | e285 | e268 | 257 | 249 | 278 | 246 | 477 | 128 | 113 | 103 | 149 |
| 6 | 152 | e297 | e277 | 256 | 253 | 331 | 251 | 331 | 120 | 109 | 124 | 150 |
| 7 | 150 | e295 | e269 | 238 | 255 | 317 | 263 | 247 | 111 | 112 | 137 | 157 |
| 8 | 141 | e288 | e261 | 236 | 253 | 275 | 272 | 198 | 112 | 121 | 125 | 148 |
| 9 | 140 | 303 | e280 | 240 | 255 | 291 | 270 | 164 | 102 | 117 | 125 | 141 |
| 10 | 146 | 305 | e274 | 243 | 255 | 254 | 273 | 149 | 100 | 118 | 126 | 156 |
| 11 | 149 | 290 | e260 | 244 | 254 | 233 | 268 | 147 | 112 | 121 | 124 | 152 |
| 12 | 144 | 288 | e252 | 259 | 241 | 228 | 256 | 145 | 122 | 112 | 120 | 137 |
| 13 | 149 | 292 | e297 | 265 | 239 | 271 | 258 | 134 | 115 | 109 | 126 | 131 |
| 14 | 168 | 307 | 325 | 273 | 247 | 236 | 245 | 133 | 116 | 108 | 136 | 133 |
| 15 | 168 | 307 | 307 | 241 | 248 | 236 | 250 | 136 | 106 | 104 | 141 | 136 |
| 16 | 549 | 301 | 304 | 247 | 304 | 275 | 256 | 138 | 100 | 111 | 137 | 146 |
| 17 | 483 | 307 | 275 | 251 | 303 | 233 | 263 | 135 | 111 | 126 | 143 | 152 |
| 18 | 317 | 299 | 252 | 243 | 379 | 229 | 270 | 133 | 111 | 114 | 145 | 152 |
| 19 | 288 | 290 | 259 | 235 | 344 | 229 | 247 | 116 | 126 | 118 | 148 | 152 |
| 20 | 282 | 292 | 249 | 225 | 319 | 225 | 251 | 120 | 119 | 126 | 161 | 144 |
| 21 | 292 | 299 | 279 | 229 | 302 | 230 | 247 | 126 | 126 | 107 | 159 | 146 |
| 22 | 288 | 295 | 261 | 230 | 282 | 235 | 265 | 131 | 120 | 102 | 156 | 147 |
| 23 | 324 | 290 | 248 | 230 | 265 | 236 | 313 | 134 | 114 | 117 | 138 | 150 |
| 24 | 343 | 295 | 240 | 240 | 248 | 250 | 335 | 142 | 131 | 128 | 134 | 153 |
| 25 | 348 | 313 | 239 | 238 | 237 | 253 | 325 | 148 | 132 | 123 | 142 | 150 |
| 26 | 323 | 340 | 242 | 252 | 238 | 253 | 278 | 143 | 141 | 122 | 157 | 151 |
| 27 | 307 | 290 | 251 | 243 | 242 | 266 | 259 | 173 | 119 | 127 | 162 | 151 |
| 28 | e296 | 307 | 254 | 242 | 239 | 269 | 267 | 357 | 115 | 113 | 161 | 146 |
| 29 | e290 | 303 | 243 | 246 | --- | 267 | 261 | 297 | 113 | 130 | 150 | 154 |
| 30 | e295 | 299 | 232 | 250 | --- | 273 | 414 | 184 | 110 | 133 | 139 | 153 |
| 31 | e291 | --- | 229 | 242 | --- | 272 | --- | 141 | --- | 125 | 141 | --- |
| TOTAL | 7621 | 8956 | 8241 | 7568 | 7453 | 8102 | 8120 | 7194 | 3584 | 3661 | 4209 | 4426 |
| MEAN | 246 | 299 | 266 | 244 | 266 | 261 | 271 | 232 | 119 | 118 | 136 | 148 |
| MAX | 549 | 340 | 325 | 273 | 379 | 345 | 414 | 589 | 144 | 133 | 162 | 157 |
| MIN | 140 | 285 | 229 | 225 | 237 | 225 | 245 | 116 | 100 | 102 | 103 | 131 |
| AC-FT | 15120 | 17760 | 16350 | 15010 | 14780 | 16070 | 16110 | 14270 | 7110 | 7260 | 8350 | 8780 |

CAL YR 1989 TOTAL 77444 MEAN 212 MAX 912 MIN 118 AC-FT 153600
WTR YR 1990 TOTAL 79135 MEAN 217 MAX 589 MIN 100 AC-FT 157000

e Estimated.

WATER-QUALITY RECORDS

WATER TEMPERATURE: October 1988 to current year.

WATER TEMPERATURE: Water year 1989 to current year.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

WATER TEMPERATURE: Maximum recorded, 34.0 °C, July 13, 1990; minimum recorded, 7.5 °C, several days during December 1988, January and December 1989.

WATER TEMPERATURE: Maximum recorded, 34.0 °C. July 13; minimum recorded, 7.5 °C. December 25, 26.

[illegible]

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990[illegible]

SAN JOAQUIN RIVER BASIN

303

11290000 TUOLUMNE RIVER AT MODESTO, CA-Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 21.0 | 16.0 | 20.5 | 18.5 | 25.0 | 17.0 | 27.5 | 23.5 | 29.5 | 24.0 | 26.0 | 22.0 |
| 2 | 20.5 | 15.5 | 19.5 | 17.0 | 26.5 | 18.5 | 29.0 | 22.5 | 29.0 | 24.0 | 25.5 | 22.0 |
| 3 | 21.5 | 16.5 | 20.0 | 17.5 | 27.5 | 19.5 | 30.0 | 22.0 | 28.5 | 24.0 | 26.0 | 22.0 |
| 4 | 22.0 | 17.5 | 20.5 | 18.0 | 28.0 | 20.0 | 29.5 | 21.0 | --- | --- | 26.0 | 21.5 |
| 5 | 21.0 | 17.0 | 22.0 | 19.0 | 28.5 | 20.0 | 30.0 | 21.5 | --- | --- | 25.5 | 22.0 |
| 6 | 21.5 | 17.0 | 23.5 | 19.0 | 29.0 | 21.0 | 30.0 | 22.0 | --- | --- | 25.5 | 22.5 |
| 7 | 19.0 | 17.0 | 24.0 | 19.0 | 29.5 | 20.5 | 30.0 | 22.0 | 30.5 | 26.0 | 26.5 | 21.5 |
| 8 | 20.0 | 16.5 | 24.5 | 18.5 | 30.0 | 21.5 | 30.5 | 23.0 | 31.0 | 26.0 | 25.5 | 21.0 |
| 9 | 21.0 | 16.0 | --- | --- | 30.0 | 23.0 | 31.0 | 22.5 | 31.0 | 27.0 | 26.5 | 20.5 |
| 10 | --- | --- | --- | --- | 30.0 | 22.0 | 32.0 | 23.5 | 30.5 | 26.0 | 26.0 | 21.0 |
| 11 | 22.0 | 17.0 | --- | --- | 28.5 | 20.0 | 32.0 | 25.0 | 29.5 | 25.5 | 26.0 | 21.5 |
| 12 | 22.5 | 17.5 | --- | --- | 28.5 | 20.0 | 33.5 | 25.5 | 30.0 | 25.0 | 26.0 | 21.0 |
| 13 | 23.5 | 18.0 | --- | --- | 28.5 | 20.0 | 34.0 | 26.5 | 29.0 | 24.5 | 24.5 | 20.5 |
| 14 | 23.5 | 19.0 | --- | --- | 27.5 | 20.0 | 33.5 | 26.0 | 26.5 | 23.5 | 24.0 | 21.0 |
| 15 | 23.0 | 18.5 | --- | --- | 28.5 | 21.0 | 32.5 | 25.5 | 27.0 | 22.0 | 23.5 | 20.5 |
| 16 | 20.0 | 18.5 | --- | --- | 28.5 | 20.5 | 29.0 | 25.0 | 27.0 | 22.5 | 23.5 | 20.5 |
| 17 | 21.0 | 17.5 | --- | --- | 28.5 | 20.0 | 30.5 | 24.0 | 27.0 | 22.5 | 24.5 | 20.5 |
| 18 | 22.5 | 18.0 | --- | --- | 28.0 | 20.5 | 30.5 | 24.5 | 25.0 | 22.5 | 24.5 | 20.5 |
| 19 | 21.0 | 18.0 | --- | --- | 29.5 | 21.0 | 31.5 | 24.0 | 26.5 | 21.0 | 24.5 | 20.5 |
| 20 | 22.0 | 17.0 | --- | --- | 31.5 | 23.5 | 32.0 | 24.5 | 27.0 | 21.0 | 25.0 | 21.0 |
| 21 | 22.5 | 17.5 | --- | --- | 31.0 | 24.5 | 32.0 | 25.0 | 27.5 | 22.0 | 23.5 | 20.5 |
| 22 | 21.0 | 18.0 | --- | --- | 29.0 | 23.5 | 31.0 | 24.5 | 27.5 | 22.0 | 24.5 | 21.0 |
| 23 | 22.0 | 18.0 | --- | --- | 29.5 | 22.5 | --- | --- | --- | --- | 23.0 | 21.0 |
| 24 | 21.5 | 18.0 | 24.5 | 17.0 | 29.0 | 23.0 | --- | --- | 27.0 | 23.5 | 23.0 | 20.0 |
| 25 | 22.5 | 17.5 | 24.0 | 17.5 | 29.5 | 22.0 | 28.5 | 23.0 | 25.5 | 22.0 | 23.5 | 20.0 |
| 26 | 23.0 | 19.0 | 25.0 | 18.0 | 29.0 | 22.0 | 28.5 | 22.5 | 25.0 | 21.5 | 23.5 | 20.0 |
| 27 | 24.0 | 19.0 | 21.0 | 19.0 | 29.5 | 22.5 | 29.5 | 23.0 | 26.0 | 22.0 | 23.0 | 19.5 |
| 28 | 24.0 | 20.0 | 21.0 | 16.5 | 29.5 | 22.5 | 29.5 | 24.0 | 26.5 | 22.5 | 23.5 | 20.0 |
| 29 | 22.5 | 18.5 | 22.5 | 17.5 | 31.0 | 23.0 | --- | --- | 26.5 | 23.0 | 23.5 | 20.5 |
| 30 | 21.5 | 18.0 | 23.0 | 19.0 | 31.0 | 23.5 | --- | --- | 26.0 | 23.0 | 24.5 | 21.0 |
| 31 | --- | --- | 24.5 | 18.5 | --- | --- | --- | --- | 25.5 | 22.0 | --- | --- |
| MONTH | --- | --- | --- | --- | 31.5 | 17.0 | --- | --- | --- | --- | 26.5 | 19.5 |

305

LOCATION.--Lat 38°16'52", long 119°43'57", in NW 1/4 SW 1/4 sec.13, T.5 N., R.20 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on upstream side of dam, 200 ft from left abutment of dam, 2.2 mi south of Kennedy Meadows, 3.6 mi southeast of Baker Station, and 7.0 mi southeast of Dardanelle.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam completed in 1910. Usable capacity, 15,558 acre-ft between elevations 7,198.63 ft, invert of outlet, and 7,338 ft, top of flashboards in spillway. The spillway crest is at an elevation of 7,330 ft, or gage sloping distance of 13.7 ft. Figures given herein represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

Capacity table (sloping distance, in feet, and contents, in acre-ft)
(Based on survey by Pacific Gas & Electric Co. in 1942)

| | | | |
|-----|-------|----|--------|
| 160 | 0 | 60 | 6,259 |
| 140 | 55 | 40 | 9,197 |
| 120 | 579 | 20 | 12,639 |
| 100 | 1,863 | 4 | 15,726 |
| 80 | 3,815 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES[illegible]

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 mi².

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.--Low and medium flow regulated by Relief Reservoir (station 11291000) 1.6 mi upstream. No diversion upstream from station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--(unadjusted) 52 years, 134 ft³/s, 97,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,700 ft³/s, Nov. 20, 1950, gage height, 6.66 ft; maximum gage height, 6.67 ft, May 29, 1983; minimum daily, 7.1 ft³/s, Jan. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 447 ft³/s, July 16, gage height, 4.38 ft; minimum daily, 16 ft³/s, Feb. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|-------|-------|------|------|------|
| 1 | 45 | 80 | 25 | 19 | 20 | 27 | 51 | 150 | 238 | 80 | 45 | 54 |
| 2 | 47 | 80 | 25 | 20 | 20 | 26 | 56 | 162 | 235 | 80 | 44 | 54 |
| 3 | 52 | 78 | 26 | e18 | 19 | 27 | 59 | 195 | 244 | 74 | 43 | 53 |
| 4 | 49 | 78 | 26 | e17 | 21 | 28 | 64 | 206 | 233 | 68 | 43 | 53 |
| 5 | 47 | 78 | 26 | e17 | 22 | 28 | 72 | 221 | 225 | 65 | 46 | 53 |
| 6 | 45 | 69 | 27 | e18 | e19 | 26 | 87 | 236 | 250 | 63 | 45 | 53 |
| 7 | 44 | 59 | 25 | 19 | e18 | 26 | 84 | 264 | 261 | 60 | 44 | 53 |
| 8 | 43 | 58 | 25 | 21 | e17 | 27 | 77 | 258 | 278 | 59 | 44 | 52 |
| 9 | 45 | 58 | 24 | 20 | e16 | 28 | 96 | 160 | 290 | 58 | 44 | 52 |
| 10 | 46 | 57 | 24 | 19 | e16 | 30 | 132 | 133 | 283 | 52 | 43 | 52 |
| 11 | 49 | 58 | 23 | 19 | e17 | 29 | 141 | 118 | 267 | 41 | 42 | 51 |
| 12 | 54 | 57 | 23 | 19 | e19 | 28 | 146 | 103 | 253 | 62 | 41 | 51 |
| 13 | 54 | 50 | 23 | 22 | e20 | 28 | 156 | 101 | 242 | 70 | 50 | 51 |
| 14 | 54 | 41 | 23 | 22 | 21 | 25 | 172 | 105 | 230 | 89 | 60 | 51 |
| 15 | 54 | 40 | 22 | 20 | e19 | 26 | 174 | 102 | 222 | 87 | 59 | 50 |
| 16 | 54 | 40 | 22 | 20 | 18 | 26 | 180 | 96 | 216 | 140 | 59 | 50 |
| 17 | 67 | 39 | 22 | e18 | 18 | 27 | 162 | 101 | 220 | 156 | 59 | 51 |
| 18 | 75 | 38 | 21 | 18 | e21 | 33 | 147 | 98 | 229 | 101 | 58 | 53 |
| 19 | 74 | 38 | 21 | e17 | e21 | 38 | 151 | 93 | 225 | 84 | 59 | 52 |
| 20 | 73 | 38 | 21 | e17 | e20 | 42 | 156 | 83 | 235 | 72 | 59 | 50 |
| 21 | 75 | 37 | 21 | e18 | e20 | 45 | 154 | 130 | 244 | 65 | 58 | 50 |
| 22 | 78 | 38 | 21 | 19 | 20 | 48 | 147 | 178 | 251 | 62 | 58 | 50 |
| 23 | 90 | 37 | 21 | 19 | 21 | 49 | 154 | 185 | 245 | 58 | 57 | 50 |
| 24 | 114 | 39 | 20 | 20 | 22 | 54 | 151 | 187 | 230 | 55 | 56 | 51 |
| 25 | 98 | 39 | 21 | 20 | 22 | 58 | 145 | 183 | 194 | 53 | 56 | 50 |
| 26 | 89 | 37 | 20 | 20 | 23 | 59 | 153 | 181 | 131 | 51 | 56 | 50 |
| 27 | 88 | 37 | 20 | 20 | 24 | 57 | 170 | 181 | 85 | 50 | 56 | 50 |
| 28 | 86 | 30 | 20 | 20 | 25 | 55 | 190 | 188 | 83 | 48 | 55 | 50 |
| 29 | 82 | 25 | 20 | 20 | --- | 51 | 191 | 214 | 81 | 48 | 54 | 49 |
| 30 | 82 | 25 | 19 | 19 | --- | 48 | 168 | 241 | 81 | 46 | 55 | 48 |
| 31 | 81 | --- | 19 | 21 | --- | 47 | --- | 242 | --- | 46 | 54 | --- |
| TOTAL | 2034 | 1478 | 696 | 596 | 559 | 1146 | 3986 | 5095 | 6501 | 2143 | 1602 | 1537 |
| MEAN | 65.6 | 49.3 | 22.5 | 19.2 | 20.0 | 37.0 | 133 | 164 | 217 | 69.1 | 51.7 | 51.2 |
| MAX | 114 | 80 | 27 | 22 | 25 | 59 | 191 | 264 | 290 | 156 | 60 | 54 |
| MIN | 43 | 25 | 19 | 17 | 16 | 25 | 51 | 83 | 81 | 41 | 41 | 48 |
| AC-FT | 4030 | 2930 | 1380 | 1180 | 1110 | 2270 | 7910 | 10110 | 12890 | 4250 | 3180 | 3050 |

CAL YR 1989 TOTAL 43310 MEAN 119 MAX 629 MIN 14 AC-FT 85910
WTR YR 1990 TOTAL 27373 MEAN 75.0 MAX 290 MIN 16 AC-FT 54290

e Estimated.

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 mi².

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.--Records good except for periods of estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--40 years, 152 ft³/s, 110,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft³/s, Nov. 20, 1950, gage height, 11.88 ft, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 9.8 ft³/s, Sept. 11-15, 26-30, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| May 5 | 2230 | *447 | *4.54 | | | | |
| Minimum daily, 15 ft ³ /s, Sept. 21. | | | | | | | |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|------|------|------|------|
| 1 | 41 | 38 | e35 | 27 | e30 | 41 | 125 | 200 | 160 | 64 | 24 | 18 |
| 2 | 36 | 38 | e35 | 30 | e30 | 41 | 136 | 208 | 172 | 61 | 23 | 18 |
| 3 | 34 | 37 | e35 | e23 | e31 | 43 | 135 | 244 | 197 | 58 | 23 | 17 |
| 4 | 33 | 38 | e36 | e23 | e32 | 43 | 141 | 284 | 231 | 55 | 23 | 17 |
| 5 | 31 | 40 | 38 | e23 | e31 | 40 | 148 | 325 | 256 | 52 | 24 | 17 |
| 6 | 31 | 37 | 38 | e25 | e29 | 39 | 146 | 353 | 251 | 50 | 25 | 17 |
| 7 | 30 | 35 | 37 | e28 | e28 | 40 | 148 | 334 | 256 | 48 | 24 | 17 |
| 8 | 29 | 34 | 36 | e36 | e27 | 43 | 140 | 312 | 283 | 46 | 25 | 17 |
| 9 | 29 | 34 | 35 | e35 | e26 | 45 | 130 | 311 | 280 | 44 | 27 | 16 |
| 10 | 29 | 34 | 37 | 36 | e27 | 48 | 147 | 301 | 257 | 43 | 27 | 16 |
| 11 | 28 | 36 | e30 | 32 | e28 | 44 | 174 | 252 | 224 | 43 | 23 | 16 |
| 12 | 28 | 36 | e28 | 32 | e30 | 46 | 193 | 244 | 200 | 41 | 22 | 16 |
| 13 | 27 | 34 | e29 | 33 | e31 | e35 | 230 | 249 | 178 | 40 | 21 | 16 |
| 14 | 27 | 33 | e29 | 32 | 32 | e40 | 270 | 244 | 163 | 78 | 21 | 16 |
| 15 | 27 | 32 | e30 | 31 | e25 | 42 | 287 | 225 | 145 | 53 | 21 | 16 |
| 16 | 27 | 32 | e30 | 30 | e23 | 44 | 280 | 226 | 136 | 49 | 21 | 16 |
| 17 | 27 | 31 | e29 | e22 | e24 | 47 | 201 | 222 | 141 | 46 | 20 | 16 |
| 18 | 27 | 30 | e29 | e22 | e25 | 56 | 185 | 205 | 139 | 62 | 21 | 16 |
| 19 | 26 | 30 | e27 | e23 | e24 | 67 | 212 | 192 | 130 | 62 | 24 | 17 |
| 20 | 26 | 30 | e27 | e22 | e23 | 76 | 231 | 169 | 135 | 42 | 30 | 16 |
| 21 | 28 | 29 | e28 | e21 | e25 | 88 | 201 | 159 | 134 | 37 | 25 | 15 |
| 22 | 33 | 30 | e29 | e24 | e26 | 97 | 194 | 174 | 129 | 35 | 22 | 16 |
| 23 | 44 | 29 | e30 | e32 | e29 | 101 | 218 | 177 | 117 | 33 | 21 | 16 |
| 24 | 61 | 33 | e34 | e33 | e32 | 112 | 190 | 168 | 107 | 32 | 20 | 19 |
| 25 | 45 | 34 | 42 | 35 | e34 | 123 | 192 | 157 | 99 | 31 | 20 | 20 |
| 26 | 38 | 27 | 32 | 33 | e35 | 125 | 222 | 157 | 90 | 30 | 20 | 19 |
| 27 | 40 | e25 | 28 | e30 | 36 | 125 | 268 | 169 | 83 | 29 | 20 | 19 |
| 28 | 38 | e27 | e27 | e29 | 39 | 121 | 308 | 175 | 77 | 28 | 19 | 18 |
| 29 | 36 | e29 | e26 | e30 | --- | 109 | 286 | 162 | 73 | 27 | 18 | 18 |
| 30 | 37 | e32 | e26 | 31 | --- | 108 | 232 | 162 | 68 | 25 | 18 | 17 |
| 31 | 38 | --- | 27 | e30 | --- | 114 | --- | 165 | --- | 24 | 18 | --- |
| TOTAL | 1031 | 984 | 979 | 893 | 812 | 2143 | 5970 | 6925 | 4911 | 1368 | 690 | 508 |
| MEAN | 33.3 | 32.8 | 31.6 | 28.8 | 29.0 | 69.1 | 199 | 223 | 164 | 44.1 | 22.3 | 16.9 |
| MAX | 61 | 40 | 42 | 36 | 39 | 125 | 308 | 353 | 283 | 78 | 30 | 20 |
| MIN | 26 | 25 | 26 | 21 | 23 | 35 | 125 | 157 | 68 | 24 | 18 | 15 |
| AC-FT | 2040 | 1950 | 1940 | 1770 | 1610 | 4250 | 11840 | 13740 | 9740 | 2710 | 1370 | 1010 |

CAL YR 1989 TOTAL 51481 MEAN 141 MAX 720 MIN 17 AC-FT 102100
WTR YR 1990 TOTAL 27214 MEAN 74.6 MAX 353 MIN 15 AC-FT 53980

e Estimated.

SAN JOAQUIN RIVER BASIN

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 mi².

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1960, published as Donnell's 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.

COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

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, 63,000 acre-ft, June 11-13, gage height, 4,912.9 ft; minimum, 6,450 acre-ft, Jan. 6, gage height, 4,742.7 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Oct. 1, 1956)

| | | | | | | | |
|-------|-------|-------|--------|-------|--------|---------|--------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 20000 | 17600 | 10100 | 9110 | 10400 | 14800 | 12400 | 52900 | 59700 | 58600 | 51600 | 32500 |
| 2 | 19500 | 17300 | 10300 | 8710 | 10500 | 15000 | 13300 | 54100 | 60100 | 58400 | 51000 | 32600 |
| 3 | 19000 | 16900 | 10400 | 8260 | 10700 | 15400 | 14300 | 55600 | 60300 | 58000 | 50300 | 31900 |
| 4 | 18400 | 17200 | 10100 | 7890 | 10800 | 15800 | 15300 | 57200 | 60600 | 58400 | 49700 | 31200 |
| 5 | 17900 | 17500 | 9660 | 7180 | 11000 | 16100 | 16400 | 58900 | 60900 | 58000 | 49800 | 30500 |
| 6 | 17300 | 17100 | 9860 | 6450 | 11100 | 16400 | 17500 | 60000 | 61300 | 57700 | 49200 | 29700 |
| 7 | 17400 | 16700 | 10000 | 6610 | 11300 | 16500 | 18600 | 60700 | 61600 | 58000 | 48100 | 29000 |
| 8 | 17500 | 16300 | 10200 | 6780 | 11300 | 16100 | 19700 | 61400 | 62000 | 58300 | 47100 | 28200 |
| 9 | 16900 | 15900 | 10300 | 6980 | 11400 | 15700 | 20700 | 61700 | 62400 | 57900 | 46100 | 28300 |
| 10 | 16300 | 15500 | 10500 | 7140 | 11600 | 15600 | 21900 | 62000 | 62800 | 57400 | 45100 | 27600 |
| 11 | 15600 | 15700 | 10200 | 7280 | 11700 | 15900 | 22700 | 62100 | 63000 | 57100 | 44500 | 26900 |
| 12 | 15100 | 15900 | 9850 | 7440 | 11900 | 15400 | 24100 | 62000 | 63000 | 56800 | 44600 | 26200 |
| 13 | 14500 | 15400 | 9530 | 7640 | 12100 | 14800 | 25700 | 62000 | 63000 | 56500 | 43900 | 25600 |
| 14 | 14700 | 14900 | 9180 | 7830 | 12200 | 14100 | 27600 | 62000 | 62800 | 56200 | 43200 | 24800 |
| 15 | 14900 | 14400 | 8900 | 8000 | 12200 | 13400 | 29400 | 61800 | 62600 | 56500 | 42500 | 24100 |
| 16 | 15000 | 13900 | 9020 | 8170 | 12400 | 12400 | 31400 | 61700 | 62400 | 56300 | 41800 | 24200 |
| 17 | 15200 | 13200 | 9140 | 8300 | 12500 | 11500 | 32800 | 61500 | 62100 | 56200 | 41200 | 23600 |
| 18 | 15400 | 13300 | 8960 | 8450 | 12700 | 10600 | 34100 | 61300 | 61900 | 55900 | 40500 | 23100 |
| 19 | 15500 | 13400 | 8700 | 8530 | 12800 | 10400 | 35400 | 61000 | 61600 | 55700 | 40600 | 22600 |
| 20 | 15700 | 12900 | 8440 | 8660 | 13000 | 10600 | 36500 | 60700 | 61400 | 55400 | 40000 | 22100 |
| 21 | 15900 | 12300 | 8250 | 8810 | 13100 | 10700 | 38000 | 60300 | 61300 | 55500 | 39400 | 21500 |
| 22 | 16100 | 11700 | 7980 | 8970 | 13300 | 10800 | 39300 | 60100 | 61100 | 55700 | 38700 | 21700 |
| 23 | 16400 | 11800 | 8090 | 9110 | 13500 | 11000 | 41100 | 60000 | 60800 | 55300 | 38000 | 21800 |
| 24 | 17100 | 12000 | 8210 | 9260 | 13600 | 11300 | 42200 | 59800 | 60500 | 54900 | 37300 | 21400 |
| 25 | 17600 | 12200 | 8330 | 9400 | 13800 | 11600 | 43500 | 59600 | 60100 | 54500 | 36600 | 21000 |
| 26 | 17900 | 12400 | 8450 | 9540 | 14100 | 11600 | 45000 | 59400 | 59500 | 54100 | 36700 | 20800 |
| 27 | 18100 | 11900 | 8560 | 9670 | 14300 | 11400 | 46700 | 59300 | 58800 | 53600 | 36100 | 20500 |
| 28 | 18400 | 11400 | 8680 | 9800 | 14500 | 11100 | 48500 | 59300 | 58100 | 53400 | 35400 | 20200 |
| 29 | 18700 | 10800 | 8780 | 9940 | --- | 10700 | 50200 | 59200 | 57800 | 53500 | 34700 | 20200 |
| 30 | 18200 | 10400 | 8890 | 10100 | --- | 10700 | 51700 | 59300 | 58200 | 53000 | 34000 | 20400 |
| 31 | 17900 | --- | 9000 | 10200 | --- | 11600 | --- | 59600 | --- | 52300 | 33200 | --- |
| MAX | 20000 | 17600 | 10500 | 10200 | 14500 | 16500 | 51700 | 62100 | 63000 | 58600 | 51600 | 32600 |
| MIN | 14500 | 10400 | 7980 | 6450 | 10400 | 10400 | 12400 | 52900 | 57800 | 52300 | 33200 | 20200 |
| a | 4785.9 | 4758.7 | 4753.1 | 4758.0 | 4774.0 | 4762.9 | 4884.8 | 4904.7 | 4901.2 | 4886.4 | 4834.4 | 4794.4 |
| b | -1900 | -7500 | -1400 | +1200 | +4300 | -2900 | +40100 | +7900 | -1400 | -5900 | -19100 | -12800 |

CAL YR 1989 b -940

WTR YR 1990 b +600

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

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.--Records good except for period of estimated daily discharges, which are fair. Flow regulated by Relief Reservoir (station 11291000), Donnell Lake (station 11292600), and diversion around station through Donnell powerplant. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--34 years, 259 ft³/s, 187,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/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 ft³/s on basis of slope-area measurement at gage height 12.20 ft; minimum daily, 3.3 ft³/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 ft³/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 312 ft³/s, Apr. 23, gage height, 4.99 ft; minimum daily, 19 ft³/s, several days July through September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|------|------|------|------|------|
| 1 | 40 | 52 | 35 | 31 | 44 | 82 | 160 | 131 | 122 | 21 | e20 | e20 |
| 2 | 40 | 49 | 35 | 32 | 42 | 84 | 166 | 123 | 96 | 21 | e21 | e20 |
| 3 | 39 | 38 | 35 | 31 | 42 | 118 | 172 | 114 | 79 | 22 | e20 | e21 |
| 4 | 39 | 37 | 36 | 30 | 45 | 123 | 178 | 94 | 69 | 23 | e20 | e20 |
| 5 | 38 | 37 | 37 | 30 | 43 | 106 | 176 | 90 | 63 | 22 | e20 | e20 |
| 6 | 38 | 37 | 37 | 29 | 45 | 99 | 181 | 86 | 59 | 22 | e20 | e21 |
| 7 | 37 | 37 | 36 | 34 | 42 | 98 | 181 | 81 | 56 | 21 | e20 | e21 |
| 8 | 37 | 36 | 37 | 55 | 42 | 101 | 187 | 77 | 52 | 21 | e20 | e21 |
| 9 | 37 | 35 | 36 | 46 | 43 | 105 | 170 | 73 | 49 | 21 | e22 | e20 |
| 10 | 37 | 34 | 36 | 40 | 45 | 110 | 174 | 63 | 47 | e35 | e21 | e20 |
| 11 | 36 | 34 | 35 | 38 | 48 | 103 | 179 | 61 | 46 | e25 | e20 | e20 |
| 12 | 36 | 34 | 34 | 40 | 51 | 94 | 177 | 57 | 44 | e23 | e19 | e20 |
| 13 | 36 | 34 | 34 | 55 | 50 | 88 | 185 | 54 | 42 | e23 | e21 | e19 |
| 14 | 40 | 33 | 33 | 53 | 46 | 88 | 193 | 51 | 40 | e23 | e22 | e20 |
| 15 | 40 | 32 | 33 | 48 | 47 | 89 | 192 | 49 | 44 | e23 | e22 | e21 |
| 16 | 41 | 32 | 33 | 47 | 49 | 95 | 198 | 46 | 45 | e22 | e22 | e22 |
| 17 | 41 | 32 | 32 | 44 | 52 | 101 | 178 | 43 | 39 | e22 | e21 | e21 |
| 18 | 41 | 31 | 32 | 44 | 49 | 117 | 162 | 41 | 36 | e21 | e22 | e21 |
| 19 | 40 | 31 | 32 | 41 | 49 | 131 | 159 | 40 | 34 | e21 | e20 | e22 |
| 20 | 40 | 30 | 31 | 41 | 46 | 145 | 161 | 39 | 31 | e20 | e21 | e23 |
| 21 | 41 | 30 | 32 | 41 | 47 | 155 | 169 | 39 | 29 | e20 | e21 | 23 |
| 22 | 42 | 30 | 31 | 41 | 50 | 162 | 152 | 37 | 27 | e19 | e21 | 23 |
| 23 | 52 | 29 | 31 | 41 | 54 | 163 | 251 | 43 | 26 | e19 | e21 | 23 |
| 24 | 142 | 34 | 31 | 41 | 57 | 174 | 225 | 53 | 25 | e20 | e21 | 23 |
| 25 | 85 | 38 | 31 | 42 | 60 | 183 | 186 | 48 | 24 | e20 | e21 | 23 |
| 26 | 65 | 59 | 31 | 42 | 66 | 182 | 175 | 44 | 23 | e19 | e21 | 23 |
| 27 | 60 | 41 | 31 | 41 | 70 | 176 | 169 | 60 | 23 | e20 | e21 | 23 |
| 28 | 58 | 38 | 30 | 40 | 78 | 166 | 164 | 103 | 24 | e21 | e21 | 23 |
| 29 | 56 | 37 | 30 | 41 | --- | 153 | 155 | 82 | 23 | e22 | e20 | 22 |
| 30 | 54 | 36 | 30 | 43 | --- | 150 | 141 | 75 | 22 | e21 | e21 | 22 |
| 31 | 53 | --- | 30 | 43 | --- | 151 | --- | 162 | --- | e21 | e21 | --- |
| TOTAL | 1481 | 1087 | 1027 | 1265 | 1402 | 3892 | 5316 | 2159 | 1339 | 674 | 644 | 641 |
| MEAN | 47.8 | 36.2 | 33.1 | 40.8 | 50.1 | 126 | 177 | 69.6 | 44.6 | 21.7 | 20.8 | 21.4 |
| MAX | 142 | 59 | 37 | 55 | 78 | 183 | 251 | 162 | 122 | 35 | 22 | 23 |
| MIN | 36 | 29 | 30 | 29 | 42 | 82 | 141 | 37 | 22 | 19 | 19 | 19 |
| AC-FT | 2940 | 2160 | 2040 | 2510 | 2780 | 7720 | 10540 | 4280 | 2660 | 1340 | 1280 | 1270 |

CAL YR 1989 TOTAL 61343 MEAN 168 MAX 1760 MIN 25 AC-FT 121700
WTR YR 1990 TOTAL 20927 MEAN 57.3 MAX 251 MIN 19 AC-FT 41510

e Estimated.

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 powerplant, 3.9 mi west of Strawberry, and 4.7 mi west of Pinecrest.

DRAINAGE AREA.--309 mi².

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, is diverted at Beardsley afterbay to J. W. Southern powerplant at Sand Bar Flat on the Middle Fork Stanislaus River, and diverted again at Spring Gap to Stanislaus powerplant at the head of New Melones Reservoir (station 11299000). Records, including extremes, represent contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

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, 78,600 acre-ft, June 28, gage height, 3,369.2 ft; minimum, 20,700 acre-ft, Mar. 5, 6, minimum gage height, 3,262.8 ft, Mar. 6.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated Oct. 3, 1956)

| | | | | | |
|-------|-------|-------|--------|-------|--------|
| 3,154 | 2 | 3,200 | 2,370 | 3,290 | 33,100 |
| 3,160 | 41 | 3,210 | 3,790 | 3,320 | 48,800 |
| 3,170 | 267 | 3,220 | 5,720 | 3,350 | 66,400 |
| 3,180 | 693 | 3,240 | 11,600 | 3,370 | 79,200 |
| 3,190 | 1,370 | 3,260 | 19,500 | 3,398 | 98,500 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 73900 | 54600 | 53800 | 31200 | 26500 | 20900 | 36600 | 38700 | 69000 | 76900 | 59600 | 49500 |
| 2 | 73700 | 54300 | 52900 | 31000 | 26200 | 20800 | 36600 | 38800 | 69300 | 76600 | 59300 | 48500 |
| 3 | 73500 | 54000 | 52100 | 31000 | 26000 | 20800 | 36700 | 39000 | 69600 | 76300 | 59000 | 48200 |
| 4 | 73200 | 53100 | 51600 | 30900 | 25800 | 20800 | 36800 | 39000 | 69900 | 75300 | 58800 | 48000 |
| 5 | 72900 | 52600 | 51400 | 31400 | 25600 | 20700 | 36800 | 39000 | 70300 | 75100 | 57700 | 47900 |
| 6 | 72700 | 53000 | 50500 | 31900 | 25400 | 20700 | 37100 | 40000 | 70500 | 74800 | 57400 | 47700 |
| 7 | 71800 | 53300 | 49600 | 31700 | 25100 | 20800 | 37200 | 41100 | 71000 | 73800 | 57700 | 47600 |
| 8 | 70800 | 53800 | 48700 | 31600 | 25000 | 21600 | 37300 | 42200 | 71500 | 72900 | 57800 | 47500 |
| 9 | 70600 | 54100 | 47800 | 31400 | 24800 | 22300 | 37300 | 43400 | 71800 | 72600 | 58000 | 46600 |
| 10 | 70500 | 54500 | 46900 | 31200 | 24600 | 22800 | 36900 | 44600 | 72200 | 72200 | 58000 | 46500 |
| 11 | 70300 | 54300 | 46500 | 31000 | 24400 | 22800 | 37100 | 45700 | 72600 | 71500 | 57700 | 46300 |
| 12 | 70100 | 54100 | 46000 | 30800 | 24200 | 23500 | 36700 | 46900 | 73000 | 71000 | 56600 | 46300 |
| 13 | 69800 | 54600 | 45600 | 30600 | 23900 | 24300 | 36600 | 48000 | 73300 | 70500 | 56300 | 46000 |
| 14 | 68900 | 55000 | 45200 | 30500 | 23700 | 25200 | 36700 | 49100 | 73700 | 70100 | 56100 | 45900 |
| 15 | 67900 | 55500 | 44800 | 30300 | 23600 | 26100 | 36800 | 50200 | 74200 | 69000 | 55800 | 45800 |
| 16 | 67000 | 55900 | 43800 | 30100 | 23400 | 27000 | 36900 | 51300 | 74600 | 68600 | 55500 | 44800 |
| 17 | 66000 | 56500 | 42900 | 29800 | 23200 | 28200 | 37000 | 52500 | 74900 | 68200 | 55200 | 44800 |
| 18 | 65100 | 56200 | 42400 | 29600 | 23000 | 29400 | 37000 | 53600 | 75300 | 67700 | 54900 | 45200 |
| 19 | 64100 | 56000 | 41800 | 29400 | 22800 | 30200 | 37000 | 54700 | 75600 | 67300 | 53900 | 45600 |
| 20 | 63200 | 56600 | 41300 | 29100 | 22500 | 30700 | 37400 | 55800 | 76000 | 66800 | 53600 | 46000 |
| 21 | 62200 | 57000 | 40800 | 28900 | 22300 | 31300 | 37500 | 56900 | 76300 | 65800 | 53300 | 46300 |
| 22 | 61300 | 57400 | 40200 | 28700 | 22100 | 32100 | 37500 | 58000 | 76600 | 64700 | 53000 | 46100 |
| 23 | 60500 | 57200 | 39300 | 28500 | 21900 | 32600 | 37800 | 59200 | 76900 | 64200 | 52700 | 45800 |
| 24 | 59900 | 56900 | 38400 | 28200 | 21700 | 32700 | 38400 | 60400 | 77300 | 63700 | 52500 | 46100 |
| 25 | 59100 | 56000 | 37500 | 28000 | 21500 | 32900 | 38500 | 61500 | 77600 | 63200 | 52200 | 46300 |
| 26 | 58200 | 55200 | 36600 | 27800 | 21300 | 33500 | 38600 | 62600 | 78000 | 62700 | 51100 | 46600 |
| 27 | 57300 | 55000 | 35700 | 27500 | 21200 | 34300 | 38600 | 63800 | 78300 | 62200 | 50800 | 46700 |
| 28 | 56400 | 54800 | 34800 | 27300 | 21000 | 35300 | 38700 | 65100 | 78600 | 61600 | 50500 | 46900 |
| 29 | 55500 | 54600 | 33900 | 27100 | --- | 36100 | 38700 | 66300 | 78500 | 60500 | 50300 | 46900 |
| 30 | 55200 | 54300 | 33000 | 26900 | --- | 36500 | 38600 | 67500 | 77700 | 60200 | 50000 | 46800 |
| 31 | 54900 | --- | 33100 | 26700 | --- | 36500 | --- | 68500 | --- | 59900 | 49800 | --- |
| MAX | 73900 | 57400 | 53800 | 31900 | 26500 | 36500 | 38700 | 68500 | 78600 | 76900 | 59600 | 49500 |
| MIN | 54900 | 52600 | 33000 | 26700 | 21000 | 20700 | 36600 | 38700 | 69000 | 59900 | 49800 | 44800 |
| a | 3330.8 | 3329.7 | 3287.9 | 3276.3 | 3263.7 | 3296.8 | 3301.0 | 3353.4 | 3367.8 | 3339.3 | 3321.9 | 3316.3 |
| b | -20000 | -600 | -21200 | -6400 | -5700 | +15500 | +2100 | +29900 | +9200 | -17800 | -10100 | -3000 |

CAL YR 1989 b +10100

WTR YR 1990 b -28100

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

311

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 mi².

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 (station 11291000) since 1909, Donnell Lake (station 11292600) since April 1957, and by Beardsley Lake (station 11292800) since January 1957. 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).--33 years (water years 1958-90), 637 ft³/s, 461,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft³/s, May 30, 1983, gage height, 12.30 ft; minimum daily, 3.0 ft³/s, Oct. 10, 11, 1958.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 177 ft³/s, Mar. 16, gage height, 4.02 ft; minimum daily, 28 ft³/s, Oct. 17.

Combined flow, maximum daily discharge, 581 ft³/s, July 10; minimum daily, 56 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 128 | 137 | 148 | 161 | 154 | 156 | 162 | 80 | 63 | 58 | 59 | 57 |
| 2 | 127 | 138 | 149 | 161 | 154 | 157 | 162 | 65 | 63 | 58 | 58 | 56 |
| 3 | 130 | 137 | 149 | 161 | 155 | 156 | 162 | 64 | 62 | 61 | 58 | 56 |
| 4 | 132 | 137 | 149 | 156 | 158 | 158 | 160 | 63 | 61 | 60 | 59 | 56 |
| 5 | 138 | 138 | 146 | 154 | 156 | 160 | 159 | 65 | 61 | 60 | 57 | 56 |
| 6 | 137 | 138 | 151 | 155 | 155 | 157 | 159 | 65 | 62 | 61 | 57 | 56 |
| 7 | 137 | 139 | 149 | 151 | 158 | 158 | 160 | 66 | 61 | 61 | 58 | 56 |
| 8 | 137 | 141 | 150 | 151 | 157 | 159 | 159 | 66 | 61 | 60 | 59 | 56 |
| 9 | 136 | 139 | 150 | 151 | 157 | 161 | 159 | 68 | 61 | 60 | 58 | 56 |
| 10 | 136 | 137 | 151 | 152 | 156 | 160 | 158 | 68 | 60 | 61 | 57 | 57 |
| 11 | 139 | 138 | 152 | 150 | 155 | 160 | 160 | 68 | 62 | 59 | 57 | 55 |
| 12 | 138 | 137 | 152 | 150 | 152 | 159 | 157 | 68 | 61 | 58 | 55 | 57 |
| 13 | 137 | 139 | 154 | 151 | 157 | 159 | 156 | 67 | 62 | 58 | 55 | 56 |
| 14 | 138 | 140 | 154 | 150 | 160 | 160 | 157 | 68 | 62 | 57 | 56 | 57 |
| 15 | 138 | 142 | 152 | 150 | 160 | 160 | 156 | 71 | 62 | 57 | 57 | 57 |
| 16 | 138 | 140 | 159 | 150 | 160 | 163 | 159 | 65 | 62 | 57 | 56 | 57 |
| 17 | 28 | 139 | 162 | 155 | 160 | 151 | 160 | 62 | 61 | 58 | 57 | 57 |
| 18 | 62 | 139 | 157 | 153 | 160 | 152 | 160 | 63 | 60 | 59 | 57 | 57 |
| 19 | 133 | 141 | 157 | 157 | 160 | 150 | 158 | 64 | 61 | 58 | 57 | 57 |
| 20 | 140 | 141 | 156 | 154 | 161 | 149 | 159 | 63 | 60 | 58 | 57 | 57 |
| 21 | 141 | 144 | 154 | 155 | 159 | 153 | 158 | 63 | 60 | 57 | 57 | 58 |
| 22 | 140 | 141 | 157 | 154 | 158 | 149 | 159 | 64 | 60 | 57 | 59 | 58 |
| 23 | 137 | 143 | 156 | 156 | 161 | 150 | 159 | 65 | 61 | 58 | 57 | 58 |
| 24 | 134 | 143 | 155 | 153 | 160 | 153 | 159 | 64 | 60 | 58 | 56 | 57 |
| 25 | 135 | 144 | 157 | 152 | 161 | 150 | 159 | 64 | 60 | 59 | 57 | 56 |
| 26 | 136 | 147 | 156 | 153 | 159 | 155 | 156 | 64 | 61 | 59 | 57 | 57 |
| 27 | 135 | 147 | 156 | 155 | 157 | 160 | 156 | 63 | 61 | 58 | 56 | 59 |
| 28 | 138 | 148 | 158 | 155 | 159 | 161 | 156 | 63 | 60 | 58 | 56 | 58 |
| 29 | 138 | 148 | 157 | 156 | --- | 160 | 158 | 63 | 60 | 58 | 58 | 58 |
| 30 | 138 | 147 | 157 | 155 | --- | 161 | 159 | 64 | 60 | 57 | 56 | 56 |
| 31 | 139 | --- | 157 | 154 | --- | 160 | --- | 64 | --- | 58 | 56 | --- |
| TOTAL | 4040 | 4229 | 4767 | 4771 | 4419 | 4857 | 4761 | 2030 | 1831 | 1816 | 1769 | 1704 |
| MEAN | 130 | 141 | 154 | 154 | 158 | 157 | 159 | 65.5 | 61.0 | 58.6 | 57.1 | 56.8 |
| MAX | 141 | 148 | 162 | 161 | 161 | 163 | 162 | 80 | 63 | 61 | 59 | 59 |
| MIN | 28 | 137 | 146 | 150 | 152 | 149 | 156 | 62 | 60 | 57 | 55 | 55 |
| AC-FT | 8010 | 8390 | 9460 | 9460 | 8770 | 9630 | 9440 | 4030 | 3630 | 3600 | 3510 | 3380 |

CAL YR 1989 TOTAL 65190 MEAN 179 MAX 1110 MIN 28 AC-FT 129300
WTR YR 1990 TOTAL 40994 MEAN 112 MAX 163 MIN 28 AC-FT 81310

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 mi².

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1970, 1971, and 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir since February 1986. Elevation of gage is 2,700 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No records computed above 70 ft³/s. Flow regulated by Relief Reservoir and Donnell and Beardsley Lakes (stations 11291000, 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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|
| 1 | 59 | 41 | 33 | 33 | 29 | 27 | 28 | 54 | --- | --- | --- | 55 |
| 2 | 57 | 31 | 33 | 33 | 28 | 28 | 28 | 58 | --- | --- | --- | 56 |
| 3 | 54 | 32 | 31 | 31 | 28 | 30 | 28 | 53 | --- | --- | 53 | 53 |
| 4 | 56 | 33 | 28 | 29 | 29 | 30 | 28 | 53 | --- | --- | 53 | 53 |
| 5 | 62 | --- | 29 | 29 | 28 | 31 | 28 | 52 | --- | --- | 53 | 55 |
| 6 | 55 | --- | 30 | 33 | 28 | 32 | 29 | 53 | --- | 53 | --- | 55 |
| 7 | 56 | --- | 31 | 29 | 33 | 28 | 30 | 53 | --- | --- | --- | 56 |
| 8 | 56 | --- | 31 | 29 | 27 | 30 | 29 | 52 | --- | --- | --- | 55 |
| 9 | 55 | --- | 32 | 29 | 27 | 32 | 28 | 52 | --- | --- | 52 | 56 |
| 10 | --- | --- | 33 | 28 | 28 | 32 | --- | 53 | --- | --- | --- | 56 |
| 11 | --- | --- | 33 | 28 | 28 | 30 | 30 | 53 | --- | --- | 63 | 56 |
| 12 | 57 | --- | 29 | 27 | 28 | 28 | 29 | 53 | --- | --- | 64 | 58 |
| 13 | 57 | --- | 31 | 30 | 29 | 28 | 31 | 53 | --- | --- | --- | 57 |
| 14 | 57 | --- | 32 | 31 | 29 | 29 | 37 | 53 | 55 | --- | --- | 58 |
| 15 | 56 | --- | 29 | 29 | 28 | 29 | 33 | 64 | --- | --- | --- | 58 |
| 16 | 56 | --- | 30 | 31 | 29 | 30 | 31 | --- | 55 | 57 | --- | 56 |
| 17 | --- | --- | 36 | 30 | 30 | 29 | 30 | 56 | --- | 59 | --- | 54 |
| 18 | 53 | --- | 35 | 29 | 29 | 29 | 28 | 56 | --- | 58 | --- | 54 |
| 19 | 58 | --- | 30 | 29 | 28 | 29 | 33 | 56 | --- | --- | --- | 55 |
| 20 | 58 | --- | 30 | 28 | 28 | 28 | 31 | 54 | --- | --- | --- | 55 |
| 21 | 55 | --- | 33 | 28 | 28 | 28 | 30 | 53 | 53 | --- | --- | 55 |
| 22 | 56 | --- | 34 | 28 | 28 | 28 | 32 | 55 | --- | --- | --- | 55 |
| 23 | --- | --- | 31 | 29 | 30 | 29 | 36 | 54 | --- | --- | --- | 54 |
| 24 | 56 | --- | 30 | 28 | 29 | 31 | 33 | 54 | --- | --- | --- | 54 |
| 25 | 55 | --- | 31 | 27 | 29 | 32 | 34 | 52 | --- | --- | --- | 55 |
| 26 | 56 | 49 | 30 | 28 | 29 | 32 | 35 | 52 | --- | 58 | --- | 54 |
| 27 | 59 | 42 | 29 | 29 | 29 | 31 | 33 | 53 | --- | 60 | --- | 54 |
| 28 | --- | 40 | 30 | 28 | 29 | --- | 29 | --- | --- | 53 | --- | 54 |
| 29 | 56 | 34 | 30 | 28 | --- | 28 | 29 | 54 | --- | --- | --- | 54 |
| 30 | 56 | 33 | 30 | 29 | --- | 29 | --- | 54 | --- | --- | --- | 54 |
| 31 | 57 | --- | 31 | 29 | --- | 28 | --- | 53 | --- | --- | --- | --- |
| TOTAL | --- | --- | 965 | 906 | 802 | --- | --- | --- | --- | --- | --- | 1654 |
| MEAN | --- | --- | 31.1 | 29.2 | 28.6 | --- | --- | --- | --- | --- | --- | 55.1 |
| MAX | --- | --- | 36 | 33 | 33 | --- | --- | --- | --- | --- | --- | 58 |
| MIN | --- | --- | 28 | 27 | 27 | --- | --- | --- | --- | --- | --- | 53 |
| AC-FT | --- | --- | 1910 | 1800 | 1590 | --- | --- | --- | --- | --- | --- | 3280 |

LOCATION.--Lat 38°25'50", long 119°59'47", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Union Dam on North Fork Stanislaus River and 6.4 mi east of Big Meadows.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in the files of the U.S. Geological Survey.

REMARKS.--Reservoir is formed by concrete and rock dam completed in 1902. Usable capacity, 3,130 acre-ft between gage heights -1.9 ft, invert of outlet, and 26.9 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by the Pacific Gas & 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.

| | | | |
|----|-----|------|-------|
| 0 | 4 | 20 | 1,756 |
| 5 | 81 | 25 | 2,754 |
| 10 | 359 | 27.6 | 3,283 |
| 15 | 938 | | |

[illegible]

LOCATION.--Lat 38°26'26", long 120°00'08", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of Utica Dam on North Fork Stanislaus River, 1.2 mi upstream from Silver Creek. 2.6 mi southeast of Bear Valley, and 6.2 mi west of Big Meadows.

COOPERATION.--Records were collected by the Pacific Gas & 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.

| | | | |
|-----|-----|----|-------|
| 0.7 | 0 | 30 | 356 |
| 10 | 19 | 35 | 858 |
| 20 | 65 | 40 | 1,763 |
| 25 | 127 | 43 | 2,456 |

[illegible]

11293580 NORTH FORK STANISLAUS RIVER DIVERSION TUNNEL AT DIVERSION DAM, NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'17", long 120°00'59", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 50 ft upstream from diversion dam, at diversion tunnel entrance, and 5.6 mi southeast of Big Meadows.

PERIOD OF RECORD.--January 1989 to current year.

GAGE.--Discharge computed as difference between flow at North Fork Stanislaus River diversion tunnel below Hobart Creek and Hobart Creek at North Fork Stanislaus River diversion tunnel outlet (station 11293700). Datum of tunnel invert is 6,684 ft above National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Records good except for periods of estimated daily discharge, which are fair. Flow diverted from North Fork Stanislaus River diversion dam to New Spicer Meadow Reservoir (station 11293770) beginning Oct. 21, 1987. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 479 ft³/s, Apr. 8, 1989; no flow for many days some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|--------|------|-------|--------|------|---------|--------|------|------|--------|
| 1 | e.01 | e3.9 | e.04 | 22 | e.10 | e10 | 38 | 70 | 122 | e.20 | e.05 | e.02 |
| 2 | e.01 | e.03 | e.04 | 23 | e.10 | e4.8 | 37 | .50 | 124 | e.18 | e.05 | e.02 |
| 3 | e.01 | e.03 | e.04 | 23 | e.09 | e4.9 | 53 | 70 | 115 | e.16 | e.04 | e.02 |
| 4 | e.01 | e.03 | e9.1 | 23 | e.00 | e11 | 120 | 115 | 74 | e.15 | e.04 | e.02 |
| 5 | e.01 | e.03 | 2.1 | 23 | e.03 | e3.6 | 156 | 124 | 49 | e.14 | e.04 | e.02 |
| 6 | e.01 | e.03 | e1.5 | 23 | e.04 | e.70 | 162 | 125 | 37 | e.13 | e.04 | e.02 |
| 7 | e.01 | e.04 | e.02 | 26 | e.04 | e1.1 | 138 | 104 | 30 | e.13 | e.04 | e.02 |
| 8 | e.01 | e.04 | e.02 | 49 | e.04 | e4.3 | 134 | 81 | 27 | e.12 | e.03 | e.02 |
| 9 | e.01 | e.02 | e.02 | 37 | e.05 | e8.4 | 122 | 69 | 23 | e.12 | e.03 | e.02 |
| 10 | e.01 | e.02 | e.05 | 32 | e.06 | e12 | 160 | 66 | 20 | e.12 | e.03 | e.02 |
| 11 | e.01 | e.02 | e2.3 | 30 | e.07 | e4.4 | 201 | 52 | 16 | e.11 | e.03 | e.02 |
| 12 | e.01 | e.02 | e.20 | 30 | e.11 | e.50 | 206 | 42 | 12 | e.11 | e.03 | 61 |
| 13 | e.01 | e.03 | e.20 | 32 | e.06 | e.20 | 223 | 38 | 7.9 | e.11 | e.03 | 27 |
| 14 | e.01 | e.02 | e.20 | 30 | e.08 | e.10 | 257 | 35 | 5.4 | e.11 | e.03 | 27 |
| 15 | e.01 | e.02 | e.20 | 30 | e.17 | e.00 | 241 | 31 | 8.0 | e.10 | e.02 | 28 |
| 16 | e.01 | e.02 | e.20 | 30 | e.09 | e3.1 | 248 | 28 | 7.1 | e.10 | e.02 | 28 |
| 17 | e.01 | e.02 | e.20 | 29 | e.03 | 8.0 | 164 | 26 | 3.5 | e.10 | e.02 | 28 |
| 18 | e.01 | e.02 | e.20 | 28 | e.04 | 19 | 117 | 23 | 1.5 | e.10 | e.02 | 28 |
| 19 | e.01 | e.02 | e.20 | 28 | e.06 | 27 | 149 | 20 | 3.5 | e.09 | e.02 | 28 |
| 20 | e.01 | e.02 | e.20 | 28 | e.06 | 34 | 160 | 18 | 1.0 | e.09 | e.02 | 28 |
| 21 | e.01 | e.02 | e.20 | 27 | e.05 | 37 | 157 | 16 | .74 | e.09 | e.02 | 28 |
| 22 | e.01 | e.01 | e.20 | 28 | e.04 | 38 | 119 | 13 | e.64 | e.08 | e.02 | 28 |
| 23 | e.16 | e.02 | e.20 | 27 | e.05 | 39 | 240 | 15 | e.56 | e.08 | e.02 | 28 |
| 24 | e.19 | e.27 | e.20 | 27 | e.04 | 44 | 176 | 24 | e.48 | e.07 | e.02 | 27 |
| 25 | e.09 | e.50 | e.20 | 28 | e.04 | 47 | 139 | 25 | e.42 | e.07 | e.02 | 27 |
| 26 | e.09 | e2.0 | e2.8 | 27 | e1.9 | 42 | 156 | 25 | e.37 | e.06 | e.02 | 27 |
| 27 | e.01 | e5.2 | 22 | 26 | e6.9 | 35 | 173 | 64 | e.34 | e.06 | e.02 | 28 |
| 28 | e.04 | 17 | 22 | 25 | e9.5 | 28 | 191 | 144 | e.30 | e.06 | e.02 | 26 |
| 29 | e.05 | 12 | 22 | e24 | --- | 22 | 163 | 92 | e.27 | e.06 | e.02 | 26 |
| 30 | e.03 | e.74 | 22 | e24 | --- | 23 | 130 | 86 | e.23 | e.05 | e.02 | 26 |
| 31 | e9.2 | --- | 22 | e13 | --- | 29 | --- | 177 | --- | e.05 | e.02 | --- |
| TOTAL | 10.08 | 42.14 | 130.83 | 852 | 19.84 | 541.10 | 4730 | 1818.50 | 691.25 | 3.20 | 0.85 | 554.22 |
| MEAN | .33 | 1.40 | 4.22 | 27.5 | .71 | 17.5 | 158 | 58.7 | 23.0 | .10 | .027 | 18.5 |
| MAX | 9.2 | 17 | 22 | 49 | 9.5 | 47 | 257 | 177 | 124 | .20 | .05 | 61 |
| MIN | .01 | .01 | .02 | 13 | .00 | .00 | 37 | .50 | .23 | .05 | .02 | .02 |
| AC-FT | 20 | 84 | 260 | 1690 | 39 | 1070 | 9380 | 3610 | 1370 | 6.3 | 1.7 | 1100 |

CAL YR 1989 TOTAL 20649.99 MEAN 56.6 MAX 479 MIN .00 AC-FT 40960
WTR YR 1990 TOTAL 9394.01 MEAN 25.7 MAX 257 MIN .00 AC-FT 18630

e Estimated.

SAN JOAQUIN RIVER BASIN

11293590 NORTH FORK STANISLAUS RIVER DIVERSION RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'18", long 120°01'00", unsurveyed, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank of diversion dam on North Fork Stanislaus River, 5.6 mi southeast of Big Meadows.

PERIOD OF RECORD.--February to September 1990.

GAGE.--Water-stage recorder. Prior to Sept. 14, 1990, contents estimated on basis of periodic observations of non-recording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1987. Capacity, 120 acre-ft between elevations 6,672.0 ft, sill of emergency release gate, and 6,695.0 ft, crest of spillway. Reservoir is used for power development and fishery enhancement. Flow is diverted through tunnel to New Spicer Meadow Reservoir (station 11293570). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 122 acre-ft, Sept. 10, 11, 1990, elevation, 6,695.1 ft; minimum observed, 5 acre-ft, Feb. 1, 28, Mar. 1, 1990, elevation, 6,676.8 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

| | | | | | |
|-------|----|-------|----|---------|-----|
| 6,672 | 0 | 6,685 | 31 | 6,695 | 120 |
| 6,675 | 4 | 6,690 | 67 | 6,695.1 | 122 |
| 6,680 | 12 | | | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|------|
| 1 | --- | --- | --- | --- | e5 | e5 | e34 | e44 | e6 | e17 | e11 | e19 |
| 2 | --- | --- | --- | --- | --- | --- | e34 | e121 | e6 | e16 | e11 | e19 |
| 3 | --- | --- | --- | --- | --- | --- | e35 | e44 | e6 | e16 | e11 | e19 |
| 4 | --- | --- | --- | --- | --- | --- | e34 | --- | e6 | e16 | e11 | e19 |
| 5 | --- | --- | --- | --- | --- | --- | e36 | --- | e42 | e16 | e11 | e19 |
| 6 | --- | --- | --- | --- | --- | --- | e35 | --- | e6 | e16 | e21 | e19 |
| 7 | --- | --- | --- | --- | --- | --- | e36 | --- | e6 | e16 | e12 | e47 |
| 8 | --- | --- | --- | --- | --- | --- | e36 | --- | e6 | e16 | e12 | e95 |
| 9 | --- | --- | --- | --- | --- | e29 | e41 | --- | e6 | e17 | e12 | e121 |
| 10 | --- | --- | --- | --- | --- | --- | e43 | --- | e6 | e17 | e12 | e122 |
| 11 | --- | --- | --- | --- | --- | --- | e53 | --- | e6 | e17 | e12 | e122 |
| 12 | --- | --- | --- | --- | --- | --- | e74 | --- | e6 | e17 | e12 | e34 |
| 13 | --- | --- | --- | --- | --- | --- | e84 | --- | e32 | e17 | e22 | e34 |
| 14 | --- | --- | --- | --- | --- | --- | e84 | --- | e6 | e17 | e23 | 34 |
| 15 | --- | --- | --- | --- | --- | --- | e86 | --- | e6 | e17 | e23 | 34 |
| 16 | --- | --- | --- | --- | --- | --- | e80 | --- | e6 | e29 | e23 | 34 |
| 17 | --- | --- | --- | --- | --- | --- | e74 | --- | e6 | e26 | e23 | 34 |
| 18 | --- | --- | --- | --- | --- | --- | e65 | --- | e6 | e26 | e23 | 34 |
| 19 | --- | --- | --- | --- | --- | --- | e50 | --- | e31 | e26 | e22 | 34 |
| 20 | --- | --- | --- | --- | --- | --- | e42 | --- | e6 | e26 | e20 | 34 |
| 21 | --- | --- | --- | --- | --- | --- | e37 | e33 | e6 | e26 | e20 | 34 |
| 22 | --- | --- | --- | --- | --- | e34 | e34 | --- | e6 | e26 | e19 | 34 |
| 23 | --- | --- | --- | --- | --- | --- | e37 | --- | e6 | e21 | e19 | 34 |
| 24 | --- | --- | --- | --- | --- | --- | e43 | --- | e6 | e12 | e19 | 34 |
| 25 | --- | --- | --- | --- | --- | --- | e52 | --- | e19 | e12 | e19 | 34 |
| 26 | --- | --- | --- | --- | --- | --- | e66 | --- | e17 | e12 | e19 | 35 |
| 27 | --- | --- | --- | --- | --- | --- | e74 | --- | e17 | e12 | e19 | 34 |
| 28 | --- | --- | --- | --- | e5 | --- | e74 | --- | e17 | e11 | e19 | 34 |
| 29 | --- | --- | --- | --- | --- | e34 | e69 | --- | e17 | e11 | e19 | 34 |
| 30 | --- | --- | --- | --- | --- | --- | e65 | --- | e17 | e11 | e19 | 34 |
| 31 | --- | --- | --- | --- | --- | --- | --- | e43 | --- | e11 | e19 | --- |
| TOTAL | --- | --- | --- | --- | --- | --- | 1607 | --- | 335 | 546 | 537 | 1268 |
| MEAN | --- | --- | --- | --- | --- | --- | 54 | --- | 11 | 18 | 17 | 42 |
| MAX | --- | --- | --- | --- | --- | --- | 86 | --- | 42 | 29 | 23 | 122 |
| MIN | --- | --- | --- | --- | --- | --- | 34 | --- | 6 | 11 | 11 | 19 |

e Estimated.

11293600 NORTH FORK STANISLAUS RIVER BELOW DIVERSION DAM, NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°26'04", long 120°01'04", unsurveyed, T.7 N., R.18 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.3 mi downstream from diversion dam and 5.6 mi northeast of Big Meadows.

DRAINAGE AREA.--28.8 mi².

PERIOD OF RECORD.--October 1987 to current year.

REVISED RECORDS.--WDR CA-89-3: 1988 (M).

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

REMARKS.--Records good. Low and medium flow regulated by Union and Utica Reservoirs and Lake Alpine (stations 11293350, 11293370, and 11293460). See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 530 ft³/s, Apr. 21, 1989, gage height 5.12 ft; minimum daily, 3.8 ft³/s, July 29, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 176 ft³/s, Oct. 23, gage height, 4.16 ft; minimum daily, 4.5 ft³/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|-------|------|------|------|-------|------|------|------|
| 1 | 5.7 | 31 | 15 | 18 | 14 | 18 | 19 | 20 | 21 | 11 | 11 | 11 |
| 2 | 5.4 | 16 | 14 | 18 | 12 | 18 | 18 | 53 | 21 | 12 | 11 | 11 |
| 3 | 5.4 | 16 | 15 | 18 | e11 | 18 | 18 | 84 | 20 | 12 | 11 | 11 |
| 4 | 4.9 | 16 | 16 | 18 | e11 | 18 | 20 | 19 | 19 | 12 | 11 | 11 |
| 5 | 4.7 | 16 | 17 | 18 | e11 | 18 | 21 | 19 | 19 | 12 | 11 | 11 |
| 6 | 4.8 | 16 | 17 | 18 | 11 | 17 | 22 | 19 | 18 | 12 | 11 | 11 |
| 7 | 4.7 | 15 | 16 | 18 | e11 | 17 | 21 | 19 | 18 | 12 | 11 | 12 |
| 8 | 4.6 | 17 | 16 | 19 | e11 | 18 | 21 | 19 | 18 | 12 | 11 | 22 |
| 9 | 4.5 | 46 | 15 | 18 | 11 | 18 | 20 | 18 | 18 | 12 | 11 | 33 |
| 10 | 4.7 | 79 | 14 | 18 | 12 | 18 | 21 | 19 | 18 | 12 | 11 | 49 |
| 11 | 4.8 | 79 | 15 | 18 | 14 | e18 | 23 | 18 | 17 | 12 | 11 | 49 |
| 12 | 4.8 | 79 | 16 | 18 | 16 | e17 | 23 | 18 | 17 | 12 | 11 | 33 |
| 13 | 4.7 | 74 | 15 | 19 | 16 | e17 | 23 | 18 | 17 | 12 | 11 | 18 |
| 14 | 4.8 | 74 | 14 | 18 | 15 | 16 | 24 | 18 | 17 | 12 | 11 | 18 |
| 15 | 5.0 | 83 | 13 | 18 | 14 | 17 | 24 | 18 | 17 | 13 | 11 | 18 |
| 16 | 5.2 | 82 | 13 | 18 | e13 | 17 | 25 | 17 | 17 | 14 | 11 | 18 |
| 17 | 5.0 | 80 | 13 | 18 | e12 | 18 | 22 | 17 | 16 | 14 | 11 | 18 |
| 18 | 5.0 | 79 | 12 | 18 | e12 | 19 | 20 | 17 | 16 | 13 | 11 | 18 |
| 19 | 5.0 | 77 | 11 | 18 | 11 | 19 | 21 | 17 | 16 | 13 | 12 | 19 |
| 20 | 5.1 | 74 | 11 | 18 | 10 | 19 | 21 | 17 | 16 | 12 | 13 | 19 |
| 21 | 6.4 | 70 | 11 | 18 | 9.7 | 19 | 21 | 17 | 15 | 12 | 12 | 19 |
| 22 | 6.7 | 16 | 11 | 18 | 11 | 19 | 20 | 17 | 15 | 12 | 11 | 19 |
| 23 | 59 | 13 | 10 | 18 | 13 | 19 | 24 | 18 | 14 | 12 | 11 | 19 |
| 24 | 61 | 16 | 10 | 18 | 16 | 19 | 22 | 18 | 14 | 12 | 11 | 19 |
| 25 | 29 | 17 | 10 | 18 | 17 | 20 | 21 | 18 | 13 | 12 | 11 | 19 |
| 26 | 20 | e18 | 13 | 18 | 19 | 19 | 21 | 18 | 13 | 12 | 11 | 19 |
| 27 | 21 | 17 | 17 | 18 | 19 | 19 | 21 | 20 | 20 | 11 | 11 | 19 |
| 28 | 19 | 18 | 17 | 18 | 18 | 19 | 22 | 21 | 13 | 12 | 11 | 19 |
| 29 | 15 | 17 | 18 | 18 | --- | 19 | 21 | 20 | 11 | 12 | 11 | 18 |
| 30 | 13 | 16 | 18 | 18 | --- | 19 | 21 | 21 | 9.6 | 11 | 11 | 18 |
| 31 | 18 | --- | 18 | 17 | --- | 19 | --- | 23 | --- | 11 | 11 | --- |
| TOTAL | 366.9 | 1267 | 441 | 559 | 370.7 | 565 | 641 | 675 | 493.6 | 375 | 345 | 598 |
| MEAN | 11.8 | 42.2 | 14.2 | 18.0 | 13.2 | 18.2 | 21.4 | 21.8 | 16.5 | 12.1 | 11.1 | 19.9 |
| MAX | 61 | 83 | 18 | 19 | 19 | 20 | 25 | 84 | 21 | 14 | 13 | 49 |
| MIN | 4.5 | 13 | 10 | 17 | 9.7 | 16 | 18 | 17 | 9.6 | 11 | 11 | 11 |
| AC-FT | 728 | 2510 | 875 | 1110 | 735 | 1120 | 1270 | 1340 | 979 | 744 | 684 | 1190 |

CAL YR 1989 TOTAL 7611.3 MEAN 20.9 MAX 126 MIN 4.5 AC-FT 15100
WTR YR 1990 TOTAL 6697.2 MEAN 18.3 MAX 84 MIN 4.5 AC-FT 13280

e Estimated.

SAN JOAQUIN RIVER BASIN

11293700 HOBART CREEK ^{AB} AT NORTH FORK STANISLAUS RIVER DIVERSION TUNNEL OUTLET, NEAR NEW SPICER MEADOW DAM, CA

LOCATION.--Lat 38°24'42", long 119°59'37", unsurveyed, T.7 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 250 ft upstream from North Fork Stanislaus River diversion channel, 1.3 mi northwest of New Spicer Meadow Dam, and 7.5 mi east of Big Meadows.

DRAINAGE AREA.--1.13 mi².

PERIOD OF RECORD.--January 1989 to current year.

GAGE.--Water-stage recorder and culvert control. Elevation of gage is 6,680 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38 ft³/s, Mar. 28, 1989, gage height, 1.45 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Apr. 20 | 1739 | *15 | *1.05 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|--------|-------|-------|-------|------|------|------|
| 1 | .00 | .27 | .26 | .00 | e.40 | e.66 | 8.8 | 2.3 | 2.3 | e.08 | e.03 | .00 |
| 2 | .00 | .27 | .25 | .00 | e.42 | e.90 | 9.2 | 2.0 | 1.4 | e.07 | e.03 | .00 |
| 3 | .00 | .27 | .25 | .00 | e.45 | e1.5 | 8.7 | 1.8 | 1.0 | e.07 | e.03 | .00 |
| 4 | .00 | .27 | .26 | .00 | e.50 | e1.3 | 8.0 | 1.5 | .80 | e.07 | e.02 | .00 |
| 5 | .00 | .27 | .27 | .00 | e.45 | e1.1 | 7.9 | 1.3 | .69 | e.06 | e.02 | .00 |
| 6 | .00 | .27 | e.25 | .00 | e.42 | e1.2 | 7.9 | 1.2 | .62 | e.06 | e.02 | .00 |
| 7 | .00 | .25 | e.23 | .00 | e.40 | e1.4 | 7.5 | 1.0 | .57 | e.06 | e.02 | .00 |
| 8 | .00 | .23 | e.22 | .00 | e.38 | e1.7 | 7.0 | .88 | .48 | e.06 | e.02 | .00 |
| 9 | .00 | .23 | e.21 | .00 | e.35 | e2.6 | 7.1 | .78 | .44 | e.06 | e.02 | .00 |
| 10 | .00 | .23 | e.17 | .00 | e.36 | e1.8 | 8.2 | .74 | .38 | e.06 | e.02 | .00 |
| 11 | .00 | .23 | .08 | .00 | e.39 | e1.2 | 8.8 | .72 | .32 | e.05 | e.02 | .00 |
| 12 | .00 | .23 | .00 | .00 | e.45 | e1.1 | 8.9 | .65 | .29 | e.05 | e.02 | .00 |
| 13 | .00 | .21 | .00 | .00 | e.60 | e1.0 | 9.6 | .60 | .27 | e.05 | e.02 | .00 |
| 14 | .00 | .21 | .00 | .00 | e.52 | e1.0 | 9.9 | .55 | .26 | e.05 | e.02 | .00 |
| 15 | .00 | .21 | .00 | .00 | e.35 | e1.2 | 9.5 | .51 | .31 | e.05 | e.01 | .00 |
| 16 | .00 | .21 | .00 | .00 | e.32 | e1.5 | 8.5 | .47 | .33 | e.05 | e.01 | .00 |
| 17 | .00 | .21 | .00 | .00 | e.40 | 5.0 | 7.1 | .45 | .26 | e.05 | e.01 | .00 |
| 18 | .00 | .21 | .00 | .00 | e.41 | 7.0 | 6.5 | .42 | .21 | e.05 | e.01 | .00 |
| 19 | .00 | .21 | .00 | .00 | e.38 | 7.4 | 6.3 | .40 | .18 | e.05 | e.01 | .00 |
| 20 | .00 | .21 | .00 | .00 | e.34 | 6.9 | 8.8 | .42 | .16 | e.05 | e.01 | .00 |
| 21 | .00 | .20 | .00 | .00 | e.37 | 7.9 | 8.1 | .40 | .14 | e.04 | e.01 | .00 |
| 22 | .00 | .20 | .00 | .00 | e.40 | 8.2 | 5.8 | .38 | .12 | e.04 | .00 | .00 |
| 23 | .02 | .19 | .00 | .00 | e.42 | 8.3 | 11 | .54 | .11 | e.04 | .00 | .00 |
| 24 | .31 | .23 | .00 | .00 | e.45 | 9.4 | 8.5 | .72 | e.10 | e.04 | .00 | .00 |
| 25 | .26 | .70 | .00 | .00 | e.47 | 10 | 6.1 | .65 | e.10 | e.04 | .00 | .00 |
| 26 | .21 | .54 | .00 | .00 | e.48 | 9.9 | 5.4 | .58 | e.09 | e.03 | .00 | .00 |
| 27 | .29 | .26 | .00 | .00 | e.49 | 9.4 | 4.9 | 1.0 | e.09 | e.03 | .00 | .00 |
| 28 | .31 | .25 | .00 | .34 | e.50 | 8.3 | 4.3 | 1.5 | e.08 | e.03 | .00 | .00 |
| 29 | .30 | .27 | .00 | e.40 | --- | 7.0 | 3.4 | .96 | e.08 | e.03 | .00 | .00 |
| 30 | .29 | .26 | .00 | e.40 | --- | 6.8 | 2.7 | 1.9 | e.08 | e.03 | .00 | .00 |
| 31 | .27 | --- | .00 | e.40 | --- | 7.6 | --- | 3.9 | --- | e.03 | .00 | --- |
| TOTAL | 2.26 | 7.80 | 2.45 | 1.54 | 11.87 | 140.26 | 224.4 | 31.22 | 12.26 | 1.53 | 0.38 | 0.00 |
| MEAN | .073 | .26 | .079 | .050 | .42 | 4.52 | 7.48 | 1.01 | .41 | .049 | .012 | .000 |
| MAX | .31 | .70 | .27 | .40 | .60 | 10 | 11 | 3.9 | 2.3 | .08 | .03 | .00 |
| MIN | .00 | .19 | .00 | .00 | .32 | .66 | 2.7 | .38 | .08 | .03 | .00 | .00 |
| AC-FT | 4.5 | 15 | 4.9 | 3.1 | 24 | 278 | 445 | 62 | 24 | 3.0 | .8 | .00 |

CAL YR 1989 TOTAL 672.25 MEAN 1.84 MAX 26 MIN .00 AC-FT 1330
WTR YR 1990 TOTAL 435.97 MEAN 1.19 MAX 11 MIN .00 AC-FT 865

e Estimated.

11293770 NEW SPICER MEADOW RESERVOIR NEAR BIG MEADOWS, CA

LOCATION.--Lat 38°23'35", long 119°59'53", in NW 1/4 NE 1/4 sec.9, T.7 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, at outlet structure on upstream face of New Spicer Meadow Dam on Highland Creek and 7.7 mi eastsoutheast of Big Meadows.

DRAINAGE AREA.--45.4 mi².

PERIOD OF RECORD.--February to September 1990.

GAGE.--Water-stage recorder. Datum of gage is National Vertical Geodetic Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by rockfill dam with a reinforced concrete face completed in December 1988. Dam is 600 ft downstream from original concrete gravity-type dam which was completed in 1929. Usable capacity, 184,298 acre-ft between elevations 6,420.0 ft, minimum operating head, and 6,614.0 ft, crest of spillway. Released water is used for hydroelectric power and fishery maintenance. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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 FOR PERIOD OF RECORD.--Maximum contents, 130,506 acre-ft, June 9, 1990, elevation, 6,582.9 ft; minimum, 82,684 acre-ft, Feb. 25, 1990, elevation, 6,550.3 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

| | | | | | |
|-------|--------|-------|--------|-------|---------|
| 6,420 | 4,702 | 6,500 | 35,214 | 6,580 | 125,341 |
| 6,440 | 9,299 | 6,520 | 50,197 | 6,600 | 160,318 |
| 6,460 | 15,511 | 6,540 | 69,652 | 6,614 | 189,000 |
| 6,480 | 23,781 | 6,560 | 94,859 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | --- | --- | --- | --- | 84020 | 83138 | 90570 | 116282 | 127434 | 126283 | 115948 | 95538 |
| 2 | --- | --- | --- | --- | 83929 | 83390 | 91054 | 116617 | 128106 | 125994 | 115614 | 95203 |
| 3 | --- | --- | --- | --- | 83929 | 83390 | 91469 | 116952 | 128970 | 125515 | 115112 | 94790 |
| 4 | --- | --- | --- | --- | 83929 | 83583 | 92161 | 117621 | 129450 | 125322 | 115028 | 94375 |
| 5 | --- | --- | --- | --- | 83860 | 83642 | 92715 | 118374 | 129738 | 125150 | 114442 | 93891 |
| 6 | --- | --- | --- | --- | 83768 | 83514 | 93347 | 119044 | 129738 | 124899 | 113690 | 93337 |
| 7 | --- | --- | --- | --- | 83722 | 83653 | 94236 | 119629 | 130217 | 124480 | 112602 | 92853 |
| 8 | --- | --- | --- | --- | 83583 | 83791 | 94868 | 120214 | 130314 | 124146 | 111682 | 92715 |
| 9 | --- | --- | --- | --- | 83514 | 83999 | 95621 | 120632 | 130506 | 124230 | 110511 | 92092 |
| 10 | --- | --- | --- | --- | 83376 | 84275 | 96374 | 121219 | 130314 | 123560 | 110009 | 91538 |
| 11 | --- | --- | --- | --- | 83307 | 84272 | 97629 | 121385 | 130314 | 123142 | 109507 | 90916 |
| 12 | --- | --- | --- | --- | 83238 | 84344 | 98633 | 121804 | 130217 | 122557 | 108838 | 90362 |
| 13 | --- | --- | --- | --- | 83099 | 84344 | 99888 | 122055 | 130122 | 122222 | 108252 | 90017 |
| 14 | --- | --- | --- | --- | 83168 | 84504 | 101226 | 122305 | 129930 | 121804 | 106831 | 89740 |
| 15 | --- | --- | --- | --- | 83030 | 84552 | 102397 | 122724 | 129738 | 121552 | 106077 | 89325 |
| 16 | --- | --- | --- | --- | 83168 | 84691 | 103736 | 123059 | 129546 | 121051 | 105157 | 88979 |
| 17 | --- | --- | --- | --- | 83238 | 84760 | 104572 | 123059 | 129546 | 120884 | 104572 | 88425 |
| 18 | --- | --- | --- | --- | 83307 | 85036 | 105324 | 123142 | 129450 | 120382 | 104488 | 87872 |
| 19 | --- | --- | --- | --- | 83168 | 85382 | 106161 | 123142 | 129258 | 119964 | 103736 | 87388 |
| 20 | --- | --- | --- | --- | 83030 | 85936 | 107125 | 123226 | 129162 | 119545 | 103149 | 86973 |
| 21 | --- | --- | --- | --- | 82961 | 86143 | 108119 | 123142 | 129258 | 119294 | 102648 | 86420 |
| 22 | --- | --- | --- | --- | 83030 | 86489 | 109133 | 123226 | 128777 | 119044 | 101979 | 86281 |
| 23 | --- | --- | --- | --- | 83030 | 87042 | 109926 | 123393 | 128682 | 118792 | 101059 | 85866 |
| 24 | --- | --- | --- | --- | 82892 | 87388 | 110846 | 123560 | 128202 | 118290 | 100641 | 85382 |
| 25 | --- | --- | --- | --- | 82684 | 87803 | 111599 | 123477 | 128010 | 118123 | 100138 | 85036 |
| 26 | --- | --- | --- | --- | 82754 | 88305 | 112435 | 123811 | 127914 | 117789 | 99720 | 84483 |
| 27 | --- | --- | --- | --- | 82823 | 88702 | 113439 | 124230 | 127434 | 117537 | 98716 | 84206 |
| 28 | --- | --- | --- | --- | 82823 | 89048 | 114442 | 124732 | 127146 | 117119 | 97796 | 83583 |
| 29 | --- | --- | --- | --- | --- | 89325 | 115112 | 125234 | 126858 | 117036 | 97127 | 83376 |
| 30 | --- | --- | --- | --- | --- | 89809 | 115865 | 125994 | 126570 | 116617 | 96207 | 83099 |
| 31 | --- | --- | --- | --- | --- | 90017 | --- | 126762 | --- | 116450 | 95872 | --- |
| MAX | --- | --- | --- | --- | 84020 | 90017 | 115865 | 126762 | 130506 | 126283 | 115948 | 95538 |
| MIN | --- | --- | --- | --- | 82684 | 83138 | 90570 | 116282 | 126570 | 116450 | 95872 | 83099 |
| a | | | | | 6550.6 | 6556.3 | 6573.8 | 6580.9 | 6583.0 | 6580.7 | 6574.1 | 6560.6 |
| b | | | | | --- | +7194 | +25848 | +10897 | -192 | -10120 | -20578 | -12773 |

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11294000 HIGHLAND CREEK BELOW SPICER MEADOW RESERVOIR, CA

LOCATION.--Lat 38°23'24", long 120°00'22", in SW 1/4 NW 1/4 sec.9, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 1,400 ft downstream from New Spicer Meadow dam, 5.2 mi upstream from mouth, and 6.3 mi east of Big Meadow.

DRAINAGE AREA.--45.4 mi².

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1930: 1953. WRD CA-89-3: Drainage area, 1987(M), 1988(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 6,340 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1952 to November 1986, at site 900 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Low and medium flows regulated by New Spicer Meadow Reservoir (station 11293770) 1,400 ft upstream. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--38 years, 122 ft³/s, 88,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft³/s, Jan. 31, 1963, gage height, 11.88 ft, site and datum then in use, from rating curve extended above 1,200 ft³/s; no flow some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.50 ft, site and datum then in use, from Pacific Gas & Electric Co. recorder chart, discharge, 8,800 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 829 ft³/s, Oct. 25, gage height, 5.24 ft; minimum daily, 7.6 ft³/s, Nov. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|------|------|------|------|------|------|------|------|-------|-------|
| 1 | 110 | 356 | 60 | 54 | 101 | 22 | 23 | 21 | 49 | 138 | 171 | 113 |
| 2 | 111 | 225 | 60 | 53 | 93 | 22 | 23 | 53 | 47 | 138 | 170 | 125 |
| 3 | 135 | 164 | 60 | 55 | 76 | 23 | 23 | 135 | 45 | 138 | 170 | 212 |
| 4 | 175 | 268 | 52 | 55 | 76 | 23 | 24 | 38 | 52 | 138 | 169 | 277 |
| 5 | 231 | 309 | 56 | 54 | 76 | 22 | 24 | 28 | 68 | 137 | 202 | 206 |
| 6 | 205 | 327 | 67 | 54 | 76 | 22 | 24 | 28 | 81 | 137 | 336 | 277 |
| 7 | 131 | 279 | 67 | 55 | 77 | 22 | 24 | 28 | 91 | 136 | 514 | 243 |
| 8 | 130 | 291 | 67 | 55 | 77 | 22 | 24 | 28 | 91 | 136 | 484 | 124 |
| 9 | 131 | 133 | 66 | 39 | 76 | 23 | 24 | 28 | 91 | 136 | 475 | 202 |
| 10 | 130 | 8.4 | 67 | 24 | 75 | 23 | 24 | 28 | 115 | 203 | 415 | 325 |
| 11 | 131 | 7.6 | 53 | 24 | 90 | 23 | 25 | 28 | 130 | 311 | 365 | 351 |
| 12 | 127 | 7.6 | 62 | 24 | 100 | 23 | 25 | 39 | 129 | 324 | 374 | 310 |
| 13 | 91 | 14 | 38 | 25 | 101 | 23 | 26 | 47 | 130 | 296 | 335 | 266 |
| 14 | 116 | 24 | 26 | 25 | 101 | 22 | 27 | 54 | 129 | 141 | 335 | 219 |
| 15 | 116 | 24 | 26 | 25 | 87 | 22 | 27 | 60 | 129 | 143 | 336 | 145 |
| 16 | 208 | 23 | 26 | 25 | 78 | 23 | 27 | 60 | 129 | 193 | 336 | 211 |
| 17 | 153 | 22 | 26 | 25 | 77 | 23 | 26 | 60 | 128 | 156 | 237 | 324 |
| 18 | 311 | 22 | 26 | 25 | 77 | 24 | 25 | 72 | 127 | 252 | 138 | 325 |
| 19 | 385 | 22 | 36 | 25 | 77 | 25 | 25 | 89 | 126 | 204 | 222 | 304 |
| 20 | 192 | 22 | 55 | 25 | 77 | 25 | 28 | 89 | 125 | 130 | 345 | 292 |
| 21 | 110 | 65 | 54 | 25 | 75 | 24 | 26 | 89 | 125 | 130 | 334 | 249 |
| 22 | 250 | 58 | 54 | 56 | 74 | 22 | 25 | 89 | 130 | 130 | 326 | 141 |
| 23 | 208 | 57 | 54 | 86 | 73 | 22 | 32 | 79 | 140 | 130 | 326 | 204 |
| 24 | 294 | 58 | 54 | 40 | 55 | 22 | 25 | 61 | 139 | 130 | 230 | 313 |
| 25 | 393 | 59 | 54 | 23 | 31 | 23 | 23 | 60 | 139 | 129 | 142 | 303 |
| 26 | 180 | 60 | 54 | 38 | 21 | 23 | 23 | 59 | 139 | 129 | 218 | 294 |
| 27 | 286 | 60 | 40 | 58 | 21 | 23 | 23 | 63 | 140 | 129 | 419 | 287 |
| 28 | 326 | 60 | 20 | 58 | 21 | 22 | 23 | 56 | 139 | 128 | 423 | 239 |
| 29 | 321 | 60 | 33 | 79 | --- | 22 | 23 | 49 | 138 | 128 | 335 | 166 |
| 30 | 303 | 62 | 53 | 102 | --- | 22 | 22 | 54 | 138 | 128 | 316 | 229 |
| 31 | 298 | --- | 53 | 101 | --- | 22 | --- | 54 | --- | 147 | 269 | --- |
| TOTAL | 6288 | 3147.6 | 1519 | 1412 | 2039 | 704 | 743 | 1726 | 3379 | 5025 | 9467 | 7276 |
| MEAN | 203 | 105 | 49.0 | 45.5 | 72.8 | 22.7 | 24.8 | 55.7 | 113 | 162 | 305 | 243 |
| MAX | 393 | 356 | 67 | 102 | 101 | 25 | 32 | 135 | 140 | 324 | 514 | 351 |
| MIN | 91 | 7.6 | 20 | 23 | 21 | 22 | 22 | 21 | 45 | 128 | 138 | 113 |
| AC-FT | 12470 | 6240 | 3010 | 2800 | 4040 | 1400 | 1470 | 3420 | 6700 | 9970 | 18780 | 14430 |

CAL YR 1989 TOTAL 22641.9 MEAN 62.0 MAX 393 MIN 4.0 AC-FT 44910
WTR YR 1990 TOTAL 42725.6 MEAN 117 MAX 514 MIN 7.6 AC-FT 84750

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 114 | 354 | 118 | 96 | 181 | 210 | 397 | 249 | 375 | 178 | 206 | 172 |
| 2 | 109 | 441 | 115 | 100 | 170 | 201 | 433 | 232 | 284 | 180 | 211 | 160 |
| 3 | 111 | 145 | 116 | 92 | 152 | 296 | 445 | 399 | 228 | 178 | 211 | 159 |
| 4 | 135 | 308 | 119 | 97 | 153 | 302 | 425 | 281 | 197 | 178 | 211 | 335 |
| 5 | 197 | 284 | 112 | 99 | 144 | 240 | 426 | 225 | 193 | 178 | 210 | 244 |
| 6 | 214 | 459 | 132 | 96 | 151 | 216 | 449 | 212 | 186 | 177 | 294 | 256 |
| 7 | 147 | 318 | 130 | 108 | 142 | 212 | 427 | 196 | 202 | 176 | 505 | 335 |
| 8 | 129 | 377 | 127 | 188 | 139 | 223 | 426 | 179 | 193 | 175 | 573 | 182 |
| 9 | 128 | 251 | 125 | 157 | 142 | 240 | 381 | 166 | 184 | 174 | 514 | 173 |
| 10 | 130 | 133 | 121 | 112 | 149 | 257 | 422 | 157 | 179 | 177 | 520 | 346 |
| 11 | 139 | 118 | 117 | 96 | 168 | 228 | 457 | 152 | 211 | 305 | 364 | 412 |
| 12 | 143 | 116 | 102 | 99 | 198 | 200 | 458 | 143 | 207 | 341 | 437 | 401 |
| 13 | 107 | 114 | 113 | 168 | 198 | 181 | 494 | 149 | 203 | 340 | 356 | 287 |
| 14 | 123 | 113 | 81 | 153 | 183 | 181 | 542 | 145 | 202 | 232 | 356 | 284 |
| 15 | 134 | 130 | 75 | 131 | 176 | 190 | 528 | 148 | 202 | 181 | 356 | 198 |
| 16 | 170 | 132 | 73 | 129 | 161 | 214 | 538 | 145 | 212 | 230 | 355 | 199 |
| 17 | 178 | 130 | 72 | 112 | 153 | 232 | 448 | 139 | 200 | 190 | 344 | 328 |
| 18 | 250 | 127 | 70 | 111 | 156 | 293 | 380 | 134 | 195 | 238 | 181 | 345 |
| 19 | 394 | 125 | 69 | 99 | 156 | 335 | 393 | 150 | 192 | 290 | 175 | 339 |
| 20 | 336 | 122 | 79 | 103 | 149 | 362 | 370 | 158 | 186 | 173 | 355 | 309 |
| 21 | 133 | 118 | 93 | 103 | 147 | 387 | 365 | 158 | 184 | 166 | 360 | 307 |
| 22 | 209 | 165 | 91 | 104 | 152 | 411 | 324 | 154 | 174 | 165 | 344 | 214 |
| 23 | 447 | 82 | 91 | 158 | 165 | 401 | 589 | 171 | 194 | 164 | 344 | 195 |
| 24 | 859 | 105 | 90 | 141 | 175 | 431 | 541 | 172 | 192 | 164 | 331 | 318 |
| 25 | 641 | 133 | 91 | 112 | 161 | 459 | 399 | 152 | 191 | 163 | 184 | 328 |
| 26 | 293 | 220 | 90 | 101 | 164 | 454 | 381 | 142 | 188 | 163 | 179 | 310 |
| 27 | 357 | 136 | 94 | 119 | 175 | 427 | 371 | 189 | 186 | 163 | 378 | 306 |
| 28 | 378 | 126 | 82 | 128 | 200 | 410 | 361 | 336 | 191 | 162 | 528 | 303 |
| 29 | 370 | 125 | 66 | 129 | --- | 359 | 330 | 235 | 184 | 162 | 358 | 216 |
| 30 | 404 | 121 | 80 | 175 | --- | 344 | 280 | 221 | 181 | 161 | 350 | 215 |
| 31 | 353 | --- | 94 | 178 | --- | 360 | --- | 608 | --- | 160 | 357 | --- |
| TOTAL | 7832 | 5628 | 3028 | 3794 | 4560 | 9256 | 12780 | 6297 | 6096 | 6084 | 10447 | 8176 |
| MEAN | 253 | 188 | 97.7 | 122 | 163 | 299 | 426 | 203 | 203 | 196 | 337 | 273 |
| MAX | 859 | 459 | 132 | 188 | 200 | 459 | 589 | 608 | 375 | 341 | 573 | 412 |
| MIN | 107 | 82 | 66 | 92 | 139 | 181 | 280 | 134 | 174 | 160 | 175 | 159 |
| AC-FT | 15530 | 11160 | 6010 | 7530 | 9040 | 18360 | 25350 | 12490 | 12090 | 12070 | 20720 | 16220 |
| CAL YR 1989 | TOTAL 89172 | | | | | | | | | | | |
| WTR YR 1990 | TOTAL 83978 | | | | | | | | | | | |

SAN JOAQUIN RIVER BASIN

11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June to September 1990.

INSTRUMENTATION.--Temperature recorder since June 1990.

REMARKS.--Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 19.0 °C, July 15, 21, 22, 1990; minimum recorded, 9.5 °C, Sept. 24, 28, 1990.

WATER TEMPERATURE, DEGREES CELSIUS, PERIOD JUNE 1990 TO SEPTEMBER 1990

[illegible]

11295210 BEAVER CREEK DIVERSION TO MCKAY'S POINT RESERVOIR NEAR ARNOLD, CA

LOCATION.--Lat 38°14'01", long 120°16'44", in NW 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at Beaver Creek diversion dam and 4.5 mi eastsoutheast of Arnold.

PERIOD OF RECORD.--February to September 1990.

GAGE.--Water-stage recorder. Datum of gage is 4,188.0 ft above National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--No estimated daily discharges. Diversion through tunnel and penstock to small turbine at McKay's Point Reservoir (station 11295260) and for further power development in Collierville Powerplant (station 11295250). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 103 ft³/s, Mar. 25, 26, 1990; no flow for many days in 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-----|------|------|--------|--------|------|------|------|
| 1 | --- | --- | --- | --- | --- | 18 | 82 | 27 | 44 | .00 | .00 | .00 |
| 2 | --- | --- | --- | --- | --- | 15 | 85 | 22 | 24 | .00 | .00 | .00 |
| 3 | --- | --- | --- | --- | --- | 44 | 87 | 18 | 18 | .00 | .00 | .00 |
| 4 | --- | --- | --- | --- | --- | 47 | 84 | 15 | 9.6 | .00 | .00 | .00 |
| 5 | --- | --- | --- | --- | .00 | 28 | 83 | 10 | 7.1 | .00 | .00 | .00 |
| 6 | --- | --- | --- | --- | .00 | 28 | 84 | 11 | 3.9 | .00 | .00 | .00 |
| 7 | --- | --- | --- | --- | .00 | 25 | 85 | 8.4 | 3.9 | .00 | .00 | .00 |
| 8 | --- | --- | --- | --- | .00 | 29 | 82 | 5.0 | .00 | .00 | .00 | .00 |
| 9 | --- | --- | --- | --- | .00 | 35 | 76 | 3.8 | .00 | .00 | .00 | .00 |
| 10 | --- | --- | --- | --- | .00 | 30 | 78 | 4.4 | .00 | .00 | .00 | .00 |
| 11 | --- | --- | --- | --- | .00 | 27 | 79 | 2.0 | .00 | .00 | .00 | .00 |
| 12 | --- | --- | --- | --- | .00 | 23 | 78 | 1.9 | .00 | .00 | .00 | .00 |
| 13 | --- | --- | --- | --- | .00 | 17 | 80 | .00 | .00 | .00 | .00 | .00 |
| 14 | --- | --- | --- | --- | .00 | 22 | 82 | .00 | .00 | .00 | .00 | .00 |
| 15 | --- | --- | --- | --- | .00 | 18 | 78 | .00 | .00 | .00 | .00 | .00 |
| 16 | --- | --- | --- | --- | .00 | 17 | 83 | .00 | .00 | .00 | .00 | .00 |
| 17 | --- | --- | --- | --- | .00 | 29 | 74 | .00 | .00 | .00 | .00 | .00 |
| 18 | --- | --- | --- | --- | .00 | 39 | 64 | .00 | .00 | .00 | .00 | .00 |
| 19 | --- | --- | --- | --- | .00 | 63 | 54 | .00 | .00 | .00 | .00 | .00 |
| 20 | --- | --- | --- | --- | .00 | 77 | 48 | .00 | .00 | .00 | .00 | .00 |
| 21 | --- | --- | --- | --- | .00 | 87 | 39 | .00 | .00 | .00 | .00 | .00 |
| 22 | --- | --- | --- | --- | .00 | 93 | 33 | .00 | .00 | .00 | .00 | .00 |
| 23 | --- | --- | --- | --- | .00 | 93 | 82 | .00 | .00 | .00 | .00 | .00 |
| 24 | --- | --- | --- | --- | .00 | 99 | 85 | 1.8 | .00 | .00 | .00 | .00 |
| 25 | --- | --- | --- | --- | .00 | 103 | 66 | .00 | .00 | .00 | .00 | .00 |
| 26 | --- | --- | --- | --- | .00 | 103 | 54 | .00 | .00 | .00 | .00 | .00 |
| 27 | --- | --- | --- | --- | 10 | 97 | 45 | 3.4 | .00 | .00 | .00 | .00 |
| 28 | --- | --- | --- | --- | 21 | 92 | 37 | 29 | .00 | .00 | .00 | .00 |
| 29 | --- | --- | --- | --- | --- | 85 | 41 | 12 | .00 | .00 | .00 | .00 |
| 30 | --- | --- | --- | --- | --- | 81 | 28 | 18 | .00 | .00 | .00 | .00 |
| 31 | --- | --- | --- | --- | --- | 83 | --- | 76 | --- | .00 | .00 | --- |
| TOTAL | --- | --- | --- | --- | --- | 1647 | 2056 | 268.70 | 110.50 | 0.00 | 0.00 | 0.00 |
| MEAN | --- | --- | --- | --- | --- | 53.1 | 68.5 | 8.67 | 3.68 | .000 | .000 | .000 |
| MAX | --- | --- | --- | --- | --- | 103 | 87 | 76 | 44 | .00 | .00 | .00 |
| MIN | --- | --- | --- | --- | --- | 15 | 28 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | --- | --- | --- | --- | --- | 3270 | 4080 | 533 | 219 | .00 | .00 | .00 |

SAN JOAQUIN RIVER BASIN

11295220 BEAVER CREEK DIVERSION RESERVOIR NEAR ARNOLD, CA

LOCATION.--Lat 38°13'58", long 120°16'43", in NW 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at outlet structure of Beaver Creek diversion dam on Beaver Creek and 4.5 mi eastsoutheast of Arnold.

DRAINAGE AREA.--29.3 mi².

PERIOD OF RECORD.--February to September 1990.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in July 1989. Usable capacity, 2 acre-ft between elevations 4,186.0 ft, minimum fishwater release elevation, and 4,191.5 ft, crest of spillway. Water is diverted through tunnel to McKay's Point Reservoir (station 11295260) on North Fork Stanislaus River. Released water is used for fishery maintenance. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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 FOR PERIOD OF RECORD.--Maximum contents, 12 acre-ft, on many days during June 1990, maximum elevation, 4,191.6 ft, Apr. 28, 1990; minimum, 10 acre-ft, on many days during 1990, minimum elevation, 4,186.8 ft, several days in August and September 1990.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

| | | | | | |
|-------|----|-------|----|---------|----|
| 4,186 | 10 | 4,189 | 11 | 4,191.5 | 12 |
| 4,187 | 10 | 4,191 | 12 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 |
| 2 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 |
| 3 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 |
| 4 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 11 | 10 | 10 | 10 |
| 5 | --- | --- | --- | --- | 10 | 12 | 12 | 11 | 12 | 10 | 10 | 10 |
| 6 | --- | --- | --- | --- | 10 | 11 | 12 | 12 | 12 | 10 | 10 | 10 |
| 7 | --- | --- | --- | --- | 10 | 12 | 12 | 12 | 11 | 10 | 10 | 10 |
| 8 | --- | --- | --- | --- | 10 | 12 | 12 | 12 | 12 | 10 | 10 | 10 |
| 9 | --- | --- | --- | --- | 10 | 11 | 12 | 12 | 12 | 10 | 10 | 10 |
| 10 | --- | --- | --- | --- | 10 | 12 | 12 | 12 | 11 | 10 | 10 | 10 |
| 11 | --- | --- | --- | --- | 10 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 12 | --- | --- | --- | --- | e10 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 13 | --- | --- | --- | --- | 10 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 14 | --- | --- | --- | --- | 10 | 12 | 12 | 11 | 10 | 10 | 10 | 10 |
| 15 | --- | --- | --- | --- | 10 | 11 | 12 | 10 | 10 | 10 | 10 | 10 |
| 16 | --- | --- | --- | --- | 10 | 12 | 11 | 10 | 10 | 10 | 10 | 10 |
| 17 | --- | --- | --- | --- | 10 | 12 | 12 | 10 | 10 | 10 | 10 | 10 |
| 18 | --- | --- | --- | --- | 10 | 12 | e12 | 10 | 10 | 10 | 10 | 10 |
| 19 | --- | --- | --- | --- | 10 | 12 | e11 | 10 | 10 | 10 | 10 | 10 |
| 20 | --- | --- | --- | --- | 10 | 12 | e12 | 10 | 10 | 10 | 10 | 10 |
| 21 | --- | --- | --- | --- | 10 | 12 | e12 | 10 | 10 | 10 | 10 | 10 |
| 22 | --- | --- | --- | --- | 10 | 12 | e12 | 10 | 10 | 10 | 10 | 10 |
| 23 | --- | --- | --- | --- | 10 | 12 | e12 | 12 | 10 | 10 | 10 | 10 |
| 24 | --- | --- | --- | --- | 10 | 12 | e12 | 12 | 10 | 10 | 10 | 10 |
| 25 | --- | --- | --- | --- | 10 | 12 | e12 | 10 | 10 | 10 | 10 | 10 |
| 26 | --- | --- | --- | --- | 11 | 12 | 11 | 10 | 10 | 10 | 10 | 10 |
| 27 | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 28 | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 29 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 30 | --- | --- | --- | --- | --- | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 31 | --- | --- | --- | --- | --- | 12 | --- | 12 | --- | 10 | 10 | --- |
| MAX | --- | --- | --- | --- | --- | 12 | 12 | 12 | 12 | 10 | 10 | 10 |
| MIN | --- | --- | --- | --- | --- | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| a | | | | | 4191.0 | 4190.7 | 4189.8 | 4190.5 | 4187.2 | 4186.9 | 4186.9 | 4186.9 |
| b | | | | | --- | 0 | 0 | 0 | -2 | 0 | 0 | 0 |

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11295230 BEAVER CREEK BELOW DIVERSION DAM, NEAR ARNOLD, CA

LOCATION.--Lat 38°13'59", long 120°16'46", in NE 1/4 NW 1/4 sec.1, T.4 N., R.15 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, at Beaver Creek diversion dam, 4.5 mi eastsoutheast of Arnold.

DRAINAGE AREA.--29.3 mi².

PERIOD OF RECORD.--February to September 1990.

GAGE.--Acoustic-velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Entire flow of Beaver Creek in excess of 16.5 ft³/s required for fishery release can be diverted through tunnel and penstock to turbine at McKay's Point Reservoir (stations 11295210 and 11295260). Capacity of tunnel and penstock is 400 ft³/s and flow in excess of that amount is either released or spilled at Beaver Creek diversion dam to the creek. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 18 ft³/s, many days during 1990; minimum daily, 2.5 ft³/s, Sept. 11-15, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-------|------|------|------|-------|-------|-------|------|
| 1 | --- | --- | --- | --- | e13 | 17 | 17 | 17 | 18 | 7.6 | 3.5 | 3.0 |
| 2 | --- | --- | --- | --- | e13 | 18 | 18 | 18 | 18 | 7.7 | 3.5 | 2.9 |
| 3 | --- | --- | --- | --- | e11 | 18 | 17 | 18 | 18 | 7.3 | 3.5 | 2.8 |
| 4 | --- | --- | --- | --- | e13 | 17 | 17 | 18 | 18 | 7.0 | 3.5 | 2.7 |
| 5 | --- | --- | --- | --- | 14 | 18 | 17 | 18 | 18 | 6.8 | 3.3 | 2.7 |
| 6 | --- | --- | --- | --- | 12 | 18 | 18 | 18 | 18 | 6.7 | 3.6 | 2.6 |
| 7 | --- | --- | --- | --- | 9.5 | 17 | 17 | 18 | 18 | 6.6 | 4.2 | 2.6 |
| 8 | --- | --- | --- | --- | 12 | 18 | 17 | 18 | 18 | 6.4 | 3.8 | 2.6 |
| 9 | --- | --- | --- | --- | 12 | 18 | 17 | 18 | 18 | 6.2 | 3.5 | 2.6 |
| 10 | --- | --- | --- | --- | 12 | 18 | 17 | 17 | 18 | 6.2 | 3.3 | 2.6 |
| 11 | --- | --- | --- | --- | 14 | 18 | 17 | 18 | 17 | 6.4 | 3.2 | 2.5 |
| 12 | --- | --- | --- | --- | 14 | 18 | 17 | 17 | 16 | 6.0 | 3.1 | 2.5 |
| 13 | --- | --- | --- | --- | 12 | 18 | 17 | 18 | 15 | 5.6 | 3.0 | 2.5 |
| 14 | --- | --- | --- | --- | 10 | 16 | 17 | 17 | 15 | 5.3 | 2.9 | 2.5 |
| 15 | --- | --- | --- | --- | 13 | 18 | 17 | 17 | 15 | 5.1 | 3.0 | 2.5 |
| 16 | --- | --- | --- | --- | 11 | 18 | 17 | 16 | 15 | 4.9 | 3.0 | 2.6 |
| 17 | --- | --- | --- | --- | 7.4 | 18 | 17 | 15 | 14 | 4.8 | 3.1 | 2.7 |
| 18 | --- | --- | --- | --- | 12 | 18 | e17 | 14 | 13 | 4.7 | 3.2 | 2.7 |
| 19 | --- | --- | --- | --- | 16 | 18 | e17 | 14 | 12 | 4.7 | 3.6 | 2.8 |
| 20 | --- | --- | --- | --- | 15 | 18 | e17 | 14 | 12 | 4.6 | 3.6 | 3.0 |
| 21 | --- | --- | --- | --- | 14 | 18 | e17 | 14 | 11 | 4.3 | 3.5 | 2.7 |
| 22 | --- | --- | --- | --- | 14 | 18 | e18 | 13 | 10 | 4.2 | 3.3 | 2.8 |
| 23 | --- | --- | --- | --- | 14 | 17 | e18 | 15 | 9.9 | 4.0 | 3.1 | 4.1 |
| 24 | --- | --- | --- | --- | 15 | 17 | e17 | 18 | 9.5 | 3.9 | 2.9 | 4.3 |
| 25 | --- | --- | --- | --- | 16 | 18 | e17 | 16 | 9.3 | 4.0 | 3.0 | 3.7 |
| 26 | --- | --- | --- | --- | 17 | 17 | 17 | 15 | 9.0 | 4.0 | 3.3 | 3.6 |
| 27 | --- | --- | --- | --- | 18 | 17 | 17 | 17 | 8.6 | 4.0 | 3.3 | 3.6 |
| 28 | --- | --- | --- | --- | 18 | 17 | 18 | 17 | 8.3 | 3.9 | 3.1 | 3.6 |
| 29 | --- | --- | --- | --- | --- | 17 | 18 | 18 | 8.1 | 3.9 | 2.9 | 3.3 |
| 30 | --- | --- | --- | --- | --- | 17 | 18 | 18 | 7.8 | 3.7 | 2.8 | 3.1 |
| 31 | --- | --- | --- | --- | --- | 17 | --- | 18 | --- | 3.6 | 2.9 | --- |
| TOTAL | --- | --- | --- | --- | 371.9 | 545 | 516 | 517 | 415.5 | 164.1 | 101.5 | 88.2 |
| MEAN | --- | --- | --- | --- | 13.3 | 17.6 | 17.2 | 16.7 | 13.8 | 5.29 | 3.27 | 2.94 |
| MAX | --- | --- | --- | --- | 18 | 18 | 18 | 18 | 18 | 7.7 | 4.2 | 4.3 |
| MIN | --- | --- | --- | --- | 7.4 | 16 | 17 | 13 | 7.8 | 3.6 | 2.8 | 2.5 |
| AC-FT | --- | --- | --- | --- | 738 | 1080 | 1020 | 1030 | 824 | 325 | 201 | 175 |

e Estimated.

SAN JOAQUIN RIVER BASIN

11295240 UTICA CANAL AT PRESSURE TAP, NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°11'33", long 120°21'14", in SW 1/4 SW 1/4 sec.17, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, at pressure tap in Collierville tunnel and 0.5 mi east of Hathaway Pines.

PERIOD OF RECORD.--October 1989 to September 1990.

GAGE.--Acoustic-velocity meter. Elevation of gage is 3,160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow is diverted into Collierville tunnel at McKay's Point Reservoir (stations 11295250 and 11295260) and enters canal through pressure tap in the tunnel. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & 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, 89 ft³/s, Oct. 17, 1989; no flow, Feb. 4-15, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|--------|------|------|------|------|------|------|------|
| 1 | e10 | e80 | 43 | 80 | 78 | 80 | 80 | 83 | 73 | 50 | 33 | 34 |
| 2 | e32 | e70 | 70 | 80 | 78 | 80 | 80 | 82 | 67 | 34 | 31 | 35 |
| 3 | 79 | e65 | 70 | 78 | 35 | 80 | 80 | 40 | 67 | 34 | 31 | 35 |
| 4 | 79 | 61 | 68 | 78 | e.00 | 80 | 80 | 82 | 67 | 35 | 30 | 35 |
| 5 | 81 | 62 | 71 | 78 | e.00 | 80 | 80 | 83 | 68 | 35 | 31 | 35 |
| 6 | 85 | 61 | 71 | 78 | e.00 | 77 | 80 | 84 | 68 | 35 | 31 | 35 |
| 7 | 87 | 61 | 70 | 78 | e.00 | 73 | 81 | 85 | 68 | 36 | 31 | 35 |
| 8 | 87 | 79 | 70 | 78 | e.00 | 73 | 83 | 85 | 67 | 36 | 31 | 35 |
| 9 | 85 | 84 | 70 | 78 | e.00 | 73 | 83 | 85 | 67 | 36 | 31 | 35 |
| 10 | 84 | 66 | 70 | 78 | .00 | 73 | 82 | 85 | 67 | 36 | 31 | 35 |
| 11 | 83 | 51 | 70 | 75 | .00 | 73 | 82 | 85 | 67 | 36 | 31 | 35 |
| 12 | 80 | 51 | 48 | 78 | .00 | 73 | 82 | 85 | 67 | 36 | 25 | 35 |
| 13 | 81 | 50 | 70 | 78 | .00 | 73 | 83 | 85 | 67 | 36 | 18 | 35 |
| 14 | 85 | 61 | 70 | 78 | .00 | 73 | 83 | 85 | 67 | 36 | 18 | 35 |
| 15 | 70 | 79 | 70 | 78 | .00 | 73 | 83 | 85 | 67 | 36 | 26 | 35 |
| 16 | 88 | 80 | 70 | 70 | 12 | 73 | 83 | 85 | 67 | 36 | 32 | 35 |
| 17 | 89 | 50 | 70 | 76 | 20 | 73 | 83 | 85 | 67 | 36 | 32 | 35 |
| 18 | 88 | 51 | 58 | 78 | 20 | 73 | 83 | 86 | 67 | 36 | 32 | 35 |
| 19 | 82 | 39 | 50 | 78 | 19 | 73 | 82 | 86 | 67 | 36 | 32 | 35 |
| 20 | 67 | 31 | 49 | 78 | 19 | 73 | 82 | 86 | 59 | 36 | 32 | 35 |
| 21 | 67 | 18 | 65 | 78 | 19 | 73 | 81 | 86 | 52 | 36 | 32 | 35 |
| 22 | 68 | 58 | 80 | 78 | 19 | 73 | 78 | 85 | 59 | 36 | 32 | 35 |
| 23 | 69 | 58 | 80 | 78 | 48 | 75 | 78 | 85 | 67 | 36 | 32 | 35 |
| 24 | 69 | 59 | 80 | 78 | 80 | 76 | 76 | 85 | 67 | 36 | 32 | 35 |
| 25 | 69 | 59 | 80 | 78 | 80 | 76 | 84 | 84 | 67 | 36 | 32 | 35 |
| 26 | 70 | 60 | 80 | 78 | 80 | 79 | 84 | 84 | 67 | 36 | 32 | 35 |
| 27 | 62 | 44 | 80 | 78 | 80 | 80 | 83 | 84 | 67 | 36 | 32 | 35 |
| 28 | 80 | 36 | 80 | 78 | 80 | 80 | 83 | 84 | 67 | 36 | 32 | 35 |
| 29 | 80 | 34 | 80 | 78 | --- | 80 | 83 | 83 | 67 | 36 | 32 | 35 |
| 30 | e80 | 30 | 80 | 78 | --- | 80 | 81 | 83 | 67 | 36 | 32 | 35 |
| 31 | e80 | --- | 80 | 78 | --- | 80 | --- | 83 | --- | 36 | 32 | --- |
| TOTAL | 2316 | 1688 | 2163 | 2409 | 767.00 | 2351 | 2446 | 2573 | 1988 | 1123 | 941 | 1049 |
| MEAN | 74.7 | 56.3 | 69.8 | 77.7 | 27.4 | 75.8 | 81.5 | 83.0 | 66.3 | 36.2 | 30.4 | 35.0 |
| MAX | 89 | 84 | 80 | 80 | 80 | 80 | 84 | 86 | 73 | 50 | 33 | 35 |
| MIN | 10 | 18 | 43 | 70 | .00 | 73 | 76 | 40 | 52 | 34 | 18 | 34 |
| AC-FT | 4590 | 3350 | 4290 | 4780 | 1520 | 4660 | 4850 | 5100 | 3940 | 2230 | 1870 | 2080 |

WTR YR 1990 TOTAL 21814.00 MEAN 59.8 MAX 89 MIN .00 AC-FT 43270

e Estimated.

SAN JOAQUIN RIVER BASIN

329

11295250 COLLIERVILLE POWERPLANT NEAR MURPHYS, CA

LOCATION.--Lat 38°08'33", long 120°22'39", in NE 1/4 SE 1/4 sec.1, T.3 N., R.14 E., Calaveras County, Hydrologic Unit 18040010, 800 ft upstream from Stanislaus River and 4.4 mi east of Murphys.

PERIOD OF RECORD.--February to September 1990.

GAGE.--Pressure-differential sensors in powerplant penstocks. Elevation of powerplant is 1,120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow is diverted from McKay's Point Reservoir (station 11295260) through Collierville tunnel to the powerplant. A portion of the flow in the tunnel is diverted to Utica Canal (station 11295240) through a pressure tap near Mill Creek in SW 1/4 SW 1/4 sec.17, T.4 N., R.15 E. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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, 714 ft³/s, Apr. 2, 1990; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|---------|---------|-------|---------|---------|---------|---------|---------|
| 1 | --- | --- | --- | --- | 93 | 80 | 434 | 199 | 352 | .00 | 201 | .00 |
| 2 | --- | --- | --- | --- | 85 | 330 | 714 | 124 | 224 | 124 | 185 | 24 |
| 3 | --- | --- | --- | --- | 41 | 140 | 660 | 13 | 160 | 200 | 159 | 132 |
| 4 | --- | --- | --- | --- | 43 | 305 | 582 | 297 | 135 | 42 | 176 | 395 |
| 5 | --- | --- | --- | --- | 149 | 34 | 471 | 86 | 116 | 100 | 37 | 242 |
| 6 | --- | --- | --- | --- | 137 | 430 | 575 | 99 | 140 | 169 | 487 | 265 |
| 7 | --- | --- | --- | --- | 116 | 58 | 504 | 86 | 204 | 137 | 382 | 296 |
| 8 | --- | --- | --- | --- | 148 | 88 | 456 | 58 | 187 | 30 | 538 | .00 |
| 9 | --- | --- | --- | --- | 159 | 291 | 528 | 43 | .00 | 181 | 457 | .00 |
| 10 | --- | --- | --- | --- | .00 | .00 | 506 | 63 | .00 | 204 | 441 | 427 |
| 11 | --- | --- | --- | --- | 133 | 162 | 516 | 52 | 118 | 247 | 374 | 376 |
| 12 | --- | --- | --- | --- | 376 | 249 | 387 | 48 | 121 | 277 | 264 | 401 |
| 13 | --- | --- | --- | --- | 86 | 87 | 379 | .00 | 174 | 320 | 418 | 188 |
| 14 | --- | --- | --- | --- | 190 | 144 | 504 | 38 | 187 | 130 | 263 | 363 |
| 15 | --- | --- | --- | --- | 149 | 92 | 435 | 28 | 216 | .00 | 322 | .00 |
| 16 | --- | --- | --- | --- | 232 | 106 | 465 | 49 | .00 | 197 | 322 | .00 |
| 17 | --- | --- | --- | --- | 60 | 157 | 370 | 34 | .00 | 176 | 338 | 318 |
| 18 | --- | --- | --- | --- | 97 | 207 | 255 | 38 | 151 | 209 | 232 | 327 |
| 19 | --- | --- | --- | --- | 41 | 268 | 313 | 33 | 123 | 198 | .00 | 327 |
| 20 | --- | --- | --- | --- | 144 | 396 | 278 | 45 | 150 | 278 | 337 | 436 |
| 21 | --- | --- | --- | --- | 102 | 396 | 285 | 45 | 208 | 8.0 | 339 | 288 |
| 22 | --- | --- | --- | --- | 114 | 434 | 216 | 50 | 212 | .00 | 384 | .00 |
| 23 | --- | --- | --- | --- | 122 | 464 | 496 | 98 | .00 | 120 | 350 | 31 |
| 24 | --- | --- | --- | --- | .00 | 466 | 461 | 65 | .00 | 90 | 368 | 340 |
| 25 | --- | --- | --- | --- | 78 | 477 | 301 | 68 | 131 | 74 | .00 | 332 |
| 26 | --- | --- | --- | --- | 44 | 408 | 243 | 117 | 28 | 162 | .00 | 262 |
| 27 | --- | --- | --- | --- | 75 | 474 | 352 | .00 | 101 | 222 | 430 | 225 |
| 28 | --- | --- | --- | --- | 83 | 383 | 179 | 214 | 224 | .00 | 632 | 260 |
| 29 | --- | --- | --- | --- | --- | 370 | 241 | 208 | 185 | .00 | 199 | 167 |
| 30 | --- | --- | --- | --- | --- | 341 | 206 | 174 | 13 | 189 | 334 | 145 |
| 31 | --- | --- | --- | --- | --- | 331 | --- | 524 | --- | 174 | 335 | --- |
| TOTAL | --- | --- | --- | --- | 3097.00 | 8168.00 | 12312 | 2996.00 | 3860.00 | 4258.00 | 9304.00 | 6567.00 |
| MEAN | --- | --- | --- | --- | 111 | 263 | 410 | 96.6 | 129 | 137 | 300 | 219 |
| MAX | --- | --- | --- | --- | 376 | 477 | 714 | 524 | 352 | 320 | 632 | 436 |
| MIN | --- | --- | --- | --- | .00 | .00 | 179 | .00 | .00 | .00 | .00 | .00 |
| AC-FT | --- | --- | --- | --- | 6140 | 16200 | 24420 | 5940 | 7660 | 8450 | 18450 | 13030 |

SAN JOAQUIN RIVER BASIN

11295260 MCKAY'S POINT RESERVOIR NEAR AVERY, CA

LOCATION.--Lat 38°14'01", long 120°17'30", in NE 1/4 NW 1/4 sec.2, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at outlet structure near upstream face of McKay's Point Dam on North Fork Stanislaus River and 4.6 mi northeast of Avery.

DRAINAGE AREA.--166 mi².

PERIOD OF RECORD.--February to September 1990.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Calaveras County Water District).

REMARKS.--Reservoir is formed by concrete arch-type dam completed in July 1989. Usable capacity, 1,785 acre-ft between elevations 3,280.0 ft, minimum operating head, and 3,370.0 ft, crest of spillway. Water is diverted through tunnel to Utica Canal (station 11295240) and Collierville Powerplant (station 11295250), near the confluence of the middle and north forks of the Stanislaus River. Released water is used for fishery maintenance. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Calaveras County Water District, 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 FOR PERIOD OF RECORD.--Maximum contents, 2,075 acre-ft, May 3, 1990, elevation, 3,370.2 ft; minimum, 1,316 acre-ft, Aug. 6, 1990, elevation, 3,342.0 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Calaveras County Water District in July 1989)

| | | | | | |
|-------|-----|-------|-------|---------|-------|
| 3,280 | 280 | 3,340 | 1,240 | 3,370 | 2,065 |
| 3,300 | 490 | 3,360 | 1,770 | 3,370.2 | 2,075 |
| 3,320 | 820 | | | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | --- | --- | --- | --- | 1794 | 1994 | 1949 | 1867 | 1928 | 1984 | 1532 | 1850 |
| 2 | --- | --- | --- | --- | 1768 | 1688 | 1805 | 1888 | 1941 | 1972 | 1479 | 1956 |
| 3 | --- | --- | --- | --- | 1816 | 1877 | 1688 | 2075 | 1943 | 1853 | 1483 | 1908 |
| 4 | --- | --- | --- | --- | 1870 | 1814 | 1643 | 1909 | 1928 | 1961 | 1472 | 1762 |
| 5 | --- | --- | --- | --- | 1846 | 1999 | 1726 | 1962 | 1922 | 1980 | 1696 | 1656 |
| 6 | --- | --- | --- | --- | 1843 | 1563 | 1733 | 1971 | 1887 | 1909 | 1316 | 1544 |
| 7 | --- | --- | --- | --- | 1858 | 1726 | 1787 | 1981 | 1770 | 1872 | 1443 | 1531 |
| 8 | --- | --- | --- | --- | 1819 | 1832 | 1894 | 1997 | 1647 | 1985 | 1440 | 1764 |
| 9 | --- | --- | --- | --- | 1746 | 1832 | 1835 | 2019 | 1816 | 1883 | 1476 | 1932 |
| 10 | --- | --- | --- | --- | 1933 | 1894 | 1865 | 1996 | 1944 | 1739 | 1559 | 1746 |
| 11 | --- | --- | --- | --- | 1954 | 1894 | 1922 | 1989 | 1959 | 1732 | 1483 | 1748 |
| 12 | --- | --- | --- | --- | 1650 | 2034 | 1909 | 1975 | 1971 | 1746 | 1768 | 1681 |
| 13 | --- | --- | --- | --- | 1830 | 1843 | 1965 | 2026 | 1907 | 1680 | 1631 | 1778 |
| 14 | --- | --- | --- | --- | 1814 | 1827 | 1885 | 2020 | 1820 | 1752 | 1768 | 1533 |
| 15 | --- | --- | --- | --- | 1814 | 1851 | 1896 | 2043 | 1660 | 1930 | 1779 | 1798 |
| 16 | --- | --- | --- | --- | 1624 | 1877 | 1892 | 2021 | 1855 | 1889 | 1788 | 1990 |
| 17 | --- | --- | --- | --- | 1726 | 1877 | 1891 | 2012 | 2013 | 1813 | 1734 | 1945 |
| 18 | --- | --- | --- | --- | 1758 | 1877 | 1954 | 2002 | 1967 | 1746 | 1561 | 1915 |
| 19 | --- | --- | --- | --- | 1858 | 1989 | 1930 | 2007 | 1954 | 1805 | 1782 | 1872 |
| 20 | --- | --- | --- | --- | 1803 | 1949 | 1949 | 2015 | 1896 | 1478 | 1743 | 1569 |
| 21 | --- | --- | --- | --- | 1814 | 1994 | 1928 | 2020 | 1770 | 1665 | 1730 | 1522 |
| 22 | --- | --- | --- | --- | 1814 | 2039 | 1949 | 2023 | 1566 | 1850 | 1606 | 1820 |
| 23 | --- | --- | --- | --- | 1774 | 2039 | 1946 | 1974 | 1768 | 1827 | 1529 | 1960 |
| 24 | --- | --- | --- | --- | 1885 | 2039 | 1888 | 1991 | 1922 | 1833 | 1419 | 1876 |
| 25 | --- | --- | --- | --- | 1858 | 1970 | 1909 | 1948 | 1885 | 1879 | 1646 | 1813 |
| 26 | --- | --- | --- | --- | 1885 | 1928 | 1939 | 1833 | 1959 | 1779 | 1850 | 1815 |
| 27 | --- | --- | --- | --- | 1885 | 1877 | 1822 | 1959 | 1991 | 1546 | 1709 | 1872 |
| 28 | --- | --- | --- | --- | 1933 | 1920 | 1969 | 2036 | 1827 | 1732 | 1466 | 1871 |
| 29 | --- | --- | --- | --- | --- | 1920 | 1954 | 1948 | 1698 | 1900 | 1705 | 1867 |
| 30 | --- | --- | --- | --- | --- | 1872 | 1920 | 1887 | 1835 | 1764 | 1673 | 1880 |
| 31 | --- | --- | --- | --- | --- | 1888 | --- | 1918 | --- | 1609 | 1649 | --- |
| MAX | --- | --- | --- | --- | 1954 | 2039 | 1969 | 2075 | 2013 | 1985 | 1850 | 1990 |
| MIN | --- | --- | --- | --- | 1624 | 1563 | 1643 | 1833 | 1566 | 1478 | 1316 | 1522 |
| a | | | | | 3365.0 | 3363.3 | 3364.5 | 3364.6 | 3361.5 | 3354.1 | 3355.3 | 3362.7 |
| b | | | | | --- | -45 | +32 | -2 | -83 | -226 | +40 | +231 |

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11295270 NORTH FORK STANISLAUS RIVER BELOW MCKAY'S POINT DAM, NEAR AVERY, CA

LOCATION.--Lat 38°13'58", long 120°17'33", in NE 1/4 NW 1/4 sec.2, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank, 500 ft downstream from McKay's Point Dam and 4.5 mi northeast of Avery.

DRAINAGE AREA.--166 mi².

PERIOD OF RECORD.--August 1989 to current year.

GAGE.--Water-stage recorder and rectangular steel weir. Prior to Nov. 1, 1989, concrete control. Elevation of gage is 3,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for period of estimated daily discharge, which are poor. Flow regulated by Union and Utica Reservoirs, Lake Alpine (stations 11293350, 11293370, and 11293460), New Spicer Meadow Reservoir and McKay's Point Reservoir (stations 11293770 and 11295260) with combined capacity, 200,770 acre-ft. Collierville tunnel diverts from right bank of North Fork Stanislaus River at McKay's Point Dam to Utica Canal and Collierville powerplant. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137 ft³/s, Oct. 24, 1989, gage height, 2.38 ft, maximum gage height, 2.53 ft, May 3, 1990; minimum daily, 3.4 ft³/s, Nov. 25, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 137 ft³/s, Oct. 24, gage height, 2.38 ft, maximum gage height, 2.53 ft, May 3; minimum daily, 3.4 ft³/s, Nov. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1 | 53 | e7.0 | 4.6 | 7.0 | 14 | 18 | 20 | 18 | 21 | 20 | 23 | 23 |
| 2 | 30 | e7.8 | 4.4 | 7.3 | 15 | 17 | 19 | 18 | 21 | 20 | 23 | 23 |
| 3 | 11 | e7.0 | 4.4 | 7.2 | 14 | 17 | 19 | 38 | 21 | 20 | 23 | 23 |
| 4 | 11 | e7.0 | 4.5 | 7.1 | 15 | 17 | 19 | 21 | 21 | 20 | 23 | 23 |
| 5 | 11 | e7.0 | 4.7 | 7.2 | 14 | 17 | 19 | 19 | 21 | 21 | 23 | 23 |
| 6 | 20 | e8.0 | 4.6 | 7.2 | 14 | 17 | 19 | 18 | 21 | 21 | 23 | 23 |
| 7 | 37 | e8.0 | 4.7 | 7.2 | 15 | 16 | 19 | 18 | 21 | 21 | 22 | 23 |
| 8 | 28 | e8.0 | 4.0 | 6.6 | 18 | 16 | 19 | 18 | 20 | 21 | 23 | 23 |
| 9 | 26 | e8.0 | 3.6 | 5.8 | 17 | 16 | 19 | 18 | 20 | 23 | 23 | 23 |
| 10 | 22 | 6.6 | 3.6 | 5.4 | 17 | 16 | 19 | 18 | 21 | 21 | 23 | 23 |
| 11 | 19 | 5.1 | 5.7 | 5.3 | 17 | 16 | 19 | 18 | 21 | 21 | 23 | 23 |
| 12 | 21 | 5.2 | 5.8 | 5.1 | 17 | 16 | 19 | 18 | 21 | 22 | 23 | 23 |
| 13 | 18 | 5.0 | 6.3 | 5.1 | 17 | 16 | 19 | 18 | 21 | 22 | 23 | 23 |
| 14 | 11 | 4.7 | 6.3 | 5.1 | 18 | 16 | 19 | 18 | 21 | 22 | 23 | 23 |
| 15 | 13 | 4.5 | 6.3 | 5.2 | 24 | 16 | 18 | 19 | 21 | 22 | 23 | 23 |
| 16 | 14 | 4.4 | 6.2 | 5.2 | 18 | 16 | 18 | 20 | 22 | 22 | 23 | 23 |
| 17 | 43 | 4.2 | 6.3 | 5.3 | 20 | 16 | 18 | 18 | 22 | 22 | 23 | 23 |
| 18 | 10 | 4.1 | 6.3 | 6.7 | 18 | 15 | 18 | 18 | 22 | 22 | 22 | 23 |
| 19 | e50 | 4.2 | 6.3 | 6.7 | 18 | 16 | 18 | 18 | 22 | 22 | 22 | 23 |
| 20 | e7.0 | 4.1 | 6.3 | 6.6 | 17 | 14 | 18 | 18 | 21 | 22 | 23 | 23 |
| 21 | 7.0 | 3.7 | 6.2 | 6.6 | 18 | 14 | 18 | 18 | 19 | 22 | 23 | 22 |
| 22 | 7.2 | 5.7 | 6.2 | 6.6 | 19 | 14 | 18 | 18 | 19 | 23 | 23 | 23 |
| 23 | 42 | 6.1 | 6.2 | 6.6 | 18 | 13 | 18 | 18 | 19 | 23 | 23 | 22 |
| 24 | e68 | 5.0 | 6.2 | 9.4 | 17 | 13 | 22 | 18 | 19 | 23 | 23 | 22 |
| 25 | e7.0 | 3.4 | 6.3 | 15 | 17 | 13 | 18 | 19 | 19 | 23 | 23 | 23 |
| 26 | e7.0 | 16 | 6.2 | 16 | 18 | 14 | 19 | 20 | 19 | 23 | 23 | 23 |
| 27 | e7.0 | 7.3 | 6.2 | 13 | 18 | 14 | 19 | 20 | 19 | 23 | 23 | 23 |
| 28 | e7.2 | 4.3 | 6.0 | 14 | 18 | 14 | 19 | 20 | 19 | 23 | 23 | 23 |
| 29 | e7.6 | 5.2 | 5.9 | 14 | --- | 17 | 18 | 20 | 20 | 23 | 23 | 23 |
| 30 | e7.8 | 5.1 | 5.9 | 11 | --- | 19 | 18 | 20 | 20 | 23 | 23 | 23 |
| 31 | e7.0 | --- | 5.9 | 9.2 | --- | 20 | --- | 24 | --- | 23 | 23 | --- |
| TOTAL | 629.8 | 181.7 | 172.1 | 245.7 | 480 | 489 | 562 | 602 | 614 | 679 | 710 | 687 |
| MEAN | 20.3 | 6.06 | 5.55 | 7.93 | 17.1 | 15.8 | 18.7 | 19.4 | 20.5 | 21.9 | 22.9 | 22.9 |
| MAX | 68 | 16 | 6.3 | 16 | 24 | 20 | 22 | 38 | 22 | 23 | 23 | 23 |
| MIN | 7.0 | 3.4 | 3.6 | 5.1 | 14 | 13 | 18 | 18 | 19 | 20 | 22 | 22 |
| AC-FT | 1250 | 360 | 341 | 487 | 952 | 970 | 1110 | 1190 | 1220 | 1350 | 1410 | 1360 |

WTR YR 1990 TOTAL 6052.3 MEAN 16.6 MAX 68 MIN 3.4 AC-FT 12000

e Estimated.

SAN JOAQUIN RIVER BASIN

11295300 NORTH FORK STANISLAUS RIVER BELOW BEAVER CREEK, NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°12'26", long 120°18'58", in SW 1/4 SW 1/4 sec.10, T.4 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, at confluence with Beaver Creek and 2.8 mi northeast of Hathaway Pines.

DRAINAGE AREA.--224 mi².

PERIOD OF RECORD.--February to September 1990.

GAGE.--Discharge computed as the sum of North Fork Stanislaus River below McKay's Point Dam (station 11295270) and Beaver Creek below diversion dam (station 11295230). Elevation of gage is 2,230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records consist of release and spill from McKay's Point Reservoir (station 11295260) and Beaver Creek Diversion Reservoir (station 11295220). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records for Beaver Creek below diversion dam were collected by Calaveras County Water District, 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, 56 ft³/s, May 3, 1990; minimum daily, 24 ft³/s, Feb. 7, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1 | --- | --- | --- | --- | e27 | 35 | 37 | 35 | 39 | 28 | 26 | 26 |
| 2 | --- | --- | --- | --- | e28 | 35 | 37 | 36 | 39 | 28 | 26 | 26 |
| 3 | --- | --- | --- | --- | e25 | 35 | 36 | 56 | 39 | 27 | 26 | 26 |
| 4 | --- | --- | --- | --- | e28 | 34 | 36 | 39 | 39 | 27 | 26 | 26 |
| 5 | --- | --- | --- | --- | 28 | 35 | 36 | 37 | 39 | 28 | 26 | 26 |
| 6 | --- | --- | --- | --- | 26 | 35 | 37 | 36 | 39 | 28 | 27 | 26 |
| 7 | --- | --- | --- | --- | 24 | 33 | 36 | 36 | 39 | 28 | 26 | 26 |
| 8 | --- | --- | --- | --- | 30 | 34 | 36 | 36 | 38 | 27 | 27 | 26 |
| 9 | --- | --- | --- | --- | 29 | 34 | 36 | 36 | 38 | 29 | 26 | 26 |
| 10 | --- | --- | --- | --- | 29 | 34 | 36 | 35 | 39 | 27 | 26 | 26 |
| 11 | --- | --- | --- | --- | 31 | 34 | 36 | 36 | 38 | 27 | 26 | 25 |
| 12 | --- | --- | --- | --- | 31 | 34 | 36 | 35 | 37 | 28 | 26 | 25 |
| 13 | --- | --- | --- | --- | 29 | 34 | 36 | 36 | 36 | 28 | 26 | 25 |
| 14 | --- | --- | --- | --- | 28 | 32 | 36 | 35 | 36 | 27 | 26 | 25 |
| 15 | --- | --- | --- | --- | 37 | 34 | 35 | 36 | 36 | 27 | 26 | 25 |
| 16 | --- | --- | --- | --- | 29 | 34 | 35 | 36 | 37 | 27 | 26 | 26 |
| 17 | --- | --- | --- | --- | 27 | 34 | 35 | 33 | 36 | 27 | 26 | 26 |
| 18 | --- | --- | --- | --- | 30 | 33 | 35 | 32 | 35 | 27 | 25 | 26 |
| 19 | --- | --- | --- | --- | 34 | 34 | 35 | 32 | 34 | 27 | 26 | 26 |
| 20 | --- | --- | --- | --- | 32 | 32 | 35 | 32 | 33 | 27 | 27 | 26 |
| 21 | --- | --- | --- | --- | 32 | 32 | 35 | 32 | 30 | 26 | 26 | 25 |
| 22 | --- | --- | --- | --- | 33 | 32 | 36 | 31 | 29 | 27 | 26 | 26 |
| 23 | --- | --- | --- | --- | 32 | 30 | 36 | 33 | 29 | 27 | 26 | 26 |
| 24 | --- | --- | --- | --- | 32 | 30 | 39 | 36 | 28 | 27 | 26 | 26 |
| 25 | --- | --- | --- | --- | 33 | 31 | 35 | 35 | 28 | 27 | 26 | 27 |
| 26 | --- | --- | --- | --- | 35 | 31 | 36 | 35 | 28 | 27 | 26 | 27 |
| 27 | --- | --- | --- | --- | 36 | 31 | 36 | 37 | 28 | 27 | 26 | 27 |
| 28 | --- | --- | --- | --- | 36 | 31 | 37 | 37 | 27 | 27 | 26 | 27 |
| 29 | --- | --- | --- | --- | --- | 34 | 36 | 38 | 28 | 27 | 26 | 26 |
| 30 | --- | --- | --- | --- | --- | 36 | 35 | 38 | 28 | 27 | 26 | 26 |
| 31 | --- | --- | --- | --- | --- | 37 | --- | 42 | --- | 27 | 26 | --- |
| TOTAL | --- | --- | --- | --- | 851 | 1034 | 1078 | 1119 | 1029 | 845 | 808 | 778 |
| MEAN | --- | --- | --- | --- | 30.4 | 33.4 | 35.9 | 36.1 | 34.3 | 27.3 | 26.1 | 25.9 |
| MAX | --- | --- | --- | --- | 37 | 37 | 39 | 56 | 39 | 29 | 27 | 27 |
| MIN | --- | --- | --- | --- | 24 | 30 | 35 | 31 | 27 | 26 | 25 | 25 |
| AC-FT | --- | --- | --- | --- | 1690 | 2050 | 2140 | 2220 | 2040 | 1680 | 1600 | 1540 |

e Estimated.

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 mi².

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 & Electric Co.). Prior to Oct. 1, 1982, published at datum 47.21 ft higher.

REMARKS.--No estimated daily discharges. Records good. Many diversions upstream from 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 & Electric Co.

AVERAGE DISCHARGE.--River only: 23 years, 846 ft³/s, 612,900 acre-ft/yr.
Combined river and powerplant: 23 years, 1,289 ft³/s, 933,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,200 ft³/s, Feb. 19, 1986, gage height, 23.5 ft, from outside highwater mark, from rating curve extended above 10,000 ft³/s on basis of computation of peak flow over a weir; minimum daily, 9.4 ft³/s, Aug. 7, 1977.
Combined flow, maximum discharge, 46,700 ft³/s, Feb. 19, 1986; minimum daily, 27 ft³/s, July 20, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 2,120 ft³/s, Nov. 6, gage height, 10.73 ft; minimum daily, 46 ft³/s, Jan. 6.
Combined flow, maximum discharge, 2,540 ft³/s, Oct. 24; minimum daily, 135 ft³/s, May. 27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|-------|-------|-------|-------|-------|--------|-------|-------|
| 1 | 177 | 339 | 243 | 49 | 172 | 227 | 471 | 317 | 502 | 82 | 274 | 83 |
| 2 | 148 | 444 | 66 | 56 | 160 | 448 | 650 | 249 | 371 | 207 | 256 | 101 |
| 3 | 84 | 424 | 65 | 51 | 119 | 370 | 630 | 250 | 286 | 281 | 232 | 206 |
| 4 | 85 | 91 | 61 | 52 | 152 | 524 | 568 | 513 | 249 | 127 | 247 | 457 |
| 5 | 88 | 172 | 73 | 75 | 245 | 253 | 490 | 200 | 236 | 182 | 110 | 315 |
| 6 | 85 | 716 | 62 | 46 | 235 | 590 | 574 | 208 | 255 | 254 | 548 | 331 |
| 7 | 104 | 635 | 61 | 50 | 199 | 232 | 501 | 195 | 309 | 221 | 444 | 363 |
| 8 | 106 | 367 | 236 | 66 | 221 | 250 | 463 | 164 | 291 | 112 | 612 | 78 |
| 9 | 101 | 287 | 61 | 189 | 239 | 440 | 512 | 149 | 117 | 268 | 541 | 77 |
| 10 | 96 | 258 | 59 | 289 | 89 | 173 | 507 | 169 | 105 | 297 | 514 | 485 |
| 11 | 99 | 165 | 58 | 59 | 213 | 347 | 511 | 159 | 212 | 350 | 443 | 439 |
| 12 | 90 | 167 | 118 | 118 | 455 | 419 | 553 | 153 | 220 | 373 | 334 | 460 |
| 13 | 99 | 341 | 53 | 159 | 175 | 250 | 537 | 105 | 268 | 419 | 485 | 261 |
| 14 | 84 | 169 | 55 | 131 | 196 | 302 | 681 | 141 | 283 | 220 | 340 | 430 |
| 15 | 82 | 167 | 55 | 108 | 175 | 257 | 595 | 134 | 308 | 84 | 395 | 78 |
| 16 | 81 | 172 | 53 | 120 | 331 | 279 | 633 | 167 | 108 | 280 | 403 | 77 |
| 17 | 186 | 498 | 52 | 115 | 160 | 333 | 536 | 141 | 100 | 261 | 415 | 382 |
| 18 | 133 | 163 | 56 | 80 | 188 | 392 | 398 | 136 | 234 | 295 | 312 | 397 |
| 19 | 495 | 164 | 53 | 123 | 135 | 451 | 465 | 132 | 216 | 284 | 87 | 393 |
| 20 | 406 | 161 | 49 | 71 | 231 | 578 | 417 | 144 | 241 | 370 | 398 | 501 |
| 21 | 89 | 167 | 51 | 70 | 191 | 580 | 420 | 143 | 291 | 92 | 404 | 354 |
| 22 | 103 | 434 | 52 | 99 | 203 | 606 | 342 | 146 | 294 | 86 | 451 | 80 |
| 23 | 465 | 165 | 53 | 68 | 232 | 630 | 685 | 206 | 96 | 210 | 419 | 108 |
| 24 | 1090 | 170 | 52 | 69 | 128 | 641 | 710 | 180 | 86 | 181 | 442 | 406 |
| 25 | 727 | 117 | 51 | 74 | 196 | 652 | 467 | 174 | 207 | 165 | 93 | 399 |
| 26 | 427 | 232 | 51 | 105 | 171 | 585 | 431 | 213 | 118 | 252 | 90 | 332 |
| 27 | 414 | 290 | 50 | 76 | 213 | 629 | 503 | 113 | 182 | 312 | 493 | 296 |
| 28 | 362 | 180 | 50 | 71 | 231 | 537 | 302 | 395 | 295 | 85 | 681 | 330 |
| 29 | 543 | 82 | 49 | 263 | --- | 506 | 370 | 346 | 255 | 81 | 269 | 239 |
| 30 | 342 | 146 | 49 | 86 | --- | 486 | 327 | 306 | 99 | 273 | 396 | 217 |
| 31 | 232 | --- | 50 | 85 | --- | 472 | --- | 730 | --- | 261 | 396 | --- |
| TOTAL | 7623 | 7883 | 2147 | 3073 | 5655 | 13439 | 15249 | 6778 | 6834 | 6965 | 11524 | 8675 |
| MEAN | 246 | 263 | 69.3 | 99.1 | 202 | 434 | 508 | 219 | 228 | 225 | 372 | 289 |
| MAX | 1090 | 716 | 243 | 289 | 455 | 652 | 710 | 730 | 502 | 419 | 681 | 501 |
| MIN | 81 | 82 | 49 | 46 | 89 | 173 | 302 | 105 | 86 | 81 | 87 | 77 |
| AC-FT | 15120 | 15640 | 4260 | 6100 | 11220 | 26660 | 30250 | 13440 | 13560 | 13820 | 22860 | 17210 |
| CAL YR 1989 | TOTAL | 150131 | MEAN | 411 | MAX | 2990 | MIN | 49 | AC-FT | 297800 | | |
| WTR YR 1990 | TOTAL | 95845 | MEAN | 263 | MAX | 1090 | MIN | 46 | AC-FT | 190100 | | |

11295401 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF STANISLAUS RIVER AND STANISLAUS TUNNEL AT OUTLET,
NEAR HATHAWAY PINES, CA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

MEAN VALUES

[illegible]

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in 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 & 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, including extremes, represent total contents. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & 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 FOR PERIOD OF RECORD.--Maximum contents, 18,312 acre-ft, many days during May to July of most years, elevation, 5,617.5 ft; minimum, 3,222 acre-ft, Feb. 23-25, 1990, elevation, 5,547.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,312 acre-ft, many days, elevation, 5,617.5 ft; minimum, 3,222 acre-ft, Feb. 23-25, elevation, 5,547.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated 1938 provided by Pacific Gas & Electric Co.)

| | | | | | | | |
|---------|-----|-------|-------|-------|-------|---------|--------|
| 5,498.7 | 0 | 5,520 | 792 | 5,550 | 3,534 | 5,580 | 8,576 |
| 5,500 | 53 | 5,530 | 1,558 | 5,560 | 4,738 | 5,600 | 13,537 |
| 5,510 | 278 | 5,540 | 2,475 | 5,570 | 6,395 | 5,617.5 | 18,312 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 12582 | 9615 | 9091 | 5008 | 4022 | 3388 | 5262 | 13824 | 18312 | 17577 | 16480 | 15193 |
| 2 | 12428 | 9567 | 8926 | 5008 | 3998 | 3399 | 5438 | 14007 | 18312 | 17577 | 16453 | 15140 |
| 3 | 12326 | 9495 | 8809 | 4994 | 3986 | 3421 | 5640 | 14269 | 18312 | 17548 | 16426 | 15007 |
| 4 | 12199 | 9424 | 8692 | 4937 | 3974 | 3500 | 5928 | 14558 | 18312 | 17519 | 16398 | 14875 |
| 5 | 12071 | 9376 | 8599 | 4882 | 3951 | 3534 | 6175 | 14848 | 18312 | 17462 | 16371 | 14769 |
| 6 | 11919 | 9328 | 8576 | 4842 | 3927 | 3556 | 6395 | 15219 | 18312 | 17433 | 16344 | 14584 |
| 7 | 11742 | 9281 | 8507 | 4815 | 3892 | 3534 | 6704 | 15592 | 18312 | 17376 | 16290 | 14426 |
| 8 | 11565 | 9304 | 8414 | 4869 | 3856 | 3534 | 6914 | 15887 | 18312 | 17319 | 16128 | 14242 |
| 9 | 11439 | 9376 | 8277 | 4896 | 3810 | 3522 | 7126 | 16128 | 18312 | 17319 | 15994 | 14059 |
| 10 | 11263 | 9424 | 8140 | 4896 | 3740 | 3534 | 7342 | 16371 | 18312 | 17290 | 15860 | 13876 |
| 11 | 11062 | 9447 | 8027 | 4896 | 3728 | 3534 | 7670 | 16508 | 18312 | 17262 | 15833 | 13745 |
| 12 | 10937 | 9471 | 7892 | 4896 | 3682 | 3534 | 7915 | 16618 | 18312 | 17233 | 15806 | 13563 |
| 13 | 10738 | 9519 | 7781 | 4896 | 3648 | 3488 | 8229 | 16728 | 18312 | 17205 | 15780 | 13381 |
| 14 | 10515 | 9567 | 7648 | 4910 | 3613 | 3455 | 8809 | 16867 | 18312 | 17176 | 15780 | 13200 |
| 15 | 10343 | 9615 | 7516 | 4896 | 3579 | 3421 | 9281 | 17007 | 18312 | 17148 | 15753 | 13018 |
| 16 | 10245 | 9687 | 7363 | 4855 | 3545 | 3443 | 9759 | 17205 | 18312 | 17120 | 15726 | 12839 |
| 17 | 10050 | 9687 | 7212 | 4802 | 3432 | 3466 | 10074 | 17319 | 18252 | 17035 | 15699 | 12659 |
| 18 | 9880 | 9663 | 7062 | 4750 | 3477 | 3488 | 10196 | 17490 | 18252 | 16951 | 15673 | 12505 |
| 19 | 9711 | 9663 | 6914 | 4687 | 3443 | 3545 | 10368 | 17548 | 18163 | 16895 | 15646 | 12326 |
| 20 | 9543 | 9663 | 6788 | 4611 | 3354 | 3625 | 10614 | 17606 | 18133 | 16839 | 15619 | 12173 |
| 21 | 9352 | 9663 | 6621 | 4548 | 3310 | 3717 | 10987 | 17639 | 18104 | 16783 | 15592 | 11995 |
| 22 | 9281 | 9663 | 6497 | 4485 | 3299 | 3821 | 11212 | 17780 | 18074 | 16756 | 15566 | 11843 |
| 23 | 9281 | 9663 | 6334 | 4399 | 3222 | 3974 | 11439 | 17868 | 17927 | 16756 | 15539 | 11691 |
| 24 | 9759 | 9591 | 6215 | 4312 | 3222 | 4118 | 11843 | 18015 | 17868 | 16728 | 15512 | 11464 |
| 25 | 9929 | 9519 | 6059 | 4251 | 3222 | 4263 | 11995 | 18163 | 17809 | 16700 | 15486 | 11238 |
| 26 | 9953 | 9447 | 5909 | 4178 | 3244 | 4510 | 12148 | 18222 | 17722 | 16673 | 15459 | 11062 |
| 27 | 9904 | 9376 | 5781 | 4166 | 3277 | 4586 | 12301 | 18282 | 17693 | 16645 | 15432 | 10887 |
| 28 | 9832 | 9328 | 5640 | 4142 | 3321 | 4712 | 13019 | 18312 | 17664 | 16618 | 15406 | 10713 |
| 29 | 9759 | 9281 | 5521 | 4106 | --- | 4829 | 13407 | 18312 | 17635 | 16563 | 15352 | 10540 |
| 30 | 9711 | 9210 | 5405 | 4082 | --- | 4965 | 13667 | 18312 | 17606 | 16563 | 15299 | 10343 |
| 31 | 9639 | --- | 5110 | 4058 | --- | 5110 | --- | 18312 | --- | 16508 | 15246 | --- |
| MAX | 12582 | 9687 | 9091 | 5008 | 4022 | 5110 | 13667 | 18312 | 18312 | 17577 | 16480 | 15193 |
| MIN | 9281 | 9210 | 5110 | 4058 | 3222 | 3388 | 5262 | 13824 | 17606 | 16508 | 15246 | 10343 |
| a | 5584.5 | 5582.7 | 5562.7 | 5554.5 | 5548.1 | 5562.7 | 5600.5 | 5617.5 | 5615.1 | 5611.2 | 5606.5 | 5587.4 |
| b | -2840 | -429 | -4100 | -1052 | -737 | +1789 | +8557 | +4645 | -706 | -1098 | -1262 | -4903 |

CAL YR 1989 b +241
WTR YR 1990 b -2136

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 mi².

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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--57 years (water years 1912-16, 1939-90), 126 ft³/s, 91,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,900 ft³/s, Nov. 21, 1950, gage height, 9.25 ft, from rating curve extended above 1,100 ft³/s on basis of contracted-opening measurement of peak flow at bridge 0.3 mi downstream from station; minimum, 1.3 ft³/s, Nov. 22, 23, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 300 ft³/s, May 28, gage height, 3.38 ft; minimum daily, 12 ft³/s, Nov. 15, 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 92 | 68 | 85 | 37 | 34 | 40 | 89 | 118 | 185 | 21 | 17 | 42 |
| 2 | 90 | 65 | 84 | 29 | 39 | 40 | 96 | 124 | 163 | 20 | 16 | 42 |
| 3 | 89 | 65 | 84 | 30 | 34 | 43 | 100 | 134 | 163 | 20 | 16 | 42 |
| 4 | 88 | 65 | 84 | 30 | 41 | 44 | 105 | 142 | 156 | 19 | 16 | 68 |
| 5 | 88 | 66 | 84 | 31 | 47 | 49 | 102 | 152 | 154 | 20 | 16 | 98 |
| 6 | 88 | 66 | 83 | 33 | 46 | 54 | 100 | 153 | 139 | 20 | 34 | 98 |
| 7 | 90 | 44 | 83 | 36 | 46 | 57 | 99 | 143 | 106 | 20 | 62 | 98 |
| 8 | 92 | 13 | 83 | 36 | 46 | 59 | 90 | 134 | 120 | 20 | 66 | 98 |
| 9 | 92 | 13 | 83 | 34 | 46 | 60 | 88 | 131 | 122 | 19 | 65 | 98 |
| 10 | 92 | 13 | 82 | 34 | 46 | 62 | 105 | 124 | 108 | 19 | 40 | 97 |
| 11 | 91 | 13 | 83 | 41 | 47 | 60 | 118 | 112 | 92 | 19 | 14 | 97 |
| 12 | 91 | 14 | 83 | 48 | 47 | 59 | 125 | 112 | 77 | 19 | 14 | 97 |
| 13 | 90 | 14 | 85 | 35 | 46 | 58 | 140 | 112 | 67 | 18 | 14 | 96 |
| 14 | 90 | 13 | 86 | 59 | 47 | 58 | 153 | 110 | 62 | 18 | 14 | 96 |
| 15 | 90 | 12 | 85 | 58 | 46 | 58 | 157 | 85 | 62 | 17 | 14 | 96 |
| 16 | 89 | 13 | 84 | 58 | 46 | 58 | 145 | 71 | 59 | 28 | 14 | 96 |
| 17 | 89 | 13 | 83 | 58 | 46 | 60 | 111 | 69 | 56 | 39 | 14 | 96 |
| 18 | 89 | 13 | 83 | 58 | 46 | 65 | 105 | 65 | 60 | 39 | 13 | 95 |
| 19 | 89 | 12 | 83 | 57 | 46 | 72 | 111 | 64 | 63 | 38 | 13 | 94 |
| 20 | 89 | 12 | 82 | 58 | 45 | 78 | 128 | 59 | 63 | 27 | 13 | 94 |
| 21 | 89 | 17 | 81 | 62 | 45 | 86 | 132 | 56 | 62 | 17 | 13 | 93 |
| 22 | 89 | 61 | 81 | 51 | 39 | 90 | 118 | 57 | 62 | 17 | 13 | 93 |
| 23 | 100 | 26 | 81 | 56 | 34 | 97 | 155 | 62 | 62 | 16 | 13 | 93 |
| 24 | 134 | 28 | 80 | 53 | 34 | 105 | 128 | 70 | 62 | 16 | 13 | 93 |
| 25 | 96 | 58 | 80 | 34 | 35 | 111 | 127 | 117 | 61 | 16 | 13 | 92 |
| 26 | 91 | 87 | 79 | 34 | 36 | 111 | 145 | 121 | 40 | 16 | 13 | 95 |
| 27 | 98 | 85 | 78 | 34 | 36 | 111 | 163 | 168 | 25 | 16 | 13 | 97 |
| 28 | 96 | 85 | 78 | 34 | 38 | 92 | 169 | 274 | 23 | 16 | 13 | 97 |
| 29 | 95 | 85 | 77 | 35 | --- | 76 | 155 | 212 | 22 | 16 | 23 | 96 |
| 30 | 83 | 85 | 77 | 34 | --- | 75 | 129 | 169 | 22 | 16 | 38 | 94 |
| 31 | 71 | --- | 56 | 34 | --- | 80 | --- | 220 | --- | 17 | 42 | --- |
| TOTAL | 2840 | 1224 | 2520 | 1321 | 1184 | 2168 | 3688 | 3740 | 2518 | 639 | 692 | 2681 |
| MEAN | 91.6 | 40.8 | 81.3 | 42.6 | 42.3 | 69.9 | 123 | 121 | 83.9 | 20.6 | 22.3 | 89.4 |
| MAX | 134 | 87 | 86 | 62 | 47 | 111 | 169 | 274 | 185 | 39 | 66 | 98 |
| MIN | 71 | 12 | 56 | 29 | 34 | 40 | 88 | 56 | 22 | 16 | 13 | 42 |
| AC-FT | 5630 | 2430 | 5000 | 2620 | 2350 | 4300 | 7320 | 7420 | 4990 | 1270 | 1370 | 5320 |

CAL YR 1989 TOTAL 38409.3 MEAN 105 MAX 641 MIN 6.2 AC-FT 76180
WTR YR 1990 TOTAL 25215 MEAN 69.1 MAX 274 MIN 12 AC-FT 50010

SAN JOAQUIN RIVER BASIN

337

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 & Electric Co.; tailrace empties into Middle Fork Stanislaus River. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--51 years, 42.4 ft³/s, 30,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 66 ft³/s, June 16, 1984; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|--------|------|------|------|------|------|---------|------|-------|-------|--------|
| 1 | 59 | 59 | 60 | 60 | 32 | 37 | 61 | 59 | 59 | 16 | 7.3 | 1.2 |
| 2 | 59 | 59 | 60 | 45 | 31 | 38 | 61 | 59 | 59 | 15 | 7.1 | 1.3 |
| 3 | 58 | 59 | 60 | 28 | 32 | 40 | 61 | 60 | 59 | 15 | 7.1 | 1.3 |
| 4 | 57 | 60 | 60 | 27 | 32 | 42 | 59 | 60 | 59 | 14 | 7.1 | 21 |
| 5 | 56 | 60 | 60 | 27 | 31 | 46 | 60 | 60 | 59 | 13 | 7.1 | 59 |
| 6 | 55 | 60 | 60 | 27 | 35 | 53 | 60 | 60 | 59 | 13 | 20 | 59 |
| 7 | 57 | 41 | 60 | 28 | 45 | 55 | 60 | 59 | 59 | 13 | 53 | 59 |
| 8 | 60 | .68 | 60 | 35 | 44 | 57 | 59 | 59 | 61 | 12 | 59 | 59 |
| 9 | 60 | 1.2 | 60 | 35 | 43 | 58 | 59 | 59 | 59 | 12 | 59 | 57 |
| 10 | 59 | 1.1 | 60 | 33 | 44 | 60 | 61 | 59 | 58 | 12 | 37 | 57 |
| 11 | 59 | 1.1 | 60 | 32 | 44 | 59 | 60 | 59 | 57 | 12 | 4.2 | 57 |
| 12 | 59 | 1.1 | 60 | 33 | 45 | 58 | 61 | 59 | 57 | 12 | 4.7 | 57 |
| 13 | 59 | 1.1 | 60 | 34 | 44 | 56 | 61 | 59 | 58 | 12 | 5.2 | 57 |
| 14 | 58 | 1.1 | 60 | 32 | 44 | 56 | 59 | 38 | 55 | 11 | 5.1 | 57 |
| 15 | 57 | 1.1 | 60 | 44 | 44 | 56 | 60 | 1.0 | 56 | 10 | 5.1 | 57 |
| 16 | 57 | 1.1 | 60 | 57 | 43 | 56 | 59 | .97 | 54 | 4.9 | 5.1 | 57 |
| 17 | 56 | .92 | 60 | 56 | 47 | 57 | 58 | .97 | 51 | 1.3 | 4.9 | 57 |
| 18 | 56 | .81 | 60 | 56 | 48 | 61 | 58 | .93 | 54 | 1.3 | 4.8 | 57 |
| 19 | 56 | .81 | 60 | 55 | 43 | 61 | 59 | .85 | 58 | 1.3 | 4.5 | 39 |
| 20 | 55 | .81 | 60 | 55 | 41 | 61 | 60 | 1.3 | 58 | 5.0 | 4.7 | 57 |
| 21 | 55 | .81 | 60 | 55 | 41 | 61 | 60 | 1.8 | 58 | 8.7 | 4.6 | 57 |
| 22 | 55 | 28 | 60 | 57 | 36 | 61 | 58 | 1.8 | 58 | 8.7 | 4.5 | 57 |
| 23 | 57 | 1.1 | 60 | 60 | 31 | 61 | 60 | 1.7 | 58 | 8.0 | 4.4 | 57 |
| 24 | 60 | .81 | 60 | 60 | 32 | 61 | 58 | 1.6 | 58 | 7.6 | 4.3 | 57 |
| 25 | 57 | 25 | 60 | 59 | 33 | 61 | 59 | 1.6 | 57 | 7.7 | 4.3 | 57 |
| 26 | 57 | 59 | 60 | 45 | 34 | 61 | 60 | 1.7 | 38 | 8.0 | 4.6 | 57 |
| 27 | 60 | 59 | 60 | 32 | 35 | 61 | 60 | 1.9 | 19 | 8.2 | 5.0 | 57 |
| 28 | 60 | 60 | 60 | 32 | 36 | 60 | 61 | 33 | 18 | 7.7 | 4.9 | 57 |
| 29 | 60 | 60 | 59 | 32 | --- | 59 | 60 | 58 | 18 | 7.3 | 4.8 | 57 |
| 30 | 60 | 60 | 59 | 33 | --- | 59 | 59 | 58 | 17 | 7.4 | 4.1 | 57 |
| 31 | 60 | --- | 59 | 32 | --- | 60 | --- | 60 | --- | 7.4 | 2.3 | --- |
| TOTAL | 1793 | 764.65 | 1857 | 1296 | 1090 | 1732 | 1791 | 1036.12 | 1548 | 292.5 | 359.8 | 1496.8 |
| MEAN | 57.8 | 25.5 | 59.9 | 41.8 | 38.9 | 55.9 | 59.7 | 33.4 | 51.6 | 9.44 | 11.6 | 49.9 |
| MAX | 60 | 60 | 60 | 60 | 48 | 61 | 61 | 60 | 61 | 16 | 59 | 59 |
| MIN | 55 | .68 | 59 | 27 | 31 | 37 | 58 | .85 | 17 | 1.3 | 2.3 | 1.2 |
| AC-FT | 3560 | 1520 | 3680 | 2570 | 2160 | 3440 | 3550 | 2060 | 3070 | 580 | 714 | 2970 |

CAL YR 1989 TOTAL 14890.19 MEAN 40.8 MAX 60 MIN .00 AC-FT 29530
WTR YR 1990 TOTAL 15056.87 MEAN 41.3 MAX 61 MIN .68 AC-FT 29870

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 mi².

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1970, 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. 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 ft³/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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|------|-------|-------|-----|-----|-----|-----|-------|-------|-----|
| 1 | 35 | 8.8 | 24 | 13 | 4.6 | 5.2 | 31 | --- | --- | 7.2 | 7.5 | 40 |
| 2 | 33 | 6.0 | 24 | 4.7 | 4.7 | 5.0 | 39 | --- | --- | 7.0 | 7.4 | 40 |
| 3 | 32 | 5.9 | 24 | 4.6 | 4.7 | 6.7 | --- | --- | --- | 7.0 | 7.3 | 40 |
| 4 | 32 | 6.0 | 24 | 4.8 | 4.7 | 5.8 | --- | --- | --- | 7.4 | 7.2 | --- |
| 5 | 32 | 6.2 | 24 | 4.8 | 4.7 | 4.7 | 48 | --- | --- | 7.6 | 7.2 | 40 |
| 6 | 33 | 6.1 | 25 | 4.8 | 4.7 | 4.6 | 43 | --- | --- | 7.3 | 7.4 | 40 |
| 7 | 33 | 8.9 | 24 | 5.4 | 4.6 | 4.8 | 42 | --- | --- | 7.2 | 7.1 | 40 |
| 8 | 33 | 12 | 24 | 5.6 | 4.6 | 5.2 | 33 | --- | --- | 7.2 | 7.1 | 40 |
| 9 | 33 | 11 | 24 | 4.5 | 4.6 | 5.1 | 29 | --- | --- | 7.1 | 7.2 | 40 |
| 10 | 32 | 12 | 23 | 4.4 | 4.6 | 5.6 | --- | --- | --- | 7.0 | 8.3 | 40 |
| 11 | 32 | 13 | 22 | 4.4 | 4.6 | 4.7 | --- | --- | 39 | 7.0 | 8.8 | 40 |
| 12 | 32 | 13 | 21 | 4.6 | 4.6 | 4.3 | --- | --- | 23 | 7.0 | 8.3 | 40 |
| 13 | 32 | 13 | 24 | 5.2 | 4.6 | 4.4 | --- | --- | 12 | 6.9 | 7.6 | 40 |
| 14 | 32 | 13 | 26 | 5.1 | 4.6 | 4.8 | --- | --- | 8.9 | 7.1 | 7.5 | 39 |
| 15 | 32 | 12 | 26 | 4.9 | 6.2 | 4.5 | --- | --- | 8.5 | 7.2 | 7.5 | 39 |
| 16 | 32 | 12 | 26 | 4.7 | 7.7 | 5.0 | --- | --- | 7.5 | 23 | 7.3 | 38 |
| 17 | 32 | 11 | 26 | 4.7 | 5.9 | 5.5 | --- | --- | 7.3 | 38 | 7.3 | 38 |
| 18 | 32 | 11 | 25 | 5.0 | 5.4 | 8.0 | 48 | --- | 8.6 | 38 | 7.3 | 37 |
| 19 | 32 | 11 | 25 | 4.9 | 7.3 | 15 | --- | --- | 8.5 | 37 | 7.2 | --- |
| 20 | 32 | 11 | 24 | 4.8 | 6.0 | 21 | --- | --- | 7.7 | 23 | 7.2 | 36 |
| 21 | 32 | 13 | 24 | 4.7 | 6.0 | 29 | --- | --- | 7.5 | 7.8 | 7.3 | 36 |
| 22 | 32 | --- | 24 | 4.8 | 7.5 | 33 | --- | --- | 7.0 | 7.4 | 7.4 | 36 |
| 23 | --- | --- | 23 | 5.0 | 5.9 | 41 | --- | --- | 7.7 | 7.8 | 7.4 | 35 |
| 24 | --- | 26 | 23 | 5.0 | 5.2 | --- | --- | --- | 7.9 | 8.0 | 7.3 | 35 |
| 25 | 40 | --- | 23 | 4.9 | 4.6 | --- | --- | --- | 7.4 | 8.0 | 7.3 | 34 |
| 26 | 32 | 29 | 22 | 4.9 | 4.7 | --- | --- | --- | 7.3 | 7.6 | 6.5 | 36 |
| 27 | 36 | 26 | 22 | 4.8 | 4.8 | --- | --- | --- | 7.9 | 7.1 | 6.5 | 39 |
| 28 | 35 | 25 | 21 | 4.7 | 5.2 | 41 | --- | --- | 7.4 | 7.4 | 6.5 | 39 |
| 29 | 35 | 25 | 20 | 4.7 | --- | 21 | --- | --- | 6.9 | 7.6 | 14 | 39 |
| 30 | 35 | 24 | 20 | 4.7 | --- | 19 | --- | --- | 7.2 | 7.6 | 32 | 38 |
| 31 | 21 | --- | 20 | 4.6 | --- | 23 | --- | --- | --- | 7.5 | 39 | --- |
| TOTAL | --- | --- | 727 | 157.7 | 147.3 | --- | --- | --- | --- | 350.0 | 290.9 | --- |
| MEAN | --- | --- | 23.5 | 5.09 | 5.26 | --- | --- | --- | --- | 11.3 | 9.38 | --- |
| MAX | --- | --- | 26 | 13 | 7.7 | --- | --- | --- | --- | 38 | 39 | --- |
| MIN | --- | --- | 20 | 4.4 | 4.6 | --- | --- | --- | --- | 6.9 | 6.5 | --- |
| AC-FT | --- | --- | 1440 | 313 | 292 | --- | --- | --- | --- | 694 | 577 | --- |

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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--53 years, 28.6 ft³/s, 20,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 59 ft³/s, May 11, 1975; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 22 | 17 | 17 | 18 | 30 | 24 | 42 | 44 | 41 | 32 | 39 | 34 |
| 2 | 21 | 17 | 17 | 18 | 30 | 24 | 42 | 41 | 40 | 32 | 39 | 34 |
| 3 | 20 | 17 | 17 | 18 | 30 | 24 | 42 | 33 | 40 | 32 | 39 | 34 |
| 4 | 20 | 17 | 17 | 18 | 30 | 23 | 42 | 33 | 41 | 33 | 39 | 34 |
| 5 | 19 | 17 | 17 | 17 | 30 | 23 | 42 | 33 | 43 | 34 | 39 | 34 |
| 6 | 18 | 17 | 17 | 17 | 30 | 21 | 42 | 32 | 46 | 34 | 40 | 34 |
| 7 | 18 | 17 | 17 | 18 | 30 | 19 | 42 | 30 | 47 | 34 | 40 | 34 |
| 8 | 18 | 17 | 17 | 18 | 29 | 19 | 42 | 40 | 47 | 34 | 40 | 34 |
| 9 | 18 | 17 | 17 | 18 | 23 | 19 | 42 | 42 | 47 | 33 | 40 | 34 |
| 10 | 18 | 17 | 17 | 18 | 19 | 19 | 34 | 43 | 47 | 33 | 40 | 34 |
| 11 | 18 | 17 | 17 | 18 | 19 | 19 | 22 | 45 | 47 | 34 | 39 | 33 |
| 12 | 18 | 17 | 17 | 18 | 20 | 26 | 23 | 45 | 48 | 34 | 39 | 31 |
| 13 | 18 | 18 | 17 | 17 | 20 | 37 | 25 | 34 | 37 | 34 | 39 | 31 |
| 14 | 18 | 17 | 17 | 17 | 20 | 41 | 25 | 26 | 28 | 34 | 39 | 31 |
| 15 | 18 | 17 | 17 | 17 | 26 | 40 | 25 | 26 | 28 | 34 | 38 | 31 |
| 16 | 4.7 | 17 | 17 | 26 | 32 | 39 | 25 | 26 | 28 | 35 | 38 | 31 |
| 17 | .00 | 17 | 17 | 31 | 31 | 39 | 24 | 26 | 27 | 36 | 37 | 31 |
| 18 | .00 | 17 | 17 | 25 | 31 | 39 | 24 | 26 | 29 | 36 | 39 | 31 |
| 19 | .00 | 17 | 17 | 21 | 31 | 41 | 24 | 29 | 28 | 36 | 40 | 31 |
| 20 | 13 | 17 | 17 | 20 | 31 | 42 | 24 | 29 | 29 | 36 | 40 | 31 |
| 21 | 38 | 17 | 17 | 20 | 31 | 43 | 24 | 28 | 28 | 36 | 40 | 31 |
| 22 | 36 | 17 | 17 | 20 | 31 | 43 | 25 | 29 | 28 | 36 | 23 | 31 |
| 23 | 9.6 | 17 | 17 | 20 | 26 | 43 | 37 | 30 | 28 | 36 | 38 | 31 |
| 24 | .00 | 17 | 17 | 20 | 24 | 43 | 46 | 38 | 28 | 36 | 37 | 31 |
| 25 | .00 | 18 | 17 | 20 | 24 | 43 | 44 | 36 | 31 | 39 | 36 | 32 |
| 26 | .00 | 18 | 17 | 20 | 24 | 43 | 42 | 37 | 33 | 40 | 37 | 29 |
| 27 | 12 | 18 | 17 | 20 | 24 | 43 | 43 | 40 | 32 | 40 | 37 | 28 |
| 28 | 38 | 17 | 18 | 21 | 23 | 42 | 44 | 37 | 32 | 40 | 37 | 29 |
| 29 | 36 | 17 | 18 | 20 | --- | 42 | 44 | 34 | 32 | 39 | 37 | 30 |
| 30 | 26 | 17 | 18 | 28 | --- | 42 | 44 | 40 | 32 | 39 | 36 | 30 |
| 31 | 17 | --- | 18 | 31 | --- | 42 | --- | 41 | --- | 39 | 35 | --- |
| TOTAL | 512.30 | 514 | 531 | 628 | 749 | 1047 | 1046 | 1073 | 1072 | 1100 | 1176 | 954 |
| MEAN | 16.5 | 17.1 | 17.1 | 20.3 | 26.7 | 33.8 | 34.9 | 34.6 | 35.7 | 35.5 | 37.9 | 31.8 |
| MAX | 38 | 18 | 18 | 31 | 32 | 43 | 46 | 45 | 48 | 40 | 40 | 34 |
| MIN | .00 | 17 | 17 | 17 | 19 | 19 | 22 | 26 | 27 | 32 | 23 | 28 |
| AC-FT | 1020 | 1020 | 1050 | 1250 | 1490 | 2080 | 2070 | 2130 | 2130 | 2180 | 2330 | 1890 |

CAL YR 1989 TOTAL 10930.30 MEAN 29.9 MAX 47 MIN .00 AC-FT 21680
WTR YR 1990 TOTAL 10402.30 MEAN 28.5 MAX 48 MIN .00 AC-FT 20630

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for 1981-85 water years are available in files of the U.S. Geological Survey.

GAGE.--Nonrecording gage read three times weekly. Datum of gage is 4,134 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Gas & 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, including extremes, represent total contents. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & 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 FOR PERIOD OF RECORD.--Maximum observed contents, 6,292 acre-ft, June 4, 5, 7, 9, 10, 1989, gage height, 90.4 ft; minimum, 847 acre-ft, Apr. 7, 1988, gage height, 41.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 6,255 acre-ft, May 29, 31, gage height, 90.2 ft; minimum observed, 1,463 acre-ft, Aug. 31, Sept. 2, 10, 11, gage height, 52.5 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1930)

| | | | |
|----|-------|------|-------|
| 20 | 210 | 60 | 2,070 |
| 25 | 309 | 70 | 3,153 |
| 30 | 437 | 80 | 4,541 |
| 40 | 786 | 90 | 6,219 |
| 50 | 1,299 | 92.5 | 6,680 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 1930 | 3104 | --- | 3129 | --- | 1748 | --- | 4153 | --- | 5235 | --- | --- |
| 2 | 1957 | --- | 2797 | --- | 2416 | --- | 2293 | 4197 | 6237 | --- | 3431 | 1463 |
| 3 | --- | 3068 | --- | 3104 | 2343 | --- | --- | --- | --- | 5099 | --- | --- |
| 4 | 2005 | --- | 2820 | --- | --- | 1839 | 2303 | 4331 | 6237 | 5051 | 3301 | 1470 |
| 5 | 2023 | 3007 | --- | --- | --- | --- | --- | 4421 | 6237 | --- | --- | 1470 |
| 6 | --- | --- | 2855 | --- | --- | 1922 | 2343 | --- | 6237 | 4941 | 3153 | 1470 |
| 7 | 2070 | 2970 | --- | 2959 | --- | --- | --- | 4646 | 6219 | --- | --- | 1470 |
| 8 | --- | --- | 2890 | --- | --- | 1986 | --- | 4737 | 6183 | 4816 | 2982 | 1470 |
| 9 | 2125 | 2936 | --- | 2936 | 2173 | --- | 2323 | 4800 | 6183 | --- | --- | 1470 |
| 10 | --- | --- | 2913 | --- | --- | --- | 2313 | 4847 | 6201 | 4690 | --- | 1463 |
| 11 | 2173 | 2901 | 2925 | 2878 | 2097 | --- | --- | --- | 6183 | 4646 | 2774 | 1463 |
| 12 | --- | 2867 | --- | --- | --- | --- | 2448 | 4878 | 6146 | --- | --- | 1470 |
| 13 | 2203 | 2867 | --- | 2855 | 2060 | 2088 | --- | 4878 | 6074 | 4541 | 2639 | 1470 |
| 14 | 2233 | 2832 | --- | --- | --- | --- | --- | 4941 | --- | --- | --- | 1470 |
| 15 | --- | 2809 | 2982 | 2890 | 2023 | 2014 | --- | 5051 | 6001 | 4421 | 2490 | --- |
| 16 | 2273 | 2751 | --- | --- | --- | --- | 2936 | --- | 5946 | 4361 | --- | 1477 |
| 17 | 2333 | 2586 | 3007 | --- | --- | 1995 | --- | 5167 | 5910 | --- | --- | 1483 |
| 18 | --- | 2554 | --- | 2855 | --- | --- | 3104 | --- | 5858 | 4316 | 2293 | --- |
| 19 | 2458 | 2533 | 3031 | --- | --- | 1995 | --- | 5320 | 5823 | --- | --- | 1490 |
| 20 | 2522 | --- | --- | --- | --- | --- | 3202 | 5371 | 5788 | 4301 | 2135 | 1525 |
| 21 | 2511 | --- | 3055 | --- | --- | 2032 | --- | --- | 5735 | --- | --- | --- |
| 22 | --- | --- | --- | --- | --- | --- | --- | --- | 5683 | 4212 | 2014 | 1525 |
| 23 | 2490 | 2511 | --- | --- | --- | 2107 | 3470 | 5490 | 5630 | 4138 | 1948 | --- |
| 24 | --- | --- | 3092 | 2681 | 1692 | --- | --- | --- | 5596 | 4063 | --- | 1525 |
| 25 | 2727 | --- | --- | 2639 | --- | 2193 | 3641 | 5613 | 5543 | 4004 | --- | --- |
| 26 | --- | 2649 | 3104 | --- | 1692 | --- | 3697 | 5788 | 5473 | 3917 | 1847 | 1525 |
| 27 | 3129 | --- | 3116 | 2607 | --- | 2323 | --- | 5893 | 5405 | --- | --- | --- |
| 28 | 3129 | 2716 | 3116 | --- | 1723 | --- | 4063 | 6237 | 5388 | --- | 1593 | 1547 |
| 29 | 3116 | --- | --- | --- | --- | --- | --- | 6255 | 5303 | 3738 | 1518 | --- |
| 30 | 3116 | 2762 | --- | 2607 | --- | 2343 | --- | 6219 | --- | --- | 1470 | 1555 |
| 31 | --- | --- | --- | 2480 | --- | --- | --- | 6255 | --- | 3561 | 1463 | --- |

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 mi².

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.--Flow regulated by Lyons Reservoir (station 11297700) 600 ft upstream and Pinecrest Lake (station 11295900). Tuolumne Canal (station 11297500) diverts at Lyons Dam. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--53 years, 82.4 ft³/s, 59,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft³/s, Nov. 21, 1950, gage height, 9.3 ft, from rating curve extended above 2,400 ft³/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, 230 ft³/s, May 29, gage height, 2.99 ft; minimum daily, 2.2 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|------|------|------|-------|-------|------|------|------|
| 1 | 2.8 | 2.9 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 118 | 2.5 | 2.5 | 2.5 |
| 2 | 2.8 | 2.8 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 74 | 2.5 | 2.5 | 2.5 |
| 3 | 2.7 | 2.7 | 3.9 | 2.7 | 2.6 | 2.7 | 2.7 | 2.6 | 67 | 2.5 | 2.5 | 2.5 |
| 4 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 62 | 2.4 | 2.5 | e2.5 |
| 5 | 2.8 | 2.7 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 57 | 2.3 | 2.5 | e2.5 |
| 6 | 2.8 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 49 | 2.5 | 2.5 | e2.5 |
| 7 | 2.8 | 2.8 | 2.7 | 2.7 | 2.8 | 2.7 | 2.7 | 2.8 | 23 | 2.7 | 2.5 | e2.5 |
| 8 | 2.7 | 2.8 | 2.7 | 2.7 | 2.9 | 2.7 | 2.7 | 2.7 | 13 | 2.7 | 2.5 | e2.5 |
| 9 | 2.8 | 2.8 | 2.7 | 2.7 | 2.8 | 2.6 | 2.7 | 2.7 | 10 | 2.6 | 2.5 | e2.5 |
| 10 | 2.8 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 9.3 | 2.6 | 2.5 | e2.2 |
| 11 | 2.8 | 2.8 | 2.7 | 2.6 | 2.7 | 2.7 | 2.8 | 2.7 | 7.6 | 2.6 | 2.5 | e2.6 |
| 12 | 2.8 | 2.8 | 2.7 | 2.7 | 3.3 | 2.7 | 2.8 | 2.7 | 5.5 | 2.5 | 2.3 | e2.5 |
| 13 | 2.8 | 9.2 | 2.7 | 2.9 | 2.7 | 2.7 | 2.7 | 2.7 | 3.6 | 2.5 | 2.3 | e2.5 |
| 14 | 2.8 | 5.6 | 2.7 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.6 | 2.3 | e2.5 |
| 15 | 2.8 | 11 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.5 | 2.8 | 2.4 | e2.5 |
| 16 | 4.0 | 48 | 2.7 | 2.8 | 2.7 | 2.6 | 2.7 | 2.6 | 2.5 | 2.6 | 2.7 | 2.5 |
| 17 | 4.1 | 51 | 2.7 | 2.8 | 2.7 | 2.5 | 2.7 | 2.7 | 2.5 | 2.5 | 2.7 | 2.5 |
| 18 | 3.9 | 2.6 | 2.7 | 2.7 | 2.7 | 2.4 | 2.7 | 2.8 | 2.5 | 2.4 | 2.7 | 2.5 |
| 19 | 3.9 | 2.7 | 2.7 | 2.7 | 2.7 | 2.5 | 2.7 | 2.7 | 2.5 | 2.4 | 2.7 | e2.5 |
| 20 | 3.5 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.5 | 2.4 | 2.7 | 2.5 |
| 21 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 2.5 | 2.5 | 2.7 | 2.5 |
| 22 | 2.8 | 2.7 | 2.7 | 2.7 | 2.5 | 2.7 | 2.7 | 2.7 | 2.5 | 2.5 | 3.5 | 2.5 |
| 23 | 3.6 | 2.7 | 2.7 | 2.7 | 2.8 | 2.7 | 2.6 | 2.7 | 2.5 | 2.5 | 2.7 | 2.5 |
| 24 | 3.6 | 2.7 | 2.7 | 2.7 | 2.8 | 2.7 | 2.7 | 3.3 | 2.5 | 2.5 | 2.7 | 2.4 |
| 25 | 3.5 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.5 | 4.2 | 2.5 | 2.5 | 2.7 | 2.3 |
| 26 | 3.3 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.9 | 2.5 | 2.4 | 2.7 | 2.4 |
| 27 | 3.2 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 | 4.4 | 2.5 | 2.4 | 2.7 | 2.4 |
| 28 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 | 119 | 2.4 | 2.4 | 2.5 | 2.4 |
| 29 | 2.8 | 2.5 | 2.7 | 2.7 | --- | 2.7 | 2.8 | 181 | 2.4 | 2.5 | 2.4 | 2.4 |
| 30 | 2.9 | 2.6 | 2.7 | 2.8 | --- | 2.7 | 4.7 | 82 | 2.5 | 2.5 | 2.5 | 2.3 |
| 31 | 3.0 | --- | 2.7 | 2.7 | --- | 2.7 | --- | 130 | --- | 2.5 | 2.5 | --- |
| TOTAL | 95.3 | 193.0 | 84.8 | 84.2 | 76.1 | 82.8 | 83.1 | 588.8 | 541.4 | 77.8 | 79.9 | 73.9 |
| MEAN | 3.07 | 6.43 | 2.74 | 2.72 | 2.72 | 2.67 | 2.77 | 19.0 | 18.0 | 2.51 | 2.58 | 2.46 |
| MAX | 4.1 | 51 | 3.9 | 2.9 | 3.3 | 2.7 | 4.7 | 181 | 118 | 2.8 | 3.5 | 2.6 |
| MIN | 2.7 | 2.5 | 2.6 | 2.6 | 2.5 | 2.4 | 2.5 | 2.6 | 2.4 | 2.3 | 2.3 | 2.2 |
| AC-FT | 189 | 383 | 168 | 167 | 151 | 164 | 165 | 1170 | 1070 | 154 | 158 | 147 |

CAL YR 1989 TOTAL 18304.6 MEAN 50.1 MAX 681 MIN 2.3 AC-FT 36310
WTR YR 1990 TOTAL 2061.1 MEAN 5.65 MAX 181 MIN 2.2 AC-FT 4090

e Estimated.

SAN JOAQUIN RIVER BASIN

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., Calaveras County, Hydrologic Unit 18040010, at right abutment of New Melones Dam on Stanislaus River, 0.1 mi downstream from the old Melones Dam, and 7.8 mi southwest of Sonora.

DRAINAGE AREA.--904 mi².

PERIOD OF RECORD.--1926 (year-end contents 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 (station 11299995) 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, 376,400 acre-ft, Sept. 28, 1990, elevation, 828.87 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 802,000 acre-ft, Mar. 5, elevation, 913.02 ft; minimum, 376,400 acre-ft, Sept. 28, elevation, 828.87 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Army Corps of Engineers, dated September 1978)

| | | | | | | | |
|-----|---------|-----|---------|-----|-----------|-------|-----------|
| 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 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 673300 | 716600 | 733700 | 764700 | 778200 | 799800 | 766800 | 712100 | 634200 | 564900 | 477300 | 409600 |
| 2 | 674400 | 718600 | 736000 | 764000 | 779000 | 799200 | 764300 | 709800 | 634200 | 561800 | 474700 | 407800 |
| 3 | 675700 | 720400 | 736200 | 764700 | 780200 | 799700 | 762200 | 707600 | 634400 | 558900 | 471500 | 406100 |
| 4 | 676900 | 719700 | 737300 | 765400 | 781300 | 801300 | 759900 | 704700 | 634300 | 555800 | 468400 | 404900 |
| 5 | 678300 | 720500 | 737700 | 766200 | 782300 | 802000 | 759200 | 703400 | 631500 | 552700 | 465600 | 403500 |
| 6 | 679600 | 722100 | 737400 | 766900 | 782200 | 801300 | 757300 | 700400 | 630000 | 550600 | 463400 | 401900 |
| 7 | 680900 | 723300 | 738400 | 767600 | 783000 | 801200 | 754600 | 697400 | 628700 | 547700 | 461100 | 400600 |
| 8 | 682300 | 724200 | 739700 | 767700 | 784000 | 801100 | 752600 | 694400 | 626300 | 545100 | 458800 | 399800 |
| 9 | 681200 | 725000 | 740800 | 768400 | 784200 | 800100 | 750300 | 691100 | 623700 | 542500 | 456800 | 398200 |
| 10 | 682400 | 725700 | 741800 | 768800 | 784800 | 799900 | 747600 | 687700 | 623100 | 539800 | 454800 | 397200 |
| 11 | 683600 | 726200 | 742200 | 769400 | 785600 | 801000 | 745700 | 684200 | 622400 | 537300 | 453100 | 396200 |
| 12 | 684100 | 726700 | 743000 | 769900 | 786900 | 801200 | 745200 | 678300 | 621800 | 534900 | 450700 | 395100 |
| 13 | 685400 | 727300 | 744000 | 770900 | 786600 | 800600 | 743700 | 674500 | 617300 | 532200 | 448200 | 393700 |
| 14 | 686600 | 727700 | 745100 | 771200 | 787000 | 799600 | 742000 | 670900 | 613100 | 529000 | 445100 | 392900 |
| 15 | 687800 | 728100 | 745400 | 770700 | 787700 | 799000 | 740000 | 667400 | 609600 | 525800 | 442100 | 391700 |
| 16 | 688300 | 728100 | 746400 | 770000 | 789500 | 798600 | 738300 | 664400 | 605300 | 523000 | 439300 | 390300 |
| 17 | 689000 | 728700 | 747600 | 770700 | 789500 | 798300 | 736900 | 660600 | 600800 | 519800 | 437400 | 389300 |
| 18 | 690300 | 729100 | 748800 | 771400 | 790700 | 797900 | 735000 | 656900 | 599300 | 517000 | 435500 | 389100 |
| 19 | 692300 | 729500 | 749900 | 772200 | 792100 | 797500 | 732300 | 653100 | 597100 | 514200 | 432500 | 388400 |
| 20 | 694300 | 729100 | 751100 | 773000 | 792800 | 794600 | 728700 | 649400 | 594400 | 511700 | 430000 | 387700 |
| 21 | 694700 | 729400 | 752000 | 773700 | 793900 | 793100 | 726400 | 646200 | 592100 | 508300 | 428200 | 386400 |
| 22 | 696100 | 730300 | 752000 | 772800 | 795000 | 791100 | 723800 | 634300 | 589500 | 505200 | 425300 | 384500 |
| 23 | 697200 | 730700 | 753200 | 773300 | 796000 | 789800 | 722900 | 640700 | 587400 | 501600 | 422900 | 382600 |
| 24 | 701000 | 730100 | 754500 | 773800 | 797000 | 788100 | 722800 | 639100 | 583900 | 498400 | 421300 | 381300 |
| 25 | 704000 | 731300 | 755900 | 774000 | 798100 | 786400 | 722400 | 637300 | 580900 | 496100 | 419100 | 379700 |
| 26 | 706200 | 733000 | 757100 | 774100 | 798300 | 783700 | 721800 | 635100 | 578500 | 493800 | 417300 | 378200 |
| 27 | 707400 | 733600 | 757400 | 774500 | 799200 | 780900 | 720400 | 633000 | 575600 | 491100 | 415900 | 376600 |
| 28 | 709200 | 734100 | 759000 | 775300 | 800100 | 777700 | 719100 | 633200 | 573100 | 488000 | 415500 | 376400 |
| 29 | 711400 | 734300 | 760700 | 776400 | --- | 775000 | 716900 | 633500 | 570700 | 485000 | 413800 | 377100 |
| 30 | 713100 | 734500 | 762100 | 777200 | --- | 772400 | 714600 | 633200 | 567900 | 482300 | 412400 | 377700 |
| 31 | 714800 | --- | 763400 | 777100 | --- | 769400 | --- | 633900 | --- | 479700 | 411500 | --- |
| MAX | 714800 | 734500 | 763400 | 777200 | 800100 | 802000 | 766800 | 712100 | 634400 | 564900 | 477300 | 409600 |
| MIN | 673300 | 716600 | 733700 | 764000 | 778200 | 769400 | 714600 | 633000 | 567900 | 479700 | 411500 | 376400 |
| a | 898.59 | 901.95 | 906.76 | 909.00 | 912.71 | 907.75 | 898.56 | 884.20 | 871.58 | 853.21 | 837.55 | 829.20 |
| b | +42900 | +19700 | +28900 | +13700 | +23000 | -30700 | -54800 | -80700 | -66000 | -88200 | -68200 | -33800 |
| c | 1730 | 770 | 420 | 520 | 770 | 1600 | 2600 | 3050 | 3830 | 4500 | 3620 | 2540 |

CAL YR 1989 b -156300

WTR YR 1990 b -294200

a Elevation, in feet, 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.

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 mi².

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

REVISED RECORDS.--WDR CA-86-3: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 746.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. No regulation or diversion upstream from station. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--7 years, 6.30 ft³/s, 4,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s, Feb. 19, 1986, gage height, 9.10 ft, from rating curve extended above 2,500 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Feb. 16 | 1730 | *96 | *3.26 | | | | |

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|-------|--------|-------|-------|-------|------|------|------|------|
| 1 | .00 | .07 | .13 | .18 | 4.5 | 1.3 | 1.2 | .53 | .48 | .00 | .00 | .00 |
| 2 | .00 | .07 | .11 | .38 | 2.9 | 1.5 | 1.1 | .51 | .42 | .00 | .00 | .00 |
| 3 | .00 | .07 | .10 | .22 | 2.3 | 5.8 | 1.1 | .48 | .42 | .00 | .00 | .00 |
| 4 | .00 | .07 | .10 | .22 | 10 | 4.6 | 1.1 | .43 | .38 | .00 | .00 | .00 |
| 5 | .00 | .07 | .08 | .18 | 4.9 | 8.8 | 1.0 | .39 | .34 | .00 | .00 | .00 |
| 6 | .00 | .07 | .08 | e.18 | 3.8 | 6.1 | 1.0 | .36 | .31 | .00 | .00 | .00 |
| 7 | .00 | .07 | .08 | e.18 | 2.7 | 5.1 | 1.0 | .35 | .30 | .00 | .00 | .00 |
| 8 | .00 | .07 | .08 | e.18 | 2.1 | 4.3 | 1.0 | .35 | .27 | .00 | .00 | .00 |
| 9 | .00 | .05 | .08 | e.18 | 1.8 | 3.7 | .92 | .34 | .23 | .00 | .00 | .00 |
| 10 | .00 | .05 | .08 | e.18 | 1.5 | 3.9 | .91 | .35 | .20 | .00 | .00 | .00 |
| 11 | .00 | .05 | .08 | e.18 | 1.3 | 7.2 | .85 | .38 | .17 | .00 | .00 | .00 |
| 12 | .00 | .05 | .08 | e.18 | 1.2 | 5.8 | .82 | .37 | .15 | .00 | .00 | .00 |
| 13 | .00 | .05 | .08 | e.18 | 1.1 | 5.5 | .82 | .34 | .13 | .00 | .00 | .00 |
| 14 | .00 | .05 | .08 | e.18 | .92 | 4.5 | .77 | .34 | .12 | .00 | .00 | .00 |
| 15 | .00 | .05 | .08 | e.19 | .82 | 4.1 | .74 | .34 | .11 | .00 | .00 | .00 |
| 16 | .00 | .06 | .08 | e.21 | 15 | 3.7 | .87 | .33 | .11 | .00 | .00 | .00 |
| 17 | .00 | .06 | .08 | e.35 | 17 | 3.1 | .96 | .30 | .10 | .00 | .00 | .00 |
| 18 | .00 | .06 | .08 | e.60 | 13 | 2.7 | .81 | .30 | .09 | .00 | .00 | .00 |
| 19 | .00 | .06 | .08 | e1.3 | 7.8 | 2.5 | .74 | .30 | .06 | .00 | .00 | .00 |
| 20 | .00 | .06 | .08 | e.96 | 5.6 | 2.2 | .74 | .30 | .03 | .00 | .00 | .00 |
| 21 | .00 | .06 | .08 | e.75 | 4.6 | 2.1 | .68 | .32 | .00 | .00 | .00 | .00 |
| 22 | .00 | .07 | .08 | e.66 | 3.8 | 1.9 | .67 | .31 | .00 | .00 | .00 | .00 |
| 23 | 1.8 | .07 | .10 | e.55 | 2.9 | 1.8 | 2.9 | .52 | .00 | .00 | .00 | .00 |
| 24 | 2.6 | .08 | .10 | e.48 | 2.5 | 1.6 | 1.4 | .60 | .00 | .00 | .00 | .00 |
| 25 | 1.1 | .51 | .10 | e.43 | 2.1 | 1.4 | .88 | .47 | .00 | .00 | .00 | .00 |
| 26 | .42 | 2.8 | .10 | e.39 | 1.9 | 1.4 | .74 | .38 | .00 | .00 | .00 | .00 |
| 27 | .20 | .59 | .11 | e.36 | 1.8 | 1.4 | .67 | .60 | .00 | .00 | .00 | .00 |
| 28 | .12 | .34 | .11 | e.35 | 1.5 | 1.3 | .66 | 2.8 | .00 | .00 | .00 | .00 |
| 29 | .09 | .22 | .11 | e.50 | --- | 1.3 | .59 | .70 | .00 | .00 | .00 | .00 |
| 30 | .08 | .16 | .11 | e.88 | --- | 1.3 | .59 | .53 | .00 | .00 | .00 | .00 |
| 31 | .08 | --- | .11 | 1.3 | --- | 1.2 | --- | .59 | --- | .00 | .00 | --- |
| TOTAL | 6.49 | 6.11 | 2.83 | 13.06 | 121.34 | 103.1 | 28.23 | 15.21 | 4.42 | 0.00 | 0.00 | 0.00 |
| MEAN | .21 | .20 | .091 | .42 | 4.33 | 3.33 | .94 | .49 | .15 | .000 | .000 | .000 |
| MAX | 2.6 | 2.8 | .13 | 1.3 | 17 | 8.8 | 2.9 | 2.8 | .48 | .00 | .00 | .00 |
| MIN | .00 | .05 | .08 | .18 | .82 | 1.2 | .59 | .30 | .00 | .00 | .00 | .00 |
| AC-FT | 13 | 12 | 5.6 | 26 | 241 | 204 | 56 | 30 | 8.8 | .00 | .00 | .00 |

CAL YR 1989 TOTAL 641.36 MEAN 1.76 MAX 187 MIN .00 AC-FT 1270
WTR YR 1990 TOTAL 300.79 MEAN .82 MAX 17 MIN .00 AC-FT 597

e Estimated.

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 mi².

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, 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.

COOPERATION.--Records were provided by Oakdale and South San Joaquin Irrigation Districts, in connection with a Federal Energy Regulatory Commission project.

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, 66,200 acre-ft, July 24, elevation, 509.4 ft; minimum, 50,400 acre-ft, Nov. 23, elevation, 495.3 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated October 1956)

| | | | | | |
|-----|-------|-----|--------|-----|--------|
| 404 | 4,580 | 430 | 11,100 | 475 | 33,100 |
| 411 | 6,020 | 445 | 16,400 | 490 | 45,300 |
| 420 | 8,200 | 460 | 23,600 | 512 | 69,500 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 63200 | 55500 | 56300 | 54300 | 56400 | 55800 | 58000 | 62100 | 64900 | 64700 | 65200 | 64900 |
| 2 | 62700 | 55100 | 55800 | 56100 | 56100 | 56800 | 58600 | 62100 | 65400 | 65000 | 65200 | 64900 |
| 3 | 62200 | 54700 | 55400 | 55900 | 55900 | 56900 | 58700 | 62200 | 65200 | 65400 | 65400 | 65000 |
| 4 | 61700 | 56500 | 55100 | 55600 | 55800 | 55500 | 58600 | 62900 | 64300 | 65700 | 65700 | 65200 |
| 5 | 61200 | 56100 | 55700 | 55400 | 55600 | 55200 | 57100 | 61300 | 65900 | 65900 | 65700 | 65400 |
| 6 | 60800 | 55600 | 56800 | 55100 | 56600 | 56500 | 56900 | 61300 | 65500 | 65500 | 65600 | 65800 |
| 7 | 60300 | 55200 | 56400 | 54800 | 56300 | 56300 | 57500 | 61300 | 65200 | 65700 | 65600 | 65700 |
| 8 | 59700 | 54700 | 56600 | 55400 | 56100 | 56000 | 57500 | 61000 | 64500 | 65400 | 65800 | 64900 |
| 9 | 61600 | 54300 | 56100 | 55100 | 56600 | 57000 | 58000 | 60700 | 64200 | 65200 | 65700 | 64900 |
| 10 | 60900 | 53800 | 55700 | 55500 | 56400 | 56500 | 59200 | 60600 | 61500 | 65500 | 65200 | 65000 |
| 11 | 60200 | 53400 | 56200 | 55300 | 56100 | 55600 | 59600 | 60800 | 59500 | 65500 | 64600 | 65200 |
| 12 | 60400 | 52900 | 55700 | 55100 | 55900 | 55300 | 58800 | 62800 | 57200 | 65400 | 64400 | 65400 |
| 13 | 59600 | 52500 | 56100 | 54900 | 56400 | 55400 | 58800 | 62900 | 58800 | 65400 | 64400 | 65700 |
| 14 | 59000 | 52100 | 55700 | 54900 | 56100 | 55900 | 58700 | 62800 | 60600 | 65700 | 64800 | 65800 |
| 15 | 58300 | 51600 | 56400 | 54900 | 55600 | 56100 | 58600 | 62700 | 61800 | 65300 | 65400 | 65800 |
| 16 | 58500 | 51800 | 56100 | 55600 | 55600 | 56000 | 58600 | 62200 | 63500 | 65100 | 65800 | 66000 |
| 17 | 58700 | 52100 | 55800 | 55300 | 56700 | 55900 | 58600 | 62300 | 65500 | 65400 | 65400 | 65900 |
| 18 | 58100 | 51700 | 55500 | 55000 | 56500 | 55800 | 58600 | 62500 | 64800 | 65400 | 64800 | 64800 |
| 19 | 57400 | 51200 | 55200 | 54800 | 56300 | 55100 | 59100 | 63400 | 64800 | 65300 | 65100 | 64100 |
| 20 | 56600 | 51800 | 55100 | 54500 | 56400 | 56600 | 60400 | 64100 | 65300 | 65200 | 65300 | 63700 |
| 21 | 56700 | 51300 | 55000 | 54200 | 56200 | 56600 | 60400 | 64600 | 65400 | 65400 | 65200 | 63600 |
| 22 | 56000 | 50900 | 55900 | 55700 | 56000 | 56500 | 60500 | 64500 | 65400 | 65400 | 65400 | 63700 |
| 23 | 57400 | 50400 | 55600 | 55700 | 55700 | 55700 | 60900 | 64800 | 64800 | 66000 | 65500 | 63600 |
| 24 | 57100 | 51200 | 55300 | 55400 | 55400 | 55600 | 60800 | 64400 | 65800 | 66200 | 65500 | 63900 |
| 25 | 56800 | 51600 | 55000 | 56100 | 55100 | 55300 | 60800 | 63600 | 65500 | 65400 | 65400 | 64300 |
| 26 | 56500 | 51200 | 54800 | 56500 | 56000 | 55900 | 60700 | 64000 | 65200 | 65200 | 65000 | 64400 |
| 27 | 57100 | 52100 | 55700 | 56400 | 55700 | 56300 | 60100 | 64200 | 65200 | 65300 | 65000 | 64700 |
| 28 | 56800 | 52800 | 55400 | 56100 | 55200 | 56800 | 59800 | 64000 | 65100 | 65400 | 64800 | 63900 |
| 29 | 56500 | 53500 | 55100 | 55900 | --- | 57100 | 60500 | 64100 | 65000 | 65300 | 64900 | 62300 |
| 30 | 56200 | 54300 | 54800 | 55800 | --- | 57600 | 61300 | 64100 | 65000 | 65300 | 65100 | 61200 |
| 31 | 55900 | --- | 54500 | 56600 | --- | 58000 | --- | 64100 | --- | 63400 | 64700 | --- |
| MAX | 63200 | 56500 | 56800 | 56600 | 56700 | 58000 | 61300 | 64800 | 65900 | 66200 | 65800 | 66000 |
| MIN | 55900 | 50400 | 54500 | 54200 | 55100 | 55100 | 56900 | 60600 | 57200 | 63400 | 64400 | 61200 |
| a | 500.6 | 499.0 | 499.3 | 501.2 | 499.9 | 502.4 | 505.3 | 507.7 | 508.4 | 508.7 | 508.2 | 505.2 |
| b | -7800 | -1600 | +200 | +2100 | -1400 | +2800 | +3300 | +2800 | +900 | -1600 | +1300 | -3500 |

CAL YR 1989 -1200
WTR YR 1990 -2500

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

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 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1972 to current year.

INSTRUMENTATION.--Temperature recorder since June 1972.

REMARKS.--Interruptions in record were due to malfunction of recording instrument. Water temperature is affected by regulation from Tulloch powerplant.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 27.5 °C, Aug. 30, 1977; minimum recorded, 5.0 °C, Jan. 13, 1973.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 17.0 °C, Sept. 22-30; minimum recorded, 8.0 °C, Jan. 31.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 14.5 | 14.0 | 14.5 | 14.0 | 13.5 | 13.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 2 | 14.5 | 14.0 | 14.5 | 14.0 | 13.5 | 13.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 3 | 14.5 | 14.0 | 14.5 | 14.0 | 13.5 | 13.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 4 | 14.5 | 14.0 | 14.5 | 14.0 | 13.5 | 13.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 5 | 14.5 | 14.0 | 14.5 | 14.0 | 13.5 | 13.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 6 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 11.0 | 10.5 | 8.5 | 10.0 | 10.0 |
| 7 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 8 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 9 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.0 | 10.0 |
| 10 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.0 | 10.0 |
| 11 | 14.5 | 14.5 | 14.5 | 14.0 | 13.0 | 13.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.0 | 10.0 |
| 12 | 14.5 | 14.5 | 14.5 | 14.0 | 12.5 | 12.5 | 11.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.0 |
| 13 | 14.5 | 14.5 | 14.5 | 14.0 | 12.5 | 12.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.0 | 10.0 |
| 14 | 14.5 | 14.0 | 14.5 | 14.5 | 12.5 | 12.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 15 | 14.5 | 14.0 | 14.5 | 14.0 | 12.5 | 12.5 | 11.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 16 | 14.5 | 14.0 | 14.5 | 14.0 | 12.5 | 12.5 | 11.0 | 11.0 | 10.5 | 10.0 | 10.5 | 10.5 |
| 17 | 14.0 | 14.0 | 14.5 | 14.0 | 12.5 | 12.0 | 11.0 | 11.0 | 10.0 | 10.0 | 10.5 | 10.5 |
| 18 | 14.0 | 14.0 | 14.5 | 14.0 | 12.0 | 12.0 | 11.0 | 10.5 | 10.0 | 10.0 | 10.5 | 10.5 |
| 19 | 14.0 | 14.0 | 14.5 | 14.0 | 12.0 | 12.0 | 11.0 | 10.5 | 10.0 | 10.0 | 10.5 | 10.5 |
| 20 | 14.0 | 14.0 | 14.5 | 14.0 | 12.0 | 12.0 | 10.5 | 10.5 | 10.0 | 10.0 | 10.5 | 10.5 |
| 21 | 14.0 | 14.0 | 14.5 | 14.0 | 12.0 | 12.0 | 10.5 | 10.5 | 10.0 | 10.0 | 10.5 | 10.5 |
| 22 | 14.0 | 14.0 | 14.5 | 14.0 | 12.0 | 12.0 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 10.5 |
| 23 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 11.5 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 10.5 |
| 24 | 14.5 | 14.0 | 14.0 | 14.0 | 12.0 | 11.5 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 11.0 |
| 25 | 14.5 | 14.0 | 14.0 | 14.0 | 11.5 | 11.5 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 11.0 |
| 26 | 14.5 | 14.0 | 14.0 | 14.0 | 11.5 | 11.5 | 11.0 | 10.5 | 10.0 | 10.0 | 11.0 | 11.0 |
| 27 | 14.5 | 14.0 | 14.0 | 14.0 | 11.5 | 11.5 | 11.0 | 10.5 | 10.0 | 10.0 | 11.0 | 11.0 |
| 28 | 14.5 | 14.0 | 14.0 | 14.0 | 11.5 | 11.5 | 11.5 | 10.5 | 10.0 | 10.0 | 11.0 | 11.0 |
| 29 | 14.5 | 14.0 | 14.0 | 13.5 | 11.5 | 11.5 | 16.0 | 10.5 | --- | --- | 11.0 | 11.0 |
| 30 | 14.5 | 14.0 | 14.0 | 13.5 | 11.5 | 11.0 | 13.5 | 9.0 | --- | --- | 11.0 | 11.0 |
| 31 | 14.5 | 14.0 | --- | --- | 11.5 | 11.0 | 10.5 | 8.0 | --- | --- | 11.0 | 11.0 |
| MONTH | 14.5 | 14.0 | 14.5 | 13.5 | 13.5 | 11.0 | 16.0 | 8.0 | 10.5 | 8.5 | 11.0 | 10.0 |

SAN JOAQUIN RIVER BASIN

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.0 | 14.0 | 16.0 | 16.0 |
| 2 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.5 | 14.0 | 16.0 | 15.5 |
| 3 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 15.5 | 12.0 | 14.5 | 14.0 | 16.0 | 16.0 |
| 4 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.5 | 12.0 | 12.0 | 14.5 | 14.0 | 16.0 | 16.0 |
| 5 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.5 | 12.0 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 6 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 7 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 8 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 9 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 10 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 11 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 | 12.0 | 14.5 | 14.5 | 16.0 | 16.0 |
| 12 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 | 15.0 | 14.5 | 16.5 | 16.0 |
| 13 | 11.0 | 11.0 | 11.5 | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 | 15.0 | 15.0 | 16.5 | 16.5 |
| 14 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 | 15.0 | 15.0 | 16.5 | 16.5 |
| 15 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 12.5 | 12.5 | 15.0 | 15.0 | 16.5 | 16.5 |
| 16 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 | 12.5 | 15.0 | 15.0 | 16.5 | 16.5 |
| 17 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 | 12.5 | 15.0 | 15.0 | 16.5 | 16.5 |
| 18 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 | 13.0 | 15.0 | 15.0 | 16.5 | 16.5 |
| 19 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 | 13.0 | 15.0 | 15.0 | 16.5 | 16.5 |
| 20 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 11.0 | 13.0 | 13.0 | 15.5 | 15.0 | 16.5 | 16.5 |
| 21 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 | 13.0 | 15.5 | 15.5 | 16.5 | 16.5 |
| 22 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.0 | 13.5 | 13.0 | 15.5 | 15.5 | 17.0 | 16.5 |
| 23 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.5 | 13.5 | 13.5 | 15.5 | 15.5 | 17.0 | 16.5 |
| 24 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.5 | 13.5 | 13.5 | 15.5 | 15.5 | 17.0 | 16.5 |
| 25 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.5 | 13.5 | 13.5 | 15.5 | 15.5 | 17.0 | 17.0 |
| 26 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.5 | 13.5 | 13.5 | 15.5 | 15.5 | 17.0 | 17.0 |
| 27 | 11.0 | 11.0 | 11.0 | 11.0 | 11.5 | 11.5 | 13.5 | 13.5 | 15.5 | 15.5 | 17.0 | 17.0 |
| 28 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 11.5 | 14.0 | 13.5 | 15.5 | 15.5 | 17.0 | 17.0 |
| 29 | 11.0 | 11.0 | 11.0 | 11.0 | 12.0 | 11.5 | 14.0 | 14.0 | 15.5 | 15.5 | 17.0 | 17.0 |
| 30 | 11.5 | 11.0 | 11.0 | 11.0 | 12.0 | 11.5 | 14.0 | 14.0 | 15.5 | 15.5 | 17.0 | 17.0 |
| 31 | --- | --- | 11.0 | 10.5 | --- | --- | 14.0 | 14.0 | 16.0 | 15.5 | --- | --- |
| MONTH | 11.5 | 11.0 | 11.5 | 10.5 | 12.0 | 10.5 | 15.5 | 12.0 | 16.0 | 14.0 | 17.0 | 15.5 |

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.--No estimated daily discharges. Records good. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--76 years, 442 ft³/s, 320,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,320 ft³/s, Aug. 10-17, 1978; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|-------|--------|--------|-------|----------|-------|-------|-------|-------|-------|-------|
| 1 | 8.6 | 4.2 | .00 | 1.7 | 2.3 | .00 | 1090 | 670 | 449 | 969 | 1110 | 767 |
| 2 | 5.2 | 4.2 | .37 | 1.8 | 2.3 | .00 | 1090 | 700 | 442 | 969 | 1110 | 767 |
| 3 | 5.0 | 4.2 | 1.0 | 1.8 | 2.6 | .01 | 1090 | 724 | 442 | 969 | 1110 | 767 |
| 4 | 4.7 | 4.2 | .90 | 1.8 | 2.8 | .11 | 1090 | 752 | 552 | 970 | 1110 | 767 |
| 5 | 4.5 | 4.2 | .81 | 1.8 | 2.2 | .03 | 1080 | 769 | 629 | 970 | 1110 | 733 |
| 6 | 4.4 | 4.2 | .81 | 1.8 | 2.2 | .00 | 1090 | 769 | 631 | 1000 | 1110 | 716 |
| 7 | 4.5 | 4.2 | 13 | 1.8 | 1.7 | .00 | 1080 | 896 | 633 | 1030 | 1110 | 716 |
| 8 | 4.7 | 4.2 | 17 | 1.8 | 2.1 | .00 | 1080 | 1010 | 801 | 1030 | 1120 | 716 |
| 9 | 4.6 | 4.2 | 15 | 1.8 | 3.4 | .00 | 1080 | 1020 | 936 | 1030 | 1120 | 715 |
| 10 | 4.8 | 2.6 | 15 | 1.8 | 4.0 | .00 | 1080 | 1030 | 946 | 1060 | 1120 | 714 |
| 11 | 2.1 | 1.5 | 15 | 1.8 | 4.2 | .00 | 1080 | 1080 | 946 | 1090 | 1120 | 715 |
| 12 | .61 | 1.7 | 15 | 1.8 | 4.2 | .00 | 1080 | 1110 | 946 | 1090 | 1120 | 714 |
| 13 | 2.6 | 1.9 | 7.1 | 1.8 | 3.7 | .00 | 1080 | 1110 | 946 | 1090 | 1120 | 682 |
| 14 | 4.4 | 1.8 | 2.2 | 426 | 3.3 | .00 | 1080 | 1180 | 946 | 1090 | 1120 | 659 |
| 15 | 5.4 | 1.9 | 2.0 | 688 | 3.2 | 1.3 | 1080 | 1140 | 946 | 1090 | 1050 | 658 |
| 16 | 5.4 | 1.7 | 1.9 | 333 | 2.7 | 2.0 | 1020 | 1120 | 945 | 1100 | 1010 | 658 |
| 17 | 5.4 | 1.7 | 1.8 | 3.5 | 2.1 | 1.9 | 957 | 1120 | 945 | 1120 | 1010 | 659 |
| 18 | 5.4 | 1.6 | 1.8 | 3.1 | 3.2 | 1.9 | 959 | 986 | 944 | 1130 | 1010 | 658 |
| 19 | 5.1 | 1.6 | 1.8 | 2.5 | 3.0 | 338 | 952 | 875 | 951 | 1130 | 1010 | 657 |
| 20 | 50 | .66 | 1.8 | 2.0 | 1.1 | 594 | 947 | 870 | 960 | 1130 | 1010 | 657 |
| 21 | 66 | .00 | 1.8 | 1.9 | .00 | 698 | 947 | 869 | 963 | 1130 | 969 | 657 |
| 22 | 58 | .00 | 1.8 | 1.9 | .00 | 808 | 947 | 862 | 963 | 1130 | 904 | 656 |
| 23 | 59 | .00 | 1.8 | 1.9 | .00 | 924 | 760 | 748 | 964 | 1140 | 868 | 656 |
| 24 | 28 | .62 | 1.8 | 1.9 | .00 | 999 | 531 | 640 | 964 | 1130 | 868 | 655 |
| 25 | 4.9 | 1.2 | 1.6 | 2.6 | .00 | 996 | 438 | 638 | 965 | 1120 | 868 | 655 |
| 26 | 4.9 | 1.3 | 1.8 | 2.3 | .00 | 1060 | 459 | 637 | 967 | 1110 | 867 | 654 |
| 27 | 4.9 | .49 | 1.8 | 3.0 | .00 | 1090 | 567 | 637 | 967 | 1110 | 821 | 654 |
| 28 | 4.9 | .00 | 1.8 | 3.6 | .00 | 1090 | 644 | 440 | 967 | 1110 | 785 | 499 |
| 29 | 4.6 | .00 | 1.7 | 3.4 | --- | 1090 | 660 | 407 | 967 | 1110 | 773 | 314 |
| 30 | 4.6 | .00 | 1.6 | 3.4 | --- | 1090 | 660 | 441 | 968 | 1110 | 767 | 183 |
| 31 | 4.4 | --- | 1.6 | 2.8 | --- | 1090 | --- | 463 | --- | 1110 | 767 | --- |
| TOTAL | 381.61 | 60.07 | 133.39 | 1510.1 | 56.30 | 11874.25 | 27698 | 25713 | 25591 | 33367 | 30967 | 19678 |
| MEAN | 12.3 | 2.00 | 4.30 | 48.7 | 2.01 | 383 | 923 | 829 | 853 | 1076 | 999 | 656 |
| MAX | 66 | 4.2 | 17 | 688 | 4.2 | 1090 | 1090 | 1180 | 968 | 1140 | 1120 | 767 |
| MIN | .61 | .00 | .00 | 1.7 | .00 | .00 | 438 | 407 | 442 | 969 | 767 | 183 |
| AC-FT | 757 | 119 | 265 | 3000 | 112 | 23550 | 54940 | 51000 | 50760 | 66180 | 61420 | 39030 |

CAL YR 1989 TOTAL 172665.67 MEAN 473 MAX 1190 MIN .00 AC-FT 342500
WTR YR 1990 TOTAL 177029.72 MEAN 485 MAX 1180 MIN .00 AC-FT 351100

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.--Records good. 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.--76 years, 171 ft³/s, 123,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 556 ft³/s, July 8-11, 1967; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|-------|------|------|---------|-------|-------|-------|-------|-------|-------|
| 1 | .23 | .00 | 3.9 | .06 | .14 | .10 | e344 | 332 | 93 | 436 | 479 | 411 |
| 2 | .16 | .00 | 3.9 | .17 | .10 | .10 | e333 | 348 | 87 | 436 | 479 | 411 |
| 3 | .14 | .00 | 3.9 | .03 | .13 | .10 | e327 | 359 | 87 | 436 | 480 | 411 |
| 4 | 1.8 | .00 | 1.3 | .00 | .22 | .33 | e338 | 381 | 179 | 437 | 481 | 411 |
| 5 | 2.8 | .00 | .00 | .00 | .14 | .60 | e342 | 403 | 309 | 437 | 481 | 411 |
| 6 | 2.1 | 2.0 | .00 | .00 | .10 | .28 | e337 | 410 | 352 | 436 | 481 | 411 |
| 7 | 2.1 | 4.8 | .00 | .08 | .09 | .21 | e331 | 409 | 363 | 436 | 482 | 401 |
| 8 | 2.1 | 4.1 | .00 | .10 | .01 | e.16 | e331 | 408 | 382 | 447 | 487 | 397 |
| 9 | 1.0 | 4.1 | .00 | .10 | .01 | e.16 | e328 | 407 | 391 | 454 | 489 | 397 |
| 10 | .14 | 4.1 | .00 | .06 | .01 | e.16 | e331 | 407 | 391 | 452 | 489 | 384 |
| 11 | 1.5 | 4.1 | .00 | .01 | .01 | e.10 | 331 | 407 | 391 | 450 | 489 | 377 |
| 12 | 2.8 | 4.1 | .00 | .06 | .01 | e.10 | 331 | 408 | 391 | 450 | 489 | 377 |
| 13 | 2.0 | 4.1 | .00 | .12 | .01 | e.10 | 331 | 408 | 391 | 451 | 489 | 370 |
| 14 | 1.9 | 4.1 | .00 | .07 | .01 | e.10 | 331 | 407 | 391 | 452 | 489 | 366 |
| 15 | 1.7 | 4.2 | .00 | .01 | .01 | e.10 | 331 | 407 | 390 | 452 | 489 | 366 |
| 16 | 1.7 | 4.4 | .00 | .02 | .37 | e.10 | 331 | 407 | 390 | 465 | 478 | 366 |
| 17 | 1.7 | 4.4 | .00 | e.01 | .45 | e.10 | 318 | 409 | 390 | 489 | 471 | 366 |
| 18 | 1.7 | 4.4 | .00 | e.00 | .43 | e.10 | 311 | 410 | 390 | 498 | 471 | 366 |
| 19 | 1.7 | 4.4 | .00 | e.00 | .29 | e.10 | 312 | 410 | 380 | 498 | 471 | 366 |
| 20 | 45 | 4.4 | .00 | e.00 | .18 | e.10 | 313 | 410 | 376 | 498 | 471 | 366 |
| 21 | 58 | 4.4 | .00 | e.00 | .16 | e61 | 313 | 410 | 390 | 497 | 457 | 353 |
| 22 | 52 | 4.4 | .00 | e.00 | .14 | e100 | 313 | 405 | 398 | 498 | 448 | 346 |
| 23 | 52 | 4.4 | .00 | e.00 | .10 | e193 | 178 | 390 | 399 | 498 | 449 | 346 |
| 24 | 23 | 4.4 | .00 | e.00 | .10 | e251 | 55 | 382 | 399 | 497 | 449 | 333 |
| 25 | .00 | 4.2 | .00 | e.00 | .10 | e252 | 29 | 382 | 399 | 486 | 448 | 326 |
| 26 | .00 | 3.9 | .00 | e.00 | .10 | e283 | 23 | 381 | 408 | 479 | 448 | 326 |
| 27 | .00 | 3.9 | .00 | e.00 | .10 | e303 | 114 | 381 | 415 | 480 | 448 | 326 |
| 28 | .00 | 3.9 | .00 | e.00 | .10 | e319 | 254 | 101 | 415 | 480 | 443 | 327 |
| 29 | .00 | 3.9 | .00 | e.00 | --- | e326 | 309 | 44 | 415 | 480 | 430 | 326 |
| 30 | .00 | 3.9 | .00 | .08 | --- | e336 | 310 | 80 | 425 | 480 | 415 | 177 |
| 31 | .00 | --- | .00 | .10 | --- | e344 | --- | 104 | --- | 480 | 411 | --- |
| TOTAL | 259.27 | 103.00 | 13.00 | 1.08 | 3.62 | 2771.20 | 8480 | 11007 | 10577 | 14465 | 14481 | 10917 |
| MEAN | 8.36 | 3.43 | .42 | .035 | .13 | 89.4 | 283 | 355 | 353 | 467 | 467 | 364 |
| MAX | 58 | 4.8 | 3.9 | .17 | .45 | 344 | 344 | 410 | 425 | 498 | 489 | 411 |
| MIN | .00 | .00 | .00 | .00 | .01 | .10 | 23 | 44 | 87 | 436 | 411 | 177 |
| AC-FT | 514 | 204 | 26 | 2.1 | 7.2 | 5500 | 16820 | 21830 | 20980 | 28690 | 28720 | 21650 |

CAL YR 1989 TOTAL 72939.86 MEAN 200 MAX 476 MIN .00 AC-FT 144700
WTR YR 1990 TOTAL 73078.17 MEAN 200 MAX 498 MIN .00 AC-FT 145000

e Estimated.

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 mi².

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 Co.'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) since 1957. South San Joaquin Canal (station 11300500) and Oakdale Canal (station 11301000) divert at Goodwin Dam. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--33 years, 783 ft³/s, 567,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft³/s, Dec. 24, 1964, gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks; minimum daily, 0.12 ft³/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 ft³/s, by computation of flow over Goodwin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft³/s, May 5, gage height, 10.14 ft; minimum daily, 108 ft³/s, May 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 226 | 196 | 211 | 130 | 128 | 505 | 610 | 403 | 166 | 614 | 427 | 329 |
| 2 | 229 | 202 | 205 | 130 | 133 | 655 | 558 | 439 | 318 | 591 | 470 | 326 |
| 3 | 229 | 202 | 205 | 130 | 130 | 753 | 512 | 496 | 384 | 578 | 506 | 327 |
| 4 | 225 | 202 | 208 | 130 | 130 | 758 | 457 | 622 | 525 | 572 | 501 | 305 |
| 5 | 225 | 203 | 227 | 129 | 134 | 752 | 373 | 605 | 658 | 571 | 501 | 278 |
| 6 | 227 | 203 | 207 | 129 | 132 | 747 | 359 | 604 | 709 | 558 | 500 | 280 |
| 7 | 226 | 205 | 205 | 130 | 132 | 820 | 325 | 494 | 710 | 554 | 504 | 282 |
| 8 | 265 | 206 | 204 | 130 | 133 | 852 | 317 | 482 | 706 | 579 | 517 | 281 |
| 9 | 338 | 205 | 207 | 130 | 130 | 851 | 262 | 482 | 719 | 572 | 511 | 279 |
| 10 | 331 | 208 | 206 | 130 | 128 | 853 | 251 | 492 | 734 | 557 | 512 | 281 |
| 11 | 331 | 206 | 206 | 130 | 128 | 852 | 310 | 495 | 711 | 562 | 504 | 280 |
| 12 | 331 | 205 | 214 | 131 | 128 | 880 | 307 | 635 | 705 | 592 | 496 | 253 |
| 13 | 332 | 205 | 215 | 132 | 133 | 1010 | 302 | 614 | 711 | 631 | 509 | 233 |
| 14 | 331 | 205 | 213 | 122 | 136 | 1010 | 300 | 499 | 670 | 666 | 519 | 229 |
| 15 | 332 | 204 | 206 | 130 | 132 | 1010 | 300 | 532 | 591 | 655 | 522 | 229 |
| 16 | 333 | 205 | 138 | 145 | 146 | 1010 | 278 | 459 | 571 | 621 | 515 | 228 |
| 17 | 333 | 205 | 129 | 137 | 145 | 1010 | 253 | 453 | 557 | 591 | 521 | 229 |
| 18 | 333 | 205 | 130 | 132 | 137 | 1010 | 406 | 459 | 515 | 567 | 513 | 198 |
| 19 | 333 | 205 | 130 | 132 | 135 | 1010 | 517 | 451 | 447 | 532 | 509 | 153 |
| 20 | 304 | 205 | 129 | 130 | 135 | 1010 | 546 | 452 | 454 | 531 | 512 | 154 |
| 21 | 273 | 206 | 129 | 130 | 136 | 1020 | 609 | 429 | 462 | 530 | 448 | 153 |
| 22 | 276 | 205 | 129 | 130 | 136 | 1010 | 608 | 407 | 491 | 529 | 405 | 153 |
| 23 | 238 | 205 | 130 | 132 | 136 | 927 | 616 | 405 | 516 | 486 | 410 | 151 |
| 24 | 149 | 206 | 130 | 131 | 136 | 908 | 610 | 407 | 506 | 468 | 412 | 155 |
| 25 | 129 | 212 | 130 | 142 | 136 | 905 | 604 | 377 | 569 | 467 | 412 | 158 |
| 26 | 129 | 209 | 129 | 135 | 136 | 911 | 602 | 333 | 617 | 457 | 411 | 156 |
| 27 | 129 | 207 | 129 | 129 | 135 | 872 | 538 | 333 | 610 | 478 | 371 | 157 |
| 28 | 129 | 207 | 129 | 128 | 318 | 815 | 409 | 314 | 610 | 508 | 330 | 162 |
| 29 | 129 | 208 | 129 | 130 | --- | 731 | 404 | 232 | 609 | 508 | 328 | 157 |
| 30 | 129 | 209 | 130 | 138 | --- | 615 | 408 | 136 | 610 | 461 | 327 | 161 |
| 31 | 128 | --- | 130 | 133 | --- | 608 | --- | 108 | --- | 426 | 327 | --- |
| TOTAL | 7652 | 6156 | 5219 | 4077 | 3934 | 26680 | 12951 | 13649 | 17161 | 17012 | 14250 | 6717 |
| MEAN | 247 | 205 | 168 | 132 | 140 | 861 | 432 | 440 | 572 | 549 | 460 | 224 |
| MAX | 338 | 212 | 227 | 145 | 318 | 1020 | 616 | 635 | 734 | 666 | 522 | 329 |
| MIN | 128 | 196 | 129 | 122 | 128 | 505 | 251 | 108 | 166 | 426 | 327 | 151 |
| AC-FT | 15180 | 12210 | 10350 | 8090 | 7800 | 52920 | 25690 | 27070 | 34040 | 33740 | 28260 | 13320 |

CAL YR 1989 TOTAL 177289 MEAN 486 MAX 1270 MIN 128 AC-FT 351700
WTR YR 1990 TOTAL 135458 MEAN 371 MAX 1020 MIN 108 AC-FT 268700

SAN JOAQUIN RIVER BASIN

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February 1966 to current year.

INSTRUMENTATION.--Temperature recorder since February 1966.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument. Temperature recorder located 2,300 ft upstream from gaging station. Water temperature is affected by regulation from Goodwin Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 30.5 °C, July 25, 1974; minimum recorded, 5.5 °C, Feb. 3, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 18.0 °C, Sept. 22, 23, 29, 30; minimum recorded, 9.0 °C, Feb. 17-20.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 16.0 | 16.0 | 15.0 | 14.5 | 13.0 | 12.5 | 10.5 | 10.0 | 11.0 | 10.5 | 11.0 | 10.0 |
| 2 | 16.5 | 15.5 | 15.0 | 14.5 | 13.0 | 12.5 | 10.5 | 10.0 | 10.5 | 10.5 | 10.5 | 10.0 |
| 3 | 16.0 | 15.5 | 15.0 | 14.0 | 13.0 | 12.5 | 10.5 | 10.0 | 10.5 | 10.0 | 10.0 | 10.0 |
| 4 | 16.0 | 15.5 | 15.0 | 14.5 | 13.0 | 12.5 | 10.0 | 9.5 | 10.5 | 10.0 | 10.0 | 10.0 |
| 5 | 16.0 | 16.0 | --- | --- | 13.0 | 12.5 | 10.0 | 9.5 | 10.0 | 10.0 | 10.0 | 10.0 |
| 6 | 16.5 | 16.0 | --- | --- | 13.0 | 13.0 | 10.0 | 9.5 | 10.0 | 10.0 | 10.0 | 10.0 |
| 7 | 16.5 | 16.0 | --- | --- | 13.0 | 12.5 | 10.5 | 10.0 | 10.0 | 10.0 | 10.5 | 10.0 |
| 8 | 16.5 | 16.0 | --- | --- | 13.0 | 12.5 | 11.0 | 10.5 | 10.0 | 9.5 | 10.5 | 10.0 |
| 9 | 16.0 | 16.0 | --- | --- | 12.5 | 12.5 | 11.0 | 10.5 | 10.5 | 10.0 | 10.5 | 10.0 |
| 10 | 16.0 | 16.0 | --- | --- | 12.5 | 12.5 | 11.0 | 10.5 | 11.0 | 10.0 | 10.5 | 10.0 |
| 11 | 16.0 | 16.0 | --- | --- | 12.5 | 12.0 | 11.0 | 10.5 | 10.5 | 10.5 | 10.0 | 10.0 |
| 12 | 16.0 | 16.0 | --- | --- | 12.0 | 12.0 | 11.0 | 10.5 | 11.0 | 10.5 | 10.0 | 10.0 |
| 13 | 16.0 | 15.5 | --- | --- | 12.0 | 11.5 | 11.0 | 11.0 | 10.5 | 10.0 | 10.5 | 10.0 |
| 14 | 16.0 | 15.5 | --- | --- | 12.0 | 11.5 | 11.0 | 11.0 | 10.0 | 10.0 | 10.5 | 10.0 |
| 15 | 15.5 | 15.5 | 14.5 | 14.0 | 12.0 | 11.5 | 11.0 | 10.5 | 10.0 | 9.5 | 10.5 | 10.5 |
| 16 | 15.5 | 15.5 | 14.5 | 14.0 | 11.5 | 11.5 | 10.5 | 10.5 | 9.5 | 9.5 | 10.5 | 10.5 |
| 17 | 16.0 | 15.5 | 14.5 | 14.0 | 11.5 | 11.0 | 10.5 | 10.0 | 9.5 | 9.0 | 11.0 | 10.5 |
| 18 | 15.5 | 15.5 | 14.5 | 14.0 | 11.5 | 11.0 | 10.0 | 10.0 | 9.5 | 9.0 | 11.0 | 10.5 |
| 19 | 15.5 | 15.5 | 14.5 | 14.0 | 11.5 | 11.0 | 10.0 | 9.5 | 9.5 | 9.0 | 11.0 | 10.5 |
| 20 | 15.5 | 15.5 | 14.5 | 14.0 | 11.0 | 11.0 | 10.0 | 9.5 | 9.5 | 9.0 | 11.5 | 10.5 |
| 21 | 15.5 | 15.5 | 14.5 | 14.0 | 11.0 | 11.0 | 10.0 | 9.5 | 10.0 | 9.5 | 11.5 | 10.5 |
| 22 | 15.5 | 15.5 | 14.5 | 14.0 | 11.0 | 10.5 | 10.0 | 9.5 | 10.5 | 9.5 | 11.5 | 11.0 |
| 23 | 15.5 | 15.5 | 14.0 | 14.0 | 10.5 | 10.5 | 10.0 | 9.5 | 10.5 | 9.5 | 12.0 | 11.0 |
| 24 | 15.5 | 15.0 | 14.5 | 14.0 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 10.0 | 12.0 | 11.5 |
| 25 | 15.5 | 15.0 | 14.0 | 14.0 | 10.5 | 10.5 | 10.0 | 10.0 | 11.0 | 10.5 | 12.0 | 11.5 |
| 26 | 15.0 | 14.5 | 14.0 | 13.5 | 10.5 | 10.0 | 10.5 | 10.0 | 11.5 | 10.5 | 12.5 | 11.5 |
| 27 | 15.0 | 14.5 | 13.5 | 13.5 | 10.5 | 10.0 | 10.5 | 10.0 | 11.5 | 10.5 | 12.5 | 11.5 |
| 28 | 15.0 | 14.5 | 13.5 | 13.0 | 10.5 | 10.5 | 10.0 | 9.5 | 12.0 | 10.5 | 12.0 | 11.5 |
| 29 | 15.0 | 14.5 | 13.5 | 13.0 | 10.5 | 10.0 | 10.5 | 10.0 | --- | --- | 12.0 | 11.5 |
| 30 | 15.0 | 14.0 | 13.0 | 13.0 | 10.5 | 10.0 | 10.5 | 10.0 | --- | --- | 12.0 | 11.0 |
| 31 | 15.0 | 14.0 | --- | --- | 10.5 | 10.0 | 10.5 | 10.5 | --- | --- | 12.0 | 11.0 |
| MONTH | 16.5 | 14.0 | --- | --- | 13.0 | 10.0 | 11.0 | 9.5 | 12.0 | 9.0 | 12.5 | 10.0 |

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 12.5 | 12.5 | 15.0 | 14.5 | 17.0 | 16.5 |
| 2 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 13.0 | 12.5 | 15.0 | 14.5 | 17.0 | 16.5 |
| 3 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 16.0 | 12.0 | 15.5 | 14.5 | 17.0 | 16.5 |
| 4 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 13.5 | 12.0 | 15.5 | 14.5 | 17.0 | 16.5 |
| 5 | 11.5 | 11.0 | 12.0 | 11.0 | 11.5 | 11.0 | 13.0 | 12.0 | 15.5 | 15.0 | 17.0 | 16.5 |
| 6 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.0 | 13.0 | 12.5 | 15.5 | 15.0 | 17.0 | 16.5 |
| 7 | 11.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.0 | 13.0 | 12.5 | 15.5 | 15.0 | 17.0 | 16.5 |
| 8 | 11.5 | 11.0 | 11.5 | 11.0 | 12.0 | 11.0 | 13.5 | 12.5 | 16.0 | 15.0 | 17.0 | 16.5 |
| 9 | 12.0 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 13.5 | 12.5 | 16.0 | 15.5 | 17.5 | 16.5 |
| 10 | 11.5 | 11.0 | 11.5 | 11.0 | 12.5 | 12.0 | 13.5 | 12.5 | 16.0 | 15.5 | 17.5 | 17.0 |
| 11 | 12.0 | 11.0 | 12.0 | 11.0 | 12.5 | 11.5 | 13.5 | 13.0 | 16.0 | 15.5 | 17.5 | 17.0 |
| 12 | 12.0 | 11.0 | 12.0 | 11.0 | 12.5 | 12.0 | 13.5 | 13.0 | 16.0 | 15.5 | 17.5 | 17.0 |
| 13 | 12.0 | 11.0 | 12.0 | 11.0 | 12.5 | 12.0 | 13.5 | 13.0 | 16.0 | 15.5 | 17.5 | 16.5 |
| 14 | 12.0 | 11.0 | 12.0 | 11.0 | 13.0 | 12.0 | 14.0 | 13.0 | 16.0 | 15.5 | 17.5 | 17.0 |
| 15 | 12.0 | 11.0 | 11.5 | 11.0 | 12.5 | 11.5 | 14.0 | 13.0 | 16.0 | 15.5 | 17.5 | 17.0 |
| 16 | 11.5 | 11.0 | 12.0 | 11.0 | 12.5 | 11.5 | 14.0 | 13.0 | 16.0 | 15.5 | 17.5 | 17.0 |
| 17 | 11.5 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 14.0 | 13.5 | 16.5 | 15.5 | 17.5 | 17.0 |
| 18 | 11.5 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 14.0 | 13.5 | 16.0 | 15.5 | 17.5 | 17.0 |
| 19 | 11.5 | 11.0 | 11.5 | 11.0 | 12.5 | 11.5 | 14.5 | 13.5 | 16.5 | 15.5 | 17.5 | 17.0 |
| 20 | 11.5 | 11.0 | 11.5 | 11.0 | 14.5 | 11.5 | 14.5 | 13.5 | 16.5 | 16.0 | 17.5 | 17.0 |
| 21 | 12.0 | 11.0 | 12.0 | 11.0 | 14.5 | 12.0 | 14.5 | 13.5 | 16.5 | 16.0 | 17.5 | 17.0 |
| 22 | 11.5 | 11.0 | 12.0 | 11.0 | 12.0 | 11.5 | 14.5 | 13.5 | 16.5 | 16.0 | 18.0 | 17.0 |
| 23 | 11.5 | 11.0 | 11.5 | 11.0 | 12.5 | 11.5 | 14.5 | 13.5 | 16.5 | 16.0 | 18.0 | 17.0 |
| 24 | 12.0 | 11.0 | 11.5 | 11.0 | 12.5 | 12.0 | 14.5 | 14.0 | 16.5 | 16.0 | 17.5 | 17.0 |
| 25 | 12.5 | 11.0 | 11.5 | 11.0 | 12.5 | 11.5 | 14.5 | 14.0 | 16.5 | 16.0 | 17.5 | 17.0 |
| 26 | 12.5 | 11.0 | 11.5 | 11.0 | 12.5 | 12.0 | 14.5 | 14.0 | 16.5 | 16.0 | 17.5 | 17.0 |
| 27 | 12.5 | 11.0 | 11.5 | 11.0 | 12.5 | 12.0 | 15.0 | 14.0 | 16.5 | 16.0 | 17.5 | 17.0 |
| 28 | 12.0 | 11.0 | 11.5 | 11.0 | 13.0 | 12.0 | 15.0 | 14.0 | 17.0 | 16.0 | 17.5 | 17.0 |
| 29 | 11.5 | 11.0 | 12.0 | 11.0 | 13.0 | 12.0 | 15.0 | 14.5 | 17.0 | 16.5 | 18.0 | 17.5 |
| 30 | 12.0 | 11.0 | 12.0 | 11.5 | 13.0 | 12.0 | 15.0 | 14.5 | 17.0 | 16.5 | 18.0 | 17.5 |
| 31 | --- | --- | 12.0 | 11.5 | --- | --- | 15.0 | 14.5 | 17.0 | 16.5 | --- | --- |
| MONTH | 12.5 | 11.0 | 12.0 | 11.0 | 14.5 | 11.0 | 16.0 | 12.0 | 17.0 | 14.5 | 18.0 | 16.5 |

SAN JOAQUIN RIVER BASIN

11302500 STANISLAUS RIVER AT OAKDALE, CA

LOCATION.--Lat 37°46'38", long 120°51'07", in Eight Square Leagues on Stanislaus River Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank at State Highway 120 bridge at Oakdale.

DRAINAGE AREA.--1,032 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: September 1985 to current year.

INSTRUMENTATION.--Water-temperature recorder since Aug. 28, 1985.

REMARKS.--Interruptions in record are due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 22.5 °C, Sept. 22, 1989; minimum daily, 7.5 °C, Jan. 16-19, 1987, Dec. 25, 26, 1987, Feb. 15, 1990.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 21.5 °C, Sept. 20, 30; minimum recorded, 7.5 °C, Feb. 15.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | 13.5 | 11.5 | 11.5 | 10.5 | 9.5 | 8.5 | 11.5 | 10.0 | 13.5 | 12.0 |
| 2 | 18.5 | 17.5 | 13.5 | 11.5 | 11.5 | 10.5 | --- | --- | 11.5 | 9.5 | 12.0 | 11.5 |
| 3 | 19.0 | 17.0 | 13.5 | 12.0 | 11.5 | 10.5 | 9.5 | 8.5 | 11.0 | 9.5 | 12.0 | 11.0 |
| 4 | 18.5 | 16.5 | 14.0 | 12.0 | 11.5 | 10.5 | 9.5 | 8.0 | 11.5 | 8.0 | 11.5 | 10.5 |
| 5 | --- | --- | 14.0 | 12.5 | 12.0 | 10.5 | 9.0 | 8.0 | 11.0 | 9.0 | 12.0 | 10.5 |
| 6 | 18.0 | 16.5 | 14.0 | 12.5 | 12.5 | 11.5 | 9.5 | 8.0 | 11.0 | 9.5 | 12.0 | 10.0 |
| 7 | 18.0 | 16.5 | 13.5 | 12.5 | 12.0 | 11.0 | 10.5 | 9.0 | 10.5 | 9.0 | 12.0 | 10.0 |
| 8 | --- | --- | 13.5 | 12.0 | 11.5 | 10.5 | 11.5 | 10.5 | 10.5 | 8.5 | 12.0 | 10.5 |
| 9 | 18.0 | 16.5 | 13.5 | 12.0 | 12.0 | 11.5 | 11.5 | 10.0 | 12.0 | 10.0 | 12.0 | 10.0 |
| 10 | 17.5 | 16.5 | 14.0 | 12.5 | 12.0 | 11.0 | 11.5 | 10.0 | 12.0 | 10.0 | 11.5 | 10.0 |
| 11 | 17.5 | 16.0 | 14.0 | 12.5 | 11.0 | 10.5 | 11.5 | 10.5 | 12.0 | 10.0 | 11.0 | 8.0 |
| 12 | 17.5 | 16.0 | 14.0 | 12.5 | 10.5 | 9.5 | 12.0 | 11.0 | 13.0 | 11.0 | 11.0 | 10.0 |
| 13 | 17.0 | 15.5 | 14.5 | 13.0 | 10.0 | 9.0 | 12.0 | 11.5 | 11.5 | 8.0 | 11.5 | 9.5 |
| 14 | 16.5 | 15.0 | --- | --- | 10.0 | 9.0 | 12.0 | 11.5 | 10.0 | 8.5 | 11.5 | 10.0 |
| 15 | 16.0 | 14.5 | --- | --- | 10.0 | 9.0 | 12.5 | 11.5 | 9.5 | 7.5 | 12.5 | 10.5 |
| 16 | 15.5 | 13.5 | --- | --- | 10.0 | 9.0 | 11.5 | 11.0 | 9.0 | 8.5 | 12.5 | 10.5 |
| 17 | 15.0 | 13.5 | 13.5 | 12.0 | 10.0 | 8.5 | 11.0 | 10.0 | 9.0 | 8.0 | 13.0 | 11.0 |
| 18 | --- | --- | 13.5 | 12.0 | 9.5 | 8.5 | 10.0 | 8.5 | 10.0 | 8.0 | 13.0 | 11.0 |
| 19 | --- | --- | 13.5 | 12.0 | 9.5 | 8.5 | 10.0 | 8.0 | 10.5 | 8.0 | 13.0 | 11.0 |
| 20 | --- | --- | 13.5 | 12.5 | 9.5 | 9.5 | --- | --- | 10.0 | 8.5 | 13.0 | 11.0 |
| 21 | --- | --- | 13.5 | 12.0 | 9.5 | 9.0 | --- | --- | 11.5 | 9.0 | 13.5 | 11.0 |
| 22 | --- | --- | 13.5 | 12.5 | 9.5 | 9.0 | --- | --- | 12.5 | 9.5 | 13.0 | 11.5 |
| 23 | --- | --- | 13.0 | 12.0 | 9.5 | 9.0 | --- | --- | 13.0 | 10.0 | 13.0 | 11.5 |
| 24 | --- | --- | 13.5 | 12.5 | 9.5 | 9.0 | --- | --- | 13.0 | 10.5 | 13.5 | 11.5 |
| 25 | --- | --- | 13.5 | 13.0 | 9.0 | 9.0 | --- | --- | 13.5 | 11.5 | 13.5 | 12.0 |
| 26 | --- | --- | 13.5 | 12.0 | 9.5 | 9.0 | --- | --- | 15.0 | 12.0 | 13.5 | 11.5 |
| 27 | --- | --- | 12.5 | 11.5 | 9.0 | 8.5 | --- | --- | 15.0 | 12.5 | 13.5 | 11.5 |
| 28 | 13.5 | 12.0 | 12.0 | 11.0 | 9.5 | 9.0 | --- | --- | 15.5 | 12.5 | 13.5 | 12.0 |
| 29 | 13.5 | 11.5 | 11.5 | 10.5 | 10.0 | 9.0 | --- | --- | --- | --- | 13.5 | 11.5 |
| 30 | 13.5 | 11.5 | 11.5 | 10.5 | 9.5 | 8.5 | 11.0 | 10.0 | --- | --- | 14.0 | 12.0 |
| 31 | 13.5 | 11.0 | --- | --- | --- | --- | 11.5 | 10.0 | --- | --- | 14.0 | 12.0 |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | 15.5 | 7.5 | 14.0 | 8.0 |

11302500 STANISLAUS RIVER AT OAKDALE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 14.0 | 11.5 | 16.5 | 13.5 | 20.5 | 16.0 | 17.5 | 16.0 | 20.0 | 17.0 | --- | --- |
| 2 | 14.0 | 11.5 | 16.5 | 14.0 | 20.0 | 17.0 | 18.0 | 15.0 | 20.0 | 17.5 | --- | --- |
| 3 | 14.5 | 12.0 | 17.0 | 14.0 | 19.0 | 16.0 | 18.0 | 15.5 | 19.5 | 17.0 | --- | --- |
| 4 | 14.5 | 12.5 | 17.0 | 14.0 | 18.5 | 16.0 | 19.5 | 15.5 | 19.5 | 17.0 | --- | --- |
| 5 | 14.5 | 12.5 | 17.5 | 14.0 | 17.5 | 15.0 | 18.0 | 15.5 | 20.0 | 17.5 | --- | --- |
| 6 | 14.5 | 12.5 | 17.5 | 13.5 | 17.5 | 14.5 | 18.5 | 16.0 | 20.5 | 18.0 | --- | --- |
| 7 | 14.0 | 12.5 | 17.0 | 13.5 | 17.5 | 14.5 | 18.5 | 16.0 | 20.5 | 18.0 | --- | --- |
| 8 | 14.5 | 12.0 | 17.0 | 13.5 | 17.5 | 15.0 | 18.5 | 16.0 | 20.0 | 18.0 | --- | --- |
| 9 | 15.0 | 12.0 | 17.0 | 13.5 | 17.5 | 15.0 | 18.5 | 16.0 | 20.5 | 18.0 | --- | --- |
| 10 | 16.0 | 13.0 | 16.0 | 13.0 | 17.5 | 15.5 | 18.5 | 16.0 | 20.0 | 18.0 | --- | --- |
| 11 | 16.0 | 13.5 | 16.5 | 13.0 | 17.5 | 14.5 | 18.5 | 16.5 | 19.5 | 17.5 | --- | --- |
| 12 | 16.0 | 13.5 | 16.5 | 13.5 | 17.5 | 15.0 | 19.5 | 16.5 | 20.0 | 17.5 | 20.0 | 18.0 |
| 13 | 16.5 | 13.5 | 16.5 | 13.0 | 17.5 | 15.0 | 19.0 | 17.0 | 20.0 | 17.5 | 20.0 | 17.5 |
| 14 | 16.5 | 14.0 | 17.0 | 13.5 | 17.0 | 15.0 | 19.0 | 16.5 | 19.0 | 17.5 | 20.0 | 18.0 |
| 15 | 16.0 | 14.0 | 17.0 | 13.5 | 18.0 | 15.5 | 18.5 | 16.5 | 19.0 | 16.5 | 20.0 | 17.5 |
| 16 | 15.0 | 13.0 | 16.5 | 13.5 | 18.0 | 15.0 | 18.0 | 16.0 | 19.0 | 17.0 | 20.0 | 17.5 |
| 17 | 15.5 | 12.5 | 16.5 | 14.0 | 18.0 | 15.5 | 19.0 | 16.5 | 19.5 | 17.0 | 20.5 | 18.0 |
| 18 | 16.5 | 14.0 | 16.0 | 13.5 | 18.0 | 15.0 | 18.5 | 16.5 | 18.5 | 17.0 | 20.5 | 18.0 |
| 19 | 15.0 | 13.0 | 16.0 | 13.5 | 18.5 | 15.5 | 19.5 | 17.0 | --- | --- | 21.0 | 18.0 |
| 20 | 15.5 | 13.0 | 15.5 | 14.0 | 19.5 | 16.5 | 20.0 | 17.0 | --- | --- | 21.5 | 18.5 |
| 21 | 15.0 | 12.5 | 16.5 | 14.0 | 19.5 | 16.5 | 20.0 | 17.0 | --- | --- | 20.5 | 18.5 |
| 22 | 14.0 | 13.0 | 17.5 | 14.5 | 19.0 | 17.0 | 19.5 | 17.0 | --- | --- | 21.0 | 18.5 |
| 23 | 15.0 | 13.0 | 16.0 | 13.5 | 18.5 | 15.5 | 19.0 | 16.5 | --- | --- | 20.0 | 19.0 |
| 24 | 15.0 | 12.5 | 16.5 | 13.0 | 18.5 | 16.0 | 19.0 | 16.5 | --- | --- | 20.5 | 18.0 |
| 25 | 15.5 | 12.5 | 16.5 | 14.0 | 18.5 | 16.0 | 19.0 | 16.0 | --- | --- | 20.5 | 18.5 |
| 26 | 16.0 | 13.5 | 17.5 | 15.0 | 18.0 | 15.0 | 19.0 | 16.0 | --- | --- | 20.5 | 18.5 |
| 27 | 16.5 | 13.5 | 16.5 | 15.0 | 18.0 | 15.5 | 19.5 | 16.5 | --- | --- | 20.5 | 18.5 |
| 28 | 16.5 | 14.0 | 16.0 | 14.5 | 18.0 | 15.5 | 19.5 | 17.0 | --- | --- | 21.0 | 18.5 |
| 29 | 16.0 | 14.0 | 17.5 | 14.0 | 18.5 | 16.0 | 19.5 | 17.0 | --- | --- | 21.0 | 18.5 |
| 30 | 16.0 | 13.0 | 17.5 | 16.0 | 18.0 | 16.0 | 19.5 | 17.0 | --- | --- | 21.5 | 19.0 |
| 31 | --- | --- | 19.0 | 16.0 | --- | --- | 20.0 | 17.5 | --- | --- | --- | --- |
| MONTH | 16.5 | 11.5 | 19.0 | 13.0 | 20.5 | 14.5 | 20.0 | 15.0 | --- | --- | --- | --- |

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 mi².

PERIOD OF RECORD.--October 1940 to current year. April to September 1940 in reports of California Department of Water Resources.

SPECIFIC CONDUCTANCE: Water year 1989.

WATER TEMPERATURE: Water year 1989.

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 upstream from 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.--50 years, 1,014 ft³/s, 734,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,500 ft³/s, Dec. 24, 1955, gage height, 63.25 ft; minimum daily, 0.11 ft³/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, 1,120 ft³/s, Mar. 14, gage height, 41.58 ft; minimum daily, 167 ft³/s, Feb. 11, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 338 | 184 | 255 | 173 | 183 | 225 | 718 | 494 | 243 | 654 | 528 | 411 |
| 2 | 296 | 212 | 254 | 178 | 175 | 427 | 726 | 480 | 229 | 648 | 541 | 403 |
| 3 | 314 | 244 | 252 | 174 | 174 | 562 | 688 | 492 | 333 | 625 | 526 | 429 |
| 4 | 300 | 246 | 249 | 175 | 185 | 677 | 637 | 529 | 399 | 615 | 568 | 399 |
| 5 | 296 | 248 | 249 | 174 | 195 | 731 | 639 | 620 | 495 | 630 | 563 | 380 |
| 6 | 293 | 249 | 256 | 174 | 189 | 770 | 565 | 660 | 611 | 601 | 580 | 385 |
| 7 | 306 | 249 | 256 | 174 | 181 | 747 | 544 | 640 | 681 | 590 | 566 | 377 |
| 8 | 283 | 252 | 246 | 175 | 175 | 785 | 530 | 599 | 707 | 603 | 543 | 354 |
| 9 | 298 | 251 | 245 | 174 | 174 | 822 | 494 | 563 | 720 | 605 | 547 | 364 |
| 10 | 384 | 248 | 247 | 171 | 171 | 827 | 445 | 551 | 749 | 625 | 581 | 367 |
| 11 | 396 | 249 | 246 | 172 | 167 | 836 | 389 | 551 | 777 | 600 | 561 | 352 |
| 12 | 380 | 250 | 244 | 174 | 168 | 837 | 428 | 565 | 746 | 613 | 559 | 361 |
| 13 | 400 | 249 | 247 | 186 | 167 | 899 | 438 | 674 | 747 | 613 | 551 | 333 |
| 14 | 376 | 247 | 249 | 194 | 169 | 1050 | 410 | 696 | 760 | 653 | 598 | 316 |
| 15 | 374 | 247 | 250 | 191 | 174 | 985 | 431 | 605 | 751 | 703 | 616 | 337 |
| 16 | 373 | 250 | 248 | 187 | 181 | 990 | 450 | 599 | 688 | 707 | 599 | 308 |
| 17 | 412 | 251 | 216 | 194 | 222 | 994 | 416 | 566 | 705 | 682 | 566 | 315 |
| 18 | 415 | 249 | 187 | 188 | 259 | 998 | 383 | 541 | 658 | 691 | 568 | 303 |
| 19 | 385 | 247 | 183 | 180 | 242 | 1000 | 457 | 550 | 616 | 626 | 596 | 308 |
| 20 | 368 | 247 | 181 | 179 | 221 | 1020 | 559 | 562 | 564 | 593 | 583 | 282 |
| 21 | 353 | 250 | 180 | 176 | 200 | 1040 | 582 | 561 | 561 | 593 | 555 | 296 |
| 22 | 332 | 251 | 178 | 176 | 188 | 1030 | 640 | 545 | 544 | 576 | 527 | 284 |
| 23 | 336 | 250 | 174 | 174 | 183 | 1040 | 702 | 538 | 540 | 601 | 485 | 256 |
| 24 | 383 | 254 | 174 | 173 | 179 | 992 | 664 | 544 | 566 | 570 | 490 | 256 |
| 25 | 307 | 260 | 174 | 173 | 177 | 956 | 647 | 523 | 561 | 547 | 475 | 246 |
| 26 | 237 | 276 | 176 | 177 | 178 | 949 | 631 | 494 | 584 | 531 | 492 | 238 |
| 27 | 215 | 270 | 175 | 180 | 174 | 983 | 611 | 496 | 633 | 523 | 481 | 245 |
| 28 | 236 | 257 | 176 | 171 | 173 | 973 | 588 | 632 | 618 | 553 | 458 | 258 |
| 29 | 207 | 257 | 175 | 171 | --- | 910 | 514 | 537 | 621 | 563 | 410 | 238 |
| 30 | 199 | 256 | 173 | 176 | --- | 843 | 505 | 395 | 636 | 573 | 403 | 240 |
| 31 | 191 | --- | 173 | 185 | --- | 762 | --- | 301 | --- | 536 | 406 | --- |
| TOTAL | 9983 | 7450 | 6688 | 5519 | 5224 | 26660 | 16431 | 17103 | 18043 | 18843 | 16522 | 9641 |
| MEAN | 322 | 248 | 216 | 178 | 187 | 860 | 548 | 552 | 601 | 608 | 533 | 321 |
| MAX | 415 | 276 | 256 | 194 | 259 | 1050 | 726 | 696 | 777 | 707 | 616 | 429 |
| MIN | 191 | 184 | 173 | 171 | 167 | 225 | 383 | 301 | 229 | 523 | 403 | 238 |
| AC-FT | 19800 | 14780 | 13270 | 10950 | 10360 | 52880 | 32590 | 33920 | 35790 | 37380 | 32770 | 19120 |

CAL YR 1989 TOTAL 206879 MEAN 567 MAX 1300 MIN 173 AC-FT 410300
WTR YR 1990 TOTAL 158107 MEAN 433 MAX 1050 MIN 167 AC-FT 313600

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 mi², includes about 2,100 mi² in James Bypass.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-flow 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.--No estimated daily discharges. 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.--62 years (water years 1924, 1930-90), 4,598 ft³/s, 3,331,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft³/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 ft³/s, Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft³/s, May 29, elevation, 10.28 ft; minimum daily, 685 ft³/s, Sept. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| 1 | 1600 | 1390 | 1500 | 1220 | 1220 | 1340 | 1440 | 1350 | 1410 | 1040 | 924 | 930 |
| 2 | 1500 | 1370 | 1490 | 1210 | 1250 | 1400 | 1470 | 1440 | 1300 | 1090 | 877 | 1030 |
| 3 | 1440 | 1430 | 1450 | 1190 | 1260 | 1590 | 1460 | 1410 | 1270 | 1100 | 932 | 1030 |
| 4 | 1390 | 1470 | 1440 | 1170 | 1260 | 1790 | 1370 | 1390 | 1300 | 1160 | 952 | 1050 |
| 5 | 1310 | 1460 | 1480 | 1190 | 1310 | 1870 | 1280 | 1480 | 1270 | 1180 | 1020 | 971 |
| 6 | 1250 | 1420 | 1500 | 1200 | 1290 | 1920 | 1270 | 1440 | 1250 | 1070 | 1070 | 899 |
| 7 | 1230 | 1400 | 1510 | 1200 | 1310 | 1940 | 1250 | 1360 | 1290 | 1040 | 1080 | 814 |
| 8 | 1250 | 1390 | 1500 | 1180 | 1300 | 1930 | 1240 | 1290 | 1260 | 1110 | 1070 | 821 |
| 9 | 1210 | 1380 | 1480 | 1170 | 1300 | 1930 | 1320 | 1200 | 1220 | 1110 | 1040 | 860 |
| 10 | 1200 | 1380 | 1450 | 1170 | 1280 | 1920 | 1290 | 1140 | 1190 | 1060 | 999 | 889 |
| 11 | 1220 | 1370 | 1420 | 1180 | 1270 | 1930 | 1190 | 1100 | 1230 | 1000 | 1010 | 873 |
| 12 | 1240 | 1370 | 1400 | 1180 | 1260 | 1910 | 1140 | 1080 | 1160 | 965 | 983 | 833 |
| 13 | 1290 | 1380 | 1390 | 1250 | 1250 | 1850 | 1080 | 1150 | 1090 | 908 | 951 | 778 |
| 14 | 1330 | 1380 | 1380 | 1310 | 1220 | 1940 | 1050 | 1260 | 1090 | 906 | 964 | 750 |
| 15 | 1330 | 1400 | 1390 | 1350 | 1220 | 1940 | 1060 | 1240 | 1130 | 939 | 1010 | 789 |
| 16 | 1330 | 1390 | 1430 | 1370 | 1250 | 1920 | 1210 | 1180 | 1130 | 1020 | 1050 | 892 |
| 17 | 1590 | 1390 | 1420 | 1350 | 1420 | 1910 | 1190 | 1210 | 1170 | 1010 | 1090 | 931 |
| 18 | 1600 | 1390 | 1350 | 1340 | 1520 | 1910 | 1170 | 1120 | 1200 | 965 | 1070 | 853 |
| 19 | 1450 | 1380 | 1290 | 1310 | 1580 | 1900 | 1140 | 1060 | 1080 | 985 | 1160 | 749 |
| 20 | 1370 | 1360 | 1300 | 1300 | 1630 | 1810 | 1210 | 1080 | 1020 | 918 | 1270 | 685 |
| 21 | 1350 | 1370 | 1320 | 1280 | 1660 | 1720 | 1250 | 1130 | 962 | 922 | 1220 | 706 |
| 22 | 1310 | 1380 | 1360 | 1270 | 1630 | 1660 | 1380 | 1080 | 925 | 886 | 1150 | 747 |
| 23 | 1340 | 1360 | 1350 | 1270 | 1540 | 1670 | 1600 | 1050 | 907 | 995 | 1110 | 824 |
| 24 | 1490 | 1350 | 1330 | 1260 | 1460 | 1650 | 1680 | 1110 | 931 | 1000 | 997 | 937 |
| 25 | 1620 | 1370 | 1310 | 1260 | 1410 | 1590 | 1590 | 1060 | 975 | 1010 | 1010 | 922 |
| 26 | 1620 | 1450 | 1290 | 1230 | 1390 | 1590 | 1600 | 1030 | 915 | 935 | 1060 | 900 |
| 27 | 1590 | 1480 | 1270 | 1220 | 1390 | 1620 | 1470 | 1150 | 927 | 919 | 1120 | 906 |
| 28 | 1580 | 1470 | 1270 | 1210 | 1350 | 1670 | 1350 | 1720 | 970 | 982 | 1040 | 948 |
| 29 | 1500 | 1500 | 1250 | 1210 | --- | 1630 | 1270 | 1970 | 964 | 991 | 980 | 973 |
| 30 | 1470 | 1500 | 1260 | 1210 | --- | 1620 | 1260 | 1760 | 957 | 1090 | 934 | 986 |
| 31 | 1430 | --- | 1240 | 1240 | --- | 1500 | --- | 1620 | --- | 973 | 875 | --- |
| TOTAL | 43430 | 42130 | 42820 | 38500 | 38230 | 54570 | 39280 | 39660 | 33493 | 31279 | 32018 | 26276 |
| MEAN | 1401 | 1404 | 1381 | 1242 | 1365 | 1760 | 1309 | 1279 | 1116 | 1009 | 1033 | 876 |
| MAX | 1620 | 1500 | 1510 | 1370 | 1660 | 1940 | 1680 | 1970 | 1410 | 1180 | 1270 | 1050 |
| MIN | 1200 | 1350 | 1240 | 1170 | 1220 | 1340 | 1050 | 1030 | 907 | 886 | 875 | 885 |
| AC-FT | 86140 | 83560 | 84930 | 76360 | 75830 | 108200 | 77910 | 78670 | 66430 | 62040 | 63510 | 52120 |

CAL YR 1989 TOTAL 546569 MEAN 1497 MAX 2580 MIN 984 AC-FT 1084000
WTR YR 1990 TOTAL 461686 MEAN 1265 MAX 1970 MIN 685 AC-FT 915800

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

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, 1989 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, October 1988 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. Water quality-monitor since June 1985.

REMARKS.--Mean daily specific conductance records January 1973 to October 1981, provided by U.S. Bureau of Reclamation. Maximum and minimum specific conductance values, June 1985 to September 1988, are available in files of the U.S. Geological Survey. Interruptions in record were due to malfunction of recording instrument. Daily record for specific conductance and water temperature were obtained from river water pumped into a circulation tank located in a shelter house on the left bank.

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, 35.5 °C, Aug. 9, 1990; minimum recorded, 2.0 °C, Dec. 26, 1987.

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.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,330 microsiemens, Jan. 24, 28; minimum recorded, 561 microsiemens, Oct. 18.

WATER TEMPERATURE: Maximum recorded, 35.5 °C, Aug. 9; minimum recorded, 3.0 °C, Dec. 30.

SEDIMENT CONCENTRATION: Maximum daily mean, 336 mg/L, May 28; minimum daily mean, 20 mg/L, Dec. 27, 28.

SEDIMENT LOAD: Maximum daily, 1,580 tons, May 28; minimum daily, 65 tons, Sept. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | TUR- BID- ITY (NTU) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, (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 TOTAL (MG/L AS CACO3) |
|-----------|------|--|---|--------------------------------|--------------------------------------|------------------------------|--|-------------------------------------|--|--|--|---|
| NOV, 1989 | | | | | | | | | | | | |
| 13... | 1030 | 1390 | 820 | 7.8 | 14.5 | 21 | 765 | 9.0 | 88 | K50 | 140 | 190 |
| JAN, 1990 | | | | | | | | | | | | |
| 08... | 1030 | 1170 | 1110 | 7.8 | 9.5 | 8.2 | 770 | 10.0 | 87 | 230 | 670 | 250 |
| APR | | | | | | | | | | | | |
| 03... | 1220 | 1480 | 778 | 8.2 | 17.5 | 16 | 770 | 9.3 | 96 | 220 | 140 | 170 |
| MAY | | | | | | | | | | | | |
| 18... | 1040 | 1110 | 773 | 8.0 | 18.0 | 11 | 770 | 9.7 | 102 | K66 | 150 | 180 |
| JUL | | | | | | | | | | | | |
| 13... | 1030 | 933 | 848 | 8.0 | 27.0 | 48 | 765 | 10.2 | 128 | 170 | 200 | 180 |
| SEP | | | | | | | | | | | | |
| 19... | 1215 | 756 | 851 | 8.0 | 22.0 | 15 | 760 | 9.8 | 113 | 220 | K3200 | 190 |

| DATE | CALCIUM DIS- SOLVED (MG/L AS CA) | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) | SODIUM, DIS- SOLVED (MG/L AS NA) | SODIUM PERCENT | SODIUM AD- SORP- TION RATIO | POTAS- SIUM, DIS- SOLVED (MG/L AS K) | BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) | CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) | ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) | SULFATE DIS- SOLVED (MG/L AS SO4) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) |
|-------|--|--|--|-------------------|---|---|---|--|---|---|---|
| NOV | | | | | | | | | | | |
| 13... | 40 | 21 | 99 | 53 | 3 | 3.2 | 146 | 0 | 120 | 120 | 120 |
| JAN | | | | | | | | | | | |
| 08... | 53 | 28 | 140 | 55 | 4 | 3.7 | 162 | 0 | 133 | 190 | 160 |
| APR | | | | | | | | | | | |
| 03... | 37 | 19 | 86 | 52 | 3 | 2.9 | 129 | 0 | 106 | 110 | 99 |
| MAY | | | | | | | | | | | |
| 18... | 39 | 20 | 85 | 50 | 3 | 2.8 | 136 | 0 | 112 | 110 | 110 |
| JUL | | | | | | | | | | | |
| 13... | 40 | 20 | 85 | 50 | 3 | 2.8 | 127 | 0 | 104 | 110 | 110 |
| SEP | | | | | | | | | | | |
| 19... | 41 | 21 | 91 | 51 | 3 | 3.0 | 147 | 0 | 120 | 89 | 120 |

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | FLUORIDE, 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 CONSTITUENTS, 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) |
|-----------|---|--|--|--|---|---|---|--|---|--|--|
| NOV 13... | 0.10 | 17 | 492 | 500 | 0.67 | 0.030 | 1.40 | 0.080 | 0.080 | 0.70 | 0.250 |
| JAN 08... | 0.10 | 17 | 715 | 685 | 0.97 | 0.040 | 2.60 | 0.280 | 0.280 | 0.90 | 0.290 |
| APR 03... | <0.10 | 15 | 464 | 441 | 0.63 | 0.030 | 1.70 | 0.020 | 0.040 | 0.50 | 0.210 |
| MAY 18... | <0.10 | 15 | 441 | 457 | 0.60 | 0.030 | 1.70 | 0.020 | 0.020 | 0.60 | 0.210 |
| JUL 13... | <0.10 | 14 | 446 | 453 | 0.61 | 0.040 | 2.00 | 0.090 | 0.020 | 1.0 | 0.210 |
| SEP 19... | <0.10 | 17 | 475 | 460 | 0.65 | 0.020 | 1.10 | 0.010 | 0.020 | 0.40 | 0.420 |

| 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) | CHROMIUM, 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 13... | 0.110 | 0.100 | <10 | 2 | 49 | <0.5 | <1.0 | <1 | <3 | 1 | 18 |
| JAN 08... | 0.150 | 0.150 | -- | -- | -- | -- | -- | -- | -- | 1 | -- |
| APR 03... | 0.100 | 0.100 | 10 | 2 | 46 | <0.5 | <1.0 | 2 | <3 | 2 | 7 |
| MAY 18... | 0.110 | 0.110 | 20 | 2 | 51 | <0.5 | <1.0 | 1 | <3 | <1 | 10 |
| JUL 13... | 0.120 | 0.100 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 19... | 0.060 | 0.100 | 10 | 2 | 63 | <0.5 | <1.0 | <1 | <3 | 1 | 16 |

| DATE | LEAD, DIS-SOLVED (UG/L AS PB) | LITHIUM DIS-SOLVED (UG/L AS LI) | MANGANESE, DIS-SOLVED (UG/L AS MN) | MERCURY DIS-SOLVED (UG/L AS HG) | MOLYBDENUM, DIS-SOLVED (UG/L AS MO) | NICKEL, DIS-SOLVED (UG/L AS NI) | SELENIUM, DIS-SOLVED (UG/L AS SE) | SILVER, DIS-SOLVED (UG/L AS AG) | STRONTIUM, DIS-SOLVED (UG/L AS SR) | VANADIUM, DIS-SOLVED (UG/L AS V) | ZINC, DIS-SOLVED (UG/L AS ZN) |
|-----------|--|--|---|--|--|--|--|--|---|---|--|
| NOV 13... | <1 | 15 | 34 | 0.1 | <10 | 1 | 2 | <1.0 | 480 | <6 | <3 |
| JAN 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR 03... | <1 | 11 | 29 | <0.1 | <10 | 1 | 2 | <1.0 | 430 | <6 | 5 |
| MAY 18... | 1 | 11 | 36 | <0.1 | <10 | <1 | <2 | <1.0 | 480 | <6 | 3 |
| JUL 13... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 19... | <1 | 8 | 51 | <0.1 | <10 | 2 | 1 | <1.0 | 520 | <6 | 4 |

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (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) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|-------|------|--|---|---|--------------------------------|--------------------------------------|--|-------------------------------------|--|--|---|
| APR | | | | | | | | | | | |
| 03... | 1210 | 3.30 | 208 | 748 | 8.1 | 17.5 | 770 | 9.3 | 96 | 53 | 93 |
| 03... | 1215 | 4.60 | 169 | 751 | 8.1 | 17.5 | 770 | 9.4 | 97 | 57 | 91 |
| 03... | 1225 | 5.50 | 138 | 769 | 8.1 | 17.5 | 770 | 9.3 | 96 | 56 | 91 |
| 03... | 1230 | 3.40 | 100 | 789 | 8.0 | 17.5 | 770 | 9.3 | 96 | 51 | 96 |
| 03... | 1240 | 4.40 | 43.0 | 820 | 8.0 | 17.5 | 770 | 9.4 | 97 | 56 | 92 |
| SEP | | | | | | | | | | | |
| 19... | 1140 | 3.60 | 225 | 773 | 8.0 | 22.0 | 760 | 10.0 | 115 | 44 | 88 |
| 19... | 1155 | 4.20 | 201 | 827 | 8.0 | 22.0 | 760 | 10.0 | 115 | 47 | 94 |
| 19... | 1210 | 4.00 | 179 | 880 | 8.0 | 22.0 | 760 | 9.8 | 113 | 50 | 88 |
| 19... | 1235 | 2.10 | 149 | 923 | 8.0 | 22.0 | 760 | 9.8 | 113 | 51 | 89 |
| 19... | 1250 | 1.00 | 70.0 | 963 | 8.0 | 22.0 | 760 | 9.8 | 113 | 55 | 92 |

* Instantaneous discharge at the time of cross-sectional measurement: Apr. 3, 1,480 ft³/s; Sept. 19, 756 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDED (MG/L) | SED. SUSP. SIEVE DIAM. % FINER THAN (T/DAY) .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 |
|-------|------|--|--------------------------------------|--|--|---|---|---|---|
| JAN | | | | | | | | | |
| 08... | 1030 | 1170 | 9.5 | 33 | 104 | 86 | -- | -- | -- |
| FEB | | | | | | | | | |
| 12... | 1205 | 1240 | 11.5 | 63 | 211 | 92 | 96 | 99 | 100 |
| MAR | | | | | | | | | |
| 12... | 1115 | 1900 | 12.0 | 54 | 277 | 80 | 91 | 100 | -- |
| APR | | | | | | | | | |
| 03... | 1220 | 1480 | 17.5 | 62 | 248 | 81 | 90 | 95 | 100 |
| MAY | | | | | | | | | |
| 18... | 1040 | 1110 | 18.0 | 51 | 153 | 90 | 96 | 100 | -- |
| JUN | | | | | | | | | |
| 15... | 1305 | 1160 | 22.0 | 55 | 172 | 82 | 88 | 93 | 99 |
| JUL | | | | | | | | | |
| 13... | 1030 | 933 | 27.0 | 126 | 317 | 96 | 97 | 99 | 100 |
| AUG | | | | | | | | | |
| 10... | 1455 | 1010 | 27.0 | 88 | 240 | 98 | -- | -- | -- |
| SEP | | | | | | | | | |
| 19... | 1215 | 756 | 22.0 | 50 | 102 | 90 | -- | -- | -- |

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | NUMBER OF SAM- PLING POINTS (COUNT) | BED MAT. SIEVE DIAM. % FINER THAN .125 MM | BED MAT. SIEVE DIAM. % FINER THAN .250 MM | BED MAT. SIEVE DIAM. % FINER THAN .500 MM | BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM | BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM |
|-------|------|--|--------------------------------------|--|---|---|---|---|---|
| MAR | | | | | | | | | |
| 12... | 1115 | 1900 | 12.0 | 5 | 0 | 5 | 60 | 95 | 100 |

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 792 | 757 | 872 | 841 | 849 | 788 | --- | --- | 1220 | 1170 | 1320 | 1260 |
| 2 | 847 | 790 | 882 | 862 | 796 | 747 | --- | --- | 1210 | 1160 | 1250 | 1090 |
| 3 | 840 | 813 | 882 | 853 | 853 | 774 | --- | --- | 1200 | 1150 | --- | --- |
| 4 | 851 | 820 | 863 | 803 | 862 | 841 | --- | --- | 1240 | 1150 | --- | --- |
| 5 | 941 | 861 | 815 | 784 | --- | --- | --- | --- | 1210 | 1170 | --- | --- |
| 6 | 932 | 862 | 875 | 815 | --- | --- | 1180 | 1140 | 1280 | 1200 | --- | --- |
| 7 | 953 | 893 | 892 | 843 | 843 | 822 | 1160 | 1140 | 1260 | 1220 | --- | --- |
| 8 | 954 | 884 | 880 | 859 | 831 | 811 | 1190 | 1150 | 1220 | 1140 | --- | --- |
| 9 | 944 | 894 | 877 | 848 | 838 | 819 | 1210 | 1190 | 1250 | 1180 | --- | --- |
| 10 | 915 | 873 | 875 | 833 | 885 | 837 | 1280 | 1190 | 1260 | 1190 | --- | --- |
| 11 | 876 | 826 | 842 | 813 | 893 | 863 | 1280 | 1260 | 1260 | 1230 | --- | --- |
| 12 | 887 | 817 | 869 | 828 | 934 | 873 | 1260 | 1220 | 1310 | 1240 | --- | --- |
| 13 | 867 | 827 | 846 | 817 | 935 | 914 | 1250 | 1180 | 1290 | 1230 | --- | --- |
| 14 | 838 | 728 | 864 | 815 | 946 | 915 | 1220 | 1180 | 1290 | 1220 | --- | --- |
| 15 | 729 | 699 | 843 | 820 | 946 | 936 | 1190 | 1120 | 1310 | 1290 | --- | --- |
| 16 | 770 | 719 | 829 | 809 | 937 | 897 | 1190 | 1090 | 1310 | 1230 | --- | --- |
| 17 | 740 | 567 | 836 | 815 | 887 | 848 | 1230 | 1190 | 1260 | 1130 | --- | --- |
| 18 | 691 | 561 | 834 | 804 | --- | --- | --- | --- | 1200 | 1120 | --- | --- |
| 19 | 742 | 661 | 861 | 802 | --- | --- | 1280 | 1210 | 1190 | 1150 | --- | --- |
| 20 | 762 | 722 | 857 | 809 | --- | --- | 1260 | 1200 | 1210 | 1160 | --- | --- |
| 21 | 763 | 713 | 865 | 836 | --- | --- | 1200 | 1170 | 1160 | 1040 | --- | --- |
| 22 | 760 | 704 | 834 | 803 | 1030 | 982 | 1270 | 1200 | 1110 | 1040 | --- | --- |
| 23 | 795 | 754 | 870 | 811 | 1020 | 992 | 1300 | 1260 | 1170 | 1100 | --- | --- |
| 24 | 775 | 666 | 849 | 827 | 1030 | 983 | 1330 | 1260 | 1230 | 1160 | --- | --- |
| 25 | 696 | 676 | 836 | 814 | 1050 | 1020 | 1310 | 1250 | 1290 | 1220 | --- | --- |
| 26 | 694 | 657 | 832 | 791 | --- | --- | 1300 | 1250 | 1300 | 1270 | --- | --- |
| 27 | 728 | 678 | 830 | 771 | --- | --- | 1290 | 1250 | 1290 | 1250 | --- | --- |
| 28 | 729 | 678 | 837 | 797 | --- | --- | 1330 | 1270 | 1290 | 1270 | --- | --- |
| 29 | 809 | 729 | 806 | 763 | 1100 | 987 | 1310 | 1260 | --- | --- | 679 | 627 |
| 30 | 830 | 790 | 811 | 762 | 1080 | 1050 | 1300 | 1250 | --- | --- | 708 | 661 |
| 31 | 851 | 820 | --- | --- | --- | --- | 1260 | 1220 | --- | --- | 754 | 651 |
| MONTH | 954 | 561 | 892 | 762 | --- | --- | --- | --- | 1310 | 1040 | --- | --- |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 736 | 660 | 989 | 730 | 1170 | 897 | 792 | 734 | 855 | 757 | 903 | 849 |
| 2 | 762 | 671 | 772 | 711 | 1180 | 1140 | 871 | 752 | 887 | 809 | 894 | 839 |
| 3 | 785 | 728 | 754 | 729 | 1170 | 1120 | 856 | 789 | 890 | 827 | 909 | 854 |
| 4 | 774 | 724 | 756 | 704 | 1140 | 1090 | 891 | 839 | 844 | 799 | 893 | 865 |
| 5 | 775 | 713 | 720 | 564 | 1200 | 1090 | 892 | 828 | 787 | 756 | 906 | 828 |
| 6 | 780 | 704 | 642 | 562 | 1220 | 1160 | 928 | 811 | 881 | 751 | 895 | 838 |
| 7 | 794 | 735 | 695 | 570 | 1250 | 1180 | 944 | 823 | 843 | 789 | 877 | 833 |
| 8 | 809 | 754 | 823 | 643 | 1310 | 867 | 879 | 809 | 824 | 762 | 842 | 781 |
| 9 | 832 | 764 | 863 | 729 | 886 | 810 | 917 | 814 | 879 | 776 | 834 | 778 |
| 10 | 942 | 821 | 854 | 782 | 858 | 798 | 953 | 880 | 845 | 780 | 896 | 841 |
| 11 | 962 | 860 | 906 | 745 | 846 | 779 | 951 | 879 | 855 | 751 | 892 | 801 |
| 12 | 933 | 880 | 897 | 817 | 829 | 747 | 968 | 898 | 858 | 755 | 820 | 782 |
| 13 | 926 | 854 | 877 | 737 | 809 | 730 | 905 | 850 | 883 | 766 | 876 | 823 |
| 14 | 883 | 815 | 862 | 705 | 776 | 703 | 862 | 753 | 807 | 751 | 891 | 842 |
| 15 | 869 | 808 | 889 | 726 | 811 | 721 | 754 | 684 | 757 | 725 | 884 | 818 |
| 16 | 895 | 860 | 862 | 782 | 812 | 703 | 715 | 650 | 797 | 701 | 890 | 790 |
| 17 | 928 | 837 | 785 | 734 | 777 | 690 | 759 | 678 | 742 | 664 | --- | --- |
| 18 | 887 | 842 | 804 | 750 | 814 | 751 | 824 | 733 | 767 | 713 | --- | --- |
| 19 | 845 | 808 | 781 | 751 | 864 | 747 | 818 | 701 | 759 | 666 | --- | --- |
| 20 | 803 | 731 | 841 | 743 | 902 | 835 | 814 | 768 | 740 | 660 | --- | --- |
| 21 | 864 | 737 | 817 | 791 | 983 | 869 | 810 | 738 | 735 | 691 | --- | --- |
| 22 | 908 | 814 | 905 | 799 | 995 | 899 | 907 | 791 | 769 | 691 | --- | --- |
| 23 | 846 | 804 | 878 | 823 | 991 | 904 | 932 | 869 | 884 | 722 | --- | --- |
| 24 | 850 | 785 | 823 | 779 | 968 | 885 | 943 | 776 | 849 | 759 | --- | --- |
| 25 | 839 | 766 | 818 | 776 | 928 | 859 | 858 | 785 | 820 | 769 | --- | --- |
| 26 | 883 | 782 | 871 | 788 | 990 | 880 | 883 | 769 | 803 | 759 | --- | --- |
| 27 | 816 | 771 | 922 | 862 | 999 | 965 | 868 | 805 | 824 | 735 | --- | --- |
| 28 | 846 | 775 | 869 | 718 | 989 | 856 | 862 | 777 | 773 | 749 | --- | --- |
| 29 | 892 | 799 | 715 | 654 | 847 | 771 | 873 | 774 | 855 | 723 | 986 | 882 |
| 30 | 1020 | 908 | 807 | 638 | 842 | 741 | 837 | 771 | 854 | 802 | 954 | 881 |
| 31 | --- | --- | 885 | 801 | --- | --- | 864 | 774 | 882 | 821 | --- | --- |
| MONTH | 1020 | 660 | 989 | 562 | 1310 | 690 | 968 | 650 | 890 | 660 | --- | --- |

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 25.5 | 18.5 | 19.0 | 10.5 | --- | --- | 9.0 | 3.5 | 15.5 | 10.0 | 16.5 | 13.5 |
| 2 | 23.5 | 17.5 | 19.5 | 12.0 | 12.5 | 7.0 | --- | --- | 16.5 | 10.0 | 15.0 | 12.5 |
| 3 | 24.5 | 17.5 | 19.5 | 11.5 | 13.0 | 5.5 | --- | --- | 14.5 | 10.0 | --- | --- |
| 4 | 25.0 | 15.0 | 19.5 | 11.5 | 12.5 | 4.0 | --- | --- | 15.5 | 11.0 | --- | --- |
| 5 | 25.5 | 17.0 | --- | --- | 12.5 | 4.5 | --- | --- | 16.5 | 11.0 | --- | --- |
| 6 | 26.0 | 18.0 | 19.5 | 12.5 | --- | --- | --- | --- | 15.5 | 13.0 | --- | --- |
| 7 | 26.5 | 17.5 | 19.0 | 12.0 | --- | --- | --- | --- | 17.5 | 13.0 | --- | --- |
| 8 | 27.0 | 19.0 | 19.0 | 11.0 | --- | --- | --- | --- | 18.0 | 12.5 | --- | --- |
| 9 | 27.0 | 18.5 | 19.0 | 10.5 | --- | --- | --- | --- | 19.0 | 15.0 | --- | --- |
| 10 | 27.5 | 16.5 | 19.0 | 11.5 | --- | --- | 13.0 | 9.5 | 20.0 | 14.5 | --- | --- |
| 11 | 26.0 | 17.0 | 19.0 | 11.5 | --- | --- | --- | --- | 17.5 | 15.0 | --- | --- |
| 12 | 26.5 | 17.0 | 19.0 | 11.5 | 12.0 | 7.0 | 14.5 | 9.5 | 20.0 | 11.5 | --- | --- |
| 13 | 25.0 | 16.5 | 19.0 | 12.0 | 11.5 | 5.5 | --- | --- | 15.5 | 8.5 | --- | --- |
| 14 | 24.5 | 15.5 | 19.0 | 12.5 | 11.5 | 5.0 | --- | --- | 12.5 | 6.5 | --- | --- |
| 15 | 23.5 | 16.0 | --- | --- | 11.0 | 5.0 | 16.0 | 11.5 | 13.0 | 6.5 | --- | --- |
| 16 | 23.5 | 16.0 | 19.0 | 10.0 | 11.5 | 4.5 | 15.5 | 8.0 | 8.5 | 6.5 | --- | --- |
| 17 | 25.0 | 15.5 | 17.5 | 10.0 | 10.5 | 4.0 | 15.5 | 9.5 | 10.0 | 6.0 | --- | --- |
| 18 | 25.0 | 17.0 | 17.5 | 10.5 | 10.5 | 5.0 | --- | --- | 12.0 | 7.0 | --- | --- |
| 19 | 26.0 | 17.5 | 18.5 | 10.5 | 7.0 | 4.5 | 14.0 | 8.5 | 14.0 | 7.0 | --- | --- |
| 20 | 22.5 | 17.5 | 19.0 | 10.0 | 7.0 | 5.5 | 15.5 | 9.0 | 10.5 | 6.0 | --- | --- |
| 21 | 19.5 | 17.0 | 16.5 | 9.5 | 6.5 | 5.5 | 14.5 | 7.5 | 15.5 | 9.0 | --- | --- |
| 22 | --- | --- | 15.5 | 9.5 | 7.0 | 5.5 | 13.5 | 8.0 | 16.0 | 8.5 | --- | --- |
| 23 | 18.5 | 16.0 | --- | --- | 6.5 | 5.0 | 14.5 | 6.5 | 17.0 | 10.0 | --- | --- |
| 24 | 20.0 | 15.5 | 13.5 | 10.0 | 7.0 | 5.0 | 14.0 | 8.5 | 18.0 | 11.0 | --- | --- |
| 25 | 20.5 | 13.5 | 12.5 | 10.5 | 6.5 | 4.5 | 12.0 | 8.5 | 19.0 | 12.5 | --- | --- |
| 26 | 20.0 | 12.5 | --- | --- | 7.0 | 4.5 | 15.5 | 9.0 | 20.0 | 13.0 | --- | --- |
| 27 | 21.0 | 13.5 | 14.5 | 8.0 | 7.0 | 4.5 | 15.5 | 9.0 | 20.0 | 12.5 | --- | --- |
| 28 | 19.5 | 13.0 | --- | --- | --- | --- | 15.5 | 7.0 | 19.5 | 13.0 | --- | --- |
| 29 | 19.0 | 12.0 | 14.5 | 7.5 | --- | --- | 16.0 | 8.5 | --- | --- | 21.5 | 13.5 |
| 30 | --- | --- | 14.0 | 7.5 | 5.0 | 3.0 | 14.5 | 10.0 | --- | --- | 22.0 | 13.5 |
| 31 | 19.5 | 12.0 | --- | --- | 6.5 | 4.0 | 16.0 | 9.0 | --- | --- | 22.0 | 13.0 |
| MONTH | --- | --- | --- | --- | --- | --- | --- | --- | 20.0 | 6.0 | --- | --- |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 22.0 | 14.0 | 24.0 | 17.5 | 24.0 | 17.0 | 28.5 | 22.5 | 31.5 | 22.5 | 31.0 | 20.0 |
| 2 | 22.5 | 14.5 | 26.0 | 19.0 | 27.0 | 17.5 | 27.5 | 21.5 | 31.0 | 23.5 | 30.5 | 19.5 |
| 3 | 24.0 | 15.5 | 27.0 | 20.5 | 28.0 | 19.0 | 28.5 | 21.0 | 30.5 | 23.5 | 30.5 | 19.5 |
| 4 | 24.0 | 16.5 | 28.5 | 21.0 | 28.0 | 19.5 | 27.5 | 20.0 | 31.0 | 23.5 | 30.0 | 19.0 |
| 5 | 23.0 | 16.0 | 29.5 | 20.5 | 29.0 | 18.5 | 28.0 | 21.5 | 32.5 | 23.5 | 30.5 | 20.0 |
| 6 | 22.5 | 15.0 | 28.5 | 20.5 | 27.0 | 21.0 | 28.5 | 22.0 | 34.5 | 25.0 | 31.5 | 20.0 |
| 7 | 20.5 | 15.0 | 25.5 | 19.0 | 29.5 | 19.5 | 29.5 | 21.0 | 35.0 | 26.5 | 32.5 | 20.5 |
| 8 | 19.0 | 15.0 | 25.0 | 19.0 | 30.0 | 22.0 | 29.5 | 22.0 | 34.0 | 26.0 | 31.0 | 20.0 |
| 9 | 22.5 | 14.5 | 25.0 | 17.5 | 29.5 | 23.0 | 30.0 | 22.5 | 35.5 | 27.0 | 32.5 | 20.0 |
| 10 | 24.0 | 16.0 | 23.0 | 17.0 | 27.0 | 20.5 | 32.0 | 23.5 | 34.5 | 25.5 | 32.5 | 21.5 |
| 11 | 25.0 | 16.0 | 23.5 | 17.0 | 26.5 | 18.5 | 33.5 | 24.5 | 34.0 | 25.0 | 31.0 | 20.0 |
| 12 | 25.5 | 17.5 | 24.5 | 16.0 | 26.0 | 19.0 | 34.5 | 27.0 | 33.0 | 25.0 | 24.5 | 21.0 |
| 13 | 26.5 | 18.0 | 24.5 | 16.5 | 24.5 | 18.5 | 34.5 | 27.0 | 32.0 | 23.5 | 24.0 | 20.0 |
| 14 | 26.5 | 19.0 | 24.0 | 17.5 | 25.0 | 18.5 | 33.0 | 25.5 | 30.5 | 22.5 | 23.5 | 20.0 |
| 15 | 24.5 | 18.0 | 24.5 | 16.5 | 25.5 | 20.0 | 31.5 | 24.5 | 29.5 | 20.5 | 23.5 | 20.0 |
| 16 | 19.5 | 17.5 | 25.5 | 17.5 | 26.0 | 18.5 | 28.5 | 23.5 | 29.5 | 21.0 | 23.5 | 20.0 |
| 17 | 22.0 | 17.5 | 24.0 | 17.0 | 27.0 | 19.5 | 30.5 | 22.5 | 29.5 | 21.5 | 25.5 | 18.0 |
| 18 | 23.5 | 16.0 | 22.5 | 16.0 | 26.0 | 19.0 | 30.5 | 24.0 | 27.5 | 22.5 | 24.0 | 16.5 |
| 19 | 23.5 | 17.0 | 22.5 | 15.5 | 29.5 | 22.0 | 32.0 | 23.0 | 28.5 | 20.0 | 24.0 | 15.5 |
| 20 | 23.5 | 16.5 | 22.0 | 18.0 | 32.5 | 23.5 | 33.0 | 23.5 | 29.0 | 21.0 | 27.0 | 17.5 |
| 21 | 24.0 | 16.5 | 24.0 | 18.0 | 32.5 | 24.0 | 33.5 | 24.0 | 29.5 | 21.0 | 26.5 | 18.0 |
| 22 | 22.5 | 15.5 | 25.0 | 18.0 | 28.5 | 22.0 | 32.0 | 24.0 | 31.5 | 21.0 | 24.0 | 18.0 |
| 23 | 22.0 | 16.0 | 21.5 | 17.0 | 29.0 | 21.0 | 30.0 | 22.5 | 32.0 | 22.5 | 22.5 | 17.5 |
| 24 | 22.5 | 16.5 | 22.5 | 15.5 | 28.5 | 22.0 | 29.0 | 21.5 | 29.0 | 21.0 | 21.5 | 17.0 |
| 25 | 25.0 | 18.0 | 24.0 | 15.5 | 29.0 | 20.5 | 29.0 | 21.0 | 27.5 | 19.0 | 23.0 | 16.0 |
| 26 | 26.0 | 19.0 | 24.5 | 18.0 | 29.5 | 20.5 | 29.5 | 21.0 | 27.5 | 20.0 | 23.5 | 13.5 |
| 27 | 26.5 | 19.5 | 20.0 | 15.5 | 28.5 | 20.5 | 31.0 | 22.5 | 29.0 | 20.5 | 24.0 | 17.5 |
| 28 | 27.0 | 20.0 | 22.0 | 15.5 | 29.0 | 20.0 | 31.0 | 23.0 | 30.5 | 21.5 | 24.0 | 13.0 |
| 29 | 23.5 | 18.0 | 23.0 | 17.0 | 29.0 | 21.5 | 30.5 | 23.0 | 31.5 | 22.0 | 24.5 | 21.0 |
| 30 | 23.5 | 16.5 | 22.5 | 18.0 | 30.0 | 22.0 | 31.0 | 23.0 | 30.5 | 21.5 | 25.0 | 22.0 |
| 31 | --- | --- | 22.5 | 17.5 | --- | --- | 31.0 | 23.5 | 30.5 | 19.0 | --- | --- |
| MONTH | 27.0 | 14.0 | 29.5 | 15.5 | 32.5 | 17.0 | 34.5 | 20.0 | 35.5 | 19.0 | 32.5 | 13.0 |

SAN JOAQUIN RIVER BASIN

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11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 1600 | 91 | 393 | 1390 | 73 | 274 | 1500 | 45 | 182 |
| 2 | 1500 | 94 | 381 | 1370 | 72 | 266 | 1490 | 40 | 161 |
| 3 | 1440 | 91 | 354 | 1430 | 80 | 309 | 1450 | 37 | 145 |
| 4 | 1390 | 79 | 296 | 1470 | 78 | 310 | 1440 | 47 | 183 |
| 5 | 1310 | 76 | 269 | 1460 | 76 | 300 | 1480 | 56 | 224 |
| 6 | 1250 | 71 | 240 | 1420 | 67 | 257 | 1500 | 66 | 267 |
| 7 | 1230 | 66 | 219 | 1400 | 59 | 223 | 1510 | 72 | 294 |
| 8 | 1250 | 64 | 216 | 1390 | 61 | 229 | 1500 | 66 | 267 |
| 9 | 1210 | 56 | 183 | 1380 | 60 | 224 | 1480 | 56 | 224 |
| 10 | 1200 | 51 | 165 | 1380 | 59 | 220 | 1450 | 52 | 204 |
| 11 | 1220 | 58 | 191 | 1370 | 57 | 211 | 1420 | 48 | 184 |
| 12 | 1240 | 45 | 151 | 1370 | 56 | 207 | 1400 | 40 | 151 |
| 13 | 1290 | 48 | 167 | 1380 | 63 | 235 | 1390 | 38 | 143 |
| 14 | 1330 | 58 | 208 | 1380 | 65 | 242 | 1380 | 32 | 119 |
| 15 | 1330 | 52 | 187 | 1400 | 61 | 231 | 1390 | 33 | 124 |
| 16 | 1330 | 54 | 194 | 1390 | 54 | 203 | 1430 | 32 | 124 |
| 17 | 1590 | 83 | 356 | 1390 | 53 | 199 | 1420 | 36 | 138 |
| 18 | 1600 | 86 | 372 | 1390 | 56 | 210 | 1350 | 32 | 117 |
| 19 | 1450 | 67 | 262 | 1380 | 48 | 179 | 1290 | 30 | 104 |
| 20 | 1370 | 73 | 270 | 1360 | 43 | 158 | 1300 | 28 | 98 |
| 21 | 1350 | 69 | 252 | 1370 | 48 | 178 | 1320 | 28 | 100 |
| 22 | 1310 | 61 | 216 | 1380 | 53 | 197 | 1360 | 32 | 118 |
| 23 | 1340 | 70 | 253 | 1360 | 45 | 165 | 1350 | 32 | 117 |
| 24 | 1490 | 86 | 346 | 1350 | 48 | 175 | 1330 | 32 | 115 |
| 25 | 1620 | 98 | 429 | 1370 | 56 | 207 | 1310 | 28 | 99 |
| 26 | 1620 | 91 | 398 | 1450 | 63 | 247 | 1290 | 25 | 87 |
| 27 | 1590 | 99 | 425 | 1480 | 62 | 248 | 1270 | 20 | 69 |
| 28 | 1580 | 99 | 422 | 1470 | 56 | 222 | 1270 | 20 | 69 |
| 29 | 1500 | 85 | 344 | 1500 | 52 | 211 | 1250 | 23 | 78 |
| 30 | 1470 | 81 | 321 | 1500 | 49 | 198 | 1260 | 24 | 82 |
| 31 | 1430 | 78 | 301 | --- | --- | --- | 1240 | 27 | 90 |
| TOTAL | 43430 | --- | 8781 | 42130 | --- | 6735 | 42820 | --- | 4477 |
| JANUARY | | | FEBRUARY | | | MARCH | | | |
| 1 | 1220 | 26 | 86 | 1220 | 53 | 175 | 1340 | 91 | 329 |
| 2 | 1210 | 33 | 108 | 1250 | 54 | 182 | 1400 | 87 | 329 |
| 3 | 1190 | 31 | 100 | 1260 | 52 | 177 | 1590 | 93 | 399 |
| 4 | 1170 | 25 | 79 | 1260 | 61 | 208 | 1790 | 100 | 483 |
| 5 | 1190 | 23 | 74 | 1310 | 52 | 184 | 1870 | 90 | 454 |
| 6 | 1200 | 23 | 75 | 1290 | 53 | 185 | 1920 | 87 | 451 |
| 7 | 1200 | 26 | 84 | 1310 | 51 | 180 | 1940 | 93 | 487 |
| 8 | 1180 | 39 | 124 | 1300 | 50 | 175 | 1930 | 86 | 448 |
| 9 | 1170 | 46 | 145 | 1300 | 52 | 183 | 1930 | 73 | 380 |
| 10 | 1170 | 50 | 158 | 1280 | 64 | 221 | 1920 | 68 | 353 |
| 11 | 1180 | 48 | 153 | 1270 | 66 | 226 | 1930 | 61 | 318 |
| 12 | 1180 | 47 | 150 | 1260 | 70 | 238 | 1910 | 58 | 299 |
| 13 | 1250 | 61 | 206 | 1250 | 64 | 216 | 1850 | 56 | 280 |
| 14 | 1310 | 78 | 276 | 1220 | 55 | 181 | 1940 | 70 | 367 |
| 15 | 1350 | 92 | 335 | 1220 | 39 | 128 | 1940 | 72 | 377 |
| 16 | 1370 | 120 | 444 | 1250 | 41 | 138 | 1920 | 62 | 321 |
| 17 | 1350 | 94 | 343 | 1420 | 97 | 372 | 1910 | 57 | 294 |
| 18 | 1340 | 70 | 253 | 1520 | 145 | 595 | 1910 | 61 | 315 |
| 19 | 1310 | 53 | 187 | 1580 | 106 | 452 | 1900 | 66 | 339 |
| 20 | 1300 | 43 | 151 | 1630 | 105 | 462 | 1810 | 64 | 313 |
| 21 | 1280 | 42 | 145 | 1660 | 119 | 533 | 1720 | 58 | 269 |
| 22 | 1270 | 41 | 141 | 1630 | 122 | 537 | 1660 | 51 | 229 |
| 23 | 1270 | 39 | 134 | 1540 | 118 | 491 | 1670 | 46 | 207 |
| 24 | 1260 | 41 | 139 | 1460 | 101 | 398 | 1650 | 49 | 218 |
| 25 | 1260 | 47 | 160 | 1410 | 95 | 362 | 1590 | 54 | 232 |
| 26 | 1230 | 43 | 143 | 1390 | 96 | 360 | 1590 | 51 | 219 |
| 27 | 1220 | 44 | 145 | 1390 | 103 | 387 | 1620 | 54 | 236 |
| 28 | 1210 | 42 | 137 | 1350 | 97 | 354 | 1670 | 49 | 221 |
| 29 | 1210 | 41 | 134 | --- | --- | --- | 1630 | 48 | 211 |
| 30 | 1210 | 45 | 147 | --- | --- | --- | 1620 | 51 | 223 |
| 31 | 1240 | 51 | 171 | --- | --- | --- | 1500 | 54 | 219 |
| TOTAL | 38500 | --- | 5127 | 38230 | --- | 8300 | 54570 | --- | 9820 |

SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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 | 1440 | 55 | 214 | 1350 | 100 | 364 | 1410 | 170 | 647 |
| 2 | 1470 | 54 | 214 | 1440 | 111 | 432 | 1300 | 160 | 562 |
| 3 | 1460 | 60 | 237 | 1410 | 97 | 369 | 1270 | 144 | 494 |
| 4 | 1370 | 55 | 203 | 1390 | 91 | 342 | 1300 | 140 | 491 |
| 5 | 1280 | 59 | 204 | 1480 | 100 | 400 | 1270 | 130 | 446 |
| 6 | 1270 | 60 | 206 | 1440 | 84 | 327 | 1250 | 117 | 395 |
| 7 | 1250 | 67 | 226 | 1360 | 82 | 301 | 1290 | 102 | 355 |
| 8 | 1240 | 69 | 231 | 1290 | 74 | 258 | 1260 | 90 | 306 |
| 9 | 1320 | 68 | 242 | 1200 | 77 | 249 | 1220 | 86 | 283 |
| 10 | 1290 | 79 | 275 | 1140 | 69 | 212 | 1190 | 84 | 270 |
| 11 | 1190 | 77 | 247 | 1100 | 70 | 208 | 1230 | 83 | 276 |
| 12 | 1140 | 82 | 252 | 1080 | 55 | 160 | 1160 | 80 | 251 |
| 13 | 1080 | 81 | 236 | 1150 | 60 | 186 | 1090 | 74 | 218 |
| 14 | 1050 | 78 | 221 | 1260 | 70 | 238 | 1090 | 70 | 206 |
| 15 | 1060 | 79 | 226 | 1240 | 68 | 228 | 1130 | 62 | 189 |
| 16 | 1210 | 88 | 287 | 1180 | 76 | 242 | 1130 | 66 | 201 |
| 17 | 1190 | 91 | 292 | 1210 | 77 | 252 | 1170 | 73 | 231 |
| 18 | 1170 | 90 | 284 | 1120 | 64 | 194 | 1200 | 74 | 240 |
| 19 | 1140 | 96 | 295 | 1060 | 64 | 183 | 1080 | 109 | 318 |
| 20 | 1210 | 89 | 291 | 1080 | 61 | 178 | 1020 | 109 | 300 |
| 21 | 1250 | 82 | 277 | 1130 | 57 | 174 | 962 | 116 | 301 |
| 22 | 1380 | 95 | 354 | 1080 | 66 | 192 | 925 | 116 | 290 |
| 23 | 1600 | 98 | 423 | 1050 | 67 | 190 | 907 | 137 | 335 |
| 24 | 1680 | 98 | 445 | 1110 | 65 | 195 | 931 | 143 | 359 |
| 25 | 1590 | 94 | 404 | 1060 | 66 | 189 | 975 | 142 | 374 |
| 26 | 1600 | 102 | 441 | 1030 | 79 | 220 | 915 | 142 | 351 |
| 27 | 1470 | 92 | 365 | 1150 | 157 | 497 | 927 | 124 | 310 |
| 28 | 1350 | 102 | 372 | 1720 | 336 | 1580 | 970 | 121 | 317 |
| 29 | 1270 | 100 | 343 | 1970 | 276 | 1470 | 964 | 105 | 273 |
| 30 | 1260 | 94 | 320 | 1760 | 207 | 984 | 957 | 121 | 313 |
| 31 | --- | --- | --- | 1620 | 170 | 744 | --- | --- | --- |
| TOTAL | 39280 | --- | 8627 | 39660 | --- | 11758 | 33493 | --- | 9902 |
| JULY | | | AUGUST | | | SEPTEMBER | | | |
| 1 | 1040 | 138 | 388 | 924 | 131 | 327 | 930 | 88 | 221 |
| 2 | 1090 | 140 | 412 | 877 | 118 | 279 | 1030 | 93 | 259 |
| 3 | 1100 | 138 | 410 | 932 | 121 | 304 | 1030 | 92 | 256 |
| 4 | 1160 | 141 | 442 | 952 | 111 | 285 | 1050 | 87 | 247 |
| 5 | 1180 | 133 | 424 | 1020 | 95 | 262 | 971 | 84 | 220 |
| 6 | 1070 | 137 | 396 | 1070 | 115 | 332 | 899 | 75 | 182 |
| 7 | 1040 | 134 | 376 | 1080 | 116 | 338 | 814 | 68 | 149 |
| 8 | 1110 | 140 | 420 | 1070 | 107 | 309 | 821 | 72 | 160 |
| 9 | 1110 | 139 | 417 | 1040 | 113 | 317 | 860 | 62 | 144 |
| 10 | 1060 | 142 | 406 | 999 | 104 | 281 | 889 | 67 | 161 |
| 11 | 1000 | 152 | 410 | 1010 | 106 | 289 | 873 | 67 | 158 |
| 12 | 965 | 151 | 393 | 983 | 107 | 284 | 833 | 53 | 119 |
| 13 | 908 | 127 | 311 | 951 | 111 | 285 | 778 | 44 | 92 |
| 14 | 906 | 133 | 325 | 964 | 121 | 315 | 750 | 47 | 95 |
| 15 | 939 | 118 | 299 | 1010 | 101 | 275 | 789 | 61 | 130 |
| 16 | 1020 | 100 | 275 | 1050 | 106 | 301 | 892 | 67 | 161 |
| 17 | 1010 | 104 | 284 | 1090 | 102 | 300 | 931 | 54 | 136 |
| 18 | 965 | 109 | 284 | 1070 | 105 | 303 | 853 | 47 | 108 |
| 19 | 985 | 120 | 319 | 1160 | 98 | 307 | 749 | 45 | 91 |
| 20 | 918 | 121 | 300 | 1270 | 95 | 326 | 685 | 35 | 65 |
| 21 | 922 | 128 | 319 | 1220 | 89 | 293 | 706 | 38 | 72 |
| 22 | 886 | 122 | 292 | 1150 | 97 | 301 | 747 | 48 | 97 |
| 23 | 995 | 130 | 349 | 1110 | 94 | 282 | 824 | 54 | 120 |
| 24 | 1000 | 123 | 332 | 997 | 95 | 256 | 937 | 50 | 126 |
| 25 | 1010 | 137 | 374 | 1010 | 89 | 243 | 922 | 45 | 112 |
| 26 | 935 | 144 | 364 | 1060 | 92 | 263 | 900 | 50 | 121 |
| 27 | 919 | 140 | 347 | 1120 | 90 | 272 | 906 | 52 | 127 |
| 28 | 982 | 120 | 318 | 1040 | 82 | 230 | 948 | 55 | 141 |
| 29 | 991 | 123 | 329 | 980 | 77 | 204 | 973 | 66 | 173 |
| 30 | 1090 | 134 | 394 | 934 | 77 | 194 | 986 | 66 | 176 |
| 31 | 973 | 128 | 336 | 875 | 85 | 201 | --- | --- | --- |
| TOTAL | 31279 | --- | 11045 | 32018 | --- | 8758 | 26276 | --- | 4419 |
| YEAR | 461686 | | 97749 | | | | | | |

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 mi².

PERIOD OF RECORD.--December 1963 to September 1990 (discontinued). 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 ft³/s at Bellota. Records, including extremes, represent contents at 2400 hours.

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, 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, 44,369 acre-ft, Apr. 29, 30, elevation, 614.62 ft; minimum, 17,397 acre-ft, Dec. 31, elevation, 589.44 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey provided by U.S. Army Corps of Engineers in 1978)

| | | | |
|-----|--------|-----|---------|
| 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 (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 2400 HOURS

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 21689 | 21671 | 19615 | 17436 | 21440 | 31755 | 42471 | 43928 | 40899 | 36004 | 30111 | 23461 |
| 2 | 21671 | 21680 | 19573 | 17467 | 21662 | 32015 | 42565 | 43339 | 40965 | 35968 | 29991 | 23330 |
| 3 | 21653 | 21387 | 19498 | 17491 | 21876 | 32551 | 42646 | 42795 | 41004 | 35931 | 29861 | 23200 |
| 4 | 21626 | 21184 | 19423 | 17522 | 22364 | 33336 | 42728 | 42377 | 41044 | 35882 | 29741 | 23070 |
| 5 | 21608 | 21088 | 19348 | 17553 | 22793 | 34429 | 42782 | 41961 | 41057 | 35846 | 29622 | 22950 |
| 6 | 21591 | 21009 | 19282 | 17576 | 23079 | 35097 | 42822 | 41587 | 41083 | 35822 | 29503 | 22830 |
| 7 | 21573 | 20922 | 19216 | 17608 | 23321 | 35579 | 42849 | 41229 | 41097 | 35785 | 29385 | 22720 |
| 8 | 21564 | 20835 | 19150 | 17639 | 23536 | 35943 | 42931 | 40872 | 41110 | 35737 | 29266 | 22601 |
| 9 | 21555 | 20748 | 19117 | 17670 | 23696 | 36236 | 42944 | 40557 | 41123 | 35700 | 29138 | 22482 |
| 10 | 21537 | 20644 | 19067 | 17702 | 23818 | 36543 | 42985 | 40269 | 41097 | 35700 | 29020 | 22354 |
| 11 | 21520 | 20540 | 19010 | 17733 | 23942 | 37124 | 43067 | 40191 | 41083 | 35664 | 28892 | 22237 |
| 12 | 21502 | 20429 | 18944 | 17812 | 24036 | 37836 | 43094 | 40191 | 41057 | 35628 | 28754 | 22137 |
| 13 | 21484 | 20309 | 18863 | 17954 | 24132 | 38429 | 43135 | 40191 | 41031 | 35603 | 28627 | 22011 |
| 14 | 21484 | 20181 | 18781 | 18457 | 24198 | 38926 | 43175 | 40191 | 40991 | 35470 | 28489 | 21885 |
| 15 | 21458 | 20079 | 18692 | 18944 | 24275 | 39362 | 43203 | 40152 | 40557 | 35001 | 27985 | 21787 |
| 16 | 21440 | 19935 | 18594 | 19381 | 25028 | 39749 | 43271 | 40165 | 39970 | 34417 | 27373 | 21653 |
| 17 | 21422 | 19808 | 18505 | 19833 | 26395 | 40074 | 43298 | 40139 | 39375 | 33698 | 26851 | 21537 |
| 18 | 21404 | 19690 | 18433 | 20079 | 27559 | 40348 | 43366 | 40113 | 38849 | 33174 | 26516 | 21431 |
| 19 | 21387 | 19565 | 18336 | 20249 | 28111 | 40596 | 43448 | 40139 | 38379 | 32735 | 26184 | 21334 |
| 20 | 21378 | 19448 | 18248 | 20386 | 28479 | 40820 | 43489 | 40113 | 37962 | 32311 | 25785 | 21193 |
| 21 | 21369 | 19340 | 18168 | 20489 | 28796 | 41017 | 43544 | 40087 | 37560 | 31902 | 25311 | 21079 |
| 22 | 21351 | 19257 | 18089 | 20592 | 29084 | 41229 | 43585 | 40087 | 37161 | 31474 | 24921 | 20983 |
| 23 | 21502 | 19183 | 18017 | 20670 | 29492 | 41401 | 43832 | 40165 | 36777 | 31138 | 24572 | 20861 |
| 24 | 21537 | 19141 | 17930 | 20739 | 29958 | 41561 | 44024 | 40178 | 36432 | 30949 | 24332 | 20748 |
| 25 | 21528 | 19224 | 17859 | 20800 | 30429 | 41694 | 44162 | 40204 | 36249 | 30893 | 24189 | 20635 |
| 26 | 21564 | 19531 | 17772 | 20861 | 30849 | 41854 | 44245 | 40204 | 36224 | 30838 | 24160 | 20532 |
| 27 | 21600 | 19648 | 17694 | 20930 | 31216 | 41961 | 44314 | 40322 | 36175 | 30749 | 24094 | 20420 |
| 28 | 21626 | 19699 | 17592 | 20974 | 31507 | 42081 | 44356 | 40531 | 36114 | 30627 | 23989 | 20317 |
| 29 | 21644 | 19707 | 17522 | 21044 | --- | 42175 | 44369 | 40649 | 36090 | 30506 | 23847 | 20206 |
| 30 | 21653 | 19673 | 17436 | 21132 | --- | 42283 | 44369 | 40767 | 36053 | 30363 | 23724 | 20164 |
| 31 | 21662 | --- | 17397 | 21255 | --- | 42390 | --- | 40820 | --- | 30242 | 23592 | --- |
| MAX | 21689 | 21680 | 19615 | 21255 | 31507 | 42390 | 44369 | 43928 | 41123 | 36004 | 30111 | 23461 |
| MIN | 21351 | 19141 | 17397 | 17436 | 21440 | 31755 | 42471 | 40087 | 36053 | 30242 | 23592 | 20164 |
| a | 594.56 | 592.26 | 589.44 | 594.10 | 604.35 | 613.17 | 614.62 | 611.99 | 608.23 | 603.21 | 596.67 | 592.84 |
| b | -44 | -1989 | -2276 | +3858 | +10252 | +10883 | +1979 | -3549 | -4767 | -5811 | -6650 | -3428 |
| c | 285 | 127 | 59 | 65 | 102 | 249 | 419 | 539 | 749 | 846 | 702 | 522 |
| CAL YR 1989 | b | +1391 | | | | | | | | | | |
| WTR YR 1990 | b | -1542 | | | | | | | | | | |

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, provided by U.S. Army Corps of Engineers; not reviewed by U.S. Geological Survey.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1961 to September 1990 (discontinued).

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). May 1, 1962, to Jan. 26, 1963 auxiliary nonrecording gage 300 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by New Hogan Lake (station 11308700). Some seepage from North Fork Stanislaus River enters basin from diversion canals and reservoirs. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation from New Hogan Lake).--29 years, 229 ft³/s, 165,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s, Jan. 22, 1980, gage height, 10.52 ft; no flow many days in 1961-65, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 334 ft³/s, Aug. 16, gage height, 1.95 ft; minimum daily, 1.1 ft³/s, June 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|--------|------|------|------|------|------|--------|--------|--------|--------|------|
| 1 | 2.8 | 2.7 | 47 | 2.8 | 2.0 | 2.3 | 3.5 | 217 | 2.5 | 2.8 | 45 | 55 |
| 2 | 3.1 | 3.0 | 46 | 3.2 | 1.8 | 2.4 | 3.5 | 325 | 1.3 | 3.1 | 45 | 55 |
| 3 | 3.1 | 122 | 51 | 2.4 | 1.9 | 2.8 | 3.4 | 303 | 1.7 | 3.1 | 46 | 55 |
| 4 | 3.3 | 121 | 54 | 2.4 | 3.0 | 3.5 | 3.2 | 233 | 1.7 | 5.1 | 47 | 57 |
| 5 | 3.3 | 50 | 53 | 2.3 | 2.0 | 3.7 | 2.1 | 202 | 2.2 | 5.2 | 47 | 53 |
| 6 | 3.3 | 49 | 49 | 2.2 | 1.9 | 2.8 | 2.3 | 192 | 2.2 | 5.4 | 48 | 51 |
| 7 | 3.4 | 43 | 46 | 2.2 | 1.8 | 2.4 | 3.1 | 202 | 2.1 | 5.4 | 46 | 52 |
| 8 | 3.3 | 43 | 44 | 2.2 | 2.2 | 2.8 | 2.8 | 185 | 2.6 | 5.4 | 43 | 54 |
| 9 | 2.9 | 47 | 38 | 2.1 | 2.7 | 2.8 | 2.7 | 162 | 2.5 | 5.4 | 43 | 56 |
| 10 | 2.5 | 52 | 34 | 2.2 | 2.7 | 3.0 | 2.7 | 152 | 2.4 | 5.5 | 44 | 56 |
| 11 | 2.6 | 53 | 38 | 2.2 | 2.7 | 3.4 | 2.7 | 55 | 2.4 | 5.5 | 47 | 56 |
| 12 | 2.4 | 53 | 43 | 2.3 | 2.9 | 3.6 | 2.7 | 2.3 | 2.5 | 5.5 | 49 | 56 |
| 13 | 2.8 | 60 | 48 | 2.6 | 3.0 | 3.1 | 2.6 | 2.8 | 2.5 | 5.5 | 49 | 56 |
| 14 | 2.8 | 67 | 53 | 3.1 | 3.0 | 2.8 | 2.6 | 2.9 | 2.2 | 5.4 | 51 | 56 |
| 15 | 3.0 | 62 | 55 | 2.6 | 2.8 | 3.1 | 2.7 | 2.5 | 206 | 212 | 205 | 56 |
| 16 | 3.1 | 59 | 54 | 2.7 | 6.2 | 3.4 | 2.6 | 2.3 | 309 | 315 | 292 | 56 |
| 17 | 3.0 | 58 | 54 | 2.6 | 5.4 | 3.5 | 2.5 | 2.4 | 311 | 311 | 266 | 56 |
| 18 | 2.7 | 60 | 54 | 2.2 | 3.6 | 3.4 | 2.7 | 2.4 | 303 | 277 | 156 | 56 |
| 19 | 2.7 | 60 | 54 | 2.2 | 3.0 | 3.5 | 2.9 | 2.4 | 259 | 223 | 143 | 56 |
| 20 | 2.8 | 60 | 54 | 2.2 | 2.7 | 3.3 | 3.0 | 2.4 | 219 | 202 | 180 | 56 |
| 21 | 2.6 | 56 | 50 | 2.2 | 2.7 | 3.2 | 2.9 | 2.6 | 202 | 201 | 205 | 56 |
| 22 | 2.4 | 46 | 48 | 2.1 | 2.6 | 3.0 | 3.0 | 2.4 | 190 | 198 | 182 | 56 |
| 23 | 3.7 | 40 | 48 | 2.2 | 2.5 | 3.2 | 3.3 | 2.8 | 185 | 162 | 151 | 56 |
| 24 | 2.8 | 40 | 48 | 2.1 | 2.6 | 3.3 | 3.1 | 2.7 | 166 | 75 | 114 | 56 |
| 25 | 2.9 | 41 | 48 | 2.2 | 2.4 | 2.9 | 3.0 | 2.7 | 91 | 25 | 57 | 56 |
| 26 | 3.5 | 41 | 48 | 2.2 | 1.9 | 2.3 | 3.0 | 2.3 | 1.1 | 15 | 7.1 | 56 |
| 27 | 3.2 | 37 | 48 | 2.1 | 2.3 | 2.6 | 3.0 | 2.8 | 4.2 | 34 | 23 | 56 |
| 28 | 3.3 | 31 | 48 | 2.0 | 2.3 | 2.6 | 3.0 | 3.1 | 6.4 | 48 | 48 | 56 |
| 29 | 3.0 | 32 | 48 | 1.4 | --- | 3.0 | 3.0 | 2.4 | 6.6 | 46 | 53 | 56 |
| 30 | 3.4 | 40 | 48 | 1.8 | --- | 2.4 | 3.3 | 2.6 | 4.5 | 45 | 54 | 23 |
| 31 | 2.6 | --- | 32 | 1.8 | --- | 3.0 | --- | 2.7 | --- | 44 | 55 | --- |
| TOTAL | 92.3 | 1528.7 | 1483 | 70.8 | 76.6 | 93.1 | 86.9 | 2279.5 | 2494.6 | 2501.3 | 2841.1 | 1631 |
| MEAN | 2.98 | 51.0 | 47.8 | 2.28 | 2.74 | 3.00 | 2.90 | 73.5 | 83.2 | 80.7 | 91.6 | 54.4 |
| MAX | 3.7 | 122 | 55 | 3.2 | 6.2 | 3.7 | 3.5 | 325 | 311 | 315 | 292 | 57 |
| MIN | 2.4 | 2.7 | 32 | 1.4 | 1.8 | 2.3 | 2.1 | 2.3 | 1.1 | 2.8 | 7.1 | 23 |
| AC-FT | 183 | 3030 | 2940 | 140 | 152 | 185 | 172 | 4520 | 4950 | 4960 | 5640 | 3240 |

CAL YR 1989 TOTAL 12631.57 MEAN 34.6 MAX 301 MIN .97 AC-FT 25050 MEAN a 42.5 AC-FT a 30740
WTR YR 1990 TOTAL 15178.9 MEAN 41.6 MAX 325 MIN 1.1 AC-FT 30110 MEAN a 45.9 AC-FT a 33230

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 year 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

REMARKS.--Water temperature is affected by regulation from New Hogan Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 24.0 °C, Aug. 10, 28, 29, 1977, June 14, 17, 18, 22, 1989; minimum recorded 4.5 °C, Jan. 5, Feb. 16, 1990.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 23.5 °C, Sept. 30; minimum recorded, 4.5 °C, Jan. 5, Feb. 16.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

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

SAN JOAQUIN RIVER BASIN

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 15.5 | 12.0 | 15.0 | 10.0 | 18.5 | 13.0 | 18.0 | 15.5 | 15.5 | 13.0 | 19.0 | 17.0 |
| 2 | 15.5 | 11.0 | 11.0 | 10.5 | 20.5 | 15.5 | 19.5 | 13.5 | 15.5 | 13.0 | 19.5 | 17.5 |
| 3 | 16.5 | 12.0 | 12.0 | 11.0 | 21.0 | 16.5 | 19.0 | 15.0 | 15.0 | 13.0 | 19.5 | 17.5 |
| 4 | 17.0 | 13.0 | 12.0 | 11.0 | 21.5 | 17.5 | 17.5 | 12.5 | 15.5 | 13.0 | 19.5 | 17.5 |
| 5 | 16.5 | 12.5 | 12.0 | 11.0 | 21.5 | 17.0 | 17.5 | 12.5 | 15.5 | 13.5 | 20.0 | 18.0 |
| 6 | 16.0 | 13.5 | 12.0 | 10.5 | 21.0 | 18.0 | 18.0 | 13.0 | 16.0 | 13.5 | 20.0 | 18.0 |
| 7 | 15.0 | 11.5 | 12.0 | 11.0 | 22.5 | 18.0 | 18.0 | 13.0 | 16.0 | 14.0 | 20.0 | 18.0 |
| 8 | 13.5 | 11.0 | 12.0 | 11.0 | 22.5 | 17.5 | 18.0 | 13.0 | 16.0 | 14.0 | 20.5 | 18.5 |
| 9 | 16.5 | 11.5 | 12.0 | 10.5 | 20.5 | 18.0 | 18.0 | 12.5 | 16.0 | 14.0 | 21.0 | 18.5 |
| 10 | 16.5 | 12.5 | 11.5 | 10.5 | 20.5 | 17.5 | 18.5 | 13.0 | 16.0 | 14.0 | 21.0 | 19.0 |
| 11 | 16.5 | 12.5 | 18.0 | 10.5 | 20.0 | 16.5 | 17.5 | 13.5 | 16.0 | 14.0 | 21.0 | 19.0 |
| 12 | 18.5 | 13.0 | 18.5 | 14.0 | 20.0 | 16.5 | 19.0 | 13.5 | 16.0 | 14.0 | 21.5 | 19.5 |
| 13 | 18.5 | 14.0 | 19.0 | 14.5 | 19.5 | 16.5 | 18.5 | 14.0 | 16.0 | 14.0 | 21.5 | 19.5 |
| 14 | 17.0 | 14.5 | 18.5 | 14.0 | 19.5 | 16.0 | 18.5 | 13.5 | 16.0 | 14.0 | 21.5 | 20.0 |
| 15 | 17.0 | 13.5 | 18.5 | 14.5 | 18.0 | 11.0 | 17.0 | 12.0 | 18.0 | 14.0 | 22.0 | 20.0 |
| 16 | 15.0 | 12.5 | 18.5 | 14.5 | 13.5 | 12.5 | 15.5 | 14.0 | 19.0 | 18.0 | 22.0 | 20.0 |
| 17 | 15.0 | 11.5 | 18.0 | 14.5 | 14.0 | 13.0 | 16.0 | 15.0 | 19.5 | 18.5 | 22.0 | 20.5 |
| 18 | 16.0 | 13.0 | 17.0 | 14.0 | 14.5 | 13.5 | 16.0 | 15.0 | 18.5 | 17.0 | 22.0 | 20.5 |
| 19 | 15.5 | 12.5 | 16.0 | 14.0 | 14.5 | 13.5 | 16.0 | 14.5 | 18.5 | 17.0 | 22.5 | 20.5 |
| 20 | 17.0 | 13.5 | 15.0 | 14.0 | 14.5 | 13.5 | 15.5 | 14.5 | 19.0 | 18.0 | 22.5 | 21.0 |
| 21 | 17.5 | 13.5 | 17.0 | 13.5 | 14.5 | 13.0 | 16.0 | 14.5 | 20.0 | 19.0 | 22.5 | 21.0 |
| 22 | 15.0 | 13.5 | 18.0 | 14.5 | 14.0 | 13.0 | 16.0 | 15.0 | 20.0 | 19.0 | 22.5 | 21.0 |
| 23 | 15.5 | 13.0 | 17.5 | 14.0 | 14.0 | 13.0 | 16.0 | 13.5 | 20.0 | 19.0 | 22.5 | 21.0 |
| 24 | 17.0 | 12.5 | 17.0 | 12.5 | 14.0 | 12.5 | 15.0 | 13.0 | 19.0 | 17.5 | 22.5 | 21.0 |
| 25 | 18.0 | 13.0 | 17.5 | 14.0 | 17.0 | 12.5 | 18.0 | 12.5 | 19.5 | 17.5 | 22.5 | 21.0 |
| 26 | 19.5 | 14.0 | 19.0 | 15.5 | 21.0 | 14.5 | 16.0 | 12.5 | 20.5 | 16.5 | 22.5 | 21.0 |
| 27 | 19.5 | 14.5 | 18.0 | 15.5 | 19.5 | 15.5 | 15.0 | 12.5 | 19.0 | 16.0 | 22.5 | 21.0 |
| 28 | 17.5 | 15.0 | 15.0 | 14.0 | 17.5 | 12.0 | 15.0 | 12.5 | 18.5 | 16.0 | 22.5 | 21.0 |
| 29 | 16.5 | 13.5 | 17.5 | 12.5 | 18.0 | 12.0 | 15.0 | 12.5 | 18.5 | 17.0 | 22.5 | 21.0 |
| 30 | 18.0 | 13.0 | 17.0 | 15.0 | 19.0 | 12.0 | 15.0 | 13.0 | 19.0 | 17.0 | 23.5 | 20.5 |
| 31 | --- | --- | 17.0 | 13.5 | --- | --- | 15.0 | 13.0 | 19.0 | 17.0 | --- | --- |
| MONTH | 19.5 | 11.0 | 19.0 | 10.0 | 22.5 | 11.0 | 19.5 | 12.0 | 20.5 | 13.0 | 23.5 | 17.0 |

SAN JOAQUIN RIVER BASIN

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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.--No estimated daily discharges. 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.--39 years, 2,538 ft³/s, 1,839,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,940 ft³/s, Aug. 11, 1969; no flow for many days in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 4230 | 4170 | 4180 | 4130 | 4200 | 4160 | 4220 | 3090 | 3910 | 4290 | 2880 | 3290 |
| 2 | 4200 | 4210 | 4070 | 4160 | 4150 | 4090 | 4230 | 2680 | 3910 | 4040 | 2650 | 3290 |
| 3 | 4240 | 4190 | 4040 | 4080 | 4150 | 4060 | 4230 | 2710 | 3920 | 3870 | 2570 | 3310 |
| 4 | 4150 | 4210 | 4050 | 4150 | 4150 | 4090 | 4300 | 2680 | 3890 | 4180 | 2650 | 3320 |
| 5 | 4250 | 4180 | 4110 | 4130 | 4170 | 4040 | 4190 | 2100 | 3840 | 3890 | 2640 | 3300 |
| 6 | 4290 | 4200 | 4140 | 4110 | 4120 | 4080 | 4230 | 1870 | 3950 | 4200 | 2590 | 3290 |
| 7 | 4240 | 4080 | 4140 | 4190 | 4120 | 4100 | 4260 | 1860 | 3970 | 4140 | 2610 | 3320 |
| 8 | 4220 | 4200 | 4140 | 4150 | 4080 | 4090 | 4220 | 1860 | 3030 | 4150 | 2870 | 3310 |
| 9 | 4260 | 4120 | 4140 | 4210 | 4050 | 4090 | 4270 | 1880 | 2270 | 4080 | 3170 | 3310 |
| 10 | 4230 | 4110 | 4150 | 4220 | 4050 | 4090 | 4200 | 1870 | 2500 | 4110 | 3190 | 3300 |
| 11 | 4230 | 4150 | 4040 | 4140 | 4030 | 4070 | 4160 | 1870 | 2690 | 3850 | 2660 | 2740 |
| 12 | 4260 | 4160 | 3990 | 4150 | 4050 | 3970 | 4300 | 1860 | 2500 | 3840 | 2460 | 2510 |
| 13 | 4200 | 4160 | 4000 | 4130 | 4060 | 4040 | 4320 | 1870 | 2470 | 3940 | 2460 | 2500 |
| 14 | 4250 | 4260 | 3990 | 4120 | 4060 | 4070 | 4270 | 2140 | 3010 | 3920 | 2450 | 2490 |
| 15 | 4240 | 4270 | 4020 | 4120 | 4040 | 3930 | 4260 | 2230 | 3230 | 3580 | 2440 | 2610 |
| 16 | 4250 | 4290 | 4070 | 4110 | 4050 | 4030 | 4150 | 2290 | 3230 | 2820 | 2440 | 4060 |
| 17 | 4170 | 4170 | 4060 | 4110 | 4090 | 4030 | 4360 | 3030 | 3170 | 2640 | 2950 | 3070 |
| 18 | 4040 | 4130 | 4060 | 4100 | 4100 | 4050 | 4290 | 3230 | 3120 | 2650 | 3260 | 2650 |
| 19 | 4260 | 4160 | 4020 | 4100 | 4090 | 4070 | 4310 | 3270 | 3140 | 3160 | 3290 | 3050 |
| 20 | 4290 | 4110 | 4130 | 4100 | 4090 | 4120 | 4300 | 3280 | 3110 | 3390 | 3290 | 3240 |
| 21 | 4230 | 4050 | 4120 | 4110 | 4090 | 4070 | 4350 | 3270 | 2060 | 3310 | 3300 | 3730 |
| 22 | 4220 | 4120 | 4160 | 4120 | 4040 | 4110 | 4260 | 3280 | 1670 | 3280 | 3740 | 3940 |
| 23 | 4140 | 4170 | 4110 | 4090 | 4040 | 4160 | 4270 | 3160 | 1650 | 3700 | 4050 | 3950 |
| 24 | 4250 | 4100 | 4230 | 4160 | 4040 | 4200 | 4340 | 3270 | 2120 | 4270 | 4050 | 3950 |
| 25 | 4150 | 4130 | 4180 | 4150 | 4040 | 4250 | 4190 | 3260 | 2360 | 4070 | 3530 | 3940 |
| 26 | 4180 | 4140 | 4200 | 4150 | 4130 | 4200 | 4140 | 3260 | 2320 | 3830 | 3340 | 3930 |
| 27 | 4170 | 4200 | 4190 | 4120 | 4190 | 4190 | 4140 | 3260 | 2590 | 3360 | 3300 | 3310 |
| 28 | 4160 | 4150 | 4220 | 4170 | 4180 | 4230 | 4380 | 3470 | 3170 | 3130 | 3300 | 2520 |
| 29 | 4350 | 4160 | 4180 | 4160 | --- | 4200 | 4220 | 4070 | 3180 | 3170 | 3290 | 2310 |
| 30 | 4180 | 4150 | 4160 | 4170 | --- | 4240 | 4210 | 4010 | 3610 | 3280 | 3290 | 2300 |
| 31 | 4180 | --- | 4170 | 4110 | --- | 4240 | --- | 3860 | --- | 3340 | 3290 | --- |
| TOTAL | 130710 | 124900 | 127460 | 128220 | 114650 | 127360 | 127570 | 85840 | 89590 | 113480 | 94000 | 95840 |
| MEAN | 4216 | 4163 | 4112 | 4136 | 4095 | 4108 | 4252 | 2769 | 2986 | 3661 | 3032 | 3195 |
| MAX | 4350 | 4290 | 4230 | 4220 | 4200 | 4250 | 4380 | 4070 | 3970 | 4290 | 4050 | 4060 |
| MIN | 4040 | 4050 | 3990 | 4080 | 4030 | 3930 | 4140 | 1860 | 1650 | 2640 | 2440 | 2300 |
| AC-FT | 259300 | 247700 | 252800 | 254300 | 227400 | 252600 | 253000 | 170300 | 177700 | 225100 | 186400 | 190100 |

CAL YR 1989 TOTAL 1482670 MEAN 4062 MAX 4810 MIN 1790 AC-FT 2941000
WTR YR 1990 TOTAL 1359620 MEAN 3725 MAX 4380 MIN 1650 AC-FT 2697000

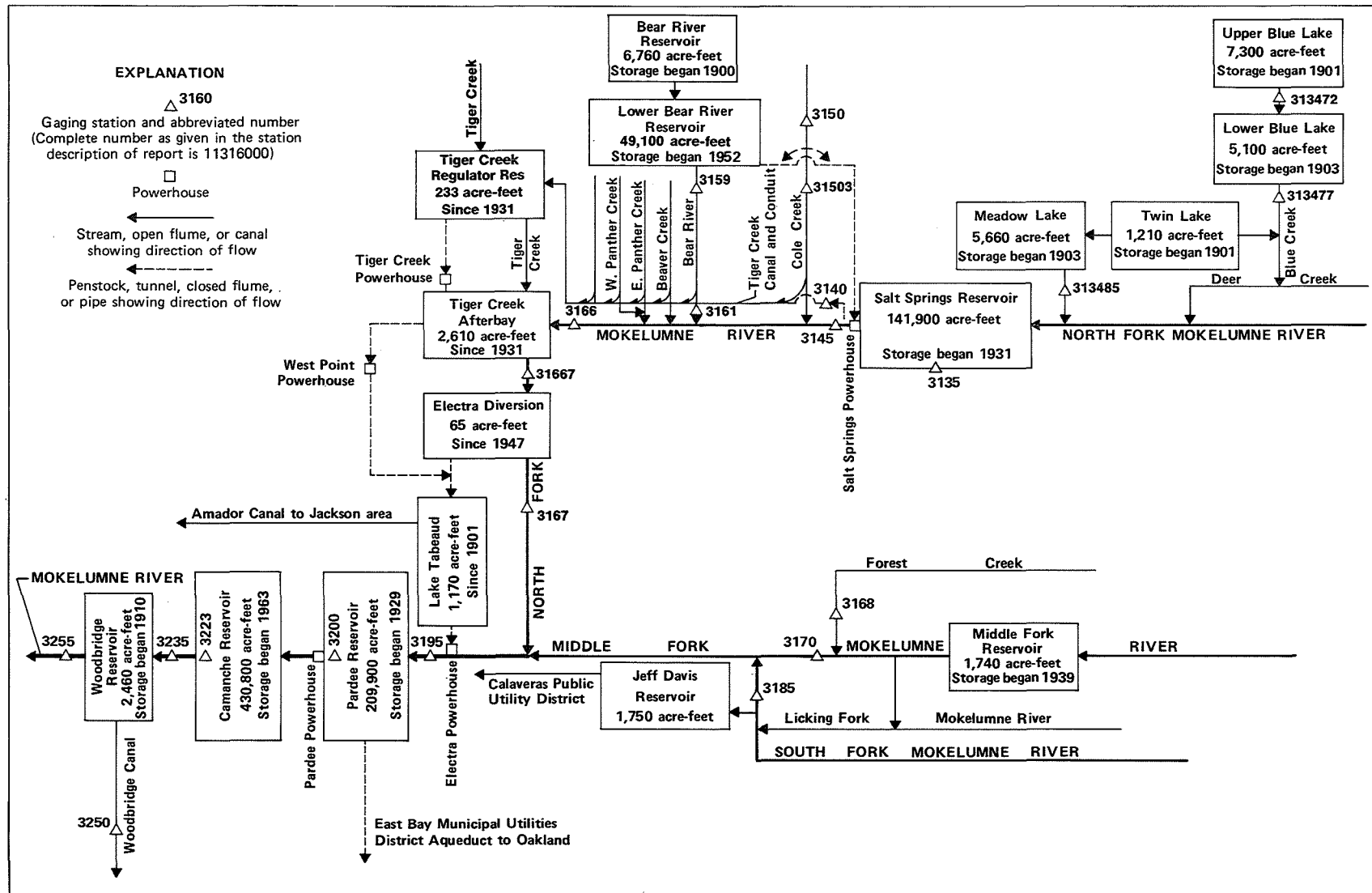


Figure 36. Diversions and storage in Mokelumne River basin.

11313472 UPPER BLUE LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°37'35", long 119°56'10", in NW 1/4 NW 1/4 sec.19, T.9 N., R.19 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft downstream from Upper Blue Lake dam, and 9.8 mi southwest of Markleeville.

DRAINAGE AREA.--2.64 mi².

PERIOD OF RECORD.--October 1988 to current year. Unpublished records for water years 1981-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 8,100 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Low and medium flow regulated by Upper Blue Lake (capacity, 7,300 acre-ft) 1,000 ft upstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-----|-----|-----|-----|-----|------|-------|-------|-------|-------|
| 1 | 12 | 14 | --- | --- | --- | --- | --- | 14 | 16 | 5.0 | 5.1 | 10 |
| 2 | 12 | 14 | --- | --- | --- | --- | --- | 14 | 16 | 4.9 | 5.1 | 9.7 |
| 3 | 12 | 13 | --- | --- | --- | --- | --- | 14 | 16 | 4.9 | 5.2 | 9.3 |
| 4 | 12 | 13 | --- | --- | --- | --- | --- | 15 | 16 | 4.9 | 5.1 | 8.9 |
| 5 | 11 | 13 | --- | --- | --- | --- | --- | 15 | 9.2 | 4.9 | 5.0 | 8.3 |
| 6 | 11 | 12 | --- | --- | --- | --- | --- | 15 | 4.1 | 4.8 | 4.9 | 8.6 |
| 7 | 11 | 12 | --- | --- | --- | --- | --- | 15 | 4.1 | 4.8 | 4.8 | 9.4 |
| 8 | 11 | 12 | --- | --- | --- | --- | --- | 15 | 4.1 | 4.7 | 4.8 | 8.6 |
| 9 | 11 | 12 | --- | --- | --- | --- | --- | 15 | 4.1 | 5.1 | 5.0 | 7.9 |
| 10 | 11 | 11 | --- | --- | --- | --- | --- | 16 | 4.1 | 5.4 | 5.0 | 7.2 |
| 11 | 11 | 11 | --- | --- | --- | --- | --- | 16 | 4.0 | 5.3 | 4.9 | 6.6 |
| 12 | 11 | 11 | --- | --- | --- | --- | --- | 16 | 3.9 | 5.3 | 4.9 | 6.1 |
| 13 | 11 | 11 | --- | --- | --- | --- | --- | 16 | 3.9 | 5.3 | 5.3 | 5.6 |
| 14 | 11 | 10 | --- | --- | --- | --- | --- | 16 | 3.9 | 5.2 | 5.8 | 4.9 |
| 15 | 10 | 10 | --- | --- | --- | --- | --- | 16 | 3.9 | 5.1 | 5.7 | 4.4 |
| 16 | 10 | 9.9 | --- | --- | --- | --- | --- | 16 | 3.9 | 5.4 | 5.6 | 4.1 |
| 17 | 10 | 9.6 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.6 | 5.6 | 3.8 |
| 18 | 10 | 9.3 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.5 | 5.5 | 3.5 |
| 19 | 9.9 | 9.1 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.5 | 5.5 | 3.5 |
| 20 | 9.8 | 8.8 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.4 | 5.4 | 3.5 |
| 21 | 9.9 | 8.4 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.4 | 5.3 | 3.1 |
| 22 | 9.9 | 8.0 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.3 | 5.3 | 2.9 |
| 23 | 9.9 | 7.7 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.3 | 5.2 | 2.7 |
| 24 | 10 | 7.8 | --- | --- | --- | --- | --- | 16 | 3.7 | 5.2 | 5.2 | 2.8 |
| 25 | 10 | 8.1 | --- | --- | --- | --- | --- | 16 | 3.7 | 5.1 | 5.1 | 2.9 |
| 26 | 13 | 8.9 | --- | --- | --- | --- | --- | 16 | 3.8 | 5.1 | 5.0 | 2.8 |
| 27 | 15 | 8.6 | --- | --- | --- | --- | 13 | 16 | 3.8 | 5.2 | 6.9 | 2.8 |
| 28 | 15 | 8.3 | --- | --- | --- | --- | 14 | 16 | 4.6 | 5.1 | 8.6 | 2.5 |
| 29 | 14 | 7.9 | --- | --- | --- | --- | 14 | 16 | 5.1 | 5.1 | 8.3 | 2.2 |
| 30 | 14 | 7.6 | --- | --- | --- | --- | 14 | 16 | 5.1 | 5.2 | 9.0 | 2.1 |
| 31 | 14 | --- | --- | --- | --- | --- | --- | 16 | --- | 5.2 | 10 | --- |
| TOTAL | 352.4 | 307.0 | --- | --- | --- | --- | --- | 484 | 173.6 | 160.2 | 178.1 | 160.7 |
| MEAN | 11.4 | 10.2 | --- | --- | --- | --- | --- | 15.6 | 5.79 | 5.17 | 5.75 | 5.36 |
| MAX | 15 | 14 | --- | --- | --- | --- | --- | 16 | 16 | 5.6 | 10 | 10 |
| MIN | 9.8 | 7.6 | --- | --- | --- | --- | --- | 14 | 3.7 | 4.7 | 4.8 | 2.1 |
| AC-FT | 699 | 609 | --- | --- | --- | --- | --- | 960 | 344 | 318 | 353 | 319 |

SAN JOAQUIN RIVER BASIN

11313477 LOWER BLUE LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°36'24", long 119°55'31", in SW 1/4 NE 1/4 sec.30, T.9 N., R.19 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 800 ft downstream from Lower Blue Lake dam and 10.0 mi southwest of Markleeville.

DRAINAGE AREA.--4.66 mi².

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 7,870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Low and medium flow regulated by Lower Blue Lake (capacity, 5,100 acre-ft) 800 ft upstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-----|-----|-----|-----|-----|------|------|------|-------|-------|
| 1 | 30 | 49 | --- | --- | --- | --- | --- | 19 | 18 | 16 | 16 | 10 |
| 2 | 30 | 48 | --- | --- | --- | --- | --- | 19 | 18 | 17 | 16 | 10 |
| 3 | 29 | 47 | --- | --- | --- | --- | --- | 19 | 18 | 18 | 16 | 10 |
| 4 | 29 | 46 | --- | --- | --- | --- | --- | 19 | 18 | 17 | 16 | 9.9 |
| 5 | 29 | 45 | --- | --- | --- | --- | --- | 19 | 18 | 17 | 16 | 10 |
| 6 | 29 | 44 | --- | --- | --- | --- | --- | 19 | 18 | 17 | 16 | 11 |
| 7 | 29 | 43 | --- | --- | --- | --- | --- | 20 | 18 | 17 | 16 | 12 |
| 8 | 28 | 42 | --- | --- | --- | --- | --- | 20 | 18 | 17 | 17 | 11 |
| 9 | 28 | 40 | --- | --- | --- | --- | --- | 20 | 17 | 17 | 17 | 11 |
| 10 | 28 | 39 | --- | --- | --- | --- | --- | 20 | 17 | 17 | 17 | 11 |
| 11 | 28 | 38 | --- | --- | --- | --- | --- | 20 | 17 | 17 | 16 | 11 |
| 12 | 28 | 37 | --- | --- | --- | --- | --- | 20 | 17 | 17 | 16 | 11 |
| 13 | 28 | 36 | --- | --- | --- | --- | --- | 20 | 16 | 17 | 16 | 10 |
| 14 | 27 | 35 | --- | --- | --- | --- | --- | 20 | 16 | 17 | 16 | 9.9 |
| 15 | 27 | 33 | --- | --- | --- | --- | --- | 20 | 16 | 17 | 13 | 9.8 |
| 16 | 27 | 32 | --- | --- | --- | --- | --- | 20 | 16 | 17 | 11 | 9.5 |
| 17 | 27 | 31 | --- | --- | --- | --- | --- | 18 | 16 | 17 | 10 | 9.8 |
| 18 | 27 | 29 | --- | --- | --- | --- | --- | 17 | 16 | 16 | 10 | 10 |
| 19 | 27 | 27 | --- | --- | --- | --- | --- | 17 | 15 | 16 | 10 | 11 |
| 20 | 27 | 25 | --- | --- | --- | --- | 9.1 | 17 | 15 | 16 | 9.9 | 11 |
| 21 | 27 | 24 | --- | --- | --- | --- | 9.1 | 17 | 15 | 16 | 9.9 | 11 |
| 22 | 26 | 22 | --- | --- | --- | --- | 9.2 | 17 | 15 | 16 | 9.9 | 10 |
| 23 | 26 | 21 | --- | --- | --- | --- | 9.3 | 17 | 15 | 16 | 9.9 | 9.9 |
| 24 | 26 | 20 | --- | --- | --- | --- | 9.1 | 17 | 15 | 16 | 10 | 10 |
| 25 | 26 | 19 | --- | --- | --- | --- | 9.3 | 17 | 15 | 15 | 9.9 | 11 |
| 26 | 26 | 18 | --- | --- | --- | --- | 9.7 | 17 | 16 | 16 | 9.9 | 11 |
| 27 | 25 | 17 | --- | --- | --- | --- | 9.8 | 18 | 16 | 16 | 10 | 11 |
| 28 | 25 | 9.0 | --- | --- | --- | --- | 10 | 18 | 16 | 16 | 10 | 11 |
| 29 | 25 | 3.0 | --- | --- | --- | --- | 10 | 17 | 16 | 16 | 10 | 11 |
| 30 | 39 | 3.0 | --- | --- | --- | --- | 13 | 18 | 16 | 16 | 10 | 9.6 |
| 31 | 50 | --- | --- | --- | --- | --- | --- | 18 | --- | 16 | 10 | --- |
| TOTAL | 883 | 922.0 | --- | --- | --- | --- | --- | 574 | 493 | 512 | 400.4 | 314.4 |
| MEAN | 28.5 | 30.7 | --- | --- | --- | --- | --- | 18.5 | 16.4 | 16.5 | 12.9 | 10.5 |
| MAX | 50 | 49 | --- | --- | --- | --- | --- | 20 | 18 | 18 | 17 | 12 |
| MIN | 25 | 3.0 | --- | --- | --- | --- | --- | 17 | 15 | 15 | 9.9 | 9.5 |
| AC-FT | 1750 | 1830 | --- | --- | --- | --- | --- | 1140 | 978 | 1020 | 794 | 624 |

11313485 MEADOW LAKE OUTLET NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°35'53", long 119°58'40", in SE 1/4 SE 1/4 sec.27, T.9 N., R.18 E., Alpine County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 700 ft downstream from Meadow Lake Dam, and 12.5 mi southwest of Markleeville.

DRAINAGE AREA.--5.66 mi².

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 7,660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records not computed for winter months. Low and medium flow regulated by Meadow Lake, capacity, 5,660 acre-ft. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-----|-----|-----|-----|-----|-------|-------|------|-------|-------|
| 1 | 32 | 11 | --- | --- | --- | --- | --- | 7.5 | 11 | 19 | 18 | 9.8 |
| 2 | 32 | 11 | --- | --- | --- | --- | --- | 7.2 | 10 | 19 | 18 | 9.7 |
| 3 | 32 | 11 | --- | --- | --- | --- | --- | 7.1 | 9.7 | 19 | 17 | 9.7 |
| 4 | 34 | 11 | --- | --- | --- | --- | --- | 7.0 | 9.6 | 20 | 17 | 9.7 |
| 5 | 35 | 11 | --- | --- | --- | --- | --- | 6.9 | 9.7 | 19 | 17 | 9.7 |
| 6 | 34 | 11 | --- | --- | --- | --- | --- | 7.1 | 9.8 | 19 | 17 | 9.6 |
| 7 | 34 | 11 | --- | --- | --- | --- | --- | 7.2 | 9.8 | 19 | 18 | 9.6 |
| 8 | 33 | 11 | --- | --- | --- | --- | --- | 7.3 | 9.8 | 19 | 20 | 9.6 |
| 9 | 33 | 11 | --- | --- | --- | --- | --- | 7.5 | 23 | 19 | 16 | 9.4 |
| 10 | 32 | 10 | --- | --- | --- | --- | --- | 7.6 | 31 | 19 | 12 | 9.3 |
| 11 | 32 | 10 | --- | --- | --- | --- | --- | 8.0 | 27 | 19 | 12 | 9.3 |
| 12 | 32 | 10 | --- | --- | --- | --- | --- | 8.1 | 24 | 19 | 12 | 13 |
| 13 | 32 | 10 | --- | --- | --- | --- | --- | 8.2 | 21 | 19 | 14 | 16 |
| 14 | 31 | 10 | --- | --- | --- | --- | --- | 8.4 | 19 | 19 | 16 | 16 |
| 15 | 31 | 10 | --- | --- | --- | --- | --- | 8.7 | 17 | 20 | 14 | 17 |
| 16 | 31 | 10 | --- | --- | --- | --- | --- | 8.4 | 16 | 19 | 12 | 17 |
| 17 | 30 | 10 | --- | --- | --- | --- | --- | 8.4 | 14 | 19 | 11 | 17 |
| 18 | 29 | 10 | --- | --- | --- | --- | --- | 8.9 | 19 | 19 | 11 | 17 |
| 19 | 29 | 10 | --- | --- | --- | --- | --- | 9.1 | 20 | 19 | 11 | 16 |
| 20 | 29 | 10 | --- | --- | --- | --- | --- | 9.6 | 19 | 19 | 11 | 16 |
| 21 | 29 | 10 | --- | --- | --- | --- | --- | 9.4 | 18 | 19 | 12 | 16 |
| 22 | 29 | 10 | --- | --- | --- | --- | --- | 9.3 | 19 | 19 | 11 | 16 |
| 23 | 29 | 10 | --- | --- | --- | --- | --- | 9.7 | 19 | 18 | 11 | 16 |
| 24 | 29 | 10 | --- | --- | --- | --- | --- | 10 | 19 | 18 | 11 | 17 |
| 25 | 29 | 10 | --- | --- | --- | --- | --- | 9.5 | 19 | 19 | 11 | 17 |
| 26 | 25 | 10 | --- | --- | --- | --- | --- | 9.7 | 19 | 19 | 11 | 17 |
| 27 | 21 | 9.4 | --- | --- | --- | --- | 6.8 | 10 | 19 | 18 | 10 | 17 |
| 28 | 21 | 8.7 | --- | --- | --- | --- | 6.9 | 10 | 19 | 18 | 10 | 16 |
| 29 | 20 | 8.4 | --- | --- | --- | --- | 7.2 | 10 | 19 | 18 | 9.9 | 16 |
| 30 | 16 | 8.4 | --- | --- | --- | --- | 7.6 | 10 | 19 | 18 | 9.9 | 16 |
| 31 | 11 | --- | --- | --- | --- | --- | --- | 11 | --- | 18 | 9.9 | --- |
| TOTAL | 896 | 303.9 | --- | --- | --- | --- | --- | 266.8 | 518.4 | 584 | 410.7 | 414.4 |
| MEAN | 28.9 | 10.1 | --- | --- | --- | --- | --- | 8.61 | 17.3 | 18.8 | 13.2 | 13.8 |
| MAX | 35 | 11 | --- | --- | --- | --- | --- | 11 | 31 | 20 | 20 | 17 |
| MIN | 11 | 8.4 | --- | --- | --- | --- | --- | 6.9 | 9.6 | 18 | 9.9 | 9.3 |
| AC-FT | 1780 | 603 | --- | --- | --- | --- | --- | 529 | 1030 | 1160 | 815 | 822 |

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 mi².

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 & 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 powerplant conduit (station 11314000). Figures given, including extremes, represent total contents at 1400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & 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 FOR PERIOD OF RECORD.--Maximum contents, 142,050 acre-ft, June 3, 1989, elevation, 3,958.2 ft; no contents at times in 1932-33, 1945, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 109,029 acre-ft, June 17, 18, elevation, 3,922.0 ft; minimum, 19,063 acre-ft, Mar. 16, elevation, 3,778.5 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated October 1964)

| | | | | | | | |
|-------|-------|-------|-------|-------|--------|-------|---------|
| 3,700 | 1,251 | 3,720 | 3,519 | 3,740 | 7,324 | 3,800 | 28,017 |
| 3,705 | 1,679 | 3,725 | 4,324 | 3,750 | 9,799 | 3,850 | 54,852 |
| 3,710 | 2,199 | 3,730 | 5,229 | 3,760 | 12,689 | 3,900 | 90,786 |
| 3,715 | 2,812 | 3,735 | 6,230 | 3,780 | 19,632 | 3,959 | 142,821 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 14:00 VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 89439 | 82443 | 66836 | 43901 | 28428 | 21708 | 32426 | 79937 | 100137 | 104584 | 88965 | 72684 |
| 2 | 89597 | 82061 | 65929 | 42962 | 28017 | 21708 | 33839 | 80693 | 101053 | 104160 | 88492 | 71960 |
| 3 | 89755 | 81680 | 65097 | 42250 | 28154 | 21749 | 35030 | 81300 | 102475 | 103569 | 88335 | 71238 |
| 4 | 89755 | 80920 | 64476 | 41544 | 27609 | 21950 | 36546 | 82999 | 103654 | 103168 | 88335 | 70520 |
| 5 | 89834 | 80390 | 64201 | 40682 | 27519 | 22031 | 38093 | 84517 | 104668 | 102811 | 88335 | 69877 |
| 6 | 89913 | 79636 | 63858 | 39988 | 27024 | 21628 | 39722 | 86456 | 105347 | 102475 | 87785 | 69306 |
| 7 | 89913 | 79334 | 63516 | 39141 | 26534 | 21308 | 41085 | 88413 | 105690 | 102475 | 87159 | 68455 |
| 8 | 89913 | 79959 | 63039 | 38720 | 26534 | 20873 | 42250 | 89755 | 106369 | 102475 | 86534 | 68101 |
| 9 | 90072 | 78659 | 62157 | 38354 | 26357 | 20637 | 43292 | 90548 | 106455 | 102056 | 85833 | 67467 |
| 10 | 90072 | 78209 | 61213 | 37626 | 26180 | 20364 | 45021 | 92544 | 107139 | 101554 | 85290 | 66766 |
| 11 | 90151 | 77389 | 60345 | 37007 | 25872 | 20093 | 46156 | 93831 | 107825 | 101053 | 84671 | 66137 |
| 12 | 90151 | 76571 | 59814 | 36292 | 25479 | 19900 | 47134 | 94154 | 108426 | 100470 | 83746 | 65443 |
| 13 | 90230 | 75831 | 59352 | 35784 | 25262 | 19632 | 48181 | 94397 | 108685 | 99888 | 83362 | 65443 |
| 14 | 90389 | 75094 | 58761 | 35318 | 24830 | 19480 | 50074 | 94802 | 108512 | 99308 | 82749 | 65097 |
| 15 | 89834 | 74580 | 58049 | 34980 | 24616 | 19176 | 52373 | 94802 | 108512 | 98894 | 81909 | 65097 |
| 16 | 89280 | 74214 | 57267 | 35180 | 24189 | 19063 | 54601 | 95208 | 108685 | 98399 | 81224 | 65097 |
| 17 | 88650 | 73848 | 56434 | 35431 | 23682 | 19708 | 57074 | 94964 | 109029 | 97659 | 80542 | 64613 |
| 18 | 88020 | 73411 | 55544 | 35683 | 23347 | 20015 | 57525 | 94802 | 109029 | 97002 | 79937 | 63721 |
| 19 | 87002 | 72539 | 54726 | 35835 | 23097 | 20403 | 58826 | 94721 | 108599 | 96266 | 79259 | 62970 |
| 20 | 85989 | 71815 | 54164 | 35431 | 22849 | 20873 | 60013 | 94235 | 108599 | 95614 | 78584 | 62360 |
| 21 | 84980 | 71238 | 53234 | 34980 | 22725 | 21468 | 61280 | 93993 | 108168 | 95045 | 77985 | 61684 |
| 22 | 84208 | 70592 | 52373 | 34531 | 22479 | 22153 | 62699 | 93428 | 107825 | 94397 | 77314 | 60611 |
| 23 | 83516 | 69663 | 51459 | 34085 | 22234 | 22602 | 64064 | 93187 | 107310 | 93670 | 76645 | 60013 |
| 24 | 84903 | 69093 | 50554 | 33593 | 22122 | 23724 | 65512 | 93589 | 107310 | 93106 | 76275 | 59023 |
| 25 | 84903 | 68313 | 49657 | 33056 | 21829 | 24787 | 67186 | 93993 | 106882 | 92464 | 76275 | 58304 |
| 26 | 84903 | 67889 | 48710 | 32571 | 21708 | 26004 | 67889 | 93993 | 106540 | 92063 | 76127 | 57914 |
| 27 | 84594 | 67537 | 47889 | 31657 | 21708 | 27428 | 69306 | 94235 | 106113 | 91426 | 75758 | 57332 |
| 28 | 84362 | 67326 | 47134 | 31038 | 21789 | 28474 | 71815 | 95614 | 105772 | 91185 | 75168 | 56497 |
| 29 | 83977 | 67326 | 46271 | 30189 | --- | 29675 | 74727 | 96675 | 105347 | 90541 | 74654 | 55481 |
| 30 | 83516 | 67116 | 45416 | 29489 | --- | 30801 | 77687 | 97248 | 104923 | 89993 | 74507 | 54539 |
| 31 | 82979 | --- | 44627 | 28888 | --- | 31657 | --- | 99225 | --- | 89439 | 73921 | --- |
| MAX | 90389 | 82443 | 66836 | 43901 | 28428 | 31657 | 77687 | 99225 | 109029 | 104584 | 88965 | 72684 |
| MIN | 82979 | 67116 | 44627 | 28888 | 21708 | 19063 | 32426 | 79937 | 100137 | 89439 | 73921 | 54539 |
| a | 3890.0 | 3868.4 | 3832.8 | 3801.9 | 3785.5 | 3807.8 | 3883.0 | 3910.4 | 3917.2 | 3898.3 | 3877.9 | 3849.5 |
| b | -6855 | -15863 | -22489 | -15739 | -7099 | +9868 | +46030 | +21538 | +5698 | -15484 | -15518 | -19382 |

CAL YR 1989 MAX 142050 MIN 10817 b -30627

WTR YR 1990 MAX 109029 MIN 19063 b -35295

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11314000 TIGER CREEK POWERPLANT 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. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--59 years, 363 ft³/s, 263,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 577 ft³/s, June 22, 1945; no flow at times in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|---------|-------|-------|-------|-------|--------|---------|----------|-------|-------|---------|-------|
| 1 | 175 | 547 | 513 | 463 | 245 | 246 | 1.8 | .00 | 502 | 512 | 433 | 548 |
| 2 | .27 | 548 | 510 | 459 | 245 | 245 | 1.8 | .00 | 427 | 501 | 413 | 548 |
| 3 | .00 | 545 | 442 | 455 | 245 | 245 | 1.8 | .00 | 396 | 495 | 311 | 548 |
| 4 | .00 | 543 | 543 | 451 | 244 | 246 | 1.9 | 92 | 433 | 485 | 6.8 | 547 |
| 5 | .00 | 543 | 548 | 447 | 245 | 326 | 1.9 | 291 | 476 | 484 | 52 | 548 |
| 6 | .01 | 546 | 549 | 443 | 246 | 400 | 1.7 | 294 | 492 | 294 | 527 | 546 |
| 7 | .00 | 547 | 550 | 439 | 246 | 400 | 1.6 | 294 | 487 | 15 | 551 | 547 |
| 8 | .00 | 544 | 550 | 433 | 246 | 400 | 1.8 | 294 | 481 | 139 | 551 | 543 |
| 9 | .00 | 519 | 551 | 435 | 247 | 402 | 162 | 312 | 469 | 528 | 550 | 543 |
| 10 | .00 | 535 | 550 | 433 | 247 | 402 | 245 | 301 | 467 | 541 | 550 | 539 |
| 11 | 20 | 534 | 550 | 429 | 246 | 333 | 270 | 311 | 463 | 548 | 549 | 540 |
| 12 | 54 | 530 | 550 | 426 | 247 | 264 | 289 | 439 | 416 | 547 | 548 | 400 |
| 13 | 2.3 | 525 | 552 | 423 | 247 | 245 | 291 | 534 | 462 | 546 | 548 | 193 |
| 14 | 142 | 522 | 552 | 421 | 247 | 245 | 285 | 534 | 459 | 545 | 550 | 95 |
| 15 | 331 | 522 | 539 | 185 | 245 | 216 | 280 | 542 | 344 | 545 | 550 | 40 |
| 16 | 331 | 521 | 512 | 82 | 204 | 192 | 280 | 348 | 13 | 546 | 530 | 185 |
| 17 | 331 | 517 | 509 | 200 | 247 | 191 | 277 | 549 | 128 | 548 | 541 | 360 |
| 18 | 359 | 518 | 506 | 201 | 247 | 190 | 278 | 544 | 524 | 545 | 542 | 524 |
| 19 | 547 | 519 | 443 | 338 | 246 | 191 | 280 | 540 | 543 | 547 | 534 | 551 |
| 20 | 555 | 517 | 415 | 549 | 388 | 192 | 278 | 540 | 535 | 547 | 533 | 551 |
| 21 | 548 | 514 | 498 | 550 | 500 | 192 | 277 | 535 | 538 | 547 | 526 | 541 |
| 22 | 549 | 512 | 496 | 550 | 499 | 192 | 277 | 535 | 533 | 547 | 519 | 517 |
| 23 | 548 | 515 | 494 | 549 | 343 | 192 | 281 | 541 | 525 | 547 | 519 | 513 |
| 24 | 377 | 512 | 491 | 549 | 246 | 194 | 273 | 542 | 525 | 546 | 297 | 535 |
| 25 | 511 | 507 | 488 | 549 | 246 | 120 | 270 | 542 | 524 | 545 | 11 | 548 |
| 26 | 506 | 507 | 484 | 512 | 245 | 2.0 | 276 | 541 | 522 | 534 | 113 | 275 |
| 27 | 536 | 372 | 482 | 485 | 244 | 1.9 | 153 | 543 | 522 | 521 | 107 | 549 |
| 28 | 552 | 331 | 440 | 480 | 150 | 1.9 | 14 | 493 | 520 | 514 | 535 | 533 |
| 29 | 553 | 329 | 474 | 429 | --- | 1.8 | 7.6 | 444 | 520 | 496 | 546 | 499 |
| 30 | 553 | 415 | 470 | 383 | --- | 1.9 | .28 | 444 | 521 | 484 | 548 | 497 |
| 31 | 549 | --- | 466 | 312 | --- | 1.8 | --- | 482 | --- | 457 | 549 | --- |
| TOTAL | 8629.58 | 15156 | 15717 | 13060 | 7493 | 6472.3 | 5058.18 | 12401.00 | 13767 | 15196 | 13639.8 | 13903 |
| MEAN | 278 | 505 | 507 | 421 | 268 | 209 | 169 | 400 | 459 | 490 | 440 | 463 |
| MAX | 555 | 548 | 552 | 550 | 500 | 402 | 291 | 549 | 543 | 548 | 551 | 551 |
| MIN | .00 | 329 | 415 | 82 | 150 | 1.8 | .28 | .00 | 13 | 15 | 6.8 | 40 |
| AC-FT | 17120 | 30060 | 31170 | 25900 | 14860 | 12840 | 10030 | 24600 | 27310 | 30140 | 27050 | 27580 |
| a | 3820 | 7300 | 3750 | 4010 | 1220 | 0 | 0 | 5080 | 12300 | 12470 | 11030 | 8740 |

CAL YR 1989 TOTAL 141901.08 MEAN 389 MAX 558 MIN .00 AC-FT 281500 a 96490

WTR YR 1990 TOTAL 140492.86 MEAN 385 MAX 555 MIN .00 AC-FT 278700 a 69720

a Inflow, in acre-feet, through Salt Springs No. 2 powerplant, provided by Pacific Gas & 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", 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 mi².

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.--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 station since December 1952. Then most of the water bypasses station through Tiger Creek powerplant conduit (station 11314000). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & 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 powerplant conduit minus Bear River and Cole Creek diversion).--64 years, 475 ft³/s, 344,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s, Nov. 21, 1950, gage height, 17.20 ft, from rating curve extended above 3,900 ft³/s on basis of computations of flow over dam and discharge through powerplant; minimum daily, 0.3 ft³/s, Mar. 31, Apr. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 137 ft³/s, Oct. 5, gage height, 2.59 ft; minimum daily, 23 ft³/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 43 | 34 | 28 | 24 | 23 | 23 | e24 | 41 | 37 | 39 | 41 | 41 |
| 2 | 42 | 27 | 28 | 23 | 24 | 23 | e25 | 43 | 37 | 38 | 41 | 41 |
| 3 | 42 | 27 | 31 | 23 | 24 | 23 | e24 | 43 | 37 | 38 | 43 | 41 |
| 4 | 42 | 28 | 27 | 23 | 24 | 24 | e23 | 43 | 38 | 38 | 47 | 40 |
| 5 | 45 | 27 | 27 | 23 | 24 | 24 | 24 | 43 | 38 | 38 | 49 | 40 |
| 6 | 44 | 28 | 27 | 24 | 23 | 24 | 24 | 42 | 37 | 39 | 44 | 40 |
| 7 | 42 | 27 | 27 | 24 | 24 | 24 | 25 | 42 | 38 | 41 | 40 | 40 |
| 8 | 42 | 27 | 27 | 29 | 24 | 24 | 25 | 41 | 38 | 40 | 40 | 40 |
| 9 | 42 | 28 | 27 | 24 | 24 | 24 | 24 | 38 | 38 | 39 | 40 | 40 |
| 10 | 42 | 28 | 27 | 24 | 24 | 24 | 24 | 38 | 38 | 38 | 40 | 40 |
| 11 | 53 | 27 | 27 | 24 | 24 | 24 | 24 | 38 | 38 | 34 | 40 | 40 |
| 12 | 44 | 27 | 27 | 23 | 24 | 24 | 25 | 39 | 38 | 34 | 40 | 41 |
| 13 | 49 | 27 | 27 | 23 | 24 | 24 | 24 | 38 | 38 | 34 | 39 | 42 |
| 14 | 46 | 27 | 27 | 24 | 24 | 24 | 25 | 38 | 38 | 34 | 39 | 40 |
| 15 | 43 | 27 | 27 | 26 | 24 | 25 | 25 | 38 | 42 | 34 | 40 | 44 |
| 16 | 40 | 27 | 27 | 31 | 24 | 25 | 26 | 41 | 46 | 34 | 41 | 42 |
| 17 | 40 | 27 | 27 | 25 | 24 | 24 | 25 | 38 | 45 | 36 | 41 | 42 |
| 18 | 44 | 27 | 27 | 23 | 27 | 24 | 24 | 38 | 39 | 38 | 41 | 43 |
| 19 | 43 | 27 | 26 | 24 | 24 | 24 | 24 | 38 | 38 | 37 | 41 | 41 |
| 20 | 41 | 28 | 26 | 24 | 24 | 24 | 24 | 38 | 38 | 37 | 40 | 41 |
| 21 | 41 | 28 | 26 | 24 | 24 | 24 | 24 | 37 | 38 | 36 | 40 | 41 |
| 22 | 41 | 28 | 25 | 24 | 24 | 24 | 24 | 37 | 39 | 35 | 40 | 40 |
| 23 | 43 | 27 | 24 | 24 | 24 | 24 | 24 | 37 | 39 | 34 | 40 | 40 |
| 24 | 45 | 27 | 24 | 24 | 24 | 24 | 24 | 37 | 39 | 38 | 41 | 41 |
| 25 | 41 | 28 | 24 | 24 | 24 | e24 | 24 | 37 | 39 | 41 | 44 | 41 |
| 26 | 40 | 27 | 24 | 23 | 24 | e24 | 24 | 37 | 39 | 42 | 44 | 51 |
| 27 | 40 | 28 | 24 | 23 | 24 | e24 | 27 | 37 | 38 | 41 | 47 | 42 |
| 28 | 41 | 27 | 24 | 23 | 24 | e24 | 30 | 37 | 38 | 39 | 40 | 42 |
| 29 | 41 | 27 | 24 | 23 | --- | e24 | 30 | 37 | 38 | 38 | 40 | 41 |
| 30 | 41 | 28 | 23 | 24 | --- | e25 | 38 | 37 | 39 | 40 | 41 | 43 |
| 31 | 41 | --- | 24 | 24 | --- | e24 | --- | 37 | --- | 42 | 41 | --- |
| TOTAL | 1324 | 827 | 810 | 748 | 673 | 744 | 757 | 1205 | 1162 | 1166 | 1285 | 1241 |
| MEAN | 42.7 | 27.6 | 26.1 | 24.1 | 24.0 | 24.0 | 25.2 | 38.9 | 38.7 | 37.6 | 41.5 | 41.4 |
| MAX | 53 | 34 | 31 | 31 | 27 | 25 | 38 | 43 | 46 | 42 | 49 | 51 |
| MIN | 40 | 27 | 23 | 23 | 23 | 23 | 23 | 37 | 37 | 34 | 39 | 40 |
| AC-FT | 2630 | 1640 | 1610 | 1480 | 1330 | 1480 | 1500 | 2390 | 2300 | 2310 | 2550 | 2460 |

CAL YR 1989 TOTAL 59857 MEAN 164 MAX 2150 MIN 23 AC-FT 118700
WTR YR 1990 TOTAL 11942 MEAN 32.7 MAX 53 MIN 23 AC-FT 23690

e Estimated.

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 mi².

PERIOD OF RECORD.--July 1927 to November 1942, October 1943 to current year. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 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.--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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--62 years, 64.5 ft³/s, 46,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft³/s, Dec. 23, 1964, gage height, 10.21 ft, site and datum then in use, from rating curve extended above 900 ft³/s on basis of slope-area measurement at gage height 9.69 ft, site and datum then in use; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 505 ft³/s, Oct. 23, gage height, 3.26 ft, minimum daily, 0.04 ft³/s, Sept. 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|-------|-------|-------|------|------|------|------|--------|-------|------|------|
| 1 | 3.8 | 21 | 19 | 8.6 | 14 | 44 | 111 | 78 | 149 | 3.6 | .46 | .12 |
| 2 | 2.1 | 22 | 20 | 7.6 | 13 | 36 | 126 | 91 | 162 | 3.6 | .43 | .12 |
| 3 | 1.7 | 19 | 22 | 8.3 | 14 | 46 | 134 | 118 | 122 | 3.4 | .43 | .10 |
| 4 | 1.3 | 22 | 25 | 8.8 | 13 | 43 | 123 | 133 | 84 | 3.1 | .39 | .07 |
| 5 | 1.1 | 25 | 28 | 9.8 | 16 | 35 | 123 | 131 | 64 | 2.8 | .36 | .07 |
| 6 | .89 | 20 | 29 | 11 | 15 | 34 | 125 | 124 | 52 | 2.6 | .31 | e.06 |
| 7 | .73 | 16 | 24 | 17 | 16 | 35 | 116 | 101 | 44 | 2.4 | .31 | e.05 |
| 8 | .64 | 13 | 23 | 110 | 15 | 40 | 103 | 86 | 39 | 2.2 | .30 | e.05 |
| 9 | .60 | 11 | 20 | 76 | 14 | 44 | 96 | 81 | 36 | 2.0 | .31 | e.06 |
| 10 | .56 | 13 | e17 | e35 | 18 | 45 | 134 | 77 | 31 | 1.9 | .30 | e.05 |
| 11 | .53 | 16 | e15 | e25 | 27 | 37 | 145 | 60 | 27 | 1.9 | .27 | e.05 |
| 12 | .50 | 16 | e14 | 27 | 30 | 32 | 153 | 47 | 23 | 1.7 | .26 | e.04 |
| 13 | .48 | 13 | e13 | 29 | 25 | 30 | 179 | 45 | 21 | 1.5 | .24 | e.04 |
| 14 | .46 | 11 | e13 | 25 | e21 | 26 | 184 | 42 | 19 | 1.4 | .24 | e.04 |
| 15 | .45 | 8.8 | 13 | e22 | e18 | 27 | 190 | 43 | 19 | 1.2 | .26 | e.04 |
| 16 | .44 | 7.6 | 14 | e21 | 17 | 32 | 162 | 39 | 22 | 1.7 | .26 | e.05 |
| 17 | .41 | 7.0 | 15 | e20 | 19 | 42 | 110 | 40 | 17 | 1.7 | .26 | e.05 |
| 18 | .41 | 6.6 | e13 | e19 | 20 | 67 | 120 | 36 | 15 | 1.4 | .26 | e.05 |
| 19 | .38 | 6.2 | e11 | e18 | 17 | 83 | 143 | 31 | 13 | 1.2 | .27 | e.06 |
| 20 | .37 | 6.0 | e10 | e17 | 15 | 91 | 116 | 29 | 12 | 1.0 | .45 | e.07 |
| 21 | .77 | 5.7 | e10 | 17 | 14 | 99 | 107 | 30 | 11 | .91 | .44 | e.06 |
| 22 | 25 | 5.2 | e10 | 19 | 17 | 99 | 97 | 30 | 9.5 | .81 | .35 | e.06 |
| 23 | 113 | 5.1 | 9.9 | 18 | 31 | 98 | 195 | 35 | 8.6 | .76 | .31 | e.10 |
| 24 | 92 | 7.7 | 9.9 | 18 | 40 | 114 | 135 | 44 | 7.2 | .71 | .25 | e.40 |
| 25 | 41 | 11 | e9.5 | 17 | 39 | 123 | 131 | 45 | 6.7 | .70 | .22 | e.30 |
| 26 | 29 | 9.9 | e9.0 | 17 | 38 | 116 | 146 | 58 | 6.0 | .66 | .23 | e.25 |
| 27 | 30 | e18 | e8.5 | e15 | 35 | 105 | 168 | 148 | 5.2 | .66 | e.23 | e.22 |
| 28 | 28 | 19 | e8.2 | e14 | 41 | 94 | 166 | 147 | 4.7 | .62 | e.20 | e.17 |
| 29 | 23 | 19 | e8.1 | e13 | --- | 79 | 132 | 96 | 4.2 | .57 | e.16 | e.15 |
| 30 | 20 | 19 | 8.1 | 13 | --- | 75 | 94 | 101 | 3.8 | .53 | .13 | .10 |
| 31 | 22 | --- | 8.1 | 14 | --- | 89 | --- | 164 | --- | .48 | .13 | --- |
| TOTAL | 441.62 | 399.8 | 457.3 | 690.1 | 612 | 1960 | 4064 | 2330 | 1037.9 | 49.71 | 9.02 | 3.05 |
| MEAN | 14.2 | 13.3 | 14.8 | 22.3 | 21.9 | 63.2 | 135 | 75.2 | 34.6 | 1.60 | .29 | .10 |
| MAX | 113 | 25 | 29 | 110 | 41 | 123 | 195 | 164 | 162 | 3.6 | .46 | .40 |
| MIN | .37 | 5.1 | 8.1 | 7.6 | 13 | 26 | 94 | 29 | 3.8 | .48 | .13 | .04 |
| AC-FT | 876 | 793 | 907 | 1370 | 1210 | 3890 | 8060 | 4620 | 2060 | 99 | 18 | 6.0 |

CAL YR 1989 TOTAL 21667.51 MEAN 59.4 MAX 638 MIN .13 AC-FT 42980
WTR YR 1990 TOTAL 12054.50 MEAN 33.0 MAX 195 MIN .04 AC-FT 23910

e Estimated.

SAN JOAQUIN RIVER BASIN

11315030 COLE CREEK BELOW DIVISION DAM, NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°30'54", long 120°12'53", in NW 1/4 SE 1/4 sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft downstream from diversion dam, 1.1 mi north of Salt Springs Dam, and 6.7 mi southwest of Mokelumne Peak.

DRAINAGE AREA.--21.8 mi².

PERIOD OF RECORD.--December 1987 to current year (low-flow records only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 5,830 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 3, 1987, nonrecording gage at same site and datum.

REMARKS.--No records computed above 3.9 ft³/s. Flow regulated by Cole Creek diversion dam. Water is diverted for power since December 1952 to a tunnel from Lower Bear River Reservoir 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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|------|-------|-------|-----|------|-----|-------|-----|-------|-------|------|
| 1 | 3.6 | .04 | 3.6 | 3.6 | 3.6 | 3.7 | 3.7 | 3.7 | 3.7 | 3.4 | .55 | .25 |
| 2 | 3.4 | e1.6 | 3.6 | 3.6 | 3.7 | e3.7 | 3.8 | 3.7 | --- | 3.4 | .55 | .25 |
| 3 | 2.3 | e3.4 | 3.6 | e3.7 | 3.6 | --- | 3.8 | 3.7 | --- | 3.4 | .55 | .27 |
| 4 | 1.7 | e3.4 | 3.6 | e3.7 | 3.6 | 3.7 | 3.8 | 3.7 | 3.7 | 3.4 | .55 | .20 |
| 5 | 1.3 | e3.4 | 3.6 | 3.7 | 3.6 | 3.7 | 3.8 | 3.7 | 3.6 | 3.3 | .52 | .16 |
| 6 | 1.0 | e3.4 | 3.6 | 3.7 | 3.6 | 3.7 | 3.8 | 3.7 | 3.6 | 3.3 | .50 | .13 |
| 7 | .86 | 3.4 | 3.6 | 3.7 | 3.7 | 3.7 | 3.8 | 3.7 | 3.5 | 3.1 | .46 | .12 |
| 8 | .71 | 3.4 | 3.5 | e3.8 | 3.7 | 3.7 | 3.8 | 3.6 | 3.5 | 2.8 | .46 | .13 |
| 9 | .59 | 3.3 | 3.5 | 3.7 | 3.6 | 3.7 | 3.7 | 3.6 | 3.4 | 2.5 | .46 | .14 |
| 10 | .51 | 3.3 | 3.5 | 3.6 | --- | 3.7 | 3.7 | 3.6 | 3.4 | 2.3 | .45 | .12 |
| 11 | .45 | 3.3 | 3.5 | 3.6 | 3.6 | 3.7 | 3.8 | 3.6 | 3.4 | 2.3 | .40 | .11 |
| 12 | .41 | 3.3 | 3.6 | 3.6 | 3.6 | 3.7 | 3.8 | 3.6 | 3.4 | 2.1 | .40 | .10 |
| 13 | .38 | 3.3 | 3.6 | 3.6 | 3.7 | 3.8 | 3.8 | 3.6 | 3.4 | 1.9 | .37 | .10 |
| 14 | .35 | 3.3 | e3.7 | 3.6 | 3.7 | 3.7 | 3.9 | 3.5 | 3.4 | 1.7 | .35 | .10 |
| 15 | .35 | 3.3 | e3.7 | 3.6 | 3.7 | 3.6 | 3.9 | 3.4 | 3.4 | 1.6 | .35 | .10 |
| 16 | .36 | 3.3 | 3.5 | 3.7 | 3.7 | 3.6 | --- | 3.4 | 3.3 | 2.0 | .35 | .11 |
| 17 | .35 | --- | 3.6 | 3.8 | 3.7 | 3.7 | 3.8 | 3.4 | 3.3 | 1.8 | .35 | .11 |
| 18 | .32 | 3.6 | 3.6 | 3.7 | 3.7 | 3.7 | 3.8 | 3.4 | 3.3 | 1.5 | .35 | .11 |
| 19 | .32 | 3.6 | 3.6 | 3.8 | 3.7 | 3.8 | 3.8 | 3.5 | 3.3 | 1.3 | .37 | .13 |
| 20 | .30 | 3.5 | 3.6 | 3.7 | 3.7 | 3.8 | --- | 3.4 | 3.3 | 1.1 | .57 | .14 |
| 21 | .80 | 3.5 | 3.6 | 3.7 | 3.6 | 3.8 | 3.6 | 3.4 | 3.3 | 1.0 | .59 | .13 |
| 22 | 3.3 | 3.5 | 3.6 | 3.6 | 3.6 | 3.9 | 3.6 | 3.4 | 3.3 | .92 | .49 | .13 |
| 23 | --- | 3.5 | 3.6 | 3.6 | 3.6 | 3.9 | 3.8 | 3.4 | 3.3 | .85 | .41 | .20 |
| 24 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.9 | 3.7 | 3.5 | 3.4 | .81 | .37 | .50 |
| 25 | 3.4 | 3.6 | 3.6 | 3.6 | 3.6 | 3.9 | 3.7 | 3.5 | 3.4 | .78 | .32 | .40 |
| 26 | 3.3 | 3.6 | 3.6 | 3.6 | 3.6 | 3.9 | 3.7 | 3.5 | 3.4 | .78 | .33 | .35 |
| 27 | 3.3 | 3.6 | 3.6 | 3.6 | 3.6 | 3.8 | 3.7 | 3.6 | 3.4 | .74 | .34 | .32 |
| 28 | 3.3 | 3.6 | 3.6 | 3.6 | 3.7 | 3.8 | 3.7 | 3.7 | 3.4 | .70 | .30 | .27 |
| 29 | 2.2 | e3.7 | 3.6 | 3.6 | --- | 3.8 | 3.7 | 3.6 | 3.4 | .65 | .27 | .25 |
| 30 | .04 | 3.7 | 3.6 | 3.7 | --- | 3.7 | 3.7 | 3.6 | 3.4 | .61 | .25 | .21 |
| 31 | .04 | --- | 3.6 | 3.7 | --- | 3.7 | --- | 3.8 | --- | .56 | .25 | --- |
| TOTAL | --- | --- | 111.3 | 113.4 | --- | --- | --- | 110.5 | --- | 56.60 | 12.83 | 5.64 |
| MEAN | --- | --- | 3.59 | 3.66 | --- | --- | --- | 3.56 | --- | 1.83 | .41 | .19 |
| MAX | --- | --- | 3.7 | 3.8 | --- | --- | --- | 3.8 | --- | 3.4 | .59 | .50 |
| MIN | --- | --- | 3.5 | 3.6 | --- | --- | --- | 3.4 | --- | .56 | .25 | .10 |
| AC-FT | --- | --- | 221 | 225 | --- | --- | --- | 219 | --- | 112 | 25 | 11 |

e Estimated.

11315900 BEAR RIVER BELOW LOWER BEAR RIVER DAM, CA

LOCATION.--Lat 38°32'11", long 120°15'24", in NW 1/4 NW 1/4 sec.19, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 250 ft downstream from outlet valve on Lower Bear River Reservoir, 0.2 mi below Lower Bear River Reservoir Dam, 1.4 mi upstream from Rattlesnake Creek, and 3.5 mi northwest of Salt Springs Dam.

DRAINAGE AREA.--37.4 mi².

PERIOD OF RECORD.--December 1987 to current year (low-flow periods only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 3, 1987, nonrecording gage at same site and datum.

REMARKS.--No records computed above 5.9 ft³/s. Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 0.2 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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|------|------|-------|------|-------|-------|-----|-----|-------|-------|-----|
| 1 | --- | 5.8 | 2.7 | 3.0 | 3.4 | 3.5 | 4.1 | 4.6 | --- | 4.5 | 4.9 | 5.0 |
| 2 | --- | e4.3 | 4.4 | 3.1 | 3.4 | 3.9 | 4.2 | 4.7 | --- | 4.5 | 4.9 | 4.8 |
| 3 | --- | e2.7 | 4.4 | 3.1 | 3.4 | 4.7 | 4.4 | 4.8 | --- | 4.5 | 4.9 | 4.7 |
| 4 | --- | e2.7 | 2.9 | 3.1 | 3.4 | 3.9 | 4.4 | 4.8 | --- | 4.5 | 4.9 | 4.7 |
| 5 | --- | e2.7 | 2.8 | 3.1 | 3.5 | 3.8 | 4.5 | 4.8 | --- | 5.0 | 4.9 | 4.6 |
| 6 | --- | e2.7 | 2.7 | 3.1 | 3.4 | 3.8 | 4.6 | 4.8 | --- | 5.8 | 4.9 | 4.7 |
| 7 | --- | 2.8 | 2.7 | 3.7 | 3.3 | 3.8 | 4.7 | 4.9 | --- | 5.8 | 4.8 | 4.8 |
| 8 | --- | 2.7 | 2.7 | 3.8 | 3.3 | 3.9 | 4.8 | 4.9 | --- | 5.5 | 4.8 | 4.8 |
| 9 | --- | 2.7 | 2.7 | 3.3 | 3.4 | 3.9 | 4.7 | 4.9 | --- | 5.2 | 4.8 | 4.8 |
| 10 | --- | 2.7 | 2.7 | 3.3 | 3.4 | 3.9 | 4.5 | 4.9 | --- | 5.2 | 4.7 | 4.8 |
| 11 | --- | 2.7 | 2.7 | 3.3 | 3.4 | 3.9 | 4.5 | 4.9 | --- | 5.2 | 4.6 | 4.7 |
| 12 | --- | 2.7 | 2.7 | 3.3 | 3.5 | 3.9 | 4.6 | 4.9 | --- | 5.2 | 4.5 | 4.7 |
| 13 | --- | 2.7 | 2.7 | 3.6 | 3.4 | 3.6 | 4.7 | 4.9 | --- | 5.2 | 4.6 | 4.7 |
| 14 | --- | 2.7 | 2.7 | 3.5 | 3.4 | 3.6 | 4.7 | 4.9 | --- | 5.1 | 4.6 | --- |
| 15 | --- | 2.7 | 2.9 | 3.5 | 3.4 | 3.8 | 4.8 | 5.0 | --- | 5.1 | 4.6 | --- |
| 16 | --- | 2.7 | 3.2 | 3.5 | e3.4 | 3.8 | 5.1 | 5.1 | --- | 5.1 | 4.7 | 4.7 |
| 17 | 5.0 | 2.7 | 3.2 | 3.5 | 3.5 | 3.9 | 5.1 | 5.1 | 5.0 | 5.0 | 4.8 | 4.7 |
| 18 | 5.0 | 2.7 | 3.2 | 3.5 | 3.6 | 4.0 | 5.1 | 5.1 | 4.9 | 5.0 | 4.9 | 4.7 |
| 19 | 5.1 | 2.7 | 3.2 | 3.4 | 3.6 | 4.0 | 5.2 | 5.1 | 4.9 | 5.0 | 5.0 | 4.7 |
| 20 | 5.1 | 2.7 | 3.2 | 3.4 | 3.7 | 4.0 | 4.0 | 5.2 | 4.8 | 5.0 | 5.0 | 4.7 |
| 21 | --- | 2.7 | 3.2 | 3.4 | 3.7 | 4.0 | 3.2 | --- | 4.7 | 5.0 | 4.9 | 4.7 |
| 22 | --- | 2.7 | 3.2 | 3.3 | 3.8 | 4.0 | 3.3 | --- | 4.7 | 5.0 | 4.8 | 4.7 |
| 23 | --- | 2.7 | 3.2 | 3.4 | 3.6 | 4.0 | 4.2 | --- | 4.7 | 5.0 | 4.7 | 4.8 |
| 24 | --- | 2.9 | 3.2 | 3.4 | 3.5 | 4.0 | 3.8 | --- | 4.6 | 4.9 | 4.6 | 4.7 |
| 25 | --- | 3.5 | 3.2 | 3.3 | 3.5 | 4.0 | 3.6 | --- | 4.6 | 4.9 | 4.5 | 4.7 |
| 26 | --- | 3.2 | 3.2 | 3.3 | 3.5 | 4.0 | 3.5 | 5.4 | 4.6 | 4.9 | 4.6 | 4.7 |
| 27 | 5.9 | 2.9 | 3.2 | 3.4 | 3.7 | 4.0 | 3.5 | --- | 4.6 | 4.9 | 4.6 | 4.7 |
| 28 | 5.8 | 2.9 | 3.2 | 3.4 | 3.6 | 4.0 | 3.5 | --- | 4.6 | 4.9 | 4.5 | 4.3 |
| 29 | 5.8 | 2.8 | 3.0 | 3.4 | --- | 4.0 | 3.5 | --- | 4.6 | 4.9 | 4.8 | 4.4 |
| 30 | 5.8 | 2.8 | 3.0 | 3.4 | --- | 4.0 | 4.0 | --- | 4.5 | 4.9 | 5.0 | 4.4 |
| 31 | 5.8 | --- | 3.0 | 3.4 | --- | 4.1 | --- | --- | --- | 4.9 | 5.0 | --- |
| TOTAL | --- | 87.9 | 95.0 | 104.2 | 97.7 | 121.7 | 128.8 | --- | --- | 155.6 | 147.8 | --- |
| MEAN | --- | 2.93 | 3.06 | 3.36 | 3.49 | 3.93 | 4.29 | --- | --- | 5.02 | 4.77 | --- |
| MAX | --- | 5.8 | 4.4 | 3.8 | 3.8 | 4.7 | 5.2 | --- | --- | 5.8 | 5.0 | --- |
| MIN | --- | 2.7 | 2.7 | 3.0 | 3.3 | 3.5 | 3.2 | --- | --- | 4.5 | 4.5 | --- |
| AC-FT | --- | 174 | 188 | 207 | 194 | 241 | 255 | --- | --- | 309 | 293 | --- |

e Estimated.

SAN JOAQUIN RIVER BASIN

11316100 BEAR RIVER BELOW BEAR RIVER DIVERSION DAM, CA

LOCATION.--Lat 38°29'33", long 120°17'21", 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 downstream from diversion dam on Bear River and highway bridge, 1.4 mi upstream from mouth, and 3.5 mi northwest of Salt Springs Dam.

DRAINAGE AREA.--47.8 mi².

PERIOD OF RECORD.--December 1987 to current year (low-flow periods only). Unpublished records for water years 1983-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 3,710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 8, 1987, nonrecording gage at same site and datum.

REMARKS.--No records computed above 10 ft³/s. 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 at diversion dam 200 ft upstream to Tiger Creek powerplant conduit for use at Tiger Creek powerplant (station 11316610). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-----|-------|-----|-----|------|-----|-------|------|------|
| 1 | 6.5 | 5.2 | 5.0 | 5.0 | 5.0 | 5.4 | 6.1 | --- | 5.2 | 5.1 | 5.1 | 5.1 |
| 2 | 5.8 | 5.2 | --- | 5.0 | 5.0 | 5.0 | 6.1 | --- | 5.3 | 5.1 | 5.1 | 5.0 |
| 3 | 5.8 | 5.2 | --- | 5.0 | 5.0 | 5.0 | 6.1 | --- | 5.4 | 5.1 | e5.2 | 5.0 |
| 4 | 5.9 | 5.2 | 5.0 | 5.0 | 5.0 | 5.0 | 6.1 | --- | 5.2 | 5.1 | e5.1 | 5.0 |
| 5 | 6.1 | 5.2 | 5.0 | 5.0 | 5.0 | --- | 6.1 | 6.7 | 5.1 | 5.1 | e5.0 | 5.0 |
| 6 | 6.0 | 5.2 | 5.1 | 5.0 | 5.0 | --- | 6.0 | 5.1 | 5.1 | e6.0 | 5.0 | 5.1 |
| 7 | 6.0 | 5.3 | 5.1 | 5.1 | 5.0 | 5.1 | 6.0 | 5.1 | 5.1 | e6.0 | 5.2 | 5.1 |
| 8 | 6.0 | 5.3 | 5.1 | 5.1 | 5.0 | 5.1 | 6.1 | 5.1 | 5.1 | e7.0 | 5.1 | 5.1 |
| 9 | 6.0 | 5.8 | 5.1 | 5.1 | 5.0 | 5.1 | 5.9 | 5.1 | 5.1 | e6.5 | 5.1 | 5.1 |
| 10 | 6.0 | 5.8 | 5.1 | 5.1 | 5.0 | 5.1 | 5.5 | 6.3 | --- | 5.1 | 5.1 | 5.1 |
| 11 | 6.0 | 5.3 | --- | 5.0 | 5.0 | 7.9 | 5.2 | 7.4 | --- | 5.1 | 5.1 | 5.1 |
| 12 | 6.4 | 5.3 | 5.0 | 5.0 | 5.0 | 7.9 | 5.3 | 5.2 | 5.2 | 5.0 | 5.1 | 5.3 |
| 13 | 5.5 | 5.2 | 5.1 | 5.0 | 5.0 | 5.0 | 5.1 | 5.2 | 5.1 | 5.0 | 5.1 | 5.1 |
| 14 | 7.4 | 5.3 | 5.1 | 5.0 | 5.0 | 5.0 | 5.1 | 5.2 | 5.1 | 5.0 | 5.1 | 5.3 |
| 15 | --- | 5.2 | 5.1 | --- | 5.0 | 5.5 | 5.1 | 5.1 | --- | 5.1 | 5.1 | e6.0 |
| 16 | 7.9 | 5.2 | 5.1 | 5.7 | 4.9 | 5.1 | 5.2 | --- | 6.4 | 5.1 | --- | 6.0 |
| 17 | 5.2 | 5.2 | 5.0 | 4.9 | 5.1 | 5.2 | 5.1 | 5.1 | 5.9 | 5.1 | --- | --- |
| 18 | 5.2 | 5.2 | 5.0 | 5.0 | 5.1 | 5.2 | 5.1 | 5.0 | 5.2 | 5.1 | 5.1 | --- |
| 19 | 5.0 | 5.2 | --- | 5.1 | 5.1 | 5.2 | 5.1 | 5.0 | 5.0 | 5.1 | 5.1 | 5.1 |
| 20 | 4.9 | 5.2 | 7.2 | 5.0 | 5.6 | 5.2 | 5.1 | 5.0 | 5.0 | 5.0 | 5.1 | 5.0 |
| 21 | 5.2 | 5.2 | 5.2 | 5.0 | 5.7 | 5.2 | 5.1 | 5.0 | 5.1 | 5.0 | 5.1 | 5.0 |
| 22 | 5.2 | 5.2 | 5.0 | 5.0 | 5.0 | 5.2 | 5.1 | 5.0 | 5.0 | 5.0 | 5.1 | 5.1 |
| 23 | 5.2 | 5.2 | 5.0 | 5.0 | 5.2 | 5.2 | 5.2 | 5.0 | 5.0 | 5.0 | 5.1 | 5.1 |
| 24 | 5.9 | 5.2 | 5.0 | 5.0 | 5.1 | 5.2 | 5.1 | 5.1 | 5.1 | 5.0 | e5.1 | 5.1 |
| 25 | 5.3 | 5.2 | 5.0 | 5.0 | 5.0 | 6.4 | 5.0 | 5.1 | 5.1 | 5.0 | e5.1 | 5.0 |
| 26 | 5.3 | --- | 5.0 | 5.1 | 5.0 | 4.8 | 5.0 | 7.2 | 5.1 | 5.1 | e5.1 | e5.0 |
| 27 | 5.2 | --- | 5.0 | 5.0 | 6.5 | 6.3 | --- | 7.1 | 5.1 | 5.1 | e5.1 | 5.1 |
| 28 | 5.2 | 7.4 | --- | 5.0 | 6.4 | 6.3 | --- | e5.1 | 5.1 | 5.1 | 4.9 | 5.7 |
| 29 | 5.2 | 5.0 | --- | 5.2 | --- | 6.2 | --- | e5.1 | 5.1 | 5.1 | 5.0 | 6.4 |
| 30 | 5.2 | 5.1 | 5.0 | 5.2 | --- | 6.2 | --- | 5.1 | 5.1 | 5.1 | 5.0 | 6.3 |
| 31 | 5.2 | --- | 5.0 | 5.1 | --- | 6.2 | --- | 5.1 | --- | 5.1 | 5.1 | --- |
| TOTAL | --- | --- | --- | --- | 144.7 | --- | --- | --- | --- | 162.3 | --- | --- |
| MEAN | --- | --- | --- | --- | 5.17 | --- | --- | --- | --- | 5.24 | --- | --- |
| MAX | --- | --- | --- | --- | 6.5 | --- | --- | --- | --- | 7.0 | --- | --- |
| MIN | --- | --- | --- | --- | 4.9 | --- | --- | --- | --- | 5.0 | --- | --- |
| AC-FT | --- | --- | --- | --- | 287 | --- | --- | --- | --- | 322 | --- | --- |

e Estimated.

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 mi².

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1970-85 available in files of the U.S. Geological Survey.

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 & Electric Co.).

REMARKS.--Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 18.3 mi upstream. Some water is diverted through Tiger Creek powerplant conduit (station 11314000). Additional water is diverted out of the Bear River and several smaller tributaries into Tiger Creek powerplant conduit. All the water enters the North Fork Mokelumne River at Tiger Creek powerplant (station 11316610) 0.4 mi downstream. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE.--5 years, 250 ft³/s, 181,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft³/s, Feb. 19, 1986, gage height, 8.98 ft, from rating curve extended above 7,700 ft³/s; minimum daily, 30 ft³/s, Aug. 6, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 508 ft³/s, Oct. 24, gage height, 3.59 ft; minimum daily, 51 ft³/s, for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 61 | 66 | 64 | 53 | 66 | 96 | 108 | 123 | 139 | 65 | 56 | 52 |
| 2 | 64 | 58 | 62 | 56 | 63 | 96 | 110 | 120 | 134 | 66 | 56 | 52 |
| 3 | 62 | 56 | 67 | 51 | 64 | 146 | 112 | 114 | 170 | 64 | 55 | 52 |
| 4 | 61 | 57 | 63 | 57 | 71 | 133 | 113 | 111 | 103 | 63 | 59 | 52 |
| 5 | 60 | 57 | 61 | 53 | 67 | 121 | 114 | 114 | 96 | 63 | 61 | 52 |
| 6 | 62 | 57 | 61 | 52 | 70 | 113 | 115 | 104 | 93 | 63 | 63 | 51 |
| 7 | 60 | 57 | 61 | 63 | 65 | 103 | 115 | 101 | 91 | 68 | 58 | 51 |
| 8 | 59 | 56 | 59 | 90 | 63 | 102 | 117 | 98 | 89 | 67 | 55 | 51 |
| 9 | 59 | 56 | 59 | 70 | 65 | 101 | 112 | 93 | 86 | 68 | 54 | 51 |
| 10 | 59 | 57 | 59 | 61 | 63 | 103 | 110 | 90 | 84 | 62 | 54 | 51 |
| 11 | 59 | 56 | 58 | 58 | 65 | 109 | 111 | 92 | 85 | 59 | 54 | 51 |
| 12 | 68 | 55 | 59 | 59 | 67 | 102 | 114 | 87 | 80 | 57 | 54 | 51 |
| 13 | 60 | 55 | 58 | 84 | 67 | 91 | 117 | 85 | 80 | 56 | 53 | 52 |
| 14 | 64 | 54 | 58 | 102 | 60 | 92 | 124 | 82 | 79 | 55 | 54 | 51 |
| 15 | 64 | 54 | 58 | 84 | 62 | 90 | 128 | 81 | 81 | 54 | 54 | 51 |
| 16 | 62 | 54 | 57 | 84 | e64 | 93 | 142 | 83 | 103 | 54 | 54 | 59 |
| 17 | 57 | 54 | 56 | 76 | e64 | 96 | 139 | 80 | 84 | 54 | 58 | 53 |
| 18 | 57 | 55 | 56 | 70 | e65 | 101 | 120 | 77 | 78 | 56 | 54 | 58 |
| 19 | 61 | 54 | 55 | 64 | e65 | 107 | 116 | 76 | 73 | 56 | 55 | 53 |
| 20 | 58 | 54 | 59 | 64 | 67 | 113 | 113 | 77 | 70 | 56 | 54 | 52 |
| 21 | 63 | 54 | 57 | e64 | 68 | 118 | 110 | 76 | 69 | 54 | 53 | 52 |
| 22 | 89 | 54 | 56 | 63 | 71 | 118 | 107 | 73 | 68 | 53 | 52 | 52 |
| 23 | 104 | 54 | 54 | 62 | 76 | 117 | 144 | 87 | 69 | 52 | 52 | 58 |
| 24 | 281 | 63 | 54 | 61 | 78 | 118 | 138 | 94 | 68 | 52 | 52 | 61 |
| 25 | 148 | 76 | 54 | 61 | 79 | 122 | 120 | 78 | 67 | 55 | 55 | 55 |
| 26 | 100 | 182 | 54 | 61 | 82 | 123 | 116 | 77 | 66 | 56 | 57 | 60 |
| 27 | 87 | 91 | 54 | 59 | 88 | 119 | 119 | 93 | 66 | 57 | 56 | 59 |
| 28 | 79 | 77 | 52 | 58 | 97 | 118 | 137 | 131 | 65 | 56 | 57 | 56 |
| 29 | 74 | 69 | 58 | 59 | --- | 113 | 130 | 101 | 64 | 55 | 52 | 55 |
| 30 | 71 | 66 | 52 | 67 | --- | 110 | 123 | 101 | 63 | 54 | 52 | 55 |
| 31 | 68 | --- | 52 | 66 | --- | 109 | --- | 175 | --- | 55 | 52 | --- |
| TOTAL | 2381 | 1908 | 1787 | 2032 | 1942 | 3393 | 3594 | 2974 | 2563 | 1805 | 1705 | 1609 |
| MEAN | 76.8 | 63.6 | 57.6 | 65.5 | 69.4 | 109 | 120 | 95.9 | 85.4 | 58.2 | 55.0 | 53.6 |
| MAX | 281 | 182 | 67 | 102 | 97 | 146 | 144 | 175 | 170 | 68 | 63 | 61 |
| MIN | 57 | 54 | 52 | 51 | 60 | 90 | 107 | 73 | 63 | 52 | 52 | 51 |
| AC-FT | 4720 | 3780 | 3540 | 4030 | 3850 | 6730 | 7130 | 5900 | 5080 | 3580 | 3380 | 3190 |
| a | 17230 | 31090 | 32020 | 27000 | 15540 | 17120 | 12010 | 25300 | 28320 | 30380 | 27240 | 27330 |

CAL YR 1989 TOTAL 93133 MEAN 255 MAX 2410 MIN 52 AC-FT 184700 a 299900
WTR YR 1990 TOTAL 27693 MEAN 75.9 MAX 281 MIN 51 AC-FT 54930 a 290600

e Estimated.

a Diversion, in acre-feet, to Tiger Creek powerplant, provided by Pacific Gas & Electric Co.

SAN JOAQUIN RIVER BASIN

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 mi².

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1982-85 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.--No estimated daily discharges. No records computed above 50 ft³/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 the Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|------|------|------|------|-----|-----|------|------|------|------|------|
| 1 | 20 | 17 | 15 | 14 | 14 | 14 | --- | 23 | 21 | 21 | 20 | 21 |
| 2 | 20 | 13 | 14 | 14 | 14 | 14 | --- | 23 | 21 | 21 | 21 | 21 |
| 3 | 20 | 12 | 14 | 14 | 14 | 14 | --- | 23 | 21 | 21 | 21 | 21 |
| 4 | 20 | 12 | 14 | 14 | 14 | 14 | --- | 22 | 21 | 21 | 21 | 21 |
| 5 | 20 | 12 | 14 | 14 | 14 | 14 | --- | 22 | 20 | 21 | 20 | 20 |
| 6 | 19 | 12 | 14 | 14 | 14 | 14 | --- | 22 | 20 | 21 | 20 | 20 |
| 7 | 20 | 12 | 14 | 14 | 14 | 14 | 29 | 22 | 20 | 21 | 21 | 21 |
| 8 | 20 | 12 | 14 | 14 | 14 | 14 | 29 | 21 | 21 | 21 | 21 | 21 |
| 9 | 23 | 12 | 14 | 14 | 14 | 14 | --- | 22 | 21 | 21 | 21 | 21 |
| 10 | 24 | 12 | 14 | 13 | 14 | 14 | 20 | 22 | 21 | 21 | 21 | 20 |
| 11 | 23 | 12 | 14 | 13 | 16 | 14 | 14 | 22 | 20 | 21 | 21 | 20 |
| 12 | 23 | 12 | 14 | 13 | 14 | 14 | 14 | 22 | 20 | 21 | 21 | 21 |
| 13 | 24 | 12 | 14 | 14 | 14 | 14 | 14 | 22 | 21 | 21 | 21 | 21 |
| 14 | 20 | 12 | 14 | 13 | 14 | 14 | 14 | 22 | 21 | 21 | 20 | 21 |
| 15 | 20 | 12 | 14 | 14 | 15 | 14 | 14 | 22 | 20 | 21 | 20 | 21 |
| 16 | 20 | 13 | 14 | 14 | 14 | 14 | 14 | 21 | 21 | 21 | 21 | 21 |
| 17 | 20 | 14 | 14 | 14 | 14 | 14 | 14 | 22 | 20 | 20 | 21 | 21 |
| 18 | 20 | 13 | 14 | 14 | 14 | 14 | 14 | 23 | 21 | 20 | 21 | 21 |
| 19 | 20 | 13 | 14 | 14 | 14 | 14 | 14 | 22 | 20 | 21 | 21 | 21 |
| 20 | 20 | 14 | 14 | 14 | 14 | 14 | 14 | 22 | 21 | 21 | 21 | 20 |
| 21 | 20 | 14 | 14 | 15 | 14 | 14 | 14 | 21 | 21 | 21 | 21 | 21 |
| 22 | 19 | 14 | 14 | 15 | 14 | 14 | 14 | 21 | 21 | 21 | 20 | 21 |
| 23 | 19 | 14 | 14 | 14 | 14 | 14 | 14 | 22 | 21 | 21 | 20 | 21 |
| 24 | --- | 14 | 14 | 14 | 14 | 14 | 14 | 22 | 21 | 21 | 20 | 21 |
| 25 | 20 | 14 | 14 | 14 | 14 | 19 | 14 | 22 | 21 | 21 | 20 | 21 |
| 26 | 20 | 14 | 14 | 14 | 14 | --- | 14 | 21 | 21 | 21 | 20 | 21 |
| 27 | 19 | 14 | 14 | 14 | 14 | --- | 14 | 21 | 21 | 21 | 20 | 21 |
| 28 | 19 | 14 | 14 | 14 | 14 | --- | 14 | 22 | 21 | 21 | 21 | 21 |
| 29 | 19 | 14 | 14 | 14 | --- | --- | 14 | 21 | 21 | 21 | 21 | 21 |
| 30 | 19 | 14 | 14 | 14 | --- | --- | 21 | 21 | 21 | 21 | 20 | 21 |
| 31 | 19 | --- | 14 | 14 | --- | --- | --- | 21 | --- | 21 | 20 | --- |
| TOTAL | --- | 393 | 435 | 432 | 395 | --- | --- | 677 | 622 | 649 | 638 | 625 |
| MEAN | --- | 13.1 | 14.0 | 13.9 | 14.1 | --- | --- | 21.8 | 20.7 | 20.9 | 20.6 | 20.8 |
| MAX | --- | 17 | 15 | 15 | 16 | --- | --- | 23 | 21 | 21 | 21 | 21 |
| MIN | --- | 12 | 14 | 13 | 14 | --- | --- | 21 | 20 | 20 | 20 | 20 |
| AC-FT | --- | 780 | 863 | 857 | 783 | --- | --- | 1340 | 1230 | 1290 | 1270 | 1240 |

11316700 NORTH FORK MOKELUMNE RIVER BELOW ELECTRA DIVERSION DAM, NEAR WEST POINT, CA

LOCATION.--Lat 38°25'15", 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 mi².

PERIOD OF RECORD.--October 1985 to current year (low-flow records only). Unpublished records for water years 1982-84 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and sharp-crested weir since March 1987. 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 30 ft³/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 & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 18 | 14 | 13 | 13 | 13 | 12 | 14 | 19 | 18 | 19 | 17 | 18 |
| 2 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 18 | 19 | 17 | 18 |
| 3 | 19 | 12 | 13 | 13 | 13 | 13 | 14 | 18 | 17 | 18 | 17 | 18 |
| 4 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 18 |
| 5 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 18 |
| 6 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 18 |
| 7 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 18 |
| 8 | 19 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 19 |
| 9 | 18 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 18 | 17 | 18 |
| 10 | 17 | 12 | 13 | 13 | 13 | 12 | 14 | 18 | 17 | 19 | 18 | 18 |
| 11 | 17 | 12 | 13 | 13 | 13 | 12 | 13 | 18 | 17 | 18 | 18 | 18 |
| 12 | 17 | 12 | 13 | 13 | 13 | 12 | 13 | 18 | 17 | 19 | 26 | 18 |
| 13 | 17 | 12 | 13 | 14 | 14 | 12 | 13 | 18 | 17 | 19 | 27 | 18 |
| 14 | 17 | 12 | 13 | 14 | 16 | 12 | 13 | 18 | 17 | 18 | 25 | 18 |
| 15 | 17 | 12 | 13 | 13 | 16 | 12 | 15 | 18 | 17 | 18 | 27 | 18 |
| 16 | 17 | 12 | 13 | 14 | 16 | 12 | 15 | 18 | 17 | 17 | 18 | 18 |
| 17 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 18 | 17 | 17 | 18 | 18 |
| 18 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 18 | 17 | 17 | 18 | 18 |
| 19 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 17 | 17 | 18 | 18 |
| 20 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 17 | 17 | 18 | 18 |
| 21 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 18 | 17 | 18 | 18 |
| 22 | 17 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 18 | 17 | 17 | 17 |
| 23 | 18 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 18 | 17 | 18 | 17 |
| 24 | 19 | 12 | 13 | 13 | 16 | 12 | 13 | 17 | 18 | 17 | 18 | 17 |
| 25 | 18 | 13 | 13 | 13 | 16 | 12 | 13 | 17 | 17 | 17 | 17 | 17 |
| 26 | 18 | 14 | 13 | 13 | 16 | 13 | 13 | 17 | 17 | 17 | 17 | 17 |
| 27 | 18 | 13 | 13 | 13 | 14 | 14 | 13 | 18 | 17 | 17 | 18 | 17 |
| 28 | 18 | 13 | 13 | 13 | 12 | 14 | 13 | 18 | 17 | 17 | 18 | 17 |
| 29 | 18 | 13 | 13 | 13 | --- | 14 | 13 | 18 | 17 | 17 | 18 | 17 |
| 30 | 18 | 13 | 13 | 14 | --- | 14 | 17 | 18 | 18 | 17 | 18 | 17 |
| 31 | 18 | --- | 13 | 13 | --- | 14 | --- | 18 | --- | 17 | 18 | --- |
| TOTAL | 553 | 369 | 403 | 407 | 404 | 384 | 408 | 551 | 517 | 547 | 579 | 532 |
| MEAN | 17.8 | 12.3 | 13.0 | 13.1 | 14.4 | 12.4 | 13.6 | 17.8 | 17.2 | 17.6 | 18.7 | 17.7 |
| MAX | 19 | 14 | 13 | 14 | 16 | 14 | 17 | 19 | 18 | 19 | 27 | 19 |
| MIN | 17 | 12 | 13 | 13 | 12 | 12 | 13 | 17 | 17 | 17 | 17 | 17 |
| AC-FT | 1100 | 732 | 799 | 807 | 801 | 762 | 809 | 1090 | 1030 | 1080 | 1150 | 1060 |

WTR YR 1990 TOTAL 5654 MEAN 15.5 MAX 27 MIN 12 AC-FT 11210

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 mi².

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.--Records fair. No regulation. Minor diversions upstream from station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--30 years, 23.2 ft³/s, 16,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft³/s, Feb. 19, 1986, gage height, 8.12 ft, from rating curve extended above 500 ft³/s on basis of slope-area measurement at gage height 7.41 ft; minimum daily, 0.11 ft³/s, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Nov. 26 | 0030 | *70.0 | *4.04 | | | | |

Minimum daily, 0.39 ft³/s, July 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| 1 | 3.2 | 4.0 | 4.8 | 3.1 | 6.3 | 12 | 20 | 9.0 | 13 | 3.7 | 1.1 | .71 |
| 2 | 3.0 | 3.8 | 4.5 | 3.3 | 6.1 | 14 | 19 | 8.7 | 11 | 4.1 | 1.1 | .73 |
| 3 | 2.8 | 3.6 | 4.2 | 3.0 | 6.6 | 33 | 19 | 8.2 | 10 | 3.6 | 1.2 | .65 |
| 4 | 2.7 | 3.6 | 4.2 | 3.8 | 7.3 | 27 | 19 | 8.0 | 9.2 | 3.6 | 1.0 | .66 |
| 5 | 2.3 | 3.6 | 4.1 | 3.4 | 7.9 | 25 | 18 | 7.9 | 8.6 | 3.5 | 1.1 | .66 |
| 6 | 2.4 | 3.5 | 4.0 | 3.1 | 8.0 | 23 | 18 | 7.6 | 8.1 | 3.4 | 1.3 | .60 |
| 7 | 2.5 | 3.5 | 3.9 | 5.4 | 6.4 | 20 | 18 | 7.2 | 7.8 | 3.3 | 1.3 | .52 |
| 8 | 2.3 | 3.5 | 3.9 | 9.2 | 6.3 | 20 | 17 | 6.9 | 7.1 | 2.9 | 1.6 | .51 |
| 9 | 2.1 | 3.4 | 3.9 | 5.6 | 6.6 | 19 | 16 | 6.8 | 6.1 | 2.7 | .96 | .50 |
| 10 | 2.0 | 3.4 | 3.9 | 4.7 | 6.6 | 21 | 15 | 6.6 | 6.3 | e2.6 | .68 | .56 |
| 11 | 2.1 | 3.3 | 3.7 | 4.3 | 6.6 | 21 | 14 | 6.7 | 6.2 | e2.4 | .75 | .54 |
| 12 | 1.9 | 3.3 | 3.6 | 4.6 | 6.8 | 19 | 14 | 6.6 | 5.9 | e2.2 | .54 | .49 |
| 13 | 2.0 | 3.3 | 3.6 | 11 | 6.6 | 19 | 13 | 6.3 | 5.6 | 2.1 | .84 | .46 |
| 14 | 2.0 | 3.3 | 3.5 | 18 | 5.4 | 20 | 12 | 6.0 | 5.5 | 2.1 | 1.0 | .47 |
| 15 | 1.9 | 3.3 | 3.7 | 12 | 6.4 | 20 | 12 | 5.5 | 5.5 | 2.1 | .85 | .62 |
| 16 | 1.9 | 3.3 | 3.6 | 9.5 | 6.3 | 21 | 15 | 4.1 | 5.3 | 1.9 | .92 | .70 |
| 17 | 1.8 | 3.1 | 3.3 | 8.1 | 4.9 | 22 | 14 | 4.4 | 5.2 | 1.8 | 1.2 | .70 |
| 18 | 1.7 | 3.1 | 3.3 | 8.1 | 5.9 | 23 | 12 | 4.4 | 5.3 | 1.6 | 1.1 | .62 |
| 19 | 1.6 | 3.1 | 3.3 | 6.9 | 6.8 | 24 | 12 | 4.7 | 4.8 | 1.0 | 1.2 | .46 |
| 20 | 1.6 | 3.1 | 3.3 | 6.5 | 7.1 | 26 | 11 | 5.0 | 4.4 | .45 | 1.5 | .69 |
| 21 | 2.6 | 3.0 | 3.6 | 6.0 | 7.9 | 27 | 10 | 5.2 | 4.1 | .39 | 1.5 | .62 |
| 22 | 6.0 | 2.9 | 3.3 | 6.0 | 10 | 28 | 9.5 | 5.1 | 4.1 | .56 | 1.3 | .79 |
| 23 | 19 | 2.8 | 3.3 | 5.6 | 11 | 28 | 17 | 8.8 | 4.2 | .74 | 1.1 | 1.8 |
| 24 | 32 | 4.3 | 3.3 | 5.4 | 11 | 28 | 15 | 8.5 | 4.1 | .90 | .91 | 2.2 |
| 25 | 17 | 10 | 3.2 | 5.4 | 10 | 29 | 13 | 6.5 | 3.9 | 1.1 | 1.1 | 1.9 |
| 26 | 8.7 | 28 | 3.1 | 5.3 | 11 | 28 | 11 | 6.3 | 3.7 | 1.1 | 1.1 | 1.4 |
| 27 | 6.5 | 8.8 | 3.1 | 5.0 | 12 | 27 | 11 | 9.1 | 3.6 | 1.1 | .89 | 1.4 |
| 28 | 5.5 | 6.5 | 3.0 | 4.8 | 12 | 25 | 10 | 15 | 3.6 | .81 | .82 | 1.5 |
| 29 | 4.8 | 5.5 | 3.1 | 5.2 | --- | 23 | 9.8 | 10 | 4.0 | 1.2 | .73 | 1.2 |
| 30 | 4.5 | 5.1 | 2.9 | 5.8 | --- | 22 | 9.4 | 12 | 3.8 | 1.3 | .73 | .98 |
| 31 | 4.3 | --- | 3.1 | 6.0 | --- | 21 | --- | 17 | --- | 1.2 | .77 | --- |
| TOTAL | 154.7 | 145.0 | 111.3 | 194.1 | 215.8 | 715 | 423.7 | 234.1 | 180.0 | 61.45 | 32.19 | 25.64 |
| MEAN | 4.99 | 4.83 | 3.59 | 6.26 | 7.71 | 23.1 | 14.1 | 7.55 | 6.00 | 1.98 | 1.04 | .85 |
| MAX | 32 | 28 | 4.8 | 18 | 12 | 33 | 20 | 17 | 13 | 4.1 | 1.6 | 2.2 |
| MIN | 1.6 | 2.8 | 2.9 | 3.0 | 4.9 | 12 | 9.4 | 4.1 | 3.6 | .39 | .54 | .46 |
| AC-FT | 307 | 288 | 221 | 385 | 428 | 1420 | 840 | 464 | 357 | 122 | 64 | 51 |

CAL YR 1989 TOTAL 3476.51 MEAN 9.52 MAX 121 MIN .52 AC-FT 6900
WTR YR 1990 TOTAL 2492.98 MEAN 6.83 MAX 33 MIN .39 AC-FT 4940

e Estimated.

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 mi².

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 fair. Flow slightly regulated by Schaads Reservoir, capacity, 1,740 acre-ft, 6 mi upstream from station, since January 1940. Powerplant output of Schaads Powerplant is 35 ft³/s and is operational only when reservoir level is within 4 ft of spill gates. Several small diversions upstream from station. At times water is diverted 4 mi upstream from station to Licking Fork Mokelumne River via Middle Fork ditch, capacity, 10 ft³/s; because of leakage, only 5 ft³/s may reach Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--79 years, 63.2 ft³/s, 45,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft³/s, Feb. 19, 1986, gage height, 9.19 ft, from rating curve extended above 3,100 ft³/s; no flow for many days in 1931 and Sept. 9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Nov. 26 | 0230 | *96.0 | *2.41 | | | | |

Minimum daily, 2.5 ft³/s, Sept. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|
| 1 | 8.8 | 15 | 11 | 9.2 | 20 | 27 | 57 | 38 | 41 | 14 | 7.5 | 5.7 |
| 2 | 8.3 | 15 | 11 | 10 | 19 | 30 | 59 | 36 | 28 | 15 | 7.4 | 6.1 |
| 3 | 8.3 | 14 | 11 | 8.5 | 20 | 56 | 62 | 35 | 26 | 15 | 7.5 | 6.2 |
| 4 | 7.7 | 14 | 11 | 8.2 | 25 | 66 | 58 | 35 | 33 | 14 | 7.4 | 6.3 |
| 5 | 7.5 | 14 | 11 | 8.4 | 25 | 83 | 54 | 26 | 49 | 14 | 7.5 | 6.0 |
| 6 | 7.0 | 14 | 11 | 8.4 | 26 | 81 | 55 | 22 | 34 | 13 | 7.4 | 5.1 |
| 7 | 7.3 | 14 | 10 | 12 | 22 | 77 | 54 | 31 | 29 | 13 | 7.4 | 4.9 |
| 8 | 7.1 | 14 | 9.0 | 20 | 20 | 73 | 58 | 32 | 26 | 13 | 7.6 | 5.1 |
| 9 | 7.0 | 14 | 9.0 | 14 | 20 | 72 | 57 | 25 | 20 | 12 | 7.5 | 4.8 |
| 10 | 6.6 | 14 | 9.4 | 11 | 20 | 74 | 44 | 24 | 19 | 7.7 | 7.4 | 4.9 |
| 11 | 6.2 | 14 | 8.9 | 10 | 20 | 78 | 42 | 24 | 27 | 7.3 | 7.4 | 5.2 |
| 12 | 6.2 | 14 | 8.8 | 10 | 20 | 76 | 41 | 21 | 21 | 6.9 | 7.4 | 4.8 |
| 13 | 6.2 | 13 | 8.8 | 23 | 19 | 73 | 44 | 20 | 20 | 6.7 | 7.4 | 3.9 |
| 14 | 6.4 | 8.9 | 8.7 | 46 | 17 | 74 | 43 | 23 | 19 | 6.2 | 7.4 | 2.5 |
| 15 | 6.3 | 8.6 | 8.5 | 33 | 18 | 57 | 50 | 20 | 20 | 4.5 | 7.2 | 2.5 |
| 16 | 6.4 | 8.5 | 8.4 | 27 | 18 | 53 | 52 | 18 | 18 | 4.3 | 7.4 | 2.6 |
| 17 | 6.3 | 8.5 | 8.3 | 23 | 18 | 52 | 42 | 18 | 17 | 3.8 | 7.4 | 2.8 |
| 18 | 6.2 | 8.5 | 8.4 | 22 | 19 | 73 | 41 | 18 | 19 | 3.9 | 7.4 | 2.7 |
| 19 | 6.1 | 8.5 | 8.4 | 20 | 20 | 74 | 43 | 19 | 17 | 4.7 | 8.1 | 2.8 |
| 20 | 6.2 | 8.5 | 8.5 | 19 | 21 | 74 | 42 | 19 | 14 | 7.7 | 8.6 | 2.8 |
| 21 | 8.5 | 8.5 | 8.9 | 17 | 21 | 76 | 40 | 20 | 10 | 7.7 | 9.3 | 2.8 |
| 22 | 17 | 8.5 | 8.5 | 18 | 27 | 78 | 28 | 19 | 10 | 7.6 | 10 | 2.7 |
| 23 | 31 | 8.5 | 8.6 | 17 | 31 | 77 | 57 | 25 | 11 | 7.4 | 7.3 | 3.7 |
| 24 | 51 | 11 | 8.7 | 16 | 33 | 76 | 64 | 26 | 12 | 7.4 | 6.8 | 3.8 |
| 25 | 33 | 19 | 8.9 | 16 | 32 | 77 | 55 | 22 | 14 | 7.4 | 7.6 | 3.9 |
| 26 | 21 | 53 | 8.9 | 16 | 41 | 76 | 43 | 21 | 14 | 7.4 | 7.8 | 3.6 |
| 27 | 20 | 21 | 9.0 | 15 | 31 | 72 | 42 | 25 | 13 | 7.4 | 7.9 | 3.5 |
| 28 | 18 | 15 | 8.7 | 14 | 29 | 69 | 41 | 45 | 13 | 7.6 | 7.0 | 3.9 |
| 29 | 17 | 14 | 8.7 | 15 | --- | 66 | 53 | 37 | 13 | 7.9 | 4.7 | 4.1 |
| 30 | 16 | 13 | 8.4 | 18 | --- | 59 | 45 | 35 | 13 | 7.8 | 5.1 | 4.5 |
| 31 | 16 | --- | 8.8 | 19 | --- | 57 | --- | 46 | --- | 7.6 | 5.3 | --- |
| TOTAL | 386.6 | 414.5 | 285.2 | 523.7 | 652 | 2106 | 1466 | 825 | 620 | 269.9 | 229.1 | 124.2 |
| MEAN | 12.5 | 13.8 | 9.20 | 16.9 | 23.3 | 67.9 | 48.9 | 26.6 | 20.7 | 8.71 | 7.39 | 4.14 |
| MAX | 51 | 53 | 11 | 46 | 41 | 83 | 64 | 46 | 49 | 15 | 10 | 6.3 |
| MIN | 6.1 | 8.5 | 8.3 | 8.2 | 17 | 27 | 28 | 18 | 10 | 3.8 | 4.7 | 2.5 |
| AC-FT | 767 | 822 | 566 | 1040 | 1290 | 4180 | 2910 | 1640 | 1230 | 535 | 454 | 246 |

CAL YR 1989 TOTAL 10236.9 MEAN 28.0 MAX 362 MIN 1.7 AC-FT 20300
WTR YR 1990 TOTAL 7902.2 MEAN 21.6 MAX 83 MIN 2.5 AC-FT 15670

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 mi².

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.--No estimated daily discharges. Records good. The middle fork ditch can divert 10 ft³/s from the Middle Fork Mokelumne River which, due to leakage, delivers about 5 ft³/s to the Licking Fork Mokelumne River. There are two pumps with a combined capacity of 8.9 ft³/s that can pump water to Jeff Davis Reservoir upstream from the station. There are other small diversions upstream from the station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--57 years, 83.1 ft³/s, 60,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft³/s, Feb. 19, 1986, gage height, 12.48 ft, from rating curve extended above 2,700 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|-----------------------------------|---------------------|------|------|-----------------------------------|---------------------|
| Mar. 3 | 0700 | *225 | *3.95 | | | | |

Minimum daily, 0.22 ft³/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|-------|
| 1 | 6.0 | 8.2 | 11 | 5.6 | 29 | 67 | 56 | 20 | 39 | 3.8 | 1.8 | 1.1 |
| 2 | 4.5 | 7.5 | 10 | 10 | 26 | 73 | 52 | 19 | 30 | 3.2 | 2.0 | 1.0 |
| 3 | 4.1 | 6.7 | 9.5 | 6.4 | 23 | 159 | 48 | 18 | 25 | 4.0 | 2.0 | 1.0 |
| 4 | 3.2 | 6.4 | 9.0 | 8.8 | 41 | 116 | 48 | 17 | 22 | 3.5 | 1.9 | 1.4 |
| 5 | 2.4 | 6.0 | 8.6 | 8.1 | 35 | 113 | 46 | 16 | 20 | 4.0 | 1.8 | 1.2 |
| 6 | 2.0 | 5.8 | 8.3 | 5.0 | 35 | 87 | 45 | 14 | 18 | 3.1 | 1.7 | 1.0 |
| 7 | 7.2 | 5.7 | 8.0 | 7.7 | 32 | 69 | 44 | 14 | 18 | 2.9 | 1.8 | .96 |
| 8 | 8.2 | 6.0 | 7.8 | 18 | 27 | 62 | 44 | 13 | 20 | 2.6 | 1.5 | .95 |
| 9 | 8.2 | 6.3 | 7.3 | 13 | 26 | 59 | 42 | 12 | 19 | 2.5 | 1.4 | .95 |
| 10 | 8.4 | 5.8 | 7.0 | 9.9 | 23 | 68 | 39 | 12 | 17 | 1.6 | .91 | .97 |
| 11 | 8.2 | 5.6 | 6.5 | 11 | 22 | 86 | 38 | 13 | 17 | 1.5 | .99 | .96 |
| 12 | 7.9 | 5.4 | 6.3 | 13 | 21 | 80 | 36 | 12 | 16 | 1.2 | .88 | .87 |
| 13 | 7.7 | 5.4 | 6.1 | 37 | 19 | 67 | 34 | 12 | 16 | 4.6 | .82 | .80 |
| 14 | 7.7 | 5.4 | 5.9 | 87 | 16 | 66 | 33 | 12 | 15 | 5.1 | .47 | .76 |
| 15 | 7.6 | 5.3 | 5.9 | 56 | 21 | 63 | 32 | 11 | 15 | 5.0 | .22 | .73 |
| 16 | 7.6 | 5.2 | 5.6 | 46 | 32 | 62 | 34 | 11 | 15 | 4.9 | .34 | .69 |
| 17 | 8.0 | 5.5 | 5.4 | 37 | 35 | 64 | 39 | 11 | 15 | 4.5 | .88 | .62 |
| 18 | 7.9 | 5.0 | 5.3 | 32 | 33 | 67 | 33 | 10 | 14 | 4.4 | .98 | .94 |
| 19 | 7.6 | 4.8 | 5.1 | 27 | 35 | 70 | 30 | 9.9 | 13 | 4.2 | .95 | .70 |
| 20 | 7.5 | 4.7 | 5.0 | 24 | 32 | 72 | 29 | 13 | 12 | 4.1 | 1.2 | .67 |
| 21 | 8.5 | 4.7 | 4.9 | 21 | 31 | 74 | 27 | 15 | 11 | 4.0 | 1.7 | .67 |
| 22 | 19 | 4.6 | 5.2 | 21 | 36 | 75 | 25 | 13 | 9.7 | 3.7 | 1.5 | .55 |
| 23 | 45 | 4.7 | 4.8 | 20 | 45 | 74 | 43 | 16 | 6.1 | 3.6 | 1.5 | .94 |
| 24 | 113 | 7.8 | 4.7 | 19 | 56 | 76 | 49 | 22 | 5.8 | 3.6 | 1.9 | 1.5 |
| 25 | 58 | 23 | 4.5 | 18 | 64 | 76 | 34 | 14 | 5.7 | 3.7 | 1.7 | 1.5 |
| 26 | 28 | 117 | 4.5 | 17 | 72 | 74 | 30 | 12 | 5.5 | 3.5 | 1.7 | 2.5 |
| 27 | 14 | 34 | 4.5 | 16 | 77 | 69 | 26 | 18 | 5.0 | 3.4 | 1.7 | 2.5 |
| 28 | 10 | 20 | 4.5 | 16 | 73 | 67 | 24 | 50 | 4.8 | 3.2 | 1.7 | 2.6 |
| 29 | 15 | 16 | 4.5 | 15 | --- | 62 | 23 | 34 | 3.9 | 2.9 | 1.9 | 2.3 |
| 30 | 13 | 14 | 4.4 | 24 | --- | 60 | 23 | 28 | 3.8 | 2.9 | 1.2 | 2.1 |
| 31 | 8.9 | --- | 4.5 | 28 | --- | 57 | --- | 47 | --- | 2.3 | 1.1 | --- |
| TOTAL | 464.3 | 362.5 | 194.6 | 677.5 | 1017 | 2334 | 1106 | 538.9 | 437.3 | 107.5 | 42.14 | 35.43 |
| MEAN | 15.0 | 12.1 | 6.28 | 21.9 | 36.3 | 75.3 | 36.9 | 17.4 | 14.6 | 3.47 | 1.36 | 1.18 |
| MAX | 113 | 117 | 11 | 87 | 77 | 159 | 56 | 50 | 39 | 5.1 | 2.0 | 2.6 |
| MIN | 2.0 | 4.6 | 4.4 | 5.0 | 16 | 57 | 23 | 9.9 | 3.8 | 1.2 | .22 | .55 |
| AC-FT | 921 | 719 | 386 | 1340 | 2020 | 4630 | 2190 | 1070 | 867 | 213 | 84 | 70 |

CAL YR 1989 TOTAL 9865.87 MEAN 27.0 MAX 491 MIN .35 AC-FT 19570
WTR YR 1990 TOTAL 7317.17 MEAN 20.0 MAX 159 MIN .22 AC-FT 14510

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.

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.

CHEMICAL DATA: Water year 1980. Water years 1971-79 in files of California Department of Water Resources.
 WATER TEMPERATURE: Water years 1961-79 (daily record).

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.

AVERAGE DISCHARGE.--64 years (water years 1904, 1928-90), 988 ft³/s, 715,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft³/s, Dec. 3, 1950, gage height, 23.5 ft, present datum; minimum observed, 5 ft³/s, Aug. 13-15, 17, 18, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s, Mar. 3, gage height, 9.20 ft; minimum daily, 29 ft³/s, Oct. 6, 12.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 236 | 600 | 332 | 516 | 362 | 506 | 248 | 189 | 735 | 583 | 508 | 534 |
| 2 | 127 | 605 | 645 | 596 | 373 | 503 | 261 | 217 | 713 | 567 | 447 | 570 |
| 3 | 74 | 596 | 555 | 422 | 343 | 694 | 259 | 232 | 631 | 509 | 354 | 580 |
| 4 | 51 | 654 | 601 | 465 | 426 | 635 | 222 | 129 | 721 | 480 | 98 | 577 |
| 5 | 125 | 593 | 653 | 552 | 407 | 735 | 290 | 429 | 644 | 545 | 63 | 586 |
| 6 | 29 | 609 | 583 | 483 | 366 | 773 | 239 | 354 | 662 | 390 | 386 | 520 |
| 7 | 228 | 667 | 614 | 505 | 369 | 720 | 196 | 476 | 629 | 70 | 586 | 495 |
| 8 | 32 | 600 | 677 | 615 | 355 | 660 | 219 | 428 | 598 | 138 | 552 | 632 |
| 9 | 31 | 588 | 602 | 528 | 391 | 683 | 343 | 388 | 555 | 504 | 559 | 553 |
| 10 | 30 | 596 | 668 | 571 | 328 | 769 | 492 | 390 | 614 | 597 | 608 | 491 |
| 11 | 30 | 553 | 612 | 498 | 306 | 757 | 555 | 369 | 610 | 539 | 544 | 498 |
| 12 | 29 | 619 | 612 | 506 | 426 | 628 | 441 | 529 | 449 | 585 | 538 | 500 |
| 13 | 186 | 590 | 585 | 557 | 362 | 563 | 515 | 577 | 599 | 594 | 570 | 222 |
| 14 | 126 | 639 | 713 | 708 | 277 | 471 | 447 | 586 | 537 | 518 | 668 | 102 |
| 15 | 298 | 575 | 609 | 370 | 270 | 574 | 527 | 616 | 429 | 606 | 534 | 64 |
| 16 | 381 | 641 | 561 | 351 | 398 | 431 | 497 | 494 | 123 | 576 | 532 | 162 |
| 17 | 358 | 657 | 593 | 381 | 438 | 501 | 513 | 588 | 169 | 567 | 578 | 311 |
| 18 | 416 | 706 | 545 | 377 | 341 | 435 | 523 | 591 | 473 | 588 | 525 | 579 |
| 19 | 545 | 648 | 565 | 257 | 347 | 480 | 532 | 688 | 723 | 571 | 594 | 509 |
| 20 | 584 | 327 | 442 | 639 | 423 | 474 | 468 | 624 | 545 | 557 | 541 | 521 |
| 21 | 617 | 609 | 479 | 663 | 618 | 547 | 484 | 688 | 615 | 518 | 584 | 555 |
| 22 | 700 | 540 | 587 | 649 | 580 | 553 | 421 | 566 | 628 | 614 | 548 | 540 |
| 23 | 715 | 633 | 499 | 709 | 567 | 552 | 496 | 631 | 568 | 566 | 504 | 487 |
| 24 | 982 | 596 | 504 | 619 | 395 | 553 | 627 | 709 | 554 | 599 | 500 | 477 |
| 25 | 713 | 605 | 594 | 630 | 433 | 476 | 584 | 684 | 597 | 525 | 76 | 621 |
| 26 | 721 | 924 | 538 | 689 | 467 | 244 | 487 | 627 | 550 | 628 | 120 | 328 |
| 27 | 708 | 696 | 440 | 542 | 500 | 301 | 308 | 633 | 568 | 503 | 66 | 488 |
| 28 | 653 | 503 | 540 | 518 | 327 | 363 | 194 | 738 | 591 | 578 | 380 | 581 |
| 29 | 600 | 376 | 523 | 509 | --- | 344 | 227 | 736 | 597 | 510 | 607 | 540 |
| 30 | 658 | 569 | 492 | 519 | --- | 246 | 169 | 658 | 536 | 524 | 645 | 472 |
| 31 | 678 | --- | 477 | 493 | --- | 239 | --- | 680 | --- | 499 | 583 | --- |
| TOTAL | 11661 | 18114 | 17440 | 16437 | 11195 | 16410 | 11784 | 16244 | 16963 | 16148 | 14398 | 14095 |
| MEAN | 376 | 604 | 563 | 530 | 400 | 529 | 393 | 524 | 565 | 521 | 464 | 470 |
| MAX | 982 | 924 | 713 | 709 | 618 | 773 | 627 | 738 | 735 | 628 | 668 | 632 |
| MIN | 29 | 327 | 332 | 257 | 270 | 239 | 169 | 129 | 123 | 70 | 63 | 64 |
| AC-FT | 23130 | 35930 | 34590 | 32600 | 22210 | 32550 | 23370 | 32220 | 33650 | 32030 | 28560 | 27964 |

| | | | | | |
|-------------|--------------|----------|----------|--------|--------------|
| CAL YR 1989 | TOTAL 269536 | MEAN 738 | MAX 3250 | MIN 29 | AC-FT 534600 |
| WTR YR 1990 | TOTAL 180889 | MEAN 496 | MAX 982 | MIN 29 | AC-FT 358800 |

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 mi².

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 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. Prior to Oct. 1, 1985, records, including extremes, represent contents at 2400 hours. Records from Oct. 1, 1985 through July 24, 1989, including extremes, represent total contents at 0800 hours. Records from July 25, 1989, including extremes, represent contents at 2400 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, 198,700 acre-ft, Oct. 1, elevation, 562.57 ft; minimum, 173,100 acre-ft, Sept. 27, 30, elevation, 550.22 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey provided by East Bay Municipal Utility District in 1930)

| | | | | | | | | | |
|-----|--------|-----|--------|-----|---------|-----|---------|-----|---------|
| 450 | 43,400 | 480 | 69,200 | 510 | 105,700 | 540 | 153,800 | 570 | 215,300 |
| 460 | 50,900 | 490 | 80,100 | 520 | 120,400 | 550 | 172,700 | 580 | 239,100 |
| 470 | 59,500 | 500 | 92,930 | 530 | 136,500 | 560 | 193,200 | | |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 2400 HOURS

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 198700 | 187100 | 188500 | 186800 | 185700 | 196100 | 191400 | 193200 | 191900 | 187800 | 183800 | 177600 |
| 2 | 198300 | 187200 | 188600 | 186800 | 185700 | 195700 | 191300 | 192500 | 192200 | 187300 | 183500 | 177600 |
| 3 | 197900 | 187300 | 188500 | 186500 | 186000 | 195700 | 191200 | 191800 | 192300 | 186900 | 183100 | 177600 |
| 4 | 197400 | 187500 | 188500 | 186300 | 186500 | 195800 | 191100 | 190900 | 192600 | 186700 | 182200 | 177700 |
| 5 | 197000 | 187500 | 188700 | 186300 | 186900 | 195900 | 191100 | 190600 | 192800 | 186700 | 181200 | 177700 |
| 6 | 196500 | 187600 | 188700 | 186200 | 187300 | 196100 | 190900 | 190100 | 193000 | 186400 | 180800 | 177700 |
| 7 | 196300 | 187800 | 188700 | 186200 | 187800 | 196200 | 190700 | 189900 | 193200 | 185300 | 180800 | 177600 |
| 8 | 195700 | 187800 | 188900 | 186300 | 188100 | 196100 | 190500 | 189600 | 193300 | 184400 | 180700 | 177700 |
| 9 | 194400 | 187900 | 188900 | 186200 | 188500 | 196000 | 190600 | 189200 | 193300 | 184200 | 180700 | 177700 |
| 10 | 193500 | 187900 | 189100 | 186300 | 188700 | 196200 | 190900 | 188800 | 193400 | 184300 | 180800 | 177600 |
| 11 | 192500 | 187900 | 189100 | 186200 | 188800 | 196300 | 191400 | 188400 | 193500 | 184200 | 180700 | 177500 |
| 12 | 191600 | 187900 | 189100 | 186200 | 189200 | 196100 | 191700 | 188300 | 193300 | 184300 | 180600 | 177400 |
| 13 | 190800 | 188000 | 189100 | 186300 | 189400 | 195800 | 192100 | 188300 | 193400 | 184400 | 180600 | 176800 |
| 14 | 189600 | 188100 | 189300 | 186800 | 189500 | 195300 | 192300 | 188400 | 193400 | 184200 | 180900 | 175900 |
| 15 | 188700 | 188000 | 189300 | 186500 | 189600 | 195100 | 192700 | 188500 | 193100 | 184300 | 180800 | 174900 |
| 16 | 188000 | 188200 | 189200 | 186200 | 190100 | 194500 | 193100 | 188300 | 192300 | 184300 | 180800 | 174100 |
| 17 | 187300 | 188300 | 189200 | 185900 | 190700 | 194100 | 193500 | 188200 | 191600 | 184300 | 180800 | 173600 |
| 18 | 186700 | 188500 | 189100 | 185500 | 190900 | 193600 | 193900 | 188400 | 191400 | 184300 | 180700 | 173700 |
| 19 | 186300 | 188700 | 189000 | 184900 | 191200 | 193100 | 194300 | 188600 | 191700 | 184300 | 180800 | 173700 |
| 20 | 186000 | 188200 | 188800 | 185100 | 191600 | 192600 | 194500 | 188800 | 191700 | 184300 | 180800 | 173700 |
| 21 | 185900 | 188200 | 188600 | 185300 | 192300 | 192300 | 194900 | 189000 | 191800 | 184200 | 180800 | 173700 |
| 22 | 185900 | 188200 | 188600 | 185500 | 193000 | 192000 | 195200 | 189000 | 191800 | 184300 | 180900 | 173700 |
| 23 | 186200 | 188300 | 188400 | 185800 | 193700 | 191700 | 195800 | 189300 | 191400 | 184300 | 180800 | 173600 |
| 24 | 186900 | 188300 | 188300 | 185900 | 194100 | 191400 | 196400 | 189600 | 190900 | 184300 | 180600 | 173500 |
| 25 | 187000 | 188700 | 188300 | 186000 | 194500 | 191600 | 196900 | 189800 | 190600 | 184200 | 179600 | 173700 |
| 26 | 187100 | 189400 | 188300 | 186300 | 195000 | 191500 | 196900 | 189900 | 190000 | 184400 | 178800 | 173300 |
| 27 | 187200 | 189600 | 187900 | 186300 | 195700 | 191500 | 196400 | 190300 | 189600 | 184200 | 177700 | 173100 |
| 28 | 187200 | 189500 | 187800 | 186200 | 196100 | 191600 | 195600 | 190700 | 189200 | 184200 | 177400 | 173200 |
| 29 | 187000 | 189100 | 187500 | 186100 | --- | 191700 | 194900 | 191100 | 188800 | 184100 | 177400 | 173300 |
| 30 | 187000 | 189100 | 187200 | 186000 | --- | 191600 | 194000 | 191300 | 188200 | 184000 | 177600 | 173100 |
| 31 | 187000 | --- | 186900 | 185800 | --- | 191500 | --- | 191500 | --- | 183900 | 177600 | --- |
| MAX | 198700 | 189600 | 189300 | 186800 | 196100 | 196300 | 196900 | 193200 | 193500 | 187800 | 183800 | 177700 |
| MIN | 185900 | 187100 | 186900 | 184900 | 185700 | 191400 | 190500 | 188200 | 188200 | 183900 | 177400 | 173100 |
| a | 557.08 | 558.07 | 557.05 | 556.49 | 561.37 | 559.22 | 560.41 | 559.23 | 557.66 | 555.59 | 552.50 | 550.22 |
| b | -11800 | +2100 | -2200 | -1100 | +10300 | -4600 | +2500 | -2500 | -3300 | -4300 | -6300 | -4500 |
| c | 823 | 310 | 112 | 209 | 335 | 646 | 975 | 1286 | 1742 | 1673 | 1416 | 1081 |
| d | 16406 | 14017 | 15475 | 14228 | 12596 | 18418 | 18170 | 20772 | 19349 | 18462 | 18362 | 17601 |

CAL YR 1989 b +11800

WTR YR 1990 b -25700

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, provided by East Bay Municipal Utility District; not reviewed by U.S. Geological Survey.

d Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District provided by East Bay Municipal Utility District; not reviewed by U.S. Geological Survey.

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 mi².

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. Prior to July 1, 1984, records, including extremes, represent total contents at 2400 hours. Records from July 1, 1984, through July 24, 1989, including extremes, represent total contents at 0800 hours. Records from July 25, 1989, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records 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, 8,530 acre-ft, Oct. 5, 1988, elevation, 124.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 202,400 acre-ft, Mar. 24, 25, elevation, 199.74 ft; minimum, 140,700 acre-ft, Oct. 8, elevation, 186.35 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey provided by East Bay Municipal Utility District in 1964)

| | | | |
|-----|--------|-------|---------|
| 120 | 4,970 | 170 | 82,600 |
| 130 | 13,600 | 190 | 156,200 |
| 140 | 25,000 | 220 | 320,900 |
| 150 | 38,900 | 235.5 | 430,900 |
| 160 | 57,100 | 240 | 465,900 |

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 2400 HOURS

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 142600 | 151700 | 160800 | 175200 | 190200 | 187100 | 200000 | 189800 | 187500 | 185800 | 178800 | 172700 |
| 2 | 142200 | 152200 | 161200 | 175500 | 190300 | 187900 | 199600 | 189700 | 187700 | 185900 | 178600 | 172600 |
| 3 | 142000 | 151900 | 161700 | 175800 | 190300 | 188700 | 199300 | 189700 | 187800 | 185900 | 178300 | 172500 |
| 4 | 141700 | 151600 | 162200 | 176200 | 190100 | 189300 | 198800 | 189700 | 187900 | 185700 | 178100 | 172700 |
| 5 | 141400 | 151300 | 162700 | 176900 | 190000 | 190000 | 198400 | 189600 | 188000 | 185500 | 177900 | 172700 |
| 6 | 141200 | 151000 | 163100 | 177300 | 189900 | 190600 | 197800 | 189500 | 188100 | 185300 | 177700 | 172600 |
| 7 | 140900 | 151000 | 163600 | 177900 | 189600 | 191300 | 197300 | 189200 | 188100 | 185200 | 177500 | 172600 |
| 8 | 140700 | 151400 | 164000 | 178400 | 189500 | 191900 | 196900 | 189000 | 188100 | 184900 | 177300 | 172500 |
| 9 | 141100 | 151800 | 164400 | 178800 | 189400 | 192500 | 196600 | 188700 | 188000 | 184700 | 177200 | 172500 |
| 10 | 141200 | 152100 | 164900 | 179200 | 189200 | 193200 | 196200 | 188500 | 187900 | 184600 | 177000 | 172500 |
| 11 | 141300 | 152500 | 165200 | 179700 | 189100 | 193900 | 195700 | 188300 | 187700 | 184500 | 176900 | 172500 |
| 12 | 141400 | 152800 | 165700 | 180300 | 188900 | 194500 | 195400 | 188100 | 187600 | 184300 | 176600 | 172400 |
| 13 | 141400 | 153100 | 166200 | 181100 | 188500 | 195200 | 195100 | 187900 | 187300 | 184100 | 176400 | 172300 |
| 14 | 141900 | 153500 | 166600 | 181700 | 188200 | 195900 | 194700 | 187800 | 186700 | 183800 | 176000 | 172300 |
| 15 | 142500 | 153900 | 167100 | 182200 | 188000 | 196600 | 194200 | 187600 | 186400 | 183500 | 175700 | 172200 |
| 16 | 143000 | 154300 | 167500 | 182700 | 188500 | 197300 | 193800 | 187500 | 186100 | 183100 | 175400 | 172200 |
| 17 | 143600 | 154600 | 167900 | 183100 | 188500 | 198000 | 193400 | 187200 | 185800 | 182700 | 175200 | 172200 |
| 18 | 144200 | 155100 | 168400 | 183600 | 188300 | 198800 | 192900 | 187200 | 185600 | 182500 | 175000 | 172200 |
| 19 | 144700 | 155400 | 168800 | 184000 | 188200 | 199200 | 192400 | 186900 | 185500 | 182100 | 174800 | 172200 |
| 20 | 145200 | 155800 | 169200 | 184500 | 188100 | 199800 | 192000 | 186700 | 185400 | 181900 | 174600 | 172200 |
| 21 | 145700 | 156200 | 169700 | 185000 | 188000 | 200400 | 191600 | 186600 | 185000 | 181700 | 174400 | 172200 |
| 22 | 146300 | 156600 | 170100 | 185500 | 187800 | 201100 | 191300 | 186400 | 184800 | 181400 | 174200 | 172200 |
| 23 | 147200 | 157000 | 170600 | 185900 | 187700 | 201800 | 191100 | 186400 | 184900 | 181100 | 174100 | 172200 |
| 24 | 147800 | 157600 | 171000 | 186400 | 187600 | 202400 | 190700 | 186200 | 185000 | 180700 | 173700 | 172200 |
| 25 | 148300 | 158700 | 171400 | 186800 | 187500 | 202400 | 190400 | 186200 | 185100 | 180400 | 173500 | 172200 |
| 26 | 148900 | 158900 | 171900 | 187300 | 187400 | 202200 | 190200 | 186100 | 185200 | 180200 | 173300 | 172300 |
| 27 | 149400 | 159300 | 172500 | 187700 | 187200 | 201800 | 190300 | 186500 | 185200 | 180000 | 173100 | 172400 |
| 28 | 149900 | 159700 | 172900 | 188200 | 188200 | 201500 | 190300 | 186700 | 185300 | 179700 | 173000 | 172600 |
| 29 | 150400 | 160100 | 173600 | 188800 | --- | 201100 | 190200 | 186900 | 185500 | 179500 | 172900 | 172700 |
| 30 | 151000 | 160300 | 174100 | 189400 | --- | 200700 | 190100 | 187000 | 185600 | 179200 | 172800 | 172800 |
| 31 | 151400 | --- | 174700 | 189900 | --- | 200300 | --- | 187200 | --- | 179000 | 172800 | --- |
| MAX | 151400 | 160300 | 174700 | 189900 | 190300 | 202400 | 200000 | 189800 | 188100 | 185900 | 178800 | 172800 |
| MIN | 140700 | 151000 | 160800 | 175200 | 187200 | 187100 | 190100 | 186100 | 184800 | 179000 | 172800 | 172200 |
| a | 188.90 | 190.94 | 194.09 | 197.24 | 196.91 | 199.40 | 197.28 | 196.69 | 196.38 | 194.99 | 193.67 | 193.69 |
| b | +8500 | +8900 | +14400 | +15200 | -1700 | +12100 | -10200 | -2900 | -1600 | -6600 | -6200 | 0 |
| c | 1462 | 585 | 274 | 555 | 797 | 1350 | 2197 | 2947 | 3673 | 4185 | 3497 | 2768 |

CAL YR 1989 b +164900

WTR YR 1990 b +29900

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet, provided by Esat Bay Municipal Utility District; not reviewed by U.S. Geological Survey.

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 mi².

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."

CHEMICAL DATA: Water years 1906-7, 1965-66. Published as "at Clements" in 1906-07.

WATER TEMPERATURE: Water years 1962-68, 1970-76.

SEDIMENT DATA: Water years 1956-70. Prior to 1962 water year, published as "near Clements".

REVISED RECORDS.--WSP 751: Drainage area. WSP 881: 1905-09 (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.--No estimated daily discharges. Records good. 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, and several small reservoirs. East Bay Municipal Utility District aqueducts, maximum capacity 511 ft³/s with Pardee Reservoir full, are the largest of several diversions upstream from the station. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--24 years (water years 1905-28), 1,111 ft³/s, 804,300 acre-ft/yr; 62 years (water years 1929-90), 807 ft³/s, 584,700 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 ft³/s, Nov. 21, 1950, gage height, 24.40 ft, site and datum then in use; no flow on several days in 1924. Maximum discharge since construction of Camanche Dam in 1963, 6,060 ft³/s, Feb. 19, 1986, gage height, 11.21 ft; minimum daily, 23 ft³/s, Oct. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft³/s, Nov. 2, gage height, 4.41 ft; minimum daily, 75 ft³/s, Dec. 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1 | 144 | 128 | 83 | 86 | 92 | 85 | 203 | 262 | 146 | 330 | 294 | 219 |
| 2 | 144 | 288 | 83 | 86 | 92 | 84 | 203 | 261 | 145 | 330 | 285 | 219 |
| 3 | 144 | 463 | 83 | 88 | 94 | 86 | 215 | 264 | 145 | 329 | 280 | 219 |
| 4 | 128 | 463 | 84 | 89 | 97 | 89 | 240 | 276 | 152 | 321 | 280 | 215 |
| 5 | 117 | 463 | 80 | 89 | 93 | 90 | 255 | 287 | 164 | 310 | 283 | 203 |
| 6 | 119 | 463 | 75 | 89 | 93 | 85 | 250 | 301 | 188 | 306 | 285 | 197 |
| 7 | 119 | 275 | 75 | 89 | 92 | 90 | 242 | 304 | 206 | 295 | 280 | 198 |
| 8 | 119 | 93 | 78 | 89 | 92 | 92 | 241 | 307 | 227 | 297 | 272 | 200 |
| 9 | 119 | 116 | 78 | 89 | 92 | 97 | 232 | 307 | 232 | 310 | 273 | 200 |
| 10 | 119 | 116 | 78 | 89 | 92 | 96 | 221 | 297 | 232 | 295 | 272 | 201 |
| 11 | 114 | 116 | 78 | 89 | 92 | 95 | 210 | 290 | 239 | 292 | 281 | 203 |
| 12 | 116 | 118 | 79 | 89 | 91 | 95 | 205 | 285 | 259 | 298 | 284 | 203 |
| 13 | 118 | 119 | 80 | 93 | 89 | 95 | 200 | 281 | 280 | 309 | 280 | 197 |
| 14 | 119 | 110 | 80 | 94 | 90 | 94 | 201 | 274 | 299 | 315 | 276 | 191 |
| 15 | 119 | 92 | 80 | 93 | 89 | 95 | 199 | 261 | 321 | 313 | 276 | 188 |
| 16 | 119 | 92 | 80 | 94 | 125 | 95 | 196 | 259 | 321 | 304 | 267 | 185 |
| 17 | 119 | 92 | 80 | 90 | 96 | 95 | 196 | 272 | 321 | 302 | 259 | 188 |
| 18 | 124 | 92 | 81 | 92 | 91 | 95 | 203 | 276 | 321 | 314 | 259 | 189 |
| 19 | 132 | 94 | 81 | 92 | 89 | 95 | 209 | 285 | 321 | 312 | 263 | 188 |
| 20 | 132 | 93 | 83 | 92 | 88 | 94 | 208 | 285 | 317 | 309 | 263 | 184 |
| 21 | 133 | 89 | 83 | 92 | 85 | 92 | 206 | 293 | 324 | 306 | 263 | 181 |
| 22 | 134 | 88 | 83 | 92 | 86 | 90 | 205 | 295 | 340 | 304 | 263 | 175 |
| 23 | 137 | 86 | 83 | 92 | 87 | 91 | 197 | 279 | 345 | 306 | 268 | 171 |
| 24 | 135 | 88 | 83 | 91 | 86 | 92 | 189 | 271 | 361 | 308 | 267 | 163 |
| 25 | 135 | 97 | 83 | 92 | 86 | 92 | 189 | 259 | 374 | 303 | 263 | 153 |
| 26 | 135 | 87 | 84 | 92 | 86 | 146 | 197 | 243 | 397 | 296 | 263 | 141 |
| 27 | 133 | 81 | 86 | 92 | 86 | 191 | 213 | 225 | 405 | 288 | 253 | 140 |
| 28 | 130 | 82 | 86 | 92 | 86 | 195 | 231 | 168 | 396 | 294 | 239 | 133 |
| 29 | 129 | 84 | 86 | 92 | --- | 200 | 229 | 125 | 369 | 298 | 228 | 132 |
| 30 | 128 | 83 | 86 | 93 | --- | 201 | 239 | 125 | 343 | 298 | 222 | 132 |
| 31 | 128 | --- | 86 | 89 | --- | 203 | --- | 136 | --- | 298 | 220 | --- |
| TOTAL | 3941 | 4751 | 2528 | 2810 | 2557 | 3435 | 6424 | 8053 | 8490 | 9490 | 8261 | 5508 |
| MEAN | 127 | 158 | 81.5 | 90.6 | 91.3 | 111 | 214 | 260 | 283 | 306 | 266 | 184 |
| MAX | 144 | 463 | 86 | 94 | 125 | 203 | 255 | 307 | 405 | 330 | 294 | 219 |
| MIN | 114 | 81 | 75 | 86 | 85 | 84 | 189 | 125 | 145 | 288 | 220 | 132 |
| AC-FT | 7820 | 9420 | 5010 | 5570 | 5070 | 6810 | 12740 | 15970 | 16840 | 18820 | 16390 | 10930 |

CAL YR 1989 TOTAL 69136 MEAN 189 MAX 463 MIN 65 AC-FT 137100 MEAN a 442 AC-FT a 319,600
WTR YR 1990 TOTAL 66248 MEAN 182 MAX 463 MIN 75 AC-FT 131400 MEAN a 256 AC-FT a 185,600

a Adjusted for change in contents and evaporation from Camanche Reservoir.

SAN JOAQUIN RIVER BASIN

389

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 good. 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.--64 years, 127 ft³/s, 92,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 482 ft³/s, July 8, 1953; no flow at times in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|------|-------|------|------|------|-------|-------|------|
| 1 | 48 | 12 | .00 | .00 | .00 | .00 | 58 | 130 | 70 | 234 | 188 | 133 |
| 2 | 36 | .00 | .00 | .00 | .00 | .00 | 64 | 148 | 58 | 217 | 184 | 127 |
| 3 | 18 | .00 | .00 | .00 | .00 | .00 | 77 | 150 | 58 | 209 | 184 | 124 |
| 4 | 16 | .00 | .00 | .00 | .00 | .00 | 84 | 150 | 60 | 216 | 184 | 119 |
| 5 | 17 | .00 | .00 | .00 | .00 | .00 | 102 | 152 | 62 | 216 | 184 | 109 |
| 6 | 18 | .00 | .00 | .00 | .00 | .00 | 102 | 155 | 75 | 206 | 179 | 105 |
| 7 | 21 | .00 | .00 | .00 | .00 | .00 | 99 | 153 | 89 | 204 | 176 | 106 |
| 8 | 24 | .00 | .00 | .00 | .00 | .00 | 96 | 163 | 108 | 203 | 177 | 105 |
| 9 | 24 | .00 | .00 | .00 | .00 | .00 | 85 | 169 | 125 | 198 | 174 | 104 |
| 10 | 22 | .00 | .00 | .00 | .00 | .00 | 79 | 173 | 141 | 194 | 171 | 100 |
| 11 | 23 | .00 | .00 | .00 | .00 | .00 | 84 | 176 | 145 | 193 | 170 | 96 |
| 12 | 24 | .00 | .00 | .00 | .00 | .00 | 83 | 170 | 146 | 191 | 174 | 94 |
| 13 | 33 | .00 | .00 | .00 | .00 | .00 | 84 | 161 | 157 | 195 | 174 | 95 |
| 14 | 36 | .00 | .00 | .00 | .00 | .00 | 84 | 158 | 162 | 198 | 176 | 100 |
| 15 | 35 | .00 | .00 | .00 | .00 | .00 | 85 | 166 | 174 | 196 | 178 | 99 |
| 16 | 36 | .00 | .00 | .00 | .00 | .00 | 92 | 165 | 184 | 199 | 177 | 94 |
| 17 | 39 | .00 | .00 | .00 | .00 | .00 | 98 | 174 | 191 | 202 | 180 | 93 |
| 18 | 35 | .00 | .00 | .00 | .00 | .00 | 96 | 165 | 202 | 205 | 180 | 92 |
| 19 | 35 | .00 | .00 | .00 | .00 | .00 | 92 | 166 | 208 | 199 | 177 | 89 |
| 20 | 36 | .00 | .00 | .00 | .00 | .00 | 92 | 168 | 208 | 199 | 175 | 85 |
| 21 | 34 | .00 | .00 | .00 | .00 | .00 | 90 | 168 | 213 | 198 | 167 | 78 |
| 22 | 34 | .00 | .00 | .00 | .00 | .00 | 91 | 168 | 217 | 198 | 160 | 79 |
| 23 | 38 | .00 | .00 | .00 | .00 | .00 | 98 | 168 | 219 | 197 | 161 | 79 |
| 24 | 41 | .00 | .00 | .00 | .00 | .00 | 96 | 168 | 218 | 196 | 161 | 77 |
| 25 | 41 | .00 | .00 | .00 | .00 | .00 | 94 | 168 | 223 | 196 | 163 | 75 |
| 26 | 39 | .00 | .00 | .00 | .00 | .00 | 96 | 162 | 235 | 194 | 164 | 66 |
| 27 | 34 | .00 | .00 | .00 | .00 | .00 | 90 | 151 | 236 | 192 | 163 | 63 |
| 28 | 34 | .00 | .00 | .00 | .00 | .00 | 93 | 138 | 241 | 191 | 155 | 61 |
| 29 | 34 | .00 | .00 | .00 | --- | .00 | 104 | 109 | 250 | 191 | 140 | 59 |
| 30 | 34 | .00 | .00 | .00 | --- | e21 | 107 | 82 | 248 | 191 | 140 | 59 |
| 31 | 32 | --- | .00 | .00 | --- | 50 | --- | 76 | --- | 188 | 139 | --- |
| TOTAL | 971 | 12.00 | 0.00 | 0.00 | 0.00 | 71.00 | 2695 | 4770 | 4923 | 6206 | 5275 | 2765 |
| MEAN | 31.3 | .40 | .000 | .000 | .000 | 2.29 | 89.8 | 154 | 164 | 200 | 170 | 92.2 |
| MAX | 48 | 12 | .00 | .00 | .00 | .00 | 50 | 107 | 176 | 250 | 234 | 133 |
| MIN | 16 | .00 | .00 | .00 | .00 | .00 | 58 | 76 | 58 | 188 | 139 | 59 |
| AC-FT | 1930 | 24 | .00 | .00 | .00 | 141 | 5350 | 9460 | 9760 | 12310 | 10460 | 5480 |

CAL YR 1989 TOTAL 28503.00 MEAN 78.1 MAX 252 MIN .00 AC-FT 56540
WTR YR 1990 TOTAL 27688.00 MEAN 75.9 MAX 250 MIN .00 AC-FT 54920

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year (low-flow records only 1924-25).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft above 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.--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). See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE (since start of diversion through East Bay Municipal Utility District aqueduct).--61 years (water years 1929-90), 600 ft³/s, 434,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s, Nov. 22, 1950, gage height, 29.58 ft, from rating curve extended above 6,200 ft³/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.23 ft³/s, Nov. 15, 1977. Maximum discharge since construction of Camanche Dam in 1963, 5,340 ft³/s, Mar. 8, 1986, gage height, 23.19 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 972 ft³/s, Nov. 1, gage height, 11.16 ft; minimum daily, 12 ft³/s, Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 26 | 403 | 45 | 36 | 39 | 25 | 23 | 22 | 21 | 25 | 21 | 27 |
| 2 | 31 | 289 | 44 | 40 | 38 | 26 | 23 | 19 | 21 | 25 | 25 | 27 |
| 3 | 61 | 227 | 44 | 38 | 39 | 24 | 22 | 18 | 22 | 25 | 25 | 26 |
| 4 | 69 | 319 | 46 | 36 | 46 | 19 | 20 | 17 | 22 | 25 | 25 | 26 |
| 5 | 51 | 328 | 47 | 35 | 40 | 24 | 18 | 23 | 23 | 25 | 22 | 26 |
| 6 | 35 | 327 | 44 | 35 | 40 | 20 | 19 | 25 | 24 | 25 | 18 | 26 |
| 7 | 35 | 330 | 39 | 35 | 38 | 17 | 20 | 25 | 25 | 25 | 21 | 26 |
| 8 | 35 | 171 | 38 | 35 | 38 | 17 | 20 | 26 | 26 | 24 | 23 | 26 |
| 9 | 34 | 73 | 38 | 34 | 36 | 13 | 20 | 27 | 27 | 24 | 24 | 26 |
| 10 | 34 | 85 | 38 | 34 | 33 | 13 | 22 | 28 | 27 | 24 | 23 | 26 |
| 11 | 33 | 82 | 37 | 33 | 39 | 15 | 23 | 26 | 26 | 25 | 23 | 26 |
| 12 | 33 | 79 | 37 | 33 | 37 | 15 | 21 | 27 | 25 | e25 | 23 | 26 |
| 13 | 31 | 79 | 36 | 42 | 36 | 14 | 21 | 26 | 25 | e25 | 25 | 26 |
| 14 | 25 | 77 | 36 | 51 | 36 | 13 | 21 | 24 | 25 | e25 | 27 | e33 |
| 15 | 23 | 71 | 36 | 49 | 36 | 19 | 20 | 24 | 23 | e25 | 27 | e33 |
| 16 | 21 | 61 | 36 | 45 | 61 | 17 | 20 | 26 | 25 | e25 | 29 | e33 |
| 17 | 16 | 59 | 35 | 42 | 66 | 14 | 20 | 26 | 27 | 24 | 30 | e33 |
| 18 | 12 | 57 | 36 | 39 | 49 | 15 | 19 | 25 | 26 | 24 | 29 | e32 |
| 19 | 18 | 55 | 37 | 37 | 43 | 16 | 18 | 25 | 27 | 24 | 29 | 25 |
| 20 | 30 | 54 | 37 | 36 | 39 | 17 | 17 | 25 | 26 | 24 | 28 | 26 |
| 21 | 31 | 54 | 37 | 36 | 48 | 18 | 19 | 25 | 26 | 24 | 28 | 26 |
| 22 | 31 | 52 | 37 | 36 | 41 | 18 | 22 | 25 | 25 | 24 | 27 | 26 |
| 23 | 57 | 51 | 38 | 36 | 38 | 19 | 31 | 32 | 25 | 24 | 28 | 26 |
| 24 | 58 | 51 | 38 | 36 | 38 | 20 | 24 | 29 | 25 | 25 | 28 | 28 |
| 25 | 41 | 67 | 39 | 36 | 37 | 19 | 20 | 26 | 25 | 25 | 27 | 26 |
| 26 | 34 | 76 | 38 | 36 | 37 | 19 | 17 | 26 | 26 | 25 | 27 | 28 |
| 27 | 33 | 53 | 37 | 36 | 37 | 22 | 17 | 67 | 27 | 24 | 29 | 28 |
| 28 | 33 | 47 | 37 | 36 | 36 | 27 | 21 | 141 | 27 | 24 | 32 | 27 |
| 29 | 33 | 46 | 37 | 36 | --- | 27 | 32 | 36 | 27 | 23 | 32 | 27 |
| 30 | 33 | 45 | 36 | 39 | --- | 25 | 28 | 22 | 27 | 22 | 28 | 26 |
| 31 | 33 | --- | 35 | 38 | --- | 23 | --- | 22 | --- | 22 | 28 | --- |
| TOTAL | 1070 | 3768 | 1195 | 1166 | 1141 | 590 | 638 | 935 | 753 | 755 | 811 | 823 |
| MEAN | 34.5 | 126 | 38.5 | 37.6 | 40.7 | 19.0 | 21.3 | 30.2 | 25.1 | 24.4 | 26.2 | 27.4 |
| MAX | 69 | 403 | 47 | 51 | 66 | 27 | 32 | 141 | 27 | 25 | 32 | 33 |
| MIN | 12 | 45 | 35 | 33 | 33 | 13 | 17 | 17 | 21 | 22 | 18 | 25 |
| AC-FT | 2120 | 7470 | 2370 | 2310 | 2260 | 1170 | 1270 | 1850 | 1490 | 1500 | 1610 | 1630 |

CAL YR 1989 TOTAL 13710.1 MEAN 37.6 MAX 403 MIN 5.6 AC-FT 27190
WTR YR 1990 TOTAL 13645 MEAN 37.4 MAX 403 MIN 12 AC-FT 27060

e Estimated.

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

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, 1961-1986.

SEDIMENT DATA: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

CHEMICAL DATA: 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 September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS-CHARGE, INST. CUBIC FEET PER SECOND | SPE-CIFIC CON-DUCT-ANCE (US/CM) | PH (STAND-ARD UNITS) | TEMPER-ATURE WATER (DEG C) | TUR-BID-ITY (NTU) | BARO-METRIC PRES-SURE (MM OF HG) | OXYGEN, DIS-SOLVED (MG/L) | OXYGEN, DIS-SOLVED SATUR-ATION (%) | COLI-FORM, FECAL, UM-MF (COLS./100 ML) | STREP-TOCOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) |
|-----------|------|---|---------------------------------|----------------------|----------------------------|-------------------|----------------------------------|---------------------------|------------------------------------|--|--|
| DEC 20... | 1045 | 37 | 62 | 7.8 | 6.0 | 1.8 | 770 | 12.4 | 99 | 110 | 230 |
| MAR 20... | 1130 | 18 | 47 | 7.3 | 16.0 | 2.3 | 765 | 9.8 | 99 | 31 | 25 |
| JUN 13... | 0910 | 26 | 49 | 8.1 | 19.0 | 2.6 | 755 | 8.8 | 96 | 21 | 760 |
| SEP 12... | 0900 | 26 | 50 | 7.3 | 20.0 | 2.0 | 760 | 8.7 | 96 | 20 | 860 |

| DATE | HARD-NESS TOTAL (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) | SODIUM PERCENT | SODIUM AD-SORP-TION RATIO | POTAS-SIUM, DIS-SOLVED (MG/L AS K) | BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) | ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) |
|-----------|---------------------------------|---------------------------------|-------------------------------------|---------------------------------|----------------|---------------------------|------------------------------------|--|--|----------------------------------|------------------------------------|
| DEC 20... | 22 | 5.7 | 1.9 | 3.3 | 23 | 0.3 | 1.1 | 25 | 20 | 2.9 | 4.5 |
| MAR 20... | 17 | 4.4 | 1.5 | 2.8 | 25 | 0.3 | 0.80 | 24 | 20 | 2.1 | 3.1 |
| JUN 13... | 18 | 4.7 | 1.6 | 2.9 | 24 | 0.3 | 0.90 | 22 | 18 | 2.1 | 3.6 |
| SEP 12... | 18 | 4.8 | 1.5 | 2.8 | 24 | 0.3 | 0.90 | 22 | 18 | 1.9 | 2.4 |

| 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, AMMONIA + ORGANIC TOTAL (MG/L AS N) | PHOS-PHORUS TOTAL (MG/L AS P) |
|-----------|-----------------------------------|-----------------------------------|---|---|-------------------------------------|---|---|--------------------------------------|---|--|-------------------------------|
| DEC 20... | <0.10 | 9.3 | 49 | 41 | 0.07 | <0.010 | <0.100 | 0.020 | 0.020 | 0.30 | 0.020 |
| MAR 20... | <0.10 | 7.9 | 27 | 35 | 0.04 | <0.010 | <0.100 | 0.010 | <0.010 | 0.30 | 0.030 |
| JUN 13... | <0.10 | 8.8 | 36 | 36 | 0.05 | <0.010 | <0.100 | 0.020 | 0.020 | 0.70 | 0.030 |
| SEP 12... | <0.10 | 8.7 | 29 | 34 | 0.04 | <0.010 | <0.100 | 0.020 | <0.010 | <0.20 | 0.050 |

SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| 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) |
|-----------|---|---|---|--|--|--|--|---|--|--|--|
| DEC 20... | <0.010 | 0.010 | <10 | <1 | 17 | <0.5 | <1.0 | <1 | <3 | 2 | 27 |
| MAR 20... | 0.010 | <0.010 | <10 | 1 | 16 | <0.5 | <1.0 | <1 | <3 | <1 | 23 |
| JUN 13... | 0.010 | 0.010 | <10 | <1 | 22 | 0.5 | <1.0 | <1 | <3 | 3 | 27 |
| SEP 12... | <0.010 | <0.010 | 20 | <1 | 19 | <0.5 | <1.0 | <1 | <3 | 2 | 48 |

| 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) |
|-----------|--|--|--|--|---|--|---|--|--|--|--|
| DEC 20... | <1 | <4 | 16 | <0.1 | <10 | <1 | <1 | <1.0 | 62 | <6 | 7 |
| MAR 20... | <1 | <4 | 8 | <0.1 | <10 | <1 | <1 | <1.0 | 49 | <6 | 10 |
| JUN 13... | 1 | <4 | 8 | <0.1 | <10 | <1 | <1 | <1.0 | 58 | <6 | 6 |
| SEP 12... | <1 | 4 | 7 | <0.1 | <10 | <1 | <1 | <1.0 | 52 | <6 | 3 |

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) | SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) | SPE- CIFIC CON- DUCT- ANCE (US/CM) | PH (STAND- ARD UNITS) | TEMPER- ATURE WATER (DEG C) | BARO- METRIC PRES- SURE (MM OF HG) | OXYGEN, DIS- SOLVED (MG/L) | OXYGEN, DIS- SOLVED SATUR- ATION) | SEDI- MENT, SUS- PENDE (MG/L) | SED. SUSP. SIEVE DIAM. % FINER .062 MM |
|--------|------|--|---|---|--------------------------------|--------------------------------------|--|-------------------------------------|---|---|---|
| MAR | | | | | | | | | | | |
| 20...* | 1112 | 0.90 | 6.00 | 48 | 7.7 | 16.0 | 765 | 9.8 | 99 | 8 | 80 |
| 20...* | 1114 | 1.14 | 14.5 | 48 | 7.7 | 16.0 | 765 | 9.8 | 99 | 7 | 76 |
| 20...* | 1116 | 1.38 | 23.0 | 47 | 7.7 | 16.0 | 765 | 9.8 | 99 | 8 | 70 |
| 20...* | 1118 | 1.20 | 28.2 | 47 | 7.7 | 16.0 | 765 | 9.8 | 99 | 6 | 86 |
| 20...* | 1120 | 0.85 | 35.5 | 47 | 7.7 | 16.0 | 765 | 9.8 | 99 | 8 | 78 |
| JUN | | | | | | | | | | | |
| 13...* | 0958 | 1.10 | 6.00 | 49 | 8.1 | 19.0 | 755 | 8.9 | 97 | 4 | 72 |
| 13...* | 0956 | 1.21 | 15.0 | 49 | 8.2 | 19.0 | 755 | 8.8 | 96 | 6 | 77 |
| 13...* | 0954 | 1.55 | 23.0 | 49 | 8.1 | 19.0 | 755 | 8.8 | 96 | 6 | 87 |
| 13...* | 0952 | 1.41 | 28.0 | 49 | 8.1 | 19.0 | 755 | 8.8 | 96 | 5 | 81 |
| 13...* | 0950 | 1.03 | 36.0 | 48 | 8.1 | 19.0 | 755 | 8.8 | 96 | 6 | 76 |

* Instantaneous streamflow at the time of cross-sectional measurements: Mar. 20, 18 ft³/s; June 13, 26 ft³/s.

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| DATE | TIME | DIS- CHARGE, INST. CUBIC FEET PER SECOND | TEMPER- ATURE WATER (DEG C) | SEDI- MENT, SUS- PENDED (MG/L) | SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) | SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM |
|--------------|------|--|--------------------------------------|--|--|---|
| DEC 20... | 1116 | 37 | 6.0 | 6 | 0.60 | 88 |
| MAR 20... | 1050 | 16 | 16.0 | 8 | 0.35 | 78 |
| JUN 13... | 0855 | 25 | 19.0 | 5 | 0.34 | 79 |
| SEP 12... | 0905 | 26 | 20.0 | 3 | 0.21 | 84 |

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 mi².

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 good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. Water is released from Jenkinson Lake through Camino conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American River basins. Seepage from North Fork Extension Ditch siphon could constitute a major part or all of the flow at low stages. 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).--36 years (water years 1955-90), 84.0 ft³/s, 60,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,680 ft³/s, Feb. 16, 1982, gage height, 14.50 ft, from rating curve extended above 5,000 ft³/s; no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 111 ft³/s, Oct. 24, gage height, 3.28 ft; minimum daily, 1.8 ft³/s, several days during September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 6.2 | 8.3 | 4.5 | 3.9 | 8.4 | 12 | 4.7 | 5.1 | 13 | 8.5 | 3.3 | 2.1 |
| 2 | 5.8 | 5.8 | 4.6 | 5.2 | 7.6 | 13 | 5.5 | 4.3 | 8.7 | 8.7 | 3.2 | 2.1 |
| 3 | 5.3 | 5.2 | 4.6 | 4.1 | 7.0 | 32 | 5.3 | 4.5 | 7.5 | 8.5 | 3.0 | 2.1 |
| 4 | 5.0 | 5.1 | 4.4 | 3.3 | 12 | 24 | 5.0 | 4.7 | 6.7 | 7.7 | 2.8 | 2.0 |
| 5 | 4.8 | 5.0 | 4.3 | 3.8 | 11 | 22 | 4.8 | 4.4 | 6.8 | 7.0 | 2.8 | 2.0 |
| 6 | 4.8 | 4.8 | 4.3 | 3.8 | 12 | 20 | 4.5 | 4.3 | 6.0 | 6.9 | 2.8 | 1.9 |
| 7 | 4.7 | 4.8 | 4.1 | 8.4 | 11 | 17 | 4.1 | 4.2 | 5.5 | 6.8 | 2.6 | 1.9 |
| 8 | 4.6 | 4.8 | 4.1 | 20 | 8.8 | 15 | 4.0 | 4.2 | 5.1 | 6.3 | 2.4 | 1.9 |
| 9 | 4.6 | 4.8 | 4.1 | 9.5 | 9.2 | 13 | 3.9 | 4.2 | 4.8 | 6.4 | 2.3 | 1.8 |
| 10 | 4.4 | 4.8 | 4.1 | 6.3 | 8.4 | 14 | 4.3 | 4.1 | 4.2 | 6.2 | 2.3 | 1.8 |
| 11 | 4.3 | 4.8 | 4.0 | 5.2 | 8.2 | 17 | 4.3 | 4.2 | 4.0 | 5.9 | 2.3 | 1.8 |
| 12 | 4.3 | 4.8 | 4.0 | 4.9 | 8.3 | 15 | 3.9 | 4.3 | 4.3 | 5.7 | 2.2 | 1.8 |
| 13 | 4.3 | 4.8 | 4.0 | 12 | 8.1 | 15 | 3.8 | 4.1 | 4.2 | 5.4 | 2.1 | 1.8 |
| 14 | 4.2 | 4.8 | 4.0 | 25 | 6.6 | 15 | 3.8 | 4.1 | 4.2 | 5.1 | 2.0 | 1.8 |
| 15 | 4.2 | 4.8 | 3.9 | 20 | 5.6 | 14 | 3.8 | 4.5 | 4.2 | 4.9 | 2.1 | 1.8 |
| 16 | 4.3 | 4.8 | 4.0 | 15 | 7.8 | 14 | 4.8 | 4.7 | 4.0 | 4.8 | 2.1 | 1.8 |
| 17 | 4.2 | 4.8 | 4.0 | 11 | 8.2 | 13 | 7.6 | 4.3 | 4.0 | 4.7 | 2.1 | 1.8 |
| 18 | 4.1 | 4.7 | 3.9 | 8.9 | 8.4 | 11 | 4.9 | 4.1 | 4.5 | 4.7 | 2.3 | 1.8 |
| 19 | 4.1 | 4.6 | 3.8 | 8.0 | 8.0 | 10 | 4.6 | 4.2 | 5.4 | 4.6 | 2.3 | 1.9 |
| 20 | 4.1 | 4.6 | 3.8 | 6.8 | 8.3 | 9.0 | 4.6 | 5.3 | 5.3 | 4.5 | 2.3 | 1.9 |
| 21 | 4.2 | 4.6 | 3.9 | 6.1 | 8.5 | 8.5 | 4.4 | 5.2 | 5.2 | 4.2 | 2.6 | 1.8 |
| 22 | 5.8 | 4.6 | 4.0 | 6.5 | 11 | 8.3 | 4.5 | 4.6 | 4.9 | 4.1 | 2.7 | 1.8 |
| 23 | 25 | 4.6 | 4.1 | 7.5 | 13 | 8.0 | 16 | 10 | 4.5 | 4.0 | 2.7 | 2.0 |
| 24 | 78 | 7.8 | 4.1 | 6.2 | 15 | 7.2 | 13 | 9.0 | 4.4 | 4.0 | 2.7 | 2.2 |
| 25 | 49 | 9.7 | 4.1 | 5.0 | 16 | 6.7 | 6.9 | 5.4 | 4.3 | 4.0 | 2.7 | 2.7 |
| 26 | 27 | 36 | 4.1 | 4.8 | 16 | 6.1 | 5.6 | 4.7 | 4.2 | 3.9 | 2.6 | 2.8 |
| 27 | 19 | 10 | 4.1 | 4.8 | 16 | 5.7 | 5.1 | 6.4 | 4.1 | 3.9 | 2.5 | 2.7 |
| 28 | 17 | 5.9 | 4.1 | 4.6 | 14 | 5.3 | 4.7 | 18 | 7.9 | 3.8 | 2.4 | 2.7 |
| 29 | 15 | 5.3 | 4.0 | 5.3 | --- | 5.1 | 4.5 | 10 | 9.1 | 3.8 | 2.3 | 2.8 |
| 30 | 13 | 4.7 | 3.6 | 8.1 | --- | 5.0 | 4.6 | 10 | 8.7 | 3.7 | 2.3 | 2.7 |
| 31 | 12 | --- | 3.6 | 9.5 | --- | 4.6 | --- | 22 | --- | 3.4 | 2.2 | --- |
| TOTAL | 357.3 | 194.1 | 126.2 | 253.5 | 282.4 | 385.5 | 161.5 | 193.1 | 169.7 | 166.1 | 77.0 | 62.0 |
| MEAN | 11.5 | 6.47 | 4.07 | 8.18 | 10.1 | 12.4 | 5.38 | 6.23 | 5.66 | 5.36 | 2.48 | 2.07 |
| MAX | 78 | 36 | 4.6 | 25 | 16 | 32 | 16 | 22 | 13 | 8.7 | 3.3 | 2.8 |
| MIN | 4.1 | 4.6 | 3.6 | 3.3 | 5.6 | 4.6 | 3.8 | 4.1 | 4.0 | 3.4 | 2.0 | 1.8 |
| AC-FT | 709 | 385 | 250 | 503 | 560 | 765 | 320 | 383 | 337 | 329 | 153 | 123 |
| a | -804 | +147 | -78 | +1042 | +714 | +5042 | +2776 | +529 | -31 | -2620 | -2571 | -2300 |
| b | 880 | 457 | 430 | 488 | 585 | 443 | 662 | 816 | 1017 | 2172 | 2093 | 1984 |
| c | 79 | 38 | 23 | 9 | 8 | 75 | 119 | 178 | 248 | 295 | 246 | 180 |

CAL YR 1989 TOTAL 5529.3 MEAN 15.1 MAX 149 MIN 2.1 AC-FT 10970 MEAN d 51.5 AC-FT d 37300
WTR YR 1990 TOTAL 2428.4 MEAN 6.65 MAX 78 MIN 1.8 AC-FT 4820 MEAN d 27.9 AC-FT d 20190

a Change in contents, in acre-feet, in Jenkinson Lake.

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; not reviewed by U.S. Geological Survey.

d Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

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 county 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 mi².

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

CHEMICAL DATA: Water years 1953-80.

WATER TEMPERATURE: Water years 1963-79.

SEDIMENT DATA: Water years 1958-74.

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 except those for periods with flows below 5 ft³/s, which are poor. 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 upstream from station for irrigation and domestic use.

AVERAGE DISCHARGE.--83 years, 491 ft³/s, 355,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,100 ft³/s, Feb. 17, 1986, gage height, 14.76 ft, from rating curve extended above 34,000 ft³/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 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|------|--------------------------------|------------------|------|------|--------------------------------|------------------|
| Feb. 16 | 1515 | *1,220 | *5.03 | | | | |

Minimum daily, 1.9 ft³/s, Sept. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|-------|-------|-------|
| 1 | 28 | 66 | 83 | 41 | 163 | 273 | 306 | 195 | 344 | 36 | 8.1 | 4.9 |
| 2 | 32 | 61 | 75 | 48 | 158 | 282 | 301 | 181 | 271 | 36 | 7.2 | 5.4 |
| 3 | 27 | 54 | 70 | 52 | 137 | 574 | 299 | 170 | 230 | 37 | 7.6 | 4.5 |
| 4 | 23 | 52 | 67 | 46 | 216 | 694 | 298 | 163 | 196 | 37 | 7.0 | 3.7 |
| 5 | 21 | 50 | 65 | 37 | 211 | 910 | 293 | 156 | 174 | 35 | 6.0 | 3.4 |
| 6 | 20 | 48 | 65 | 41 | 193 | 623 | 291 | 147 | 157 | 33 | 6.3 | 2.8 |
| 7 | 20 | 46 | 65 | 49 | 196 | 501 | 285 | 139 | 146 | 33 | 6.2 | 3.4 |
| 8 | 19 | 45 | 64 | 98 | 151 | 444 | 281 | 131 | 141 | 30 | 5.5 | 3.7 |
| 9 | 18 | 43 | 62 | 208 | 132 | 421 | 270 | 123 | 127 | 29 | 4.3 | 3.2 |
| 10 | 18 | 41 | 60 | 138 | 138 | 424 | 251 | 116 | 114 | 28 | 4.3 | 2.7 |
| 11 | 17 | 40 | 59 | 106 | 125 | 568 | 246 | 113 | 106 | 26 | 3.7 | 3.3 |
| 12 | 16 | 39 | 57 | 94 | 121 | 466 | 243 | 110 | 97 | 24 | 3.0 | 3.1 |
| 13 | 16 | 39 | 54 | 149 | 119 | 422 | 238 | 102 | 90 | 23 | 3.4 | 2.5 |
| 14 | 16 | 38 | 54 | 384 | 117 | 382 | 238 | 95 | 86 | 21 | 3.1 | 2.8 |
| 15 | 16 | 37 | 53 | 431 | 95 | 359 | 242 | 91 | 84 | 20 | 3.0 | 2.4 |
| 16 | 16 | 36 | 52 | 284 | 357 | 343 | 246 | 85 | 83 | 19 | 2.7 | 2.1 |
| 17 | 16 | 35 | 51 | 254 | 464 | 337 | 306 | 81 | 79 | 18 | 3.2 | 2.6 |
| 18 | 15 | 35 | 49 | 183 | 481 | 348 | 281 | 78 | 73 | 16 | 2.7 | 2.6 |
| 19 | 16 | 34 | 47 | 162 | 296 | 373 | 251 | 74 | 69 | 15 | 2.9 | 2.4 |
| 20 | 15 | 34 | 46 | 141 | 238 | 399 | 233 | 74 | 67 | 15 | 3.4 | 1.9 |
| 21 | 16 | 33 | 46 | 127 | 204 | 421 | 219 | 84 | 61 | 14 | 3.5 | 2.5 |
| 22 | 18 | 35 | 47 | 117 | 202 | 440 | 212 | 86 | 57 | 13 | 3.7 | 4.0 |
| 23 | 36 | 33 | 46 | 118 | 224 | 442 | 307 | 86 | 53 | 13 | 4.1 | 3.8 |
| 24 | 254 | 35 | 45 | 112 | 242 | 433 | 482 | 131 | 50 | 12 | 5.2 | 3.9 |
| 25 | 332 | 57 | 44 | 106 | 245 | 433 | 340 | 126 | 47 | 11 | 5.0 | 3.7 |
| 26 | 218 | 322 | 44 | 102 | 241 | 426 | 284 | 96 | 46 | 9.9 | 4.7 | 3.6 |
| 27 | 140 | 282 | 44 | 98 | 242 | 407 | 262 | 97 | 42 | 9.6 | 5.2 | 3.7 |
| 28 | 105 | 147 | 43 | 95 | 257 | 385 | 247 | 218 | 38 | 9.2 | 5.2 | 6.4 |
| 29 | 91 | 109 | 43 | 88 | --- | 364 | 234 | 280 | 37 | 8.6 | 5.0 | 7.1 |
| 30 | 80 | 91 | 41 | 98 | --- | 337 | 217 | 198 | 37 | 8.7 | 4.7 | 6.8 |
| 31 | 71 | --- | 41 | 131 | --- | 319 | --- | 254 | --- | 8.5 | 5.1 | --- |
| TOTAL | 1746 | 2017 | 1682 | 4138 | 5965 | 13550 | 8203 | 4080 | 3202 | 648.5 | 145.0 | 108.9 |
| MEAN | 56.3 | 67.2 | 54.3 | 133 | 213 | 437 | 273 | 132 | 107 | 20.9 | 4.68 | 3.63 |
| MAX | 332 | 322 | 83 | 431 | 481 | 910 | 482 | 280 | 344 | 37 | 8.1 | 7.1 |
| MIN | 15 | 33 | 41 | 37 | 95 | 273 | 212 | 74 | 37 | 8.5 | 2.7 | 1.9 |
| AC-FT | 3460 | 4000 | 3340 | 8210 | 11830 | 26880 | 16270 | 8090 | 6350 | 1290 | 288 | 216 |

CAL YR 1989 TOTAL 85106.1 MEAN 233 MAX 5450 MIN 1.3 AC-FT 168800
WTR YR 1990 TOTAL 45485.4 MEAN 125 MAX 910 MIN 1.9 AC-FT 90220

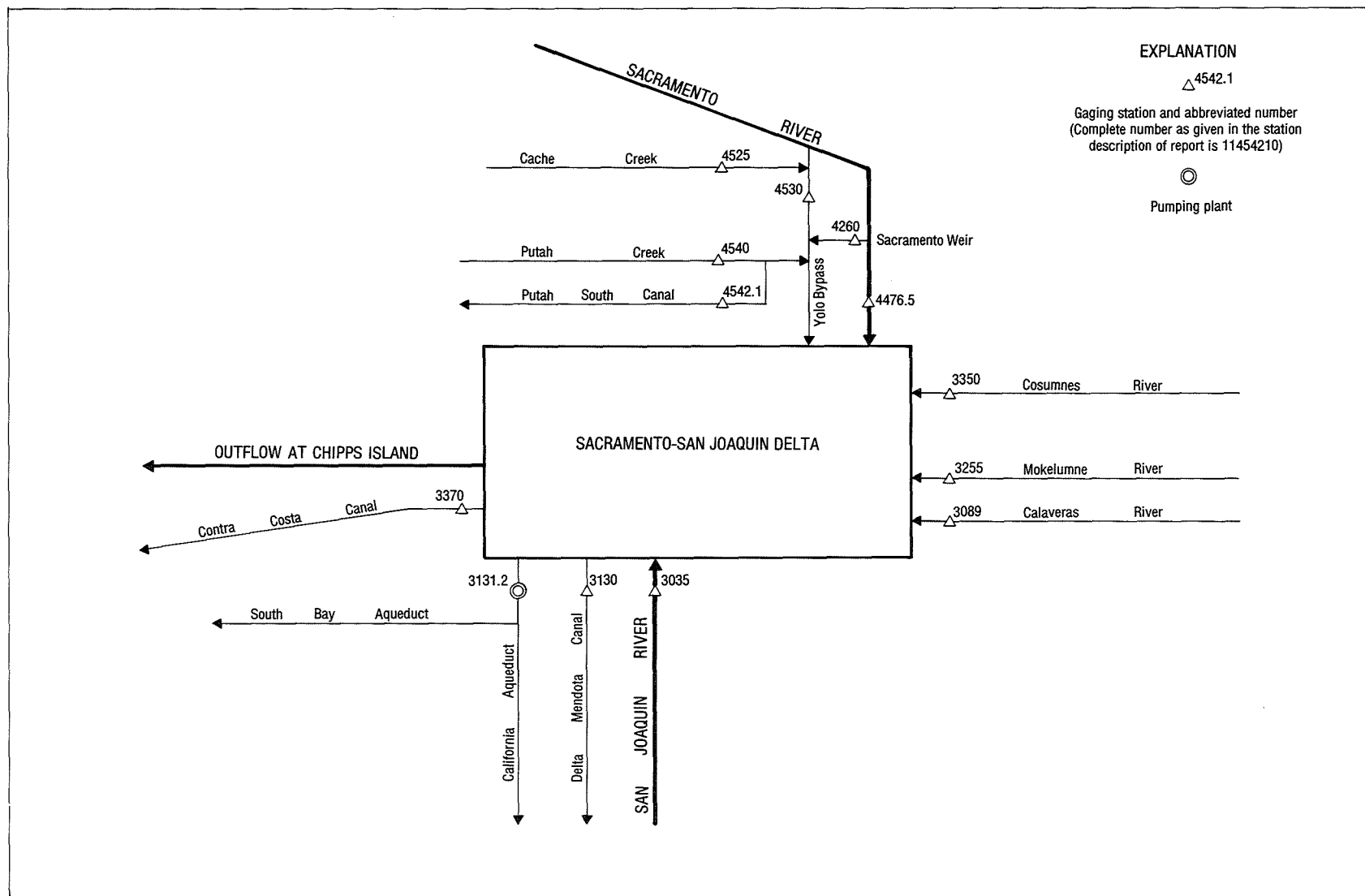


Figure 37. Principal inflows and diversions, Sacramento-San Joaquin Delta.

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.

REMARKS.--Minor inflow streams and diversions are not included. Total for water year may not equal the sum of the individual months because of rounding.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals provided by U.S. Bureau of Reclamation; Records for California Aqueduct and Sacramento Weir spill provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

| Inflows, in thousands of acre-feet | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|---------------|-------|-------|-------|-------|-------|---------------|
| Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Month Apr. | May | June | July | Aug. | Sept. | Water year |
| 11303500 SAN JOAQUIN RIVER NEAR VERNALIS | | | | | | | | | | | | |
| 86.14 | 83.56 | 84.93 | 76.36 | 75.83 | 108.2 | 77.91 | 78.67 | 66.43 | 62.04 | 63.51 | 52.12 | 915.8 |
| 11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM | | | | | | | | | | | | |
| .18 | 3.03 | 2.94 | .14 | .15 | .18 | .17 | 4.52 | 4.95 | 4.96 | 5.64 | 3.24 | 30.11 |
| 11325500 MOKELUMNE RIVER AT WOODBRIDGE | | | | | | | | | | | | |
| 2.12 | 7.47 | 2.37 | 2.31 | 2.26 | 1.17 | 1.27 | 1.85 | 1.49 | 1.50 | 1.61 | 1.63 | 27.06 |
| 11335000 COSUMNES RIVER AT MICHIGAN BAR | | | | | | | | | | | | |
| 3.46 | 4.00 | 3.34 | 8.21 | 11.83 | 26.88 | 16.27 | 8.09 | 6.35 | 1.29 | .29 | .22 | 90.22 |
| 11426000 SACRAMENTO WEIR SPILL | | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11447650 SACRAMENTO RIVER AT FREEPORT | | | | | | | | | | | | |
| 877.7 | 885.0 | 946.7 | 1163 | 768.2 | 791.6 | 908.7 | 639.6 | 625.9 | 827.7 | 850.9 | 596.8 | 9882 |
| 11453000 YOLO BYPASS NEAR WOODLAND ¹ | | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11454000 PUTAH CREEK NEAR WINTERS | | | | | | | | | | | | |
| 9.05 | 4.77 | 4.65 | 4.16 | 3.81 | 8.41 | 28.15 | 29.75 | 28.13 | 35.33 | 31.05 | 21.84 | 209.1 |
| TOTAL | | | | | | | | | | | | |
| 978.6 | 987.8 | 1045 | 1254 | 862.1 | 936.4 | 1032 | 762.5 | 733.2 | 932.8 | 953.0 | 675.8 | 11150 |
| Diversion, in thousands of acre-feet | | | | | | | | | | | | |
| Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Month Apr. | May | June | July | Aug. | Sept. | Water year |
| 11313000 DELTA-MENDOTA CANAL | | | | | | | | | | | | |
| 259.3 | 247.7 | 252.8 | 254.3 | 227.4 | 252.6 | 253.0 | 170.3 | 177.7 | 225.1 | 186.4 | 190.1 | 2697 |
| 11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT) | | | | | | | | | | | | |
| 374.2 | 361.1 | 382.0 | 388.6 | 350.8 | 388.8 | 308.9 | 21.23 | 18.34 | 149.5 | 208.3 | 147.2 | 3099 |
| 11337000 CONTRA COSTA CANAL | | | | | | | | | | | | |
| 10.94 | 9.19 | 8.95 | 8.41 | 8.22 | 9.43 | 11.98 | 13.33 | 12.79 | 14.62 | 14.14 | 13.43 | 135.4 |
| 11454210 PUTAH SOUTH CANAL | | | | | | | | | | | | |
| 7.61 | 2.97 | 3.04 | 2.93 | 2.86 | 6.38 | 26.33 | 27.80 | 25.21 | 31.40 | 28.09 | 19.19 | 183.8 |
| TOTAL | | | | | | | | | | | | |
| 652.0 | 621.0 | 646.8 | 654.2 | 589.3 | 657.2 | 600.2 | 232.7 | 234.0 | 420.6 | 436.9 | 369.9 | 6115 |

¹Flow not computed below 1,000 ft³/s.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1990

| Station No. | Station name | Location | Drainage area (mi ²) | Period of record | Date | Annual maximum | |
|-------------------|-----------------------------------|--|----------------------------------|---|---------|--------------------|--------------------------------|
| | | | | | | Gage height (feet) | Discharge (ft ³ /s) |
| Tulare Lake Basin | | | | | | | |
| 11205680 | Frazier Creek near Strathmore, CA | Lat 36°08'33", long 118°57'17", in NE 1/4 SE 1/4 sec.32, T.20 S., R.28 E., Tulare County, Hydrologic Unit 18030012, at culvert on county road J28, 5.9 mi east of Strathmore. | 3.05 | 1974-90 | 1990 | | No flow |
| 11205690 | Lewis Creek near Lindsay, CA | Lat 36°11'11", long 118°59'46", in NW 1/4 NE 1/4 sec.13, T.20 S., R.27 E., Tulare County, Hydrologic Unit 18030012, at culvert on Road 258, 0.2 mi downstream from unnamed tributary, and 7.0 mi southeast of Lindsay. | 21.5 | 1969a, 1974-90 | 5-28-90 | 20.46 | e1.8 |
| 11212000 | Sand Creek near Orange Cove, CA | Lat 36°37'36", long 119°14'48", in SW 1/4 NW 1/4 sec.15, T.15 S., R.25 E., Tulare County, Hydrologic Unit 18030012, on right bank 3.8 mi east of Orange Cove. | 31.6 | 1944-54, 1956d, 1967d, 1969d, 1971-84d, 1985-90 | 1-17-90 | .92 | .26 |

a Published as a miscellaneous measurement.

e Estimated.

d Computed as continuous record.

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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).

| Multiply inch-pound units | By | To obtain SI units |
|--|------------------------|--|
| <i>Length</i> | | |
| 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) |
| <i>Area</i> | | |
| 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) |
| <i>Volume</i> | | |
| 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) |
| <i>Flow</i> | | |
| 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) |
| <i>Mass</i> | | |
| tons (short) | 9.072×10^{-1} | megagrams (Mg) or metric tons |

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