Water Resources Data California

Water Year 1989

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

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-89-2
Prepared in cooperation with the California Department of Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1989

1988

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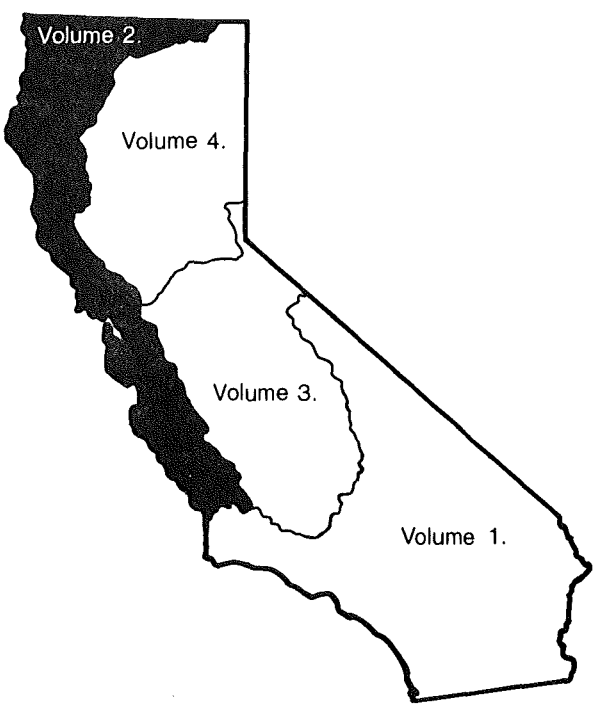
Water Resources Data California

Water Year 1989

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

by J.R. Palmer, W.F. Shelton, L.F. Trujillo, and K.L. Markham



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-89-2
Prepared in cooperation with the California Department of Water Resources and with other agencies

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, *Director*

For information on the water program in California write to
District Chief, Water Resources Division
U.S. Geological Survey
Room W-2234, Federal Building
2800 Cottage Way
Sacramento, California 95825

1990

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 the 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 the Walker River to the Truckee River

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

Volume 5. Ground-Water Data for California

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

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

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15. Supplementary Notes

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

16. Abstract (Limit: 200 words)

Water resources data for the 1989 water year for California consist of records of stage, discharge, and water quality of streams; stage and contents in lakes and reservoirs; and water levels and water quality in wells. Volume 2 contains discharge records for 127 gaging stations, stage and contents for 7 lakes and reservoirs, and water quality for 32 stations. Also included is 1 low-flow partial-record station and 22 water-quality partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.

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*California, *Hydrologic data, *Surface water, Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

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

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

WATER RESOURCES DATA -- CALIFORNIA, WATER YEAR 1989

VOLUME 2--PACIFIC SLOPE BASINS FROM ARROYO GRANDE TO OREGON STATE LINE EXCEPT CENTRAL VALLEY

By J.R. Palmer, W.F. Shelton, L.F. Trujillo, and K.L. Markham

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 127 streamflow-gaging stations and 1 low-flow partial-record streamflow station; (2) stage and contents records for 7 lakes and reservoirs; (3) precipitation records for 5 stations; and (4) water-quality records for 32 streamflow-gaging stations and 22 water-quality partial-record 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 was published for ground-water levels and quality.

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-89-2." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

COOPERATION

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

Alameda County Flood Control and Water Conservation District, Robert Bitten, Director of Public Works.
Alameda County Water District, James D. Beard, General Manager.
California Department of Boating and Waterways, William H. Ivers, Director
California Department of Parks and Recreation, Henry R. Agonia, Director
California Department of Water Resources, David N. Kennedy, Director.

Contra Costa County Flood Control and Water Conservation District, Milton Kubicek, Deputy Director.
Humboldt Bay Municipal Water District, Arthur Bolli, General Manager.
Marin Municipal Water District, Ronald L. Johnson, General Manager.
Monterey County Flood Control and Water Conservation District, William Hurst, General Manager.
Monterey Peninsula Water Management District, Bruce Buel, General Manager.

San Benito County Water Conservation and Flood Control District, William Rupert, District Manager.
San Francisco Water Department, Donald J. Birrir, General Manager.
San Luis Obispo County Engineering Department, George Protopapas, County Engineer.
San Mateo County, R. George Zinckraft, Senior Civil Engineer.
Santa Clara Valley Water District, Ronald R. Esau, General Manager.

Santa Cruz, city of, Water Department, William Kocker, Director.
Santa Cruz County Flood Control and Water Conservation District, Planning Department, David D. Leslie, Director.
Scotts Valley Water District, Jon Sansing, General Manager.
Sonoma County Planning Department, Kenneth L. Milam, A/CP Director.
Sonoma County Water Agency, Robert F. Beach, General Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; and National Park Service, U.S. Department of the Interior.

The following organizations aided in collecting records: Pacific Gas and Electric Company; Pacific Power and Light Company.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

As is common in California, streamflow varied greatly in the 1989 water year, month by month and regionally. The variations are related to differences in precipitation, temperature, topography, and geology. Runoff during the 1989 water year in the area covered by this volume was 35 percent of the 1951-80 median (based on 10 representative streamflow records). Total runoff, in percent of median, at selected sites in California is shown in figure 1. Runoff ranged from 89 percent of median at Smith River near Crescent City (station 11532500) to 18 percent at Saratoga Creek at Saratoga (station 11169501). Figure 2 shows monthly mean discharge during the 1989 water year at four index stations compared to the 1951-80 median, maximum, and minimum monthly mean discharges. Annual departure from normal discharge for four selected gaging stations is shown in figure 3.

Runoff in the 1989 water year resulted in about the ninth driest year of this century. The 1989 drought was comparable in intensity to 1920, 1929, 1933, and 1934; it was considered a dry year. In northwestern California, several localities had difficulties due to a decrease in surface-water supplies. The counties north of San Francisco Bay had no significant drought-related shortages. The counties south of the bay had low reservoir storage. On the north-central coast, water supplies were marginally adequate. Mandatory or voluntary conservation measures were enacted or continued in several localities.

The water year began with many reservoir levels at or below average. In anticipation of a fourth 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 80 percent of the 10-year average. Many small to moderate-sized reservoirs had storage less than 50 percent of capacity. Storage in selected reservoirs for water years 1987-89 is shown in figure 4.

The only significant storm during the 1989 water year occurred September 16-18 when the heaviest September rains since 1982 fell in central and northern California; several moderate storms occurred in November, December, and March. Few streams in the area covered by this volume exceeded the peak discharge bases and none had peaks of record. Precipitation in the area covered by this volume (based on seven representative precipitation gages) was 81 percent of the long-term average. Precipitation varied from 93 percent at Crescent City to 71 percent at Pismo Beach. Precipitation was significantly below normal for all areas south of Santa Cruz.

Figure 1.--Runoff, in percent of median, for the 1989 water year.

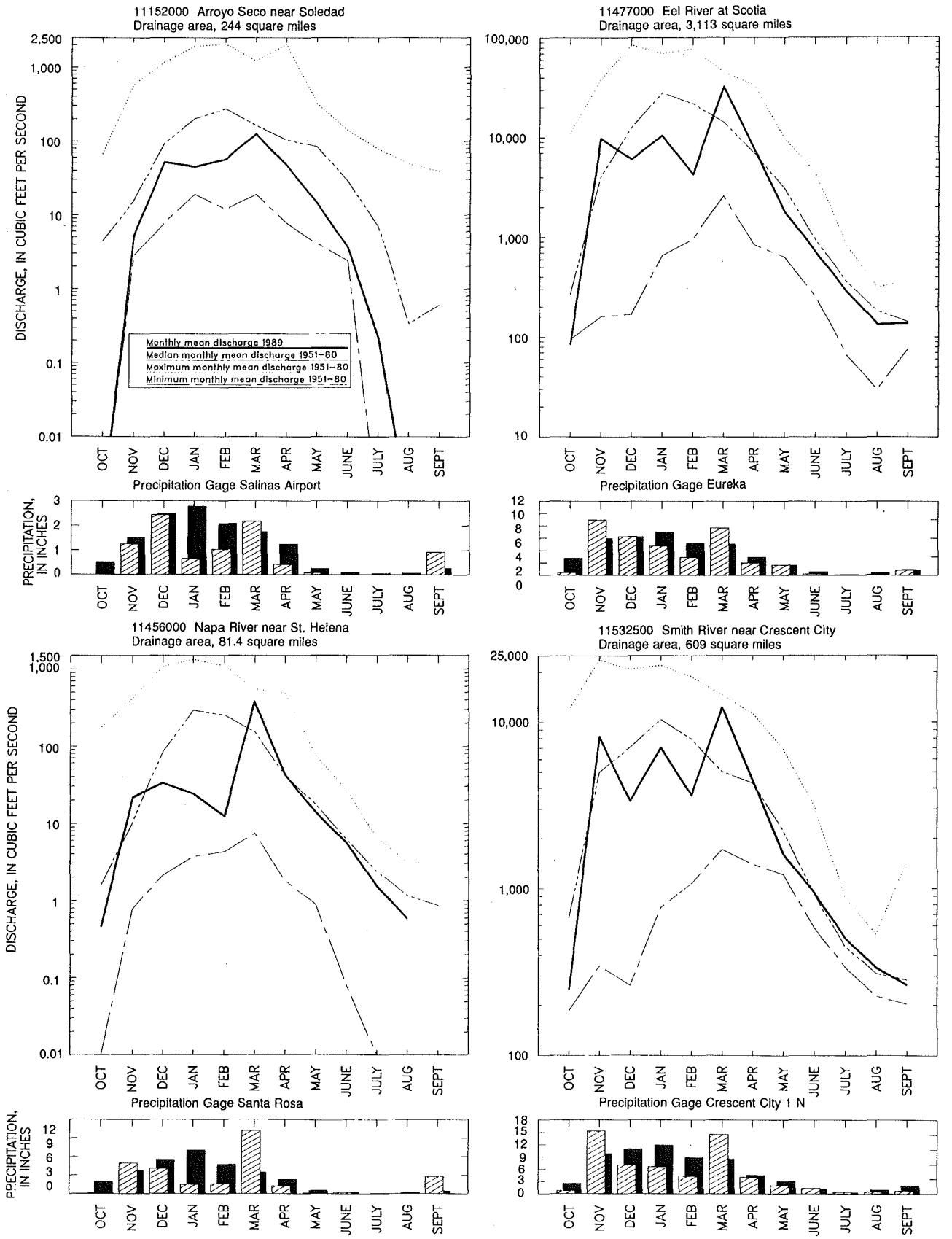


Figure 2.--Comparison of discharge during water year 1989 with long-term discharge statistics and precipitation at four representative gaging stations.

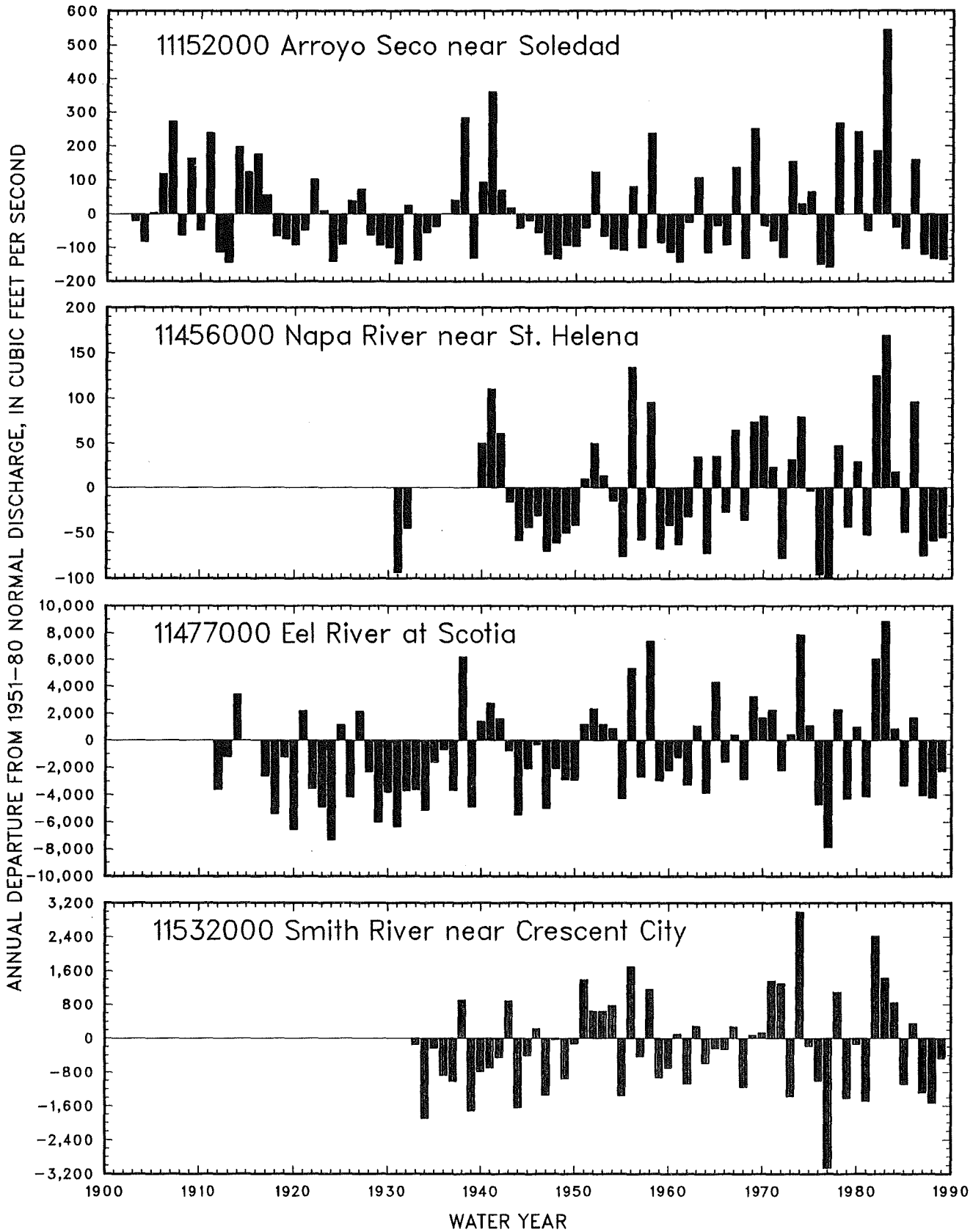


Figure 3.--Annual departure from 1951-80 normal discharge for period of record at selected gaging stations.

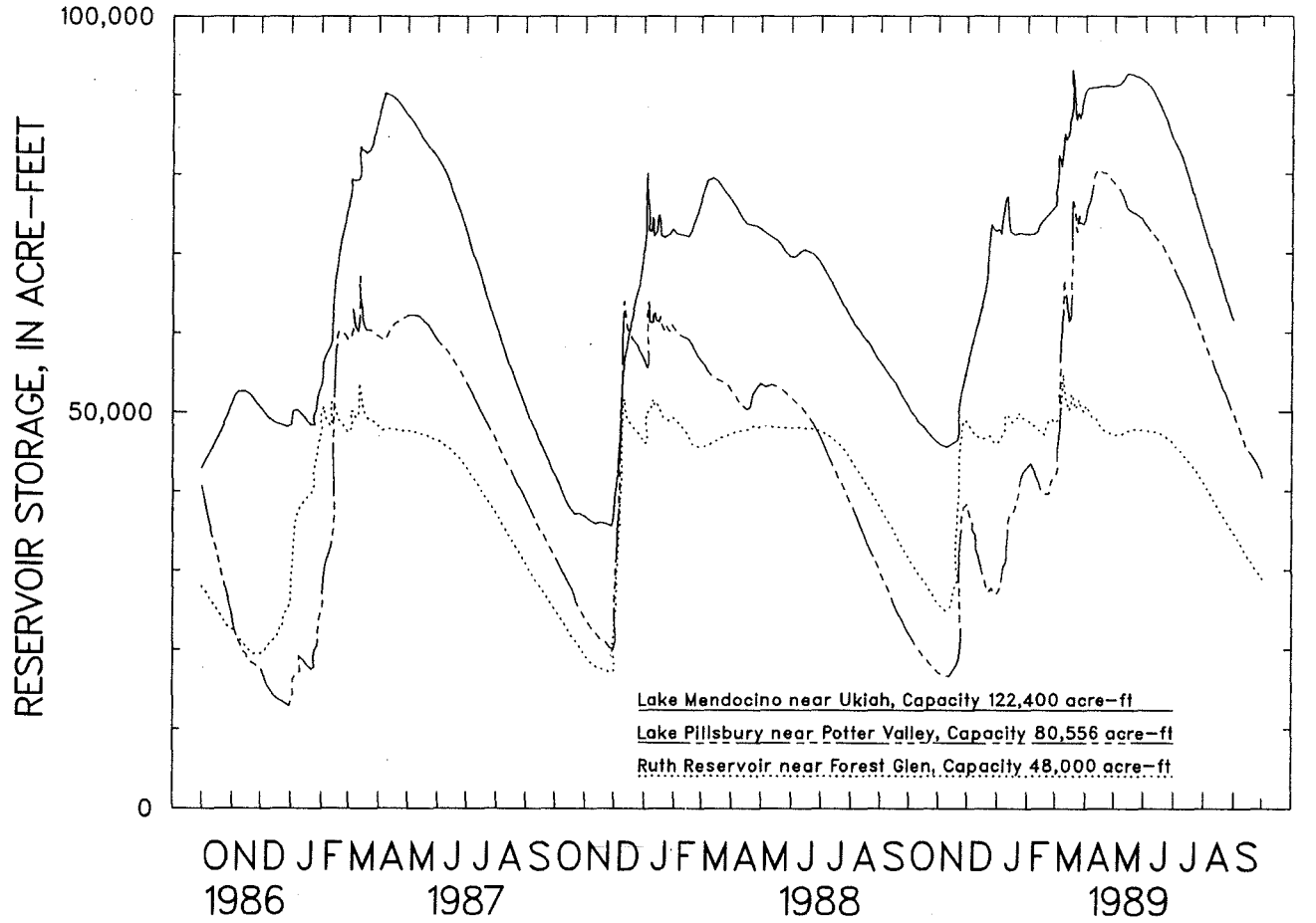


Figure 4.--Storage in selected reservoirs, water years 1987-89.

Water Quality

Water samples collected at seven NASQAN stations and one Hydrologic Benchmark station reported in this volume were analyzed for water-quality constituents. Dissolved-solids concentrations of samples collected at these stations generally increased slightly from the previous year and were largest at the Pajaro River at Chittenden (station 11159000), where the median concentration was 932 milligrams per liter. The lowest concentration was in water sampled from the Smith River near Crescent City (station 11532500), where the median concentration was 53 milligrams per liter. The monthly mean dissolved-solids concentrations during water year 1989 are compared in figure 5 with long-term dissolved-solids concentrations at two selected stations. There were no chemical-constituent concentrations that exceeded water-quality criteria recommended by the U.S. Environmental Protection Agency. The largest fecal-coliform bacterial density (390 colonies per 100 milliliters) and fecal-streptococcus bacterial density (520 colonies per 100 milliliters) were measured in water samples collected from the Salinas River near Chualar (station 11152300), and Pajaro River at Chittenden (station 11159000), respectively.

Sediment

Suspended-sediment discharge and concentrations were monitored daily at 6 stations and periodically at 17 stations in the area included in this volume. Bed-material samples were obtained at seven sites. Monthly and annual bedload discharges were estimated for all daily stations. Sediment-monitoring stations are located as far north as Crescent City in Del Norte County and as far south as Bryson in San Luis Obispo County. Large variations in precipitation and drainage-basin characteristics result in significant differences in sediment-discharge rates.

Sediment discharge was well below normal during the 1989 water year for all the daily sediment stations included in this volume. Annual sediment discharge was 0.9 percent of average (1979-88) for Cull Creek above Cull Creek Reservoir, near Castro Valley, station 11180960; 43 percent (1971-88) for Redwood Creek at Orick, station 11482500; and 7 percent (1976-88) for Grass Valley Creek at Fawn Lodge, near Lewiston, station 11525600.

During the 1989 water year, sediment discharge for the six daily stations ranged from 309 tons per year for Cull Creek above Cull Creek Reservoir, near Castro Valley (5.79 square miles drainage area) to 464,000 tons per year for Redwood Creek at Orick (277 square miles drainage area). Annual sediment yield ranged from a minimum of 28 tons per square mile for San Lorenzo Creek above Don Castro Reservoir, near Castro Valley (station 11180825) to a maximum of 1,670 tons per square mile for Redwood Creek at Orick.

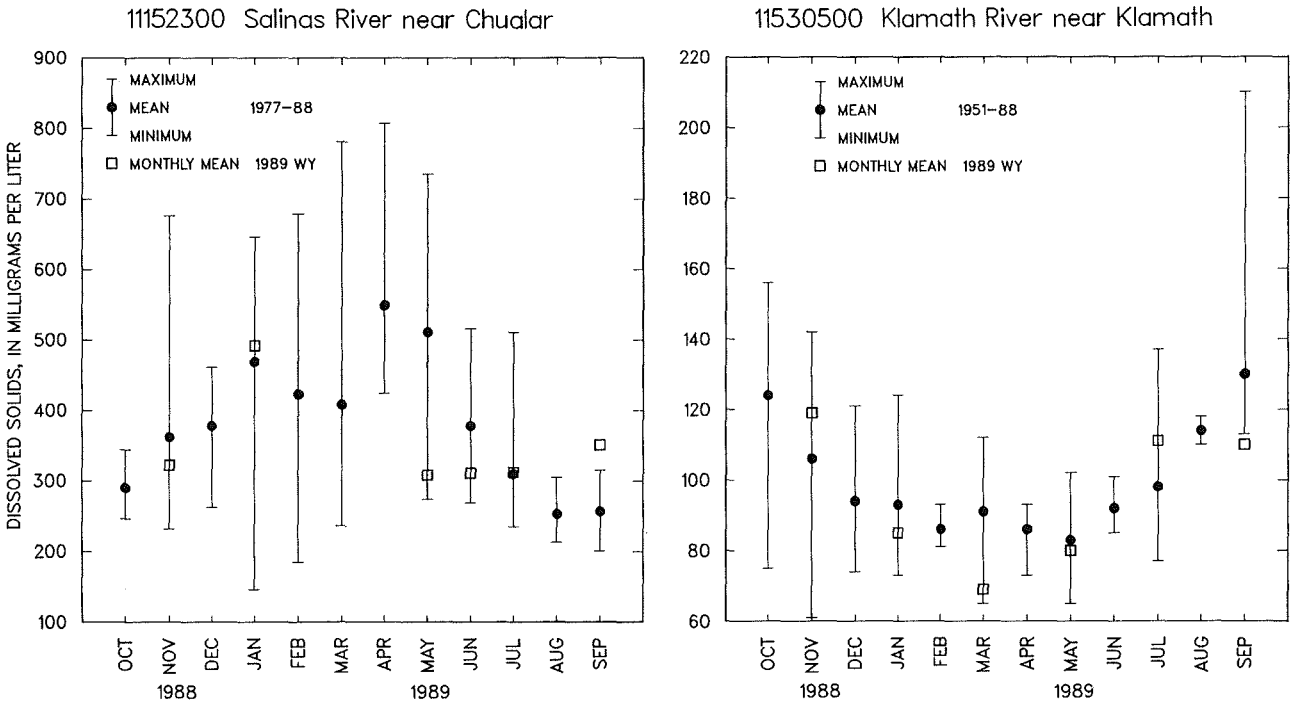


Figure 5.--Comparison of monthly mean dissolved-solids concentrations during water year 1989 with long-term dissolved-solids concentrations at two selected stations.

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 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 1989 water year that began October 1, 1988, and ended September 30, 1989. 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 main-stream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

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

Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 6).

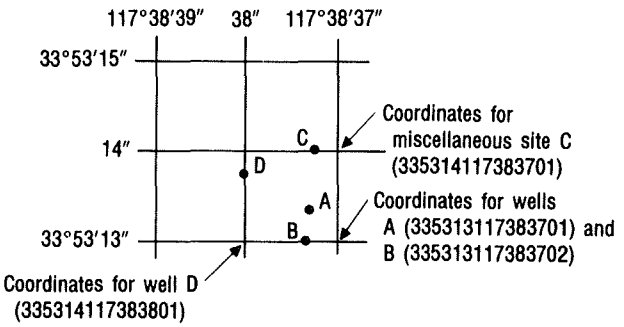


Figure 6.--System for numbering miscellaneous sites (latitude and longitude).

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 partial-record stations for which data are given in this report are shown, by county, in figures 7 through 23.

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 is reported in the same manner as the maximum.

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

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

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

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

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

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly, 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 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the 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 California 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 23.

Arrangement of Records

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

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern is the assurance that the data obtained represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, are made onsite when samples are taken. To assure that measurements made in the laboratory also represent the in-situ water, carefully prescribed procedures are followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. All these references are listed on p. 20 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the California District office.

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

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

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

Water Temperature

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

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

Sediment

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

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

Estimates of bedload and total-sediment discharge are included for some stations. Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith bedload sampler or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis. The Helley-Smith sampler is designed to collect a time-weighted sample for the sediment moving within 0.25 ft of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. Calibration of the Helley-Smith sampler has not been completed, and a trap efficiency of 1.0 has been assumed applicable to this device. Error sources in the theoretical methods, based on analysis of bed-material characteristics, channel geometry, and associated hydraulic factors, are also defined. In consequence, figures of bedload discharge must be used with caution. They are estimates, at best, and are subject to revision.

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-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S Geological Survey'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 laboratories are given in Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

Data Presentation

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

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

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

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

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

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature 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 °C ± 0.5 °C on KF streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

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

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

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

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

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

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

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

From cell volume, total algal biomass expressed as biovolume ($\pi m^3/mL$) 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 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

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

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

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

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

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

Micrograms per gram (UG/G, µg/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, µg/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:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating 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 emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

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

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

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

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

Suspended--Continued

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, 1989, is called the "1989 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-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-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. Shaffrannek, R.A. Baltzer, and D.E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

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

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

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

DISCONTINUED GAGING STATIONS

The following continuous-record streamflow stations reported in this volume have been discontinued as of the 1989 water year. Daily streamflow or stage records were collected and published for the period of record shown for each station.

Station No.	Station name	Drainage area (mi^2)	Period of record (water year)
11142240	Perry Creek at Cambria	22.9	1988-89
11142300	San Simeon Creek near Cambria	26.3	1988-89
11183700	Little Pine Creek near Alamo	1.22	1975-89
11482120	Redwood Creek above Panther Creek, near Orick	150	1981-89
11482130	Coyote Creek near Orick	7.78	1980-82, 1984-89
11482468	Little Lost Man Creek at site no. 2, near Orick	3.46	1974-82, 1985-89

DISCONTINUED WATER-QUALITY STATIONS

The following water-quality stations reported in this volume have been discontinued as of the 1989 water year. Continuous records of water quality and sediment were collected and published for the period of record shown.

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record (water year)
11142200	Santa Rosa Creek near Cambria	12.5	C	1988-89
11142240	Perry Creek at Cambria	22.9	C	1988-89
11142300	San Simeon Creek near Cambria	26.3	C	1988-89
11460015	Corte Madera Creek at College Avenue, at Kentfield	18.2	S	1988-89
11482120	Redwood Creek above Panther Creek, near Orick	150	S	1974-76, 1980-89
11482130	Coyote Creek near Orick	7.78	S	1980-83, 1985-89
11482468	Little Lost Man Creek at site no. 2, near Orick	3.46	S	1974-76, 1978-82, 1985-89
11525550	Grass Valley Creek near French Gulch	7.93	S	1985-89
353339121053900	Santa Rosa Creek on Highway 1 Bridge, at Cambria	46.6	C	1988-89
353406121061100	Santa Rosa Creek at Windsor Boulevard, near Cambria	47.1	C	1988-89
353635121043101	San Simeon Creek at Palmer Flats, near Cambria	23.1	C	1988-89
375658122324000	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 0	Not determined	S	1988-89
375701122324200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 1	Not determined	S	1988-89
375704122324200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 2	Not determined	S	1988-89
375710122324000	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 3	Not determined	S	1989
375711122324600	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 4	Not determined	S	1988-89
375712122325100	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 5	Not determined	S	1988-89
375712122325200	Corte Madera Creek near College Avenue, at Kentfield, at Cross Section 6	Not determined	S	1988-89

Type of record: C chemical data; S, sediment.

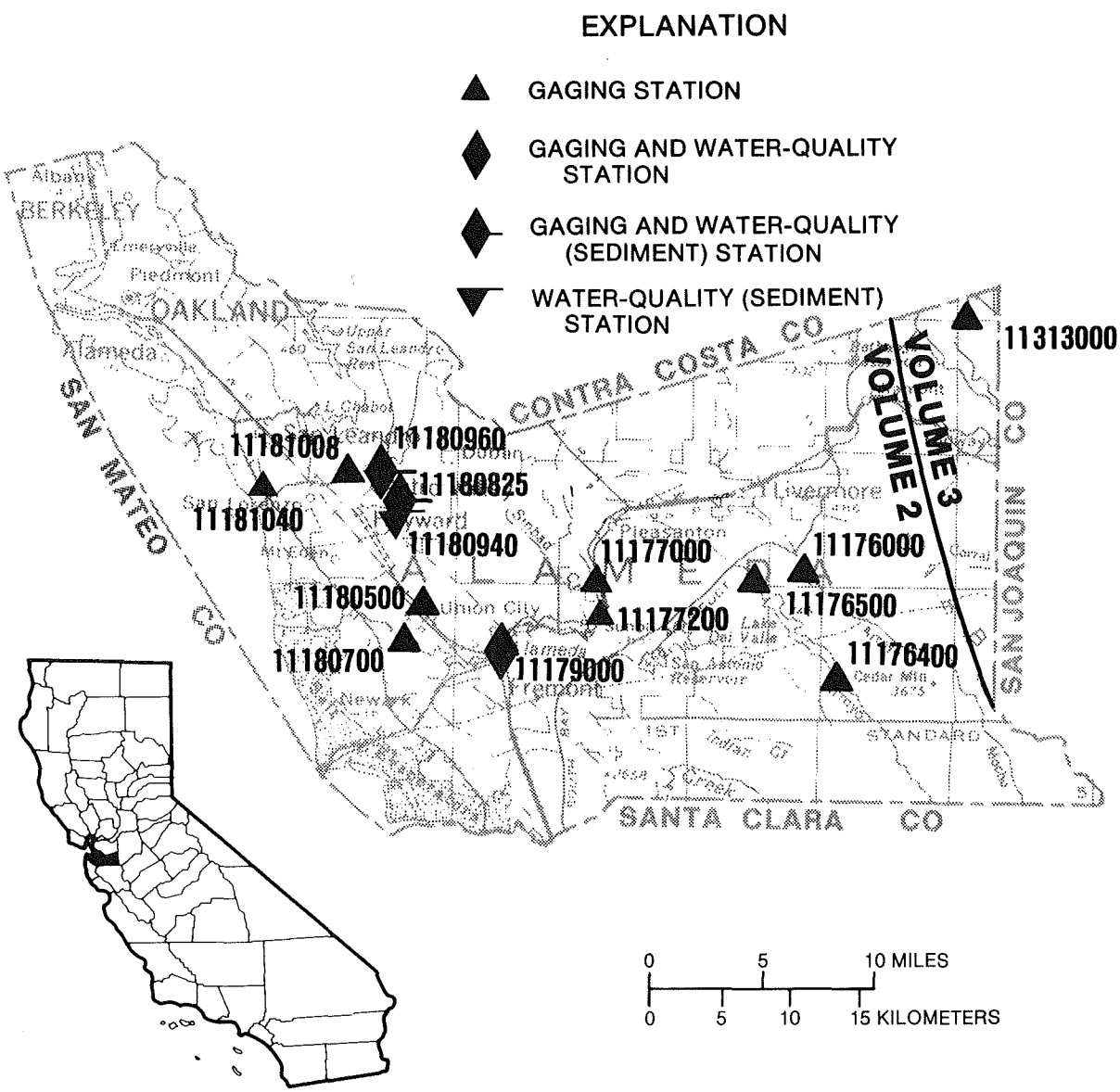


Figure 7.--Location of discharge and water-quality stations in Alameda County.
(Note: Record for station 11313000 published in volume 3)

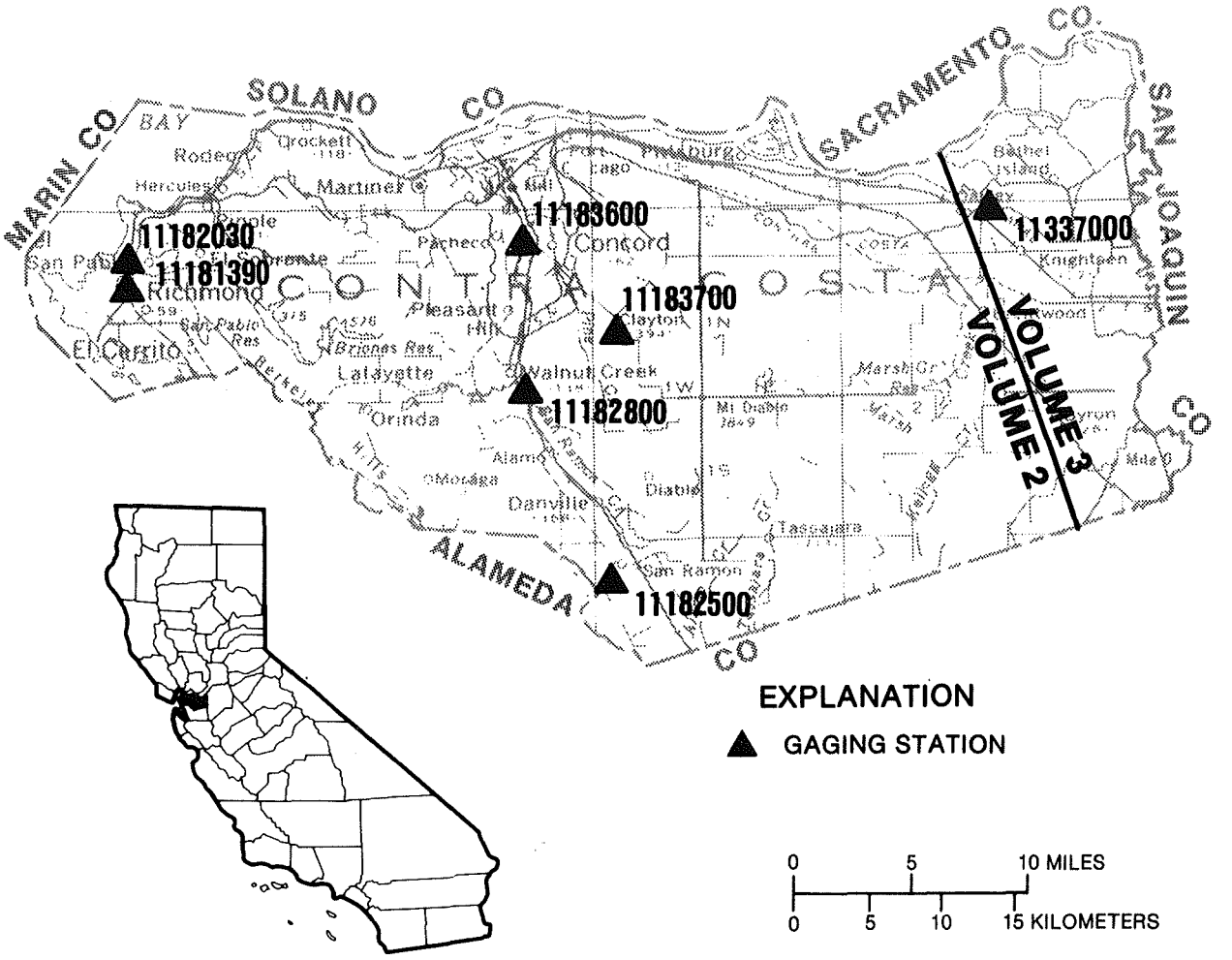


Figure 8.-- Location of discharge stations in Contra Costa County.
(Note: Record for station 11337000 published in volume 3)

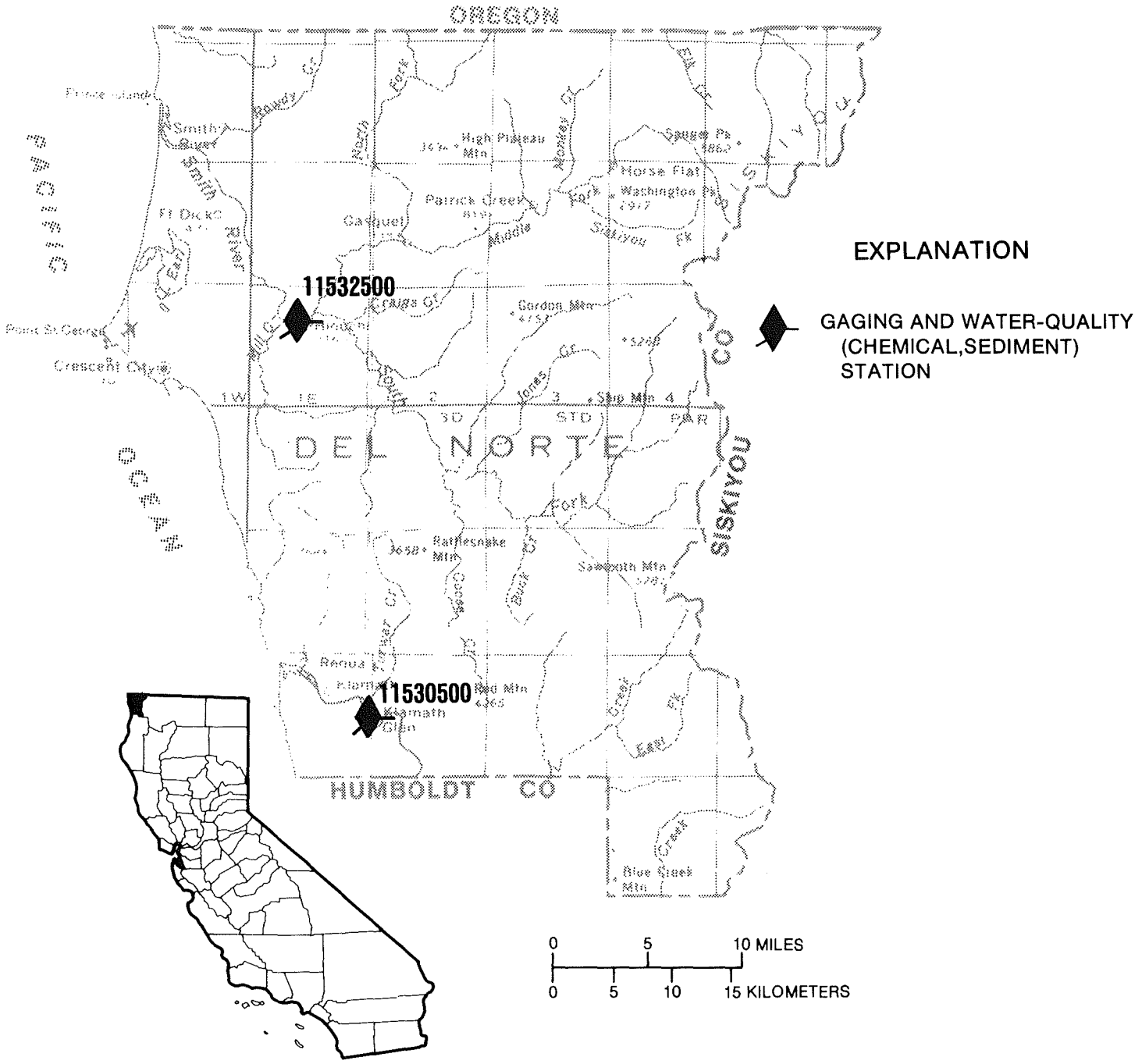


Figure 9.--Location of discharge and water-quality stations in Del Norte County.

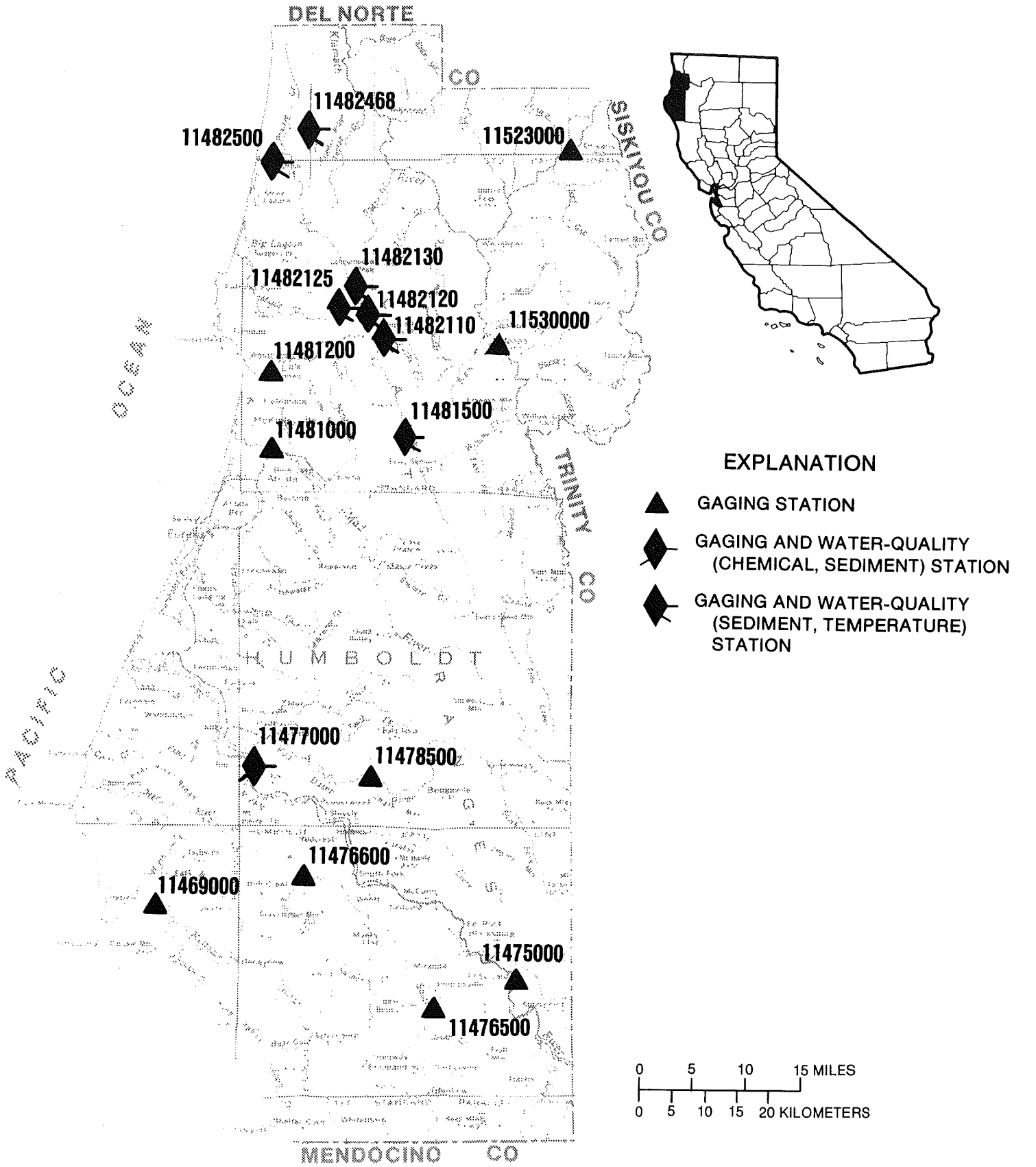


Figure 10.--Location of discharge and water-quality stations in Humboldt County.

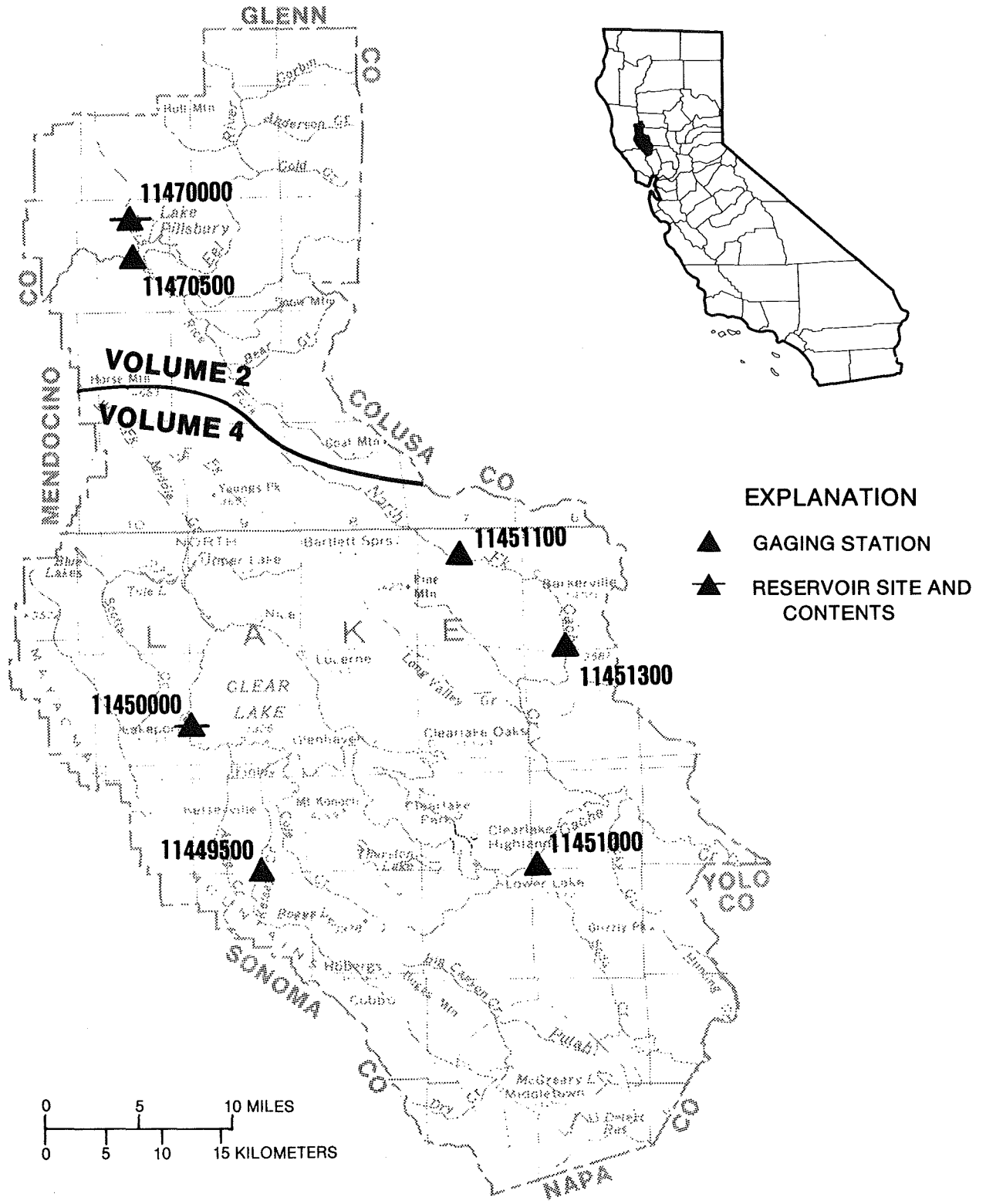


Figure 11.--Location of discharge stations in Lake County.
(Note: Records for stations 11449500 through 11451300 published in volume 4)

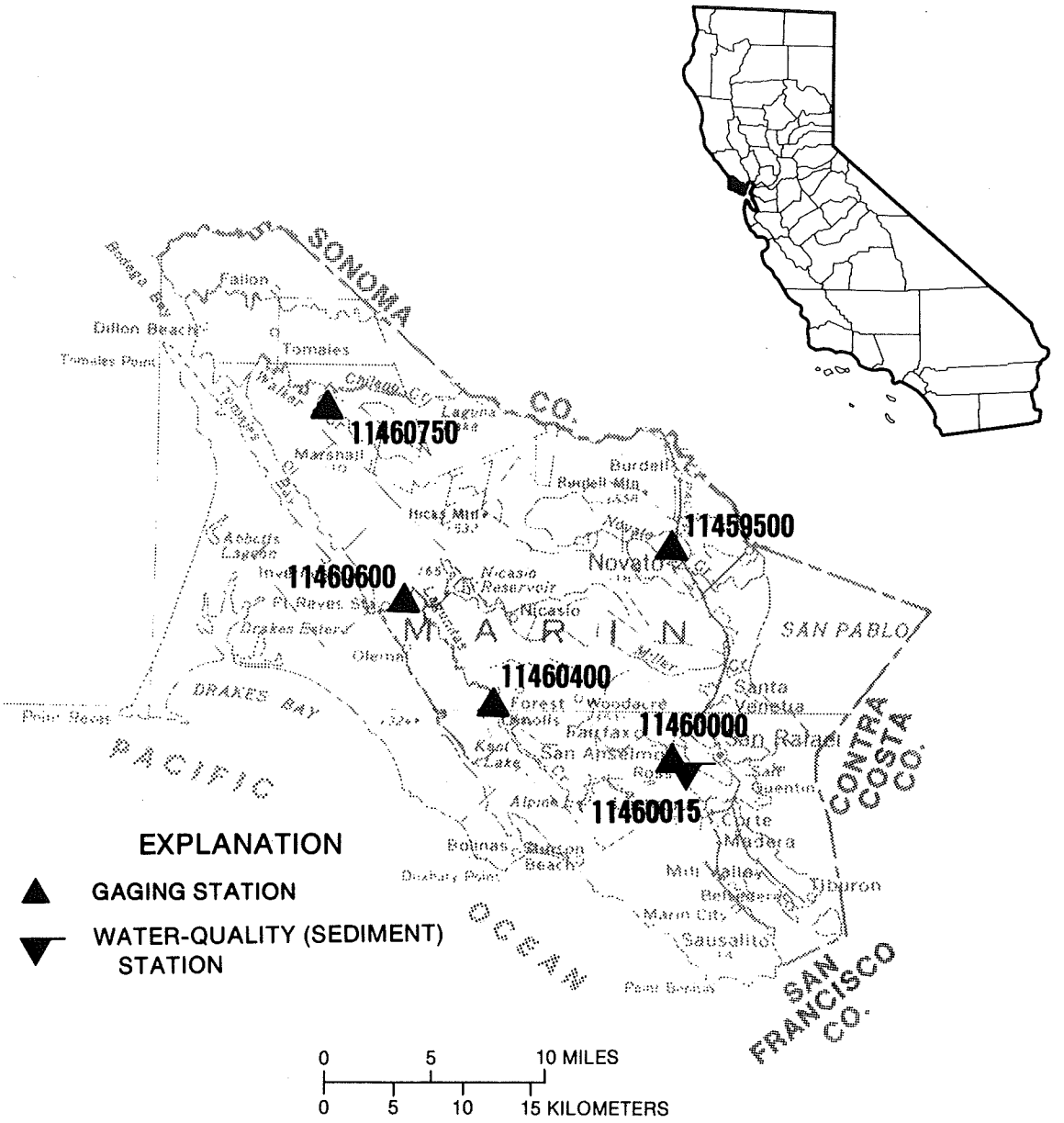


Figure 12.--Location of discharge and water-quality stations in Marin County.

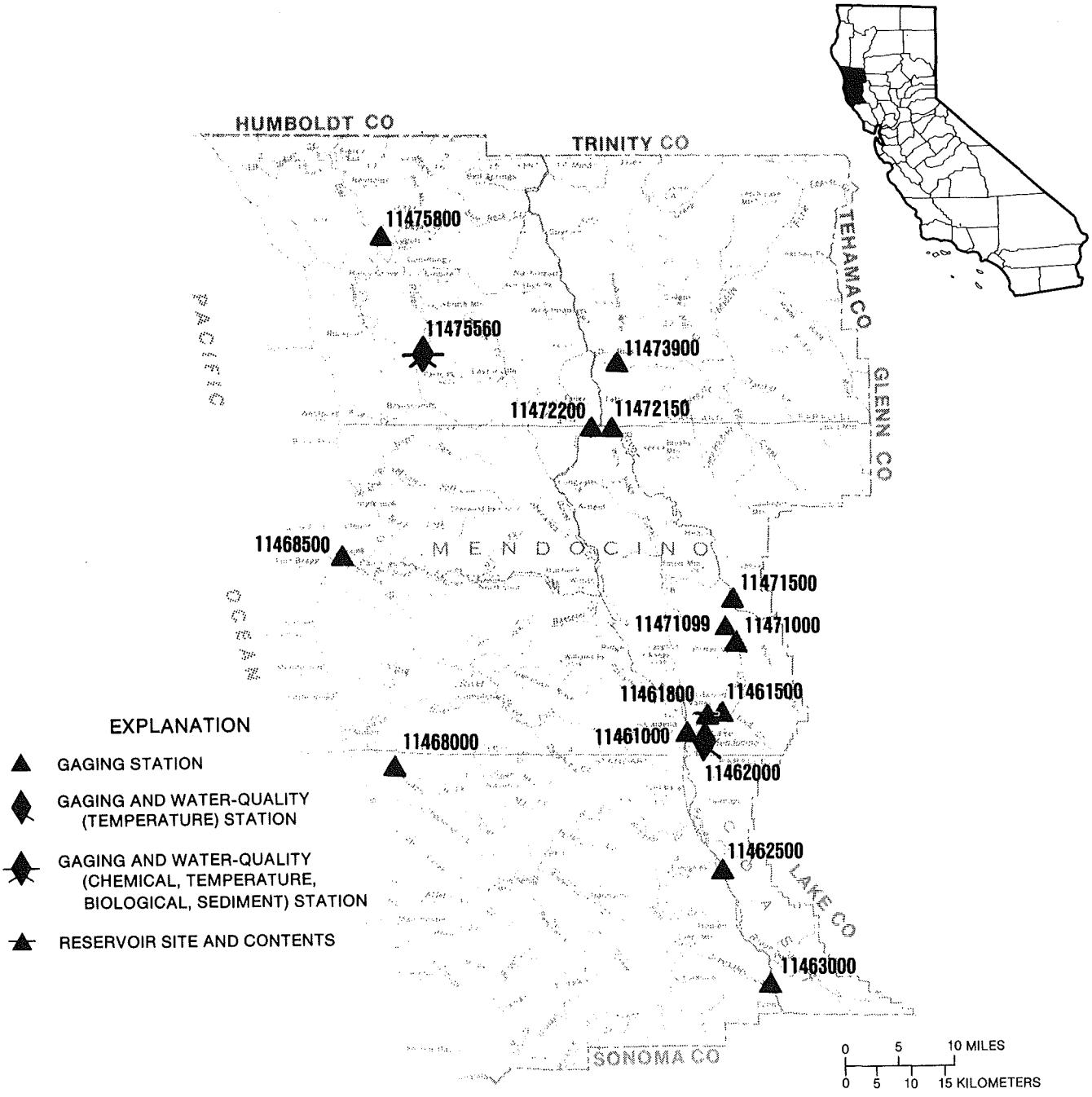


Figure 13.--Location of discharge and water-quality stations in Mendocino County.

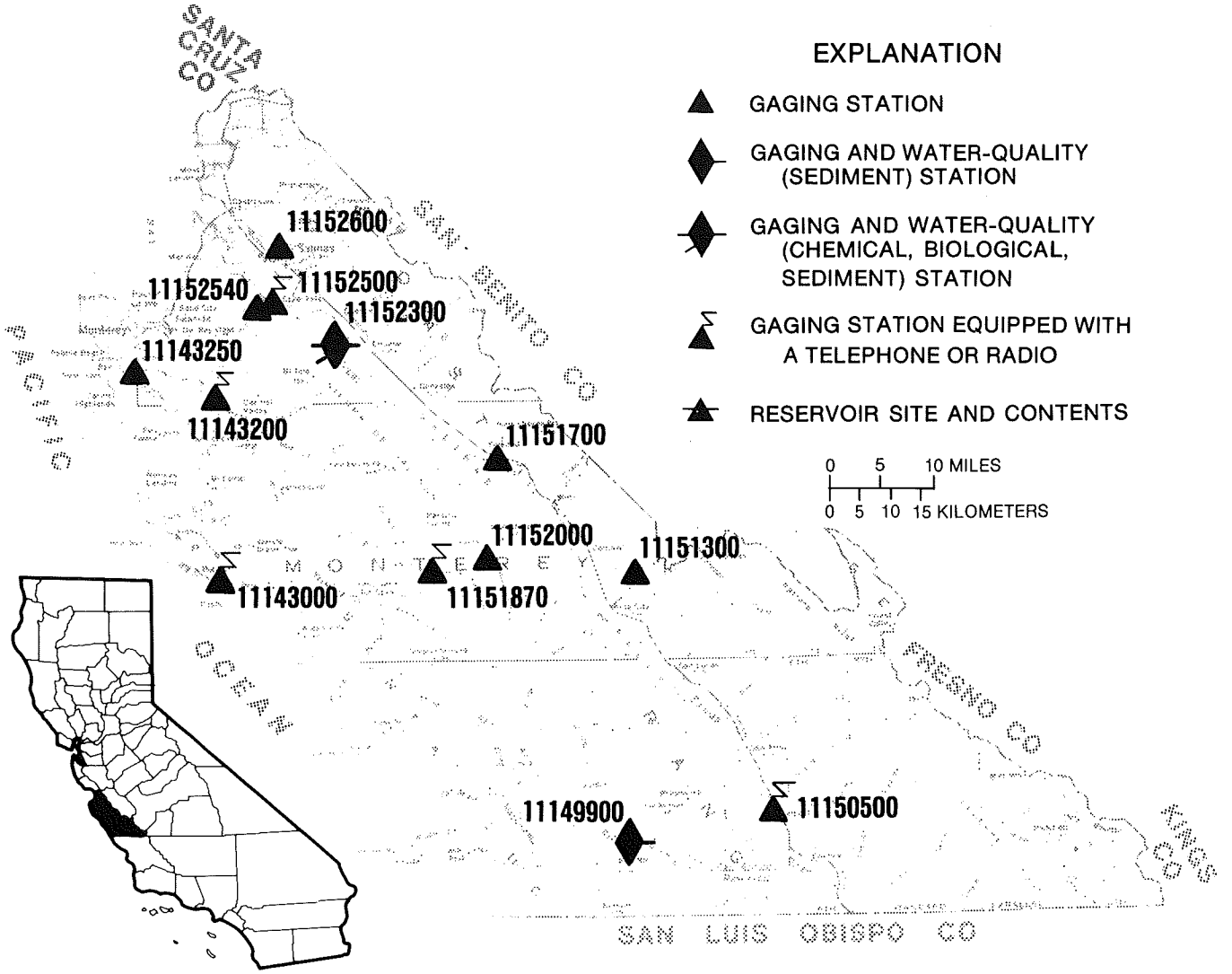


Figure 14.--Location of discharge and water-quality stations in Monterey County.

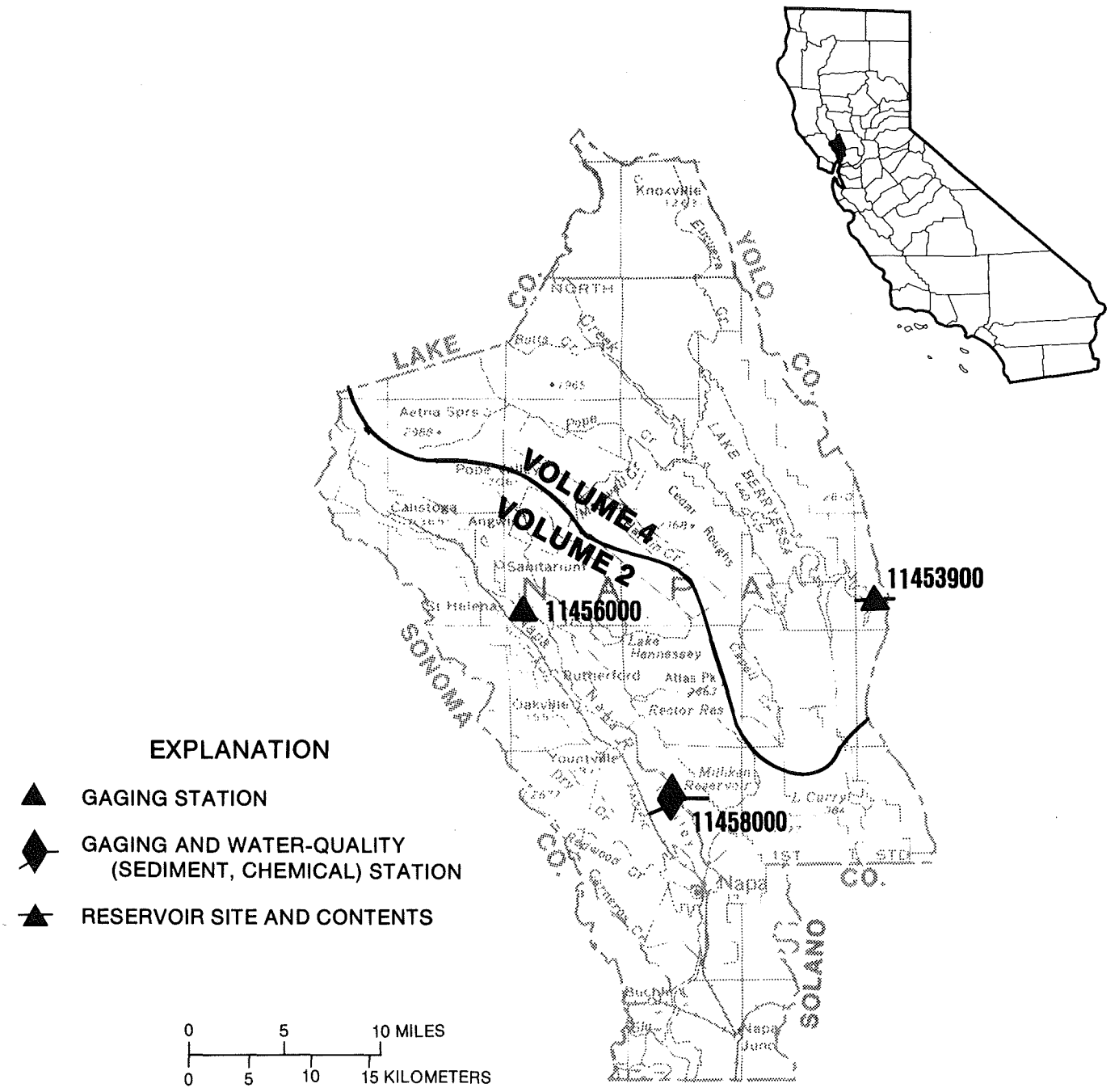


Figure 15.--Location of discharge and water-quality stations in Napa County.
(Note: Record for station 11453900 published in volume 4)

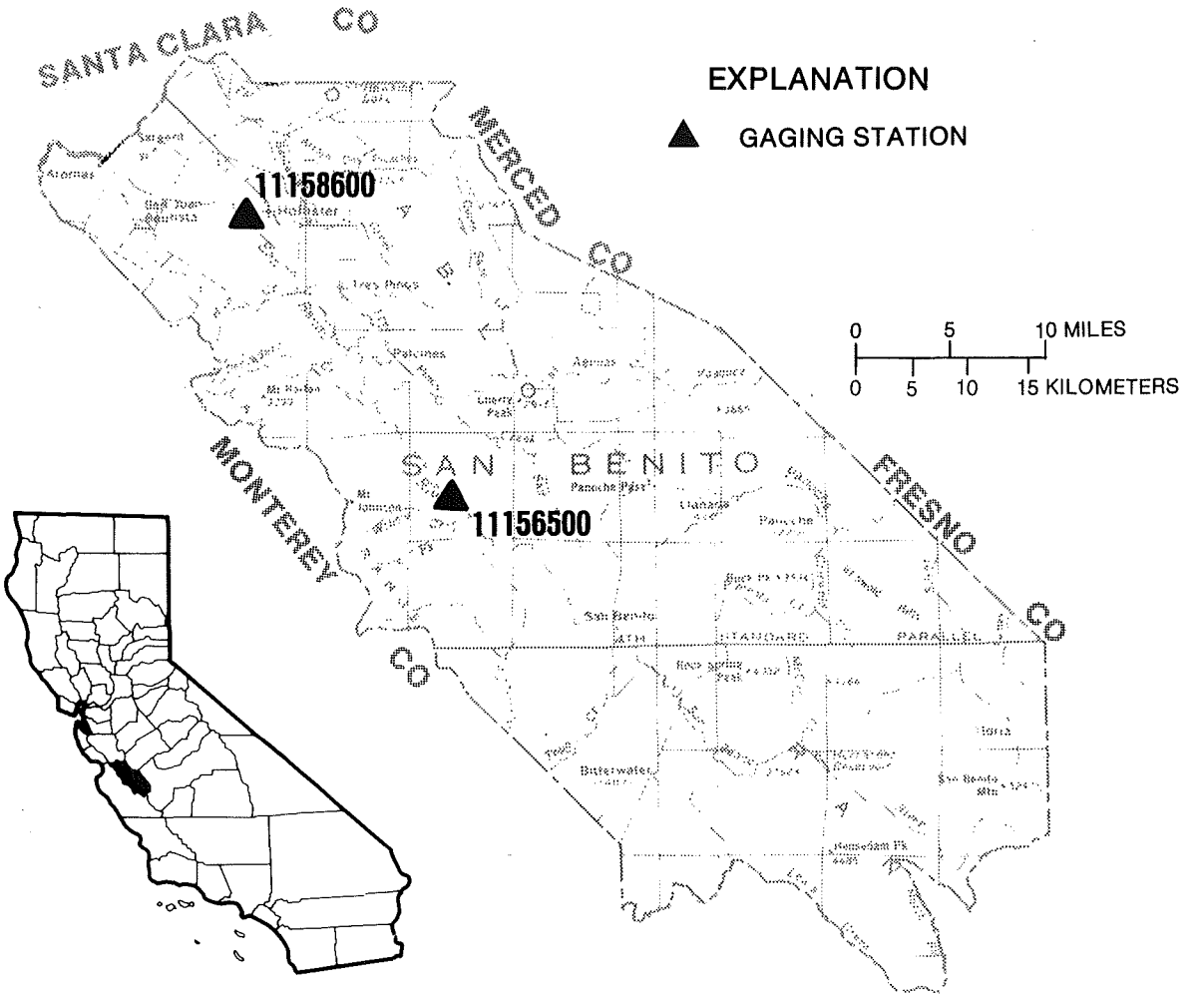


Figure 16.--Location of discharge stations in San Benito County.

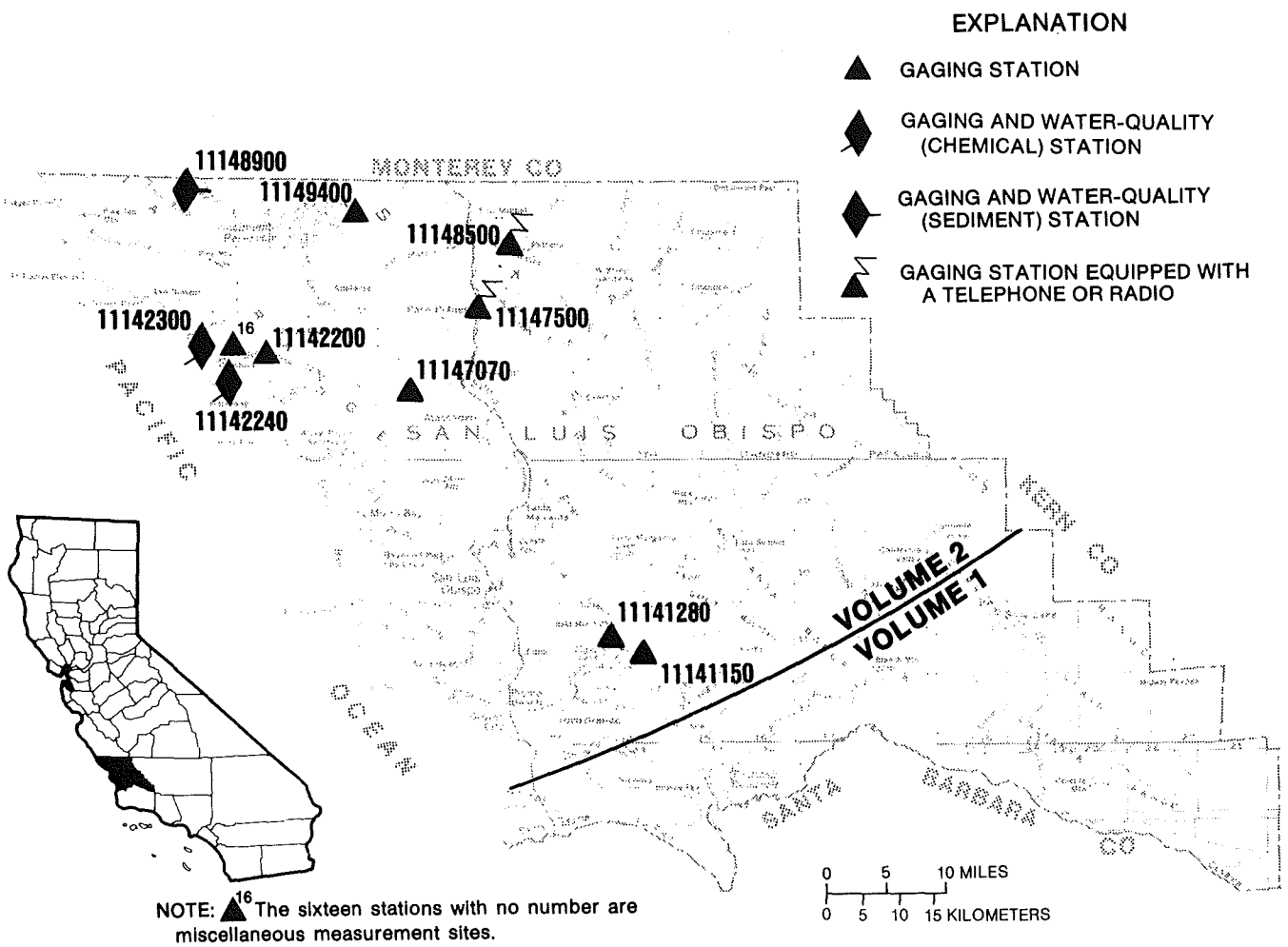
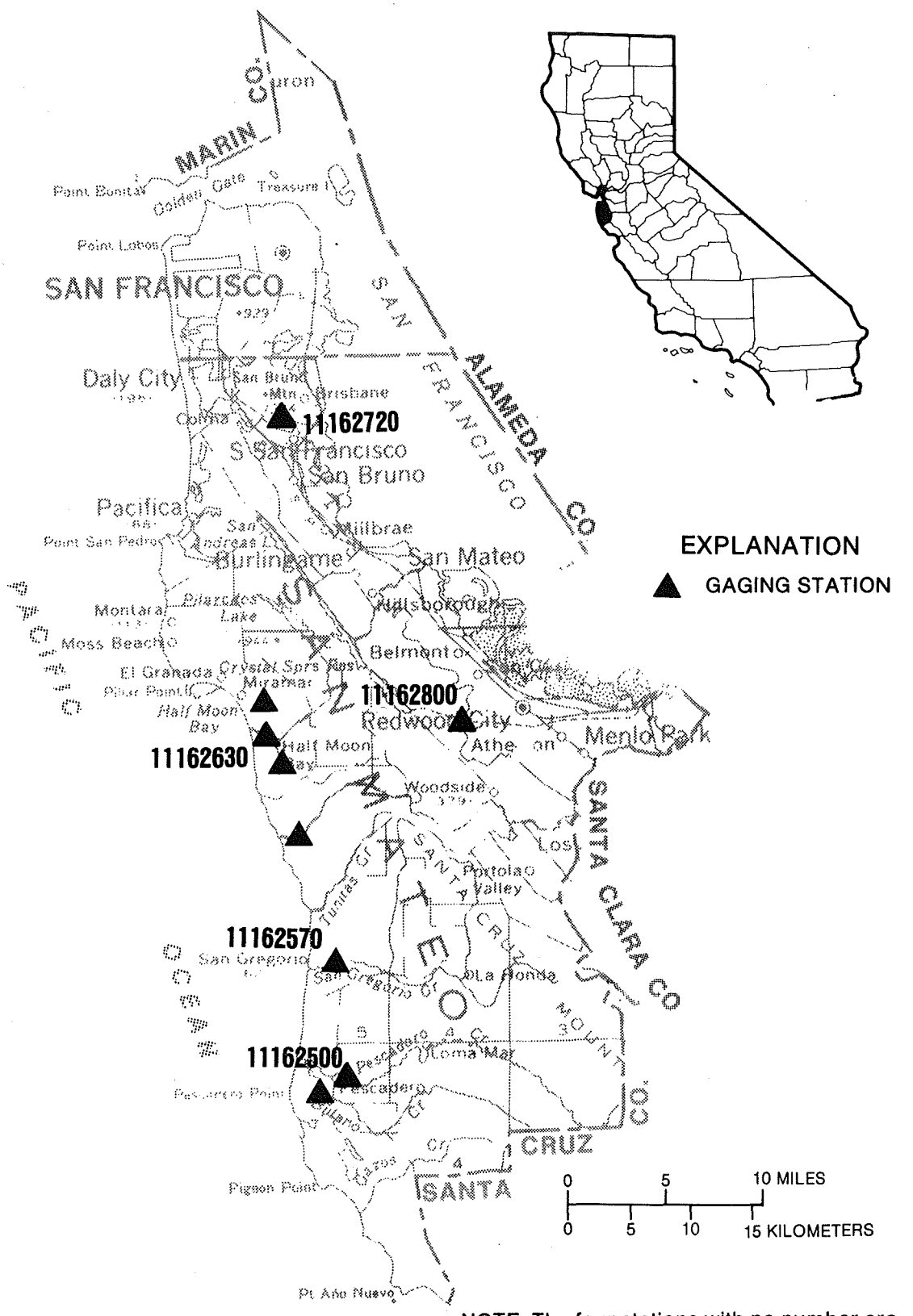


Figure 17.--Location of discharge and water-quality stations in San Luis Obispo County.



NOTE: The four stations with no number are miscellaneous measurement sites

Figure 18.--Location of discharge stations in San Mateo County.

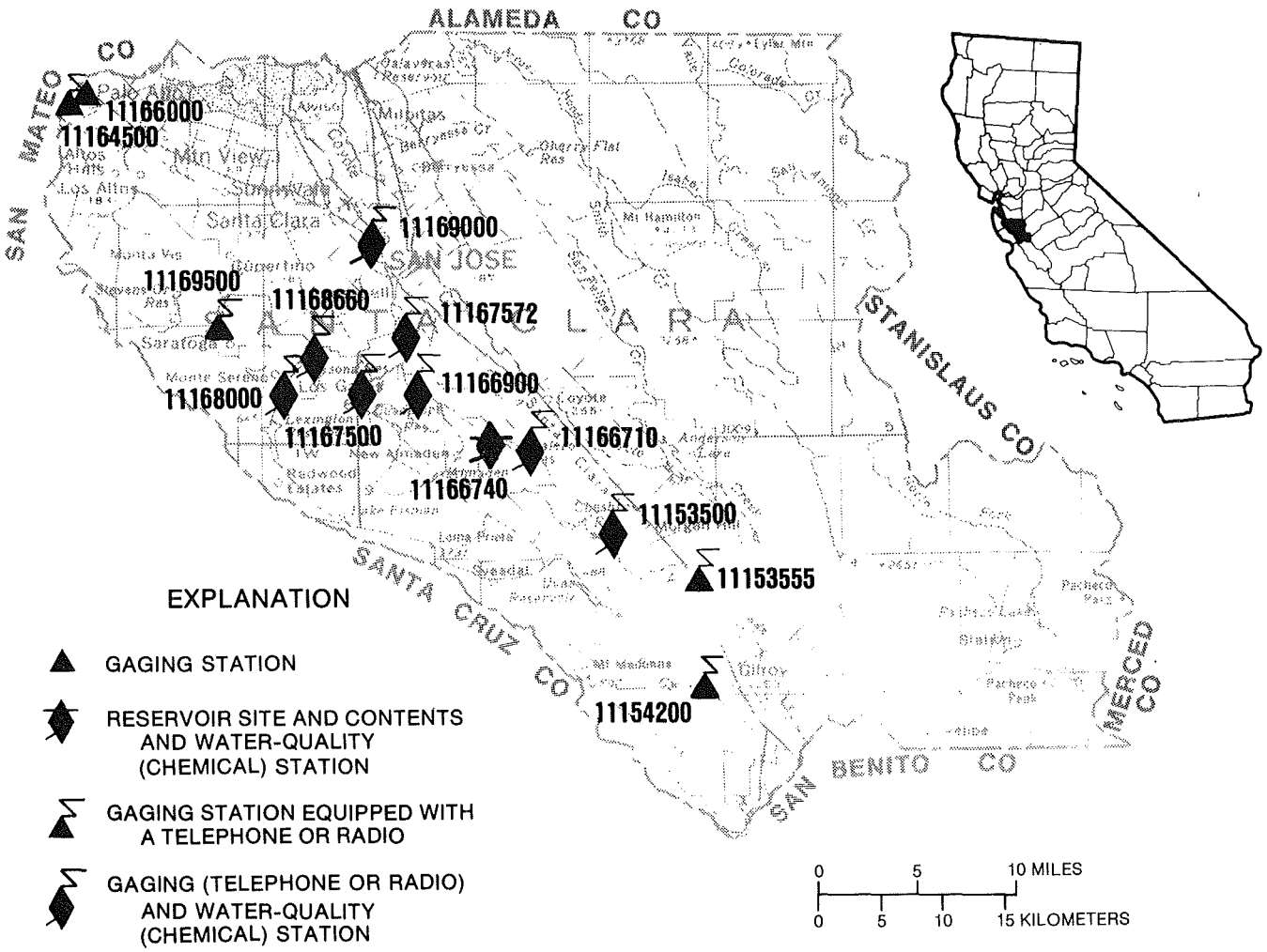


Figure 19.--Location of discharge and water-quality stations in Santa Clara County.

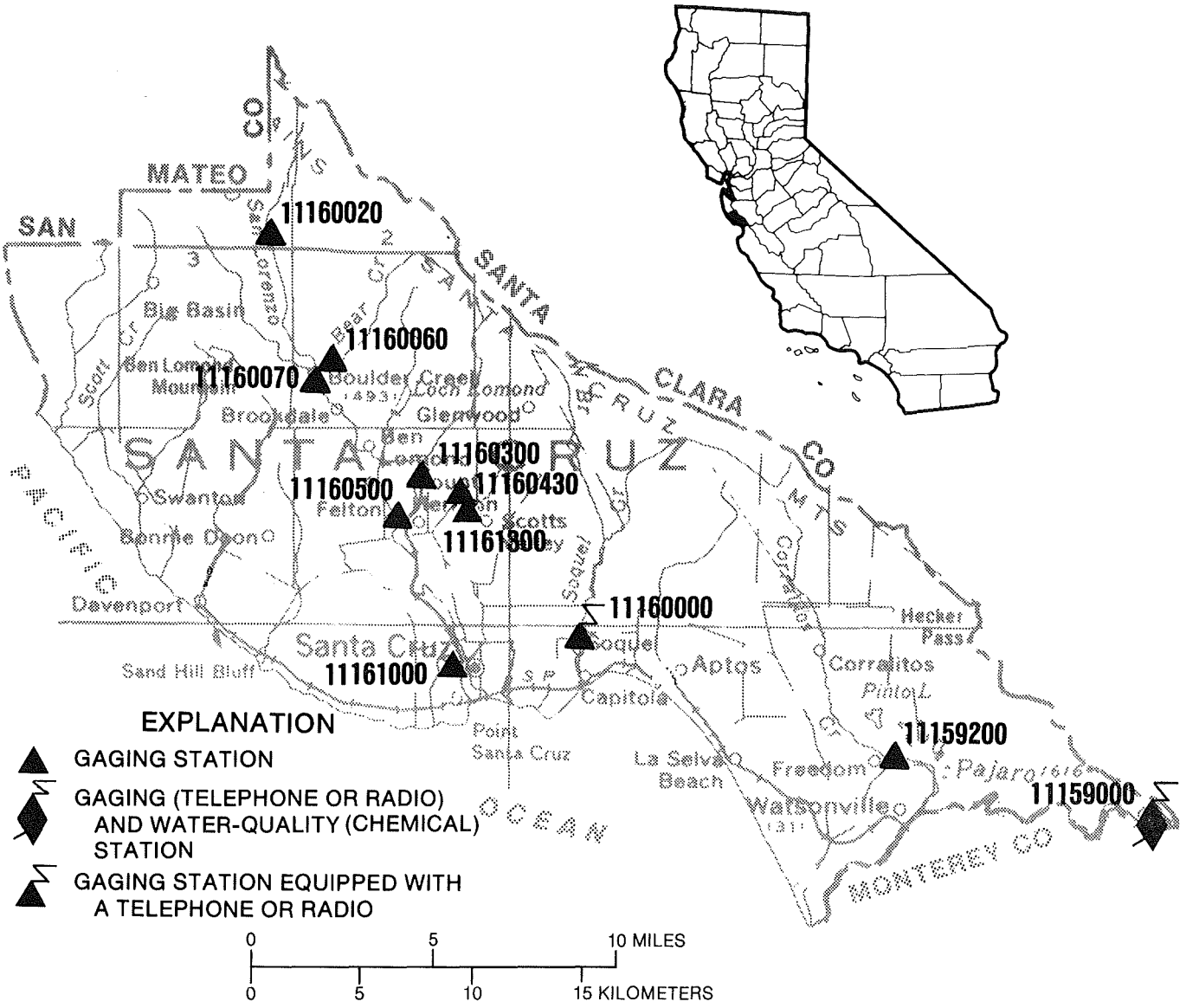


Figure 20.--Location of discharge and water-quality stations in Santa Cruz County.

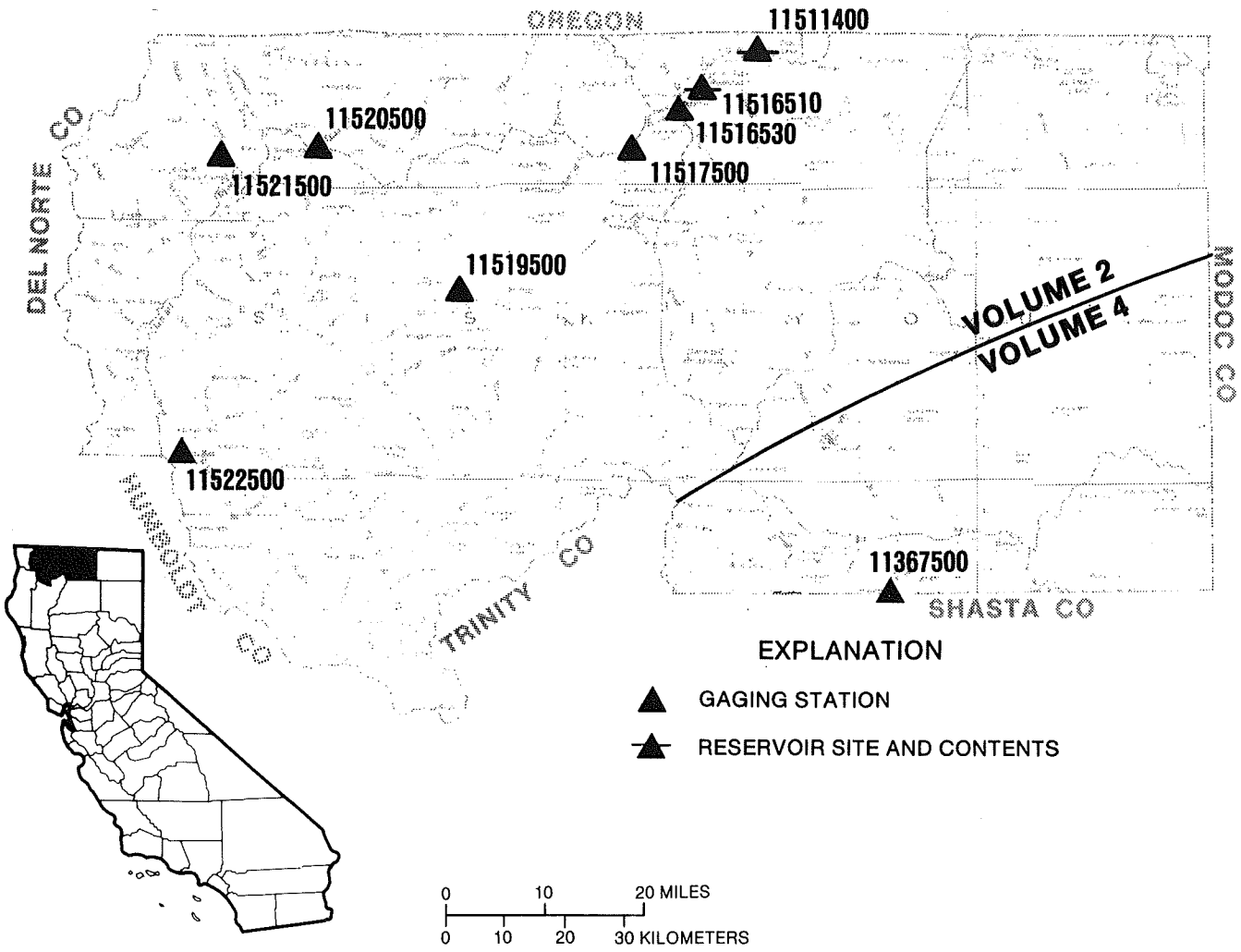


Figure 21.--Location of discharge stations in Siskiyou County.
(Note: Records for station 11367500 published in volume 4)

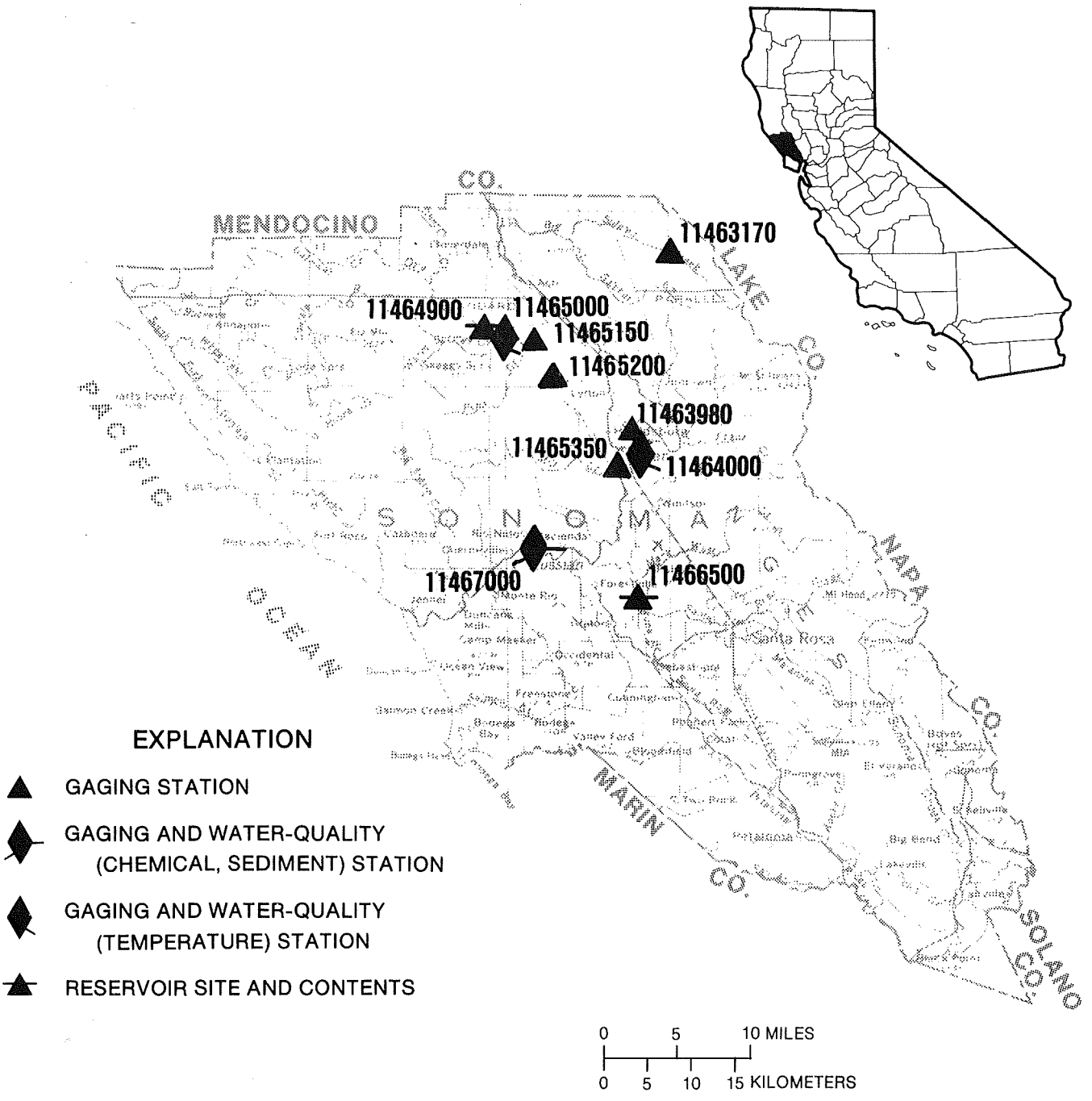


Figure 22.--Location of discharge and water-quality stations in Sonoma County.

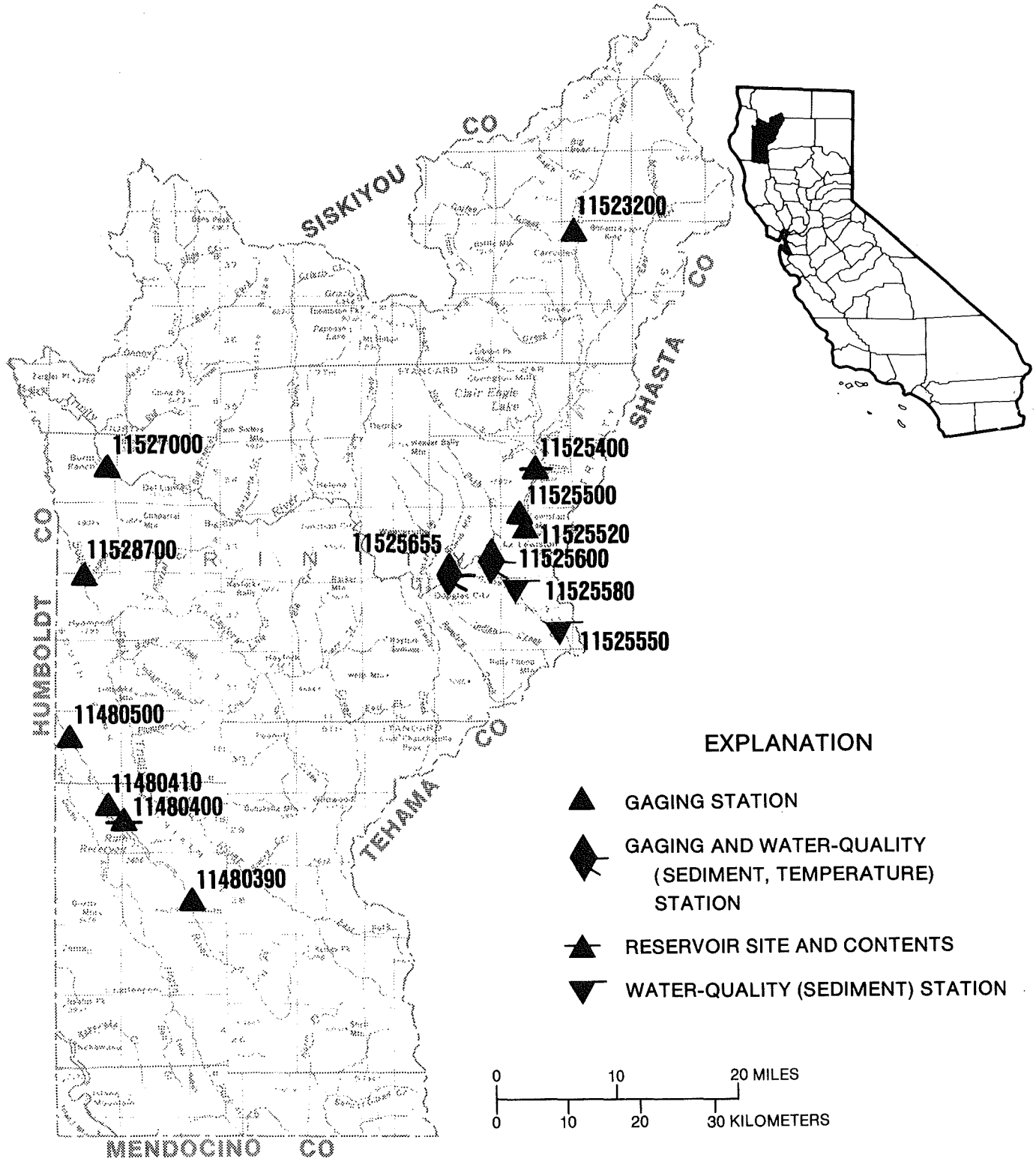


Figure 23.--Location of discharge and water-quality stations in Trinity County.

GAGING STATION AND WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUT	REMARK
e	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant
*	Instantaneous streamflow at the time of cross-sectional measurements
1	Laboratory value

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.

ARROYO GRANDE BASIN

11141150 ARROYO GRANDE ABOVE PHOENIX CREEK, NEAR ARROYO GRANDE, CA

LOCATION.--Lat 35°11'19", long 120°26'03", in Arroyo Grande Grant, San Luis Obispo County, Hydrologic Unit 18060006, on right bank 0.4 mi upstream from county road bridge, 0.45 mi upstream from Phoenix Creek, and 9.2 mi northeast of Arroyo Grande.

DRAINAGE AREA.--13.4 mi^2.

PERIOD OF RECORD.--June 1967 to current year.

REVISED RECORDS.--WDR CA-70-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 24, 1984, at site 0.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair except those for daily discharges greater than 2.0 ft^3/s, which are poor. No regulation or diversion upstream from station except for small stock ponds.

AVERAGE DISCHARGE.--22 years, 2.89 ft^3/s, 2,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,270 ft^3/s, Jan. 25, 1969, gage height, 6.83 ft, in gage well, 6.57 ft from floodmarks, site and datum then in use, from rating curve extended above 350 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 8.29 ft, Apr. 4, 1978, from floodmark, site and datum then in use; minimum daily discharge, 0.12 ft^3/s, Sept. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1045	*25	*6.94				

Minimum daily, 0.32 ft^3/s, July 14, 15, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.68	1.2	1.4	1.2	1.3	.88	.51	.71	.42	.34	.38
2	.47	.75	1.1	1.4	1.2	1.9	.93	.50	.73	.40	.36	.38
3	.44	.77	1.1	1.4	1.3	1.3	.82	.49	.78	.39	.37	.38
4	.42	.79	1.1	1.3	1.7	1.4	.78	.47	.86	.37	.37	.38
5	.41	.78	1.0	1.6	1.2	1.3	.78	.48	.82	.35	.36	.38
6	.43	.87	1.0	1.4	1.2	1.3	.72	.50	.83	.34	.35	.39
7	.42	.95	1.0	1.4	1.2	1.3	.65	.50	.80	.34	.35	.40
8	.39	1.0	1.1	1.4	1.4	1.2	.57	.49	.79	.35	.36	.39
9	.36	1.0	1.0	1.3	1.5	1.2	.57	.54	.83	.35	.37	.39
10	.34	1.1	1.1	1.3	1.2	1.2	.61	.58	.86	.36	.36	.39
11	.35	1.1	1.0	1.3	1.2	1.3	.59	.56	.85	.36	.35	.39
12	.40	1.1	1.0	1.3	1.2	1.2	.58	.56	.88	.35	.35	.38
13	.47	1.3	.97	1.3	1.2	1.2	.57	.60	.85	.34	.35	.37
14	.55	1.4	.93	1.3	1.2	1.2	.59	.62	.79	.32	.34	.37
15	.50	1.3	1.7	1.2	1.2	1.2	.61	.62	.84	.32	.34	.37
16	.51	1.3	1.8	1.2	1.2	1.3	.60	.61	.83	.33	.36	.41
17	.49	1.4	2.5	1.2	1.2	1.3	.59	.61	.74	.32	.39	.43
18	.45	1.4	1.7	1.3	1.2	1.2	.54	.62	.68	.34	.39	.43
19	.53	1.4	1.5	1.2	1.2	1.2	.53	.62	.63	.33	.39	.43
20	.55	1.4	3.7	1.2	1.3	1.2	.51	.63	.58	.33	.41	.40
21	.58	1.4	1.8	1.2	1.3	1.1	.52	.62	.50	.34	.41	.38
22	.54	1.4	2.5	1.2	1.2	1.1	.52	.64	.47	.35	.39	.37
23	.52	1.7	1.5	1.3	1.3	1.1	.55	.63	.46	.35	.39	.37
24	.54	1.3	5.0	1.2	1.3	1.3	.57	.63	.49	.36	.38	.39
25	.54	1.7	1.7	1.2	1.3	1.3	.65	.65	.52	.37	.39	.38
26	.56	1.3	1.5	1.2	1.2	1.2	.60	.64	.53	.36	.40	.38
27	.60	1.2	1.5	1.2	1.2	1.1	.56	.62	.54	.35	.39	.38
28	.64	1.2	1.4	1.2	1.2	1.1	.52	.64	.55	.35	.38	.42
29	.64	1.2	1.4	1.1	---	1.0	.50	.66	.49	.36	.39	.51
30	.64	1.2	1.4	1.0	---	.98	.49	.67	.46	.37	.38	.42
31	.65	---	1.6	1.1	---	.94	---	.71	---	.35	.37	---
TOTAL	15.36	35.39	48.80	39.3	35.2	37.92	18.50	18.22	20.69	10.92	11.53	11.84
MEAN	.50	1.18	1.57	1.27	1.26	1.22	.62	.59	.69	.35	.37	.39
MAX	.65	1.7	5.0	1.6	1.7	1.9	.93	.71	.88	.42	.41	.51
MIN	.34	.68	.93	1.0	1.2	.94	.49	.47	.46	.32	.34	.37
AC-FT	30	70	97	78	70	75	37	36	41	22	23	23

CAL YR 1988 TOTAL 339.42 MEAN .93 MAX 8.5 MIN .34 AC-FT 673
WTR YR 1989 TOTAL 303.67 MEAN .83 MAX 5.0 MIN .32 AC-FT 602

11141280 LOPEZ CREEK NEAR ARROYO GRANDE, CA

LOCATION.--Lat 35°14'08", long 120°28'17", in SE 1/4 sec.19, T.31 S., R.14 E., San Luis Obispo County, Hydrologic Unit 18060006, on right bank 3.4 mi north of Lopez Lake spillway and 9.2 mi northeast of Arroyo Grande.

DRAINAGE AREA.--20.9 mi^2.

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 580 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 31, 1984, at site 0.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those for June 15 to July 10, which are fair. Small diversions upstream from station for domestic use.

AVERAGE DISCHARGE.--22 years, 10.7 ft^3/s, 7,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,830 ft^3/s, Jan. 25, 1969, gage height, 9.26 ft in gage well, 10.8 ft from floodmarks, site and datum then in use, from rating curve extended above 300 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 9.62 ft, Mar. 1, 1983, site and datum then in use; minimum daily discharge, 0.30 ft^3/s, Aug. 1, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1200	*163	*5.53				

Minimum daily, 1.2 ft^3/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.5	2.9	5.0	4.0	4.0	4.3	3.3	2.5	1.7	1.4	1.5
2	2.0	2.5	2.8	4.8	4.0	8.2	4.2	3.2	2.5	1.7	1.4	1.5
3	2.0	2.5	2.5	4.6	4.2	8.1	4.1	3.0	2.5	1.7	1.4	1.5
4	2.0	2.5	2.4	4.4	13	6.2	4.1	3.0	2.5	1.7	1.4	1.5
5	2.1	2.5	2.3	4.9	8.4	5.7	4.0	3.0	2.7	1.7	1.4	1.5
6	2.1	2.5	2.3	5.0	6.2	5.3	4.0	2.9	2.5	1.5	1.4	1.5
7	2.1	2.5	2.3	4.6	5.6	5.2	3.9	3.0	2.5	1.5	1.4	1.5
8	2.2	2.5	2.3	4.6	5.6	5.0	3.8	2.9	2.3	1.5	1.4	1.5
9	2.1	2.5	2.3	4.5	9.7	4.8	3.7	2.9	2.3	1.5	1.4	1.6
10	2.1	2.5	2.3	4.5	8.4	4.8	3.5	3.0	2.3	1.6	1.4	1.7
11	2.1	2.6	2.3	4.6	6.9	4.8	3.5	3.0	2.3	1.6	1.4	1.7
12	2.1	2.7	2.3	4.6	6.3	4.6	3.5	3.0	2.3	1.5	1.4	1.7
13	2.2	4.2	2.3	4.5	5.8	4.6	3.5	3.1	2.2	1.5	1.4	1.7
14	2.3	4.5	2.4	4.5	5.5	4.5	3.5	3.0	2.1	1.4	1.3	1.6
15	2.3	3.6	3.7	4.5	5.3	4.4	3.5	3.0	2.0	1.4	1.4	1.6
16	2.1	3.3	4.9	4.5	5.1	4.4	3.5	2.9	2.0	1.4	1.4	1.8
17	2.1	3.1	6.6	4.4	4.9	4.4	3.5	2.9	1.9	1.4	1.5	1.9
18	2.2	3.1	5.0	4.3	4.8	4.3	3.5	2.9	1.9	1.4	1.5	1.9
19	2.3	3.1	4.0	4.3	4.6	4.3	3.5	2.9	1.9	1.3	1.5	2.0
20	2.4	3.1	6.6	4.3	4.6	4.2	3.4	2.9	1.8	1.3	1.6	1.8
21	2.3	3.1	19	4.6	4.4	4.1	3.3	2.9	1.8	1.3	1.6	1.8
22	2.3	3.1	15	4.6	4.3	4.0	3.3	2.8	1.8	1.2	1.6	1.7
23	2.3	5.4	15	4.7	4.3	4.0	3.3	2.8	1.8	1.4	1.5	1.8
24	2.3	3.6	40	4.5	4.3	5.4	3.4	2.7	1.8	1.4	1.6	1.8
25	2.4	4.8	15	4.4	4.3	5.9	4.4	2.7	1.8	1.4	1.6	1.8
26	2.5	3.5	8.3	4.3	4.0	5.5	4.1	2.7	1.9	1.4	1.6	1.8
27	2.5	3.0	6.8	4.3	3.9	4.9	3.7	2.6	1.8	1.4	1.6	1.8
28	2.5	2.9	5.9	4.1	4.0	4.6	3.4	2.6	1.8	1.3	1.6	2.1
29	2.5	2.9	5.5	4.1	---	4.5	3.3	2.5	1.8	1.4	1.6	2.4
30	2.5	2.9	5.1	4.1	---	4.4	3.3	2.6	1.8	1.4	1.6	2.0
31	2.6	---	5.3	4.1	---	4.4	---	2.5	---	1.3	1.5	---
TOTAL	69.4	93.5	205.4	139.2	156.4	153.5	110.0	89.2	63.1	45.2	45.8	52.0
MEAN	2.24	3.12	6.63	4.49	5.59	4.95	3.67	2.88	2.10	1.46	1.48	1.73
MAX	2.6	5.4	40	5.0	13	8.2	4.4	3.3	2.7	1.7	1.6	2.4
MIN	1.9	2.5	2.3	4.1	3.9	4.0	3.3	2.5	1.8	1.2	1.3	1.5
AC-FT	138	185	407	276	310	304	218	177	125	90	91	103

CAL YR 1988 TOTAL 1454.2 MEAN 3.97 MAX 57 MIN 1.7 AC-FT 2880
WTR YR 1989 TOTAL 1222.7 MEAN 3.35 MAX 40 MIN 1.2 AC-FT 2430

11142240 PERRY CREEK AT CAMBRIA, CA

LOCATION.--Lat 35°33'55", long 121°04'01", in Santa Rosa Grant, San Luis Obispo County, Hydrologic Unit 18060006, on right bank, 0.3 mi upstream from mouth, 0.2 mi south of Coast Union High School, and 0.8 mi east of Cambria.

DRAINAGE AREA.--22.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1987 to July 1989 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 57.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except those for daily discharges less than 0.10 ft^3/s, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 184 ft^3/s, Dec. 24, 1988, gage height, 4.04 ft, from rating curve extended above 18 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1100	*184	*4.04				

No flow for many days during June and July.

REVISION.--The maximum discharge for water year 1988 has been revised to 175 ft^3/s, Jan. 17, 1988, gage height 3.91 ft. These figures supersede those published in the report for 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.01	.03	.65	.10	.39	.16	.01	.01	.01		
2	.02	.01	.03	.12	.16	6.1	.13	.01	.01	.00		
3	.02	.01	.03	.04	.18	2.5	.12	.01	.01	.00		
4	.02	.01	.03	.04	3.2	.45	.10	.01	.01	.00		
5	.02	.01	.03	18	1.7	.24	.09	.01	.01	.00		
6	.02	.02	.02	5.8	.59	.18	.06	.01	.01	.00		
7	.02	.01	.03	2.5	.31	.20	.03	.01	.01	.00		
8	.02	.01	.03	1.2	.35	.22	.03	.01	.01	.00		
9	.02	.01	.03	.76	4.7	.21	.02	.02	.01	.00		
10	.02	.02	.03	.63	2.2	.18	.02	.02	.01	.00		
11	.02	.02	.02	.52	.91	.25	.02	.02	.00	.00		
12	.02	.02	.03	.44	.66	.29	.02	.02	.00	---		
13	.03	.03	.04	.32	.60	.24	.02	.02	.00	---		
14	.04	.02	.04	.29	.53	.20	.02	.02	.00	---		
15	.04	.02	.04	.39	.46	.19	.01	.02	.01	---		
16	.04	.02	.03	.40	.41	.23	.02	.01	.01	---		
17	.03	.02	.03	.42	.41	.27	.02	.01	.01	---		
18	.03	.02	.02	.39	.46	.22	.02	.01	.00	---		
19	.03	.02	.02	.36	.49	.20	.02	.01	.00	---		
20	.03	.02	.04	.30	.45	.20	.02	.01	.00	---		
21	.03	.02	.03	.27	.39	.17	.02	.01	.00	---		
22	.03	.02	.04	.26	.37	.16	.02	.01	.01	---		
23	.03	.03	.04	1.1	.36	.14	.03	.01	.00	---		
24	.02	.02	35	1.6	.38	.56	.03	.01	.00	---		
25	.02	.03	3.3	.45	.45	3.0	.03	.01	.01	---		
26	.02	.02	.17	.27	.46	2.4	.03	.01	.01	---		
27	.02	.03	.04	.15	.44	.95	.02	.01	.01	---		
28	.02	.03	.04	.11	.40	.58	.02	.01	.00	---		
29	.02	.03	.04	.10	---	.42	.01	.01	.00	---		
30	.02	.03	.04	.11	---	.23	.01	.01	.00	---		
31	.01	---	.47	.10	---	.18	---	.01	---	---		
TOTAL	0.75	0.59	39.81	38.09	22.12	21.75	1.17	0.38	0.17	---		
MEAN	.024	.020	1.28	1.23	.79	.70	.039	.012	.006	---		
MAX	.04	.03	35	18	4.7	6.1	.16	.02	.01	---		
MIN	.01	.01	.02	.04	.10	.14	.01	.01	.00	---		
AC-FT	1.5	1.2	79	76	44	43	2.3	.8	.3	---		

CAL YR 1988 TOTAL 194.76 MEAN .53 MAX 59 MIN .01 AC-FT 386

11142240 PERRY CREEK AT CAMBRIA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).
SEDIMENT DATA: Water year 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
NOV 17...	1355	0.03	1360	--	13.0	--	--	--	--
DEC 20...	1550	0.04	1240	--	10.5	--	--	--	--
JAN 31...	1705	0.12	959	--	11.0	--	--	--	--
FEB 24...	1600	0.37	867	8.10	13.0	350	51	55	58

DATE	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)
NOV 17...	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--
JAN 31...	--	--	--	--	--	--	--	--
FEB 24...	26	1	2.5	328	58	72	0.40	0.079

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV 17...	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--
JAN 31...	--	--	--	--	--	--	--	--
FEB 24...	5.6	502	499	<0.010	0.010	130	8	43

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

11142300 SAN SIMEON CREEK NEAR CAMBRIA, CA

LOCATION.--Lat 35°35'59", long 121°06'47", in San Simeon Grant, San Luis Obispo County, Hydrologic Unit 18060006, on right bank, 0.7 mi upstream of Highway 1 bridge and 3.0 mi northwest of Cambria.

DRAINAGE AREA.--26.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1987 to July 1989 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 12.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. No regulation or diversion upstream from station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0930	*4,880	*15.05				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	18	2.4	2.4	8.8	1.2	.00	.00	---	---
2	.00	.00	.00	11	2.1	48	7.8	1.1	.00	.00	---	---
3	.00	.00	.00	8.9	2.2	23	7.0	.89	.00	.00	---	---
4	.00	.00	.00	7.5	13	11	6.1	.37	.00	.00	---	---
5	.00	.00	.00	141	9.4	8.2	5.4	.18	.00	.00	---	---
6	.00	.00	.00	e43	5.5	7.2	4.7	.05	.00	.00	---	---
7	.00	.00	.00	24	4.4	6.7	4.1	.00	.00	.00	---	---
8	.00	.00	.00	17	4.5	6.0	3.7	.00	.00	.00	---	---
9	.00	.00	.00	14	36	5.4	3.1	.00	.00	.00	---	---
10	.00	.00	.00	12	17	5.1	3.1	.00	.00	.00	---	---
11	.00	.00	.00	10	11	11	3.0	.00	.00	.00	---	---
12	.00	.00	.00	8.2	8.9	9.4	2.8	.00	.00	---	---	---
13	.00	.00	.00	7.2	7.8	6.7	2.5	.00	.00	---	---	---
14	.00	.00	.00	6.8	6.7	6.0	2.6	.00	.00	---	---	---
15	.00	.00	.00	6.2	5.9	5.7	2.2	.00	.00	---	---	---
16	.00	.00	.00	5.7	5.5	11	2.1	.00	.00	---	---	---
17	.00	.00	.00	5.1	5.0	12	2.1	.00	.00	---	---	---
18	.00	.00	.00	4.7	4.8	8.3	2.3	.00	.00	---	---	---
19	.00	.00	.00	4.5	4.7	7.2	2.4	.00	.00	---	---	---
20	.00	.00	.00	4.0	4.3	6.6	2.3	.00	.00	---	---	---
21	.00	.00	.51	3.4	3.9	5.8	2.1	.00	.00	---	---	---
22	.00	.00	124	2.7	3.7	5.4	1.9	.00	.00	---	---	---
23	.00	.00	38	5.5	3.4	5.2	1.8	.00	.00	---	---	---
24	.00	.00	784	6.5	3.3	58	2.0	.00	.00	---	---	---
25	.00	.00	76	4.2	3.2	104	3.1	.00	.00	---	---	---
26	.00	.00	30	3.7	2.9	48	2.5	.00	.00	---	---	---
27	.00	.00	19	3.2	2.9	24	2.0	.00	.00	---	---	---
28	.00	.00	16	2.9	2.7	18	1.7	.00	.00	---	---	---
29	.00	.00	12	2.8	---	14	1.3	.00	.00	---	---	---
30	.00	.00	11	2.6	---	12	1.2	.00	.00	---	---	---
31	.00	---	26	2.5	---	10	---	.00	---	---	---	---
TOTAL	0.00	0.00	1136.51	398.8	187.1	511.3	97.7	3.79	0.00	---	---	---
MEAN	.00	.00	36.7	12.9	6.68	16.5	3.26	.12	.00	---	---	---
MAX	.00	.00	784	141	36	104	8.8	1.2	.00	---	---	---
MIN	.00	.00	.00	2.5	2.1	2.4	1.2	.00	.00	---	---	---
AC-FT	.0	.0	2250	791	371	1010	194	7.5	.0	---	---	---

CAL YR 1988 TOTAL 2591.50 MEAN 7.08 MAX 784 MIN .00 AC-FT 5140

e Estimated.

11142300 SAN SIMEON CREEK NEAR CAMBRIA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	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)
JAN									
31...	1210	2.7	519	--	12.0	--	--	--	--
FEB									
23...	1325	3.6	495	8.20	17.0	240	44	31	16

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
23...	13	0.5	1.1	216	44	13	0.10	<0.010

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
23...	14	292	294	<0.010	0.206	180	5	3

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

11143000 BIG SUR RIVER NEAR BIG SUR, CA

LOCATION.--Lat 36°14'45", long 121°46'20", in SW 1/4 SW 1/4 sec.29, T.19 S., R.2 E., Monterey County, Hydrologic Unit 18060006, on right bank at downstream side of bridge, 0.4 mi upstream from Post Creek, and 2.6 mi southeast of town of Big Sur.

DRAINAGE AREA.--46.5 mi^2.

PERIOD OF RECORD.--March 1950 to current year. Prior to October 1959, published as Sur River at Big Sur.

REVISED RECORDS.--WSP 1445: 1952(P), 1953(M). WSP 1715: 1951, drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1951, nonrecording gage at site 0.9 mi downstream at different datum.

REMARKS.--Records fair except those for estimated discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--39 years, 100 ft^3/s, 72,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s, Jan. 5, 1978, gage height, 14.30 ft, from rating curve extended above 6,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 2.6 ft^3/s, Aug. 23, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0830	*1,560	*7.05				

Minimum daily, 5.4 ft^3/s, Aug. 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.4	9.4	42	19	21	71	26	15	e8.3	6.7	6.5
2	8.1	9.5	9.0	39	19	61	67	24	14	e8.1	6.7	6.3
3	7.9	9.8	8.6	36	22	49	62	23	14	e7.9	6.2	6.0
4	7.6	9.4	8.4	33	34	37	58	22	16	e7.6	6.7	6.0
5	7.8	8.6	8.1	96	26	34	54	21	17	e7.4	6.6	5.9
6	8.4	8.2	8.1	87	23	32	51	20	16	e7.2	6.2	6.0
7	8.6	8.5	7.9	72	23	31	49	20	16	e7.1	6.2	6.6
8	8.3	8.4	8.1	60	28	30	46	19	15	e7.0	5.9	6.8
9	8.6	8.3	8.6	54	100	44	46	19	15	e6.9	6.0	6.8
10	8.0	11	8.6	49	80	281	44	20	14	e6.9	5.6	6.7
11	7.6	11	9.0	44	60	384	43	20	14	6.8	5.7	6.6
12	7.6	10	8.8	40	51	228	42	19	13	7.1	5.8	6.7
13	8.1	15	8.6	37	46	147	42	19	12	7.2	5.8	6.5
14	9.0	18	8.6	35	42	109	41	19	11	7.6	5.5	6.2
15	9.2	12	8.9	32	39	89	39	18	11	7.3	5.4	6.0
16	8.6	12	11	30	35	99	37	18	11	7.3	5.4	7.6
17	8.3	15	11	28	33	81	36	17	10	7.2	5.6	11
18	8.4	11	10	27	33	69	35	17	e9.6	6.8	6.1	11
19	8.5	11	12	25	32	63	33	16	e9.3	6.4	6.2	11
20	8.4	10	17	24	29	57	31	16	e9.1	6.0	6.2	9.6
21	8.5	11	31	24	27	52	32	15	e9.0	5.9	6.5	9.3
22	8.4	11	64	23	26	48	31	15	e8.9	6.1	6.2	9.0
23	7.7	71	41	32	25	45	32	16	e8.8	6.3	6.0	8.6
24	7.6	24	448	29	24	141	34	16	e8.7	6.3	5.7	9.1
25	7.9	21	151	25	23	208	40	16	e8.7	6.1	5.5	8.6
26	8.1	15	87	23	22	182	32	16	e8.8	6.0	6.2	8.6
27	7.8	12	64	23	21	139	30	16	e8.8	5.9	6.5	9.0
28	7.9	11	56	22	20	114	28	15	e8.9	5.8	6.2	9.3
29	8.6	9.8	46	21	---	98	27	15	e8.7	5.6	6.3	9.8
30	9.1	9.4	41	20	---	88	26	15	e8.5	5.7	6.5	8.5
31	9.4	---	49	19	---	79	---	15	---	6.3	6.5	---
TOTAL	255.6	410.3	1267.7	1151	962	3140	1239	563	349.8	210.1	188.6	235.6
MEAN	8.25	13.7	40.9	37.1	34.4	101	41.3	18.2	11.7	6.78	6.08	7.85
MAX	9.4	71	448	96	100	384	71	26	17	8.3	6.7	11
MIN	7.6	8.2	7.9	19	19	21	26	15	8.5	5.6	5.4	5.9
AC-FT	507	814	2510	2280	1910	6230	2460	1120	694	417	374	467

CAL YR 1988 TOTAL 8489.3 MEAN 23.2 MAX 448 MIN 5.0 AC-FT 16840
WTR YR 1989 TOTAL 9972.7 MEAN 27.3 MAX 448 MIN 5.4 AC-FT 19780

e Estimated.

11143200 CARMEL RIVER AT ROBLES DEL RIO, CA

LOCATION.--Lat 36°28'28", long 121°43'40", in Los Laureles Grant, Monterey County, Hydrologic Unit 18060012, on right bank 10 ft downstream from county road bridge at Robles Del Rio, 0.2 mi downstream from Hitchcock Canyon, and 11 mi southeast of town of Carmel.
DRAINAGE AREA.--193 mi^2.

PERIOD OF RECORD.--August 1957 to current year.
REVISED RECORDS.--WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 1981, at site 150 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Low flow regulated by Los Padres Reservoir 11 mi upstream, usable capacity, 2,180 acre-ft, and San Clemente Reservoir 4 mi upstream, usable capacity, 796 acre-ft. Diversion from San Clemente Reservoir for municipal supply amounted to 4,000 acre-ft for the current year.

AVERAGE DISCHARGE (unadjusted).--32 years, 89.7 ft^3/s, 64,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,380 ft^3/s, Feb. 28, 1983, gage height, 11.49 ft, from rating curve extended above 2,800 ft^3/s on basis of slope-area measurement at gage height 9.97 ft; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 11.7 ft from floodmarks, discharge, 6,930 ft^3/s, from slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	1430	*309	*5.69				

Minimum daily, 0.51 ft^3/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.0	2.8	8.1	3.5	11	42	16	2.4	.72	.68	.90
2	1.7	2.0	2.8	7.2	3.4	14	40	16	2.0	.75	.65	.88
3	1.8	2.0	2.5	6.9	3.5	28	41	14	1.8	.78	.67	.88
4	1.8	1.9	2.5	6.5	5.0	19	22	12	1.6	.70	.67	.93
5	1.7	1.9	2.5	10	3.7	18	18	11	1.3	.73	.65	.97
6	1.8	2.0	2.5	17	3.4	17	16	11	1.2	.71	.69	1.0
7	1.8	2.1	2.6	17	3.1	15	13	11	1.1	.64	.76	1.1
8	1.7	2.2	2.7	15	3.1	15	10	9.9	1.1	.55	.81	1.0
9	1.6	2.2	2.8	13	4.0	14	10	9.1	1.1	.67	.83	.98
10	1.7	2.2	2.9	11	8.8	25	11	10	1.1	.80	.91	1.1
11	1.7	2.2	2.9	11	7.1	201	14	13	1.1	.81	.88	1.2
12	1.7	2.2	2.9	8.9	5.7	179	15	12	1.1	.83	.81	1.2
13	1.8	2.4	2.9	6.5	18	113	11	11	.86	.86	.70	1.2
14	1.9	2.8	2.9	5.5	28	82	8.3	9.7	.61	.82	.68	1.2
15	1.8	2.7	2.9	4.1	26	64	5.6	8.7	.61	.81	.81	1.2
16	1.7	2.7	3.1	3.8	22	64	4.9	7.9	.63	.80	.87	1.3
17	1.6	2.6	3.2	3.5	20	63	4.6	7.3	.65	.99	.89	1.4
18	1.6	2.4	3.1	3.2	18	51	4.5	6.6	.71	1.4	.71	1.4
19	1.6	2.4	3.1	3.0	16	46	4.2	5.9	.74	.96	.81	1.6
20	1.7	2.4	3.5	2.9	16	43	3.6	4.7	.76	.69	.83	1.5
21	1.8	2.4	4.1	2.9	14	40	4.0	4.3	.77	.55	.86	1.7
22	1.8	2.4	4.3	2.9	14	37	3.9	4.3	.71	.51	.86	1.4
23	1.8	3.4	4.0	3.0	12	34	3.5	4.2	.70	1.4	.91	1.3
24	2.1	2.9	11	2.7	13	42	5.0	4.7	.76	3.4	.88	1.4
25	2.2	2.8	31	2.7	14	65	5.2	3.9	.79	1.3	.82	1.3
26	2.1	2.7	21	2.8	9.3	80	3.5	3.8	.86	1.1	.83	1.5
27	2.3	2.4	17	2.9	14	72	3.6	3.7	.96	.93	.89	1.6
28	2.4	2.6	14	3.1	20	63	12	4.0	.87	.76	.91	1.6
29	2.2	3.3	10	3.2	---	57	16	4.0	.70	.75	.99	1.8
30	2.1	2.9	7.6	3.3	---	52	16	3.3	.65	.81	.96	1.7
31	2.0	---	7.9	3.5	---	47	---	2.8	---	.76	.73	---
TOTAL	57.0	73.1	189.0	197.1	328.6	1671	371.4	249.8	30.24	28.29	24.95	38.24
MEAN	1.84	2.44	6.10	6.36	11.7	53.9	12.4	8.06	1.01	.91	.80	1.27
MAX	2.4	3.4	31	17	28	201	42	16	2.4	3.4	.99	1.8
MIN	1.5	1.9	2.5	2.7	3.1	11	3.5	2.8	.61	.51	.65	.88
AC-FT	113	145	375	391	652	3310	737	495	60	56	49	76

CAL YR 1988 TOTAL 2987.61 MEAN 8.16 MAX 269 MIN .26 AC-FT 5930
WTR YR 1989 TOTAL 3258.72 MEAN 8.93 MAX 201 MIN .51 AC-FT 6460

11143250 CARMEL RIVER NEAR CARMEL, CA

LOCATION.--Lat 36°32'20", long 121°52'25", in Canada de la Segunda Grant, Monterey County, Hydrologic Unit 18060012, on right bank 0.3 mi downstream from Potrero Canyon and 3 mi east of Carmel.

DRAINAGE AREA.--246 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 45 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. No flow since Apr. 27, 1987. Low flow regulated by Los Padres Reservoir, usable capacity, 2,180 acre-ft, and San Clement Reservoir, usable capacity, 796 acre-ft. Diversion from San Clemente Reservoir for municipal supply amounted to 4,000 acre-ft for the current year.

AVERAGE DISCHARGE (unadjusted).--27 years, 107 ft^3/s, 77,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,590 ft^3/s, Feb. 28, 1983, gage height, 18.22 ft in gage well, 18.22 ft from floodmarks, from rating curve extended above 2,800 ft^3/s on basis of slope-area measurement at gage height 17.35 ft; no flow from Apr. 27, 1987, to Sept. 30, 1989.

EXTREMES FOR CURRENT YEAR.--No flow for water year 1989.

11147070 SANTA RITA CREEK NEAR TEMPLETON, CA

LOCATION.--Lat 35°31'26", long 120°45'54", in Asuncion Grant, San Luis Obispo County, Hydrologic Unit 18060005, on left bank 1.6 mi upstream from mouth and 4 mi west of Templeton.

DRAINAGE AREA.--18.2 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. Some regulation by stockponds and small diversions by irrigation pumps upstream from station.

AVERAGE DISCHARGE.--28 years, 14.0 ft^3/s, 10,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,060 ft^3/s, Jan. 19, 1969, gage height, 11.12 ft in gage well, 11.75 ft from floodmarks, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0930	*1,910	*7.95				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	12	4.0	3.8	7.0	.88	.15	.00	.00	.00
2	.00	.00	.00	8.7	4.0	31	6.6	.84	.12	.00	.00	.00
3	.00	.00	.00	7.3	6.3	22	6.2	.73	.13	.00	.00	.00
4	.00	.00	.00	6.6	53	11	9.7	.68	.14	.00	.00	.00
5	.00	.00	.00	e84	24	8.4	10	.51	.25	.00	.00	.00
6	.00	.00	.00	44	15	7.3	2.9	.47	.23	.00	.00	.00
7	.00	.00	.00	25	12	7.0	2.6	.47	.27	.00	.00	.00
8	.00	.00	.00	16	13	6.3	2.4	.49	.33	.00	.00	.00
9	.00	.00	.00	13	50	5.8	2.1	.53	.36	.00	.00	.00
10	.00	.00	.00	11	30	4.9	1.7	.86	.34	.00	.00	.00
11	.00	.00	.00	9.0	20	6.5	1.5	.87	.29	.00	.00	.00
12	.00	.00	.00	7.7	16	5.6	1.5	.69	.27	.00	.00	.00
13	.00	.00	.00	7.1	14	4.8	1.5	.56	.21	.00	.00	.00
14	.00	.00	.00	6.5	12	4.3	1.5	.53	.17	.00	.00	.00
15	.00	.00	.00	6.0	10	3.7	1.5	.53	.14	.00	.00	.00
16	.00	.00	.00	5.7	9.2	4.8	1.3	.51	.14	.00	.00	.00
17	.00	.00	8.3	5.3	8.7	5.0	1.3	.48	.12	.00	.00	.00
18	.00	.00	7.7	5.0	8.2	3.7	1.2	.49	.12	.00	.00	.00
19	.00	.00	4.9	4.9	7.4	3.4	1.2	.43	.10	.00	.00	.00
20	.00	.00	8.8	4.7	6.4	3.3	1.1	.35	.07	.00	.00	.00
21	.00	.00	24	4.5	6.1	2.7	1.0	.32	.06	.00	.00	.00
22	.00	.00	55	4.4	5.7	2.7	1.0	.31	.05	.00	.00	.00
23	.00	.00	29	7.8	5.7	2.7	.93	.29	.05	.00	.00	.00
24	.00	.00	e369	9.5	5.3	21	1.0	.26	.05	.00	.00	.00
25	.00	.00	58	5.8	5.0	41	1.3	.23	.04	.00	.00	.00
26	.00	.00	22	5.0	4.6	30	1.3	.21	.03	.00	.00	.00
27	.00	.00	13	4.7	4.3	17	1.0	.18	.03	.00	.00	.00
28	.00	.00	10	4.5	4.0	13	.88	.17	.02	.00	.00	.00
29	.00	.00	7.5	4.5	---	10	.88	.15	.01	.00	.00	.00
30	.00	.00	6.3	4.4	---	9.1	.88	.15	.00	.00	.00	.00
31	.00	---	15	4.1	---	7.8	---	.15	---	.00	.00	---
TOTAL	0.00	0.00	638.50	348.7	363.9	309.6	74.97	14.32	4.29	0.00	0.00	0.00
MEAN	.000	.000	20.6	11.2	13.0	9.99	2.50	.46	.14	.000	.000	.000
MAX	.00	.00	369	84	53	41	10	.88	.36	.00	.00	.00
MIN	.00	.00	.00	4.1	4.0	2.7	.88	.15	.00	.00	.00	.00
AC-FT	.00	.00	1270	692	722	614	149	28	8.5	.00	.00	.00

CAL YR 1988 TOTAL 1410.53 MEAN 3.85 MAX 369 MIN .00 AC-FT 2800
WTR YR 1989 TOTAL 1754.28 MEAN 4.81 MAX 369 MIN .00 AC-FT 3480

e Estimated.

11147500 SALINAS RIVER AT PASO ROBLES, CA

LOCATION.--Lat 35°37'43", long 120°41'00", in Paso de Robles Grant, San Luis Obispo County, Hydrologic Unit 18060005, on left bank at upstream side of 13th Street Bridge in Paso Robles and 3.5 mi upstream from Huerhuero Creek.

DRAINAGE AREA.--390 mi^2.
PERIOD OF RECORD.--October 1939 to September 1965, October 1969 to current year.
REVISED RECORDS.--WSP 981: 1942.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 670.61 ft above National Geodetic Vertical Datum of 1929. Prior to June 14, 1951, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated discharges and discharge values less than 1.0 ft^3/s, which are poor. Low flows regulated by Santa Margarita Lake 32 mi upstream beginning in December 1941, usable capacity, 23,000 acre-ft. Diversion from Santa Margarita Lake for San Luis Obispo municipal supply amounted to 2,860 acre-ft for the current year. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--46 years, 94.8 ft^3/s, 68,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft^3/s, Feb. 16, 1980, gage height, 15.99 ft, from rating curve extended above 11,000 ft^3/s; maximum gage height, 17.24 ft, Apr. 3, 1958; no flow for many days in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 23.8 ft from floodmarks, discharge, 28,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1800	*1,700	*7.86				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	5.0	11	24	e.05	.00	.00	.00	.00
2	.00	.00	.00	.00	4.8	21	22	e.05	.00	.00	.00	.00
3	.00	.00	.00	.00	6.9	61	19	.06	.00	.00	.00	.00
4	.00	.00	.00	.00	33	52	17	.05	.00	.00	.00	.00
5	.00	.00	.00	1.3	50	44	17	.08	.00	.00	.00	.00
6	.00	.00	.00	96	29	40	15	.08	.00	.00	.00	.00
7	.00	.00	.00	26	23	35	9.6	e.04	.00	.00	.00	.00
8	.00	.00	.00	12	24	30	6.8	e.04	.00	.00	.00	.00
9	.00	.00	.00	6.9	45	26	4.5	.05	.00	.00	.00	.00
10	.00	.00	.00	5.3	71	22	3.4	.07	.00	.00	.00	.00
11	.00	.00	.00	3.7	50	20	1.8	.06	.00	.00	.00	.00
12	.00	.00	.00	2.2	38	19	1.3	.03	.00	.00	.00	.00
13	.00	.00	.00	1.7	31	16	.94	.05	.00	.00	.00	.00
14	.00	.00	.00	1.3	29	15	.91	.05	.00	.00	.00	.00
15	.00	.00	.00	e1.1	26	15	1.1	.04	.00	.00	.00	.00
16	.00	.00	.00	e1.0	24	13	1.0	e.02	.00	.00	.00	.00
17	.00	.00	.00	e.93	21	13	.89	e.00	.00	.00	.00	.00
18	.00	.00	.00	e.87	19	13	1.1	e.00	.00	.00	.00	.00
19	.00	.00	.00	e.82	18	13	1.1	e.00	.00	.00	.00	.00
20	.00	.00	.00	e.78	17	12	1.1	e.00	.00	.00	.00	.00
21	.00	.00	.00	e.76	15	12	.99	e.00	.00	.00	.00	.00
22	.00	.00	.00	e1.4	14	10	.79	e.00	.00	.00	.00	.00
23	.00	.00	.00	e4.0	13	8.4	.41	.29	.00	.00	.00	.00
24	.00	.00	302	e11	13	9.8	.75	.00	.00	.00	.00	.00
25	.00	.00	144	8.6	11	31	1.1	.00	.00	.00	.00	.00
26	.00	.00	28	6.5	11	62	.25	.00	.00	.00	.00	.00
27	.00	.00	3.2	5.1	11	51	.18	.00	.00	.00	.00	.00
28	.00	.00	.41	e4.7	12	40	.17	.00	.00	.00	.00	.00
29	.00	.00	.05	4.4	---	38	.12	.00	.00	.00	.00	.00
30	.00	.00	.00	4.1	---	31	.07	.00	.00	.00	.00	.00
31	.00	---	.00	3.7	---	27	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	477.66	216.16	664.7	811.2	154.37	1.11	0.00	0.00	0.00	0.00
MEAN	.000	.000	15.4	6.97	23.7	26.2	5.15	.036	.000	.000	.000	.000
MAX	.00	.00	302	96	71	62	24	.29	.00	.00	.00	.00
MIN	.00	.00	.00	.00	4.8	8.4	.07	.00	.00	.00	.00	.00
AC-FT	.00	.00	947	429	1320	1610	306	2.2	.00	.00	.00	.00

CAL YR 1988 TOTAL 4070.82 MEAN 11.1 MAX 486 MIN .00 AC-FT 8070
WTR YR 1989 TOTAL 2325.20 MEAN 6.37 MAX 302 MIN .00 AC-FT 4610

e Estimated.

11148500 ESTRELLA RIVER NEAR ESTRELLA, CA

LOCATION.--Lat 35°43'02", long 120°38'21", in NW 1/4 NW 1/4 sec.36, T.25 S., R.12 E., San Luis Obispo County, Hydrologic Unit 18060004, on right bank 0.2 mi downstream from mouth of Ranchito Canyon and 1.9 mi northwest of Estrella.

DRAINAGE AREA.--922 mi^2, not including Carrizo Plains.

PERIOD OF RECORD.--October 1954 to current year. Prior to October 1960, published as Estrella Creek near Estrella.

REVISED RECORDS.--WSP 2129: 1969, drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 671.59 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. No flow since Apr. 29, 1988. No regulation; pumpage from wells along river for irrigation upstream from station.

AVERAGE DISCHARGE.--35 years, 25.1 ft^3/s, 18,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s, Feb. 24, 1969, gage height, 10.4 ft, from floodmarks, by slope-area measurement of peak flow; maximum gage height, 10.9 ft, Jan. 25, 1969, from floodmarks; no flow from Apr. 29, 1988 to Sept. 30, 1989.

EXTREMES FOR CURRENT YEAR.--No flow for water year 1989.

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA

LOCATION.--Lat 35°47'19", long 121°05'34", in SW 1/4 NE 1/4 sec.3, T.25 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060005, on left bank just downstream from Sapaque Creek and 1.4 mi south of Bryson.

DRAINAGE AREA.--162 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to current year.

REVISED RECORDS.--WDR CA-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 800 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.--18 years, 190 ft^3/s, 137,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,000 ft^3/s, Jan. 16, 1978, gage height, 32.00 ft, from rating curve extended above 7,900 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 25	0745	*6,830	*16.60				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	61	19	27	85	19	3.4	.00	.00	.00
2	.00	.00	.00	54	19	111	79	18	3.0	.00	.00	.00
3	.00	.00	.00	48	21	98	72	16	2.7	.00	.00	.00
4	.00	.00	.00	44	46	64	66	14	2.5	.00	.00	.00
5	.00	.00	.00	138	55	54	60	13	2.6	.00	.00	.00
6	.00	.00	.00	214	40	48	56	12	2.6	.00	.00	.00
7	.00	.00	.00	125	34	45	51	11	2.7	.00	.00	.00
8	.00	.00	.00	93	43	43	47	9.8	2.6	.00	.00	.00
9	.00	.00	.01	76	606	40	44	8.8	2.5	.00	.00	.00
10	.00	.00	.02	67	351	70	40	9.1	2.2	.00	.00	.00
11	.00	.00	.04	57	187	249	37	9.7	1.9	.00	.00	.00
12	.00	.00	.07	49	132	187	35	9.7	1.7	.00	.00	.00
13	.00	.00	.13	45	105	131	34	8.9	1.6	.00	.00	.00
14	.00	.00	.17	41	87	105	33	8.5	1.4	.00	.00	.00
15	.00	.00	.18	38	75	90	31	8.3	1.3	.00	.00	.00
16	.00	.00	.38	35	66	96	30	8.4	1.1	.00	.00	.00
17	.00	.00	.39	33	59	98	28	7.9	.97	.00	.00	.00
18	.00	.00	.35	31	53	80	27	7.0	.78	.00	.00	.00
19	.00	.00	.30	30	50	71	25	6.5	.62	.00	.00	.00
20	.00	.00	.28	28	45	65	24	6.2	.55	.00	.00	.00
21	.00	.00	.45	27	42	59	22	5.7	.47	.00	.00	.00
22	.00	.00	.36	26	39	55	22	5.5	.33	.00	.00	.00
23	.00	.00	135	27	37	50	22	5.3	.22	.00	.00	.00
24	.00	.00	150	32	35	219	22	4.8	.17	.00	.00	.00
25	.00	.00	1970	27	33	335	30	4.7	.11	.00	.00	.00
26	.00	.00	349	25	31	277	40	4.6	.04	.00	.00	.00
27	.00	.00	163	24	30	190	29	4.3	.00	.00	.00	.00
28	.00	.00	103	23	28	150	25	4.2	.00	.00	.00	.00
29	.00	.00	75	21	---	124	22	3.9	.00	.00	.00	.00
30	.00	.00	52	21	---	107	21	3.7	.00	.00	.00	.00
31	.00	---	56	20	---	95	---	3.6	---	.00	.00	---
TOTAL	0.00	0.00	3056.13	1580	2368	3433	1159	262.1	40.06	0.00	0.00	0.00
MEAN	.000	.000	98.6	51.0	84.6	111	38.6	8.45	1.34	.000	.000	.000
MAX	.00	.00	1970	214	606	335	85	19	3.4	.00	.00	.00
MIN	.00	.00	.00	20	19	27	21	3.6	.00	.00	.00	.00
AC-FT	.00	.00	6060	3130	4700	6810	2300	520	79	.00	.00	.00

CAL YR 1988 TOTAL 13386.74 MEAN 36.6 MAX 1970 MIN .00 AC-FT 26550
WTR YR 1989 TOTAL 11898.29 MEAN 32.6 MAX 1970 MIN .00 AC-FT 23600

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year. Published as station 11148800 "near Bryson" in water years 1958-59, 1961-71.
WATER TEMPERATURE: Water years 1972-73.
SEDIMENT DATA: Water years 1972 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1971 to September 1973.
SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1973.

REMARKS.--Zero bedload discharge observed for flows less than 67 ft^3/s during current year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
DEC					
29...	1515	63	5.5	0	0.0
JAN					
18...	1520	33	6.5	1	0.09
FEB					
17...	1350	60	8.5	0	0.0
APR					
04...	1335	67	17.0	0	0.0

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
JAN								
19...	1200	--	1	30	--	1	2	2
19...	1202	--	1	30	--	--	--	--
19...	1204	--	1	30	--	1	2	3
19...	1206	--	1	30	--	--	2	6
19...	1210	--	1	30	--	--	2	26
19...	1212	--	1	30	--	--	3	38
19...	1214	--	1	30	1	2	16	80
APR								
04...	1445	17.0	1	67	--	--	1	2
04...	1447	17.0	1	67	--	1	2	3
04...	1449	17.0	1	67	--	1	2	5
04...	1451	17.0	1	67	--	--	1	3
04...	1453	17.0	1	67	--	--	2	8
04...	1455	17.0	1	67	--	--	1	22
04...	1457	17.0	1	67	1	3	23	82

11148900 NACIMIENTO RIVER BELOW SAPAQUE CREEK, NEAR BRYSON, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
JAN							
19...	3	5	25	54	73	100	--
19...	--	1	4	9	54	100	--
19...	3	9	23	45	78	100	--
19...	26	54	64	75	89	100	--
19...	72	86	91	93	100	--	--
19...	92	100	--	--	--	--	--
19...	100	--	--	--	--	--	--
APR							
04...	2	2	9	25	43	68	100
04...	3	5	15	31	56	100	--
04...	9	15	21	29	44	100	--
04...	9	16	25	42	72	100	--
04...	33	54	65	73	84	100	--
04...	66	76	78	80	85	100	--
04...	100	--	--	--	--	--	--

11149400 NACIMIENTO RIVER BELOW NACIMIENTO DAM, NEAR BRADLEY, CA

LOCATION.--Lat 35°45'41", long 120°51'16", in NE 1/4 NE 1/4 sec.14, T.25 S., R.10 E., San Luis Obispo County, Hydrologic Unit 18060005, Camp Roberts Military Reservation, on left bank 2.2 mi downstream from Nacimiento Dam, and 7.6 mi southwest of Bradley.

DRAINAGE AREA.--329 mi^2.

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WDR CA-84-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 597 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated daily discharges and discharges less than 2.0 ft^3/s, which are poor. Flow regulated by Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE (unadjusted).--32 years, 284 ft^3/s, 205,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,340 ft^3/s, Feb. 25, 1969, gage height, 10.92 ft; no flow for many days in 1958-63, 1965, and 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 427 ft^3/s, Oct. 1, gage height, 4.31 ft; minimum daily, 0.11 ft^3/s, Nov. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	e4.6	2.2	3.0	e28	25	26	382	265	335	3.5	2.0
2	423	5.2	2.2	2.8	29	25	25	383	266	339	3.8	2.0
3	422	5.3	2.2	3.0	28	25	38	383	269	345	4.2	1.9
4	422	5.5	2.1	4.2	28	25	85	385	265	347	4.6	1.9
5	422	5.4	2.0	5.2	27	25	86	386	264	203	4.6	1.9
6	422	5.5	2.1	6.5	27	25	87	387	268	28	4.4	2.2
7	417	5.4	2.2	7.8	26	25	86	387	272	28	4.7	2.5
8	413	5.8	2.2	8.1	27	25	85	391	274	28	4.6	2.4
9	410	5.6	2.2	8.1	27	25	85	391	275	16	4.8	2.1
10	388	7.2	2.2	8.1	27	25	128	360	276	.60	4.8	2.2
11	408	33	2.1	8.1	27	25	149	229	278	4.0	4.2	3.7
12	364	2.3	2.1	8.1	27	25	149	230	282	1.9	4.0	10
13	315	.46	2.2	8.1	15	25	149	232	284	.84	4.1	10
14	315	.19	2.4	8.1	10	25	149	233	286	2.4	3.8	9.9
15	315	.17	3.4	8.1	24	25	149	235	303	2.6	3.6	10
16	324	.20	3.7	8.1	25	25	149	238	307	2.7	4.3	11
17	352	.30	4.1	8.1	25	25	149	239	290	2.9	4.7	11
18	320	.11	3.7	8.1	25	25	197	241	293	2.9	4.9	9.0
19	286	.40	3.6	8.1	25	26	281	241	293	3.4	4.9	6.2
20	112	1.3	1.2	9.6	25	26	381	241	295	3.5	4.9	6.7
21	1.5	1.6	1.1	e22	26	26	381	242	298	3.3	4.9	6.3
22	.84	1.8	.34	e33	27	25	381	241	302	3.1	5.0	6.5
23	e2.0	2.1	.27	e39	27	25	383	242	303	3.1	1.2	6.2
24	e2.1	1.9	7.1	e43	26	25	387	243	309	3.3	.40	5.8
25	e2.2	2.2	7.8	e41	26	25	387	244	315	3.6	5.6	5.3
26	e2.2	2.1	5.7	e37	26	25	386	247	117	3.3	6.0	4.6
27	e2.3	2.2	4.9	e35	25	25	385	250	3.9	3.4	3.8	4.5
28	e2.4	2.2	4.6	e34	25	25	383	252	138	3.3	2.2	5.1
29	e2.4	2.3	3.7	e32	---	26	383	255	329	3.4	2.1	5.2
30	e2.5	2.3	3.6	e30	---	26	382	260	331	3.3	2.4	6.2
31	e2.6	---	3.5	e30	---	26	---	264	---	3.4	2.1	---
TOTAL	7294.04	114.63	92.71	515.3	710	781	6471	8934	8050.9	1733.24	123.10	164.3
MEAN	235	3.82	2.99	16.6	25.4	25.2	216	288	268	55.9	3.97	5.48
MAX	423	33	7.8	43	29	26	387	391	331	347	6.0	11
MIN	.84	.11	.27	2.8	10	25	25	229	3.9	.60	.40	1.9
AC-FT	14470	227	184	1020	1410	1550	12840	17720	15970	3440	244	326

CAL YR 1988 TOTAL 70033.28 MEAN 191 MAX 514 MIN .11 AC-FT 138900
WTR YR 1989 TOTAL 34984.22 MEAN 95.8 MAX 423 MIN .11 AC-FT 69390

e Estimated.

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA

LOCATION.--Lat 35°53'48", long 121°05'14", in Los Ojitos Grant, Monterey County, Hydrologic Unit 18060005, on downstream side of highway bridge, 0.4 mi upstream from Tule Canyon, and 3.3 mi south of Lockwood.

DRAINAGE AREA.--217 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WDR CA-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 795.00 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 28, 1975, at datum 5.00 ft higher.

REMARKS.--Records fair except those for period of estimated daily discharge, which are poor. No regulation; some pumping upstream from station.

AVERAGE DISCHARGE.--24 years, 111 ft^3/s, 80,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft^3/s, Jan. 26, 1969, gage height, 8.25 ft, datum then in use; maximum gage height, 12.64 ft, from floodmarks, Jan. 26, 1983; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1830	*441	*7.44				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	18	18	19	57	14	e1.2	.00	.00	.00
2	.00	.00	.00	17	17	24	55	14	e.91	.00	.00	.00
3	.00	.00	.00	17	18	41	51	13	e.74	.00	.00	.00
4	.00	.00	.00	17	22	36	47	12	e.85	.00	.00	.00
5	.00	.00	.00	18	25	32	44	11	e.81	.00	.00	.00
6	.00	.00	.00	60	23	30	43	11	e.48	.00	.00	.00
7	.00	.00	.00	48	22	30	40	10	.09	.00	.00	.00
8	.00	.00	.00	40	24	28	38	9.1	.00	.00	.00	.00
9	.00	.00	.00	36	34	28	36	8.8	.00	.00	.00	.00
10	.00	.00	.00	31	87	30	34	8.9	.00	.00	.00	.00
11	.00	.00	.00	28	59	99	32	e9.0	.00	.00	.00	.00
12	.00	.00	.00	25	48	118	32	e8.5	.00	.00	.00	.00
13	.00	.00	.00	24	42	96	30	e8.0	.00	.00	.00	.00
14	.00	.00	.00	23	38	83	29	e7.5	.00	.00	.00	.00
15	.00	.00	.00	22	35	75	28	e7.3	.00	.00	.00	.00
16	.00	.00	.00	22	34	70	26	e6.7	.00	.00	.00	.00
17	.00	.00	.00	22	32	74	24	e6.2	.00	.00	.00	.00
18	.00	.00	.00	22	31	68	21	e5.7	.00	.00	.00	.00
19	.00	.00	.00	21	30	65	20	e5.0	.00	.00	.00	.00
20	.00	.00	.00	19	29	62	18	e4.5	.00	.00	.00	.00
21	.00	.00	.00	18	27	55	18	e4.2	.00	.00	.00	.00
22	.00	.00	.00	18	26	52	20	e3.9	.00	.00	.00	.00
23	.00	.00	.00	19	25	50	18	e3.6	.00	.00	.00	.00
24	.00	.00	105	20	24	54	18	e3.1	.00	.00	.00	.00
25	.00	.00	100	19	24	102	19	e2.8	.00	.00	.00	.00
26	.00	.00	44	18	22	109	20	e2.6	.00	.00	.00	.00
27	.00	.00	30	18	22	93	17	e2.3	.00	.00	.00	.00
28	.00	.00	23	17	20	80	18	e2.2	.00	.00	.00	.00
29	.00	.00	19	17	---	73	16	e1.9	.00	.00	.00	.00
30	.00	.00	18	17	---	66	14	e1.7	.00	.00	.00	.00
31	.00	---	16	18	---	62	---	e1.4	---	.00	.00	---
TOTAL	0.00	0.00	355.00	729	858	1904	883	209.9	5.08	0.00	0.00	0.00
MEAN	.000	.000	11.5	23.5	30.6	61.4	29.4	6.77	.17	.000	.000	.000
MAX	.00	.00	105	60	87	118	57	14	1.2	.00	.00	.00
MIN	.00	.00	.00	17	17	19	14	1.4	.00	.00	.00	.00
AC-FT	.00	.00	704	1450	1700	3780	1750	416	10	.00	.00	.00

CAL YR 1988 TOTAL 6420.37 MEAN 17.5 MAX 510 MIN .00 AC-FT 12730
WTR YR 1989 TOTAL 4943.98 MEAN 13.5 MAX 118 MIN .00 AC-FT 9810

e Estimated.

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.
WATER TEMPERATURE: Water years 1966-73.
SEDIMENT DATA: Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to September 1973.
SUSPENDED-SEDIMENT DISCHARGE: October 1965 to September 1973.

REMARKS.--All bedload sample results were averaged from two sets.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC						
28...	1235	23	12.0	7	0.43	48
JAN						
19...	1700	20	--	4	0.22	--
FEB						
09...	1340	32	14.5	6	0.52	--
17...	1725	32	16.0	3	0.26	20
MAR						
20...	1200	64	19.0	10	1.7	31
APR						
14...	1245	31	23.0	1	0.08	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC								
28...	1342	12.0	1	22	--	--	4	14
28...	1344	12.0	1	22	--	--	2	12
28...	1346	12.0	1	22	--	--	3	14
28...	1348	12.0	1	22	--	--	3	14
28...	1350	12.0	1	22	--	--	3	14
28...	1352	12.0	1	22	--	--	1	8
28...	1354	12.0	1	22	--	1	4	12
28...	1356	12.0	1	22	--	1	6	19
28...	1358	12.0	1	22	1	1	4	13
28...	1400	12.0	1	22	1	1	3	11
APR								
14...	1400	23.0	1	31	--	--	2	17
14...	1401	23.0	1	31	--	--	3	18
14...	1402	23.0	1	31	--	--	2	13
14...	1403	23.0	1	31	--	--	4	25
14...	1404	23.0	1	31	--	--	6	24
14...	1405	23.0	1	31	--	--	1	10
14...	1406	23.0	1	31	--	--	3	10
14...	1407	23.0	1	31	--	1	5	14
4...	1408	23.0	1	31	--	--	2	8
4...	1409	23.0	1	31	--	1	3	7

11149900 SAN ANTONIO RIVER NEAR LOCKWOOD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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
DEC							
28...	35	65	84	92	98	100	--
28...	32	54	66	77	92	100	--
28...	35	59	79	87	96	100	--
28...	33	57	74	84	96	100	--
28...	38	71	91	97	99	100	--
28...	30	58	78	88	97	100	--
28...	28	47	63	73	84	88	100
28...	42	71	86	92	93	100	--
28...	33	57	73	81	91	100	--
28...	37	64	78	85	96	100	--
APR							
14...	44	74	88	94	100	--	--
14...	35	52	71	81	96	100	--
14...	32	47	56	63	73	94	100
14...	57	77	86	91	98	100	--
14...	49	71	85	92	99	100	--
14...	28	44	55	66	80	100	--
14...	23	41	59	75	91	100	--
14...	32	60	77	86	95	100	--
14...	28	52	66	72	79	100	--
14...	21	40	54	69	90	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
DEC							
28...	1340	12.0	22	22	24.0	9.7	2
JAN							
19...	1720	--	20	20	40.0	22	2
FEB							
09...	1405	14.5	19	32	61.0	47	1
17...	1745	16.0	21	32	63.0	49	1
MAR							
20...	1305	19.0	23	62	69.0	76	1
APR							
14...	1310	23.0	26	31	58.0	36	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
DEC						
28...	31	71	91	97	100	--
JAN						
19...	16	62	89	96	98	100
FEB						
09...	15	56	87	96	99	100
17...	23	67	90	97	98	100
MAR						
20...	20	62	88	96	99	100
APR						
14...	18	61	89	97	99	100

11150500 SALINAS RIVER NEAR BRADLEY, CA

LOCATION.--Lat 35°55'49", long 120°52'04", in SW 1/4 NW 1/4 sec.14, T.23 S., R.10 E., Monterey County, Hydrologic Unit 18060005, on left bank 6 mi northwest of Bradley and 7 mi downstream from San Antonio River.

DRAINAGE AREA.--2,535 mi^2.

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1285: 1950. WDR CA-84-2: 1978.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 442.69 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Santa Margarita Lake beginning in December 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Several small diversions upstream from station.

AVERAGE DISCHARGE (unadjusted).--41 years, 485 ft^3/s, 351,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 117,000 ft^3/s, Feb. 24, 1969, gage height, 20.34 ft, from floodmarks; no flow at times in 1951, 1954-55, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 974 ft^3/s, Aug. 25, gage height, 5.94 ft; minimum daily, 14 ft^3/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	423	278	197	41	54	59	90	701	493	570	75	640
2	430	223	197	40	53	70	85	693	497	565	54	630
3	441	212	210	39	51	68	80	689	490	565	42	633
4	442	212	217	38	57	69	90	692	489	557	36	626
5	429	212	216	39	51	83	123	688	492	574	30	624
6	420	213	215	37	46	87	130	678	492	540	26	655
7	414	216	206	35	44	88	136	673	488	540	24	727
8	402	215	194	35	46	88	139	668	483	526	22	728
9	395	212	197	34	54	90	136	666	481	517	20	741
10	376	215	208	34	62	92	138	666	474	518	18	736
11	368	214	211	33	81	93	181	538	473	558	18	733
12	367	220	193	30	93	89	190	470	474	559	17	714
13	296	222	202	27	88	81	190	459	479	552	16	599
14	300	222	212	25	79	68	193	464	474	555	15	576
15	309	219	215	25	67	64	194	464	497	536	14	547
16	310	219	217	23	70	61	193	464	518	525	150	539
17	336	219	206	22	69	75	199	460	505	528	574	538
18	451	222	200	22	67	82	198	460	502	526	779	185
19	494	246	197	23	66	80	297	462	494	520	806	94
20	472	230	198	30	66	80	415	477	492	515	805	73
21	450	224	189	35	62	80	456	480	486	563	806	58
22	424	220	168	49	63	79	460	477	481	587	818	46
23	410	211	164	56	64	78	467	473	467	590	864	39
24	398	207	171	55	63	82	490	469	476	607	865	34
25	322	213	89	52	60	78	502	469	482	661	950	31
26	294	214	58	51	58	80	497	471	505	657	928	29
27	281	212	51	51	57	87	573	474	516	635	906	27
28	275	210	50	52	57	107	580	472	486	624	911	25
29	275	203	46	51	---	110	682	476	467	611	936	34
30	286	197	44	54	---	104	695	466	550	600	686	28
31	288	---	42	53	---	99	---	450	---	208	636	---
TOTAL	11578	6552	5180	1191	1748	2551	8799	16709	14703	17189	12847	11689
MEAN	373	218	167	38.4	62.4	82.3	293	539	490	554	414	390
MAX	494	278	217	56	93	110	695	701	550	661	950	741
MIN	275	197	42	22	44	59	80	450	467	208	14	25
AC-FT	22960	13000	10270	2360	3470	5060	17450	33140	29160	34090	25480	23190

CAL YR 1988 TOTAL 111014 MEAN 303 MAX 652 MIN 25 AC-FT 220200
WTR YR 1989 TOTAL 110736 MEAN 303 MAX 950 MIN 14 AC-FT 219600

11151300 SAN LORENZO CREEK BELOW BITTERWATER CREEK, NEAR KING CITY, CA

LOCATION.--Lat 36°16'05", long 121°03'55", in NE 1/4 sec.23, T.19 S., R.8 E., Monterey County, Hydrologic Unit 18060005, on left bank 1.3 mi downstream from Bitterwater Creek, 5 mi northeast of King City, and 10 mi upstream from mouth.

DRAINAGE AREA.--233 mi^2.

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

REVISED RECORDS.--WDR CA-85-2: 1969-84(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 431.64 ft above National Geodetic Vertical Datum of 1929. October 1958 to Apr. 24, 1967, at site 500 ft upstream at datum 5.00 ft higher. Apr. 25, 1967, to July 12, 1981, at site 200 ft upstream.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. No regulation; small diversions upstream from station by ranchers and sand-processing plant.

AVERAGE DISCHARGE.--31 years, 13.7 ft^3/s, 9,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s, Jan. 25, 1969, gage height, 15.33 ft, in gage well, 16.2 ft, from floodmarks, from rating curve extended above 7,100 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in 1961 and 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 25	0415	*56	*4.44				

Minimum daily, 0.05 ft^3/s, July 7, 8, and Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	e.68	1.2	3.5	1.5	1.3	.60	.64	.12	.06	.08	.07
2	.10	e.68	1.1	3.2	1.4	2.3	.62	.58	.12	.06	.08	.07
3	.10	e.68	1.2	2.3	1.4	2.2	.58	.51	.13	.06	.09	.06
4	.11	e.69	1.2	2.3	3.2	1.9	.53	.40	.15	.06	.09	.06
5	.11	e.70	1.1	3.7	2.5	1.9	.49	.34	.15	.07	.07	.06
6	.11	e.77	1.1	7.6	2.1	1.8	.47	.33	.12	.06	.08	.06
7	.13	e.84	1.2	8.5	1.7	1.7	.39	.33	.12	.05	.08	.06
8	.13	e.94	1.0	4.6	1.9	1.7	.33	.30	.12	.05	.08	.06
9	.12	e.84	.96	3.8	4.3	1.5	.26	.31	.11	.06	.09	.06
10	.11	e.73	1.2	2.8	3.4	1.5	.23	.32	.12	.07	.09	.06
11	.11	.70	1.2	2.8	2.8	1.4	.26	.30	.12	.07	.08	.06
12	.12	.76	1.2	2.3	2.3	1.1	.32	.26	.11	.08	.08	.06
13	.13	.82	1.2	2.3	2.0	1.1	.38	.26	.10	.08	.08	.06
14	.14	.90	1.2	2.2	2.0	1.2	.44	.25	.09	.07	.08	.06
15	.14	.98	.99	2.1	1.9	1.2	.51	.26	.09	.07	.08	.05
16	.14	.90	4.8	2.3	1.8	1.5	.55	.24	.08	.08	.08	.09
17	.14	.81	5.8	2.4	1.8	1.9	.59	.23	.08	.08	.08	.10
18	.14	.76	3.5	2.0	1.8	1.5	.70	.22	.08	.08	.08	.10
19	.15	.78	2.7	1.9	1.6	1.3	.74	.21	.07	.07	.08	.09
20	.15	.90	2.5	2.0	1.4	1.0	.64	.21	.07	.07	.08	.08
21	.15	.90	4.1	2.0	1.4	.97	.55	.20	.07	.08	.08	.08
22	.17	.90	3.4	2.0	1.4	.82	.55	.19	.07	.08	.08	.08
23	.17	1.1	2.3	2.2	1.3	.89	.53	.18	.06	.09	.07	.08
24	.21	1.6	10	2.3	1.2	1.0	.57	.17	.07	.08	.07	.08
25	.21	1.7	41	1.6	1.4	1.4	.86	.17	.07	.08	.07	.09
26	.21	1.6	20	1.5	1.4	2.0	1.1	.15	.07	.08	.08	.09
27	.25	1.7	9.8	1.4	1.3	1.5	1.2	.16	.08	.09	.08	.08
28	.34	1.5	7.6	1.5	1.2	1.1	1.0	.14	.08	.09	.07	.14
29	.48	1.2	5.1	1.5	---	.87	.86	.15	.07	.09	.07	.41
30	.58	1.2	3.9	1.5	---	.69	.75	.14	.07	.08	.07	.13
31	e.65	---	4.1	1.5	---	.60	---	.13	---	.08	.07	---
TOTAL	5.89	29.26	147.65	83.6	53.4	42.84	17.60	8.28	2.86	2.27	2.44	2.63
MEAN	.19	.98	4.76	2.70	1.91	1.38	.59	.27	.095	.073	.079	.088
MAX	.65	1.7	41	8.5	4.3	2.3	1.2	.64	.15	.09	.09	.41
MIN	.09	.68	.96	1.4	1.2	.60	.23	.13	.06	.05	.07	.05
AC-FT	12	58	293	166	106	85	35	16	5.7	4.5	4.8	5.2

CAL YR 1988 TOTAL 1080.31 MEAN 2.95 MAX 131 MIN .08 AC-FT 2140
WTR YR 1989 TOTAL 398.72 MEAN 1.09 MAX 41 MIN .05 AC-FT 791

e Estimated.

11151700 SALINAS RIVER AT SOLEDAD, CA

LOCATION.--Lat 36°24'40", long 121°19'06", on boundary between San Vicente and Los Coches Grants, Monterey County, Hydrologic Unit 18060005, near right bank on upstream end of pier on U.S. Highway 101, 0.9 mi south of Soledad, and 1 mi upstream from Arroyo Seco River.

DRAINAGE AREA.--3,563 mi^2.

PERIOD OF RECORD.--October 1968 to September 1978, October 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 170 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated discharges, which are poor. Flow regulated by Santa Margarita Lake beginning in December 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and by Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Several small diversions for irrigation upstream from station.

AVERAGE DISCHARGE (unadjusted).--16 years (water years 1969-78, 1984-89), 411 ft^3/s, 297,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 106,000 ft^3/s, Feb. 25, 1969, gage height, 23.31 ft; maximum gage height, 23.39 ft, Jan. 26, 1969; no flow for several days in 1977 and for many days in 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 306 ft^3/s, Aug. 31, gage height, 10.05 ft; minimum daily, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	163	126	72	26	13	.00	143	169	132	167	229
2	189	161	126	70	25	13	.00	183	160	145	85	203
3	202	159	124	66	25	12	.00	207	165	166	37	199
4	204	148	116	64	29	12	.00	215	166	174	9.7	211
5	201	138	116	63	32	11	.00	224	184	176	.76	220
6	200	135	116	61	34	10	.00	226	184	178	.00	218
7	200	124	116	59	33	9.8	.00	231	179	167	.00	223
8	198	116	116	54	31	11	.00	255	171	149	.00	234
9	192	129	113	53	33	9.8	.00	273	168	144	.00	260
10	198	116	113	52	35	8.9	.00	282	160	148	.00	276
11	195	116	113	48	33	8.3	.00	285	159	155	.00	291
12	188	114	118	46	34	8.1	.00	284	176	155	.00	303
13	188	117	116	44	35	7.3	.00	234	179	159	.00	304
14	188	128	115	42	36	6.4	.00	202	172	154	.00	283
15	176	129	116	41	37	5.7	.00	202	161	146	.00	240
16	165	128	127	40	36	5.6	.00	200	155	145	.00	231
17	163	128	138	38	33	4.9	.00	189	154	160	.00	247
18	155	126	139	36	30	e4.4	.00	180	163	162	.00	259
19	162	115	140	34	29	e3.7	.00	174	173	151	.00	258
20	199	116	141	33	29	e3.2	.00	173	176	146	.00	168
21	230	128	148	31	26	e2.7	.00	174	165	137	.00	106
22	246	127	149	29	23	e2.2	.00	195	156	137	.00	71
23	236	126	149	29	20	e1.9	.00	199	146	145	.00	49
24	230	127	151	30	18	e1.5	.00	187	140	159	8.6	32
25	218	137	163	30	17	e1.2	.00	179	135	167	65	20
26	208	135	148	31	17	e.90	.00	174	151	163	103	9.0
27	189	130	120	30	17	e.65	3.4	170	164	170	157	2.1
28	176	131	104	28	14	e.44	33	170	168	173	215	.51
29	171	129	92	27	---	e.27	59	177	168	173	254	.16
30	165	126	82	29	---	e.15	93	188	147	176	283	.00
31	165	---	79	27	---	e.05	---	181	---	177	301	---
TOTAL	5985	3902	3830	1337	787	180.06	188.40	6356	4914	4889	1686.06	5146.77
MEAN	193	130	124	43.1	28.1	5.81	6.28	205	164	158	54.4	172
MAX	246	163	163	72	37	13	93	285	184	178	301	304
MIN	155	114	79	27	14	.05	.00	143	135	132	.00	.00
AC-FT	11870	7740	7600	2650	1560	357	374	12610	9750	9700	3340	10210

CAL YR 1988 TOTAL 47776.0 MEAN 131 MAX 278 MIN 1.5 AC-FT 94760
WTR YR 1989 TOTAL 39201.29 MEAN 107 MAX 304 MIN .00 AC-FT 77760

e Estimated.

11152000 ARROYO SECO NEAR SOLEDAD, CA

LOCATION.--Lat 36°16'50", long 121°19'18", in SW 1/4 NE 1/4 sec.16, T.19 S., R.6 E., Monterey County, Hydrologic Unit 18060005, on right bank under county road bridge, 1.5 mi downstream from Vaquero Creek, and 10 mi south of Soledad.

DRAINAGE AREA.--244 mi^2.

PERIOD OF RECORD.--November 1901 to current year. Records for water year 1902 incomplete; yearly estimate published in WSP 1315-B.

REVISED RECORDS.--WSP 881: 1902-9 (yearly summary only). WSP 1565: 1916-19, 1920-21(M), 1922, 1926-27, 1928-30(M), 1932, 1934, 1936(M). WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 339.20 ft above National Geodetic Vertical Datum of 1929. Prior to June 16, 1929, nonrecording gage, and June 16, 1929, to Dec. 2, 1941, water-stage recorder at site 1 mi upstream at different datum. Dec. 3, 1941, to Sept. 30, 1959, water-stage recorder at datum 2.00 ft higher. Jan. 30 to Mar. 26, 1969, nonrecording gage at bridge at same datum.

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

AVERAGE DISCHARGE.--88 years, 168 ft^3/s, 121,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,300 ft^3/s, Apr. 3, 1958, gage height, 16.40 ft, datum then in use, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement at gage height 16.30 ft; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1230	*3,550	*5.91				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	8.3	48	24	37	94	25	8.5	.64	.00	.00
2	.00	.00	7.9	43	24	53	87	24	7.5	1.1	.00	.00
3	.00	.00	7.3	39	24	97	80	22	7.4	1.1	.00	.00
4	.00	.00	6.9	37	37	66	74	20	6.8	.69	.00	.00
5	.00	.00	6.8	81	44	58	69	18	6.1	.94	.00	.00
6	.00	.00	6.7	165	36	53	64	18	6.7	.68	.00	.00
7	.00	.00	6.4	99	33	52	61	17	7.2	.34	.00	.00
8	.00	.00	6.3	75	33	52	57	17	6.7	.28	.00	.00
9	.00	.00	6.1	63	149	50	54	15	6.0	.23	.00	.00
10	.00	.00	6.2	56	185	133	51	16	6.1	.23	.00	.00
11	.00	.00	6.5	50	112	360	48	16	5.8	.18	.00	.00
12	.00	.00	6.5	45	89	270	45	17	5.2	.18	.00	.00
13	.00	.00	6.8	43	77	187	44	16	4.5	.14	.00	.00
14	.00	.00	6.9	41	68	148	43	16	4.0	.11	.00	.00
15	.00	.00	7.0	39	61	123	41	15	3.4	.06	.00	.00
16	.00	.10	8.7	36	57	118	40	15	3.0	.01	.00	.00
17	.00	2.9	9.9	35	54	133	36	13	2.6	.00	.00	.00
18	.00	2.5	9.5	34	52	102	37	13	2.2	.00	.00	.00
19	.00	4.1	9.1	32	51	91	35	12	1.8	.00	.00	.00
20	.00	3.6	9.4	31	51	86	33	12	1.3	.00	.00	.00
21	.00	3.6	14	30	49	78	32	12	.95	.00	.00	.00
22	.00	3.8	29	29	46	73	33	11	.60	.00	.00	.00
23	.00	4.5	136	28	45	69	33	11	.40	.00	.00	.00
24	.00	37	650	34	45	152	35	11	.38	.00	.00	.00
25	.00	21	257	31	43	243	38	11	.44	.00	.00	.00
26	.00	19	116	29	40	256	35	10	.63	.00	.00	.00
27	.00	15	72	28	39	193	31	10	.51	.00	.00	.00
28	.00	12	60	27	37	158	28	9.9	.39	.00	.00	.00
29	.00	10	49	27	---	135	27	9.9	.67	.00	.00	.00
30	.00	9.0	42	26	---	118	26	9.3	1.1	.00	.00	.00
31	.00	---	42	25	---	104	---	8.6	---	.00	.00	---
TOTAL	0.00	148.10	1616.2	1406	1605	3848	1411	450.7	108.87	6.91	0.00	0.00
MEAN	.000	4.94	52.1	45.4	57.3	124	47.0	14.5	3.63	.22	.000	.000
MAX	.00	37	650	165	185	360	94	25	8.5	1.1	.00	.00
MIN	.00	.00	6.1	25	24	37	26	8.6	.38	.00	.00	.00
AC-FT	.00	294	3210	2790	3180	7630	2800	894	216	14	.00	.00

CAL YR 1988 TOTAL 10535.89 MEAN 28.8 MAX 650 MIN .00 AC-FT 20900
WTR YR 1989 TOTAL 10600.78 MEAN 29.0 MAX 650 MIN .00 AC-FT 21030

11152300 SALINAS RIVER NEAR CHUALAR, CA
(National stream-quality accounting network station)

LOCATION.--Lat 36°33'14", long 121°32'53", in Guadalupe Y Llanitos de Los Correos Grant, Monterey County, Hydrologic Unit 18060005, near left bank on downstream side of bridge on Chualar-River Road and 2 mi southwest of Chualar.

DRAINAGE AREA.--4,042 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR CA-85-2: 1983-84(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 68.00 ft above National Geodetic Vertical Datum of 1929. Prior to January 1979, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated discharges, which are poor. Daily discharges prior to January 1979 determined by discharge measurements at this site correlated to streamflow for Salinas River at Soledad (station 11151700) and Salinas River near Spreckels (station 11152500). Flow regulated by Santa Margarita Lake beginning in December 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Large withdrawals from ground-water and small surface-water diversions for municipal use and for irrigation upstream from station.

AVERAGE DISCHARGE.--13 years, 537 ft^3/s, 389,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft^3/s, Mar. 3, 1983, gage height, 14.92 ft, from rating curve extended above 21,000 ft^3/s; no flow at times during most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 503 ft^3/s, Dec. 25, gage height, 5.49 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	78	57	52	.00	.00	.00	.00	50	8.1	12	.00
2	77	75	57	46	.00	.00	.00	.00	40	e.10	13	.00
3	79	72	57	42	.00	.00	.00	.00	35	e1.6	e.77	.00
4	88	69	55	37	.00	.00	.00	.00	34	18	.00	.00
5	93	61	51	35	.00	.00	.00	.00	36	28	.00	.00
6	92	54	51	32	.00	.00	.00	.00	45	31	.00	.00
7	90	50	49	30	.00	.00	.00	.00	48	29	.00	.00
8	91	48	48	27	.00	.00	.00	.00	45	21	.00	.00
9	91	45	48	24	.00	.00	.00	.00	40	12	.00	e1.3
10	90	41	47	21	.00	.00	.00	e9.0	35	4.7	.00	24
11	87	38	45	19	.00	.00	.00	47	30	8.5	.00	45
12	90	37	46	17	.00	.00	.00	70	30	9.8	.00	63
13	89	37	50	14	.00	.00	.00	82	36	8.4	.00	72
14	88	40	51	12	.00	.00	.00	71	36	8.5	.00	79
15	86	46	49	10	.00	.00	.00	60	31	9.2	.00	81
16	77	50	54	8.7	.00	.00	.00	60	25	e1.1	.00	64
17	69	51	59	7.5	.00	.00	.00	60	21	.26	.00	65
18	64	50	67	5.4	.00	.00	.00	54	18	3.1	.00	69
19	60	49	71	4.6	.00	.00	.00	50	22	4.6	.00	79
20	63	45	77	3.3	.00	.00	.00	44	27	1.9	.00	83
21	85	46	85	2.0	.00	.00	.00	42	26	e.09	.00	45
22	113	49	86	.86	.00	.00	.00	45	20	.00	.00	13
23	126	51	89	e.03	.00	.00	.00	57	15	.00	.00	e2.2
24	131	53	100	.00	.00	.00	.00	62	11	.00	.00	.00
25	127	58	262	.00	.00	.00	.00	57	7.4	.00	.00	.00
26	124	60	235	.00	.00	.00	.00	51	e3.9	e.01	.00	.00
27	122	59	135	.00	.00	.00	.00	47	8.3	1.4	.00	.00
28	109	60	104	.00	.00	.00	.00	43	13	2.9	.00	.00
29	93	60	83	.00	---	.00	.00	44	14	5.2	.00	.00
30	84	59	69	.00	---	.00	.00	51	15	7.0	.00	.00
31	81	---	59	.00	---	.00	---	56	---	9.6	.00	---
TOTAL	2839	1591	2396	450.39	0.00	0.00	0.00	1162.00	817.6	235.06	25.77	785.50
MEAN	91.6	53.0	77.3	14.5	.000	.000	.000	37.5	27.3	7.58	.83	26.2
MAX	131	78	262	52	.00	.00	.00	82	50	31	13	83
MIN	e0	37	45	.00	.00	.00	.00	.00	3.9	.00	.00	.00
	0	3160	4750	893	.00	.00	.00	2300	1620	466	51	1560

TOTAL 15418.66 MEAN 42.1 MAX 262 MIN .00 AC-FT 30580
TOTAL 10302.32 MEAN 28.2 MAX 262 MIN .00 AC-FT 20430

d.

11152300 SALINAS RIVER NEAR CHUALAR, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.
CHEMICAL DATA: Water years 1977 to current year.
BIOLOGICAL DATA: Water years 1977-81.
SPECIFIC CONDUCTANCE: Water years 1977-81.
WATER TEMPERATURE: Water years 1977-81.
SEDIMENT DATA: Water years 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1977 to September 1981.
WATER TEMPERATURE: January 1977 to September 1981.

INSTRUMENTATION.--Water-quality monitor from January 1977 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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												
14...	1215	41	545	8.40	15.0	2.2	765	11.8	117	43	130	230
JAN												
17...	1215	7.4	820	8.40	11.0	1.5	770	12.6	113	K1	K9	310
MAY												
16...	1200	60	466	8.30	20.0	1.9	760	9.1	101	K13	140	210
JUN												
14...	1245	38	486	8.40	24.0	4.0	760	9.2	110	66	96	200
JUL												
18...	1330	3.7	493	8.50	26.5	8.3	755	10.2	128	260	130	210
SEP												
20...	1415	88	553	8.20	22.0	1.5	760	9.5	109	45	520	240

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											
14...	54	22	31	23	0.9	2.6	174	14	167	93	22
JAN											
17...	72	31	59	29	1	3.1	233	1	192	160	50
MAY											
16...	49	21	23	19	0.7	2.3	185	--	152	68	14
JUN											
14...	49	20	23	19	0.7	2.0	183	2	154	69	15
JUL											
18...	51	20	24	20	0.7	2.6	172	6	151	82	16
SEP											
20...	59	22	26	19	0.7	3.0	183	5	157	110	19

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											
14...	0.20	14	343	342	0.47	0.010	0.640	0.020	0.020	0.40	0.140
JAN											
17...	0.20	17	527	519	0.72	0.010	2.40	0.020	<0.010	0.60	0.100
MAY											
16...	0.20	14	308	292	0.42	<0.010	2.10	0.010	<0.010	0.50	0.080
JUN											
14...	0.20	14	311	284	0.42	<0.010	<0.100	<0.010	<0.010	0.30	0.070
JUL											
18...	0.30	11	312	298	0.42	<0.010	<0.100	0.050	0.040	0.30	0.100
SEP											
20...	0.30	17	351	351	0.48	<0.010	<0.100	<0.010	0.020	0.50	0.110

See footnotes at end of table.

11152300 SALINAS RIVER NEAR CHUALAR, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS 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											
14...	0.140	0.110	<10	2	51	<0.5	1	<1	<3	2	6
JAN											
17...	0.090	0.080	<10	2	72	<0.5	<1	<1	<3	<1	<3
MAY											
16...	0.080	0.060	<10	2	52	<0.5	<1	<1	<3	4	10
JUN											
14...	0.060	0.050	--	--	--	--	--	--	--	--	--
JUL											
18...	0.070	0.050	10	2	48	<0.5	<1	<1	<3	1	5
SEP											
20...	0.070	0.060	--	--	--	--	--	--	--	--	--

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											
14...	<5	17	1	<0.1	10	2	1	<1.0	310	<6	<3
JAN											
17...	<5	22	11	<0.1	<10	<1	3	1.0	450	<6	3
MAY											
16...	<1	9	3	0.4	<10	5	<1	<1.0	300	<6	3
JUN											
14...	--	--	--	--	--	--	--	--	--	--	--
JUL											
18...	<1	9	3	<0.1	10	1	<1	<1.0	300	<6	7
SEP											
20...	--	--	--	--	--	--	--	--	--	--	--

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	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
JUN										
14...*	1205	13.0	485	8.3	23.5	760	9.0	106	8	92
14...*	1210	20.0	486	8.3	24.0	760	9.2	110	14	86
14...*	1213	26.0	489	8.4	24.0	760	9.2	110	17	74
14...*	1216	32.0	487	8.4	24.0	760	9.2	110	14	88
14...*	1218	46.0	487	8.4	24.0	760	9.2	110	14	90

*Instantaneous streamflow at the time of cross-sectional measurement: June 14, 38 ft^3/s.

11152300 SALINAS RIVER NEAR CHUALAR, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
14...	1200	41	15.0	5	0.55	74
JAN						
17...	1150	7.4	--	6	0.12	81
MAY						
16...	1120	60	20.0	5	0.81	67
JUN						
14...	1215	38	24.0	13	1.3	86
JUL						
18...	1150	3.5	26.0	24	0.23	66
SEP						
20...	1330	86	21.0	6	1.4	76

11152500 SALINAS RIVER NEAR SPRECKELS, CA

LOCATION.--Lat 36°37'52", long 121°40'17", in Nacional Grant, Monterey County, Hydrologic Unit 18060005, on right bank on downstream side of bridge on Salinas-Monterey highway, 0.8 mi upstream from El Toro Creek, 1.6 mi northwest of Spreckels, and 2 mi south of Salinas.
DRAINAGE AREA.--4,156 mi^2.
PERIOD OF RECORD.--January 1900 to August 1901, October 1929 to current year. Records for water year 1930 incomplete; yearly estimate published in WSP 1315-B. Published as "near Salinas" 1900-01.
CHEMICAL DATA: Water years 1952-54, 1958-70, 1972-79. Published incorrectly as station 11152300 "near Chualar" in 1967.
BIOLOGICAL DATA: Water years 1975-77.
SPECIFIC CONDUCTANCE: Water years 1975 to January 1977, daily.
WATER TEMPERATURE: Water years 1967-79, daily. Published incorrectly as station 11152300 "near Chualar" in 1967-69.
SUSPENDED-SEDIMENT DISCHARGE: Water years 1950-51; 1967-79, daily; 1986, monthly. Published incorrectly as station 11152300 "near Chualar" in 1967-69.
TURBIDITY: Water year 1973.
REVISED RECORDS.--WSP 1565: 1930, 1935, 1945. WSP 1715: 1959. WSP 1929: Drainage area. WDR CA-85-2: 1983.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 20.56 ft above National Geodetic Vertical Datum of 1929. 1900-01, May 10 to July 29, 1940, nonrecording gages at site 0.3 mi downstream at different datum. July 29, 1940, to May 22, 1969, water-stage recorder at site 0.3 mi downstream at datum 0.69 ft lower. May 23, 1969, to Jan. 13, 1970, nonrecording gage at same site and datum. Mar. 17, 1941, to June 30, 1961, supplementary nonrecording gages.
REMARKS.--Records poor. Flow regulated by Santa Margarita Lake beginning in 1941, usable capacity, 23,000 acre-ft; Lake Nacimiento (formerly Nacimiento Reservoir) beginning in February 1957, usable capacity, 340,000 acre-ft; and by Lake San Antonio beginning in December 1965, usable capacity, 330,000 acre-ft. Large withdrawals from ground water and small surface-water diversions for municipal use and for irrigation of about 95,000 acres upstream from station. Low flows consist primarily of waste water from Alisal sewage-disposal plant.
AVERAGE DISCHARGE.--60 years (water years 1930-89), 432 ft^3/s, 313,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,100 ft^3/s, Feb. 26, 1969, gage height, 26.51 ft, site and datum then in use; maximum gage height, 26.85 ft, Jan. 16, 1952, site and datum then in use, from floodmarks; no flow at times in 1929-40.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft^3/s, Dec. 27, gage height, 5.93 ft; minimum daily, 1.5 ft^3/s, Mar. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.3	e2.2	e2.3	e4.0	1.8	2.1	2.0	2.0	2.2	2.0	1.9	2.0
2	e2.5	e2.2	e2.3	e3.5	1.8	2.4	1.9	2.0	2.2	2.1	1.9	2.0
3	e2.3	e2.3	e2.5	e3.0	1.7	2.3	1.9	1.9	2.2	2.0	1.9	2.1
4	e2.3	e2.3	e2.4	e2.5	1.9	2.3	2.0	2.2	2.3	2.0	2.0	2.0
5	e2.3	e2.4	e2.2	e2.3	1.8	2.3	2.2	2.3	2.2	1.9	2.0	2.1
6	e2.2	e2.4	e2.3	e2.2	1.7	2.2	2.2	2.3	2.2	2.0	2.0	2.1
7	e2.2	e2.1	e2.2	e2.2	1.7	2.2	2.2	2.4	2.1	2.0	1.9	2.2
8	e2.4	e2.3	e2.2	e2.2	1.8	2.0	2.2	2.3	2.1	1.9	1.9	2.2
9	e2.4	e2.2	e2.0	e2.2	2.0	2.0	2.2	2.3	2.1	2.0	1.9	2.2
10	e2.3	e2.2	e2.3	e2.2	2.1	2.0	2.1	2.3	2.1	1.9	1.9	2.3
11	e2.2	e2.2	e2.3	e2.1	2.2	2.0	2.1	2.4	2.1	1.9	1.9	2.2
12	e2.1	e2.4	e2.1	e2.1	2.0	2.0	2.1	2.3	2.0	1.9	1.9	2.2
13	e2.0	e2.5	e2.2	e2.1	2.2	2.0	2.1	2.3	2.0	1.9	2.0	2.1
14	e2.2	e2.3	e2.1	e2.1	2.3	1.9	2.1	2.2	2.1	1.9	1.9	1.9
15	e2.3	e2.3	e2.1	e2.2	2.3	1.9	2.1	1.9	2.1	2.0	1.9	2.0
16	e2.3	e2.3	e1.6	e2.3	2.3	2.0	2.2	1.8	2.1	2.0	2.0	2.2
17	e2.3	e2.3	e1.7	e2.2	2.3	2.0	2.1	1.7	2.1	1.9	1.9	2.2
18	e2.2	e2.0	e1.7	e2.2	2.4	1.9	2.2	2.1	2.1	2.0	2.0	2.1
19	e2.3	e2.2	e2.1	e2.2	2.3	1.8	2.2	2.2	2.0	2.0	2.0	2.1
20	e2.3	e2.1	e2.3	e2.2	2.3	1.7	2.1	2.2	2.1	2.0	2.0	2.1
21	e2.1	e2.2	e2.3	e2.2	2.3	1.7	2.2	2.1	2.1	1.9	1.9	2.1
22	e2.5	e2.2	e2.3	e2.2	2.3	1.6	2.1	1.9	2.0	2.0	1.9	2.1
23	e2.3	e2.3	e2.6	e2.1	2.2	1.5	2.1	1.8	2.0	2.0	2.0	2.1
24	e2.2	e2.4	e2.6	e1.7	2.2	1.7	2.0	1.7	2.1	1.9	2.0	2.1
25	e2.2	e2.3	e2.5	1.6	2.3	1.7	2.0	1.8	2.0	1.9	2.0	2.0
26	e2.1	e2.4	e2.4	1.6	2.3	1.6	1.9	2.1	1.9	1.9	2.0	2.0
27	e2.7	e2.4	e5.0	1.6	2.2	1.7	1.8	2.2	1.8	1.9	2.1	2.0
28	e1.6	e2.3	e6.5	1.7	2.1	2.0	1.9	2.1	1.9	2.0	1.9	2.1
29	e2.6	e2.3	e6.0	1.7	---	2.0	2.0	2.1	2.0	2.0	1.9	2.1
30	e2.6	e2.3	e5.5	1.7	---	2.1	2.0	2.2	2.0	2.0	1.9	2.1
31	e2.2	---	e5.0	1.8	---	2.1	---	2.1	---	1.9	2.0	---
TOTAL	70.5	68.3	85.6	67.9	58.8	60.7	62.2	65.2	62.2	60.7	60.4	63.0
MEAN	2.27	2.28	2.76	2.19	2.10	1.96	2.07	2.10	2.07	1.96	1.95	2.10
MAX	2.7	2.5	6.5	4.0	2.4	2.4	2.2	2.4	2.3	2.1	2.1	2.3
MIN	1.6	2.0	1.6	1.6	1.7	1.5	1.8	1.7	1.8	1.9	1.9	1.9
AC-FT	140	135	170	135	117	120	123	129	123	120	120	125

CAL YR 1988 TOTAL 1338.7 MEAN 3.66 MAX 84 MIN 1.4 AC-FT 2660
WTR YR 1989 TOTAL 785.5 MEAN 2.15 MAX 6.5 MIN 1.5 AC-FT 1560

e Estimated.

11152540 EL TORO CREEK NEAR SPRECKELS, CA

LOCATION.--Lat 36°35'00", long 121°42'50", in El Toro Grant, Monterey County, Hydrologic Unit 18060005, on right bank 0.3 mi downstream from San Benancio Gulch and 4.7 mi southwest of Spreckels.

DRAINAGE AREA.--31.9 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 210 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 16, 1983, at site 700 ft upstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No regulation or diversion upstream from station except for small stock ponds. Low flow at times affected by irrigation runoff from upstream golf course.

AVERAGE DISCHARGE.--28 years, 1.68 ft^3/s, 1,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 630 ft^3/s, Mar. 2, 1983, gage height, 6.10 ft, site and datum then in use, from rating curve extended above 93 ft^3/s on basis of slope-area measurement at gage height 6.07 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 4	0330	*6.1	*1.81				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.05	.06	.07	.06	.05	.01	.00	.00	.00
2	.00	.00	.02	.04	.06	.83	.09	.05	.01	.00	.00	.00
3	.00	.00	.00	.04	.17	.12	.07	.05	.01	.00	.00	.00
4	.00	.00	.00	.04	1.9	.09	.06	.05	.01	.00	.00	.00
5	.00	.00	.00	.71	.14	.09	.06	.05	.01	.00	.00	.00
6	.00	.00	.15	.12	.10	.09	.04	.05	.01	.00	.00	.00
7	.00	.00	.15	.38	.12	.09	.04	.04	.01	.00	.00	.00
8	.00	.00	.04	.08	.09	.10	.04	.02	.01	.00	.00	.00
9	.00	.00	.03	.07	.16	.09	.02	.02	.01	.00	.00	.00
10	.00	.00	.02	.07	.10	.10	.02	.02	.01	.00	.00	.00
11	.00	.00	.02	.06	e.08	.09	.02	.02	.01	.00	.00	.00
12	.00	.00	.01	.06	e.08	.09	.02	.02	.01	.00	.00	.00
13	.00	.00	.01	.06	e.08	.09	.02	.02	.01	.00	.00	.00
14	.00	.00	.01	.05	e.07	.09	.03	.02	.01	.00	.00	.00
15	.00	.00	.01	.05	e.06	.09	.02	.02	.01	.00	.00	.00
16	.00	.00	.01	.05	e.06	.38	.02	.02	.00	.00	.00	.00
17	.00	.00	.01	.05	e.07	.12	.03	.02	.00	.00	.00	.00
18	.00	.00	.01	.05	.06	.10	.04	.02	.00	.00	.00	.00
19	.00	.00	.01	.05	.08	.10	.04	.02	.00	.00	.00	.00
20	.00	.00	.05	.05	.09	.10	.04	.02	.00	.00	.00	.00
21	.00	.00	.07	.09	.07	.09	.04	.02	.00	.00	.00	.00
22	.00	.00	.04	.12	.07	.09	.05	.02	.00	.00	.00	.00
23	.00	.00	.03	.17	.07	.08	.05	.02	.00	.00	.00	.00
24	.00	.00	.22	.07	.07	.09	.05	.02	.00	.00	.00	.00
25	.00	.00	1.1	.06	.07	.14	.08	.02	.00	.00	.00	.00
26	.00	.00	.09	.06	.06	.08	.05	.02	.00	.00	.00	.00
27	.00	.00	.06	.06	.07	.08	.05	.02	.00	.00	.00	.00
28	.00	.00	.38	.06	.07	.08	.05	.01	.00	.00	.00	.00
29	.00	.00	.06	.05	---	.07	.05	.01	.00	.00	.00	.00
30	.00	.00	.05	.06	---	.06	.05	.01	.00	.00	.00	.00
31	.00	---	.06	.06	---	.06	---	.01	---	.00	.00	---
TOTAL	0.00	0.00	2.72	2.99	4.18	3.84	1.30	0.78	0.15	0.00	0.00	0.00
MEAN	.000	.000	.088	.096	.15	.12	.043	.025	.005	.000	.000	.000
MAX	.00	.00	1.1	.71	1.9	.83	.09	.05	.01	.00	.00	.00
MIN	.00	.00	.00	.04	.06	.06	.02	.01	.00	.00	.00	.00
AC-FT	.00	.00	5.4	5.9	8.3	7.6	2.6	1.5	.3	.00	.00	.00

CAL YR 1988 TOTAL 18.97 MEAN .052 MAX 2.8 MIN .00 AC-FT 38
WTR YR 1989 TOTAL 15.96 MEAN .044 MAX 1.9 MIN .00 AC-FT 32

e Estimated.

11152600 GABILAN CREEK NEAR SALINAS, CA

LOCATION.--Lat 36°45'21", long 121°36'34", in La Natividad Grant, Monterey County, Hydrologic Unit 18060011, on left bank at downstream side of county road bridge, 0.3 mi downstream from small left-bank tributary, and 6.2 mi northeast of Salinas.

DRAINAGE AREA.--36.7 mi^2.

PERIOD OF RECORD.--October 1970 to current year. January 1959 to September 1970 in reports of Monterey County Flood Control and Water Conservation District.

REVISED RECORDS.--WDR CA-84-2: 1974(M), 1978(P), 1980-83(P).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Oct. 9, 1975. Elevation of gage is 200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 9, 1975, on right bank at different datum.

REMARKS.--Records poor. Natural flow of stream affected by small diversions, storage reservoirs, and return flow from irrigated areas.

AVERAGE DISCHARGE.--19 years, 4.54 ft^3/s, 3,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 898 ft^3/s, Apr. 1, 1974, gage height, 11.13 ft, at datum then in use, from rating curve extended above 260 ft^3/s on basis of slope-area measurement of peak flow; no flow many days 1987-89.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	e0600	*55	*2.60				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
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	.10	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	e.30	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.22	.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	e2.0	.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
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	2.00	0.22	0.30	0.10	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.065	.007	.011	.003	.000	.000	.000	.000	.000	.000
MAX	.00	.00	2.0	.22	.30	.10	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	4.0	.4	.6	.2	.00	.00	.00	.00	.00	.00

CAL YR 1988 TOTAL 2.00 MEAN .005 MAX 2.0 MIN .00 AC-FT 4.0
WTR YR 1989 TOTAL 2.62 MEAN .007 MAX 2.0 MIN .00 AC-FT 5.2

e Estimated.

11154200 UVAS CREEK NEAR GILROY, CA

LOCATION.--Lat 36°59'32", long 121°34'21", in Las Animas Grant, Santa Clara County, Hydrologic Unit 18060002, on left bank 400 ft upstream from county road bridge, 0.4 mi southwest of Gilroy, and 3.9 mi downstream from Bodfish Creek.

DRAINAGE AREA.--71.2 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Flow regulated by Uvas Reservoir (station 11154020) 10 mi upstream, capacity, 10,000 acre-ft. Diversion upstream from station for irrigation.

AVERAGE DISCHARGE.--30 years, 41.9 ft^3/s, 30,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft^3/s, Feb. 17, 1986, gage height, 21.82 ft, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 268 ft^3/s, Mar. 25, gage height, 10.84 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	15	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	14	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	9.7	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	6.1	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	2.7	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.44	.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	1.4	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	1.6	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	e1.2	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	e1.0	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	e.90	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	e1.3	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	e1.5	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	e1.3	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	e1.6	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	e1.7	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.70	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	9.2	.00	.00	74	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	153	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	121	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	56	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	35	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	28	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	22	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	17	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	9.20	0.00	0.00	520.24	47.94	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.30	.000	.000	16.8	1.60	.000	.000	.000	.000	.000
MAX	.00	.00	9.2	.00	.00	153	15	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	18	.00	.00	1030	95	.00	.00	.00	.00	.00

CAL YR 1988 TOTAL 9.20 MEAN .025 MAX 9.2 MIN .00 AC-FT 18
WTR YR 1989 TOTAL 577.38 MEAN 1.58 MAX 153 MIN .00 AC-FT 1150

e Estimated.

11156500 SAN BENITO RIVER NEAR WILLOW CREEK SCHOOL, CA

LOCATION.--Lat 36°36'34", long 121°12'07", in SE 1/4 SE 1/4 sec.21, T.15 S., R.7 E., San Benito County, Hydrologic Unit 18060002, on left bank 0.9 mi northwest of Willow Creek School, 1.3 mi downstream from Willow Creek, and 10 mi northwest of San Benito.
DRAINAGE AREA.--249 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
REVISED RECORDS.--WSP 1565: 1948(M), 1949. WSP 1315-B: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 925.52 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 28, 1948, and Nov. 11, 1955, to Sept. 30, 1965, at site 0.9 mi downstream at different datum. Jan. 28, 1948, to Nov. 10, 1955, and Oct. 1, 1965, to Oct. 22, 1970, at present site at datum 2.37 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Low flow regulated by Hernandez Reservoir 40 miles upstream beginning in December 1961, capacity, 18,500 acre-ft. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--50 years, 25.5 ft^3/s, 18,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,210 ft^3/s, Apr. 3, 1958, gage height, 8.35 ft, site and datum then in use, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of February 1938 reached a stage of about 9.0 ft, from floodmarks at former site 0.9 mi downstream, referenced to datum used at that site.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1130	*38	*4.78				

No flow for several days in June and July.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.26	.73	1.8	1.3	1.4	.78	.39	.18	.00	.09	.10
2	.30	.24	.74	1.8	1.3	3.1	.77	.34	.13	.01	.06	.10
3	.30	.29	.70	1.7	1.3	1.7	.75	.32	.09	.01	.05	.12
4	.30	.28	.75	1.6	1.7	1.4	.69	.24	.10	.02	.02	.10
5	.30	.30	.80	1.9	1.5	1.4	.65	.20	.13	.01	.06	.08
6	.30	.30	.80	2.1	1.4	1.3	.62	.17	.15	.00	.06	.12
7	.30	.32	.77	2.2	1.3	1.4	.58	.20	.15	.01	.05	.13
8	.30	.35	.73	2.1	1.4	1.5	.55	.20	.18	.01	.06	.14
9	.30	.35	.73	1.8	1.9	1.3	.52	.20	.13	.00	.05	.14
10	.30	.35	.82	1.7	1.6	1.2	.45	.31	.16	.00	.08	.14
11	.30	.37	.87	1.7	1.4	1.2	.46	.35	.16	.02	.07	.14
12	.28	.40	.87	1.6	1.4	1.1	.51	.37	.15	.02	.08	.14
13	.29	.41	.87	1.6	1.3	1.1	.53	.36	.15	.03	.07	.14
14	.30	.46	.87	1.5	1.3	1.0	.57	.34	.11	.02	.08	.13
15	.30	.46	.89	1.5	1.3	1.0	.51	.33	.10	.01	.08	.11
16	.30	.48	1.3	1.5	1.3	1.1	.47	.26	.06	.02	.10	.40
17	.30	.52	1.1	1.5	1.3	1.2	.45	.25	.03	.03	.12	.24
18	.30	.54	.99	1.4	1.4	1.0	.44	.22	.02	.01	.10	.23
19	.30	.56	.95	1.4	1.4	.94	.39	.18	.02	.02	.08	.21
20	.30	.59	1.2	1.4	1.3	.87	.37	.22	.03	.02	.06	.18
21	.31	.61	2.3	1.4	1.3	.90	.34	.22	.03	.03	.07	.17
22	.34	.60	2.4	1.3	1.3	.87	.39	.25	.03	.03	.07	.16
23	.35	.65	2.6	1.4	1.3	.85	.43	.28	.02	.04	.07	.14
24	.30	.73	12	1.4	1.4	.92	.46	.29	.00	.06	.07	.14
25	.32	.80	2.6	1.3	1.4	1.2	.63	.26	.01	.05	.06	.14
26	.33	.75	2.9	1.3	1.3	1.3	.59	.25	.01	.09	.08	.14
27	.32	.66	2.5	1.3	1.3	1.0	.52	.21	.00	.09	.10	.14
28	.27	.70	2.4	1.3	1.4	.94	.44	.19	.00	.09	.11	.32
29	.30	.73	2.2	1.3	---	.91	.39	.22	.00	.09	.10	.41
30	.30	.73	2.0	1.3	---	.79	.41	.22	.01	.08	.09	.10
31	.30	---	1.9	1.3	---	.77	---	.21	---	.09	.10	---
TOTAL	9.39	14.79	53.28	48.4	38.8	36.66	15.66	8.05	2.34	1.01	2.34	4.95
MEAN	.30	.49	1.72	1.56	1.39	1.18	.52	.26	.078	.033	.075	.16
MAX	.35	.80	12	2.2	1.9	3.1	.78	.39	.18	.09	.12	.41
MIN	.27	.24	.70	1.3	1.3	.77	.34	.17	.00	.00	.02	.08
AC-FT	19	29	106	96	77	73	31	16	4.6	2.0	4.6	9.8

CAL YR 1988 TOTAL 516.71 MEAN 1.41 MAX 18 MIN .14 AC-FT 1020
WTR YR 1989 TOTAL 235.67 MEAN .65 MAX 12 MIN .00 AC-FT 467

11158600 SAN BENITO RIVER AT STATE HIGHWAY 156, NEAR HOLLISTER, CA

LOCATION.--Lat 36°51'07", long 121°25'44", in San Justo Grant, San Benito County, Hydrologic Unit 18060002, on right bank at downstream side of bridge on State Highway 156 and 1.6 mi west of Hollister.

DRAINAGE AREA.--607 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Low flows regulated by Hernandez Reservoir 73 mi upstream, capacity, 18,500 acre-ft. Some diversions upstream from station for irrigation. Percolation ponds are constructed upstream from station during summer months.

AVERAGE DISCHARGE.--19 years, 33.1 ft^3/s, 23,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,900 ft^3/s, Mar. 1, 1983, gage height, 11.97 ft, from rating curve extended above 4,100 ft^3/s; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 30	1345	*6.8	*2.49				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.5
2	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6
3	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6
4	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6
5	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.6
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.7
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.7
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.9
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.02	5.7
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.10	5.3
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.50	6.2
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.80	5.8
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.0	5.2
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.1	5.9
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.2	5.8
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.3	5.6
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.4	5.7
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.5	5.8
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.5	5.8
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.5	5.7
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.5	5.8
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e1.4	6.2
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	1.4	6.5
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	1.5	6.3
31	.00	---	.00	.00	---	.00	---	.00	---	.00	1.5	---
TOTAL	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.22	120.7
MEAN	.010	.000	.000	.000	.000	.000	.000	.000	.000	.000	.62	4.02
MAX	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.5	6.5
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.5
AC-FT	.6	.00	.00	.00	.00	.00	.00	.00	.00	.00	38	239

CAL YR 1988 TOTAL 13.93 MEAN .038 MAX 1.3 MIN .00 AC-FT 28
WTR YR 1989 TOTAL 140.23 MEAN .38 MAX 6.5 MIN .00 AC-FT 278

e Estimated.

11159000 PAJARO RIVER AT CHITTENDEN, CA
(National stream-quality accounting network station)

LOCATION.--Lat 36°54'01", long 121°35'48", in Salsipuedes Grant, Santa Cruz County, Hydrologic Unit 18060002, on left bank at downstream side of bridge on State Highway 129, 0.6 mi downstream from Pescadero Creek, 0.6 mi southeast of Chittenden, and 2.3 mi downstream from San Benito River.
DRAINAGE AREA.--1,186 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "near Chittenden."
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 82.28 ft above National Geodetic Vertical Datum of 1929. Prior to May 13, 1949, nonrecording gage on former bridge 100 ft downstream at same datum except for periods in 1947 and 1948 when a water-stage recorder was in use.
REMARKS.--Records fair except those for estimated daily discharges, which are poor. Low flows regulated by Hernandez Reservoir, capacity, 18,500 acre-ft; Pacheco Lake, capacity, 6,140 acre-ft; Chesbro Reservoir, capacity, 8,090 acre-ft; Uvas Reservoir, capacity, 10,000 acre-ft; and San Felipe Lake. Many diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--50 years, 155 ft^3/s, 112,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft^3/s, Dec. 24, 1955, gage height, 32.46 ft, from rating curve extended above 8,300 ft^3/s on basis of slope-conveyance study; maximum gage height, 33.11 ft, Apr. 3, 1958; no flow at times in July and August 1948.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1938 reached a stage of 31.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 26	0300	*251	*5.31				

Minimum daily, 0.28 ft^3/s, Sept. 14, 15, 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.54	1.6	11	9.1	7.9	22	5.5	e4.5	4.5	6.4	.82
2	.70	.59	1.5	10	8.5	17	20	6.0	e4.2	4.9	9.8	1.4
3	.82	.53	1.4	8.3	9.8	26	17	5.0	e4.7	4.6	7.1	.80
4	1.1	.49	1.6	7.9	14	13	16	4.9	e4.8	4.6	4.4	.48
5	1.5	.46	1.8	9.3	14	10	14	e4.8	e4.9	4.4	4.8	.36
6	1.5	.45	1.9	18	11	9.8	13	e4.8	e4.8	2.5	4.4	.32
7	1.2	.43	2.0	16	9.9	10	12	e4.7	4.4	1.8	3.2	.37
8	.97	.45	1.8	12	9.7	11	11	e4.7	5.0	1.7	2.9	.53
9	.88	.50	2.0	10	10	11	9.7	e4.7	5.5	2.7	3.2	.43
10	.76	.53	2.3	9.5	10	11	8.3	e4.7	5.1	4.3	4.5	.42
11	.64	.53	2.5	10	10	19	7.7	e4.5	4.8	4.5	4.1	.50
12	.58	.53	2.7	10	9.8	23	8.0	e4.6	4.3	2.3	4.2	.42
13	.53	.67	2.6	10	9.6	14	8.6	e4.8	4.3	1.6	4.0	.32
14	.49	.84	2.4	11	9.4	12	8.1	e4.8	3.4	1.9	2.0	.28
15	.42	.70	2.5	9.7	9.1	11	9.3	e4.7	3.4	1.9	1.6	.28
16	.37	.87	2.7	9.4	9.0	14	8.2	e4.7	5.0	1.9	1.3	.37
17	.33	.99	3.0	9.4	9.2	16	8.6	e4.8	6.6	3.9	1.1	.47
18	.39	1.0	3.9	9.1	9.1	14	8.3	e5.0	6.5	4.2	.91	.45
19	.47	1.1	4.4	9.2	9.7	13	6.7	e5.1	4.5	2.6	.69	.43
20	.49	1.2	5.1	9.5	9.5	13	6.0	e5.0	5.8	2.8	.76	.50
21	.54	1.3	6.9	9.3	8.9	13	5.9	e4.9	4.3	2.6	.87	.47
22	.59	1.3	16	9.5	8.2	13	6.1	e5.0	3.8	2.8	.92	.36
23	.62	2.4	22	9.9	8.2	14	7.5	e5.0	4.2	2.4	.74	.33
24	.66	2.6	44	9.4	8.4	22	7.5	e4.9	3.9	3.1	.67	.33
25	.64	8.8	63	9.3	8.3	139	7.8	e5.1	5.8	3.0	.54	.33
26	.59	6.0	23	9.1	8.6	190	7.2	e4.9	4.1	4.9	.47	.28
27	.63	4.1	13	8.9	8.3	91	6.7	e5.0	3.9	5.8	.66	.28
28	.65	3.1	11	9.0	8.1	57	6.8	e5.3	3.0	5.6	1.6	.35
29	.58	2.1	8.5	9.5	---	42	6.4	e5.2	3.2	6.9	1.5	.50
30	.53	1.8	7.9	9.3	---	33	5.4	e5.0	3.1	4.9	.98	1.1
31	.51	---	8.7	9.1	---	26	---	e4.8	---	4.4	.74	---
TOTAL	21.42	46.90	273.7	311.6	267.4	915.7	289.8	152.9	135.8	110.0	81.05	14.28
MEAN	.69	1.56	8.83	10.1	9.55	29.5	9.66	4.93	4.53	3.55	2.61	.48
MAX	1.5	8.8	63	18	14	190	22	6.0	6.6	6.9	9.8	1.4
MIN	.33	.43	1.4	7.9	8.1	7.9	5.4	4.5	3.0	1.6	.47	.28
AC-FT	42	93	543	618	530	1820	575	303	269	218	161	28

CAL YR 1988 TOTAL 2684.35 MEAN 7.33 MAX 63 MIN .33 AC-FT 5320
WTR YR 1989 TOTAL 2620.55 MEAN 7.18 MAX 190 MIN .28 AC-FT 5200

e Estimated.

11159000 PAJARO RIVER AT CHITTENDEN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
CHEMICAL DATA: Water years 1952 to current year.
BIOLOGICAL DATA: Water years 1978-81.
SPECIFIC CONDUCTANCE: Water years 1978-81.
WATER TEMPERATURE: Water years 1978-81.
SEDIMENT DATA: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1978 to September 1981.
WATER TEMPERATURE: May 1978 to September 1981.

INSTRUMENTATION.--Water-quality monitor from May 1978 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)
DEC											
12...	1230	2.8	1670	8.2	8.5	1.2	765	9.7	83	K8	K12
MAR											
14...	1430	12	1230	8.2	16.0	3.3	765	10.0	101	K18	K28
JUN											
13...	1415	4.4	1340	8.2	19.0	2.1	760	7.6	83	95	K17
SEP											
25...	1145	0.37	2180	8.2	15.0	1.5	760	7.8	78	K16	96

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											
12...	520	83	76	170	41	3	3.3	459	376	180	230
MAR											
14...	460	84	60	91	30	2	2.5	354	290	200	120
JUN											
13...	450	75	63	120	37	2	2.8	447	366	140	140
SEP											
25...	510	94	66	280	54	5	4.2	501	411	110	380

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-PHOROUS TOTAL (MG/L AS P)
DEC											
12...	0.20	23	1040	993	1.41	0.020	0.150	0.110	0.110	0.60	0.130
MAR											
14...	0.30	16	770	757	1.05	0.030	1.70	0.100	0.090	0.80	0.100
JUN											
13...	0.30	24	825	797	1.12	0.030	2.30	0.070	0.070	0.70	0.280
SEP											
25...	0.30	29	1190	1210	1.62	0.020	0.450	0.100	0.090	0.40	0.220

See footnote at end of table.

11159000 PAJARO RIVER AT CHITTENDEN, CA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS 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											
12...	0.120	0.120	<10	3	160	<0.5	3	<1	<3	1	14
MAR											
14...	0.090	0.100	<10	1	110	<0.5	<1	<1	<3	<1	6
JUN											
13...	0.270	0.220	20	3	120	<0.5	<1	<1	<3	<1	8
SEP											
25...	0.200	0.220	30	4	<100	<10	<1	<1	1	1	20

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											
12...	<5	22	180	<0.1	<10	2	<1	<1.0	710	<6	8
MAR											
14...	<5	25	230	<0.1	<10	6	<1	<1.0	560	<6	13
JUN											
13...	<1	19	140	<0.1	<10	4	1	<1.0	600	<6	10
SEP											
25...	<1	40	400	0.1	2	4	<1	<1.0	720	4	<10

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	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
MAR										
14...*	1416	2.60	1230	7.8	16.0	765	9.9	100	16	50
14...*	1417	4.60	1230	8.0	16.0	765	10.0	101	15	60
14...*	1419	6.60	1230	8.0	16.0	765	10.0	101	13	66
14...*	1421	8.60	1230	8.0	16.0	765	10.0	101	20	58
14...*	1423	11.6	1230	8.0	16.0	765	10.0	101	16	48
JUN										
13...*	1355	3.30	1340	8.1	19.0	760	7.6	83	25	56
13...*	1357	6.50	1340	8.2	19.0	760	7.6	83	22	54
13...*	1359	10.4	1340	8.1	19.0	760	7.6	83	13	73

* Instantaneous streamflow at the time of cross-sectional measurement: Mar. 14, 12 ft^3/s; June 13, 4.4 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
12...	1205	2.8	8.5	2	0.02	--
MAR						
14...	1415	12	16.0	16	0.52	57
JUN						
13...	1345	4.4	19.0	20	0.24	61
SEP						
25...	1140	0.37	15.0	17	0.02	46

11159200 CORRALITOS CREEK AT FREEDOM, CA

LOCATION.--Lat 36°56'22", long 121°46'10", in Los Corralitos Grant, Santa Cruz County, Hydrologic Unit 18060002, on right bank just upstream from Green Valley Road bridge, 0.2 mi north of Freedom, and 2.3 mi north of Watsonville.

DRAINAGE AREA.--27.8 mi^2.

PERIOD OF RECORD.--October 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 80 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation; Watsonville Water Works can divert up to 8.0 ft^3/s upstream from station for municipal supply, domestic use, and irrigation.

AVERAGE DISCHARGE.--33 years, 15.6 ft^3/s, 11,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,610 ft^3/s, Jan. 4, 1982, gage height, 16.66 ft, from rating curve extended above 1,400 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 15.6 ft, from floodmarks, discharge, 3,620 ft^3/s based on contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	1200	*396	*5.09				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	8.8	.01	.12	10	.00	.00	.00	.00	.00
2	.00	.00	.00	5.2	.00	26	8.4	.00	.00	.00	.00	.00
3	.00	.00	.00	2.5	1.9	13	5.3	.00	.00	.00	.00	.00
4	.00	.00	.00	.99	2.4	5.4	1.6	.00	.00	.00	.00	.00
5	.00	.00	.00	27	.41	2.2	.78	.00	.00	.00	.00	.00
6	.00	.00	.00	19	.28	.85	.31	.00	.00	.00	.00	.00
7	.00	.00	.00	13	.22	.53	.18	.00	.00	.00	.00	.00
8	.00	.00	.00	7.2	.29	.60	.13	.00	.00	.00	.00	.00
9	.00	.00	.00	4.3	.79	.96	.11	.00	.00	.00	.00	.00
10	.00	.00	.00	2.6	.38	38	.11	.00	.00	.00	.00	.00
11	.00	.00	.00	1.1	.26	117	.11	.00	.00	.00	.00	.00
12	.00	.00	.00	.21	.20	48	.11	.00	.00	.00	.00	.00
13	.00	.01	.00	.17	.12	27	.11	.00	.00	.00	.00	.00
14	.00	.00	.00	.30	.06	18	.10	.00	.00	.00	.00	.00
15	.00	.00	.00	.35	.05	13	.09	.00	.00	.00	.00	.00
16	.00	.10	.00	.29	.03	23	.10	.00	.00	.00	.00	.00
17	.00	.00	.00	.15	.03	15	.09	.00	.00	.00	.00	.00
18	.00	.00	.00	.11	.05	10	.08	.00	.00	.00	.00	.00
19	.00	.00	.00	.10	.06	8.9	.07	.00	.00	.00	.00	.00
20	.00	.00	1.0	.08	.01	6.7	.07	.00	.00	.00	.00	.00
21	.00	.00	16	.10	.01	3.1	.08	.00	.00	.00	.00	.00
22	.00	.04	55	.08	.00	1.5	.04	.00	.00	.00	.00	.00
23	.00	42	22	1.4	.01	.89	.09	.00	.00	.00	.00	.00
24	.00	2.9	107	.12	.04	108	.18	.00	.00	.00	.00	.00
25	.00	.45	31	.05	.00	170	.14	.00	.00	.00	.00	.00
26	.00	.04	12	.03	.00	82	.04	.00	.00	.00	.00	.00
27	.00	.00	7.2	.02	.00	45	.01	.00	.00	.00	.00	.00
28	.00	.00	5.6	.02	.00	30	.01	.00	.00	.00	.00	.00
29	.00	.00	2.1	.01	---	22	.00	.00	.00	.00	.00	.00
30	.00	.00	1.7	.02	---	17	.00	.00	.00	.00	.00	.00
31	.00	---	15	.02	---	13	---	.00	---	.00	.00	---
TOTAL	0.00	45.54	275.60	95.32	7.61	866.75	28.44	0.00	0.00	0.00	0.00	0.00
MEAN	.00	1.52	8.89	3.07	.27	28.0	.95	.00	.00	.00	.00	.00
MAX	.00	42	107	27	2.4	170	10	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.01	.00	.12	.00	.00	.00	.00	.00	.00
AC-FT	.0	90	547	189	15	1720	56	.0	.0	.0	.0	.0

CAL YR 1988 TOTAL 448.51 MEAN 1.23 MAX 107 MIN .00 AC-FT 890
WTR YR 1989 TOTAL 1319.26 MEAN 3.61 MAX 170 MIN .00 AC-FT 2620

11160000 SOQUEL CREEK AT SOQUEL, CA

LOCATION.--Lat 36°59'29", long 121°57'17", in NE 1/4 sec.10, T.11 S., R.1 W., Santa Cruz County, Hydrologic Unit 18060001, on left bank 0.2 mi upstream from highway bridge in town of Soquel and 0.4 mi downstream from Bates Creek.

DRAINAGE AREA.--40.2 mi^2.

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 21.38 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. No regulation; small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--38 years, 43.5 ft^3/s, 31,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft^3/s, Dec. 23, 1955, gage height, 22.33 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurement of peak flow; no flow on several days during August and September 1977, and Sept. 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0530	1,220	6.02	Mar. 11	0315	*1,670	*6.81

Minimum daily, 0.01 ft^3/s, Aug. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.57	3.0	21	6.3	6.1	26	8.2	3.0	1.0	.01	.17
2	.39	1.1	2.8	16	6.3	124	24	7.3	3.0	.91	.11	.25
3	.49	1.3	2.8	14	8.1	35	22	7.0	3.3	.84	.04	.26
4	.53	1.2	2.9	13	9.8	17	19	7.0	3.6	.81	.26	.21
5	.55	.91	2.7	44	8.4	14	18	6.9	3.4	.72	.23	.19
6	.61	.85	2.7	30	7.5	12	17	6.6	3.0	.60	.21	.27
7	.70	.79	2.7	22	7.1	12	15	6.6	2.9	.50	.19	.32
8	.60	.84	2.9	18	7.4	13	14	6.6	2.7	.42	.33	.32
9	.33	.88	2.8	16	13	185	13	6.6	2.6	.41	.36	.41
10	.44	10	2.7	14	12	766	13	6.4	2.5	.52	.38	.32
11	.57	6.2	2.7	13	9.5	e900	13	6.2	2.5	.69	.42	.34
12	.54	3.4	2.7	12	8.9	e170	12	5.9	2.3	.67	.50	.25
13	.88	3.3	2.6	11	8.4	e70	12	5.9	2.2	.54	.33	.34
14	1.4	7.6	2.5	11	7.8	e49	12	5.7	2.1	.50	.31	.30
15	.82	4.4	2.5	10	7.6	e40	11	5.7	1.9	.45	.29	.03
16	.56	8.4	4.0	10	7.3	e70	11	5.7	1.7	.44	.47	1.9
17	.32	8.6	5.2	9.5	7.0	e42	11	5.7	1.6	.36	.80	8.4
18	.20	4.3	4.2	9.1	7.4	33	10	5.7	1.4	.35	.87	11
19	.33	2.7	13	8.7	8.3	31	9.9	5.3	1.4	.35	.57	6.1
20	.41	2.0	24	8.4	7.3	27	9.6	4.9	1.3	.31	.75	1.8
21	.55	2.0	72	8.1	6.9	24	9.9	4.2	1.3	.37	1.1	.44
22	.59	11	e160	7.8	6.6	22	9.6	4.4	.93	.42	.76	.32
23	.68	132	e80	11	6.6	23	12	4.8	.93	.37	.62	.40
24	.88	33	e270	9.5	6.3	399	11	4.4	1.0	.36	.32	.55
25	.87	20	53	7.9	6.3	485	11	3.9	1.0	.31	.27	.55
26	.86	11	25	7.5	6.1	222	9.9	3.8	.94	.30	.41	.58
27	.96	6.3	20	7.1	6.0	105	9.1	3.7	1.0	.29	.37	.61
28	1.2	4.9	17	6.9	5.8	64	8.8	3.5	1.1	.31	.37	.46
29	.99	3.8	14	6.8	---	47	8.3	3.2	1.3	.31	.31	.97
30	.87	3.4	19	6.6	---	36	8.4	3.4	1.2	.30	.31	.90
31	.78	---	32	6.3	---	30	---	3.5	---	.10	.24	---
TOTAL	20.08	296.74	853.4	396.2	216.0	4073.1	390.5	168.7	59.10	14.83	12.51	38.96
MEAN	.65	9.89	27.5	12.8	7.71	131	13.0	5.44	1.97	.48	.40	1.30
MAX	1.4	132	270	44	13	900	26	8.2	3.6	1.0	1.1	11
MIN	.18	.57	2.5	6.3	5.8	6.1	8.3	3.2	.93	.10	.01	.03
AC-FT	40	589	1690	786	428	8080	775	335	117	29	25	77

CAL YR 1988 TOTAL 2797.58 MEAN 7.64 MAX 270 MIN .00 AC-FT 5550
WTR YR 1989 TOTAL 6540.12 MEAN 17.9 MAX 900 MIN .01 AC-FT 12970

e Estimated.

11160020 SAN LORENZO RIVER NEAR BOULDER CREEK, CA

LOCATION.--Lat 37°12'24", long 122°08'38", in NE 1/4 SW 1/4 sec.25, T.8 S., R.3 W., Santa Cruz County, Hydrologic Unit 18060001, on right bank 22 ft upstream from culvert on State Highway 9, 100 ft upstream from small right-bank tributary, and 5.8 mi north of town of Boulder Creek.

DRAINAGE AREA.--6.17 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 710 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--21 years, 6.86 ft^3/s, 4,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft^3/s, Jan. 4, 1982, gage height, 11.48 ft, from rating curve extended above 230 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.08 ft^3/s, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0115	*45	*3.08				

Minimum daily, 0.17 ft^3/s, Oct. 1, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.21	.35	1.1	.55	.77	3.0	1.1	.84	.51	.35	.57
2	.20	.26	.35	.88	.62	2.3	2.8	1.1	.79	.43	.35	.54
3	.22	.28	.35	.81	.91	1.8	2.5	1.1	.81	.43	.35	.53
4	.22	.28	.35	.73	1.2	1.3	2.4	1.1	.85	.43	.35	.53
5	.22	.25	.35	1.8	.95	1.1	2.3	1.0	.85	.41	.35	.53
6	.22	.25	.39	1.5	.85	1.1	2.2	.98	.85	.35	.33	.53
7	.28	.28	.43	1.4	.85	1.1	2.1	.98	.85	.35	.31	.55
8	.24	.25	.43	1.1	.81	1.3	2.1	.98	.71	.35	.37	.54
9	.22	.22	.43	1.0	1.4	2.2	2.1	1.1	.62	.35	.62	.52
10	.21	.43	.43	1.1	1.1	9.5	2.0	1.1	.62	.35	.67	.52
11	.22	.29	.43	.98	.98	22	1.9	1.1	.62	.37	.68	.54
12	.22	.27	.43	.93	.89	7.8	1.9	.98	.62	.40	.69	.53
13	.24	.49	.38	.95	.85	4.8	1.8	.98	.62	.37	.58	.51
14	.33	.52	.36	.85	.77	3.6	1.7	.98	.59	.35	.57	.47
15	.28	.35	.48	.85	.73	3.0	1.7	.98	.58	.35	.57	.46
16	.23	.49	.56	.85	.73	3.7	1.5	.98	.54	.35	.60	.56
17	.22	.56	.62	.80	.73	3.0	1.4	.97	.52	.35	.69	.76
18	.22	.33	.62	.62	.78	2.9	1.3	.96	.52	.35	.69	.77
19	.22	.28	.66	.62	.77	3.1	1.3	.91	.52	.35	.61	.62
20	.19	.28	.76	.68	.73	3.0	1.2	.88	.52	.35	.67	.57
21	.18	.28	.91	.73	.73	2.7	1.4	.92	.52	.35	.69	.52
22	.18	.62	1.7	.73	.73	2.5	1.3	.94	.48	.35	.64	.52
23	.17	2.0	.90	.92	.73	2.4	1.4	.97	.49	.34	.65	.49
24	.18	.73	3.8	.74	.73	6.5	1.5	.96	.52	.29	.62	.52
25	.22	.91	2.1	.73	.73	10	1.5	.91	.52	.30	.59	.51
26	.22	.65	1.2	.73	.73	7.7	1.3	.91	.52	.35	.60	.48
27	.22	.47	1.0	.73	.73	5.4	1.3	.92	.52	.35	.62	.48
28	.22	.42	.97	.62	.73	4.3	1.2	.94	.55	.35	.62	.49
29	.25	.35	.85	.53	---	4.0	1.1	.87	.60	.35	.60	.52
30	.22	.35	.84	.52	---	3.5	1.1	.90	.55	.35	.64	.52
31	.22	---	1.3	.52	---	3.2	---	.85	---	.35	.61	---
TOTAL	6.85	13.35	24.73	27.05	23.04	131.57	52.3	30.35	18.71	11.28	17.28	16.20
MEAN	.22	.44	.80	.87	.82	4.24	1.74	.98	.62	.36	.56	.54
MAX	.33	2.0	3.8	1.8	1.4	22	3.0	1.1	.85	.51	.69	.77
MIN	.17	.21	.35	.52	.55	.77	1.1	.85	.48	.29	.31	.46
AC-FT	14	26	49	54	46	261	104	60	37	22	34	32

CAL YR 1988 TOTAL 279.54 MEAN .76 MAX 16 MIN .13 AC-FT 554
WTR YR 1989 TOTAL 372.71 MEAN 1.02 MAX 22 MIN .17 AC-FT 739

11160060 BEAR CREEK AT BOULDER CREEK, CA

LOCATION.--Lat 37°07'40", long 122°06'57", in NW 1/4 NW 1/4 sec.29, T.9 S., R.2 W., Santa Cruz County, Hydrologic Unit 18060001, on left bank on downstream side of private road bridge in town of Boulder Creek and 0.3 mi upstream from mouth.

DRAINAGE AREA.--16.0 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for May 6 to Sept. 30, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--12 years, 18.8 ft^3/s, 13,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,480 ft^3/s, Jan. 4, 1982, gage height, 13.30 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.09 ft^3/s, Sept. 8, 9, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0300	*209	*2.76				

Minimum daily, 0.11 ft^3/s, July 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.48	.72	3.3	.98	1.1	6.0	1.4	.68	.34	.19	.69
2	.13	.46	.71	2.6	1.0	18	5.4	1.3	.60	.27	.21	.64
3	.12	.54	.71	2.1	2.1	7.8	4.8	1.2	.56	.31	.21	.60
4	.12	.61	.64	1.8	3.6	4.5	4.1	1.2	.60	.32	.20	.59
5	.13	.64	.64	12	2.5	3.7	3.7	1.1	.73	.32	.19	.56
6	.13	.57	.64	6.0	1.9	3.4	3.4	e.90	.76	.31	.19	.56
7	.14	.45	.47	5.3	1.7	3.2	3.0	e.60	.78	.30	.15	.54
8	.97	.45	.40	3.5	1.9	4.8	2.8	.75	.89	.24	.15	.56
9	.16	.42	.55	3.0	5.6	15	2.6	.83	.91	.19	.15	.56
10	.17	1.0	.61	2.8	4.2	77	2.3	.89	.74	.15	.18	.49
11	.18	.87	.68	2.7	3.3	99	2.2	1.1	.64	.15	.26	.48
12	.18	.80	.71	2.2	2.9	26	2.1	1.1	.48	.18	.28	.55
13	.18	1.4	.70	1.9	2.6	14	2.1	.93	.54	.23	.37	.52
14	.25	1.8	.71	1.8	2.2	9.7	2.1	.97	.64	.22	.47	.56
15	.40	1.3	1.2	1.6	1.9	7.3	2.0	.95	.64	.19	.48	.55
16	.45	1.6	1.5	1.5	1.7	13	1.9	.93	.54	.17	.44	.69
17	.41	2.2	1.8	1.5	1.6	8.1	1.8	.93	.51	.21	.50	1.3
18	.32	1.5	2.2	1.5	1.6	6.5	1.7	.98	.59	.20	.65	1.5
19	.29	1.0	3.4	1.2	1.7	6.3	1.7	.94	.53	.17	.73	1.3
20	.31	.96	6.3	1.2	1.7	5.6	1.6	.69	.51	.19	.73	.91
21	.31	.89	4.0	1.1	1.6	4.8	1.9	.75	.53	.16	.73	.82
22	.33	1.5	18	1.0	1.4	4.3	1.9	.83	.49	.13	.72	.73
23	.36	8.4	5.2	2.7	1.3	4.3	2.3	.84	.48	.15	.64	.73
24	.36	2.4	34	2.0	1.3	30	3.1	.43	.41	.16	.61	.73
25	.35	3.3	8.8	1.4	1.3	41	3.6	.88	.27	.16	.69	.68
26	.31	1.7	4.4	1.2	1.2	28	2.4	.98	.29	.13	.64	.65
27	.40	.99	3.5	1.1	1.2	17	2.3	1.0	.29	.11	.67	.64
28	.42	.87	3.5	1.1	1.2	13	1.8	1.0	.29	.11	.63	.64
29	.45	.81	2.7	1.0	---	10	1.6	.94	.31	.11	.55	.64
30	.47	.80	2.6	.98	---	8.2	1.6	.77	.37	.11	.62	.68
31	.51	---	3.9	.98	---	6.8	---	.73	---	.14	.61	---
TOTAL	9.43	40.71	115.89	74.06	57.18	501.4	79.8	28.84	16.60	6.13	13.84	21.09
MEAN	.30	1.36	3.74	2.39	2.04	16.2	2.66	.93	.55	.20	.45	.70
MAX	.97	8.4	34	12	5.6	99	6.0	1.4	.91	.34	.73	1.5
MIN	.12	.42	.40	.98	.98	1.1	1.6	.43	.27	.11	.15	.48
AC-FT	19	81	230	147	113	995	158	57	33	12	27	42

CAL YR 1988 TOTAL 760.12 MEAN 2.08 MAX 91 MIN .09 AC-FT 1510
WTR YR 1989 TOTAL 964.97 MEAN 2.64 MAX 99 MIN .11 AC-FT 1910

e Estimated.

11160070 BOULDER CREEK AT BOULDER CREEK, CA

LOCATION.--Lat 37°07'36", long 122°07'18", in NW 1/4 NE 1/4 sec.30, T.9 S., R.2 W., Santa Cruz County, Hydrologic Unit 18060001, on right bank under bridge on State Highway 9 in town of Boulder Creek and 750 ft upstream from mouth.

DRAINAGE AREA.--11.3 mi^2.

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR CA-84-2: 1980, 1982-83.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years, 18.2 ft^3/s, 13,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft^3/s, Jan. 4, 1982, gage height, 9.50 ft, from rating curve extended above 330 ft^3/s on basis of slope-area measurement at gage height 6.03 ft; minimum daily, 0.35 ft^3/s, Oct. 16, 17, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0030	*365	*3.09				

Minimum daily, 0.60 ft^3/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.97	1.2	7.3	3.3	4.7	17	4.3	2.2	1.2	.74	1.2
2	.78	1.3	1.1	5.8	3.2	45	16	4.0	2.0	1.2	.72	1.1
3	.80	1.1	1.1	4.9	6.7	19	14	4.0	2.0	1.2	.74	1.1
4	.80	.93	.97	4.3	8.3	12	13	3.8	2.0	1.1	.79	1.1
5	.80	.88	.97	25	5.2	9.3	12	3.8	2.0	1.1	.80	1.1
6	.80	.83	.97	13	e4.0	9.3	10	3.7	2.0	.97	.80	1.0
7	.85	.88	1.1	12	e3.6	7.8	9.2	3.5	2.0	.85	.80	.97
8	.88	.80	1.2	8.6	e4.2	10	9.4	3.5	e1.9	.77	.81	.96
9	.87	.80	1.2	7.6	e13	41	9.3	3.5	e1.9	.72	.82	.88
10	.80	3.0	1.2	7.9	e8.9	125	8.7	3.3	e1.8	.72	.88	.88
11	.80	.93	1.2	6.4	e7.1	159	8.7	3.3	e1.8	.72	.88	.80
12	.80	.90	1.1	5.4	e6.4	49	8.6	3.1	e1.7	.71	.88	.80
13	.83	3.3	.97	5.0	e6.2	32	8.0	3.2	e1.7	.71	.93	.80
14	1.3	1.7	.97	4.6	e6.0	23	8.2	3.1	1.6	.70	.97	.93
15	1.1	.96	1.0	4.3	5.6	18	7.7	3.1	1.5	.71	1.0	.87
16	1.1	3.3	1.2	4.0	5.3	31	7.3	3.0	1.5	.68	1.1	1.1
17	1.1	2.7	1.3	3.8	5.1	18	7.0	2.9	1.7	.65	1.1	1.6
18	1.1	1.2	1.3	3.8	5.5	14	7.2	2.8	1.4	.65	1.0	1.7
19	1.0	1.1	2.6	3.8	5.7	21	7.5	2.7	1.4	.63	.97	1.2
20	.97	1.1	9.6	3.5	5.2	17	6.4	2.7	1.4	.63	.97	.96
21	.97	1.1	4.8	3.3	5.1	15	7.3	2.7	1.3	.61	1.1	.88
22	1.0	7.2	48	3.3	4.9	14	6.5	2.7	1.3	.60	1.2	.86
23	.98	34	11	6.9	4.9	14	7.3	2.8	1.3	.65	1.1	.80
24	.97	2.9	70	4.1	4.9	109	8.2	2.3	1.3	.69	1.1	.80
25	.97	5.4	20	3.7	4.7	122	8.0	2.4	1.3	.67	.97	.71
26	.97	2.4	9.6	3.3	4.6	56	6.1	2.5	1.3	.65	.97	.65
27	.97	1.7	8.1	3.3	4.6	36	5.7	2.3	1.3	.65	1.0	.65
28	.97	1.5	7.5	3.1	4.6	29	4.9	2.1	1.3	.65	1.1	.70
29	.97	1.5	5.7	3.2	---	24	5.1	2.1	1.2	e.66	1.1	.66
30	.97	1.3	7.7	3.3	---	20	4.9	2.1	1.3	e.68	1.1	.65
31	.97	---	11	3.1	---	18	---	2.1	---	e.72	1.2	---
TOTAL	28.91	87.68	235.65	181.6	156.8	1122.1	259.2	93.4	48.4	23.85	29.64	28.41
MEAN	.93	2.92	7.60	5.86	5.60	36.2	8.64	3.01	1.61	.77	.96	.95
MAX	1.3	34	70	25	13	159	17	4.3	2.2	1.2	1.2	1.7
MIN	.72	.80	.97	3.1	3.2	4.7	4.9	2.1	1.2	.60	.72	.65
AC-FT	57	174	467	360	311	2230	514	185	96	47	59	56

CAL YR 1988 TOTAL 1384.35 MEAN 3.78 MAX 128 MIN .53 AC-FT 2750
WTR YR 1989 TOTAL 2295.64 MEAN 6.29 MAX 159 MIN .60 AC-FT 4550

e Estimated.

11160300 ZAYANTE CREEK AT ZAYANTE, CA

LOCATION.--Lat 37°05'10", long 122°02'45", in SE 1/4 sec.2, T.10 S., R.2 W., Santa Cruz County, Hydrologic Unit 18060001, on left bank at downstream side of bridge on Zayante Road in town of Zayante, 0.4 mi upstream from Lompico Creek, 2.0 mi east of Ben Lomond, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--11.1 mi^2.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder and bedrock notch low-flow control. Elevation of gage is 390 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 14, 1979, at datum 0.12 ft higher.

REMARKS.--No estimated daily discharges. Records fair. No known regulation; small diversions upstream from station for individual use.

AVERAGE DISCHARGE.--32 years, 11.7 ft^3/s, 8,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,620 ft^3/s, Jan. 14, 1978, gage height, 8.52 ft, from rating curve extended above 1,200 ft^3/s on basis of slope-area measurement at gage height 7.70 ft; maximum gage height, 8.86 ft, Jan. 4, 1982; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 9	2145	*201	*3.06				

Minimum daily, 0.05 ft^3/s, Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.34	.45	1.8	.84	.91	4.5	1.3	.73	1.6	.69	.31
2	.17	.43	.44	1.5	.87	14	4.1	1.2	.59	1.5	.69	.29
3	.19	.52	.42	1.3	1.6	6.1	3.8	1.2	.64	1.4	.59	.25
4	.22	.48	.38	1.2	2.0	3.6	3.5	1.2	.85	1.3	.16	.27
5	.19	.40	.37	5.5	1.3	2.9	3.1	1.1	.82	1.2	.23	.26
6	.20	.38	.36	4.5	1.1	2.6	2.9	1.0	.72	.93	.28	.26
7	.42	.34	.34	4.0	1.1	2.4	2.7	1.0	.66	.72	.05	.30
8	.39	.32	.32	2.6	1.3	3.4	2.5	1.1	.68	.55	.11	.27
9	.30	.34	.33	2.2	2.9	24	2.3	1.1	1.0	.70	.25	.26
10	.25	1.5	.33	2.1	2.4	63	2.1	1.1	1.4	.92	.34	.28
11	.22	.78	.34	1.7	2.0	66	2.0	1.1	1.5	1.2	.35	.29
12	.22	.52	.36	1.5	1.8	13	2.0	1.1	1.8	1.2	.34	.31
13	.25	1.1	.34	1.3	1.7	7.7	2.0	1.1	1.3	1.1	.33	.27
14	.47	1.8	.37	1.3	1.5	5.7	1.9	1.1	.67	1.0	.32	.26
15	.38	1.4	.70	1.2	1.3	4.7	1.9	1.0	.92	.98	.31	.23
16	.28	2.0	1.0	1.1	1.3	6.5	1.9	.99	.84	.90	.40	.32
17	.24	2.6	1.1	1.1	1.2	4.9	1.8	1.0	.82	.85	.48	.92
18	.22	1.6	1.2	1.0	1.3	4.3	1.8	1.0	.83	.34	.55	.99
19	.21	1.3	2.0	1.0	1.5	4.2	1.7	.96	.83	.21	.44	.64
20	.22	1.4	3.2	.97	1.2	3.7	1.6	.91	.79	.20	.45	.48
21	.26	1.6	3.0	.96	1.1	3.4	1.7	.94	.97	.17	.54	.43
22	.29	3.3	13	.93	1.1	3.3	1.5	.92	1.5	.32	.46	.40
23	.30	9.0	6.7	1.7	1.0	3.3	1.7	1.0	1.6	.51	.42	.36
24	.30	2.9	26	1.2	.97	39	1.9	.98	1.7	.61	.40	.36
25	.31	3.4	5.9	1.0	.96	34	1.9	.93	1.7	.65	.33	.36
26	.35	1.5	3.3	.97	.93	17	1.6	.86	1.7	.59	.33	.36
27	.34	.85	2.4	.92	.91	10	1.5	.84	1.7	.56	.37	.34
28	.41	.64	2.1	.87	.88	7.5	1.4	.76	1.8	.53	.35	.34
29	.46	.56	1.5	.91	---	6.2	1.4	.84	1.8	.62	.34	.39
30	.41	.51	1.6	.85	---	5.4	1.4	.87	1.7	.67	.33	.38
31	.37	---	2.6	.84	---	4.9	---	.82	---	.66	.31	---
TOTAL	8.98	43.81	82.45	50.02	38.06	377.61	66.1	31.32	34.56	24.69	11.54	11.18
MEAN	.29	1.46	2.66	1.61	1.36	12.2	2.20	1.01	1.15	.80	.37	.37
MAX	.47	9.0	26	5.5	2.9	66	4.5	1.3	1.8	1.6	.69	.99
MIN	.14	.32	.32	.84	.84	.91	1.4	.76	.59	.17	.05	.23
AC-FT	18	87	164	99	75	749	131	62	69	49	23	22

CAL YR 1988 TOTAL 534.74 MEAN 1.46 MAX 54 MIN .13 AC-FT 1060
WTR YR 1989 TOTAL 780.32 MEAN 2.14 MAX 66 MIN .05 AC-FT 1550

11160430 BEAN CREEK NEAR SCOTTS VALLEY, CA

LOCATION.--Lat 37°03'19", long 122°02'25", in San Augustin Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank, 100 ft northeast of Mt Hermon Road, 1.2 mi northwest of Camp Evers, and 1.8 mi east of Felton.

DRAINAGE AREA.--8.81 mi^2.

PERIOD OF RECORD.--January to September 1989.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated daily discharges and daily discharges greater than 10 ft^3/s, which are poor. No regulation; small diversions upstream from station for domestic use.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 9	2300	*88	*5.65				

Minimum daily, 1.5 ft^3/s, July 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	3.0	3.3	8.4	2.6	2.2	2.2	1.8	1.9
2	---	---	---	---	2.9	29	7.9	2.5	2.4	2.2	1.8	1.8
3	---	---	---	---	3.5	18	6.7	2.5	2.6	2.2	1.9	1.7
4	---	---	---	---	3.3	12	6.2	2.6	2.6	2.0	1.9	1.8
5	---	---	---	---	3.0	9.5	e5.7	2.6	2.4	2.0	1.8	1.8
6	---	---	---	5.7	2.9	8.9	e5.3	2.4	2.4	2.0	1.8	2.0
7	---	---	---	5.4	2.9	8.3	e5.0	2.3	2.6	2.0	1.7	1.9
8	---	---	---	4.4	3.6	10	e4.7	2.3	2.4	1.7	1.7	1.9
9	---	---	---	4.2	4.4	21	e4.5	2.4	2.3	1.7	1.8	2.0
10	---	---	---	4.4	3.5	47	e4.3	2.4	2.2	1.9	1.8	1.9
11	---	---	---	3.9	3.3	51	4.1	2.4	2.1	1.8	1.8	1.9
12	---	---	---	3.6	3.3	29	4.1	2.3	2.2	1.7	1.8	2.0
13	---	---	---	3.6	3.2	21	3.9	2.3	2.2	1.5	1.7	1.9
14	---	---	---	3.5	3.2	16	3.8	2.3	2.2	1.7	1.8	1.9
15	---	---	---	3.4	3.1	12	3.7	2.3	2.1	2.0	1.8	2.0
16	---	---	---	3.4	3.1	15	3.6	2.3	2.1	2.0	1.9	2.7
17	---	---	---	3.3	3.0	12	3.5	2.2	2.0	1.9	1.9	2.8
18	---	---	---	3.2	3.4	12	3.4	2.1	2.2	1.9	1.8	2.2
19	---	---	---	3.2	3.2	e11	3.3	2.2	2.0	1.8	1.8	2.1
20	---	---	---	3.1	3.0	e9.4	3.2	2.3	1.9	1.8	1.9	1.9
21	---	---	---	3.0	3.0	e8.8	3.3	2.3	1.9	1.9	1.9	1.6
22	---	---	---	3.0	2.9	e8.4	3.1	2.4	2.0	1.9	1.8	1.9
23	---	---	---	4.4	2.9	12	3.8	2.4	2.1	1.9	1.8	2.0
24	---	---	---	3.2	3.0	25	3.6	2.4	2.0	1.9	1.8	1.9
25	---	---	---	3.0	2.9	30	3.4	2.2	2.0	1.9	1.9	1.9
26	---	---	---	3.0	2.9	23	3.0	2.2	2.2	1.8	1.9	1.9
27	---	---	---	3.0	2.9	18	2.8	2.2	2.2	1.9	2.0	2.0
28	---	---	---	3.0	2.9	15	2.8	2.2	2.2	1.8	1.9	2.0
29	---	---	---	2.9	---	12	2.7	2.2	2.2	1.8	1.9	2.0
30	---	---	---	2.9	---	10	2.7	2.2	2.2	1.7	1.9	2.1
31	---	---	---	3.0	---	9.5	---	2.2	---	1.7	1.9	---
TOTAL	---	---	---	---	88.2	527.1	126.5	72.2	66.1	58.2	56.9	59.4
MEAN	---	---	---	---	3.15	17.0	4.22	2.33	2.20	1.88	1.84	1.98
MAX	---	---	---	---	4.4	51	8.4	2.6	2.6	2.2	2.0	2.8
MIN	---	---	---	---	2.9	3.3	2.7	2.1	1.9	1.5	1.7	1.6
AC-FT	---	---	---	---	175	1050	251	143	131	115	113	118

e Estimated.

11160500 SAN LORENZO RIVER AT BIG TREES, CA

LOCATION.--Lat 37°02'40", long 122°04'17", in Zayante Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank 20 ft upstream from bridge on Henry Cowell State Park Road, 200 ft upstream from Shingle Mill Creek, 0.3 mi downstream from Zayante Creek, 0.9 mi northwest of Big Trees station on Southern Pacific railroad, and 5.3 mi northwest of Santa Cruz.
DRAINAGE AREA.--106 mi^2.

PERIOD OF RECORD.--October 1936 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1906-7, 1952-67, 1969-70, 1973-75, 1977, 1980-81.
WATER TEMPERATURE: Water years 1966-82, daily.
SEDIMENT DISCHARGE: Water years 1973-82, daily; 1986, monthly.
REVISED RECORDS.--WSP 1315-B: 1938(M). WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 227.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1972, at site 1.3 mi downstream at different datum.
REMARKS.--No estimated daily discharges. Records good. Low flow partially regulated by Loch Lomond Reservoir since 1961, capacity, 8,820 acre-ft, and by a fiber dam located 500 ft upstream from gage. Many small diversions upstream from station for domestic supply.

AVERAGE DISCHARGE.--53 years, 134 ft^3/s, 97,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,400 ft^3/s, Dec. 23, 1955, gage height, 22.55 ft, site and datum then in use, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 28.85 ft, Jan. 5, 1982; minimum daily discharge, 5.6 ft^3/s, July 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0400	*1,150	*6.60				

Minimum daily, 8.2 ft^3/s, Oct. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	9.2	16	41	22	21	70	30	19	13	9.5	12
2	8.9	11	15	25	22	296	64	27	18	13	9.5	12
3	8.9	11	15	23	26	106	58	27	18	12	10	11
4	8.8	11	14	21	34	59	51	26	20	12	11	11
5	8.6	10	14	102	24	43	47	25	19	11	11	11
6	9.0	9.9	14	65	23	37	42	24	18	11	11	13
7	9.6	9.9	14	54	25	33	38	23	17	11	10	15
8	9.5	10	14	35	26	51	36	24	17	10	11	11
9	9.9	10	14	31	44	111	35	23	16	10	12	12
10	8.4	33	14	29	33	549	31	24	17	11	12	11
11	11	17	14	24	26	685	30	24	17	11	12	11
12	8.8	13	14	21	25	264	31	24	16	11	12	11
13	9.3	19	14	20	27	155	34	23	16	10	12	10
14	13	23	14	25	22	105	28	23	15	9.8	12	10
15	9.9	17	14	23	22	83	28	22	15	9.8	12	10
16	10	25	14	27	21	149	32	21	14	9.6	12	13
17	8.6	24	14	27	21	100	33	21	14	9.6	13	18
18	8.3	17	14	23	22	76	26	21	14	9.0	14	18
19	8.3	15	25	26	23	79	25	20	13	9.2	14	15
20	8.2	13	60	25	20	69	24	20	13	9.0	14	13
21	8.4	13	67	24	25	60	28	19	13	8.7	14	12
22	9.0	35	281	24	22	54	26	18	13	8.7	14	12
23	8.4	139	84	33	20	52	29	19	13	9.0	14	11
24	9.3	47	413	23	22	347	31	17	13	9.1	13	12
25	9.3	46	125	22	22	415	36	16	13	9.7	13	11
26	9.4	23	69	25	22	290	26	17	13	9.4	13	11
27	9.6	19	44	24	22	182	29	18	13	11	13	11
28	9.6	19	35	23	21	129	33	17	13	11	13	11
29	9.8	17	27	22	---	109	31	17	13	11	13	11
30	9.4	16	39	22	---	90	31	27	13	10	13	11
31	9.4	---	68	22	---	77	---	21	---	9.6	13	---
TOTAL	287.2	682.0	1593	931	684	4876	1063	678	456	319.2	380.0	361
MEAN	9.26	22.7	51.4	30.0	24.4	157	35.4	21.9	15.2	10.3	12.3	12.0
MAX	13	139	413	102	44	685	70	30	20	13	14	18
MIN	8.2	9.2	14	20	20	21	24	16	13	8.7	9.5	10
AC-FT	570	1350	3160	1850	1360	9670	2110	1340	904	633	754	716

CAL YR 1988 TOTAL 9336.7 MEAN 25.5 MAX 624 MIN 7.6 AC-FT 18520
WTR YR 1989 TOTAL 12310.4 MEAN 33.7 MAX 685 MIN 8.2 AC-FT 24420

11161000 SAN LORENZO RIVER AT SANTA CRUZ, CA

LOCATION.--Lat 36°59'27", long 122°01'51", in La Carbonera Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank, in city of Santa Cruz Water Meter Repair compound, 0.3 mi upstream from intersection of State Highways 1 and 9, 1.0 mi north of Santa Cruz, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--115 mi^2.

PERIOD OF RECORD.--October 1952 to September 1960, October 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1952 to September 1960, water-stage recorder at site 0.1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Low flow partially regulated by Loch Lomond Reservoir since 1961, capacity, 8,820 acre-ft, and by a fiber dam located 6.8 mi upstream from gage. Water is diverted 50 ft upstream from station by city of Santa Cruz for municipal supply; many small diversions upstream from station for domestic supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,400 ft^3/s, Dec. 23, 1955, gage height, 23.10 ft, site and datum then in use, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow; no flow for several days in 1955 and many days in 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0630	*1,120	*7.36				

Minimum daily, 0.65 ft^3/s, Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	2.0	12	52	19	17	62	22	10	3.6	1.1	1.8
2	1.6	2.8	11	26	17	307	55	20	11	3.5	1.4	1.6
3	1.3	2.8	8.2	23	18	124	51	21	11	2.6	1.6	1.5
4	1.4	2.9	6.5	21	25	61	45	20	12	2.2	1.4	2.6
5	1.2	2.0	5.2	86	20	39	42	19	12	1.8	1.2	1.5
6	1.6	1.4	5.0	74	18	31	36	18	11	1.5	2.2	1.3
7	2.2	2.1	5.0	54	21	27	33	17	11	1.9	.73	6.2
8	1.8	3.2	4.2	35	22	40	30	16	10	1.8	.65	1.7
9	1.6	1.6	4.9	28	34	54	28	16	7.6	1.7	2.0	2.6
10	2.0	38	6.7	26	29	542	27	17	7.7	3.3	2.0	2.9
11	1.4	21	6.9	23	21	675	24	18	7.1	3.4	2.0	2.6
12	2.7	7.8	7.1	19	20	267	24	17	6.6	2.2	2.3	1.9
13	1.6	12	7.2	16	21	158	28	17	6.6	1.2	2.4	1.5
14	4.5	26	6.9	20	17	109	23	16	6.3	.99	1.8	1.1
15	2.0	12	7.1	19	17	85	23	16	5.5	2.4	1.7	1.5
16	1.8	19	7.1	20	17	137	24	16	4.9	3.3	2.2	5.6
17	1.8	30	7.1	21	16	108	27	19	4.2	3.0	2.2	21
18	2.2	14	7.2	17	17	71	21	16	6.6	2.5	2.0	20
19	2.0	8.0	26	19	19	73	20	14	4.1	2.4	2.5	5.9
20	1.3	5.4	61	20	14	64	19	14	2.8	2.1	1.9	6.8
21	1.6	4.8	107	19	18	58	18	13	3.7	1.3	2.5	4.6
22	1.4	28	313	18	18	51	22	13	3.1	1.9	2.5	4.5
23	.87	175	124	29	15	47	21	12	2.9	2.2	2.1	4.5
24	2.0	72	471	22	17	287	23	12	3.0	2.4	1.2	4.4
25	2.8	67	156	18	17	387	27	10	3.4	2.7	.95	3.4
26	2.1	31	90	20	17	263	22	11	3.2	1.8	1.3	3.3
27	1.5	15	53	21	16	163	18	9.7	3.6	1.6	1.6	3.2
28	3.1	15	43	20	17	117	26	10	3.7	1.3	.91	3.0
29	2.2	13	28	19	---	99	23	10	3.6	1.1	1.2	3.2
30	1.2	16	36	19	---	84	23	12	3.8	2.4	1.2	4.2
31	1.1	---	85	19	---	69	---	18	---	1.2	.91	---
TOTAL	56.87	650.8	1718.3	843	537	4614	865	479.7	192.0	67.29	51.65	129.9
MEAN	1.83	21.7	55.4	27.2	19.2	149	28.8	15.5	6.40	2.17	1.67	4.33
MAX	4.5	175	471	86	34	675	62	22	12	3.6	2.5	21
MIN	.87	1.4	4.2	16	14	17	18	9.7	2.8	.99	.65	1.1
AC-FT	113	1290	3410	1670	1070	9150	1720	951	381	133	102	258

CAL YR 1988 TOTAL 7405.89 MEAN 20.2 MAX 533 MIN .34 AC-FT 14690
WTR YR 1989 TOTAL 10205.51 MEAN 28.0 MAX 675 MIN .65 AC-FT 20240

11161300 CARBONERA CREEK AT SCOTTS VALLEY, CA

LOCATION.--Lat 37°03'02", long 122°00'45" in San Augustin Grant, Santa Cruz County, Hydrologic Unit 18060001, on right bank at east city limits of Scotts Valley, 1.1 mi upstream from Glen Canyon Road, 3.3 mi east of Felton, and 4.1 mi upstream from Branciforte Creek.

DRAINAGE AREA.--3.60 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 550 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. No regulation or diversion upstream from station. Low flows affected by return flow from urban irrigation and by periodic flushing of upstream county well.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 934 ft^3/s, Mar. 15, 1986, gage height, 9.48 ft, from rating curve extended above 190 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	0445	*595	*7.92				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	.00	.53	e5.5	.53	2.4	2.5	.33	.43	.19	.30	.01
2	.51	.23	.51	3.0	.50	e92	1.9	.31	.29	.15	.40	.02
3	.00	.01	.35	2.5	2.7	e9.4	1.6	.31	.31	.17	.49	.03
4	.00	.00	.07	2.3	1.1	4.5	1.4	.30	.55	.16	.59	.00
5	.57	.19	.05	e30	.68	2.4	1.3	.27	.28	.15	.65	.01
6	.10	.00	.05	e12	.54	2.1	1.1	.29	.27	.12	.63	.03
7	.74	.00	.27	e5.0	.49	1.9	.99	.35	.25	.09	.89	.01
8	.57	.00	.06	e3.5	3.3	7.4	.92	.35	.20	.09	.99	.01
9	.00	.00	.13	e2.7	8.1	67	.80	.32	.23	.12	.98	.01
10	.00	19	.18	e2.3	1.9	110	.82	.41	.26	.20	1.0	.01
11	.17	.35	.06	2.1	1.7	e99	.75	.40	.25	.20	1.0	.26
12	.02	.38	.07	1.9	1.3	e17	.77	.52	.25	.22	1.1	.01
13	.00	12	.09	1.4	1.2	e7.8	.71	.32	.28	.20	1.2	.00
14	1.4	2.8	.13	1.2	1.1	e4.7	.72	.36	.29	.17	.88	.00
15	.27	.82	.05	1.0	.98	e4.2	.73	.39	.23	.17	1.3	.00
16	.00	12	1.6	.96	.99	e20	.58	.33	.26	.15	1.5	7.2
17	.00	1.8	.03	1.1	1.0	4.4	.61	.35	.22	.18	2.6	7.4
18	.31	.58	.02	1.0	2.8	4.9	.54	.33	.20	.17	2.1	2.2
19	.71	.30	12	1.0	1.6	3.7	.53	.27	.20	.15	2.0	.11
20	.30	.24	31	.77	1.2	2.7	.52	.26	.22	.16	2.1	.01
21	.18	.49	9.8	.65	.87	2.1	.86	.27	.19	.20	2.3	.00
22	.52	24	95	.73	.76	1.9	.50	.31	.13	.27	1.7	.11
23	.00	45	14	8.0	.74	7.4	2.4	.67	.17	.26	1.4	.27
24	.00	12	102	.93	.74	52	1.1	.34	.22	.26	.07	.09
25	.50	11	14	.74	.84	64	.72	.29	.22	.33	.00	.28
26	.00	1.1	5.5	.65	.77	17	.45	.30	.26	.29	.02	.01
27	.05	.55	e7.8	.64	.65	9.1	.39	.31	.26	.42	.04	1.1
28	.14	.23	e4.6	.62	.64	6.0	.44	.32	.27	.37	.02	.11
29	1.3	.42	2.8	.64	---	4.3	.38	.31	.24	.38	.00	.02
30	.00	.31	14	.56	---	3.3	.37	.28	.20	.34	.00	1.1
31	.36	---	e21	.67	---	2.7	---	.30	---	.32	.00	---
TOTAL	8.95	145.80	337.75	96.06	39.72	637.3	27.40	10.47	7.63	6.65	28.25	20.42
MEAN	.29	4.86	10.9	3.10	1.42	20.6	.91	.34	.25	.21	.91	.68
MAX	1.4	45	102	30	8.1	110	2.5	.67	.55	.42	2.6	7.4
MIN	.00	.00	.02	.56	.49	1.9	.37	.26	.13	.09	.00	.00
AC-FT	18	289	670	191	79	1260	54	21	15	13	56	41

CAL YR 1988 TOTAL 806.28 MEAN 2.20 MAX 102 MIN .00 AC-FT 1600
WTR YR 1989 TOTAL 1366.40 MEAN 3.74 MAX 110 MIN .00 AC-FT 2710

e Estimated.

11162500 PESCADERO CREEK NEAR PESCADERO, CA

LOCATION.--Lat 37°15'39", long 122°19'40", in SW 1/4 sec.5, T.8 S., R.4 W., San Mateo County, Hydrologic Unit 18050006, on left bank at downstream side of highway bridge, 3.0 mi east of Pescadero, and 5.3 mi upstream from mouth.

DRAINAGE AREA.--45.9 mi^2.

PERIOD OF RECORD.--April 1951 to current year.
CHEMICAL DATA: Water year 1977, monthly.
WATER TEMPERATURE: Water years 1965-79, daily; 1980, 1986, monthly.
SEDIMENT DISCHARGE: Water years 1971, 1973, 1980, daily; 1986, monthly.

REVISED RECORDS.--WSP 1445: 1952-53(M). WSP 1715: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 62.3 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Minor regulation from swimming pools in San Mateo County Memorial Park and Portola State Park during summer months. Small diversions upstream from station by pumping.

AVERAGE DISCHARGE.--38 years, 42.1 ft^3/s, 30,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,420 ft^3/s, Dec. 23, 1955, gage height, 21.27 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0500	*751	*5.92				

Minimum daily, 0.28 ft^3/s, Oct. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.47	1.7	28	2.5	3.5	29	5.2	2.4	1.7	.56	1.5
2	.45	.57	1.4	19	2.9	14	27	4.9	2.2	1.6	.67	1.4
3	.42	.80	1.3	14	3.8	25	24	4.7	2.2	1.5	.66	1.3
4	.43	1.0	1.3	11	9.4	17	21	4.5	2.2	1.5	.55	1.2
5	.42	.85	1.3	34	10	14	19	4.2	2.3	1.4	.62	1.1
6	.47	.96	1.3	49	7.2	12	17	4.0	2.3	1.5	.52	1.4
7	.50	.91	1.4	41	5.7	11	15	3.7	2.2	1.6	.44	1.4
8	.40	.73	1.3	30	5.4	12	14	3.7	2.4	1.5	.57	1.4
9	.55	.61	1.4	23	12	22	12	3.8	2.5	1.5	.65	1.4
10	.67	.94	1.5	20	16	122	11	4.0	2.6	1.4	.65	1.4
11	.71	1.9	1.5	18	13	370	10	4.3	2.5	1.3	.71	1.4
12	.79	3.1	1.5	15	11	107	9.4	3.9	2.5	1.4	1.0	1.1
13	.60	3.5	1.7	12	9.8	60	8.8	3.5	2.4	1.4	1.3	.85
14	.81	11	1.8	10	8.6	42	8.4	3.5	2.1	1.3	1.3	.81
15	.91	9.8	1.3	8.7	7.7	33	8.1	3.4	1.8	1.1	1.3	.81
16	.96	5.2	1.4	7.9	7.2	39	7.9	3.3	1.4	1.0	1.5	1.2
17	.74	5.9	1.4	7.3	6.7	35	7.3	3.2	1.2	.94	1.4	1.7
18	.52	8.1	1.6	6.2	6.5	34	7.0	3.2	1.4	.88	1.6	2.5
19	.47	4.0	2.2	5.6	6.3	52	6.6	3.1	1.7	.75	1.7	2.9
20	.44	2.6	6.5	5.2	6.0	43	6.0	3.0	1.5	.81	2.0	2.2
21	.40	2.0	21	4.6	5.4	34	6.1	2.8	1.6	.83	1.9	1.5
22	.53	3.5	25	4.1	5.0	29	6.8	2.8	1.5	.78	1.8	1.4
23	.31	43	35	5.5	4.7	26	7.1	2.9	1.3	.74	2.1	1.2
24	.33	29	59	6.0	4.2	85	9.7	3.0	1.3	.74	2.3	1.1
25	.28	14	57	4.3	4.1	154	10	2.8	1.3	.67	2.0	1.7
26	.33	15	35	3.7	4.0	132	8.1	2.7	1.3	.68	1.9	2.8
27	.37	7.5	24	3.4	3.8	78	6.8	2.7	1.3	.72	1.6	.91
28	.44	4.2	26	3.2	3.5	58	6.0	2.7	1.4	.63	1.5	.91
29	.41	2.9	17	2.9	---	47	5.7	2.8	1.6	.67	1.5	.97
30	.41	2.2	15	2.7	---	38	5.4	2.7	1.6	.80	1.5	1.0
31	.44	---	31	2.4	---	32	---	2.5	---	.67	1.5	---
TOTAL	15.94	186.24	379.8	407.7	192.4	1780.5	340.2	107.5	56.0	34.01	39.30	42.46
MEAN	.51	6.21	12.3	13.2	6.87	57.4	11.3	3.47	1.87	1.10	1.27	1.42
MAX	.96	43	59	49	16	370	29	5.2	2.6	1.7	2.3	2.9
MIN	.28	.47	1.3	2.4	2.5	3.5	5.4	2.5	1.2	.63	.44	.81
AC-FT	32	369	753	809	382	3530	675	213	111	67	78	84

CAL YR 1988 TOTAL 2175.00 MEAN 5.94 MAX 222 MIN .16 AC-FT 4310
WTR YR 1989 TOTAL 3582.05 MEAN 9.81 MAX 370 MIN .28 AC-FT 7100

11162570 SAN GREGORIO CREEK AT SAN GREGORIO, CA

LOCATION.--Lat 37°19'33", long 122°23'08", in San Gregorio Grant, San Mateo County, Hydrologic Unit 18050006, on right bank at downstream side of bridge on Old Coast Highway, 0.1 mi south of town of San Gregorio, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--50.9 mi^2.

PERIOD OF RECORD.--October 1969 to current year.
SEDIMENT DISCHARGE: Water year 1986, monthly.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 11.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--20 years, 39.2 ft^3/s, 28,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,910 ft^3/s, Jan. 4, 1982, gage height, 21.28 ft, from rating curve extended above 560 ft^3/s on basis of contracted-opening measurement of peak flow; no flow for many days in 1972, 1977, 1988, and 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*), from rating curve extended above 140 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0245	*946	*7.85				

No flow Oct. 1-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.15	2.0	20	6.9	4.7	e31	10	2.7	.55	.14	.04
2	.00	.16	1.9	9.9	7.0	42	e27	9.6	2.5	.81	.12	.04
3	.00	.17	1.6	6.5	8.5	33	e24	8.9	2.3	.59	.13	.06
4	.00	.73	1.6	4.7	13	21	e22	8.6	3.1	.70	.12	.32
5	.00	.53	1.5	66	12	17	e21	8.1	2.9	.60	.10	.26
6	.00	.28	1.4	42	10	16	e19	7.2	2.6	.36	.09	.27
7	.00	.28	1.4	48	9.3	16	e18	6.9	2.3	.31	.31	.15
8	.00	.61	1.4	28	9.0	28	e17	6.9	2.5	.19	.16	.14
9	.00	.19	1.4	23	17	45	e16	7.2	2.9	.13	.13	.19
10	.00	.65	1.4	25	16	120	e15	7.3	2.3	.14	.14	.12
11	.00	.50	1.4	26	14	379	e14	6.9	2.9	.15	.13	.14
12	.00	.75	1.4	20	13	94	e13	6.6	3.2	.35	.16	.11
13	.00	1.3	1.4	17	11	60	13	6.2	2.6	.46	.16	.66
14	.00	3.8	1.4	15	10	44	12	5.8	2.5	.25	.16	.12
15	.00	2.6	1.1	14	8.9	36	12	5.8	2.3	.26	.14	.10
16	.00	2.0	1.2	13	8.2	73	11	5.4	1.8	.65	.12	.55
17	.00	2.8	1.2	12	7.1	46	11	5.1	1.1	.34	.14	2.0
18	.00	2.6	1.2	11	6.9	239	10	5.5	1.1	.43	.13	2.3
19	.00	1.9	1.4	10	7.7	234	9.7	6.1	.94	.42	.14	2.1
20	.00	1.6	2.8	9.3	7.6	104	9.1	5.4	1.0	.28	.15	1.7
21	.00	1.4	16	8.6	6.9	70	9.3	5.1	.56	.14	.57	1.3
22	.00	1.8	21	8.1	6.4	54	10	4.7	1.0	.13	.17	1.1
23	.00	40	20	14	6.3	46	11	5.2	.43	.13	.10	.92
24	.00	10	53	13	6.3	102	14	4.8	.22	.14	.07	.93
25	.00	11	43	9.6	5.7	231	15	4.5	.62	.15	.08	.92
26	.00	8.7	18	8.4	5.4	e125	13	3.5	.70	.37	.09	.69
27	.00	4.3	16	7.7	4.7	e82	11	3.2	.55	.21	.47	.67
28	.00	3.2	20	7.4	4.6	e61	10	3.5	.54	.33	.50	.66
29	.07	2.6	8.8	7.2	---	e49	9.5	2.9	1.0	.14	.32	.65
30	.14	2.2	6.9	7.0	---	e41	9.7	2.6	1.0	.20	.30	.57
31	.14	---	48	6.9	---	e35	---	3.0	---	.31	.07	---
TOTAL	0.35	108.80	300.8	518.3	249.4	2547.7	437.3	182.5	52.16	10.22	5.61	19.78
MEAN	.011	3.63	9.70	16.7	8.91	82.2	14.6	5.89	1.74	.33	.18	.66
MAX	.14	40	53	66	17	379	31	10	3.2	.81	.57	2.3
MIN	.00	.15	1.1	4.7	4.6	4.7	9.1	2.6	.22	.13	.07	.04
AC-FT	.7	216	597	1030	495	5050	867	362	103	20	11	39

CAL YR 1988 TOTAL 2509.84 MEAN 6.86 MAX 549 MIN .00 AC-FT 4980
WTR YR 1989 TOTAL 4432.92 MEAN 12.1 MAX 379 MIN .00 AC-FT 8790

e Estimated.

11162630 PILARCITOS CREEK AT HALF MOON BAY, CA

LOCATION.--Lat 37°28'00", long 122°25'59", on north boundary of Miramontes Grant, San Mateo County, Hydrologic Unit 18050006, on left bank 50 ft downstream from State Highway 1, 0.3 mi northwest of town of Half Moon Bay, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--27.2 mi^2.

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 31.51 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1983, at site 800 ft downstream at different datum.

REMARKS.--Records fair. Flow slightly regulated by storage in Pilarcitos Lake 10 mi upstream, capacity, 3,100 acre-ft. Water is diverted to city of San Francisco water system; small diversions for irrigation upstream from station by pumping.

AVERAGE DISCHARGE (unadjusted).--23 years, 15.3 ft^3/s, 11,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft^3/s, Jan. 4, 1982, gage height, 13.08 ft, site and datum then in use, from rating curve extended above 1,000 ft^3/s on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*), from rating curve extended above 200 ft^3/s on basis of slope-area measurement at gage height 9.97 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	2400	*730	*5.88	Mar. 25	0900	465	4.75
Mar. 18	1445	522	5.01				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.51	7.8	1.5	2.2	22	5.9	1.7	.50	.04	.25
2	.00	.00	.44	5.9	1.4	41	20	4.9	2.1	.55	.03	.32
3	.00	.00	.41	5.4	5.5	26	19	3.9	2.7	.83	.03	.36
4	.00	.00	.41	4.7	7.1	17	17	3.7	3.0	.56	.00	.47
5	.00	.00	.41	25	4.8	16	15	3.6	2.2	.41	.05	.25
6	.00	.00	.39	14	3.5	20	13	3.5	2.1	.55	.12	.25
7	.00	.00	.41	13	3.2	18	12	3.3	1.6	.45	.13	.18
8	.00	.00	.31	8.8	5.8	34	11	4.5	2.1	.44	.10	.00
9	.00	.00	.30	8.3	15	41	11	5.3	1.7	.45	.04	.00
10	.00	.00	.25	10	8.6	95	9.8	5.2	1.7	.53	.09	.47
11	.00	.00	.21	8.7	6.7	204	8.4	4.0	2.1	.44	.07	.59
12	.00	.00	.25	6.7	6.7	75	9.5	4.4	2.7	.34	.20	.31
13	.01	.00	.26	6.1	7.0	52	9.0	4.6	1.7	.16	.21	.20
14	.01	.00	.26	5.5	6.4	38	8.6	4.4	1.2	.30	.13	.19
15	.00	.00	.24	5.4	6.4	29	9.0	4.6	1.3	.49	.00	.11
16	.00	.52	.29	5.1	5.7	108	9.2	3.4	1.3	.41	.00	1.5
17	.00	.23	.28	4.7	4.7	52	8.4	2.6	1.1	.33	.00	2.0
18	.00	.00	.36	4.5	5.1	187	7.4	2.8	1.5	.19	.00	1.9
19	.00	.03	.67	4.3	5.5	162	6.8	2.6	1.5	.28	.00	1.2
20	.00	.09	15	3.6	4.7	88	6.9	3.0	1.0	.16	.09	.76
21	.00	.31	6.3	2.8	4.3	58	7.4	3.3	.71	.00	.18	.63
22	.00	2.4	27	2.5	3.7	43	7.2	2.8	.56	.11	.05	.54
23	.00	27	11	9.7	2.6	34	10	2.9	.59	.23	e.29	.49
24	.00	4.1	42	4.8	2.1	43	13	2.2	.40	.46	.31	.57
25	.00	5.4	19	3.3	1.5	172	6.4	1.9	.38	.41	.14	.42
26	.00	1.4	11	2.4	1.6	74	5.6	2.1	.69	.33	.18	.24
27	.00	.79	15	1.9	1.6	52	6.5	2.9	1.1	.25	.56	.32
28	.00	.71	11	1.9	1.5	44	5.8	3.4	.91	.23	.52	.48
29	.00	.51	7.6	1.7	---	36	5.6	3.1	.63	.27	.20	.54
30	.00	.44	9.1	1.6	---	29	6.3	3.0	.82	.27	.44	.39
31	.00	---	11	1.5	---	25	---	2.4	---	.17	.32	---
TOTAL	0.02	43.93	191.66	191.6	134.2	1915.2	306.8	110.2	43.09	11.10	4.52	15.93
MEAN	.001	1.46	6.18	6.18	4.79	61.8	10.2	3.55	1.44	.36	.15	.53
MAX	.01	27	42	25	15	204	22	5.9	3.0	.83	.56	2.0
MIN	.00	.00	.21	1.5	1.4	2.2	5.6	1.9	.38	.00	.00	.00
AC-FT	.04	87	380	380	266	3800	609	219	85	22	9.0	32

CAL YR 1988 TOTAL 975.18 MEAN 2.66 MAX 134 MIN .00 AC-FT 1930
WTR YR 1989 TOTAL 2968.25 MEAN 8.13 MAX 204 MIN .00 AC-FT 5890

e Estimated.

11162720 COLMA CREEK AT SOUTH SAN FRANCISCO, CA

LOCATION.--Lat 37°39'14", long 122°25'31", in Buri Buri Grant, San Mateo County, Hydrologic Unit 18050004, on left bank in Orange Memorial Park, 1.0 mi southwest of South San Francisco Post Office.
DRAINAGE AREA.--10.8 mi^2.

PERIOD OF RECORD.--October 1963 to current year.
GAGE.--Water-stage recorder. Datum of gage is 12.53 ft above National Geodetic Vertical Datum of 1929. Recording raingages at Skyline College, elevation 700 ft at site 2.9 mi southwest of gaging station, and on San Bruno Mountain, elevation 930 ft at site 2.7 mi northwest of gaging station.

REMARKS.--Records poor. Low flow affected by return flow from urban irrigation. Channel lowered in 1986.

AVERAGE DISCHARGE.--26 years, 7.68 ft^3/s, 5,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,560 ft^3/s, Dec. 8, 1987, gage height, 7.53 ft, from rating curve extended above 1,200 ft^3/s on basis of step-backwater computation; no flow Oct. 5, 26, 1963, and many days in August 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0515	*1,410	*4.27	Mar. 25	Unknown	e1,000	Unknown
Mar. 10	Unknown	e1,300	Unknown				

Minimum daily, 1.1 ft^3/s, several days.

EXTREMES FOR 1988 WATER YEAR (NOT PREVIOUSLY PUBLISHED).--

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 13	0855	1,430	4.30	Dec. 8	0620	*3,560	*7.53

Minimum daily, 0.32 ft^3/s, Oct. 14, 16-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.0	e1.1	12	4.9	4.5	5.1	6.5	6.0	4.8	8.3	5.3	3.1
2	e1.2	e2.2	8.3	13	3.9	2.4	7.3	6.0	4.4	5.8	3.7	2.9
3	e5.5	e.71	2.9	39	3.4	3.9	5.1	7.1	4.5	7.1	4.7	3.1
4	e7.1	e.69	46	97	3.9	3.2	6.3	7.6	4.6	9.4	5.1	3.1
5	e10	e.69	7.3	16	4.6	3.5	5.8	8.6	5.4	6.4	4.8	3.5
6	e9.9	e.63	105	6.7	4.6	3.6	4.5	14	24	6.8	4.3	3.7
7	e8.8	e.63	8.1	12	4.0	2.9	4.8	26	5.8	8.5	4.6	4.1
8	e4.7	e.64	121	6.7	3.5	2.4	6.1	4.3	5.4	7.6	4.0	3.4
9	e3.2	e.93	4.9	7.6	3.0	3.0	6.4	5.1	4.8	8.8	5.0	3.8
10	e1.3	e1.5	5.6	e16	3.2	3.4	3.3	4.5	4.3	8.2	3.0	3.8
11	e1.4	2.8	4.0	7.5	3.4	4.9	3.6	4.0	4.9	9.4	4.2	3.4
12	e.78	3.3	3.2	5.9	4.6	3.9	2.8	6.2	4.2	10	5.1	3.2
13	e.40	46	3.0	3.6	4.1	3.6	2.6	4.2	3.9	8.1	5.1	4.4
14	e.32	2.5	4.7	e34	3.8	4.1	3.1	5.7	3.7	6.8	4.8	4.3
15	e.68	2.8	15	e27	3.6	5.4	2.0	5.1	3.6	6.4	5.7	4.7
16	e.32	3.2	38	e31	e4.2	4.5	1.4	10	4.2	7.4	5.2	4.9
17	e.32	42	6.5	e77	e4.9	5.0	1.5	7.0	4.3	8.3	4.6	3.2
18	e.32	3.3	4.4	13	e5.8	3.4	1.8	7.1	3.9	6.7	4.5	3.1
19	e.32	2.8	3.7	9.6	e6.7	4.0	80	5.8	4.0	5.2	3.3	5.5
20	e1.7	37	3.4	7.7	e6.0	4.8	11	5.7	4.7	3.9	2.7	4.0
21	e2.0	2.7	6.7	5.2	e5.3	5.0	5.4	5.8	4.1	3.9	2.7	3.2
22	e9.5	3.0	11	5.9	e4.3	4.3	45	7.1	4.4	3.9	2.8	3.5
23	e22	3.4	4.3	3.9	e4.9	6.0	9.2	8.8	4.5	4.3	2.1	3.4
24	e3.2	3.1	5.1	4.8	e4.4	5.3	4.9	6.9	5.1	4.7	2.2	2.9
25	e4.2	3.1	4.7	4.9	e4.0	5.4	4.2	9.0	6.0	5.3	2.4	4.3
26	e1.9	3.6	4.1	4.1	e7.2	4.4	4.3	7.6	6.8	4.7	2.5	4.4
27	e46	2.6	14	3.2	e33	5.8	3.1	8.8	7.3	5.2	2.4	3.8
28	e27	2.2	47	13	e11	5.5	3.7	15	5.6	4.2	2.4	3.7
29	e2.0	2.9	16	52	e3.8	7.4	5.7	5.8	4.5	5.1	3.4	4.0
30	e1.1	18	6.7	5.7	---	6.4	6.3	5.5	7.0	4.8	3.3	2.7
31	e1.1	---	6.1	5.1	---	4.3	---	5.1	---	4.8	3.1	---
TOTAL	180.26	200.02	532.7	543.0	163.6	136.8	257.7	235.4	164.7	200.0	119.0	111.1
MEAN	5.81	6.67	17.2	17.5	5.64	4.41	8.59	7.59	5.49	6.45	3.84	3.70
MAX	46	46	121	97	33	7.4	80	26	24	10	5.7	5.5
MIN	.32	.63	2.9	3.2	3.0	2.4	1.4	4.0	3.6	3.9	2.1	2.7
AC-FT	358	397	1060	1080	325	271	511	467	327	397	236	220
a	1.09	1.27	3.92	3.49	.31	.12	1.09	.49	.29	.02	.02	.05
b	1.10	2.16	6.18	4.99	.50	.10	2.76	.70	.30	0	.01	0

CAL YR 1987 TOTAL 2354.48 MEAN 6.45 MAX 159 MIN .32 AC-FT 4670
WTR YR 1988 TOTAL 2844.28 MEAN 7.77 MAX 121 MIN .32 AC-FT 5640

e Estimated.
a Precipitation, in inches, at San Bruno Mountain gage.
b Precipitation, in inches, at Skyline College gage.

11162720 COLMA CREEK AT SOUTH SAN FRANCISCO, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	5.7	5.0	3.4	e5.2	e18	4.7	6.5	8.1	6.7	10	6.2
2	1.7	5.8	5.2	3.4	e22	e86	5.6	6.4	7.6	6.3	10	6.0
3	1.7	5.6	4.4	3.9	e26	2.8	3.9	5.8	7.8	7.6	11	6.0
4	2.2	5.3	3.9	3.9	e4.5	e5.2	4.7	6.2	7.6	7.5	11	6.8
5	2.5	5.3	3.6	e47	e3.7	e24	3.2	7.3	8.2	6.7	9.8	6.8
6	2.2	7.4	1.9	7.4	1.1	e12	3.5	6.3	9.9	7.0	11	7.5
7	2.2	6.5	1.9	6.0	1.1	e17	3.6	6.4	12	8.4	9.6	6.1
8	2.0	8.5	1.9	3.4	e45	e19	3.5	7.3	10	8.9	9.1	6.8
9	2.0	7.5	2.3	3.9	e14	e26	3.3	6.7	8.4	8.5	9.2	6.5
10	2.7	20	2.3	e10	e3.7	e94	3.6	7.2	9.0	8.4	10	6.5
11	2.7	5.1	2.3	1.1	1.5	12	3.5	8.3	8.7	8.0	8.8	7.2
12	2.7	11	1.9	1.1	1.9	5.3	3.5	9.3	10	11	7.9	7.4
13	22	22	1.9	1.1	1.9	3.9	4.9	8.1	11	9.6	8.2	6.9
14	19	17	1.9	1.1	1.5	3.4	3.5	7.5	11	11	8.9	8.5
15	5.2	6.7	1.5	1.1	1.5	3.4	2.1	7.5	12	11	8.1	7.3
16	4.6	28	1.5	1.1	1.9	e75	3.4	7.1	10	10	9.2	40
17	5.3	8.9	1.9	1.1	1.9	e4.4	3.6	7.8	8.7	12	9.8	15
18	5.1	8.0	1.9	1.5	2.3	e62	3.6	7.6	9.1	10	9.3	13
19	5.0	7.5	e57	1.9	e3.7	13	3.3	8.5	11	9.7	8.8	5.9
20	4.6	7.3	e51	1.5	2.3	7.5	3.2	7.8	8.5	10	7.7	4.7
21	5.1	5.7	e27	1.5	2.8	6.0	5.4	7.2	9.9	12	9.1	4.3
22	4.6	28	e47	1.5	3.8	4.6	4.9	8.9	9.9	12	9.9	4.6
23	5.1	97	e6.8	e50	e3.7	e24	16	11	10	12	11	4.7
24	5.2	48	e74	1.5	2.3	e35	30	7.0	10	12	6.0	4.3
25	4.9	19	6.7	e3.7	2.3	e48	9.5	6.6	10	13	6.8	3.7
26	5.1	6.5	3.9	1.5	2.3	e3.7	7.0	7.1	14	12	6.2	4.9
27	5.1	5.5	e24	e3.7	2.8	e3.4	6.9	7.0	12	10	6.8	5.3
28	6.3	4.5	4.6	1.5	2.3	e8.4	6.8	8.2	13	12	7.2	7.1
29	8.2	5.1	3.4	1.5	---	e6.5	4.9	7.6	11	11	6.8	9.0
30	8.3	5.1	e34	1.5	---	e5.0	8.5	8.2	12	10	6.0	5.2
31	7.8	---	8.1	1.5	---	4.6	---	6.7	---	9.9	6.0	---
TOTAL	162.4	423.5	394.7	174.3	169.0	643.1	174.1	231.1	300.4	304.2	269.2	234.2
MEAN	5.24	14.1	12.7	5.62	6.04	20.7	5.80	7.45	10.0	9.81	8.68	7.81
MAX	22	97	74	50	45	94	30	11	14	13	11	40
MIN	1.3	4.5	1.5	1.1	1.1	2.8	2.1	5.8	7.6	6.3	6.0	3.7
AC-FT	322	840	783	346	335	1280	345	458	596	603	534	465
a	.42	2.05	2.25	1.24	1.37	3.25	.50	.17	.09	.04	.05	1.07
b	.20	2.96	4.49	1.62	1.29	6.68	.56	.12	.11	0	0	.82

CAL YR 1988 TOTAL 2911.9 MEAN 7.96 MAX 97 MIN 1.3 AC-FT 5780
WTR YR 1989 TOTAL 3480.2 MEAN 9.53 MAX 97 MIN 1.1 AC-FT 6900

e Estimated.
a Precipitation, in inches, at San Bruno Mountain gage.
b Precipitation, in inches, at Skyline College gage.

11162800 REDWOOD CREEK AT REDWOOD CITY, CA

LOCATION.--Lat 37°26'58", long 122°13'57", in Pulgas Grant, San Mateo County, Hydrologic Unit 18050004, at Menlo Country Club, on right bank 200 ft upstream from Alameda de las Pulgas bridge and 2.5 mi south of Redwood City Old Post Office.

DRAINAGE AREA.--1.82 mi^2.

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

REVISED RECORDS.--WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 83.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Low flow at times affected by return flow from urban irrigation.

AVERAGE DISCHARGE.--30 years, 1.16 ft^3/s, 840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 644 ft^3/s, Jan. 31, 1963, gage height, 9.36 ft, from rating curve extended above 180 ft^3/s on basis of slope-area measurement of peak flow and computation of peak flow through culvert; maximum gage height, 11.55 ft, Nov. 29, 1970 (backwater from culvert trash racks); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 22	0945	*82	*3.49				

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.02	.04	.61	.29	.33	.58	.24	.08	.02	.01	.03
2	.00	.02	.03	.48	.31	4.3	.55	.22	.07	.02	.02	.02
3	.00	.02	.05	.42	1.8	.69	.51	.23	.06	.02	.02	.04
4	.00	.02	.03	.39	1.0	.47	.48	.22	.07	.02	.02	.03
5	.00	.01	.02	4.7	.51	.44	.46	.20	.08	.02	.02	.03
6	.00	.01	.02	1.0	.42	.68	.45	.19	.08	.01	.02	.05
7	.00	.02	.02	.80	.45	.47	.41	.18	.08	.02	.02	.04
8	.00	.03	.02	.56	1.8	1.0	.42	.18	.08	.02	.02	.04
9	.00	.03	.02	.50	3.0	.74	.42	.19	.13	.02	.03	.04
10	.00	.34	.03	.61	.91	3.2	.37	.18	.07	.07	.07	.04
11	.00	.01	.03	.40	.67	4.4	.35	.20	.08	.04	.03	.04
12	.00	.01	.02	.35	.59	.98	.35	.17	.09	.03	.03	.04
13	.00	.84	.02	.32	.54	.89	.34	.16	.07	.02	.03	.03
14	.01	.36	.02	.32	.47	.65	.32	.16	.06	.02	.03	.04
15	.00	.02	.02	.29	.42	.59	.33	.17	.07	.18	.03	.09
16	.00	.36	.03	.29	.41	9.1	.34	.19	.05	.22	.04	.37
17	.01	.13	.03	.29	.39	1.3	.33	.13	.04	.21	.04	.08
18	.00	.01	.04	.29	.40	2.3	.30	.11	.04	.21	.04	.08
19	.00	.01	.28	.27	.38	1.3	.30	.10	.04	.20	.04	.04
20	.00	.01	5.9	.26	.37	.93	.30	.09	.03	.21	.03	.03
21	.00	.02	.76	.26	.39	.80	.48	.10	.03	.23	.04	.03
22	.01	1.1	11	.26	.39	.74	.31	.10	.03	.24	.04	.03
23	.01	4.6	.95	3.3	.32	.96	.98	.13	.02	.25	.04	.02
24	.02	.50	9.3	.56	.32	5.6	1.2	.10	.02	.24	.04	.02
25	.02	.73	1.7	.41	.30	8.5	.68	.09	.02	.01	.04	.02
26	.03	.15	.69	.36	.29	1.7	.37	.09	.03	.01	.04	.01
27	.01	.08	2.1	.35	.30	1.1	.32	.09	.02	.01	.05	.01
28	.01	.06	.80	.32	.29	.90	.31	.09	.03	.01	.05	.01
29	.02	.05	.57	.30	---	.76	.28	.09	.03	.01	.03	.01
30	.02	.04	1.5	.29	---	.68	.26	.10	.03	.01	.02	.01
31	.03	---	1.4	.28	---	.63	---	.11	---	.01	.03	---
TOTAL	0.20	9.61	37.44	19.84	17.73	57.13	13.10	4.60	1.63	2.61	1.01	1.37
MEAN	.006	.32	1.21	.64	.63	1.84	.44	.15	.054	.084	.033	.046
MAX	.03	4.6	11	4.7	3.0	9.1	1.2	.24	.13	.25	.07	.37
MIN	.00	.01	.02	.26	.29	.33	.26	.09	.02	.01	.01	.01
AC-FT	.4	19	74	39	35	113	26	9.1	3.2	5.2	2.0	2.7

CAL YR 1988 TOTAL 155.74 MEAN .43 MAX 30 MIN .00 AC-FT 309
WTR YR 1989 TOTAL 166.27 MEAN .46 MAX 11 MIN .00 AC-FT 330

11164500 SAN FRANCISQUITO CREEK AT STANFORD UNIVERSITY, CA

LOCATION.--Lat 37°25'24", long 122°11'18", in San Francisquito Grant, Santa Clara County, Hydrologic Unit 18050003, at golf course on right bank 1.1 mi downstream from Los Trancos Creek, 1.1 mi west of Stanford University Post Office, and 5 mi downstream from Searsville Lake.

DRAINAGE AREA.--37.4 mi^2.

PERIOD OF RECORD.--October 1930 to September 1941, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 115.75 ft above National Geodetic Vertical Datum of 1929. Recording raingage at 345 Middlefield Road in Menlo Park, 2.5 mi northeast of gage.

REMARKS.--Records good. Flow slightly regulated by Searsville Lake, capacity, 952 acre-ft. Diversions of about 800 acre-ft each year upstream from station to Los Trancos and Lagunita Canals for irrigation on Stanford University campus downstream from station. Low flow affected by wastewater from Stanford Linear Accelerator.

AVERAGE DISCHARGE.--50 years, 19.8 ft^3/s, 14,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft^3/s, Dec. 22, 1955, gage height, 13.60 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	Unknown	*394	*3.13				

Minimum daily, 0.01 ft^3/s, July 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.31	.58	4.8	1.7	2.6	12	3.0	.37	.48	.11	.10
2	.29	.32	.60	3.6	1.8	21	11	2.8	.35	.44	.11	.26
3	.42	.40	.69	3.0	5.5	14	10	2.7	.42	.35	.11	.12
4	.46	.35	.68	2.6	13	7.8	9.1	2.3	.53	.25	.15	.15
5	.47	.33	.69	24	4.9	5.9	6.6	2.1	.42	.27	.19	.13
6	.59	.58	.69	9.8	3.3	5.9	6.0	1.9	.45	.32	.14	.15
7	.76	.54	.73	6.7	2.7	5.9	5.7	1.9	.37	.20	.13	.16
8	.39	.67	.67	4.3	4.6	7.7	5.5	1.8	.50	.08	.06	.12
9	.32	.82	.62	3.4	20	8.3	4.9	2.0	.48	.02	.07	.14
10	.34	1.4	.83	2.4	10	23	4.7	2.2	.50	.02	.23	.09
11	.35	.58	.65	3.6	7.1	146	4.3	2.1	.53	.01	.22	.09
12	.25	.46	.65	3.0	6.1	43	3.9	2.1	.34	.01	.31	.09
13	.37	1.2	.82	2.6	5.5	20	3.9	2.1	.27	.18	.06	.09
14	.46	1.5	.71	2.0	4.9	12	4.1	2.6	.19	.04	.07	.09
15	.51	.32	.78	1.7	4.5	8.9	3.9	2.1	.20	.05	.05	.07
16	.30	.42	.79	1.7	3.8	63	3.9	1.9	.14	.06	.10	.86
17	.36	.77	1.6	1.9	3.7	33	3.9	1.7	.12	.09	.26	.77
18	.41	.29	1.7	1.8	3.9	e19	3.7	1.8	.07	.09	.15	.76
19	.25	.28	2.0	1.7	4.0	e18	3.3	1.6	.05	.11	.35	.68
20	.33	.25	16	1.7	3.6	e14	3.1	1.5	.03	.10	.37	.26
21	.22	.23	14	1.7	3.4	e12	3.6	1.4	.02	.05	.32	.19
22	.39	1.1	44	1.6	3.4	e11	3.6	1.3	.02	.07	.39	.14
23	.30	17	9.5	11	3.1	e35	4.8	1.5	.02	.12	.41	.18
24	.32	3.1	44	3.2	2.8	e90	7.2	1.3	.11	.12	.43	.19
25	.35	3.5	13	2.4	2.7	e130	7.9	1.4	.12	.11	.38	.19
26	.30	2.9	4.2	2.2	2.8	e40	5.5	1.5	.13	.10	.46	.20
27	.33	1.4	9.2	2.2	2.8	e32	4.3	1.4	.17	.12	.07	.16
28	.31	.89	6.3	1.8	2.6	e24	3.6	.73	.30	.11	.06	.27
29	.38	.74	3.4	1.8	---	e21	3.4	.59	.39	.18	.05	.39
30	.31	.62	4.3	1.6	---	17	3.3	.55	.37	.21	.06	.39
31	.34	---	14	1.9	---	14	---	.48	---	.18	.09	---
TOTAL	11.43	43.27	198.38	117.7	138.2	905.0	160.7	54.35	7.98	4.54	5.96	7.48
MEAN	.37	1.44	6.40	3.80	4.94	29.2	5.36	1.75	.27	.15	.19	.25
MAX	.76	17	44	24	20	146	12	3.0	.53	.48	.46	.86
MIN	.22	.23	.58	1.6	1.7	2.6	3.1	.48	.02	.01	.05	.07
AC-FT	23	86	393	233	274	1800	319	108	16	9.0	12	15
a	0.11	1.25	2.71	1.05	0.97	2.63	0.59	0.05	0.12	0	0	0.34

CAL YR 1988 TOTAL 1062.32 MEAN 2.90 MAX 272 MIN .00 AC-FT 2110
WTR YR 1989 TOTAL 1654.99 MEAN 4.53 MAX 146 MIN .01 AC-FT 3280

e Estimated.
a Precipitation, in inches.

11166000 MATADERO CREEK AT PALO ALTO, CA

LOCATION.--Lat 37°25'18", long 122°08'04", in Rincon de San Francisquito Grant, Santa Clara County, Hydrologic Unit 18050003, on right bank on Ash Street 150 ft upstream from Lambert Avenue Bridge and 2.1 mi southeast of Palo Alto Post Office.

DRAINAGE AREA.--7.26 mi^2.

PERIOD OF RECORD.--July 1952 to current year.

REVISED RECORDS.--WDR CA-80-2: 1971-74, 1978, 1971-72(P). WDR CA-82-2: 1973-74, 1978(P).

GAGE.--Water-stage recorder. Datum of gage is 22.07 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1958, at site 150 ft downstream at different datum.

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

AVERAGE DISCHARGE.--37 years, 2.34 ft^3/s, 1,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,500 ft^3/s, Jan. 24, 1983, gage height, 6.51 ft, from rating curve extended above 600 ft^3/s on basis of step-backwater computation at gage heights 7.63 and 8.00 ft, and slope-conveyance computations at 5.97 and 6.87 ft; maximum gage height, 9.88 ft, Dec. 23, 1955, site and datum then in use (backwater from culvert); no flow at times.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	2230	*102	*1.58				

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.02	.02	.50	.18	.24	.08	.01	.04	.07	.04	.12
2	.04	.04	.03	.40	.16	7.5	.10	.02	.04	.02	.04	.11
3	.07	.04	.02	.27	4.5	.82	.09	.00	.12	.03	.11	.05
4	.06	.04	.01	.27	2.0	.25	.06	.01	.03	.02	.19	.10
5	.04	.06	.03	9.7	.40	.20	.06	.01	.09	.02	.10	.10
6	.09	.04	.03	1.4	.24	1.5	.07	.01	.04	.06	.07	.09
7	.06	.03	.02	1.4	.22	.51	.17	.00	.03	.17	.16	.11
8	.09	.04	.02	.35	4.7	3.0	.04	.05	.04	.17	.09	.20
9	.09	.03	.03	.23	4.9	.57	.02	.00	.07	.10	.21	.27
10	.10	.20	.02	.12	.74	7.3	.02	.00	.07	.08	.21	.28
11	.09	.04	.01	.08	.45	9.0	.01	.00	.02	.08	.12	.12
12	.10	.03	.03	.14	.34	.79	.01	.01	.05	.01	.11	.09
13	.84	2.8	.02	.16	.25	1.1	.02	.00	.06	.05	.03	.07
14	1.1	1.9	.04	.07	.26	.41	.08	.00	.01	.09	.06	.13
15	.14	.08	.04	.06	.24	.30	.02	.00	.04	.24	.03	.44
16	.10	.89	.02	.08	.18	8.6	.05	.00	.08	.11	.05	6.5
17	.12	.34	.04	.09	.18	.88	.07	.00	.07	.06	.17	.40
18	.11	.03	.03	.09	.24	3.7	.05	.00	.07	.02	.13	1.2
19	.10	.04	.41	.07	.20	.77	.04	.01	.03	.05	.10	.22
20	.08	.02	13	.08	.37	.44	.21	.01	.09	.04	.04	.23
21	.08	.02	2.1	.07	.09	.35	.17	.01	.06	.03	.09	.25
22	.07	.30	12	.07	.97	.32	.11	.01	.08	.07	.02	.26
23	.07	11	.77	7.1	.15	.32	3.5	.18	.07	.17	.02	.17
24	.04	1.2	13	.40	.29	2.5	2.3	.01	.06	.08	.05	.17
25	.03	.59	2.3	.17	.14	2.8	.39	.03	.01	.07	.09	.14
26	.04	.05	.33	.10	.10	.39	.07	.07	.03	.03	.10	.04
27	.07	.01	4.7	.10	.09	.21	.02	.04	.06	.07	.13	.11
28	.04	.04	1.3	.13	.10	.21	.01	.03	.03	.04	.18	.21
29	.06	.05	.31	.06	---	.17	.00	.04	.06	.05	.12	.22
30	.04	.03	3.1	.11	---	.15	.00	.04	.06	.01	.10	.04
31	.05	---	3.5	.12	---	.13	---	.01	---	.05	.07	---
TOTAL	4.08	20.00	57.28	23.99	22.68	55.43	7.84	0.61	1.61	2.16	3.03	12.44
MEAN	.13	.67	1.85	.77	.81	1.79	.26	.020	.054	.070	.098	.41
MAX	1.1	11	13	9.7	4.9	9.0	3.5	.18	.12	.24	.21	6.5
MIN	.03	.01	.01	.06	.09	.13	.00	.00	.01	.01	.02	.04
AC-FT	8.1	40	114	48	45	110	16	1.2	3.2	4.3	6.0	25

CAL YR 1988 TOTAL 367.05 MEAN 1.00 MAX 103 MIN .00 AC-FT 728
WTR YR 1989 TOTAL 211.15 MEAN .58 MAX 13 MIN .00 AC-FT 419

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA

LOCATION.--Lat 37°11'00", long 121°47'28", in San Vicente Grant, T.9 S., R.2 E., Santa Clara County, Hydrologic Unit 18050003, at center of dam of Arroyo Calero, 1.7 mi northeast of New Almaden, and 6 mi southeast of Edenvale.
DRAINAGE AREA.-- 6.93 mi^2.
PERIOD OF RECORD.--
MONTHLY CONTENTS: January 1936 to September 1985. Prior to October 1959, published in WSP 1735.
REVISED RECORDS.--WDR CA-79-2: Drainage area.
REMARKS.--Reservoir is formed by earthfill dam completed to crest elevation 482.55 ft in 1936 and raised to 483.5 ft in 1962. Capacity, 10,160 acre-ft between elevations 393.7 ft, center of outlet tunnel, and 483.5 ft, crest of spillway. Water released down Arroyo Calero for ground-water recharge by percolation and minor irrigation. Up to 100 ft^3/s diverted from Almaden Reservoir to Calero Reservoir at times. Beginning in 1986, up to 180 ft^3/s was diverted from San Luis Reservoir at times.

WATER-QUALITY RECORDS

371057121472501 CALERO RESERVOIR AT DAM, NEAR NEW ALMADEN, CA

LOCATION.--Lat 37°10'57", long 121°47'25", 300 ft above center of dam.
PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1978-79, 1984 to current year.
BIOLOGICAL DATA: Water years 1978-79, 1984 to current year.
REMARKS.--Lake elevation provided by Santa Clara Valley Water District. Phytoplankton analyzed by Chadwick and Associates.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLING DEPTH (M)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	LIGHT, ATTENUATION COEFFICIENT (ALPHA/METER)	ELEVATION ABOVE NGVD (FEET)
NOV										
16...	0950	0.5	652	8.00	15.0	755	8.0	80	4.56	470.64
16...	0951	1.0	655	8.00	15.0	755	7.9	79	4.56	470.64
16...	0952	2.0	662	8.00	14.9	755	7.7	77	4.56	470.64
16...	0953	3.0	660	8.00	14.7	755	7.9	79	4.56	470.64
16...	0954	4.0	660	8.00	14.7	755	7.8	78	4.56	470.64
16...	0955	5.0	660	8.00	14.8	755	7.9	79	4.56	470.64
16...	0956	6.0	660	8.00	14.8	755	7.8	78	4.56	470.64
16...	0957	7.0	661	8.00	14.8	755	7.9	79	4.68	470.64
16...	0958	8.0	660	8.00	14.8	755	7.7	77	4.68	470.64
16...	0959	9.0	660	8.00	14.8	755	7.7	77	4.68	470.64
16...	1000	10.0	660	8.00	14.8	755	7.7	77	4.68	470.64
16...	1001	11.0	660	8.00	14.9	755	7.7	77	4.68	470.64
16...	1002	12.0	660	8.00	14.9	755	7.8	78	4.82	470.64
16...	1003	13.0	660	8.00	14.9	755	7.7	77	4.82	470.64
16...	1004	14.0	659	8.00	14.9	755	7.7	77	4.82	470.64
16...	1005	15.0	659	8.00	14.9	755	7.6	76	5.09	470.64
16...	1006	16.0	658	8.00	14.9	755	7.6	76	5.39	470.64
16...	1007	17.0	658	8.00	14.9	755	7.6	76	5.71	470.64
MAR										
22...	0946	0.5	685	8.30	14.7	750	10.2	102	2.62	468.60
22...	0947	1.0	686	8.30	14.7	750	10.2	102	2.62	468.60
22...	0948	2.0	688	8.20	14.6	750	10.3	103	2.77	468.60
22...	0949	3.0	689	8.20	14.4	750	10.3	103	3.02	468.60
22...	0950	4.0	688	8.20	14.3	750	10.3	102	3.11	468.60
22...	0951	5.0	689	8.20	14.1	750	10.3	102	3.38	468.60
22...	0952	6.0	693	8.20	13.7	750	10.1	99	3.28	468.60
22...	0953	7.0	689	8.30	13.5	750	10.0	98	3.19	468.60
22...	0954	8.0	689	8.20	13.3	750	9.8	95	3.47	468.60
22...	0955	9.0	687	8.00	13.0	750	9.6	93	3.38	468.60
22...	0956	10.0	687	8.00	13.8	750	9.4	90	3.28	468.60
22...	0957	11.0	687	8.00	12.4	750	9.2	88	3.98	468.60
22...	0958	12.0	685	8.00	12.4	750	9.1	87	4.20	468.60
22...	0959	13.0	687	8.00	12.2	750	8.9	84	3.98	468.60
22...	1000	14.0	688	8.00	12.1	750	8.7	82	4.09	468.60
22...	1001	15.0	689	7.90	12.0	750	8.5	80	4.68	468.60
22...	1002	16.0	692	7.90	11.9	750	8.4	79	5.24	468.60
22...	1003	17.0	692	7.80	11.9	750	8.2	77	6.06	468.60
22...	1004	18.0	695	7.70	11.7	750	7.4	69	8.65	468.60
22...	1005	19.0	697	7.60	11.6	750	6.8	64	9.54	468.60
22...	1006	20.0	697	7.60	11.6	750	6.3	59	10.41	468.60
22...	1007	21.0	696	7.50	11.5	750	6.1	57	10.75	468.60
22...	1008	22.0	696	7.50	11.5	750	5.8	54	13.30	468.60
22...	1009	23.0	696	7.40	11.5	750	5.7	53	--	468.60

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLING DEPTH (M)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	LIGHT, ATTENUATION COEFFICIENT (ALPHA/METER)	ELEVATION ABOVE NGVD (FEET)
JUN										
07...	0928	0.5	673	8.60	19.4	750	8.4	93	6.06	483.07
07...	0929	1.0	672	8.60	19.5	750	8.6	95	5.88	483.07
07...	0930	2.0	673	8.60	19.5	750	8.4	93	4.82	483.07
07...	0931	3.0	672	8.70	19.5	750	8.1	90	4.82	483.07
07...	0932	4.0	672	8.70	19.4	750	8.1	90	4.56	483.07
07...	0933	5.0	671	8.60	18.5	750	5.9	64	4.32	483.07
07...	0934	6.0	671	8.50	18.0	750	5.3	57	3.87	483.07
07...	0935	7.0	669	8.40	17.4	750	5.2	55	3.67	483.07
07...	0936	8.0	667	8.30	17.1	750	5.1	54	3.57	483.07
07...	0937	9.0	667	8.30	16.8	750	4.7	49	3.19	483.07
07...	0938	10.0	666	8.20	16.4	750	4.6	48	3.11	483.07
07...	0939	11.0	665	8.20	16.2	750	4.4	46	3.02	483.07
07...	0940	12.0	665	8.10	16.0	750	4.2	43	2.85	483.07
07...	0941	13.0	665	8.10	15.9	750	4.0	41	2.85	483.07
07...	0942	14.0	665	8.00	15.9	750	3.9	40	2.85	483.07
07...	0943	15.0	665	8.00	15.8	750	3.7	38	3.11	483.07
07...	0944	16.0	665	8.00	15.8	750	3.7	38	3.28	483.07
07...	0945	17.0	664	7.90	15.7	750	3.7	38	3.57	483.07
07...	0946	18.0	664	7.90	15.7	750	3.6	37	3.87	483.07
07...	0947	19.0	664	7.90	15.7	750	3.6	37	4.32	483.07
07...	0948	20.0	664	7.90	15.7	750	3.5	36	5.09	483.07
07...	0949	21.0	664	7.90	15.6	750	2.9	30	5.88	483.07
07...	0950	22.0	664	7.80	15.4	750	2.5	25	6.44	483.07
07...	0951	23.0	664	7.80	15.3	750	1.8	18	7.33	483.07
JUL										
26...	0944	0.5	691	9.00	22.4	750	7.0	82	4.09	482.43
26...	0945	1.0	691	9.00	22.3	750	6.8	80	4.02	482.43
26...	0946	2.0	691	9.00	22.2	750	6.7	78	4.09	482.43
26...	0947	3.0	691	9.00	22.2	750	6.5	76	4.09	482.43
26...	0948	4.0	690	8.90	22.1	750	6.4	75	3.98	482.43
26...	0949	5.0	690	8.90	22.1	750	6.4	75	3.98	482.43
26...	0950	6.0	687	8.70	21.3	750	3.9	45	3.28	482.43
26...	0951	7.0	685	8.50	20.9	750	3.6	41	3.02	482.43
26...	0952	8.0	684	8.30	20.6	750	3.2	36	3.02	482.43
26...	0953	9.0	682	8.20	20.3	750	2.6	29	2.77	482.43
26...	0954	10.0	681	8.10	20.1	750	2.2	25	2.46	482.43
26...	0955	11.0	684	8.00	19.8	750	2.0	22	2.62	482.43
26...	0956	12.0	682	8.00	19.8	750	1.9	21	2.69	482.43
26...	0957	13.0	682	8.00	19.7	750	1.8	20	2.54	482.43
26...	0958	14.0	682	7.90	19.7	750	1.7	19	2.77	482.43
26...	0959	16.0	682	7.90	19.7	750	1.7	19	4.56	482.43
26...	1000	18.0	682	7.90	19.7	750	1.6	18	5.55	482.43
26...	1001	20.0	682	7.80	19.6	750	1.4	16	5.55	482.43
26...	1002	22.0	682	7.70	19.3	750	0.8	9	5.71	482.43
26...	1003	24.0	681	7.70	19.3	750	0.5	6	10.10	482.43
26...	1004	26.0	682	7.70	19.2	750	0.0	0	--	482.43
SEP										
26...	1416	0.5	686	8.10	22.0	750	8.3	97	3.38	482.41
26...	1417	1.0	687	8.20	21.7	750	8.5	98	3.47	482.41
26...	1418	2.0	684	8.30	21.0	750	8.4	96	3.77	482.41
26...	1419	3.0	686	8.20	20.9	750	7.9	90	3.47	482.41
26...	1420	4.0	688	8.30	20.8	750	8.0	91	3.19	482.41
26...	1421	5.0	689	8.20	20.8	750	7.7	88	2.94	482.41
26...	1422	6.0	689	8.20	20.7	750	7.6	86	2.94	482.41
26...	1423	7.0	689	8.20	20.7	750	7.1	81	2.85	482.41
26...	1424	8.0	691	8.20	20.6	750	7.1	81	2.25	482.41
26...	1425	9.0	695	8.10	20.5	750	5.7	65	2.32	482.41
26...	1426	10.0	695	7.90	20.4	750	4.8	54	2.32	482.41
26...	1427	11.0	695	7.80	20.4	750	4.7	53	2.77	482.41
26...	1428	12.0	695	7.80	20.4	750	4.6	52	2.85	482.41
26...	1429	13.0	695	7.80	20.3	750	4.4	50	2.77	482.41
26...	1430	14.0	697	7.80	20.2	750	4.4	50	2.77	482.41
26...	1431	16.0	694	7.70	20.3	750	4.3	48	3.02	482.41
26...	1432	18.0	692	7.70	20.3	750	4.1	46	3.77	482.41
26...	1433	20.0	696	7.60	20.2	750	3.8	43	6.34	482.41
26...	1434	22.0	689	7.60	20.3	750	3.5	39	7.33	482.41
26...	1435	23.0	689	7.60	20.3	750	2.7	30	--	482.41

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLING DEPTH (M)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
NOV										
16...	1020	1.0	655	8.00	15.0	755	7.90	79	140	48
16...	1045	6.0	660	8.00	15.0	755	7.80	78	140	48
16...	1055	15.0	659	8.00	15.0	755	7.60	76	140	45
MAR										
22...	1040	1.0	686	8.30	14.5	750	10.2	102	150	55
22...	1110	6.0	693	8.20	13.5	750	10.1	99	140	49
22...	1125	20.0	697	7.60	11.5	750	6.30	59	140	49
JUN										
07...	1020	1.0	672	8.60	19.5	750	8.60	95	140	47
07...	1045	6.0	671	8.50	18.0	750	5.30	57	140	47
07...	1100	21.0	664	7.90	15.5	750	2.90	30	140	52
JUL										
26...	1030	1.0	691	9.00	22.5	750	6.80	80	140	45
26...	1050	6.0	687	8.70	21.5	750	3.90	45	140	45
26...	1115	22.0	682	7.70	19.5	750	0.80	9	140	51
SEP										
26...	1515	1.0	687	8.20	21.5	750	8.50	98	140	42
26...	1545	6.0	689	8.20	20.5	750	7.60	86	140	44
26...	1615	20.0	696	7.60	20.0	750	3.80	43	140	44

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV										
16...	27	18	77	53	3	3.5	94	51	120	0.1
16...	27	18	77	53	3	3.5	94	49	120	0.1
16...	26	18	77	54	3	3.5	94	50	120	0.1
MAR										
22...	29	18	78	53	3	3.8	92	53	130	0.1
22...	27	18	77	53	3	3.8	93	53	130	0.1
22...	26	18	80	55	3	3.9	90	54	130	0.1
JUN										
07...	25	18	85	57	3	4.0	90	53	130	0.1
07...	25	18	82	56	3	3.9	90	53	130	0.1
07...	26	18	82	55	3	3.9	87	53	120	0.1
JUL										
26...	25	18	83	56	3	4.2	92	53	130	0.1
26...	25	18	83	56	3	4.2	92	53	130	0.1
26...	26	18	82	55	3	4.2	88	52	120	0.1
SEP										
26...	27	18	79	54	3	4.1	100	54	120	0.1
26...	28	18	79	54	3	4.2	100	54	120	0.1
26...	28	18	79	53	3	4.3	100	55	120	0.1

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC TOTAL (MG/L AS N)
NOV										
16...	13	366	--	<0.01	--	<0.10	--	0.01	0.02	0.69
16...	13	364	--	<0.01	--	<0.10	--	0.02	0.02	0.38
16...	13	364	--	<0.01	--	<0.10	--	0.02	0.02	0.58
MAR										
22...	15	383	--	<0.01	--	0.40	--	0.08	0.08	0.42
22...	15	380	--	<0.01	--	0.40	--	0.08	0.08	0.32
22...	16	383	--	<0.01	--	0.40	--	0.12	0.12	0.28
JUN										
07...	18	387	--	<0.01	--	<0.10	--	0.02	0.02	0.78
07...	18	384	0.09	0.01	--	0.10	--	0.07	0.08	0.73
07...	19	375	0.39	0.01	--	0.40	--	0.09	0.10	0.51
JUL										
26...	16	385	--	<0.01	--	<0.10	--	<0.01	0.02	--
26...	16	385	--	<0.01	--	<0.10	--	<0.01	<0.01	--
26...	19	375	--	<0.01	<0.01	<0.10	<0.10	<0.01	0.04	--
SEP										
26...	18	380	--	<0.01	--	<0.10	--	0.02	0.01	0.58
26...	18	382	--	<0.01	--	<0.10	--	<0.01	0.02	--
26...	19	384	0.09	0.01	--	0.10	--	0.04	0.04	0.36

DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
NOV									
16...	0.38	0.7	0.4	--	0.03	0.02	<0.01	190	<3
16...	0.28	0.4	0.3	--	0.02	0.02	<0.01	190	<3
16...	0.28	0.6	0.3	--	0.02	0.01	<0.01	190	7
MAR									
22...	0.22	0.5	0.3	0.9	0.07	0.05	--	190	26
22...	0.42	0.4	0.5	0.8	0.08	0.05	--	200	15
22...	--	0.4	<0.2	0.8	0.08	0.06	--	190	14
JUN									
07...	0.28	0.8	0.3	--	0.03	<0.01	<0.01	200	12
07...	0.52	0.8	0.6	0.9	0.03	<0.01	0.01	200	10
07...	0.5	0.6	0.6	1.0	0.06	0.04	0.04	200	7
JUL									
26...	--	0.7	<0.2	--	0.03	<0.01	0.01	210	4
26...	--	0.6	0.6	--	0.02	<0.01	<0.01	200	7
26...	0.26	0.3	0.3	--	0.03	0.02	0.01	190	6
SEP									
26...	0.49	0.6	0.5	--	0.04	<0.01	0.02	190	3
26...	0.38	0.3	0.4	--	0.04	<0.01	0.02	200	5
26...	0.26	0.4	0.3	0.5	0.05	0.03	0.04	190	<3

DATE	TIME	SAM-PLING DEPTH (M)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
JUL							
26...	1115	22.0	<10	2	<1	<1	1

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, DIS-SOLVED (UG/L AS PB)	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)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL							
26...	5	<1	<0.1	1	2	<1	5

See footnote at end of table.

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV			
16...	1050	K4	K2
JUL			
26...	1130	<3	<1

DATE	TIME	TRANS-PAR-ENCY (SECCHI DISK) (M)
NOV		
16...	0939	1.10
MAR		
22...	1030	2.13
JUN		
07...	0953	1.20
JUL		
26...	0930	1.50
SEP		
26...	1500	2.90

DATE	TIME	SAM-PLING DEPTH (M)	TUR-BID-ITY (NTU)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)
NOV					
16...	1020	1.0	2.3	2.40	<0.10
16...	1030	2.0	5.7	2.80	<0.10
16...	1040	3.0	--	2.60	<0.10
MAR					
22...	1040	1.0	4.2	0.70	0.20
22...	1055	3.0	4.1	0.80	0.20
22...	1110	6.0	6.2	0.80	0.20
JUN					
07...	1020	1.0	3.2	9.10	1.20
07...	1035	2.0	--	11.0	1.00
07...	1040	3.0	--	11.0	1.20
JUL					
26...	1030	1.0	1.7	4.40	0.70
26...	1045	3.0	1.8	4.40	0.80
26...	1050	6.0	2.1	4.90	0.90
SEP					
26...	1515	1.0	1.0	4.30	0.40
26...	1530	3.0	0.9	5.40	0.50
26...	1545	6.0	1.4	5.30	0.50

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

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	11/16/88		11/16/88		11/16/88	
TIME	1020		1030		1040	
DEPTH (M)	1		2		3	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Coscinodiscus lacustris	--	--	7	27725	--	--
Melosira granulata var. angustissima	7	4156	11	6531	--	--
Melosira italica	52	9527	--	--	--	--
Stephanodiscus astraea var. minutula	--	--	--	--	78	55824
Order Pennales						
Navicula halophila	--	--	16	3588	--	--
Synedra ulna	24	74644	--	--	--	--
CHLOROPHYTA (Green algae)						
Kirchneriella sp.	142	8247	137	7957	93	5401
Oocystis solitaria	--	--	--	--	9	1527
Pediastrum simplex var. duodenarium	--	--	--	--	296	426829
Scenedesmus quadricauda	--	--	--	--	65	1531
Tetraedron minimum	--	--	13	2808	--	--
CYANOPHYTA (Blue-green algae)						
Anabaena sp.	--	--	39	47140	--	--
Aphanocapsa delicatissima	9447	1889	15332	3066	1949	390
Aphanocapsa elachista var. conferta	2015	2902	21665	31198	--	--
Dictyosphaerium pulchellum	86	703	--	--	--	--
Synechocystis sp.	147	873	165	980	316	1877
CRYPTOPHYTA (Cryptomonads)						
Cryptomonas erosa	--	--	--	--	31	16232
TOTAL CELLS/mL	11,920		37,385		2,837	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μm^3/mL)	102,941		130,993		509,611	
NUMBER OF SPECIES	8		9		8	

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	3/22/89		3/22/89		3/22/89	
TIME	1045		1055		1110	
DEPTH (M)	1		3		6	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3m/mL	CELLS/ mL	CELL VOLUME μm^3/mL
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Cyclotella ocellata	54	14796	67	18358	--	--
Cyclotella sp.	--	--	--	--	22	8448
Stephanodiscus dubius	4	1944	--	--	--	--
Stephanodiscus sp.	32	16768	34	17816	68	35632
Order Pennales						
Achnanthes lanceolata	8	4536	--	--	--	--
Achnanthes minutissima	15	2025	--	--	8	1080
Cocconeis placentula var. euglypta	--	--	--	--	15	63360
Cymbella minuta	--	--	--	--	15	6120
Cymbella sp.	8	14576	--	--	--	--
Diploneis sp.	8	12000	--	--	--	--
Fragilaria crotonensis	15	3615	--	--	--	--
Gyrosigma sp.	8	105840	--	--	--	--
Meridion circulare	8	7344	--	--	--	--
Navicula sp.	8	20328	--	--	8	13200
Nitzschia microcephala	8	592	--	--	--	--
Nitzschia recta	8	19440	50	2430	--	--
Synedra ulna	--	--	50	17400	--	--
CHLOROPHYTA (Green algae)						
Ankistrodesmus falcatus	23	483	--	--	--	--
Ankistrodesmus nannoselene	135	2025	236	3540	90	1350
Ankistrodesmus sp.	--	--	--	--	23	483
Chlamydomonas sp.	23	5428	34	8024	23	5428
Gloeocystis planktonica	--	--	--	--	360	96480
Gloeocystis sp.	--	--	101	6868	--	--
Golenkinia radiata	45	11520	--	--	--	--
Oocystis elliptica	180	386100	--	--	270	579150
Oocystis solitaria	90	34380	169	64558	45	17190
Scenedesmus quadricauda	90	2520	--	--	--	--
Sphaerocystis schroeteri	23	5681	--	--	--	--
Unidentified chlorococcoid	23	6164	101	27068	--	--
Unidentified green coccoid	--	--	--	--	23	6164
CHRYSOPHYTA (Golden-brown algae)						
Kephyrion sp.	23	759	--	--	--	--
CYANOPHYTA (Blue-green algae)						
Chroococcus dispersus	2048	8192	2566	10264	1283	5132
Chroococcus limneticus	608	4864	405	3240	450	3600
Dactylococcopsis fascicularis	--	--	--	--	23	690
Lyngbya sp.	90	7650	--	--	--	--
Synechococcus sp.	45	270	101	404	338	1352
CRYPTOPHYTA (Cryptomonads)						
Cryptomonas sp.	--	--	--	--	23	5957
Rhodomonas minuta	45	4320	34	3264	--	--
TOTAL CELLS/mL	3,675		3,948		3,087	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μm^3/mL)	704,160		183,234		850,816	
NUMBER OF SPECIES	28		13		18	

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA,
WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	6/7/89		6/7/89		6/7/89	
TIME	1020		1035		1040	
DEPTH (M)	1		2		3	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Cyclotella meneghiniana	85	54570	--	--	--	--
Cyclotella stelligera	170	32640	--	--	--	--
Melosira granulata var. angustissima	--	--	--	--	33	16566
Stephanodiscus astrea var. minutula	213	54102	--	--	--	--
Stephanodiscus dubius	1490	299490	2122	426522	2177	437577
Stephanodiscus niagarae	--	--	39	153933	--	--
Order Pennales						
Achnanthes minutissima	--	--	8	472	--	--
Cymbella affinis	17	8177	--	--	--	--
Diploneis sp.	17	9605	--	--	--	--
Fragilaria crotonensis	84	26376	171	53694	41	12874
Gomphonema sp.	17	4998	--	--	--	--
Navicula sp. 1	--	--	8	1808	--	--
Nitzschia palea	--	--	16	8576	41	21976
Nitzschia sp.	--	--	--	--	41	9266
CHLOROPHYTA (Green algae)						
Ankistrodesmus convolutus	--	--	68	5576	--	--
Ankistrodesmus falcatus	--	--	--	--	123	2583
Chlamydomonas sp.	270	63720	68	16048	184	43424
Closterium sp.	68	130832	68	130847	--	--
Coelastrum reticulatum	405	43740	203	21924	737	79596
Dictyosphaerium pulchellum	338	11154	--	--	--	--
Gonium sociale	270	135000	--	--	--	--
Kirchneriella contorta	135	2430	68	1224	430	7740
Oocystis elliptica	3376	2245040	1148	763420	1473	979545
Oocystis parva	2499	269892	1621	175068	1842	198936
Oocystis solitaria	675	257850	405	154710	430	164260
Pandorina morum	405	36855	--	--	--	--
Phacotus lenticularis	338	60840	203	540	491	88380
Scenedesmus bijuga	135	26460	270	52920	737	144452
Scenedesmus quadricauda	--	--	135	18630	--	--
Schroederia judayi	135	12690	270	25380	61	5734
Sphaerocystis schroeteri	1891	119133	1621	102123	2026	127638
Unidentified chlorococcoid	338	7098	--	--	--	--

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA,
WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	6/7/89		6/7/89		6/7/89	
TIME	1020		1035		1040	
DEPTH (M)	1		2		3	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
CHRYSOPHYTA (Golden-brown algae)						
Dinobryon sertularia	68	53380	68	53380	--	--
CYANOPHYTA (Blue-green algae)						
Anabaena spiroides	405	137295	--	--	--	--
Anabaena sp.	3782	105896	203	5684	--	--
Aphanizomenon flos-aquae ?	135	23895	--	--	--	--
Aphanizomenon flos-aquae	--	--	1891	334707	--	--
Aphanocapsa delicatissima	1486	1486	12493	12493	5218	5218
Aphanocapsa elachista var. conferta	--	--	1216	9728	--	--
Aphanothece saxicola	--	--	--	--	737	3685
Chroococcus dispersus	1283	26943	135	2835	552	11592
Chroococcus limneticus	--	--	405	5670	184	2576
Chroococcus multicoloratus	338	1352	405	1620	675	2700
Glaucocystis sp.?	203	34916	1756	302032	491	84452
Oscillatoria geminata	--	--	--	--	368	18400
Synechococcus sp.	473	9460	135	2700	184	3680
CRYPTOPHYTA (Cryptomonads)						
Cryptomonas sp.	473	122507	473	122507	307	79513
Rhodomonas minuta	3174	304704	3444	330624	2087	200352
TOTAL CELLS/mL	25,191		31,136		21,670	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μm^3/mL)	4,734,526		3,297,395		2,752,715	
NUMBER OF SPECIES	34		31		26	

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	7/26/89		7/26/89		7/26/89	
TIME	1030		1045		1050	
DEPTH (M)	1		3		6	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Cyclotella meneghiniana	225	144450	472	303024	520	333840
Cyclotella stelligera	--	--	56	10752	47	9024
Melosira granulata var. angustissima	--	--	28	14056	--	--
Stephanodiscus astraea var. minuta	--	--	111	28194	378	96012
Stephanodiscus astraea var. minutula	158	40132	--	--	--	--
Stephanodiscus niagarae	23	90781	83	327601	--	--
Order Pennales						
Achnanthes minutissima	315	18585	--	--	14	826
Asterionella formosa	79	28993	225	82575	14	5138
Navicula sp.	--	--	--	--	14	23520
Nitzschia sp.	--	--	--	--	14	11340
Pinnularia mormonorum	--	--	--	--	14	36750
Synedra sp.	79	27492	225	78300	--	--
CHLOROPHYTA (Green algae)						
Ankistrodesmus falcatus	135	2835	225	4725	135	2835
Ankistrodesmus nannoselene	202	3030	--	--	--	--
Chlamydomonas globosa	135	49680	--	--	--	--
Chlamydomonas sp.	--	--	--	--	68	16048
Chlorococcum sp.	--	--	75	20100	--	--
Coelastrum reticulatum	1621	175068	--	--	202	21816
Cosmarium sp.	68	114784	--	--	--	--
Dictyosphaerium pulchellum	3984	131472	8704	287232	7766	256278
Elakatothrix viridis	270	27270	75	7575	--	--
Gloeocystis sp.	878	40388	--	--	270	12420
Kirchneriella contorta	1148	20664	1200	21600	338	6084
Nephrocytium limneticum	270	10800	600	24000	270	10800
Oocystis elliptica	68	45220	--	--	68	45220
Oocystis gigas	--	--	150	38400	68	17408
Oocystis parva	68	7344	150	16200	--	--
Pediastrum duplex	270	67500	--	--	1350	337500
Schroederia judayi	135	12690	75	7050	68	6392
Selenastrum minutum	1958	29370	2026	30390	1891	28365
Sphaerocystis schroeteri	--	--	1050	66150	3039	191457
Tetraedron minimum	202	7272	75	2700	68	2448
Tetraedron muticum	--	--	75	2400	--	--
CYANOPHYTA (Blue-green algae)						
Aphanocapsa delicatissima	27146	27146	32564	32564	20596	20596
Aphanocapsa elachista var. conferta	2363	18904	--	--	--	--
Apanothece saxicola	--	--	4427	22135	6078	30390
Chroococcus dispersus	6145	129045	8328	174888	3714	77994
Chroococcus limneticus	202	12524	--	--	135	8370
Chroococcus multicoloratus	1216	4864	1501	6004	--	--
Dactylococcopsis fascicularis	68	2040	--	--	--	--
Synechococcus sp.	135	2700	150	3000	135	2700
Synechocystis sp.	--	--	75	2400	202	6464
CRYPTOPHYTA (Cryptomonads)						
Cryptomonas sp.	743	192437	525	135975	608	157472
Rhodomonas minuta	608	58368	825	79200	473	45408
TOTAL CELLS/mL	50,917		67,075		48,557	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μm^3/mL)	1,543,848		1,829,190		1,820,915	
NUMBER OF SPECIES	31		28		30	

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	9/26/89		9/26/89		9/26/89	
TIME	1515		1530		1545	
DEPTH (M)	1		3		6	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Cyclotella meneghiniana	218	139956	233	149586	818	525156
Cyclotella stelligera	--	--	--	--	408	78336
Stephanodiscus astrea var. minutula	--	--	--	--	408	103632
Stephanodiscus stelligera	109	20928	--	--	--	--
Order Pennales						
Achnanthes minutissima	192	11328	175	10325	115	6785
Amphora ovalis var. pediculus	--	--	--	--	29	6844
Asterionella formosa	--	--	--	--	29	10643
Cocconeis pediculus	--	--	--	--	57	51585
Diatoma sp.	32	9664	--	--	--	--
Gomphonema parvulum	32	13184	--	--	--	--
Navicula atomus	385	16170	2451	102942	2212	92904
Navicula radiosa	--	--	88	87120	--	--
Navicula sp.	225	92700	--	--	--	--
Nitzschia acicularis	385	95095	700	172900	689	170183
Nitzschia kutzingiania	449	101474	613	138538	718	162268
Nitzschia sp.	96	47136	88	43208	115	56465
Synedra sp.	--	--	88	13288	29	4379
CHLOROPHYTA (Green algae)						
Ankistrodesmus falcatus var. mirabilis	163	3423	--	--	--	--
Chlamydomonas sp.	--	--	700	297500	182	77350
Chlorococcum humicola	16500	528000	24272	776704	17063	546016
Closteriopsis longissima	--	--	233	292648	--	--
Coelastrum reticulatum	490	52920	--	--	1815	196020
Gloeocystis sp.	327	15042	--	--	--	--
Golenkinia radiata	327	35316	233	25164	363	39204
Kirchneriella contorta	5228	99332	9102	172938	6898	131062
Nephroselmis sp.	--	--	--	--	182	5096
Oocystis parva	818	50716	--	--	--	--
Oocystis pusillus	--	--	1867	196035	726	76230
Oocystis sp.	163	41728	--	--	--	--
Pandorina morum	--	--	--	--	182	16562
Scenedesmus dimorphus	--	--	233	29358	--	--
Scenedesmus quadricauda	327	45126	--	--	908	125304
Tetraedron minimum	163	5868	--	--	544	19584
Treubaria setigerum	163	22983	233	32853	182	25662

11166740 CALERO RESERVOIR NEAR NEW ALMADEN, CA--Continued

371057121472501 CALERO RESERVOIR AT DAM--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	9/26/89		9/26/89		9/26/89	
TIME	1515		1530		1545	
DEPTH (M)	1		3		6	
ORGANISM	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL	CELLS/ mL	CELL VOLUME μm^3/mL
CHRYSOPHYTA (Golden-brown algae)						
Unknown chrysophyte flagellate	2287	224126	3267	320166	1815	177870
CYANOPHYTA (Blue-green algae)						
Aphanocapsa delicatissima	2777	2777	6768	6768	--	--
Aphanocapsa elachista var. conferta	--	--	--	--	2541	20328
Aphanothece saxicola	2287	11435	3267	16335	1089	5445
Chroococcus multicoloratus	327	1308	467	1868	1452	5808
Dactylococcopsis acicularis	--	--	233	10951	2723	81690
Dactylococcopsis fascicularis	1960	58800	2567	77010	--	--
Lyngbya nana	1634	6536	--	--	--	--
Oscillatoria angustissima	490	1470	--	--	--	--
Synechococcus sp.	3594	71880	1634	32680	726	14520
Synechocystis sp.	1797	57504	1867	59744	1089	34848
CRYPTOPHYTA (Cryptomonads)						
Chroomonas sp.	--	--	467	63979	363	49731
Rhodomonas minuta	653	62688	2100	201600	908	87168
TOTAL CELLS/mL	44,598		63,946		47,378	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μm^3/mL)	1,946,613		3,332,208		3,004,678	
NUMBER OF SPECIES	31		26		32	

11169000 GUADALUPE RIVER AT SAN JOSE, CA

LOCATION.--Lat 37°20'04", long 121°53'54", Santa Clara County, Hydrologic Unit 18050003, on right bank 150 ft upstream from St. John Street bridge, one block below Santa Clara Avenue, and 100 ft downstream from Los Gatos Creek.

DRAINAGE AREA.--146 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to 1945, published as Guadalupe Creek at San Jose.

REVISED RECORDS.--WSP 1315-B: 1943(M), 1945(M), 1949(M). WSP 1929: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 72.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lexington Reservoir 12 mi upstream and by Calero, Almaden, and Guadalupe Reservoirs, and Lake Elsman (combined usable capacity, about 42,000 acre-ft), with water released during summer for percolation in spreading basins on tributaries. Transbasin diversions from San Luis Reservoir (part of San Felipe Project) to Calero Reservoir amounted to 119,100 acre-ft and from the South Bay Aqueduct to Calero Reservoir, Penitencia Creek, and to water treatment facilities amounted to 107,600 acre-ft during the current year. Upstream diversions by San Jose Water Works for urban use amounted to 5,310 acre-ft during the current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,150 ft^3/s, Apr. 2, 1958, gage height, 16.55 ft; no flow several days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 965 ft^3/s, Mar. 11, gage height, 3.47 ft; minimum daily, 0.45 ft^3/s, July 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	3.4	4.3	6.1	5.1	4.6	3.5	e2.8	2.4	1.7	.76	1.8
2	4.7	3.5	4.2	5.9	5.3	19	3.5	e2.8	2.2	2.0	.81	1.7
3	4.6	4.5	4.5	5.8	19	5.2	3.2	e2.7	2.1	2.2	1.2	1.9
4	4.9	4.6	4.4	5.8	41	4.3	3.3	e2.7	3.2	2.0	1.5	1.8
5	5.0	4.4	3.8	153	5.8	4.6	3.2	e2.7	3.0	1.9	.94	2.1
6	4.7	4.6	3.6	10	5.4	9.8	2.8	2.5	2.8	1.6	1.2	2.0
7	4.4	4.5	4.3	23	5.4	7.0	3.2	2.5	2.7	1.2	1.5	1.8
8	5.0	4.4	5.4	5.5	51	9.5	3.1	2.1	2.6	1.5	1.3	1.5
9	5.7	4.5	5.4	5.1	87	8.8	3.1	2.1	1.7	1.5	1.1	1.7
10	4.2	4.7	5.5	5.3	6.3	32	3.0	1.8	1.6	2.0	1.0	2.2
11	4.5	4.9	5.4	6.4	5.3	185	2.9	2.2	1.3	1.5	1.4	2.4
12	4.6	4.7	3.9	4.8	4.9	16	3.2	1.7	1.5	1.9	1.4	2.1
13	4.5	9.5	5.2	5.0	4.7	8.5	3.4	1.2	1.7	1.6	1.3	1.9
14	5.5	12	5.3	4.4	5.0	4.5	3.3	2.1	2.3	1.9	1.2	1.5
15	4.6	5.5	5.0	4.4	4.8	3.9	3.5	1.9	2.0	1.8	1.3	1.5
16	4.4	8.3	5.4	4.5	4.9	41	e3.6	2.2	2.3	1.9	.88	20
17	4.2	9.0	5.4	4.6	4.9	6.0	e3.4	2.1	2.3	1.9	1.1	21
18	4.3	4.9	5.1	5.1	4.9	4.7	e3.2	2.1	1.8	1.5	1.0	9.9
19	4.5	4.6	5.6	4.5	4.8	4.9	e3.1	2.2	2.3	1.5	1.4	6.3
20	4.7	4.4	94	5.3	4.7	4.7	e3.0	1.9	1.6	1.3	1.9	1.7
21	4.8	4.5	50	5.2	4.7	4.6	e5.0	2.3	1.6	.86	2.1	1.5
22	4.8	6.2	148	5.1	4.9	3.2	e10	2.4	1.6	1.2	1.8	1.7
23	4.9	145	18	110	5.1	3.5	e7.0	6.0	1.5	.78	1.5	1.5
24	4.8	10	208	6.1	5.1	5.0	e5.5	3.7	1.5	1.1	1.6	1.7
25	4.8	11	48	5.1	5.1	34	e3.3	5.0	1.8	1.0	1.7	1.9
26	3.9	4.9	6.9	5.0	5.1	5.1	e3.2	5.5	2.3	.72	1.8	1.4
27	1.8	4.7	41	5.0	4.9	4.5	e3.1	3.1	2.1	.49	1.7	1.3
28	.98	4.5	13	4.9	4.8	4.9	e3.0	2.3	2.1	.45	1.9	2.8
29	3.4	4.6	7.8	4.9	---	3.6	e3.0	2.5	1.7	.53	1.6	9.8
30	4.8	4.5	13	4.9	---	3.5	e2.9	2.4	1.8	.85	1.5	3.2
31	3.6	---	28	5.0	---	3.2	---	3.3	---	.86	1.8	---
TOTAL	136.38	310.8	767.4	435.7	319.9	459.1	110.5	82.8	61.4	43.24	43.19	113.6
MEAN	4.40	10.4	24.8	14.1	11.4	14.8	3.68	2.67	2.05	1.39	1.39	3.79
MAX	5.7	145	208	153	87	185	10	6.0	3.2	2.2	2.1	21
MIN	.98	3.4	3.6	4.4	4.7	3.2	2.8	1.2	1.3	.45	.76	1.3
AC-FT	271	616	1520	864	635	911	219	164	122	86	86	225

CAL YR 1988 TOTAL 5054.80 MEAN 13.8 MAX 483 MIN .42 AC-FT 10030
WTR YR 1989 TOTAL 2884.01 MEAN 7.90 MAX 208 MIN .45 AC-FT 5720

e Estimated.

11169000 GUADALUPE RIVER AT SAN JOSE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1979 to current year.
SEDIMENT DATA: Water years 1985 to current year.

REMARKS.--Bed-material samples were divided into two fractions prior to analysis. Chemical and particle-size analyses are representative of the sample fraction which was finer than 2.0 mm.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN											
06...	1345	2.8	749	8.20	20.0	--	--	--	--	21	320
JUL											
25...	1445	1.0	852	7.80	21.0	4.4	760	8.60	97	16	380
AUG											
30...	1315	1.5	860	8.20	18.0	5.4	760	7.00	74	16	370

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
JUN											
06...	52	45	41	22	1	1.9	272	70	51	0.3	--
JUL											
25...	71	48	40	19	0.9	2.0	277	94	61	0.2	0.18
AUG											
30...	71	47	40	19	0.9	2.0	290	94	52	0.2	--

DATE	IODIDE, DIS-SOLVED (MG/L AS I)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (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)
JUN										
06...	--	18	443	0.6	0.03	--	0.60	--	0.26	0.33
JUL										
25...	0.003	18	505	0.69	0.01	0.01	0.80	0.73	0.04	0.04
AUG										
30...	--	20	500	0.68	0.01	--	0.90	--	0.03	0.04

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
JUN										
06...	1.0	0.7	1.6	0.17	0.15	0.13	200	11	--	--
JUL										
25...	0.4	0.4	1.2	0.07	0.06	0.04	190	5	2.0	3.2
AUG										
30...	0.3	0.4	1.2	0.06	0.05	0.03	190	6	2.4	0.3

See footnote at end of table.

11169000 GUADALUPE RIVER AT SAN JOSE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, DISSOLVED (UG/L AS CO)
JUL 25...	1445	<10	1	4	130	<1	11	<1	100	<1

DATE	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY DISSOLVED (UG/L AS HG)
JUL 25...	30	<1	210	27000	<1	180	16	16	670	<0.1

DATE	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)
JUL 25...	3.8	3	1	3	1	<1.0	600	2	10	500

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	BED MAT. FALL DIAM.DW % FINER THAN .002 MM	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. FALL DIAM.DW % FINER THAN .008 MM	BED MAT. FALL DIAM.DW % FINER THAN .016 MM	BED MAT. FALL DIAM.DW % FINER THAN .031 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM
JUL 25...	1445	1.0	21.0	38	50	66	79	88	91	98	100

11169500 SARATOGA CREEK AT SARATOGA, CA

LOCATION.--Lat 37°15'16", long 122°02'18", in Quito Grant, Santa Clara County, Hydrologic Unit 18050003, on right bank on upstream side of private road bridge, 0.5 mi southwest of Saratoga, and 0.7 mi downstream from diversion dam.

DRAINAGE AREA.--9.22 mi^2.

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1951, published as Campbell Creek at Saratoga.
REVISED RECORDS.--WSP 1445: 1940, 1952(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 500 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 6, 1968, at site 40 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Water is diverted for municipal use by San Jose Water Works at diversion dam upstream from station. Low flows partially regulated by Lake McKenzie 8 mi upstream, usable capacity, 184 acre-ft.

AVERAGE DISCHARGE (adjusted for diversion).--56 years, 10.2 ft^3/s, 7,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,730 ft^3/s, Dec. 22, 1955, gage height, 6.40 ft, site and datum then in use, from rating curve extended above 510 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 7.03 ft, Jan. 24, 1983; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 110 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0030	*102	*3.60				

Minimum daily, 0.03 ft^3/s, Aug. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.22	.49	2.1	1.0	1.1	1.0	.49	.59	.31	.04	.19
2	.08	.22	.48	1.7	1.0	4.1	.78	.41	.57	.28	.04	.20
3	.10	.26	.42	1.5	2.1	3.1	.49	.30	.52	.25	.05	.20
4	.08	.26	.41	1.3	3.2	2.5	.31	.24	.54	.22	.05	.18
5	.14	.26	.42	7.6	2.0	2.2	1.3	.53	.65	.19	.05	.18
6	.16	.22	.42	3.7	1.8	2.1	.09	.81	.64	.11	.03	.16
7	.15	.21	.42	2.9	1.7	2.0	.08	.33	.60	.07	.04	.21
8	.18	.21	.41	2.2	1.8	2.1	1.0	.31	.60	.07	.05	.18
9	.25	.23	.41	2.0	4.3	8.0	.11	.44	.48	.07	.07	.20
10	.11	.48	.42	1.8	3.1	29	.15	.73	.47	.09	.10	.23
11	.09	.61	.42	1.7	2.4	46	.14	.49	.49	.10	.12	.25
12	.12	.54	.42	1.4	2.1	17	.08	1.9	.54	.11	.11	.25
13	.17	.65	.42	1.2	1.9	10	.27	1.2	.48	.09	.10	.20
14	.28	.76	.41	1.2	1.8	7.0	.13	1.1	.43	.08	.08	.15
15	.32	.58	.39	1.2	1.7	5.5	.13	1.0	.44	.08	.07	.15
16	.29	.75	.41	1.2	1.6	10	.13	.90	.38	.08	.08	.47
17	.25	.95	.49	1.1	1.5	6.2	.11	.77	.29	.09	.10	.68
18	.17	.64	.54	1.1	1.4	5.0	.12	.74	.27	.09	.15	.68
19	.16	.52	.70	1.1	1.4	4.9	.11	.77	.27	.07	.15	.38
20	.17	.49	2.4	1.1	1.4	4.4	.55	.76	.25	.06	.19	.32
21	.17	.49	1.9	1.1	1.4	3.8	1.4	.78	.25	.04	.20	.31
22	.21	.49	6.6	1.0	1.2	3.7	.56	.84	.20	.06	.17	.28
23	.18	4.0	2.6	1.8	1.2	2.5	.79	.88	.17	.05	.17	.27
24	.15	1.7	11	1.3	1.2	13	.83	.85	.25	.05	.16	.26
25	.25	1.9	4.4	1.1	1.2	18	.88	.76	.25	.05	.13	.28
26	.17	1.4	2.6	1.1	1.2	15	.62	.68	.22	.05	.15	.24
27	.21	1.1	2.4	1.1	1.2	8.5	.52	.72	.23	.05	.16	.23
28	.23	.84	1.8	1.1	1.1	5.5	.49	.72	.21	.05	.17	.31
29	.26	.69	1.5	1.1	---	3.1	.45	.76	.24	.05	.20	.43
30	.26	.58	1.6	1.1	---	2.1	.37	.73	.28	.05	.19	.34
31	.24	---	2.8	1.1	---	1.3	---	.67	---	.04	.17	---
TOTAL	5.65	22.25	50.10	52.0	48.9	248.7	13.99	22.61	11.80	3.05	3.54	8.41
MEAN	.18	.74	1.62	1.68	1.75	8.02	.47	.73	.39	.098	.11	.28
MAX	.32	4.0	11	7.6	4.3	46	1.4	1.9	.65	.31	.20	.68
MIN	.05	.21	.39	1.0	1.0	1.1	.08	.24	.17	.04	.03	.15
AC-FT	11	44	99	103	97	493	28	45	23	6.0	7.0	17
a	0	0	0	25	0	36	103	22	0	0	0	0

CAL YR 1988 TOTAL 300.96 MEAN .82 MAX 42 MIN .01 AC-FT 597
WTR YR 1989 TOTAL 491.00 MEAN 1.35 MAX 46 MIN .03 AC-FT 974
a Diversion, in acre-feet, for municipal use, provided by San Jose Water Works.

11176000 ARROYO MOCHO NEAR LIVERMORE, CA

LOCATION.--Lat 37°37'35", long 121°42'13", in NW 1/4 SE 1/4 sec.36, T.3 S., R.2 E., Alameda County, Hydrologic Unit 18050004, on right bank 40 ft downstream from Mines Road bridge, 2.4 mi upstream from small right-bank tributary, and 5.2 mi southeast of Livermore.

DRAINAGE AREA.--38.2 mi^2.

PERIOD OF RECORD.--January 1912 to September 1930, October 1963 to current year. Records for water year 1914 incomplete; yearly estimate and monthly discharge only for some months, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 746.49 ft above National Geodetic Vertical Datum of 1929. January 1912 to October 1914, at present site at different datum. November 1914 to Sept. 30, 1930, at site 1 mi upstream at different datum.

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

AVERAGE DISCHARGE.--44 years, 5.10 ft^3/s, 3,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 2,250 ft^3/s, Jan. 24, 1983, gage height, 8.80 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 10.44 ft, Feb. 19, 1986, from floodmarks; no flow for parts of most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 1,880 ft^3/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 24	1430	*20	*5.49				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.92	.41	.41	.62	.16	.06	.01	.00	.00
2	.00	.00	.00	.92	.41	.70	.59	.16	.05	.01	.00	.00
3	.00	.00	.00	.92	.54	.90	.59	.15	.05	.01	.00	.00
4	.00	.00	.00	.74	1.2	.81	.55	.14	.05	.01	.00	.00
5	.00	.00	.00	.92	1.1	.74	.47	.13	.05	.01	.00	.00
6	.00	.00	.00	1.4	.81	.89	.41	.12	.05	.00	.00	.00
7	.00	.00	.00	1.3	.57	.92	.40	.12	.05	.00	.00	.00
8	.00	.00	.00	1.1	.55	.92	.37	.12	.04	.00	.00	.00
9	.00	.00	.00	.92	1.0	.97	.34	.11	.04	.00	.00	.00
10	.00	.00	.00	.92	3.1	1.0	.29	.11	.04	.00	.00	.00
11	.00	.00	.00	.92	1.7	2.2	.29	.11	.04	.00	.00	.00
12	.00	.00	.00	.74	1.3	2.3	.29	.11	.04	.00	.00	.00
13	.00	.00	.00	.64	1.2	1.4	.27	.11	.04	.00	.00	.00
14	.00	.00	.00	.59	1.0	1.2	.26	.11	.04	.00	.00	.00
15	.00	.00	.00	.59	.92	1.1	.26	.09	.04	.00	.00	.00
16	.00	.00	.00	.57	.91	1.4	.26	.09	.03	.00	.00	.00
17	.00	.00	.00	.55	.74	2.2	.24	.09	.03	.00	.00	.00
18	.00	.00	.00	.54	.74	1.4	.21	.09	.03	.00	.00	.00
19	.00	.00	.00	.52	.74	1.2	.20	.09	.03	.00	.00	.00
20	.00	.00	.00	.52	.74	1.1	.20	.09	.03	.00	.00	.00
21	.00	.00	.00	.52	.59	.98	.20	.08	.03	.00	.00	.00
22	.00	.00	.00	.52	.59	.92	.19	.08	.03	.00	.00	.00
23	.00	.00	.84	.52	.59	.92	.18	.08	.03	.00	.00	.00
24	.00	.00	6.2	.62	.59	.87	.18	.08	.03	.00	.00	.00
25	.00	.00	4.7	.64	.59	1.3	.35	.08	.02	.00	.00	.00
26	.00	.00	1.7	.54	.59	1.4	.54	.07	.02	.00	.00	.00
27	.00	.00	1.1	.52	.56	1.4	.24	.07	.02	.00	.00	.00
28	.00	.00	1.1	.52	.50	1.1	.19	.07	.02	.00	.00	.00
29	.00	.00	1.0	.49	---	.81	.18	.07	.02	.00	.00	.00
30	.00	.00	.92	.41	---	.74	.16	.07	.02	.00	.00	.00
31	.00	---	.92	.41	---	.66	---	.07	---	.00	.00	---
TOTAL	0.00	0.00	18.48	21.95	24.28	34.86	9.52	3.12	1.07	0.05	0.00	0.00
MEAN	.000	.000	.60	.71	.87	1.12	.32	.10	.036	.002	.000	.000
MAX	.00	.00	6.2	1.4	3.1	2.3	.62	.16	.06	.01	.00	.00
MIN	.00	.00	.00	.41	.41	.41	.16	.07	.02	.00	.00	.00
AC-FT	.00	.00	37	44	48	69	19	6.2	2.1	.1	.00	.00

CAL YR 1988 TOTAL 127.17 MEAN .35 MAX 20 MIN .00 AC-FT 252
WTR YR 1989 TOTAL 113.33 MEAN .31 MAX 6.2 MIN .00 AC-FT 225

11176400 ARROYO VALLE BELOW LANG CANYON, NEAR LIVERMORE, CA

LOCATION.--Lat 37°33'41", long 121°40'58", in NE 1/4 NE 1/4 sec.30, T.4 S., R.3 E., Alameda County, Hydrologic Unit 18050004, on left bank 100 ft upstream from small left-bank tributary, 1.2 mi downstream from Lang Canyon, and 9.5 mi southeast of Livermore.

DRAINAGE AREA.--130 mi^2.

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1974, published as "above Lang Canyon, near Livermore."

GAGE.--Water-stage recorder. Concrete control since June 19, 1975. Elevation of gage is 750 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 19, 1975, at site 1.4 mi upstream at different datum.

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

AVERAGE DISCHARGE.--26 years, 35.6 ft^3/s, 25,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,790 ft^3/s, Feb. 17, 1986, gage height, 7.36 ft, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurements at gage heights 4.13, 5.40, and 7.36 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0430	*148	*1.47				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	8.6	2.5	2.5	5.6	1.8	.00	.00	.00	.00
2	.00	.00	.00	5.6	2.5	7.2	4.8	1.7	.00	.00	.00	.00
3	.00	.00	.00	4.6	3.7	15	4.6	1.4	.00	.00	.00	.00
4	.00	.00	.00	3.8	7.1	8.5	4.2	1.3	.00	.00	.00	.00
5	.00	.00	.00	5.6	6.3	6.6	3.8	1.1	.00	.00	.00	.00
6	.00	.00	.00	15	5.2	7.5	3.8	.91	.00	.00	.00	.00
7	.00	.00	.00	7.6	4.2	7.4	3.5	.86	.00	.00	.00	.00
8	.00	.00	.00	5.6	4.1	8.7	3.1	.73	.00	.00	.00	.00
9	.00	.00	.00	4.6	19	12	3.1	.68	.00	.00	.00	.00
10	.00	.00	.00	5.6	29	18	2.7	.71	.00	.00	.00	.00
11	.00	.00	.00	5.6	17	74	2.5	.78	.00	.00	.00	.00
12	.00	.00	.00	4.6	11	38	2.5	.68	.00	.00	.00	.00
13	.00	.00	.00	4.3	8.5	22	2.5	.59	.00	.00	.00	.00
14	.00	.00	.00	3.7	7.0	14	2.5	.55	.00	.00	.00	.00
15	.00	.00	.00	3.1	5.7	10	2.5	.55	.00	.00	.00	.00
16	.00	.00	.00	3.0	4.6	23	2.2	.53	.00	.00	.00	.00
17	.00	.00	.00	2.5	4.6	26	2.2	.31	.00	.00	.00	.00
18	.00	.00	.00	2.5	3.8	15	1.9	.30	.00	.00	.00	.00
19	.00	.00	.00	2.5	3.8	14	1.9	.14	.00	.00	.00	.00
20	.00	.00	.13	2.5	3.8	11	1.8	.06	.00	.00	.00	.00
21	.00	.00	6.6	2.5	3.8	9.2	1.9	.02	.00	.00	.00	.00
22	.00	.00	13	2.5	3.1	7.8	1.9	.02	.00	.00	.00	.00
23	.00	.00	23	2.9	3.1	7.2	2.2	.10	.00	.00	.00	.00
24	.00	.48	27	3.1	3.1	7.9	3.2	.10	.00	.00	.00	.00
25	.00	6.7	34	2.9	3.1	9.5	3.0	.04	.00	.00	.00	.00
26	.00	4.1	15	2.5	3.1	12	3.1	.00	.00	.00	.00	.00
27	.00	1.4	7.6	2.5	2.5	9.7	2.8	.00	.00	.00	.00	.00
28	.00	.65	5.6	2.5	2.5	7.9	2.2	.00	.00	.00	.00	.00
29	.00	.43	4.6	2.5	---	7.1	1.9	.00	.00	.00	.00	.00
30	.00	.20	4.6	2.5	---	6.2	1.9	.00	.00	.00	.00	.00
31	.00	---	7.6	2.5	---	5.6	---	.00	---	.00	.00	---
TOTAL	0.00	13.96	148.74	129.8	177.7	430.5	85.8	15.96	0.00	0.00	0.00	0.00
MEAN	.000	.47	4.80	4.19	6.35	13.9	2.86	.51	.000	.000	.000	.000
MAX	.00	6.7	34	15	29	74	5.6	1.8	.00	.00	.00	.00
MIN	.00	.00	.00	2.5	2.5	2.5	1.8	.00	.00	.00	.00	.00
AC-FT	.00	28	295	257	352	854	170	32	.00	.00	.00	.00

CAL YR 1988 TOTAL 758.94 MEAN 2.07 MAX 64 MIN .00 AC-FT 1510
WTR YR 1989 TOTAL 1002.46 MEAN 2.75 MAX 74 MIN .00 AC-FT 1990

11176500 ARROYO VALLE NEAR LIVERMORE, CA

LOCATION.--Lat 37°37'24", long 121°45'28", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank 900 ft downstream from highway bridge, 1.1 mi upstream from Dry Creek, 1.3 mi downstream from Del Valle Dam, 4.1 mi south of Livermore, and 6.9 mi southeast of Pleasanton.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--January 1912 to September 1930, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as Arroyo del Valle near Livermore, 1912-29.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 510.44 ft above National Geodetic Vertical Datum of 1929. Prior to November 1914, at site 900 ft upstream at different datum. Nov. 1, 1914, to Sept. 30, 1930, at site 300 ft upstream at different datum.

REMARKS.--Records fair. Flow regulated by Del Valle Reservoir 1.3 mi upstream beginning in September 1968, capacity, 77,100 acre-ft. Water from Sacramento-San Joaquin Delta imported through South Bay Aqueduct can be pumped into Del Valle Reservoir for storage and later released into the channel for downstream percolation or returned to the South Bay Aqueduct.

AVERAGE DISCHARGE.--29 years (1912-30, 1957-68), 29.6 ft^3/s, 21,450 acre-ft/yr; 21 years (1969-89), 26.7 ft^3/s, 19,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s, Apr. 2, 1958, gage height, 10.91 ft; no flow at times. Maximum discharge since construction of Del Valle Dam in 1968, 2,850 ft^3/s, Mar. 3, 1983, gage height, 8.89 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 13.9 ft from floodmarks, discharge, 18,200 ft^3/s, on basis of contracted-opening and slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft^3/s, Jan. 13-23, gage height, 2.67 ft; minimum daily, 0.05 ft^3/s, Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.36	.40	.36	.52	e5.7	.46	.37	.15	.25	.12	.16
2	.30	.36	.42	.35	.52	e5.7	.47	.32	.16	.27	.08	.16
3	.30	.43	.40	.33	.52	e5.7	.49	.33	.17	.27	.06	.16
4	.31	.43	.34	.36	.52	e5.7	.53	.34	.20	.25	.08	.17
5	.31	.43	.29	.43	.52	e5.7	.52	.33	.22	.21	.07	.17
6	.33	.43	.29	.38	.52	e5.7	.45	.33	.20	.19	.06	.19
7	.32	.43	.29	.36	.52	e5.7	.50	.33	.23	.16	.05	.20
8	.35	.43	.31	.33	.52	e5.7	.52	.36	.22	.14	.06	.19
9	.27	.43	.29	4.2	.52	e5.7	.45	.40	.21	.14	.08	.20
10	.26	.43	.32	12	.52	e5.7	.43	.43	.22	.48	.08	.25
11	.28	.43	.32	12	.52	e5.7	.41	.41	.23	.33	.10	.27
12	.32	.43	.30	12	.52	e5.7	.35	.41	.20	.18	.10	.25
13	.34	.43	.33	12	.52	e5.7	.32	.36	.20	.20	.10	.24
14	.36	.43	.34	12	.52	1.6	.32	.38	.20	.20	.07	.23
15	.36	.43	.29	12	e1.5	.75	.27	.35	.19	.16	.07	.23
16	.36	.43	.31	12	e5.7	.62	.29	.32	.17	.18	.09	.33
17	.36	.43	.35	12	e5.7	.62	.29	.32	.19	.16	.12	.35
18	.36	.43	.36	12	e5.7	.62	.27	.34	.24	.13	.13	.36
19	.36	.43	.36	12	e5.7	.62	.25	.32	.24	.14	.12	.33
20	.36	.43	.43	12	e5.7	.56	.24	.21	.21	.18	.10	.33
21	.36	.43	.44	12	e5.7	.52	.25	.24	.16	.18	.10	.32
22	.36	.43	.41	12	e6.1	.48	.27	.24	.17	.11	.12	.29
23	.36	.57	.45	12	e5.7	.43	.28	.27	.20	.11	.14	.17
24	.36	.48	.51	10	e5.7	.43	.34	.26	.22	.10	.13	.19
25	.36	.43	.43	5.8	e5.7	.49	.34	.26	.26	.07	.13	.18
26	.36	.38	.38	2.0	e5.7	.48	.40	.27	.27	.09	.16	.25
27	.36	.37	.36	.73	e5.7	.43	.37	.22	.26	.11	.16	.23
28	.36	.36	.36	.55	e5.7	.43	.34	.21	.24	.13	.16	.27
29	.36	.42	.36	.52	---	.41	.36	.21	.26	.13	.17	.28
30	.36	.36	.37	.52	---	.43	.36	.19	.27	.09	.17	.24
31	.36	---	.38	.52	---	.46	---	.17	---	.10	.16	---
TOTAL	10.51	12.69	11.19	195.74	83.28	84.48	11.14	9.50	6.36	5.44	3.34	7.19
MEAN	.34	.42	.36	6.31	2.97	2.73	.37	.31	.21	.18	.11	.24
MAX	.36	.57	.51	12	6.1	5.7	.53	.43	.27	.48	.17	.36
MIN	.26	.36	.29	.33	.52	.41	.24	.17	.15	.07	.05	.16
AC-FT	21	25	22	388	165	168	22	19	13	11	6.6	14

CAL YR 1988 TOTAL 439.09 MEAN 1.20 MAX 14 MIN .08 AC-FT 871
WTR YR 1989 TOTAL 440.86 MEAN 1.21 MAX 12 MIN .05 AC-FT 874

e Estimated.

11177000 ARROYO DE LA LAGUNA NEAR PLEASANTON, CA

LOCATION.--Lat 37°36'55", long 121°52'50", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank 0.3 mi upstream from small left bank tributary, 0.8 mi downstream from highway bridge, and 3.2 mi south of Pleasanton.

DRAINAGE AREA.--405 mi^2.

PERIOD OF RECORD.--January 1912 to September 1930, October 1969 to September 1983, October 1987 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 248.40 ft above National Geodetic Vertical Datum of 1929. January 1912 to September 1917, at site 3.0 mi upstream at different datum. October 1917 to September 1930, at site 0.8 mi downstream at different datum. October 1969 to September 1983, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated by Del Valle Reservoir 15 mi upstream, capacity, 77,100 acre-ft. Water imported from Sacramento-San Joaquin Delta (see REMARKS for station 11176500).

AVERAGE DISCHARGE.--17 years (water years 1913-19, 1921-30), 42.5 ft^3/s, 30,790 acre-ft/yr; 16 years (water years 1970-83, 1988-89), 69.8 ft^3/s, 50,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft^3/s, Jan. 5, 1982, gage height, 22.61 ft, present datum; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s, Nov. 23, gage height, 7.60 ft; minimum daily, 2.0 ft^3/s, July 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	2.5	6.2	17	12	8.7	9.7	9.7	7.1	3.9	4.0	4.2
2	3.3	2.8	6.2	13	12	132	10	5.9	3.9	2.9	6.1	3.7
3	3.2	2.9	6.5	12	77	25	12	5.2	3.4	6.1	6.1	3.7
4	3.8	2.4	8.3	9.8	49	15	9.4	4.0	10	3.7	6.7	5.3
5	4.2	2.3	7.9	113	18	20	8.9	4.3	14	6.0	3.9	9.3
6	3.1	2.7	4.2	37	13	35	8.5	5.5	7.0	3.2	3.1	4.3
7	3.5	2.6	2.8	22	9.3	22	8.4	9.4	3.8	4.1	7.9	3.3
8	3.0	2.4	2.5	15	16	48	6.6	9.4	5.4	2.9	8.4	3.4
9	3.6	2.3	2.5	13	89	40	5.5	5.6	4.2	4.3	7.7	3.6
10	5.5	13	2.6	23	25	49	5.0	5.0	5.0	11	4.5	4.7
11	5.4	5.4	7.1	15	12	222	4.8	5.0	7.3	6.9	6.1	8.4
12	4.8	3.3	7.5	13	10	36	5.3	4.9	15	5.5	4.1	4.0
13	3.5	20	4.1	12	9.6	30	5.3	7.6	8.0	3.7	3.1	3.3
14	27	33	2.8	12	7.5	22	4.9	14	5.5	2.5	6.3	3.1
15	6.3	8.3	2.7	11	6.9	19	5.3	15	6.3	2.4	4.6	3.3
16	3.6	15	2.7	11	6.2	233	5.2	10	6.5	2.5	3.2	40
17	2.9	30	2.9	11	5.6	50	5.2	11	6.9	6.3	3.1	72
18	2.7	6.1	2.8	9.7	5.5	70	5.0	14	7.6	3.5	3.2	78
19	2.4	5.4	12	6.6	8.1	49	4.8	19	15	5.1	4.0	39
20	3.3	5.9	108	9.1	8.7	23	4.7	19	9.2	5.8	4.0	23
21	3.0	6.5	104	6.0	8.5	14	12	18	6.2	5.3	5.2	20
22	2.4	8.6	235	5.3	6.6	12	6.6	17	6.5	2.9	5.9	45
23	2.6	258	61	64	6.3	14	27	14	6.5	2.0	6.4	48
24	2.5	82	199	15	6.1	70	35	6.7	8.3	2.7	9.6	52
25	2.9	58	45	7.7	7.3	87	15	5.8	6.2	5.0	4.0	20
26	3.7	19	19	9.9	11	35	9.9	5.6	4.0	5.2	4.1	9.0
27	3.0	13	23	11	11	18	9.8	6.8	7.0	5.3	4.4	7.2
28	2.6	10	15	10	9.0	13	6.9	13	7.7	5.5	4.6	6.5
29	2.5	7.1	12	9.0	---	11	6.2	13	7.7	2.9	4.8	31
30	2.6	6.1	16	10	---	11	10	12	5.5	2.5	4.5	16
31	2.5	---	42	12	---	10	---	6.5	---	4.9	5.0	---
TOTAL	129.7	636.6	973.3	545.1	466.2	1443.7	272.9	301.9	216.7	136.5	158.6	574.3
MEAN	4.18	21.2	31.4	17.6	16.6	46.6	9.10	9.74	7.22	4.40	5.12	19.1
MAX	27	258	235	113	89	233	35	19	15	11	9.6	78
MIN	2.4	2.3	2.5	5.3	5.5	8.7	4.7	4.0	3.4	2.0	3.1	3.1
AC-FT	257	1260	1930	1080	925	2860	541	599	430	271	315	1140

CAL YR 1988 TOTAL 5039.0 MEAN 13.8 MAX 319 MIN 2.3 AC-FT 9990
WTR YR 1989 TOTAL 5855.5 MEAN 16.0 MAX 258 MIN 2.0 AC-FT 11610

11179000 ALAMEDA CREEK NEAR NILES, CA

LOCATION.--Lat 37°35'14", long 121°57'35", in NW 1/4 sec.15, T.4 S., R.1 W., Alameda County, Hydrologic Unit 18050004, on right bank 0.3 mi downstream from railroad bridge, 1.2 mi northeast of Niles, and 8.3 mi downstream from James H. Turner Dam on San Antonio Creek.

DRAINAGE AREA.--633 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1891 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Niles Dam" 1891-1900 and as "at Sunolglen" 1901-21.

REVISED RECORDS.--WSP 1315-B: 1921. WSP 1515: 1951-52, 1956. WSP 1565: 1945. WDR CA-86-2: 1984(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 85.65 ft above National Geodetic Vertical Datum of 1929. Prior to 1901, nonrecording gage at site 1 mi upstream at different datum. From 1901 to Sept. 30, 1914, nonrecording gage; Oct. 1, 1914, to Sept. 30, 1916, water-stage recorder at site 4.5 mi upstream at different datum; Oct. 1, 1916, to Dec. 17, 1923, water-stage recorder at site 800 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1916 by Calaveras Reservoir, although dam not completed until 1925, usable capacity, 96,800 acre-ft, most of which is diverted for San Francisco water supply; since February 1965 by San Antonio Reservoir, capacity, 51,000 acre-ft; and since September 1968 by Del Valle Reservoir, 23 mi upstream, capacity, 77,100 acre-ft. Natural flow of stream affected by water imported from Delta-Mendota Canal beginning in 1962. Other diversions from ground-water basin for irrigation of 9,000 acres upstream from station.

AVERAGE DISCHARGE.--71 years (water years 1892-1962), 123 ft^3/s, 89,110 acre-ft/yr; 26 years (water years 1963-89), 120 ft^3/s, 86,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft^3/s, Dec. 23, 1955, gage height, 14.9 ft; minimum (water years 1892-1962), no flow at times; minimum daily (water years 1963-89), 0.63 ft^3/s, Oct. 7-10, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 919 ft^3/s, Nov. 23, gage height, 4.87 ft; minimum daily, 5.3 ft^3/s, Oct. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	42	44	53	41	32	42	22	49	34	49	49
2	32	37	54	46	41	125	41	18	47	32	48	51
3	32	38	58	44	88	41	45	17	47	34	49	52
4	32	38	61	45	69	21	42	16	47	35	48	48
5	31	38	61	114	29	23	41	15	40	36	49	49
6	31	39	57	60	20	39	39	16	49	31	46	48
7	32	39	55	30	30	30	38	20	54	21	47	45
8	32	38	54	42	42	42	38	21	55	22	49	45
9	33	38	54	53	97	48	37	18	59	22	50	46
10	32	44	52	59	41	51	35	11	59	28	49	48
11	32	46	55	59	43	218	32	8.2	58	26	45	51
12	33	40	57	54	48	51	30	8.2	62	33	48	50
13	28	43	55	57	48	37	30	6.8	62	35	47	41
14	35	79	53	57	45	28	28	9.5	55	46	47	22
15	26	48	41	57	44	31	25	11	42	49	47	21
16	19	47	53	57	44	209	24	9.4	51	48	45	25
17	12	75	53	57	42	65	23	19	51	51	45	87
18	5.9	45	53	56	43	55	22	19	53	47	45	67
19	5.3	43	56	53	45	65	30	29	54	47	17	50
20	18	43	94	54	43	36	15	33	45	43	13	28
21	23	44	153	47	40	40	18	28	27	37	18	32
22	21	38	213	43	36	51	23	13	28	41	46	46
23	23	231	94	79	33	41	30	10	32	40	47	48
24	23	101	186	37	33	85	51	25	31	46	49	51
25	24	71	68	41	33	91	34	34	34	47	44	33
26	33	39	30	47	38	55	24	40	32	49	45	21
27	33	53	41	49	38	32	24	44	34	48	47	23
28	45	50	34	49	35	23	21	44	35	48	47	21
29	50	46	44	48	---	25	20	53	34	49	52	33
30	52	45	45	42	---	34	22	52	34	48	52	25
31	51	---	76	40	---	33	---	50	---	48	51	---
TOTAL	919.2	1618	2104	1629	1229	1757	924	720.1	1360	1221	1381	1256
MEAN	29.7	53.9	67.9	52.5	43.9	56.7	30.8	23.2	45.3	39.4	44.5	41.9
MAX	52	231	213	114	97	218	51	53	62	51	52	87
MIN	5.3	37	30	30	20	21	15	6.8	27	21	13	21
AC-FT	1820	3210	4170	3230	2440	3490	1830	1430	2700	2420	2740	2490

CAL YR 1988 TOTAL 17674.1 MEAN 48.3 MAX 295 MIN 2.2 AC-FT 35060
WTR YR 1989 TOTAL 16118.3 MEAN 44.2 MAX 231 MIN 5.3 AC-FT 31970

11179000 ALAMEDA CREEK NEAR NILES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906, 1952-73, 1975 to current year.
CHEMICAL DATA: Water years 1906, 1952-67, 1969, 1975-79.
SPECIFIC CONDUCTANCE: Water years 1956-57, 1959-62, 1976 to current year.
WATER TEMPERATURE: Water years 1956-73, 1976-78.
SEDIMENT DATA: Water years 1957-73.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1956 to July 1957, August 1959 to September 1962, October 1975 to current year.
WATER TEMPERATURE: July 1956 to September 1973, October 1975 to September 1978.

INSTRUMENTATION.--Water-quality monitor since October 1975. Digital recorder set for 1-hour-interval punches.

REMARKS.--Differences between specific-conductance recorder values before adjustment and field measurement values exceeded +/- 5 percent at times during the year. Interruptions in record were due to malfunction of recording instruments. Specific conductance affected by regulation of imported water.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,530 microsiemens, Nov. 19, 1977; minimum recorded, 122 microsiemens, Jan. 22, 1983.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,380 microsiemens, Oct. 14; minimum recorded, 259 microsiemens, Nov. 23.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	818	790	853	799	805	641	907	843	916	876
2	---	---	821	812	861	784	821	803	899	854	1030	368
3	---	---	855	817	807	785	877	823	965	417	805	405
4	---	---	845	822	817	794	884	847	754	403	923	823
5	---	---	867	840	806	786	921	366	772	678	1070	920
6	---	---	882	859	787	756	628	384	939	782	1110	1020
7	---	---	891	868	754	732	774	616	1100	867	994	877
8	789	757	888	859	734	726	960	774	895	860	1050	887
9	810	770	857	841	732	725	811	797	1130	414	939	657
10	863	787	941	826	741	730	820	789	688	568	923	669
11	881	862	1120	864	830	737	876	744	905	696	709	324
12	876	840	862	834	850	788	778	752	939	899	781	625
13	865	802	852	834	796	759	779	768	945	927	1000	785
14	1380	811	1070	769	759	739	797	779	929	899	1020	965
15	1170	880	847	801	770	738	795	779	897	888	1040	922
16	879	868	888	849	787	752	779	770	913	893	1030	274
17	875	856	990	722	800	780	777	761	909	881	692	357
18	871	862	872	749	814	791	761	740	903	873	1060	697
19	963	861	799	783	874	810	750	705	931	878	793	542
20	1240	929	822	794	1060	773	751	680	941	911	879	721
21	965	871	832	808	570	286	775	705	936	917	972	809
22	964	891	819	811	777	263	703	677	924	892	817	733
23	891	859	857	259	617	300	1050	523	922	895	799	758
24	873	859	654	355	760	276	658	503	926	903	1030	512
25	884	865	758	568	652	483	740	645	921	894	751	447
26	877	849	785	581	905	657	756	700	995	896	809	449
27	886	860	794	748	1020	909	790	763	990	921	935	829
28	882	799	817	788	1060	911	791	770	938	871	980	941
29	798	791	820	779	894	852	803	780	---	---	1080	983
30	803	784	835	780	923	883	805	780	---	---	1070	763
31	802	787	---	---	990	620	930	806	---	---	807	756
MONTH	---	---	1120	259	1060	263	1050	366	1130	403	1110	274

11179000 ALAMEDA CREEK NEAR NILES, CA--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	789	658	---	---	---	---	548	460	558	406	491	455
2	701	639	---	---	---	---	497	461	460	421	481	462
3	728	644	---	---	---	---	497	461	533	405	483	453
4	696	603	---	---	---	---	549	511	522	404	513	473
5	648	603	---	---	---	---	511	453	532	412	561	494
6	637	589	---	---	---	---	546	509	438	421	655	555
7	635	587	---	---	---	---	515	500	437	409	558	534
8	624	565	---	---	406	389	631	491	599	434	538	520
9	562	521	---	---	423	385	628	490	537	442	537	500
10	531	515	---	---	398	382	651	506	545	436	525	511
11	552	509	---	---	395	382	750	619	457	430	618	506
12	567	554	---	---	463	385	631	480	537	416	619	563
13	588	560	---	---	473	396	550	430	464	422	587	556
14	586	562	---	---	398	385	457	388	421	402	664	587
15	621	559	---	---	424	397	424	377	552	409	677	653
16	649	621	---	---	417	385	404	384	454	414	702	663
17	630	615	---	---	403	386	499	387	417	408	1150	559
18	636	628	---	---	410	394	499	432	420	406	893	602
19	630	460	---	---	477	396	462	412	451	411	635	561
20	685	479	---	---	543	465	525	407	645	469	881	646
21	773	704	---	---	501	463	602	451	702	642	903	789
22	1160	765	---	---	498	478	554	429	704	456	820	735
23	951	670	---	---	493	454	455	428	488	452	742	713
24	1000	554	---	---	479	445	429	404	603	457	716	707
25	672	558	---	---	576	456	482	401	525	456	724	715
26	749	649	---	---	533	487	558	426	454	438	893	727
27	---	---	---	---	507	462	535	421	465	440	857	704
28	---	---	---	---	602	467	528	417	471	448	752	708
29	---	---	---	---	622	481	536	424	457	438	933	698
30	---	---	---	---	620	465	430	416	474	448	943	662
31	---	---	---	---	---	---	423	410	472	436	---	---
MONTH	---	---	---	---	---	---	750	377	704	402	1150	453

11180500 DRY CREEK AT UNION CITY, CA

LOCATION.--Lat 37°36'22", long 122°01'22", in Arroyo de la Alameda Grant, Alameda County, Hydrologic Unit 18050004, on right bank 900 ft downstream from bridge on State Highway 238 in Decoto District in Union City and 1.7 mi upstream from mouth.

DRAINAGE AREA.--9.39 mi^2.

PERIOD OF RECORD.--October 1916 to September 1919 (published as "near Decoto"), April 1959 to current year.

REVISED RECORDS.--WSP 2129: 1962(M), 1968(P). WDR CA-76-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 85.12 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 1, 1959, at site 1.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--33 years, 2.45 ft^3/s, 1,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,330 ft^3/s, Jan. 26, 1983, gage height, 5.14 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 5.27 ft, Oct. 13, 1962, from high-water marks past gage; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	1300	*15	*1.99				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.04	.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	.01	.02	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	2.7	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	2.5	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.21	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.02	.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	2.1	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.93	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	1.9	.00	.00	.00	.00	.00	.01
19	.00	.00	.00	.00	.00	1.8	.00	.00	.00	.00	.00	.00
20	.00	.00	.45	.00	.00	.93	.00	.00	.00	.00	.00	.00
21	.00	.00	.02	.00	.00	.70	.00	.00	.00	.00	.00	.00
22	.00	.00	.42	.00	.00	.59	.00	.00	.00	.00	.00	.00
23	.00	.25	.00	.02	.00	.38	.00	.00	.00	.00	.00	.00
24	.00	.03	.30	.00	.00	.42	.00	.00	.00	.00	.00	.00
25	.00	.02	.00	.00	.00	4.0	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	1.9	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.64	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.22	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.03	---	.00	---	.00	.00	---
TOTAL	0.00	0.30	1.19	0.06	0.07	25.13	0.08	0.00	0.00	0.00	0.00	0.01
MEAN	.000	.010	.038	.002	.002	.81	.003	.000	.000	.000	.000	.000
MAX	.00	.25	.45	.04	.03	4.0	.08	.00	.00	.00	.00	.01
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.6	2.4	.1	.1	50	.2	.00	.00	.00	.00	.02

CAL YR 1988 TOTAL 23.50 MEAN .064 MAX 9.3 MIN .00 AC-FT 47
WTR YR 1989 TOTAL 26.84 MEAN .074 MAX 4.0 MIN .00 AC-FT 53

11180700 PATTERSON CREEK AT UNION CITY, CA

LOCATION.--Lat 37°55'09", long 122°02'50", in Potrero de Los Cerritos Grant, Alameda County, Hydrologic Unit 18050004, on right bank 0.1 mi downstream from effluence from Alameda Creek, 0.2 mi upstream from bridge on Interstate 880 (Nimitz Freeway), and 2.0 mi southwest of Decoto District in Union City.

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

GAGE.--Water-stage recorder. Datum of gage is 4.13 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 26, 1966, at site 0.2 mi downstream at same datum.

REMARKS.--Records poor. This stream is a distributary of Alameda Creek. Diversion by Alameda County Water District to percolation ponds between station 11179000 and this station; additional percolation to ground water by placing check dams in channel.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft^3/s, Feb. 19, 1986, gage height, 18.44 ft; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft^3/s, Nov. 23, gage height, 10.51 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	1.3	.37	e.00	e.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.02	.40	111	e.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	74	36	e.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	61	1.4	e.00	.00	.00	.00	.00	.00
5	.00	.00	.00	97	2.2	.11	e.00	.00	.00	.00	.00	.00
6	.00	.00	.00	67	.71	.24	e.00	.00	.00	.00	.00	.00
7	.00	.00	.00	3.8	.44	.09	e.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.42	6.8	2.6	e.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.04	51	5.6	e.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.66	18	1.6	e.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.31	1.8	151	e.00	.00	.00	.00	.00	.00
12	.00	e.00	.00	.00	.59	35	e.00	.00	.00	.00	.00	.00
13	.00	e5.0	.00	.00	.36	1.9	e.00	.00	.00	.00	.00	.00
14	.00	e4.3	.00	.00	.19	.10	e.00	.00	.00	.00	.00	.00
15	.00	e2.6	.00	.00	.04	.00	e.00	.00	.00	.00	.00	.00
16	.00	e19	.00	.00	e.01	296	e.00	.00	.00	.00	.00	e.00
17	.00	e.80	.00	.00	e.00	51	e.00	.00	.00	.00	.00	1.4
18	.00	e.14	.00	.00	e.00	16	e.00	.00	.00	.00	.00	38
19	.00	e.00	.00	.00	e.00	41	e.00	.00	.00	.00	.00	31
20	.00	e.00	77	.00	e.00	4.1	e.00	.00	.00	.00	.00	45
21	.00	e.00	279	.00	e.00	.63	e.00	.00	.00	.00	.00	7.6
22	.00	e.20	225	.00	e.00	e.22	e.00	.00	.00	.00	.00	e.85
23	.00	463	150	31	e.00	e.04	1.7	.00	.00	.00	.00	e.00
24	.00	156	225	28	e.00	102	3.0	.00	.00	.00	.00	.00
25	.00	61	76	2.5	e.00	104	2.3	.00	.00	.00	.00	.00
26	.00	2.7	2.1	.84	e.00	69	.74	.00	.00	.00	.00	.00
27	.00	.00	.63	.56	e.00	2.8	e.04	.00	.00	.00	.00	.00
28	.00	.00	.50	.45	e.00	e.40	e.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.43	---	e.02	.00	.00	.00	.00	.00	.00
30	.00	.00	.01	.37	---	e.00	.00	.00	.00	.00	.00	.00
31	.00	---	2.0	.37	---	e.00	---	.00	---	.00	.00	---
TOTAL	0.00	714.74	1037.24	235.07	217.91	1033.85	7.78	0.00	0.00	0.00	0.00	123.85
MEAN	.000	23.8	33.5	7.58	7.78	33.3	.26	.000	.000	.000	.000	4.13
MAX	.00	463	279	97	74	296	3.0	.00	.00	.00	.00	45
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	1420	2060	466	432	2050	15	.00	.00	.00	.00	246

CAL YR 1988 TOTAL 3271.07 MEAN 8.94 MAX 482 MIN .00 AC-FT 6490
WTR YR 1989 TOTAL 3370.44 MEAN 9.23 MAX 463 MIN .00 AC-FT 6690

e Estimated.

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA

LOCATION.--Lat 37°41'42", long 122°02'38", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on left bank, 250 ft south of Interstate Highway 580, 0.4 mi southeast of Independent School, and 2.2 mi east of Castro Valley.

DRAINAGE AREA.--18.0 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Some regulation of low flow by ponds upstream from station.

AVERAGE DISCHARGE.--9 years, 7.59 ft^3/s, 5,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft^3/s, Feb. 18, 1986, gage height, 8.33 ft; maximum gage height, 9.50 ft, Jan. 24, 1983; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 275 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0600	*160	*2.65				

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.03	.07	.25	.73	1.8	.87	.27	.07	.02	.01
2	.00	.33	.03	.04	.49	7.9	.96	.79	.19	.04	.02	.01
3	.00	.60	.03	.04	2.8	.69	1.5	.71	.19	.03	.02	.01
4	.00	.09	.03	.04	1.3	.50	1.6	.72	.23	.03	.02	.01
5	.00	.04	.03	4.4	.58	.54	1.5	.74	.35	.03	.03	.01
6	.00	.69	.03	.70	.34	.87	1.3	.63	.24	.02	.03	.02
7	.01	.09	.03	.87	.34	.91	1.2	.54	.28	.02	.03	.03
8	.00	.20	.03	.49	1.4	2.4	1.1	.54	.46	.02	.03	.03
9	.00	.13	.04	.54	2.3	.99	1.0	.67	.31	.01	.03	.04
10	.00	1.6	.04	1.8	.69	3.3	.88	.70	.19	.02	.03	.04
11	.00	.15	.05	.73	.58	5.3	.89	.59	.17	.01	.03	.04
12	.02	.07	.06	.48	.54	1.0	.84	.54	.22	.02	.03	.04
13	.23	2.4	.09	.34	.47	1.1	.84	.60	.20	.02	.02	.03
14	1.7	2.4	.09	.34	.50	.77	.91	.56	.15	.02	.02	.04
15	.03	.04	.10	.31	.37	.71	.77	.54	.13	.02	.02	.04
16	.01	5.8	.12	.23	.39	10	.78	.41	.10	.02	.01	3.2
17	.01	.04	.17	.27	.37	1.0	.44	.48	.05	.02	.01	.45
18	.01	.00	.21	.27	.38	5.0	.53	.59	.06	.02	.01	5.9
19	.01	.00	.67	.27	.52	1.9	.58	.51	.06	.02	.01	.06
20	.01	.00	4.9	.27	.43	.87	.60	.39	.06	.02	.01	.04
21	.01	.01	.77	.27	.43	.71	1.9	.51	.04	.03	.01	.03
22	.01	1.0	7.5	.27	.38	.57	1.0	.45	.03	.03	.02	.03
23	.01	15	.23	1.8	.43	.52	2.3	.97	.03	.02	.02	.03
24	.01	1.8	6.3	.34	.37	3.4	4.9	.68	.03	.02	.01	.03
25	.02	.97	.30	.21	.43	15	1.6	.65	.03	.02	.01	.03
26	.01	.06	.06	.21	.34	4.7	1.3	.63	.03	.02	.01	.03
27	.01	.03	.48	.24	.36	3.9	1.1	.67	.04	.02	.01	.03
28	.03	.03	.04	.31	.41	3.2	.94	.65	.07	.02	.01	.15
29	.01	.04	.03	.19	---	2.9	.93	.42	.08	.02	.01	.25
30	.03	.03	1.5	.23	---	2.4	.94	.34	.08	.02	.01	.04
31	.03	---	1.7	.25	---	2.3	---	.28	---	.02	.01	---
TOTAL	2.22	33.65	25.69	16.82	18.19	86.08	36.93	18.37	4.37	0.72	0.56	10.70
MEAN	.072	1.12	.83	.54	.65	2.78	1.23	.59	.15	.023	.018	.36
MAX	1.7	15	7.5	4.4	2.8	15	4.9	.97	.46	.07	.03	5.9
MIN	.00	.00	.03	.04	.25	.50	.44	.28	.03	.01	.01	.01
AC-FT	4.4	67	51	33	36	171	73	36	8.7	1.4	1.1	21

CAL YR 1988 TOTAL 298.17 MEAN .81 MAX 36 MIN .00 AC-FT 591
WTR YR 1989 TOTAL 254.30 MEAN .70 MAX 15 MIN .00 AC-FT 504

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1980 to current year (storm season only).
WATER TEMPERATURE: December 1980 to current year.
SEDIMENT DATA: December 1980 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: December 1980 to current year.
SUSPENDED-SEDIMENT DISCHARGE: December 1980 to current year.

REMARKS.--Sediment samples were collected on most days where water temperature is published. Zero bedload discharge observed for flows less than 10 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 10,000 mg/L, Jan. 4, 1982; minimum daily mean, 0 mg/L, Feb. 26, 1989.
SEDIMENT LOAD (storm season only): Maximum daily, 19,800 tons, Jan. 4, 1982; minimum daily, 0 ton several days in most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 1,420 mg/L, Mar. 25; minimum daily mean, 0 mg/L, Feb. 26.
SEDIMENT LOAD (storm season only): Maximum daily, 230 tons, Nov. 23; 0 ton for many days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	---	---	---	---	---	---	11.0
2	---	14.5	---	---	7.5	10.5	---
3	---	---	---	---	7.5	8.0	14.5
4	---	---	10.5	---	---	8.0	---
5	---	---	---	8.0	---	9.0	---
6	---	---	---	5.5	---	12.0	15.5
7	---	---	---	5.5	4.5	13.5	---
8	---	12.5	---	---	4.5	13.5	---
9	---	---	---	8.5	6.5	14.0	---
10	---	14.0	---	9.0	6.5	14.5	---
11	---	15.5	---	9.5	7.5	14.5	14.5
12	---	12.5	---	8.0	---	---	---
13	---	12.5	---	8.0	6.5	13.0	---
14	15.5	11.0	---	---	---	12.0	---
15	---	10.5	---	---	6.0	---	---
16	---	12.0	8.0	---	---	10.0	---
17	---	11.0	---	---	7.5	11.5	---
18	---	10.0	---	---	---	12.0	---
19	---	---	---	---	---	---	16.5
20	---	---	9.0	---	---	---	---
21	---	---	---	---	12.5	13.5	14.5
22	---	12.0	8.5	---	11.5	14.0	---
23	---	12.5	---	---	---	---	---
24	---	---	8.5	---	9.0	13.0	10.5
25	---	---	---	---	---	12.0	11.5
26	---	12.5	5.5	---	11.0	---	10.0
27	---	10.5	---	---	---	11.5	---
28	---	9.5	---	---	10.5	13.0	---
29	---	10.0	---	---	---	13.5	---
30	---	---	---	8.0	---	---	---
31	---	---	---	---	---	---	---

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	.00	0	.00	.01	4	.00	.03	11	.00
2	.00	0	.00	.33	37	.08	.03	10	.00
3	.00	0	.00	.60	64	.30	.03	10	.00
4	.00	0	.00	.09	13	.00	.03	9	.00
5	.00	0	.00	.04	10	.00	.03	9	.00
6	.00	0	.00	.69	73	.16	.03	9	.00
7	.01	2	.00	.09	39	.01	.03	10	.00
8	.00	0	.00	.20	31	.02	.03	10	.00
9	.00	0	.00	.13	30	.01	.04	10	.00
10	.00	0	.00	1.6	86	.68	.04	11	.00
11	.00	0	.00	.15	32	.01	.05	11	.00
12	.02	4	.00	.07	28	.01	.06	11	.00
13	.23	44	.22	2.4	102	1.5	.09	12	.00
14	1.7	91	1.2	2.4	56	.78	.09	12	.00
15	.03	4	.00	.04	5	.00	.10	13	.00
16	.01	3	.00	5.8	320	21	.12	13	.00
17	.01	2	.00	.04	31	.00	.17	13	.01
18	.01	2	.00	.00	0	.00	.21	13	.01
19	.01	2	.00	.00	0	.00	.67	39	.16
20	.01	2	.00	.00	0	.00	4.9	161	4.5
21	.01	2	.00	.01	3	.00	.77	52	.14
22	.01	2	.00	1.0	87	.61	7.5	214	8.6
23	.01	2	.00	15	1150	230	.23	34	.04
24	.01	2	.00	1.8	217	2.8	6.3	454	29
25	.02	3	.00	.97	51	.23	.30	25	.02
26	.01	2	.00	.06	4	.00	.06	14	.00
27	.01	2	.00	.03	3	.00	.48	63	.20
28	.03	4	.00	.03	16	.00	.04	16	.00
29	.01	3	.00	.04	19	.00	.03	10	.00
30	.03	4	.00	.03	12	.00	1.5	194	2.8
31	.03	4	.00	---	---	---	1.7	334	3.6
TOTAL	2.22	---	1.42	33.65	---	258.20	25.69	---	49.08
		JANUARY			FEBRUARY			MARCH	
1	.07	23	.00	.25	16	.01	.73	28	.19
2	.04	13	.00	.49	27	.02	7.9	320	18
3	.04	11	.00	2.8	66	.68	.69	14	.03
4	.04	10	.00	1.3	27	.12	.50	15	.01
5	4.4	515	21	.58	13	.02	.54	18	.03
6	.70	102	.24	.34	13	.01	.87	24	.04
7	.87	70	.25	.34	13	.01	.91	34	.19
8	.49	10	.01	1.4	117	1.3	2.4	97	1.7
9	.54	9	.01	2.3	195	2.4	.99	79	.39
10	1.8	101	1.3	.69	18	.03	3.3	200	12
11	.73	19	.04	.58	8	.01	5.3	244	11
12	.48	5	.01	.54	5	.01	1.0	25	.07
13	.34	13	.01	.47	4	.01	1.1	28	.08
14	.34	11	.01	.50	9	.01	.77	20	.05
15	.31	9	.01	.37	14	.01	.71	26	.05
16	.23	9	.01	.39	16	.02	10	175	10
17	.27	7	.01	.37	18	.02	1.0	57	.15
18	.27	5	.01	.38	15	.02	5.0	105	3.4
19	.27	4	.01	.52	13	.02	1.9	40	.34
20	.27	3	.01	.43	10	.01	.87	21	.11
21	.27	3	.01	.43	8	.01	.71	18	.06
22	.27	10	.01	.38	13	.01	.57	13	.03
23	1.8	230	2.5	.43	18	.02	.52	18	.05
24	.34	24	.02	.37	23	.02	3.4	137	2.0
25	.21	15	.01	.43	10	.01	15	1420	83
26	.21	13	.01	.34	0	.00	4.7	279	3.8
27	.24	11	.01	.36	3	.00	3.9	24	.25
28	.31	17	.01	.41	6	.01	3.2	20	.17
29	.19	20	.01	---	---	---	2.9	18	.14
30	.23	18	.01	---	---	---	2.4	16	.10
31	.25	17	.01	---	---	---	2.3	14	.09
TOTAL	16.82	---	25.55	18.19	---	4.82	86.08	---	147.52

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL	
1	1.8	12	.06
2	.96	10	.03
3	1.5	31	.13
4	1.6	28	.12
5	1.5	26	.11
6	1.3	24	.08
7	1.2	22	.07
8	1.1	20	.06
9	1.0	18	.05
10	.88	16	.04
11	.89	14	.03
12	.84	14	.03
13	.84	12	.03
14	.91	10	.04
15	.77	11	.03
16	.78	11	.03
17	.44	10	.02
18	.53	13	.02
19	.58	17	.03
20	.60	17	.03
21	1.9	182	1.7
22	1.0	24	.06
23	2.3	125	1.2
24	4.9	299	7.3
25	1.6	120	.58
26	1.3	40	.14
27	1.1	24	.07
28	.94	17	.04
29	.93	15	.04
30	.94	13	.03
TOTAL	36.93	---	12.20
PERIOD	219.58		498.79

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	2.22	1.42	0	1
NOVEMBER	33.65	258.20	2	260
DECEMBER	25.69	49.08	0	49
JANUARY 1989	16.82	25.55	0	26
FEBRUARY	18.19	4.82	0	5
MARCH	86.08	147.52	2	150
APRIL	36.93	12.20	0	12
PERIOD	219.58	498.79	4	503

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
NOV							
23...	1315	1.8	12.5	308	1.5	--	--
JAN							
05...	1630	1.6	7.5	500	2.2	--	--
FEB							
03...	1105	3.1	7.5	60	0.50	--	--
03...	1650	3.0	8.0	55	0.45	--	--
08...	1530	0.81	4.5	65	0.14	--	--
09...	1345	1.7	6.5	96	0.44	--	--
MAR							
02...	0855	6.9	9.5	230	4.3	--	--
02...	1315	3.4	10.5	118	1.1	--	--
02...	1620	1.6	9.5	41	0.18	--	--
07...	1700	1.1	13.5	73	0.22	--	--
08...	1100	2.4	13.5	23	0.15	--	--
08...	1505	5.1	13.5	120	1.7	--	--
09...	1220	0.62	14.0	52	0.09	--	--
10...	1110	0.71	14.5	22	0.04	--	--
11...	1250	2.0	14.5	117	0.63	--	--
14...	1605	0.71	12.0	20	0.04	--	--
16...	0830	50	10.0	492	66	--	--
16...	1010	16	10.0	713	31	--	--
16...	1120	8.2	10.0	521	12	--	--
16...	1510	5.5	11.5	180	2.7	--	--
17...	1320	0.92	11.5	53	0.13	--	--
18...	1150	7.0	12.0	126	2.4	--	--
18...	1605	7.6	14.0	140	2.9	--	--
22...	1720	0.62	14.0	13	0.02	--	--
24...	1040	2.7	13.0	67	0.49	--	--
24...	1645	1.8	14.0	62	0.30	--	--
25...	0840	56	12.0	1360	206	54	58
25...	1710	10	12.5	1620	44	82	89
27...	1035	4.0	11.5	22	0.24	--	--
APR							
21...	1110	7.1	14.5	503	9.6	--	--
24...	0955	2.0	10.5	58	0.31	--	--
25...	1200	1.4	11.5	92	0.35	--	--

11180825 SAN LORENZO CREEK ABOVE DON CASTRO RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
NOV						
23...	--	--	--	100	--	--
JAN						
05...	--	--	--	100	--	--
FEB						
03...	--	--	--	100	--	--
03...	--	--	--	98	100	--
08...	--	--	--	72	--	--
09...	--	--	--	98	98	100
MAR						
02...	--	--	--	99	100	--
02...	--	--	--	91	95	100
02...	--	--	--	96	--	--
07...	--	--	--	75	--	--
08...	--	--	--	79	90	100
08...	--	--	--	97	97	100
09...	--	--	--	75	--	--
10...	--	--	--	96	--	--
11...	--	--	--	100	--	--
14...	--	--	--	54	--	--
16...	--	--	--	98	99	100
16...	--	--	--	96	--	--
16...	--	--	--	100	--	--
16...	--	--	--	98	99	100
17...	--	--	--	93	--	--
18...	--	--	--	100	--	--
18...	--	--	--	98	100	--
22...	--	--	--	78	--	--
24...	--	--	--	100	--	--
24...	--	--	--	99	--	--
25...	69	83	94	99	100	--
25...	94	98	99	100	--	--
27...	--	--	--	85	--	--
APR						
21...	--	--	--	99	99	100
24...	--	--	--	94	--	--
25...	--	--	--	72	--	--

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA

LOCATION.--Lat 37°42'55", long 122°03'12", in San Lorenzo (Castro) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 0.9 mi upstream from Cull Creek Dam and 1.1 mi northeast of Castro Valley Post Office.

DRAINAGE AREA.--5.79 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year.

REVISIONS.--WDR CA-80-2: 1979(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. No storage or diversions above station.

AVERAGE DISCHARGE.--11 years, 3.47 ft^3/s, 2,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,690 ft^3/s, Jan. 5, 1982, gage height, 8.71 ft; no flow for many days each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	0800	*67	*2.58				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	.19	.15	.29	e1.1	.46	.03	.00	.00	.00
2	.00	.00	.00	.07	.15	2.6	e.76	.40	.02	.00	.00	.00
3	.00	.00	.00	.04	.42	.98	e.80	.37	.02	.00	.00	.00
4	.00	.00	.00	.03	.50	.62	e1.1	.26	.02	.00	.00	.00
5	.00	.00	.00	.90	.30	.51	e.96	e.26	.02	.00	.00	.00
6	.00	.00	.00	.43	.24	.51	e.86	e.25	.01	.00	.00	.00
7	.00	.00	.00	.26	.23	.54	e.79	e.25	.01	.00	.00	.00
8	.00	.00	.00	.18	.36	1.2	e.72	e.25	.01	.00	.00	.00
9	.00	.00	.00	e.14	1.3	1.0	e.67	e.25	.01	.00	.00	.00
10	.00	.00	.00	e.54	.64	2.8	e.63	e.24	.02	.00	.00	.00
11	.00	.00	.00	e.27	.44	11	e.58	e.23	.02	.00	.00	.00
12	.00	.00	.00	.24	.38	2.9	e.57	e.22	.02	.00	.00	.00
13	.00	.00	.00	.23	.38	2.0	e.53	e.22	.02	.00	.00	.00
14	.00	.00	.00	.20	.33	1.6	e.49	e.21	.01	.00	.00	.00
15	.00	.00	.00	.19	.30	1.3	e.47	e.21	.01	.00	.00	.00
16	.00	.00	.00	.19	.27	3.4	e.43	e.20	.01	.00	.00	.00
17	.00	.00	.00	.19	.27	1.8	e.40	e.19	.01	.00	.00	.00
18	.00	.00	.00	.19	.27	e2.6	e.36	e.19	.01	.00	.00	.00
19	.00	.00	.00	.19	.27	e2.1	e.36	e.18	.01	.00	.00	.00
20	.00	.00	.06	.16	.27	e1.7	e.41	.18	.01	.00	.00	.00
21	.00	.00	.03	.15	.27	e1.6	.74	.18	.01	.00	.00	.00
22	.00	.00	.92	.12	.27	1.9	.69	.18	.01	.00	.00	.00
23	.00	.18	.40	.31	.27	1.7	.87	.18	.01	.00	.00	.00
24	.00	.02	1.6	.26	.27	5.5	.85	.18	.01	.00	.00	.00
25	.00	.02	.41	.19	.27	12	.75	.15	.01	.00	.00	.00
26	.00	.01	.08	.15	.27	6.7	.60	.14	.00	.00	.00	.00
27	.00	.01	.04	.13	.27	e2.6	.57	.14	.00	.00	.00	.00
28	.00	.01	.03	.12	.27	e1.7	.50	.14	.00	.00	.00	.00
29	.00	.01	.02	.13	---	e1.6	.50	.10	.00	.00	.00	.00
30	.00	.01	.03	.15	---	e1.4	.50	.10	.00	.00	.00	.00
31	.00	---	.19	.15	---	e1.4	---	.07	---	.00	.00	---
TOTAL	0.00	0.27	3.82	6.69	9.63	79.55	19.56	6.58	0.35	0.00	0.00	0.00
MEAN	.000	.009	.12	.22	.34	2.57	.65	.21	.012	.000	.000	.000
MAX	.00	.18	1.6	.90	1.3	12	1.1	.46	.03	.00	.00	.00
MIN	.00	.00	.00	.03	.15	.29	.36	.07	.00	.00	.00	.00
AC-FT	.00	.5	7.6	13	19	158	39	13	.7	.00	.00	.00

CAL YR 1988 TOTAL 59.35 MEAN .16 MAX 10 MIN .00 AC-FT 118
WTR YR 1989 TOTAL 126.45 MEAN .35 MAX 12 MIN .00 AC-FT 251

e Estimated.

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year (storm season only).
WATER TEMPERATURE: Water years 1979 to current year.
SEDIMENT DATA: Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1978 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1978 to current year.

REMARKS.--Zero bedload discharge observed at flows less than 4.20 ft^3/s. Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 22,400 mg/L, Feb. 17, 1986; minimum daily mean, no flow many days during most years.
SEDIMENT LOAD: Maximum daily, 26,400 tons, Feb. 17, 1986; minimum daily, 0 ton many days during most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION (storm season only): Maximum daily mean, 2,660 mg/L, Mar. 25; minimum daily mean, no flow on many days.
SEDIMENT LOAD: (storm season only): Maximum daily, 191 tons, Mar. 25; minimum daily, 0 ton on many days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	9.0	---	---	---	---	---
2	---	---	---	---	7.0	10.0	---	---	---	---	---	---
3	---	---	---	---	7.0	7.5	15.5	---	---	---	---	---
4	---	---	---	---	---	7.5	---	---	---	---	---	---
5	---	---	---	7.0	---	10.0	---	---	---	---	---	---
6	---	---	---	5.0	---	12.5	17.5	---	---	---	---	---
7	---	---	---	5.0	3.5	13.5	---	---	---	---	---	---
8	---	---	---	---	3.5	13.0	---	---	---	---	---	---
9	---	---	---	6.0	6.0	13.5	---	---	---	---	---	---
10	---	---	---	4.0	6.0	14.0	---	---	---	---	---	---
11	---	---	---	---	7.0	14.5	17.5	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	4.5	6.5	12.5	---	---	---	---	---	---
14	---	---	---	---	---	12.0	14.5	---	---	---	---	---
15	---	---	---	---	5.5	13.5	---	---	---	---	---	---
16	---	14.5	---	---	---	11.5	---	---	---	---	---	---
17	---	---	---	---	7.5	13.0	---	---	---	---	---	---
18	---	---	---	---	---	12.0	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	9.5	---	---	---	15.0	---	---	---	---	---
21	---	---	---	---	12.5	14.0	15.0	---	---	---	---	---
22	---	---	9.5	---	11.0	14.0	---	---	---	---	---	---
23	---	12.5	---	---	---	---	---	---	---	---	---	---
24	---	---	8.0	---	8.5	12.5	10.0	---	---	---	---	---
25	---	---	---	---	---	12.0	11.5	---	---	---	---	---
26	---	---	4.0	---	11.0	---	10.0	---	---	---	---	---
27	---	---	---	---	---	12.0	---	---	---	---	---	---
28	---	---	---	---	10.5	12.5	---	---	---	---	---	---
29	---	---	---	---	---	13.5	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	8.5	---	---	---	---	---	---	---	---

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	.00	0	.00	.00	0	.00	.01	3	.00
2	.00	0	.00	.00	0	.00	.00	0	.00
3	.00	0	.00	.00	0	.00	.00	0	.00
4	.00	0	.00	.00	0	.00	.00	0	.00
5	.00	0	.00	.00	0	.00	.00	0	.00
6	.00	0	.00	.00	0	.00	.00	0	.00
7	.00	0	.00	.00	0	.00	.00	0	.00
8	.00	0	.00	.00	0	.00	.00	0	.00
9	.00	0	.00	.00	0	.00	.00	0	.00
10	.00	0	.00	.00	0	.00	.00	0	.00
11	.00	0	.00	.00	0	.00	.00	0	.00
12	.00	0	.00	.00	0	.00	.00	0	.00
13	.00	0	.00	.00	0	.00	.00	0	.00
14	.00	0	.00	.00	0	.00	.00	0	.00
15	.00	0	.00	.00	0	.00	.00	0	.00
16	.00	0	.00	.00	0	.00	.00	0	.00
17	.00	0	.00	.00	0	.00	.00	0	.00
18	.00	0	.00	.00	0	.00	.00	0	.00
19	.00	0	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	.06	36	.02
21	.00	0	.00	.00	0	.00	.03	12	.00
22	.00	0	.00	.00	0	.00	.92	399	3.1
23	.00	0	.00	.18	111	.18	.40	137	.30
24	.00	0	.00	.02	10	.00	1.6	187	1.3
25	.00	0	.00	.02	6	.00	.41	22	.02
26	.00	0	.00	.01	5	.00	.08	5	.00
27	.00	0	.00	.01	5	.00	.04	3	.00
28	.00	0	.00	.01	4	.00	.03	3	.00
29	.00	0	.00	.01	4	.00	.02	3	.00
30	.00	0	.00	.01	4	.00	.03	4	.00
31	.00	0	.00	---	---	---	.19	20	.01
TOTAL	0.00	---	0.00	0.27	---	0.18	3.82	---	4.75
DAY		JANUARY			FEBRUARY			MARCH	
1	.19	10	.01	.15	10	.00	.29	40	.03
2	.07	4	.00	.15	13	.01	2.6	480	4.5
3	.04	3	.00	.42	63	.06	.98	32	.10
4	.03	3	.00	.50	21	.03	.62	17	.03
5	.90	370	1.1	.30	19	.02	.51	18	.02
6	.43	25	.04	.24	18	.01	.51	15	.02
7	.26	7	.00	.23	18	.01	.54	21	.03
8	.18	5	.00	.36	30	.02	1.2	50	.18
9	e.14	4	.00	1.3	73	.26	1.0	23	.08
10	e.54	420	.61	.64	24	.04	2.8	293	6.3
11	e.27	41	.03	.44	22	.03	11	1130	81
12	.24	20	.01	.38	24	.02	2.9	93	.73
13	.23	18	.01	.38	26	.03	2.0	17	.09
14	.20	16	.01	.33	17	.02	1.6	15	.06
15	.19	15	.01	.30	8	.01	1.3	17	.06
16	.19	14	.01	.27	15	.01	3.4	189	2.6
17	.19	12	.01	.27	24	.02	1.8	34	.17
18	.19	11	.01	.27	24	.02	e2.6	630	4.4
19	.19	10	.01	.27	23	.02	e2.1	50	.28
20	.16	9	.00	.27	23	.02	e1.7	25	.11
21	.15	8	.00	.27	23	.02	e1.6	21	.09
22	.12	8	.00	.27	25	.02	1.9	19	.10
23	.31	29	.02	.27	15	.01	1.7	17	.08
24	.26	10	.01	.27	6	.00	5.5	306	6.4
25	.19	8	.00	.27	16	.01	12	2660	191
26	.15	7	.00	.27	26	.02	6.7	69	1.2
27	.13	6	.00	.27	26	.02	e2.6	31	.22
28	.12	6	.00	.27	25	.02	e1.7	15	.07
29	.13	5	.00	---	---	---	e1.6	10	.04
30	.15	6	.00	---	---	---	e1.4	14	.05
31	.15	8	.00	---	---	---	e1.4	18	.07
TOTAL	6.69	---	1.90	9.63	---	0.78	79.55	---	300.11

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL	
1	e1.1	21	.06
2	e.76	15	.03
3	e.80	9	.02
4	e1.1	18	.05
5	e.96	28	.07
6	e.86	38	.09
7	e.79	37	.08
8	e.72	35	.07
9	e.67	33	.06
10	e.63	31	.05
11	e.58	30	.05
12	e.57	26	.04
13	e.53	23	.03
14	e.49	21	.03
15	e.47	21	.03
16	e.43	20	.02
17	e.40	20	.02
18	e.36	20	.02
19	e.36	20	.02
20	e.41	20	.02
21	.74	11	.02
22	.69	16	.03
23	.87	21	.05
24	.85	27	.06
25	.75	16	.03
26	.60	18	.03
27	.57	17	.03
28	.50	17	.02
29	.50	17	.02
30	.50	17	.02
31	---	---	---
TOTAL	19.56	---	1.17
PERIOD	119.52		308.89

e Estimated.

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	0.00	0.00	0	0
NOVEMBER	0.27	0.18	0	0
DECEMBER	3.82	4.75	0	5
JANUARY 1989	6.69	1.90	0	2
FEBRUARY	9.63	0.78	0	1
MARCH	79.55	300.11	1	301
APRIL	19.56	1.17	0	1
PERIOD	119.52	308.89	1	310

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN								
05...	1500	2.0	7.0	474	2.6	--	--	--
05...	1700	1.8	6.5	260	1.3	--	--	--
10...	1015	1.0	4.0	785	2.1	58	76	89
FEB								
03...	1135	0.38	7.0	34	0.03	--	--	--
03...	1725	0.51	7.5	98	0.13	--	--	--
09...	1410	1.2	6.0	70	0.23	--	--	--
MAR								
02...	0915	4.9	9.5	1080	14	--	--	--
02...	1200	4.2	10.0	482	5.5	--	--	--
02...	1640	2.9	9.5	316	2.5	--	--	--
03...	1125	0.92	7.5	18	0.05	--	--	--
08...	1120	0.83	12.0	28	0.06	--	--	--
08...	1440	1.1	13.0	38	0.11	--	--	--
09...	1245	0.92	13.5	19	0.05	--	--	--
10...	1140	2.5	14.0	147	0.99	--	--	--
11...	0045	37	--	15700	1570	19	26	35
11...	1310	5.9	14.5	291	4.6	--	--	--
13...	1645	2.0	12.5	16	0.09	--	--	--
16...	1535	4.7	11.5	242	3.1	--	--	--
17...	1540	1.8	13.0	23	0.11	--	--	--
18...	0815	4.8	9.5	246	3.2	--	--	--
18...	1230	3.4	12.0	505	4.6	--	--	--
18...	1630	13	12.5	1050	36	--	--	--
21...	1305	2.4	14.0	19	0.12	--	--	--
22...	1745	1.8	14.0	19	0.09	--	--	--
24...	1100	7.8	12.5	509	11	--	--	--
24...	1635	4.9	13.5	151	2.0	--	--	--
25...	0940	29	12.0	7900	619	41	48	60
25...	1020	22	12.0	6800	404	42	47	56
25...	1730	11	12.0	623	19	--	--	--
27...	1055	5.5	12.0	29	0.43	--	--	--

11180960 CULL CREEK ABOVE CULL CREEK RESERVOIR, NEAR CASTRO VALLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
JAN								
05...	--	--	98	99	99	100	--	--
05...	--	--	99	100	--	--	--	--
10...	97	99	100	--	--	--	--	--
FEB								
03...	--	--	90	--	--	--	--	--
03...	--	--	92	97	100	--	--	--
09...	--	--	94	97	100	--	--	--
MAR								
02...	--	--	97	99	99	100	--	--
02...	--	--	97	98	99	100	--	--
02...	--	--	98	99	100	--	--	--
03...	--	--	98	98	100	--	--	--
08...	--	--	76	81	100	--	--	--
08...	--	--	96	99	100	--	--	--
09...	--	--	99	--	--	--	--	--
10...	--	--	98	99	100	--	--	--
11...	48	63	79	86	91	93	94	100
11...	--	--	97	99	100	--	--	--
13...	--	--	89	--	--	--	--	--
16...	--	--	99	99	100	--	--	--
17...	--	--	93	99	100	--	--	--
18...	--	--	94	98	100	--	--	--
18...	--	--	99	99	100	--	--	--
18...	--	--	94	97	99	100	--	--
21...	--	--	89	--	--	--	--	--
22...	--	--	90	--	--	--	--	--
24...	--	--	98	99	100	--	--	--
24...	--	--	95	98	100	--	--	--
25...	71	80	87	91	96	97	98	100
25...	67	76	82	87	93	97	99	100
25...	--	--	95	98	100	--	--	--
27...	--	--	93	--	--	--	--	--

11181008 CASTRO VALLEY CREEK AT HAYWARD, CA

LOCATION.--Lat 37°40'48", long 122°04'46", in San Lorenzo (Castro) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 500 ft east of Hayward City Hall, 700 ft upstream from mouth, and 700 ft downstream from small left-bank tributary.

DRAINAGE AREA.--5.51 mi^2.

PERIOD OF RECORD.--October 1971 to current year (seasonal records only, water years 1975-77).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 100 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.--15 years (water years 1972-74, 1978-89), 4.10 ft^3/s, 2,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft^3/s, Jan. 23, 1983, gage height, 8.51 ft, from rating curve extended above 61 ft^3/s on basis of slope-area measurement at gage height 3.92 ft and step-backwater computation to gage height 10.40 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0515	563	5.54	Mar. 25	0700	*600	*5.71

Minimum daily, 0.13 ft^3/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.21	.41	.82	.33	7.3	.78	.45	.32	.28	.21	.16
2	.16	.99	.43	.63	2.2	36	.74	.45	.33	.28	.20	.16
3	.16	2.5	.40	.56	13	1.5	.70	.46	.28	.30	.20	.16
4	.17	1.0	.43	.51	6.0	1.2	.68	.46	.32	.28	.29	.15
5	.20	.23	.44	25	.72	1.9	.64	.43	.29	.29	.20	.24
6	.19	.37	.44	3.9	.55	5.3	.63	.43	.29	.31	.20	.15
7	.17	.23	.38	3.2	.49	7.1	.60	.43	.27	.60	.29	.17
8	.17	.26	.36	.76	19	12	.62	.42	.40	.25	.37	.14
9	.17	.25	.39	.99	12	5.7	.62	.43	.29	.24	.22	.14
10	.16	1.2	.39	7.3	1.4	18	.59	.46	.26	.27	.25	.14
11	.19	.25	.32	.74	.89	6.3	.54	.39	.25	.26	.26	.29
12	.18	.41	.33	.52	.71	1.6	.55	.37	.26	.27	.18	.21
13	9.2	1.6	.33	.43	.67	1.8	.51	.38	.33	.29	.18	.15
14	2.3	2.3	.34	.39	.55	.84	.50	.38	.26	.25	.26	.44
15	.30	.51	.35	.39	.48	.74	.48	.37	.82	.24	.19	.13
16	.25	19	.28	.34	.50	24	.48	.38	.40	.23	.34	12
17	.23	.63	.32	.34	.42	1.8	.50	.38	.22	.28	.24	2.4
18	.24	.39	.29	.32	1.1	27	.47	.36	.22	.32	.49	14
19	.25	.36	3.7	.33	.53	5.5	.45	.36	.29	.26	.59	.41
20	.25	.34	29	.39	.41	1.9	.42	.33	.26	.21	.44	.30
21	.23	.35	5.5	.31	.38	1.3	3.2	.33	.26	.24	.17	.28
22	.23	5.2	34	.31	.42	1.2	.48	.33	.61	.29	.26	.30
23	.23	53	1.2	13	.37	1.8	3.9	1.3	.26	.24	.24	.25
24	.24	11	27	.56	.37	6.0	11	.32	.23	.25	.22	.37
25	.23	5.1	1.4	.41	.36	31	.70	.35	.23	.26	.21	.27
26	.34	.67	.74	.38	.37	2.2	.57	.31	.27	.22	.16	.24
27	.26	.52	4.0	.35	.37	1.4	.50	.31	.26	.23	.14	.24
28	.24	.47	.73	.33	.34	1.2	.50	.32	.27	.28	.27	2.2
29	.21	.43	.65	.33	---	1.0	.49	.30	.30	.24	.16	2.5
30	.22	.44	11	.33	---	.91	.49	.32	.29	.22	.20	.32
31	.22	---	4.1	.33	---	.84	---	.36	---	.26	.20	---
TOTAL	17.77	110.21	129.65	64.50	64.93	216.33	33.33	12.67	9.34	8.44	7.83	38.91
MEAN	.57	3.67	4.18	2.08	2.32	6.98	1.11	.41	.31	.27	.25	1.30
MAX	9.2	53	34	25	19	36	11	1.3	.82	.60	.59	14
MIN	.16	.21	.28	.31	.33	.74	.42	.30	.22	.21	.14	.13
AC-FT	35	219	257	128	129	429	66	25	19	17	16	77

CAL YR 1988 TOTAL 640.87 MEAN 1.75 MAX 54 MIN .09 AC-FT 1270
WTR YR 1989 TOTAL 713.91 MEAN 1.96 MAX 53 MIN .13 AC-FT 1420

11181040 SAN LORENZO CREEK AT SAN LORENZO, CA

LOCATION.--Lat 37°41'03", long 122°08'20", in San Lorenzo (Soto) Grant, Alameda County, Hydrologic Unit 18050004, on left bank 400 ft downstream from Washington Avenue bridge in San Lorenzo, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--44.6 mi^2.

PERIOD OF RECORD.--October 1967 to September 1978, October 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6.13 ft above National Geodetic Vertical Datum of 1929 (levels by Alameda County Flood Control and Water Conservation District).

REMARKS.--Records fair. Flow partly regulated by Cull Creek Reservoir beginning in October 1962 (capacity, 310 acre-ft) and Don Castro Reservoir (capacity, 380 acre-ft) 7 mi upstream beginning in January 1965. A few very small diversions upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1968-78, 1988-89), 18.4 ft^3/s, 13,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,960 ft^3/s, Apr. 1, 1974, gage height, 8.22 ft from rating curve extended above 1,200 ft^3/s; minimum daily, 0.01 ft^3/s, June 30, July 1, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	0730	*1,020	*5.45				

Minimum daily, 0.27 ft^3/s, Nov. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	.34	.81	4.0	1.9	5.1	e16	e3.7	e1.3	e1.0	.35	.38
2	.38	1.0	.81	2.4	9.7	101	e13	e3.2	e1.2	e1.1	.40	.37
3	.38	4.8	.76	2.1	31	25	9.5	e3.0	e1.2	e1.3	1.0	.40
4	.43	.94	.71	1.9	22	8.7	8.0	e2.8	e1.4	e1.2	.55	.39
5	.47	.27	.77	16	5.2	9.5	6.9	e2.6	e2.0	e1.1	.48	.47
6	.51	.33	.76	11	3.1	18	6.6	e2.5	e1.8	e1.4	.53	.44
7	.43	.79	.61	13	2.5	9.6	5.9	e2.4	e1.8	1.7	.74	.64
8	.41	.82	.61	4.8	27	19	5.6	e2.3	2.4	.94	.83	.60
9	.44	.70	.63	4.0	38	21	5.1	e2.3	1.4	.84	.57	.58
10	.44	2.4	.53	13	10	25	4.5	e2.3	1.1	.81	.79	.62
11	.43	.58	.55	7.0	5.4	35	3.4	e2.2	1.1	e.70	.89	.90
12	.41	.54	.56	3.5	4.5	25	2.9	e2.2	1.1	e.61	.78	.79
13	9.6	3.8	.53	2.7	3.9	23	2.9	e2.1	1.2	e.54	.82	.99
14	6.3	6.2	e.51	2.5	3.5	32	3.1	e2.0	.87	e.52	.92	.99
15	.43	.39	.46	2.2	3.1	21	3.3	e2.0	1.9	e.49	.84	.62
16	.37	32	.41	2.1	3.1	54	3.0	e2.0	.91	e.47	1.2	1.8
17	.33	2.6	.37	2.0	2.9	14	3.1	e2.0	.55	e.45	1.1	3.0
18	.33	.64	.37	2.1	3.6	58	2.9	e1.9	.48	e.44	1.2	31
19	.33	.49	2.8	2.1	5.4	28	3.0	e1.8	.65	.44	1.5	1.1
20	.33	.48	7.0	2.1	3.1	18	3.4	e1.7	.68	.38	1.5	.53
21	.38	.45	22	2.5	3.0	11	15	e1.7	.60	.36	.90	.42
22	.37	7.4	55	1.9	2.7	9.3	5.6	e1.9	1.3	.73	1.1	.40
23	.41	95	11	29	2.6	8.8	18	e3.0	.57	1.3	1.0	.37
24	.42	23	35	5.0	2.7	29	31	e2.5	.85	1.2	.96	.48
25	.45	17	9.9	2.9	2.7	106	11	e2.1	.89	.59	.77	.40
26	.46	2.5	3.2	2.0	2.7	34	6.9	e1.9	1.2	.37	.62	.39
27	.46	1.1	9.7	1.9	4.3	29	6.5	e2.0	e1.1	.38	.63	.43
28	.41	.93	3.4	1.8	2.6	30	7.7	e1.8	e.97	.45	.65	2.7
29	.41	.84	2.0	1.9	---	29	9.4	e1.7	e.86	.36	.47	7.5
30	.41	.83	10	1.9	---	27	e4.3	e1.5	e1.1	.39	.43	.99
31	.41	---	20	1.9	---	e22	---	e1.4	---	.40	.43	---
TOTAL	27.70	209.16	201.76	153.2	212.2	885.0	227.5	68.5	34.48	22.96	24.95	60.69
MEAN	.89	6.97	6.51	4.94	7.58	28.5	7.58	2.21	1.15	.74	.80	2.02
MAX	9.6	95	55	29	38	106	31	3.7	2.4	1.7	1.5	31
MIN	.33	.27	.37	1.8	1.9	5.1	2.9	1.4	.48	.36	.35	.37
AC-FT	55	415	400	304	421	1760	451	136	68	46	49	120

CAL YR 1988 TOTAL 1426.59 MEAN 3.90 MAX 130 MIN .16 AC-FT 2830
WTR YR 1989 TOTAL 2128.10 MEAN 5.83 MAX 106 MIN .27 AC-FT 4220

e Estimated.

11181390 WILDCAT CREEK AT VALE ROAD, AT RICHMOND, CA

LOCATION.--Lat 37°57'12", long 122°20'14", in San Pablo Grant, Contra Costa County, Hydrologic Unit 18050002, on left bank at upstream side of Vale Road bridge at Richmond, 3.6 mi upstream from mouth.

DRAINAGE AREA.--7.79 mi^2.

PERIOD OF RECORD.--October 1975 to current year.

REVISED RECORDS.--WDR CA-81-2: 1979-80(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 65.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor. Minor storage in Lake Anza and Jewel Lake 5 mi upstream. No diversion upstream from station.

AVERAGE DISCHARGE.--14 years, 5.13 ft^3/s, 3,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,050 ft^3/s, Jan. 4, 1982, gage height, 14.68 ft, 15.80 ft from floodmarks, from rating curve extended above 400 ft^3/s on basis of slope-area measurement of peak flow; no flow Aug. 31, Sept. 6, 7, 1979, and many days during 1987-89.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	0745	*185	*4.68				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.02	.72	.15	.48	2.8	.45	.01	.00	.00	.00
2	.00	.09	.02	.41	.15	22	2.5	.32	.02	.00	.00	.00
3	.00	.01	.02	.32	.81	3.8	1.9	.27	.00	.00	.00	.00
4	.00	.00	.02	.28	1.4	1.5	1.8	.26	.00	.00	.17	.00
5	.00	.00	.02	5.3	.63	1.4	1.7	.19	.01	.00	.00	.00
6	.00	.00	.02	2.7	.36	1.9	1.7	.15	.04	.00	.00	.00
7	.00	.00	.02	1.2	.31	1.8	1.7	.04	.00	.00	.00	.00
8	.00	.00	.02	.69	1.3	2.5	1.6	.03	.00	.00	.00	.00
9	.00	.05	.01	.52	3.3	2.8	1.3	.12	.00	.00	.00	.00
10	.00	.22	.01	.43	1.8	5.5	1.0	.15	.00	.00	.00	.00
11	.00	.01	.01	.43	1.0	28	.68	.15	.00	.00	.00	.00
12	.00	.01	.01	.38	.75	6.0	.95	.15	.00	.00	.00	.00
13	.02	.13	.01	.31	.57	3.9	1.2	.15	.02	.01	.00	.00
14	.04	.02	.01	.26	.46	2.4	.94	.04	.01	.01	.00	.00
15	.01	.01	.01	.23	.39	2.0	.74	.03	.00	.00	.00	.00
16	.00	.24	.01	.19	.34	21	.68	.15	.00	.00	.00	3.2
17	.00	.01	.01	.16	.32	7.5	1.3	.19	.00	.00	.00	.11
18	.01	.01	.01	.15	.29	16	1.1	.01	.00	.00	.00	.42
19	.01	.01	.06	.15	.32	34	.86	.01	.00	.00	.00	.02
20	.01	.01	3.3	.15	.32	8.6	1.0	.01	.00	.00	.00	.01
21	.01	.01	1.5	.15	.32	4.8	1.1	.02	.00	.00	.00	.01
22	.01	.61	7.6	.15	.27	3.7	.62	.02	.00	.00	.00	.01
23	.00	1.6	2.8	1.2	.23	5.9	.70	.00	.00	.00	.00	.01
24	.00	.23	6.8	.59	.23	35	1.9	.05	.00	.00	.00	.01
25	.00	.07	2.9	.38	.23	66	1.3	.01	.00	.00	.00	.01
26	.01	.02	.92	.31	.23	16	.69	.00	.00	.00	.00	.01
27	.01	.02	1.1	.25	.23	7.2	.77	.03	.00	.00	.00	.01
28	.01	.02	.96	.23	.22	5.3	.75	.01	.00	.00	.00	.04
29	.01	.02	.63	.21	---	4.5	.42	.01	.00	.00	.00	.27
30	.00	.02	2.1	.15	---	4.0	.62	.00	.00	.00	.00	.00
31	.00	---	1.4	.15	---	3.8	---	.00	---	.00	.00	---
TOTAL	0.16	3.46	32.33	18.75	16.93	329.28	36.32	3.02	0.11	0.02	0.17	4.14
MEAN	.005	.12	1.04	.60	.60	10.6	1.21	.097	.004	.001	.005	.14
MAX	.04	1.6	7.6	5.3	3.3	66	2.8	.45	.04	.01	.17	3.2
MIN	.00	.00	.01	.15	.15	.48	.42	.00	.00	.00	.00	.00
AC-FT	.3	6.9	64	37	34	653	72	6.0	.2	.04	.3	8.2

CAL YR 1988 TOTAL 231.90 MEAN .63 MAX 32 MIN .00 AC-FT 460
WTR YR 1989 TOTAL 444.69 MEAN 1.22 MAX 66 MIN .00 AC-FT 882

11182030 RHEEM CREEK AT SAN PABLO, CA

LOCATION.--Lat 37°58'38", long 122°21'10", in San Pablo Grant, Contra Costa County, Hydrologic Unit 18050002, on left bank 50 ft downstream from Santa Fe Railway bridge at San Pablo and 0.7 mi upstream from mouth.

DRAINAGE AREA.--1.49 mi^2.

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

REVISED RECORDS.--WDR CA-72-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 13.63 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Aug. 13, 1965, at site 0.2 mi upstream at datum 7.74 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Low flow affected by return flow from industrial waste, leakage, and infrequent releases from off-stream North Reservoir.

AVERAGE DISCHARGE.--28 years (water years 1962-89), 1.49 ft^3/s, 1,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 477 ft^3/s, Dec. 20, 1969, gage height, 6.95 ft, from rating curve extended above 150 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	2200	*157	*4.63				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.23	.04	1.5	.13	.03	.00	.00	.00	.00
2	.00	1.0	.00	.11	.45	23	.10	.02	.00	.00	.00	.00
3	.00	.03	.00	.10	2.8	.47	.09	.02	.01	.00	.00	.00
4	.00	.17	.00	.05	.14	.51	.08	.01	.02	.00	.01	.00
5	.00	.01	.00	9.5	.05	2.1	.09	.02	.03	.00	.01	.00
6	.00	.00	.03	1.3	.04	2.0	.07	.01	.02	.03	.00	.00
7	.00	.00	.01	.53	.03	1.6	.08	.01	.02	.00	.00	.00
8	.00	.00	.00	.22	5.7	3.2	.07	.01	.02	.00	.00	.00
9	.00	.01	.00	.15	6.3	4.0	.05	.01	.03	.00	.00	.00
10	.00	2.7	.00	.12	.26	11	.06	.02	.02	.00	.01	.00
11	.00	.01	.00	.06	.12	4.6	.05	.02	.01	.00	.00	.00
12	.00	.00	.00	.04	.08	.52	.04	.03	.01	.00	.02	.00
13	.02	1.3	.00	.04	.08	.78	.04	.01	.02	.00	.00	.00
14	.53	.11	.00	.04	.06	.16	.07	.01	.03	.00	.00	.00
15	.00	.18	.00	.03	.05	.11	.04	.01	.02	.01	.00	.00
16	.00	2.2	.00	.05	.04	16	.04	.03	.02	.00	.00	15
17	.00	.07	.00	.04	.04	5.8	.05	.01	.01	.00	.00	1.4
18	.00	.01	.00	.04	.11	13	.04	.00	.00	.00	.00	3.1
19	.00	.00	.40	.04	.06	7.7	.07	.02	.00	.00	.00	.10
20	.00	.00	19	.04	.04	.81	.04	.01	.00	.01	.00	.02
21	.00	.08	.51	.04	.04	.31	1.1	.01	.00	.00	.00	.01
22	.00	5.6	19	.04	.04	.22	.04	.01	.00	.00	.00	.00
23	.00	11	.41	6.1	.04	11	.83	.03	.00	.00	.00	.00
24	.00	4.0	15	.12	.03	8.9	1.3	.00	.00	.00	.00	.00
25	.00	1.4	.42	.06	.02	14	.11	.00	.00	.00	.00	.00
26	.00	.06	.09	.04	.02	.95	.03	.01	.00	.00	.00	.00
27	.00	.02	3.5	.04	.02	.47	.02	.01	.00	.00	.00	.00
28	.00	.01	.19	.04	.01	.25	.02	.00	.00	.00	.00	.02
29	.00	.09	.07	.04	---	.18	.02	.00	.00	.00	.00	1.2
30	.00	.01	12	.04	---	.17	.74	.00	.00	.00	.00	.01
31	.00	---	4.2	.04	---	.13	---	.00	---	.00	.00	---
TOTAL	0.55	30.07	74.83	19.33	16.71	135.44	5.51	0.38	0.29	0.05	0.05	20.86
MEAN	.018	1.00	2.41	.62	.60	4.37	.18	.012	.010	.002	.002	.70
MAX	.53	11	19	9.5	6.3	23	1.3	.03	.03	.03	.02	15
MIN	.00	.00	.00	.03	.01	.11	.02	.00	.00	.00	.00	.00
AC-FT	1.1	60	148	38	33	269	11	.8	.6	.1	.1	41

CAL YR 1988 TOTAL 271.75 MEAN .74 MAX 25 MIN .00 AC-FT 539
WTR YR 1989 TOTAL 304.07 MEAN .83 MAX 23 MIN .00 AC-FT 603

11182500 SAN RAMON CREEK AT SAN RAMON, CA

LOCATION.--Lat 37°46'23", long 121°59'37", in sec.8, T.2 S., R.1 W., Contra Costa County, Hydrologic Unit 18050001, on right bank 0.2 mi downstream from Bollinger Creek and 1.0 mi southwest of San Ramon.

DRAINAGE AREA.--5.89 mi^2.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1445: 1953-54(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 530 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.--37 years, 3.17 ft^3/s, 2,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft^3/s, Oct. 13, 1962, gage height, 16.98 ft, from rating curve extended above 200 ft^3/s on basis of culvert computations at gage heights 11.80, 12.09, 14.20, and 16.98 ft; no flow for parts of most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 25	0815	*136	*3.29				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	.32	.21	.29	1.6	.48	.12	.01	.00	.00
2	.00	.00	.01	.21	.20	4.7	1.5	.44	.10	.01	.00	.00
3	.00	.00	.01	.19	1.4	.92	1.5	.42	.09	.01	.00	.00
4	.00	.00	.01	.19	.62	.55	1.3	.40	.15	.01	.00	.00
5	.01	.00	.01	2.3	.31	.54	1.1	.36	.15	.01	.00	.00
6	.00	.00	.01	.53	.27	.78	1.0	.32	.12	.01	.00	.00
7	.01	.00	.01	.34	.25	.60	.90	.31	.12	.01	.00	.00
8	.01	.00	.01	.27	.43	1.4	.84	.34	.17	.00	.00	.00
9	.00	.00	.01	.27	2.1	1.0	.68	.39	.15	.00	.00	.00
10	.01	.02	.01	.81	.64	4.6	.62	.38	.13	.00	.00	.00
11	.01	.00	.01	.42	.44	12	.66	.35	.14	.00	.00	.00
12	.01	.00	.01	.26	.37	1.8	.61	.31	.15	.01	.00	.00
13	.03	.05	.01	.23	.36	1.1	.55	.29	.12	.01	.00	.00
14	.00	.01	.01	.23	.31	.80	.55	.29	.08	.01	.00	.00
15	.00	.00	.01	.21	.31	.68	.52	.29	.07	.01	.00	.00
16	.00	.06	.01	.21	.30	2.2	.50	.26	.06	.01	.00	.02
17	.00	.01	.01	.24	.30	.88	.49	.25	.03	.01	.00	.00
18	.00	.00	.01	.20	.31	3.1	.46	.27	.02	.01	.00	.02
19	.00	.00	.03	.20	.31	4.3	.40	.23	.02	.01	.00	.00
20	.00	.00	1.5	.20	.27	1.6	.37	.23	.02	.00	.00	.00
21	.00	.01	1.2	.19	.27	1.1	.68	.25	.01	.00	.00	.00
22	.00	.03	3.6	.19	.27	.95	.64	.25	.01	.00	.00	.00
23	.00	3.5	.62	.70	.27	.92	.91	.27	.01	.00	.00	.00
24	.00	.43	2.9	.31	.27	12	.81	.25	.02	.00	.00	.00
25	.00	.73	.64	.20	.27	19	.68	.23	.02	.00	.00	.01
26	.00	.08	.28	.19	.27	5.7	.59	.21	.01	.00	.00	.01
27	.00	.01	.46	.17	.27	3.6	.57	.21	.01	.00	.00	.01
28	.00	.01	.39	.18	.27	2.8	.52	.22	.01	.00	.00	.01
29	.00	.01	.20	.18	---	2.3	.50	.20	.01	.00	.00	.01
30	.00	.01	.26	.18	---	1.9	.51	.19	.01	.00	.00	.01
31	.00	---	.92	.19	---	1.8	---	.16	---	.00	.00	---
TOTAL	0.09	4.97	13.18	10.51	11.87	95.91	22.56	9.05	2.13	0.15	0.00	0.10
MEAN	.003	.17	.43	.34	.42	3.09	.75	.29	.071	.005	.000	.003
MAX	.03	3.5	3.6	2.3	2.1	19	1.6	.48	.17	.01	.00	.02
MIN	.00	.00	.01	.17	.20	.29	.37	.16	.01	.00	.00	.00
AC-FT	.2	9.9	26	21	24	190	45	18	4.2	.3	.00	.2

CAL YR 1988 TOTAL 119.03 MEAN .33 MAX 19 MIN .00 AC-FT 236
WTR YR 1989 TOTAL 170.52 MEAN .47 MAX 19 MIN .00 AC-FT 338

11182800 SAN RAMON CREEK NEAR WALNUT CREEK, CA

LOCATION.--Lat 37°52'38", long 122°02'52", in San Ramon Grant, Contra Costa County, Hydrologic Unit 18050001, on left bank 600 ft upstream from Rudgear Road, near south city limits of town of Walnut Creek.

DRAINAGE AREA.--47.9 mi^2.

PERIOD OF RECORD.--October 1973 to current year. Prior to October 1987, published as San Ramon Creek at Walnut Creek.

REVISED RECORDS.--WDR CA-79-2: 1978. WDR CA-84-2: 1974-75(P), 1978-80(P). WDR CA-88-2: 1974-75(P), 1978-80(P), 1982-87(P).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control. Datum of gage is 169.98 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. No regulation, pumping for irrigation upstream from station during periods of low flow.

AVERAGE DISCHARGE.--16 years, 25.2 ft^3/s, 18,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft^3/s, Jan. 5, 1982, gage height, 15.55 ft, from rating curve extended above 1,400 ft^3/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 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0045	*616	*3.71				

Minimum daily, 0.68 ft^3/s, July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.88	2.4	6.9	3.2	3.8	8.3	6.8	2.0	1.3	.88	1.1
2	.70	1.0	2.4	5.0	3.6	23	8.0	7.3	2.0	1.3	.92	1.1
3	.70	1.0	2.4	4.3	46	11	7.7	7.8	2.0	1.3	.98	1.1
4	.74	1.2	2.2	3.7	13	6.7	8.6	8.0	2.1	1.3	1.1	1.0
5	.74	1.2	2.2	50	4.8	6.3	8.3	8.2	1.9	1.2	.88	.99
6	.74	1.1	2.1	9.6	3.9	9.9	8.0	8.1	1.9	1.0	.85	.89
7	.72	1.2	2.1	5.9	4.1	9.7	7.4	7.3	1.9	1.1	.92	.82
8	.75	1.2	2.3	4.6	13	15	7.0	6.7	1.8	1.3	1.1	.81
9	.79	1.2	2.3	4.4	36	15	6.8	5.5	1.8	1.3	.89	.88
10	.74	6.9	2.0	7.2	9.1	27	6.8	4.5	2.0	1.1	.88	1.0
11	.74	5.8	2.1	6.0	5.6	93	6.6	3.6	2.2	.97	.88	1.1
12	.74	3.8	2.2	3.8	5.0	14	6.8	3.5	2.1	.91	.91	1.1
13	.95	7.9	2.2	3.6	4.8	12	6.6	3.0	2.2	.86	.88	1.1
14	7.7	12	2.2	3.6	4.7	9.3	6.6	3.0	2.1	.91	.88	1.2
15	4.9	4.3	2.4	3.2	5.1	7.6	6.8	3.0	2.2	1.1	.91	1.1
16	3.3	14	2.2	3.4	4.1	36	6.5	2.8	2.3	1.2	.95	8.0
17	2.7	10	2.3	3.3	4.1	11	6.2	2.6	2.1	1.1	.88	14
18	2.0	3.6	2.2	3.2	4.1	36	6.1	2.5	2.0	1.0	.90	21
19	1.3	3.1	2.2	3.5	3.9	30	6.0	2.3	1.8	.96	1.0	6.1
20	.96	2.6	18	4.2	3.6	12	6.1	2.4	1.7	.96	.96	3.3
21	.84	2.3	29	3.3	3.6	9.1	7.5	2.5	1.4	.85	.93	2.5
22	.79	6.1	78	3.3	3.9	8.1	9.3	2.4	1.3	.74	.98	1.8
23	.75	123	17	25	4.4	8.0	14	2.3	1.4	.70	1.1	1.6
24	.74	151	78	5.7	3.7	87	11	2.1	1.4	.68	1.1	1.5
25	.77	161	19	4.1	3.8	98	8.7	2.4	1.4	.71	1.1	1.5
26	.84	154	7.1	3.8	3.9	23	6.6	2.5	1.4	.93	1.1	1.6
27	.88	113	12	3.4	3.8	14	6.4	2.4	1.3	.98	1.0	1.6
28	.88	13	7.2	3.2	3.8	11	6.3	2.2	1.2	.88	1.0	1.7
29	.88	2.8	4.7	3.2	---	11	6.7	2.2	1.3	.88	1.0	6.8
30	.88	2.6	6.9	3.2	---	9.4	6.5	2.1	1.3	.88	.96	5.8
31	.88	---	34	3.2	---	8.8	---	2.0	---	.88	1.1	---
TOTAL	41.78	812.78	353.3	200.8	212.6	675.7	224.2	124.0	53.5	31.28	29.92	94.09
MEAN	1.35	27.1	11.4	6.48	7.59	21.8	7.47	4.00	1.78	1.01	.97	3.14
MAX	7.7	161	78	50	46	98	14	8.2	2.3	1.3	1.1	21
MIN	.70	.88	2.0	3.2	3.2	3.8	6.0	2.0	1.2	.68	.85	.81
AC-FT	83	1610	701	398	422	1340	445	246	106	62	59	187

CAL YR 1988 TOTAL 3089.83 MEAN 8.44 MAX 206 MIN .50 AC-FT 6130
WTR YR 1989 TOTAL 2853.95 MEAN 7.82 MAX 161 MIN .68 AC-FT 5660

11183600 WALNUT CREEK AT CONCORD, CA

LOCATION.--Lat 37°56'43", long 122°02'55", in Arroyo de las Nueces y Bolbones Grant, Contra Costa County, Hydrologic Unit 18050001, on right bank at southwest city limits of Concord, 0.2 mi upstream from Southern Pacific railroad bridge, 3.8 mi downstream from confluence of San Ramon and Las Trampas Creeks, and 10 mi downstream from Lafayette Reservoir.

DRAINAGE AREA.--85.2 mi^2.

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

REVISED RECORDS.--WDR CA-79-2: Drainage area. WDR CA-82-2: 1969(M), 1970(M), 1973(P), 1975(M), 1978(M), 1980(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 35.44 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good. Flow slightly regulated by Lafayette Reservoir, capacity, 4,240 acre-ft. Some small diversions for irrigation upstream from station.

DISCHARGE.--21 years, 50.3 ft^3/s, 36,440 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft^3/s, Jan. 5, 1982, gage height, 19.1 ft, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.70 ft^3/s, Oct. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0830	*836	*5.02				

Minimum daily, 2.5 ft^3/s, Oct. 5, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.6	5.2	15	7.4	9.8	16	7.4	e5.8	4.0	3.1	3.3
2	2.7	4.7	5.2	11	14	154	15	7.6	e5.7	3.9	2.9	3.4
3	2.8	4.3	5.2	9.4	97	26	15	6.9	e5.7	3.8	2.9	2.9
4	2.6	4.0	5.4	9.0	27	16	14	6.7	e5.8	3.7	3.2	3.0
5	2.5	4.0	5.5	106	12	18	13	6.5	e5.4	3.5	3.1	3.0
6	3.0	3.7	5.2	22	9.9	42	12	6.3	e5.2	3.5	2.9	3.1
7	5.1	3.6	5.2	14	9.9	36	11	5.8	e5.1	3.4	2.9	2.7
8	6.2	3.6	4.7	11	35	55	10	5.7	e5.1	3.5	5.2	2.8
9	5.1	3.7	4.9	10	102	55	9.9	6.0	e5.1	3.3	3.4	2.9
10	3.2	19	4.8	22	24	74	9.4	6.2	e5.3	3.2	3.2	3.0
11	2.8	9.7	4.8	15	15	193	8.9	5.7	e5.2	3.2	2.9	3.2
12	2.8	7.2	4.8	9.9	13	36	9.0	5.6	e5.2	3.0	3.0	3.6
13	3.3	25	4.8	9.3	12	33	8.9	5.8	e5.2	3.0	3.1	3.1
14	37	23	4.8	9.5	12	19	9.3	6.0	e5.2	3.0	2.9	3.2
15	10	8.2	4.5	8.9	11	15	9.6	6.1	e5.2	3.4	3.1	3.0
16	7.2	25	4.5	8.9	10	94	9.4	5.8	4.8	3.7	2.9	34
17	11	21	4.8	8.9	10	27	9.3	5.8	4.5	3.9	2.5	31
18	7.3	6.8	4.7	8.1	10	86	9.3	5.9	4.1	3.4	2.8	40
19	4.2	5.9	10	8.1	9.6	87	9.1	6.0	3.9	3.3	3.6	13
20	3.6	5.5	107	10	9.2	27	8.7	5.9	3.8	3.6	3.5	7.4
21	3.3	5.5	50	8.4	8.9	19	15	5.8	3.7	3.7	3.4	5.5
22	3.1	15	159	8.4	8.9	17	13	5.8	3.6	4.0	3.4	4.6
23	3.2	197	25	68	10	16	27	6.3	3.7	3.9	3.5	3.6
24	3.3	40	125	16	8.9	188	16	5.9	3.5	3.5	3.6	3.4
25	3.5	43	26	11	8.9	186	13	6.4	3.6	3.6	3.4	3.4
26	3.4	11	12	9.3	8.9	47	9.7	6.3	3.7	3.4	3.2	3.5
27	3.6	7.2	25	7.9	8.9	28	8.6	e6.3	3.6	3.9	3.3	3.7
28	3.8	6.1	15	7.5	8.7	22	8.1	e6.1	3.5	3.7	3.2	4.8
29	3.6	5.8	9.7	7.4	---	20	8.4	e6.0	3.9	3.3	3.2	11
30	3.5	5.5	16	7.4	---	18	7.6	e6.0	3.9	3.1	3.5	8.9
31	3.6	---	63	7.4	---	17	---	e5.9	---	3.0	3.4	---
TOTAL	162.9	527.6	731.7	484.7	522.1	1680.8	343.2	190.5	138.0	108.4	100.2	224.0
MEAN	5.25	17.6	23.6	15.6	18.6	54.2	11.4	6.15	4.60	3.50	3.23	7.47
MAX	37	197	159	106	102	193	27	7.6	5.8	4.0	5.2	40
MIN	2.5	3.6	4.5	7.4	7.4	9.8	7.6	5.6	3.5	3.0	2.5	2.7
AC-FT	323	1050	1450	961	1040	3330	681	378	274	215	199	444

CAL YR 1988 TOTAL 5611.3 MEAN 15.3 MAX 376 MIN 2.4 AC-FT 11130
WTR YR 1989 TOTAL 5214.1 MEAN 14.3 MAX 197 MIN 2.5 AC-FT 10340
e Estimated.

11183700 LITTLE PINE CREEK NEAR ALAMO, CA

LOCATION.--Lat 37°53'06", long 121°58'36", in Arroyo de las Nueces y Bolbones Grant, Contra Costa County, Hydrologic Unit 18050001, on right bank 200 ft downstream from road ford, 1.2 mi upstream from mouth, and 3.8 mi northeast of Alamo.

DRAINAGE AREA.--1.22 mi^2.

PERIOD OF RECORD.--October 1974 to September 1989 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--15 years, 0.30 ft^3/s, 217 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138 ft^3/s, Jan. 4, 1982, gage height, 2.41 ft, from rating curve extended above 12 ft^3/s on basis of critical depth computation; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0030	*1.4	*1.04				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.00	.00	.00	.06	.00	.00	.00	.00	.00
2	.00	.00	.00	e.00	.00	.09	.06	.00	.00	.00	.00	.00
3	.00	.00	.00	e.00	.04	.02	.05	.00	.00	.00	.00	.00
4	.00	.00	.00	e.00	.02	.01	.05	.00	.00	.00	.00	.00
5	.00	.00	.00	e.07	.01	.02	.04	.00	.00	.00	.00	.00
6	.00	.00	.00	e.03	.00	.05	.04	.00	.00	.00	.00	.00
7	.00	.00	.00	e.02	.00	.03	.03	.00	.00	.00	.00	.00
8	.00	.00	e.00	e.01	.01	.06	.02	.00	.00	.00	.00	.00
9	.00	.00	e.00	e.01	.07	.04	.02	.00	.00	.00	.00	.00
10	.00	.00	e.00	e.04	.03	.11	.01	.00	.00	.00	.00	.00
11	.00	.00	e.00	e.03	.02	.37	.01	.00	.00	.00	.00	.00
12	.00	.00	e.00	e.02	.01	.09	.00	.00	.00	.00	.00	.00
13	.00	.00	e.00	e.01	.01	.05	.00	.00	.00	.00	.00	.00
14	.00	.00	e.00	e.00	.01	.04	.00	.00	.00	.00	.00	.00
15	.00	.00	e.00	e.00	.01	.04	.00	.00	.00	.00	.00	.00
16	.00	.00	e.00	e.00	.01	.05	.00	.00	.00	.00	.00	.00
17	.00	.00	e.00	e.00	.01	.03	.00	.00	.00	.00	.00	.00
18	.00	.00	e.00	e.00	.01	.11	.00	.00	.00	.00	.00	.00
19	.00	.00	e.00	e.00	.01	.10	.00	.00	.00	.00	.00	.00
20	.00	.00	e.00	e.00	.00	.06	.00	.00	.00	.00	.00	.00
21	.00	.00	e.02	e.00	.00	.05	.00	.00	.00	.00	.00	.00
22	.00	.00	e.07	e.00	.00	.05	.00	.00	.00	.00	.00	.00
23	.00	.00	e.03	e.02	.00	.04	.00	.00	.00	.00	.00	.00
24	.00	.00	e.13	e.01	.00	.29	.00	.00	.00	.00	.00	.00
25	.00	.00	e.03	.00	.00	.26	.00	.00	.00	.00	.00	.00
26	.00	.00	e.00	.00	.00	.14	.00	.00	.00	.00	.00	.00
27	.00	.00	e.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
28	.00	.00	e.00	.00	.00	.09	.00	.00	.00	.00	.00	.00
29	.00	.00	e.00	.00	---	.08	.00	.00	.00	.00	.00	.00
30	.00	.00	e.00	.00	---	.07	.00	.00	.00	.00	.00	.00
31	.00	---	e.00	.00	---	.07	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.28	0.27	0.28	2.61	0.39	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.009	.009	.010	.084	.013	.000	.000	.000	.000	.000
MAX	.00	.00	.13	.07	.07	.37	.06	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.6	.5	.6	5.2	.8	.00	.00	.00	.00	.00

CAL YR 1988 TOTAL 13.93 MEAN .038 MAX 4.1 MIN .00 AC-FT 28
WTR YR 1989 TOTAL 3.83 MEAN .010 MAX .37 MIN .00 AC-FT 7.6

e Estimated.

11456000 NAPA RIVER NEAR ST. HELENA, CA

LOCATION.--Lat 38°29'52", long 122°25'37", in Carne Humana Grant, Napa County, Hydrologic Unit 18050002, on right bank 0.2 mi upstream from highway bridge, 1.3 mi northeast of Zinfandel, and 2.5 mi east of St. Helena.

DRAINAGE AREA.--81.4 mi^2.

PERIOD OF RECORD.--October 1929 to September 1932, October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1929: Drainage area. WDR CA-78-2: 1977(M).

GAGE.--Water-stage recorder. Datum of gage is 170.12 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1958, at datum 3.00 ft higher. Nov. 22, 1958, to July 22, 1976, at datum 2.00 ft higher.

REMARKS.--Records good above 10 ft^3/s and fair below. Some regulation by Bell Canyon Reservoir, capacity, 2,530 acre-ft, since 1959. Small diversions upstream from station for irrigation of about 1,500 acres.

AVERAGE DISCHARGE.--53 years, 96.8 ft^3/s, 70,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft^3/s, Feb. 17, 1986, gage height, 18.52 ft, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0300	*3,730	*10.78				

Minimum daily, 0.29 ft^3/s, Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.60	8.2	e41	14	11	115	22	8.0	4.4	.75	.46
2	.29	.62	7.8	e34	13	241	107	21	8.2	3.7	.79	.42
3	.29	.85	6.8	e30	13	92	109	20	8.0	2.9	.71	.37
4	.30	1.2	5.6	26	13	47	85	20	8.5	3.1	.69	.34
5	.32	2.3	5.5	56	13	108	72	19	10	2.0	.65	.37
6	.34	2.2	5.2	46	13	224	62	18	9.5	2.0	.60	.41
7	.37	1.3	4.5	36	12	122	56	17	8.3	2.3	.63	.41
8	.38	1.2	4.2	32	11	163	51	17	7.4	2.0	.63	.44
9	.38	1.0	4.8	30	16	628	45	16	7.3	1.5	.65	.50
10	.37	5.9	4.9	29	16	719	40	16	7.1	1.4	.66	.52
11	.38	5.0	4.5	30	14	1690	37	16	7.1	1.6	.66	.54
12	.38	5.6	5.4	28	14	463	35	15	6.3	1.6	.63	.54
13	.39	5.1	4.9	25	13	301	32	14	6.0	1.5	.60	.54
14	.45	11	4.4	24	12	209	30	14	6.0	1.6	.59	.54
15	.52	11	4.9	22	11	153	30	14	6.1	1.6	.56	.49
16	.52	7.1	5.4	21	11	273	30	13	5.8	1.4	.56	.54
17	.52	8.3	6.1	19	11	211	28	13	5.7	1.3	.53	2.8
18	.52	7.6	6.7	18	11	917	27	12	4.2	1.2	.52	2.4
19	.53	4.0	9.5	18	13	879	26	11	3.2	1.2	.54	1.5
20	.54	2.4	36	17	12	432	24	11	3.9	1.1	.54	1.2
21	.54	2.0	55	16	12	295	22	11	4.2	.98	.53	.97
22	.52	19	208	16	12	222	21	11	3.0	.86	.53	.84
23	.52	371	96	19	14	215	22	11	2.9	.78	.53	.77
24	.53	54	178	18	12	668	21	11	2.9	.71	.52	.76
25	.54	42	113	16	11	830	24	11	2.8	.66	.51	.69
26	.54	24	53	16	11	484	24	10	3.4	.68	.49	.69
27	.55	16	37	15	11	329	22	9.7	3.8	.66	.49	.70
28	.58	14	31	14	11	265	21	9.4	3.0	.75	.49	.72
29	.61	11	26	14	---	224	21	9.4	2.7	.48	.45	.84
30	.61	9.6	28	14	---	177	23	9.3	4.0	.88	.45	.88
31	.60	---	58	14	---	139	---	8.8	---	.30	.46	---
TOTAL	14.23	646.87	1028.3	754	350	11731	1262	430.6	169.3	47.14	17.94	23.19
MEAN	.46	21.6	33.2	24.3	12.5	378	42.1	13.9	5.64	1.52	.58	.77
MAX	.61	371	208	56	16	1690	115	22	10	4.4	.79	2.8
MIN	.29	.60	4.2	14	11	11	21	8.8	2.7	.30	.45	.34
AC-FT	28	1280	2040	1500	694	23270	2500	854	336	94	36	46

CAL YR 1988 TOTAL 11967.35 MEAN 32.7 MAX 1170 MIN .29 AC-FT 23740
WTR YR 1989 TOTAL 16474.57 MEAN 45.1 MAX 1690 MIN .29 AC-FT 32680

e Estimated.

11458000 NAPA RIVER NEAR NAPA, CA
(National stream-quality accounting network station)

LOCATION.--Lat 38°22'06", long 122°18'08", in Yajome Grant, Napa County, Hydrologic Unit 18050002, on left bank at downstream side of Oak Knoll Avenue bridge, 0.4 mi downstream from Dry Creek, 5 mi north of Napa, and 12.8 mi downstream from Conn Dam.

DRAINAGE AREA.--218 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to September 1932, October 1959 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1315-B: 1930(M). WDR CA-87-2: 1963(M), 1965(M), 1967(M), 1982-85.

GAGE.--Water-stage recorder. Datum of gage is 24.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of estimated daily record, which are fair. Flow regulated by Lake Hennessey beginning in December 1945, located 12.8 mi upstream (capacity 31,000 acre-ft); Rector Reservoir beginning in 1948, located 12.4 mi upstream (capacity 4,400 acre-ft); Bell Canyon Reservoir beginning in 1959, located 19.6 mi upstream (capacity 2,530 acre-ft). Diversions for irrigation upstream from station of about 10,000 acres.

AVERAGE DISCHARGE.--33 years, 204 ft^3/s, 147,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft^3/s, Feb. 18, 1986, gage height, 30.20 ft, from floodmarks; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,890 ft^3/s, Mar. 11, gage height, 15.02 ft; minimum daily, 0.40 ft^3/s, Oct. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	1.2	12	70	21	11	225	43	14	7.1	1.2	1.3
2	1.2	.95	11	51	21	313	207	41	13	7.5	1.3	1.3
3	1.5	.71	9.5	42	21	197	183	37	13	8.1	1.1	1.4
4	1.0	1.1	8.5	39	21	91	168	36	13	9.0	1.4	1.4
5	1.1	1.1	7.9	e63	20	113	145	34	13	9.2	.59	1.4
6	1.0	1.2	7.5	e58	18	302	132	32	12	7.3	2.3	1.5
7	1.1	1.2	7.3	e50	16	202	119	30	12	6.0	2.1	1.5
8	1.0	1.3	6.9	e44	16	150	112	29	12	4.3	2.0	1.4
9	1.0	1.5	6.5	e40	19	530	105	30	11	4.8	1.8	1.4
10	1.0	2.5	6.5	e43	25	994	95	30	11	4.0	1.9	1.5
11	1.1	2.1	6.5	44	20	2640	91	30	11	3.9	2.0	1.6
12	1.2	1.9	6.5	40	19	706	86	29	11	4.1	2.0	1.6
13	1.2	2.6	6.5	37	19	438	82	28	11	4.3	1.9	1.1
14	1.5	3.0	6.5	35	17	298	75	28	9.5	2.5	1.8	.92
15	1.4	2.5	7.4	34	14	213	70	27	8.4	3.5	1.8	.77
16	1.1	3.0	7.0	31	11	360	67	26	9.0	5.3	1.7	1.1
17	.97	3.7	7.0	29	13	310	63	26	9.3	5.3	1.4	1.9
18	1.1	3.5	7.0	27	13	825	59	25	8.6	4.5	.58	1.7
19	.99	3.8	7.4	27	13	1190	56	22	9.1	3.6	.86	1.6
20	.99	3.9	11	25	15	617	54	21	9.3	2.9	1.8	1.6
21	.61	3.9	79	25	14	391	53	22	10	3.1	2.0	1.5
22	.40	5.8	206	25	12	323	49	22	10	2.7	2.0	2.1
23	.84	e410	244	28	16	296	46	20	8.9	1.9	1.2	1.4
24	1.1	166	205	30	15	913	46	19	7.6	1.5	.91	1.3
25	1.1	64	225	26	14	1070	43	19	7.8	2.3	.76	1.3
26	1.1	43	105	25	13	737	48	19	7.6	2.0	.98	1.9
27	1.1	24	65	23	14	543	45	17	6.9	2.1	1.0	1.8
28	1.1	17	53	23	12	447	43	18	6.7	1.9	.64	1.9
29	1.1	14	43	23	---	391	43	17	7.1	1.8	1.0	3.0
30	1.1	13	39	22	---	326	42	16	6.5	2.0	1.4	2.3
31	1.1	---	62	21	---	268	---	15	---	2.1	1.5	---
TOTAL	32.97	803.46	1482.4	1100	462	16205	2652	808	299.3	130.6	44.92	46.49
MEAN	1.06	26.8	47.8	35.5	16.5	523	88.4	26.1	9.98	4.21	1.45	1.55
MAX	1.5	410	244	70	25	2640	225	43	14	9.2	2.3	3.0
MIN	.40	.71	6.5	21	11	11	42	15	6.5	1.5	.58	.77
AC-FT	65	1590	2940	2180	916	32140	5260	1600	594	259	89	92

CAL YR 1988 TOTAL 21263.84 MEAN 58.1 MAX 1850 MIN .40 AC-FT 42180
WTR YR 1989 TOTAL 24067.14 MEAN 65.9 MAX 2640 MIN .40 AC-FT 47740

e Estimated.

11458000 NAPA RIVER NEAR NAPA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1973 to current year.
CHEMICAL DATA: Water years 1973 to current year.
BIOLOGICAL DATA: Water years 1978-81.
SPECIFIC CONDUCTANCE: Water years 1978 to current year.
WATER TEMPERATURE: Water years 1977 to current year.
SEDIMENT DATA: Water years 1971, 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1978 to September 1981.
WATER TEMPERATURE: October 1976 to September 1981.
SUSPENDED-SEDIMENT DISCHARGE: October 1976 to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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												
16...	1045	2.9	413	8.00	12.0	1.4	770	9.1	84	--	--	200
JAN												
25...	1150	26	334	8.50	9.0	2.2	765	13.8	119	K3	20	120
MAR												
23...	1310	257	234	8.00	14.5	8.1	760	9.7	95	K35	98	90
MAY												
17...	1105	26	371	8.20	17.5	1.0	760	8.2	86	37	300	150
JUL												
26...	1045	2.1	452	8.20	19.0	1.0	760	7.2	78	48	89	190
SEP												
20...	1150	1.6	468	8.20	17.0	0.40	760	7.1	74	K12	250	200

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											
16...	29	31	21	18	0.6	2.3	218	--	179	30	18
JAN											
25...	21	16	25	31	1	2.4	133	2	112	31	21
MAR											
23...	18	11	14	25	0.6	2.0	103	--	84	20	9.2
MAY											
17...	25	20	23	25	0.8	2.3	165	--	135	30	17
JUL											
26...	30	27	25	22	0.8	2.4	224	--	183	31	19
SEP											
20...	32	30	23	20	0.7	2.5	235	--	193	32	19

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-PHOROUS TOTAL (MG/L AS P)
NOV											
16...	0.10	34	269	273	0.37	<0.010	<0.100	0.010	0.020	0.30	0.060
JAN											
25...	0.40	30	206	217	0.28	0.020	0.570	0.020	<0.010	0.30	0.050
MAR											
23...	0.20	34	165	165	0.22	<0.010	1.40	0.030	0.020	<0.20	0.080
MAY											
17...	0.30	37	229	239	0.31	<0.010	0.720	0.020	0.030	0.40	0.060
JUL											
26...	0.30	35	290	280	0.39	<0.010	<0.100	<0.010	<0.010	<0.20	0.080
SEP											
20...	0.20	32	276	287	0.38	<0.010	<0.100	<0.010	<0.010	0.50	0.060

See footnotes at end of table.

11458000 NAPA RIVER NEAR NAPA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS 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...	0.050	0.060	<10	2	72	<0.5	<1	<1	<3	1	13
JAN											
25...	0.040	0.030	<10	2	53	<0.5	<1	<1	<3	1	15
MAR											
23...	0.070	0.050	--	--	--	--	--	--	--	--	--
MAY											
17...	0.060	0.050	30	3	68	<0.5	<1	<1	<3	1	19
JUL											
26...	0.070	0.060	--	--	--	--	--	--	--	--	--
SEP											
20...	0.050	0.060	<10	3	80	<0.5	<1	<1	<3	3	4

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...	<5	30	12	<0.1	<10	3	<1	1.0	200	<6	9
JAN											
25...	<5	57	5	<0.1	<10	1	<1	<1.0	150	<6	<3
MAR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
17...	<1	46	17	<0.1	<10	1	<1	<1.0	180	<6	4
JUL											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
20...	4	34	16	<0.1	<10	5	<1	<1.0	230	<6	3

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	DEPTH AT SAMPLE LOC-ATION, TOTAL (FEET)	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											
20... *	1355	3.74	1.72	327	8.00	19.0	760	9.5	103	4	88
20... *	1400	6.22	2.33	327	8.00	19.0	760	9.4	102	4	88
20... *	1405	8.66	2.21	327	8.00	19.0	760	9.5	103	3	100
20... *	1410	11.3	2.10	327	8.00	19.0	760	9.4	102	4	84
20... *	1415	14.7	1.81	327	8.00	19.0	760	9.4	102	6	74

* Instantaneous streamflow at the time of cross-sectional measurement: Apr. 20, 54 ft^3/s.

11458000 NAPA RIVER NEAR NAPA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
16...	1050	2.9	12.0	1	0.01	--
JAN						
25...	1045	26	9.0	2	0.14	79
MAR						
23...	1305	257	14.5	15	10	92
APR						
20...	1403	54	19.0	4	0.58	85
MAY						
17...	1135	26	17.5	2	0.14	--
JUL						
26...	1100	2.1	19.0	3	0.02	95
SEP						
20...	1205	1.6	17.0	2	0.01	65

11459500 NOVATO CREEK AT NOVATO, CA

LOCATION.--Lat 38°06'28", long 122°34'44", in Novato Grant, Marin County, Hydrologic Unit 18050002, on left bank in Novato, 100 ft upstream from 7th Street Bridge, and 3.9 mi downstream from Novato Creek Dam.

DRAINAGE AREA.--17.6 mi^2.

PERIOD OF RECORD.--October 1946 to current year. Records of diversions for water years 1952-53, estimated. Prior to October 1966, published as "near Novato."

GAGE.--Water-stage recorder. Datum of gage is 14.76 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 23, 1967, at site 0.6 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Stafford Lake beginning Dec. 1, 1951, capacity, 4,500 acre-ft since Oct. 18, 1954; contents, 2,030 acre-ft, Sept. 30, 1989. Diversion from Stafford Lake for municipal water supply began Apr. 25, 1952, and amounted to 1,237 acre-ft for the current year. Diversion from Russian River into Stafford Lake amounted to 707 acre-ft for the current year.

COOPERATION.--Record of diversions and storage were provided by North Marin Water District.

AVERAGE DISCHARGE (adjusted for diversions).--43 years, 14.3 ft^3/s, 10,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s, Jan. 4, 1982, gage height, 14.52 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 442 ft^3/s, Mar. 10, gage height, 6.50 ft; no flow Nov. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.11	.31	1.3	.53	.52	3.4	.57	.24	.51	.14	.10
2	.02	.12	.30	.96	.58	10	3.2	.59	.22	.49	.15	.13
3	.03	.16	.29	.82	.94	1.2	3.0	.57	.26	.52	.19	.11
4	.07	.12	.27	.73	.75	1.4	2.6	.53	.34	.48	.17	.09
5	.08	.06	.28	15	.50	4.6	2.5	.51	.30	.41	.15	.13
6	.23	.02	.27	2.7	.48	5.0	2.2	.50	.25	.35	.16	.15
7	.25	.00	.25	2.0	.46	2.2	2.1	.49	.66	.31	.20	.24
8	.24	.00	.23	2.3	1.2	4.0	2.0	.51	.80	.27	.19	.14
9	.12	.16	.23	1.8	9.2	27	1.9	.55	.71	.29	.20	.13
10	.10	1.2	.27	2.0	1.7	69	1.8	.69	.71	.28	.22	.20
11	.19	.14	.27	1.2	1.1	59	1.7	.61	.69	.36	.22	.30
12	.17	.13	.27	.96	.90	12	1.6	1.3	.69	.30	.24	.45
13	.30	5.5	.27	.81	.79	6.8	1.5	.64	.65	.29	.22	.24
14	.35	1.5	.29	.72	.67	3.8	1.4	.45	.57	.30	.22	.11
15	.35	.38	.25	.66	.60	2.9	1.4	1.4	.62	.31	.17	.10
16	.25	3.2	.26	.68	.60	9.7	1.3	.67	.59	.25	.24	14
17	.73	.61	.29	.70	.54	4.2	1.3	.35	.58	.28	.23	8.0
18	.73	.29	.36	.64	.55	49	1.3	.39	.54	.21	.29	11
19	.12	.22	1.2	.66	.54	28	1.2	.30	.52	.22	.29	4.0
20	.04	.22	12	.56	.50	11	1.0	.31	.48	.23	.34	1.7
21	.03	.38	1.8	.49	.51	7.6	1.0	.31	.46	.22	.38	1.4
22	.23	1.7	18	.57	1.2	6.0	1.0	.33	.46	.25	.49	1.0
23	.21	15	1.6	12	.52	7.5	2.7	.49	.51	.20	.48	.92
24	.10	3.4	17	1.5	.44	11	.87	.33	.50	.23	.46	.95
25	.05	2.6	2.3	.99	.43	18	2.1	.32	.55	.22	.28	.71
26	.01	.66	1.2	.80	.40	8.1	.79	.31	.64	.25	.16	.74
27	.03	.47	3.1	.75	.39	6.5	.64	.32	.66	.22	.20	.80
28	.24	.40	1.2	.66	.39	5.7	.59	.26	.70	.21	.18	.80
29	.18	.36	.86	.61	---	5.1	.58	.26	.66	.22	.15	5.9
30	.16	.33	5.9	.59	---	4.5	.78	.27	.58	.18	.15	1.4
31	.16	---	3.2	.54	---	3.9	---	.29	---	.16	.13	---
TOTAL	5.78	39.44	74.32	56.70	27.41	395.22	49.45	15.42	16.14	9.02	7.29	55.94
MEAN	.19	1.31	2.40	1.83	.98	12.7	1.65	.50	.54	.29	.24	1.86
MAX	.73	15	18	15	9.2	69	3.4	1.4	.80	.52	.49	14
MIN	.01	.00	.23	.49	.39	.52	.58	.26	.22	.16	.13	.09
AC-FT	11	78	147	112	54	784	98	31	32	18	14	111

CAL YR 1988 TOTAL 951.23 MEAN 2.60 MAX 118 MIN .00 AC-FT 1890
WTR YR 1989 TOTAL 752.13 MEAN 2.06 MAX 69 MIN .00 AC-FT 1490

11460000 CORTE MADERA CREEK AT ROSS, CA

LOCATION.--Lat 37°57'45", long 122°33'20", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, on left bank behind fire station at Ross, 1.7 mi southwest of San Rafael, 1.7 mi below Phoenix Lake, and 4 mi upstream from mouth.

DRAINAGE AREA.--18.1 mi^2.

PERIOD OF RECORD.--February 1951 to current year.

REVISED RECORD.--WDR CA-85-2: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 7.97 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good except those for flows below 1.0 ft^3/s, which are fair. Flow slightly regulated by Phoenix Lake, capacity 612 acre-ft. Diversion on tributary upstream from station by Marin Municipal Water District.

AVERAGE DISCHARGE.--38 years, 28.3 ft^3/s, 20,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,200 ft^3/s, Jan. 4, 1982, gage height, 19.81 ft, from rating curve extended above 2700 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR..--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	2215	*1,350	*11.78				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.06	.75	26	3.1	5.1	16	1.9	.92	.78	.00	.00
2	.00	.08	.75	19	3.2	386	14	1.9	.92	.70	.00	.00
3	.00	.08	.75	14	4.5	73	12	1.8	.93	.64	.00	.00
4	.00	.08	.75	11	3.3	35	10	1.7	3.1	.63	.00	.00
5	.00	.08	.75	56	2.8	30	9.4	1.7	.99	.67	.00	.00
6	.00	.07	.75	26	2.6	33	8.2	1.5	.83	.55	.00	.00
7	.01	.07	.75	18	2.6	26	7.4	1.5	.85	.45	.00	.00
8	.04	.08	1.0	12	5.3	31	7.0	1.4	.88	.26	.00	.00
9	.01	.43	1.0	11	35	102	6.2	1.6	.81	.35	.00	.00
10	.00	3.6	1.0	10	15	274	5.5	1.5	.79	.63	.00	.00
11	.03	.13	.87	7.8	10	353	5.2	1.5	.81	.58	.00	.00
12	.05	.12	.87	6.3	8.2	99	4.9	1.5	.79	.59	.00	.00
13	.67	1.7	.87	5.5	6.8	56	4.7	1.4	.79	.52	.00	.00
14	.28	.26	1.0	4.7	5.7	35	4.5	1.4	.77	.47	.00	.00
15	.03	.14	1.1	4.0	4.7	23	4.3	1.3	.79	.48	.00	.00
16	.03	2.6	1.6	3.7	4.3	51	4.2	1.2	.79	.46	.00	4.5
17	.02	.33	1.8	3.4	3.9	31	3.9	1.2	.68	.44	.00	7.4
18	.02	.13	1.8	3.2	5.2	127	3.6	1.1	.69	.43	.00	3.3
19	.02	.12	3.3	3.1	4.8	116	3.6	1.1	.74	.21	.00	1.1
20	.03	.12	27	2.9	4.2	67	3.5	1.1	.75	.10	.00	1.3
21	.03	.22	18	2.7	3.7	45	3.9	1.1	.74	.07	.00	1.8
22	.03	6.5	154	2.7	4.7	34	3.1	1.0	.73	.10	.00	.64
23	.04	35	35	21	3.0	68	4.9	1.2	.74	.08	.00	.37
24	.04	9.2	75	8.0	2.8	233	3.1	1.1	.91	.22	.00	.25
25	.05	8.6	39	5.4	2.6	461	5.3	1.0	1.1	.26	.00	.21
26	.05	3.1	23	4.5	2.6	145	2.8	.96	1.0	.20	.00	.16
27	.05	1.4	26	3.9	2.6	73	2.5	.93	.78	.25	.00	.16
28	.06	1.0	17	3.6	2.6	48	2.4	.93	.84	.22	.00	.21
29	.06	.87	14	3.4	---	35	2.1	.95	.83	.10	.00	2.9
30	.04	.75	28	3.3	---	26	2.3	.99	.95	.04	.00	.87
31	.05	---	44	3.1	---	20	---	.99	---	.01	.00	---
TOTAL	1.74	76.92	521.46	309.2	159.8	3141.1	170.5	40.45	27.24	11.49	0.00	25.17
MEAN	.056	2.56	16.8	9.97	5.71	101	5.68	1.30	.91	.37	.000	.84
MAX	.67	35	154	56	35	461	16	1.9	3.1	.78	.00	7.4
MIN	.00	.06	.75	2.7	2.6	5.1	2.1	.93	.68	.01	.00	.00
AC-FT	3.5	153	1030	613	317	6230	338	80	54	23	.00	50

CAL YR 1988 TOTAL 3279.07 MEAN 8.96 MAX 519 MIN .00 AC-FT 6500
WTR YR 1989 TOTAL 4485.07 MEAN 12.3 MAX 461 MIN .00 AC-FT 8900

11460400 LAGUNITAS CREEK AT SAMUEL P. TAYLOR STATE PARK, CA

LOCATION.--Lat 38°01'37", long 122°44'07", Marin County, Hydrologic Unit 18050005, in Samuel P. Taylor State Park, on left bank 300 ft upstream from Deadmans Gulch, 0.9 mi downstream from park entrance, 2.1 mi northwest of Lagunitas, and 3.4 mi downstream from Kent Lake.

DRAINAGE AREA.--34.3 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 102.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Kent Lake, capacity, 16,680 acre-ft, and Alpine Lake, capacity, 8,890 acre-ft, both of which divert for domestic and industrial use in Marin County.

AVERAGE DISCHARGE.--7 years, 38.8 ft^3/s, 28,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,470 ft^3/s, Feb. 18, 1986, gage height, 8.44 ft; minimum daily, 3.8 ft^3/s, Oct. 16-18, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft^3/s, Mar. 10, gage height, 6.25 ft; minimum daily, 5.0 ft^3/s, Oct. 1-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.6	17	34	10	10	25	10	8.5	7.7	6.5	6.1
2	5.0	6.8	18	26	9.7	405	23	10	8.3	7.5	6.5	6.1
3	5.0	7.3	18	21	11	98	21	11	8.3	7.2	6.3	6.0
4	5.0	6.9	18	18	11	53	19	11	8.3	7.4	6.3	5.9
5	5.0	6.7	18	83	10	43	17	11	8.7	7.5	6.3	6.1
6	5.0	6.5	18	44	13	57	16	11	8.3	7.5	6.3	6.1
7	5.2	6.5	18	29	9.7	40	15	11	8.3	7.5	6.2	6.1
8	5.2	6.4	17	21	11	42	14	12	8.1	7.4	6.2	6.1
9	5.2	6.5	17	19	20	96	13	13	8.0	7.3	6.3	6.1
10	5.2	11	18	17	15	264	13	13	8.0	7.2	6.3	6.1
11	5.8	8.0	17	17	13	337	13	13	8.0	7.2	6.4	6.1
12	5.6	7.6	17	17	12	103	12	13	8.0	7.1	6.4	6.1
13	5.8	10	17	17	11	61	12	13	8.0	6.8	6.3	6.1
14	6.4	9.2	17	17	10	42	12	13	7.8	6.8	6.3	6.1
15	5.8	8.5	17	17	9.7	33	11	12	7.8	6.8	6.2	6.1
16	5.5	10	17	16	9.9	49	11	11	7.8	6.8	6.2	6.7
17	5.4	11	16	16	9.8	42	11	10	7.7	6.6	6.3	7.5
18	5.3	9.8	16	17	10	146	11	9.8	7.5	6.3	6.1	8.1
19	5.2	9.9	17	19	11	142	11	9.6	7.5	6.2	6.2	7.8
20	5.2	9.9	36	20	9.9	81	10	9.6	7.4	6.2	6.2	7.3
21	5.2	10	35	20	9.6	55	10	9.6	7.2	6.3	6.1	6.9
22	5.2	24	140	20	11	41	10	9.1	7.0	6.3	6.1	6.4
23	5.4	84	41	27	11	60	14	8.4	7.2	6.3	6.2	5.8
24	5.4	18	72	16	11	273	12	8.3	7.8	6.3	6.3	6.1
25	5.4	26	47	13	12	379	17	8.2	7.8	6.5	6.3	6.2
26	5.4	18	26	12	12	146	13	8.1	7.8	6.5	6.1	6.1
27	5.4	16	25	12	11	81	12	8.5	7.7	6.5	6.1	6.1
28	5.4	15	21	11	10	56	11	8.6	7.8	6.3	6.1	6.1
29	5.4	15	18	11	---	42	11	8.6	7.8	6.3	6.1	6.3
30	5.4	15	30	10	---	34	10	8.6	7.8	6.3	6.1	6.3
31	5.4	---	60	10	---	28	---	8.6	---	6.4	6.1	---
TOTAL	165.8	405.1	879	647	314.3	3339	410	321.6	236.2	211.0	193.4	190.9
MEAN	5.35	13.5	28.4	20.9	11.2	108	13.7	10.4	7.87	6.81	6.24	6.36
MAX	6.4	84	140	83	20	405	25	13	8.7	7.7	6.5	8.1
MIN	5.0	5.6	16	10	9.6	10	10	8.1	7.0	6.2	6.1	5.8
AC-FT	329	804	1740	1280	623	6620	813	638	469	419	384	379

CAL YR 1988 TOTAL 5878.6 MEAN 16.1 MAX 477 MIN 4.4 AC-FT 11660
WTR YR 1989 TOTAL 7313.3 MEAN 20.0 MAX 405 MIN 5.0 AC-FT 14510

11460600 LAGUNITAS CREEK NEAR POINT REYES STATION, CA

LOCATION.--Lat 38°04'49", long 122°47'00", in Nicasio (Black) Grant, Marin County, Hydrologic Unit 18050005, on right bank at upstream side of road bridge, 300 ft downstream from small right-bank tributary, 1.4 mi northeast of town of Point Reyes Station, and 2.5 mi downstream from Nicasio Dam.

DRAINAGE AREA.--81.7 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR CA-79-2: 1975, 1978. WDR CA-82-2: 1975(m), 1978(m), 1980(m).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Nicasio Reservoir, capacity, 22,450 acre-ft; Kent Lake, capacity, 16,680 acre-ft; and Alpine Lake, capacity, 8,890 acre-ft, all of which divert water for domestic and industrial use in Marin County.

AVERAGE DISCHARGE.--15 years, 84.3 ft^3/s, 61,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft^3/s, Jan. 4, 1982, gage height, 26.96 ft, from rating curve extended above 6,200 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.01 ft^3/s, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,770 ft^3/s, Mar. 11, gage height, 9.08 ft; minimum daily, 5.0 ft^3/s, Sept. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	5.8	17	64	13	12	50	14	9.2	8.3	6.8	6.1
2	5.2	6.8	20	46	12	524	46	13	9.0	8.1	6.8	5.9
3	5.3	7.5	20	35	13	177	41	13	9.0	7.8	6.9	5.9
4	5.4	7.3	20	28	14	93	35	13	9.0	7.7	6.7	5.9
5	5.4	6.9	19	109	13	71	31	13	9.2	7.9	6.7	5.9
6	5.4	6.7	19	83	16	105	27	14	9.0	7.8	6.6	5.9
7	5.4	6.7	19	57	12	76	25	14	9.0	7.7	6.5	5.9
8	5.4	6.5	19	41	13	75	23	14	8.9	7.6	6.5	5.9
9	5.4	6.6	19	34	26	150	20	15	8.7	7.6	6.5	5.9
10	5.4	11	19	30	24	338	19	15	8.7	7.6	6.7	5.9
11	5.4	8.7	19	28	18	752	19	15	8.7	7.5	6.7	5.9
12	6.3	7.5	19	27	16	205	18	15	8.7	7.5	6.6	5.7
13	5.6	8.7	19	25	15	115	17	16	8.7	7.5	6.6	5.0
14	7.0	10	19	25	14	78	17	16	8.5	7.4	6.4	5.0
15	6.2	8.2	19	24	13	59	16	15	8.5	7.5	6.5	5.0
16	5.9	8.7	19	23	13	87	15	13	8.5	7.5	6.4	5.9
17	5.6	12	18	22	13	81	14	12	8.3	7.5	6.5	7.2
18	5.6	9.4	18	23	13	278	14	11	8.1	7.3	6.5	7.3
19	5.6	9.3	19	25	14	306	14	11	8.1	7.1	6.5	7.2
20	5.6	9.4	30	26	13	167	14	11	7.9	7.1	6.5	6.6
21	5.6	9.5	58	26	12	107	13	11	7.7	7.1	6.6	6.1
22	5.6	22	176	26	13	81	13	10	7.5	7.1	6.6	5.8
23	5.6	119	79	43	15	82	17	9.9	7.3	6.9	6.6	5.3
24	5.6	31	110	28	14	459	17	9.6	7.5	6.9	6.2	5.3
25	5.6	35	88	20	14	607	28	9.4	7.5	6.9	6.2	5.3
26	5.6	24	48	18	14	284	22	9.2	7.8	7.0	6.1	5.3
27	5.6	19	41	17	14	168	17	9.5	8.0	7.0	6.0	5.3
28	5.6	16	39	16	12	119	15	9.6	8.1	6.9	6.1	5.3
29	5.6	16	28	15	---	91	14	9.3	8.1	6.9	6.1	5.5
30	5.7	15	37	14	---	72	14	9.2	8.3	6.9	6.2	5.6
31	5.8	---	108	14	---	59	---	9.2	---	6.9	6.1	---
TOTAL	174.1	470.2	1202	1012	406	5878	645	378.9	251.5	228.5	200.7	174.8
MEAN	5.62	15.7	38.8	32.6	14.5	190	21.5	12.2	8.38	7.37	6.47	5.83
MAX	7.0	119	176	109	26	752	50	16	9.2	8.3	6.9	7.3
MIN	5.1	5.8	17	14	12	12	13	9.2	7.3	6.9	6.0	5.0
AC-FT	345	933	2380	2010	805	11660	1280	752	499	453	398	347

CAL YR 1988 TOTAL 8425.2 MEAN 23.0 MAX 805 MIN 4.6 AC-FT 16710
WTR YR 1989 TOTAL 11021.7 MEAN 30.2 MAX 752 MIN 5.0 AC-FT 21860

11460750 WALKER CREEK NEAR MARSHALL, CA

LOCATION.--Lat 38°10'33", long 122°49'02", in Soulajule (Vasquez) Grant, Marin County, Hydrologic Unit 18050005, on right bank 0.8 mi downstream from Verde Canyon, 2.8 mi below confluence of Arroyo Sausal and Salmon Creek, and 4.0 mi east of Marshall.

DRAINAGE AREA.--31.1 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Flow affected by regulation and diversions and by Soulajule Reservoir on Arroyo Sausal; reservoir capacity, 10,570 acre-ft.

AVERAGE DISCHARGE.--6 years, 26.6 ft^3/s, 19,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft^3/s, Feb. 17, 1986, gage height, 10.79 ft, from rating curve extended above 1,100 ft^3/s on basis of comparison with discontinued downstream station (station 11460800); minimum daily, 3.6 ft^3/s, Apr. 22, 1989.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of Jan. 4, 1982, reached a stage of 15.9 ft, present datum, from floodmarks, discharge, 14,600 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft^3/s, Mar. 10, gage height, 4.45 ft; minimum daily, 3.6 ft^3/s, Apr. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	4.5	14	20	7.8	6.6	16	4.9	4.3	4.7	5.0	5.3
2	5.1	4.7	14	18	7.8	79	18	4.8	4.3	4.7	5.0	5.3
3	5.1	5.6	14	15	8.1	29	17	4.8	4.5	4.8	5.1	5.3
4	5.1	5.1	14	12	8.6	18	12	4.7	4.5	4.8	5.1	5.3
5	5.1	4.9	14	19	7.9	22	10	4.7	4.5	4.8	5.1	5.3
6	5.1	4.9	14	14	7.5	39	8.7	4.5	4.5	4.8	5.1	5.2
7	5.0	4.9	14	14	7.3	25	7.5	4.5	4.5	4.7	5.1	5.3
8	4.7	4.9	14	11	7.2	30	6.9	4.5	4.5	4.8	5.2	5.3
9	4.7	4.9	14	11	9.3	113	6.3	4.5	4.5	4.8	5.3	5.3
10	4.7	5.4	14	12	8.5	226	5.3	4.5	4.5	4.8	5.3	5.3
11	4.7	4.9	14	11	8.3	260	5.0	4.4	4.5	5.0	5.3	5.3
12	4.7	4.9	14	9.7	8.0	78	4.5	4.4	4.5	5.0	5.3	5.3
13	4.7	6.9	14	9.2	8.0	47	4.5	4.4	4.5	5.0	5.3	5.3
14	4.7	5.9	14	8.6	7.8	30	5.0	4.4	4.5	5.0	5.3	5.3
15	4.7	5.1	14	8.1	7.8	22	4.5	4.4	4.5	5.0	5.3	5.3
16	4.7	5.9	14	7.8	7.8	66	4.4	4.4	4.5	5.0	5.3	6.1
17	4.8	5.8	14	7.9	7.8	38	4.4	4.4	4.5	5.0	5.3	5.6
18	4.9	5.1	14	8.6	7.8	277	4.4	4.3	4.5	5.0	5.3	5.5
19	4.9	5.1	14	8.6	7.8	189	4.4	4.3	4.5	5.1	5.3	5.4
20	4.8	4.9	17	8.6	7.7	87	4.3	4.3	4.6	5.1	5.3	5.4
21	4.7	5.1	17	8.4	7.5	53	3.8	4.3	4.7	5.1	5.3	5.4
22	4.7	7.9	26	8.9	7.9	37	3.6	4.3	4.7	5.1	5.3	5.4
23	4.7	e8.8	17	15	8.0	42	4.3	4.4	4.7	5.0	5.3	5.4
24	4.7	7.8	36	8.9	7.6	115	4.1	4.3	4.7	5.0	5.3	5.4
25	4.7	8.5	23	8.5	7.2	199	5.6	4.3	4.7	5.0	5.3	5.5
26	4.7	7.3	18	8.1	7.0	101	5.0	4.3	4.7	5.0	5.3	5.8
27	4.7	6.8	19	8.3	7.0	61	4.6	4.3	4.7	5.0	5.3	5.8
28	4.7	8.3	18	8.3	6.8	43	5.0	4.3	4.7	5.1	5.3	5.8
29	4.6	13	16	8.3	---	33	5.0	4.3	4.7	5.1	5.3	6.2
30	4.5	14	19	8.1	---	24	5.0	4.3	4.7	5.1	5.3	5.9
31	4.5	---	25	7.8	---	18	---	4.3	---	5.1	5.3	---
TOTAL	148.5	191.8	517	332.7	217.8	2407.6	199.1	137.5	136.7	153.5	162.6	164.0
MEAN	4.79	6.39	16.7	10.7	7.78	77.7	6.64	4.44	4.56	4.95	5.25	5.47
MAX	5.1	14	36	20	9.3	277	18	4.9	4.7	5.1	5.3	6.2
MIN	4.5	4.5	14	7.8	6.8	6.6	3.6	4.3	4.3	4.7	5.0	5.2
AC-FT	295	380	1030	660	432	4780	395	273	271	304	323	325

CAL YR 1988 TOTAL 5685.6 MEAN 15.5 MAX 397 MIN 4.5 AC-FT 11280
WTR YR 1989 TOTAL 4768.8 MEAN 13.1 MAX 277 MIN 3.6 AC-FT 9460

e Estimated

11461000 RUSSIAN RIVER NEAR UKIAH, CA

LOCATION.--Lat 39°11'44", long 123°11'38", in Yokaya Grant, Mendocino County, Hydrologic Unit 18010110, on right bank 20 ft downstream from bridge on Lake Mendocino Drive, 0.4 mi upstream from East Fork, 0.6 mi downstream from York Creek, and 3.2 mi north of Ukiah.

DRAINAGE AREA.--100 mi^2.

PERIOD OF RECORD.--August 1911 to September 1913, October 1952 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 599.22 ft above National Geodetic Vertical Datum of 1929. Prior to October 1952, nonrecording gage at bridge 20 ft upstream at different datum. Oct. 1, 1952, to Nov. 8, 1971, water-stage recorder at site 0.6 mi upstream at different datum.

REMARKS.--Records good except those for periods of estimated daily discharges, which are poor. No regulation. Diversions upstream from station for irrigation of about 1,000 acres.

AVERAGE DISCHARGE.--39 years, 178 ft^3/s, 129,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft^3/s, Dec. 21, 1955, gage height, 19.0 ft, site and datum then in use; flood of Feb. 17, 1986, reached a stage of 19.00 ft, present site and datum; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2300	*5,730	*13.79	Mar. 18	0630	5,670	13.73

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.54	39	282	39	28	281	42	13	5.7	2.4	1.2
2	.15	2.4	33	187	38	885	395	37	10	5.5	2.9	1.8
3	.17	15	29	145	38	304	369	35	8.6	5.3	2.8	2.3
4	.17	3.0	25	118	40	383	289	33	12	4.6	2.3	1.6
5	.18	.51	22	422	37	1520	243	30	12	3.5	.19	1.5
6	.29	.51	20	250	33	1060	210	26	11	3.0	.00	.53
7	.25	.37	18	198	31	500	177	24	10	2.4	.00	1.1
8	.51	.37	17	217	30	872	151	25	10	1.2	.00	.58
9	.33	.80	16	533	31	2260	134	23	6.0	1.8	.00	.43
10	.24	5.0	15	819	33	1210	116	24	6.5	1.3	.00	.62
11	.16	2.9	14	436	36	1170	103	24	9.7	1.7	.00	.83
12	.33	6.5	13	262	33	632	92	21	10	2.1	.32	.28
13	.24	18	13	203	31	632	86	20	8.9	2.3	1.0	.51
14	1.4	32	12	165	30	403	84	20	8.9	1.8	1.1	.40
15	2.0	19	11	132	27	303	78	20	6.9	.71	.31	.23
16	.80	50	11	110	26	770	73	18	7.8	.98	.00	12
17	.70	94	11	95	25	479	71	18	6.2	2.0	.00	3.9
18	.48	32	11	83	29	3280	66	17	6.5	2.5	.37	3.1
19	.41	16	16	74	39	952	62	15	7.4	1.9	.00	2.2
20	.22	12	111	68	34	539	60	16	6.1	1.4	.09	1.6
21	.20	79	275	59	31	368	58	16	6.4	.19	.11	1.3
22	.15	1680	1160	57	30	288	53	15	6.6	.06	.21	.83
23	.15	1460	414	107	34	517	64	18	6.4	.00	1.1	.98
24	.24	305	734	78	32	1070	68	18	6.9	1.2	.51	1.1
25	.23	422	430	65	29	1230	75	17	6.0	1.7	1.2	1.1
26	.20	196	224	57	28	640	61	17	5.5	1.3	.99	.89
27	.23	115	163	52	26	463	50	15	6.8	.60	.17	.61
28	.58	82	155	48	25	674	45	15	6.7	.21	.00	.53
29	.89	62	135	46	---	e425	43	14	5.6	.08	.00	4.4
30	.99	48	337	43	---	e337	44	12	5.7	2.3	.22	3.4
31	.93	---	598	40	---	e284	---	12	---	2.4	.71	---
TOTAL	13.95	4759.90	5082	5451	895	24478	3701	657	240.1	61.73	19.00	51.85
MEAN	.45	159	164	176	32.0	790	123	21.2	8.00	1.99	.61	1.73
MAX	2.0	1680	1160	819	40	3280	395	42	13	5.7	2.9	12
MIN	.13	.37	11	40	25	28	43	12	5.5	.00	.00	.23
AC-FT	28	9440	10080	10810	1780	48550	7340	1300	476	122	38	103

CAL YR 1988 TOTAL 30955.82 MEAN 84.6 MAX 2670 MIN .00 AC-FT 61400
WTR YR 1989 TOTAL 45410.53 MEAN 124 MAX 3280 MIN .00 AC-FT 90070

e Estimated.

11461500 EAST FORK RUSSIAN RIVER NEAR CALPELLA, CA

LOCATION.--Lat 39°14'48", long 123°07'45", in NW 1/4 NW 1/4 sec.18, T.16 N., R.11 W., Mendocino County, Hydrologic Unit 18010110, on left bank 0.1 mi downstream from Cold Creek and 3.9 mi east of Calpella.

DRAINAGE AREA.--92.2 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 787.87 ft above National Geodetic Vertical Datum of 1929. Prior to May 28, 1957, at site 1.3 mi downstream at different datum. May 28, 1957, to Apr. 5, 1966, at site 0.4 mi downstream at same datum.

REMARKS.--Records good. Flow greatly affected by diversion from Eel River through Potter Valley powerplant (see stations 11471000, 11471099). Diversion for irrigation of about 8,000 acres upstream from station.

AVERAGE DISCHARGE.--48 years, 336 ft^3/s, 243,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft^3/s, Dec. 22, 1964, gage height, 20.21 ft, site then in use; maximum gage height, 20.82 ft, Feb. 17, 1986; minimum daily, 2.0 ft^3/s, July 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0045	4,080	13.78	Mar. 18	0700	*5,390	*15.30
Mar. 11	0015	3,320	12.77				

Minimum daily, 59 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	62	342	305	349	172	492	340	133	113	123	113
2	73	64	337	274	338	1040	535	332	132	124	117	111
3	70	90	328	254	338	485	512	339	127	122	114	114
4	76	71	337	250	341	551	465	344	133	117	108	110
5	81	67	336	645	334	1370	443	330	129	127	96	112
6	92	70	334	424	329	1020	425	316	120	118	105	117
7	90	69	325	363	332	597	410	322	122	117	108	116
8	80	67	300	419	333	920	401	305	119	115	118	113
9	83	69	309	554	329	1160	393	311	120	121	107	109
10	89	109	309	783	324	1020	386	309	118	123	105	107
11	92	84	314	515	331	1390	376	320	110	114	101	121
12	87	87	323	442	345	723	370	318	120	115	98	116
13	103	100	325	425	322	749	372	314	110	113	97	115
14	127	132	323	406	188	549	371	316	106	111	103	124
15	120	98	325	387	186	489	367	296	109	97	107	e154
16	100	112	323	377	181	1040	364	158	113	95	109	154
17	77	127	327	371	180	661	359	138	118	109	100	162
18	73	98	329	365	187	3350	e356	138	111	107	105	129
19	69	86	334	358	192	971	e355	131	116	110	107	119
20	68	85	402	354	193	674	e356	145	120	108	112	102
21	68	126	463	351	191	565	e358	157	115	105	116	107
22	67	1160	1340	359	194	512	e355	160	119	106	64	104
23	68	1210	513	418	195	768	375	162	113	105	59	106
24	67	471	846	361	185	1070	365	157	91	100	102	106
25	66	513	548	356	180	1120	369	159	96	100	92	101
26	64	401	418	357	183	680	367	157	99	111	95	107
27	66	369	394	353	183	647	315	150	92	106	97	107
28	60	358	385	351	175	827	355	149	105	106	105	108
29	67	346	234	347	---	588	350	152	112	104	98	143
30	66	343	402	346	---	524	348	147	119	111	108	323
31	66	---	534	347	---	498	---	140	---	125	120	---
TOTAL	2448	7044	12659	12217	7138	26730	11665	7212	3447	3455	3196	3730
MEAN	79.0	235	408	394	255	862	389	233	115	111	103	124
MAX	127	1210	1340	783	349	3350	535	344	133	127	123	323
MIN	60	62	234	250	175	172	315	131	91	95	59	101
AC-FT	4860	13970	25110	24230	14160	53020	23140	14310	6840	6850	6340	7400

CAL YR 1988 TOTAL 78598 MEAN 215 MAX 2750 MIN 32 AC-FT 155900
WTR YR 1989 TOTAL 100941 MEAN 277 MAX 3350 MIN 59 AC-FT 200200

e Estimated.

11461800 LAKE MENDOCINO NEAR UKIAH, CA

LOCATION.--Lat 39°11'53", long 123°10'50", in Yokaya Grant, Mendocino County, Hydrologic Unit 18010110, in intake tower 30 ft upstream from Coyote Dam on East Fork Russian River and 3.6 mi northeast of Ukiah.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--October 1965 to current year. Records prior to October 1965 in files of U.S. Army Corps of Engineers.

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; storage began in November 1958. Capacity based on 1953 survey, capacity table returned to use Oct. 1, 1983, 122,400 acre-ft between elevations 637.0 ft, invert of outlet tunnel, and 764.8 ft, spillway crest, NGVD. Storage affected by diversions from Eel River through Potter Valley powerplant (station 11471000). Water is released down East Fork Russian River for irrigation and recreation use. Records, including current year extremes, represent 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, 114,800 acre-ft, Jan. 24, 1970, elevation, 760.86 ft; minimum, 12,070 acre-ft, Nov. 4, 1977, elevation, 687.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 92,961 acre-ft, Mar. 18, elevation, 749.06 ft; minimum, 45,520 acre-ft, Nov. 9, elevation, 720.89 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Provided by U.S. Army Corps of Engineers, from 1953 survey)

637	0	665	2,870	690	13,800	730	59,600
645	118	670	4,340	695	17,200	740	76,700
650	390	675	6,130	700	21,300	750	94,700
655	909	680	8,270	710	31,400	760	113,300
660	1,730	685	10,800	720	44,200	764.8	122,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50715	45968	55796	73251	72449	75988	90627	91082	91611	84075	73007	60934
2	50532	45910	56322	73112	72449	77808	90809	91100	91483	83842	72623	60621
3	50334	45925	56818	72798	72432	78553	90882	91118	91282	83626	72275	60325
4	50091	45852	57333	72484	72432	79548	90809	91155	91264	83392	71892	60014
5	49864	45794	57865	73496	72397	82262	90809	91210	91118	83171	71493	59719
6	49713	45722	58399	74354	72380	81868	90845	91264	90954	82944	71112	59425
7	49502	45635	58935	75073	72345	80921	90882	91337	90791	82675	70748	59180
8	49292	45563	59392	75971	72310	82083	90918	91446	90609	82352	70385	58903
9	49081	45520	59883	76959	72293	83680	90936	91665	90372	82012	70022	58626
10	48872	45549	60375	77277	72536	84489	90918	91848	90208	81690	69660	58334
11	48692	45549	60918	76200	72972	85047	90900	92085	89972	81368	69247	58108
12	48528	45606	61430	74845	73426	84327	90936	92304	89699	81010	68834	57897
13	48424	45722	61960	73549	73828	84201	90973	92523	89464	80635	68457	57671
14	48379	45823	62641	72693	73951	84543	90991	92724	89209	80225	68080	57478
15	48304	45896	62974	72380	74073	85228	91027	92906	88973	79833	67687	57220
16	48215	46055	63476	72310	74161	86853	91064	92852	88700	79424	67277	57124
17	48052	46142	63995	72258	74284	87359	91082	92760	88428	79032	66868	56979
18	47874	46186	64499	72327	74459	92961	91100	92669	88138	78659	66460	56818
19	47711	46201	65106	72380	74599	92067	91100	92559	87866	78251	66087	56722
20	47549	46244	65917	72400	74722	89917	91100	92450	87613	77826	65731	56562
21	47401	46448	66834	72500	74845	88047	91118	92395	87359	77436	65376	56434
22	47269	48737	69539	72589	75021	86871	91064	92340	87052	77047	64870	56258
23	47122	50699	70575	72676	75161	87251	91100	92340	86762	76588	64449	56083
24	46989	51541	72240	72554	75284	87739	91082	92304	86383	76200	64096	55907
25	46887	52404	73339	72432	75390	87287	91046	92249	86003	75777	63677	55716
26	46770	53072	73653	72362	75495	87034	91009	92194	85642	75407	63275	55541
27	46653	53649	73479	72380	75619	87703	90936	92103	85246	74968	62891	55383
28	46521	54214	73059	72397	75707	88827	90954	92030	84867	74582	62475	55256
29	46390	54750	72536	72414	---	89463	91027	91921	84615	74144	62059	55256
30	46230	55287	72693	72414	---	89917	91064	91848	84381	73741	61661	55256
31	46099	---	73199	72432	---	90372	---	91757	---	73391	61314	---
MAX	50715	55287	73653	77277	75707	92961	91118	92906	91611	84075	73007	60934
MIN	46099	45520	55796	72258	72293	75988	90627	91082	84381	73391	61314	55256
a	721.29	727.33	738.03	737.59	739.46	747.64	748.02	748.40	744.33	738.14	731.05	727.31
b	-4814	+9188	+17912	-767	+3275	+14665	+692	+693	-7376	-10990	-12077	-6058

CAL YR 1988 MAX 80136 MIN 45520 b +3453
WTR YR 1989 MAX 92961 MIN 45520 b +4343

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

11462000 EAST FORK RUSSIAN RIVER NEAR UKIAH, CA

LOCATION.--Lat 39°11'51", long 123°11'11", in Yokaya Grant, Mendocino County, Hydrologic Unit 18010110, on right bank of outlet channel, 500 ft downstream from Coyote Dam, 1,300 ft upstream from mouth, and 3.2 mi northeast of Ukiah.

DRAINAGE AREA.--105 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1911 to September 1913, October 1951 to June 1956, October 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 614.41 ft above National Geodetic Vertical Datum of 1929. Prior to October 1951, nonrecording gage at site 0.5 mi upstream at different datum. October 1951 to June 1956, water-stage recorder at site 1.0 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow affected by diversion from Eel River through Potter Valley powerplant (station 11471000) and since November 1958 by storage in Lake Mendocino (station 11461800) 500 ft upstream. Diversions above station for irrigation of about 8,000 acres.

AVERAGE DISCHARGE (unadjusted).--7 years (water years 1912-13, 1952-55, 1958), 356 ft^3/s, 257,900 acre-ft/yr; 30 years (water years 1960-89), 348 ft^3/s, 252,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Prior to regulation by Lake Mendocino, maximum discharge, 13,300 ft^3/s, Dec. 21, 1955, gage height, 16.86 ft, site and datum then in use, from rating curve extended above 6,300 ft^3/s on basis of maximum flow at station upstream which was defined to 8,600 ft^3/s; no flow Aug. 13-15, 1913. Water year 1957 to current year: Maximum discharge, 7,350 ft^3/s, Jan. 24, 1970, gage height, 10.84 ft; minimum daily, 0.02 ft^3/s, Apr. 17, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,080 ft^3/s, Mar. 6, gage height, 4.77 ft; minimum daily, 12 ft^3/s, Jan. 6-8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	116	73	307	331	105	387	330	183	242	289	283
2	163	110	73	369	331	105	463	331	194	235	290	269
3	169	102	73	431	331	105	485	330	195	230	289	264
4	193	102	73	431	331	105	504	331	186	230	289	263
5	191	102	72	180	331	105	436	307	199	230	289	258
6	170	102	67	12	318	1310	409	285	199	230	289	250
7	184	102	64	12	330	1210	406	281	199	239	289	248
8	184	103	63	12	331	411	394	248	199	247	289	250
9	184	104	63	92	331	452	394	191	207	271	289	250
10	184	91	64	675	196	681	400	191	212	270	289	250
11	173	82	66	1100	105	1180	384	191	219	267	289	237
12	163	78	64	1170	105	1180	351	191	222	271	289	230
13	159	78	63	1160	105	863	355	191	219	276	285	230
14	152	78	63	844	105	379	353	191	219	276	287	219
15	151	75	65	542	105	146	350	191	218	276	289	244
16	150	73	68	415	105	306	350	182	227	287	289	235
17	150	73	68	355	105	516	350	168	234	288	293	242
18	150	73	69	321	105	389	350	170	234	287	293	201
19	150	73	69	321	105	1630	353	173	232	289	289	173
20	143	73	54	321	105	1980	355	177	232	289	293	173
21	134	73	24	321	105	1660	371	177	238	292	290	173
22	134	73	24	321	105	1170	389	177	245	293	287	181
23	134	73	23	378	105	688	389	175	246	293	289	188
24	123	75	24	410	105	892	392	172	254	289	287	188
25	116	74	23	410	105	1480	395	170	263	289	293	187
26	116	71	270	375	105	875	387	168	263	289	290	190
27	116	73	568	328	105	359	358	177	263	289	291	184
28	116	73	669	329	105	263	337	188	258	289	292	173
29	129	73	542	330	---	263	330	188	250	289	297	173
30	139	73	362	331	---	265	329	183	241	289	298	173
31	123	---	307	331	---	267	---	180	---	289	299	---
TOTAL	4706	2521	4170	12934	5051	21340	11506	6605	6750	8420	9000	6579
MEAN	152	84.0	135	417	180	688	384	213	225	272	290	219
MAX	193	116	669	1170	331	1980	504	331	263	293	299	283
MIN	116	71	23	12	105	105	329	168	183	230	285	173
AC-FT	9330	5000	8270	25650	10020	42330	22820	13100	13390	16700	17850	13050

CAL YR 1988 TOTAL 78527 MEAN 215 MAX 2490 MIN 23 AC-FT 155800
WTR YR 1989 TOTAL 99582 MEAN 273 MAX 1980 MIN 12 AC-FT 197500

11462000 EAST FORK RUSSIAN RIVER NEAR UKIAH, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953-55, 1964-68, 1973 to current year.
CHEMICAL DATA: Water years 1953-55, 1973-82.
BIOLOGICAL DATA: Water year 1977-78.
WATER TEMPERATURE: Water years 1953-55, 1965-68, 1973 to current year.
SEDIMENT DATA: Water years 1953-55, 1964-68.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: December 1952 to March 1955, October 1964 to September 1968, October 1972 to current year.
SUSPENDED-SEDIMENT DISCHARGE: December 1952 to March 1955, January 1964 to September 1968.

INSTRUMENTATION.--Water temperature recorder since October 1972. Digital recorder set for 1-hour interval punches.

REMARKS.--Records represent water temperature at sensor within 0.5 °C. Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 23.5 °C on several days in 1977; minimum recorded, 7.0 °C, Jan. 14, 1973, many days in 1984, and several days in 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0 °C, Oct. 1-3, Sept. 14; minimum recorded, 7.0 °C, Feb. 9-19.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	20.5	---	---	---	---	---	---	---	---	---	---
2	21.0	20.5	---	---	---	---	---	---	---	---	---	---
3	21.0	20.5	---	---	---	---	---	---	---	---	---	---
4	20.5	20.5	---	---	---	---	---	---	---	---	---	---
5	20.5	20.5	---	---	---	---	---	---	---	---	---	---
6	20.5	20.0	---	---	---	---	---	---	---	---	---	---
7	20.5	20.0	---	---	---	---	---	---	---	---	---	---
8	20.5	20.0	---	---	---	---	---	---	---	---	---	---
9	20.5	20.0	---	---	---	---	---	---	7.0	7.0	---	---
10	20.0	20.0	---	---	---	---	---	---	7.0	7.0	---	---
11	20.0	20.0	---	---	---	---	---	---	7.0	7.0	---	---
12	20.0	20.0	---	---	---	---	---	---	7.5	7.0	---	---
13	20.0	20.0	---	---	---	---	---	---	7.5	7.0	---	---
14	20.0	20.0	---	---	---	---	---	---	7.5	7.0	---	---
15	20.0	19.5	---	---	---	---	---	---	7.0	7.0	---	---
16	19.5	19.0	---	---	---	---	---	---	7.5	7.0	---	---
17	19.5	19.0	---	---	---	---	---	---	7.5	7.0	---	---
18	19.5	19.0	---	---	---	---	---	---	7.0	7.0	9.0	8.0
19	19.5	19.0	---	---	---	---	---	---	7.5	7.0	9.5	8.0
20	19.0	19.0	---	---	---	---	---	---	---	---	9.0	8.5
21	19.0	19.0	---	---	---	---	---	---	---	---	9.0	9.0
22	19.0	18.5	---	---	---	---	---	---	---	---	9.0	9.0
23	19.0	19.0	---	---	---	---	---	---	---	---	9.0	8.5
24	19.0	18.5	---	---	---	---	---	---	---	---	9.0	8.5
25	19.0	18.5	---	---	---	---	---	---	---	---	9.5	9.0
26	---	---	---	---	---	---	---	---	---	---	9.0	9.0
27	---	---	---	---	---	---	---	---	---	---	9.0	8.5
28	---	---	---	---	---	---	---	---	---	---	9.0	8.5
29	---	---	---	---	---	---	---	---	---	---	9.0	8.5
30	---	---	---	---	---	---	---	---	---	---	9.5	8.5
31	---	---	---	---	---	---	---	---	---	---	9.5	9.0
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11462000 EAST FORK RUSSIAN RIVER NEAR UKIAH, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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

11462500 RUSSIAN RIVER NEAR HOPLAND, CA

LOCATION.--Lat 39°01'36", long 123°07'46", in Rancho de Sanel Grant, Mendocino County, Hydrologic Unit 18010110, on right bank at abandoned highway bridge, 0.2 mi downstream from McNab Creek, 4 mi north of Hopland, and 15.2 mi downstream from Coyote Dam.

DRAINAGE AREA.--362 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1041: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 497.61 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1943, nonrecording gage at same site and datum.

REMARKS.--Records good. Diversions for irrigation of about 11,800 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (station 11461800) 15.2 mi upstream.

AVERAGE DISCHARGE.--50 years, 719 ft^3/s, 520,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft^3/s, Dec. 22, 1955, gage height, 27.00 ft; minimum daily, 9.1 ft^3/s, Apr. 20, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of 30.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,320 ft^3/s, Mar. 18, gage height, 13.10 ft; minimum daily, 83 ft^3/s, Nov. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	106	154	779	436	171	1390	390	e170	e199	241	240
2	136	107	142	652	426	1080	1100	376	e162	e195	249	217
3	138	107	134	660	426	664	1120	372	e162	e190	250	220
4	158	102	126	623	430	581	997	369	e166	e190	247	222
5	177	97	120	831	408	1990	899	361	e174	e192	238	221
6	160	97	114	511	e406	2860	812	321	e178	e192	247	216
7	163	99	103	392	e406	2170	760	304	e177	192	247	202
8	164	102	100	353	e398	1770	694	286	e170	199	249	203
9	161	100	98	859	394	4400	664	226	e166	213	242	203
10	164	104	96	1670	340	3320	633	224	e169	241	244	208
11	162	86	94	1750	211	3580	607	224	e177	223	239	207
12	138	83	93	1510	194	2480	551	218	e180	229	241	201
13	137	91	90	1470	188	2130	531	212	e182	234	240	201
14	139	98	88	1220	184	1370	516	208	e180	239	241	191
15	134	95	86	910	177	953	501	204	e178	230	250	211
16	134	94	86	687	172	1700	490	189	e180	224	246	225
17	134	157	86	607	172	1530	479	169	e185	244	244	241
18	132	124	86	529	172	5850	470	164	e190	237	249	224
19	129	100	95	514	182	3550	458	168	e190	244	233	181
20	132	91	122	499	181	2880	444	168	e188	243	239	177
21	117	92	447	479	176	1880	457	164	e185	243	240	174
22	116	953	1600	471	174	1500	474	170	e188	243	244	173
23	116	2800	785	564	176	2410	482	164	e192	242	245	181
24	114	659	1100	571	174	3220	490	164	e199	239	240	177
25	100	718	861	556	173	2800	503	161	e202	239	240	184
26	96	434	577	535	171	2240	484	161	e207	217	228	188
27	96	300	742	466	169	1370	437	157	e209	233	233	188
28	97	232	835	453	169	1220	405	175	e200	253	243	168
29	103	194	751	450	---	1110	392	189	e198	248	239	171
30	119	169	716	455	---	987	392	190	e198	245	246	174
31	121	---	1170	451	---	877	---	180	---	243	247	---
TOTAL	4123	8591	11697	22477	7285	64643	18632	7028	5502	6995	7521	5989
MEAN	133	286	377	725	260	2085	621	227	183	226	243	200
MAX	177	2800	1600	1750	436	5850	1390	390	209	253	250	241
MIN	96	83	86	353	169	171	392	157	162	190	228	168
AC-FT	8180	17040	23200	44580	14450	128200	36960	13940	10910	13870	14920	11880

CAL YR 1988 TOTAL 130549 MEAN 357 MAX 7370 MIN 76 AC-FT 258900
WTR YR 1989 TOTAL 170483 MEAN 467 MAX 5850 MIN 83 AC-FT 338200

e Estimated.

11463000 RUSSIAN RIVER NEAR CLOVERDALE, CA

LOCATION.--Lat 38°52'46", long 123°03'09", in NW 1/4 NW 1/4 sec.23, T.12 N., R.11 W., Mendocino County, Hydrologic Unit 18010110, on left bank 0.3 mi downstream from Cummisky Creek, 5.5 mi northwest of Cloverdale, and 28 mi downstream from Coyote Dam.

DRAINAGE AREA.--503 mi^2.

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 350 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 30, 1970, at site 0.2 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation of about 15,300 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (station 11461800).

AVERAGE DISCHARGE.--38 years, 981 ft^3/s, 710,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,200 ft^3/s, Dec. 22, 1964, gage height, 31.60 ft, site and datum then in use; minimum daily, 12 ft^3/s, Apr. 22, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,700 ft^3/s, Mar. 18, gage height, 14.42 ft; minimum daily, 89 ft^3/s, Nov. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	110	204	997	448	204	1140	468	181	207	260	261
2	131	106	186	784	448	1100	1390	458	168	208	268	231
3	133	109	170	761	447	873	1430	449	167	203	265	226
4	139	105	157	709	447	668	1300	442	181	198	248	229
5	151	100	148	974	442	2400	1170	431	200	197	225	229
6	157	98	140	733	427	3720	1020	388	200	181	254	221
7	150	98	132	530	428	2980	946	371	192	167	256	206
8	159	98	125	454	424	2590	869	364	181	169	237	202
9	158	98	119	864	428	7670	818	315	170	179	246	206
10	155	108	116	1690	419	6560	767	287	176	223	235	206
11	157	100	113	2120	297	6860	740	284	183	194	228	207
12	143	89	111	1720	262	3730	675	277	199	196	242	196
13	135	93	110	1670	246	2870	642	265	199	211	250	192
14	134	103	108	1390	237	1860	620	253	192	225	253	188
15	130	101	106	1040	228	1260	601	259	188	218	266	186
16	131	99	105	761	220	2270	582	249	175	206	265	221
17	129	132	105	688	217	2040	565	229	190	240	267	250
18	130	149	105	595	215	9420	551	216	205	239	267	249
19	128	115	109	560	222	5860	537	210	212	253	252	193
20	124	101	140	534	222	4180	521	207	196	238	255	175
21	118	97	415	511	217	3220	540	204	187	250	253	170
22	115	367	2200	500	214	2490	556	212	181	236	251	166
23	116	3650	1220	558	216	2460	579	211	167	216	248	176
24	116	843	1510	601	214	4110	586	203	187	238	236	169
25	109	770	1340	572	211	4850	606	195	213	228	226	175
26	98	577	734	556	207	3580	584	187	229	230	207	180
27	90	398	825	492	203	2270	536	179	231	238	203	184
28	98	314	949	476	203	2080	499	196	224	236	245	166
29	98	266	891	468	---	1690	476	215	228	232	247	165
30	106	230	777	460	---	1400	475	213	219	253	255	167
31	118	---	1480	452	---	1220	---	193	---	262	261	---
TOTAL	3991	9624	14950	25220	8409	98485	22321	8630	5821	6771	7671	5992
MEAN	129	321	482	814	300	3177	744	278	194	218	247	200
MAX	159	3650	2200	2120	448	9420	1430	468	231	262	268	261
MIN	90	89	105	452	203	204	475	179	167	167	203	165
AC-FT	7920	19090	29650	50020	16680	195300	44270	17120	11550	13430	15220	11890

CAL YR 1988 TOTAL 169611 MEAN 463 MAX 13500 MIN 66 AC-FT 336400
WTR YR 1989 TOTAL 217885 MEAN 597 MAX 9420 MIN 89 AC-FT 432200

11463170 BIG SULPHUR CREEK AT GEYSERS RESORT, NEAR CLOVERDALE, CA

LOCATION.--Lat 38°47'52", long 122°48'05", in NW 1/4 NW 1/4 sec.19, T.11 N., R.8 W., Sonoma County, Hydrologic Unit 18010110, on left bank 400 ft downstream from unnamed tributary and 12 mi east of Cloverdale.

DRAINAGE AREA.--13.1 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Diversion for industrial use 150 ft upstream from station when flows are above 10 ft^3/s.

AVERAGE DISCHARGE.--9 years, 41.6 ft^3/s, 30,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft^3/s, Feb. 17, 1986, gage height, 8.98 ft, from rating curve extended above 1,200 ft^3/s on basis of culvert computation of peak flow; minimum daily, 0.08 ft^3/s, Aug. 31, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0045	1,520	6.59	Mar. 9	1500	*2,480	*7.34

Minimum daily, 0.55 ft^3/s, Oct. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.60	5.8	22	5.7	7.1	44	12	6.1	4.5	1.4	1.1
2	.77	.82	6.3	19	5.1	99	44	10	5.2	4.1	1.4	1.1
3	.77	2.0	8.0	17	5.1	31	41	10	4.9	3.5	1.4	1.1
4	e.77	1.1	7.8	15	5.1	24	34	9.4	5.8	3.3	1.3	1.1
5	.70	1.0	6.9	48	4.8	60	31	9.0	5.9	3.3	1.4	1.1
6	.65	1.0	6.4	26	4.7	76	27	9.1	5.8	3.0	1.4	1.1
7	.64	.96	6.2	20	4.7	55	24	8.3	5.4	2.8	1.3	1.1
8	.70	.64	6.2	15	5.0	192	23	7.9	5.4	2.8	1.2	1.1
9	.74	.78	6.1	19	13	1020	21	7.4	4.8	2.6	1.2	1.1
10	.70	7.3	5.8	20	9.6	672	19	7.7	4.7	2.6	1.2	1.1
11	.73	2.0	5.4	16	9.7	609	18	7.6	4.7	2.6	1.1	1.0
12	.65	1.9	5.1	12	8.7	211	18	7.4	4.4	2.4	1.2	1.0
13	.87	24	4.8	10	8.5	131	17	7.0	4.4	2.2	1.2	.98
14	1.4	9.9	4.6	8.8	8.0	88	15	6.9	4.1	2.2	1.2	.98
15	1.0	4.7	4.2	8.7	7.2	67	15	7.0	4.4	2.0	1.2	1.0
16	.90	11	4.1	8.3	6.8	105	14	6.8	4.4	2.0	1.2	6.9
17	.90	6.8	4.1	8.3	6.6	80	13	8.0	4.4	2.0	1.1	11
18	.60	4.8	4.1	8.5	7.0	384	13	8.0	3.8	1.7	1.1	5.5
19	.64	3.6	6.3	8.8	9.3	246	13	7.5	3.8	1.9	1.1	2.8
20	.67	3.1	33	8.5	8.5	137	12	7.3	3.8	1.8	1.1	2.1
21	.65	3.2	15	8.5	8.0	95	15	7.5	3.7	1.6	1.1	1.8
22	.64	179	168	8.8	9.1	72	12	7.5	3.5	1.6	1.1	1.8
23	.72	311	44	10	9.0	116	18	9.0	3.5	1.6	1.1	1.8
24	.77	29	36	9.4	8.5	382	15	7.8	3.3	1.5	1.0	1.8
25	.77	29	27	8.7	7.9	476	16	7.5	3.3	1.4	1.1	1.6
26	.77	16	20	8.4	7.1	201	14	7.5	3.3	1.5	1.1	1.4
27	.69	9.1	17	8.0	6.6	126	12	7.0	3.3	1.5	1.1	1.4
28	.55	6.4	14	7.1	6.2	98	11	6.5	3.0	1.4	1.1	1.4
29	.55	8.7	12	6.5	---	74	11	6.2	3.9	1.4	1.1	2.0
30	.59	6.1	33	6.5	---	60	15	6.2	8.4	1.4	1.1	1.9
31	.64	---	33	6.3	---	51	---	6.4	---	1.4	1.1	---
TOTAL	22.88	685.50	560.2	407.1	205.5	6045.1	595	243.4	135.4	69.6	36.7	61.16
MEAN	.74	22.8	18.1	13.1	7.34	195	19.8	7.85	4.51	2.25	1.18	2.04
MAX	1.4	311	168	48	13	1020	44	12	8.4	4.5	1.4	11
MIN	.55	.60	4.1	6.3	4.7	7.1	11	6.2	3.0	1.4	1.0	.98
AC-FT	45	1360	1110	807	408	11990	1180	483	269	138	73	121

CAL YR 1988 TOTAL 6206.72 MEAN 17.0 MAX 506 MIN .48 AC-FT 12310
WTR YR 1989 TOTAL 9067.54 MEAN 24.8 MAX 1020 MIN .55 AC-FT 17990

e Estimated.

11463980 RUSSIAN RIVER AT DIGGER BEND, NEAR HEALDSBURG, CA

LOCATION.--Lat 38°37'59", long 122°51'16", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on right bank, 1,800 ft downstream from unnamed tributary and 1.6 mi northeast of Healdsburg.

DRAINAGE AREA.--791 mi^2.

PERIOD OF RECORD.--October 1988 to September 1989 (low flow only). Records for October 1985 to September 1988 are in the files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. No records computed above 300 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	105	271	---	---	e230	---	---	238	232	208	230
2	103	112	245	---	---	---	---	---	227	224	210	231
3	102	112	225	---	---	---	---	---	215	219	212	216
4	104	113	209	---	---	---	---	---	219	213	212	208
5	107	111	194	---	---	---	---	---	234	208	204	209
6	116	109	183	---	---	---	---	---	241	200	192	207
7	125	105	172	---	---	---	---	---	237	181	203	204
8	126	102	162	---	---	---	---	---	233	170	208	195
9	128	103	152	---	---	---	---	---	220	168	205	191
10	128	116	145	---	---	---	---	---	210	179	208	194
11	128	114	140	---	---	---	---	---	209	201	204	195
12	130	117	136	---	---	---	---	---	213	190	198	196
13	125	114	132	---	---	---	---	---	220	188	208	188
14	125	128	129	---	---	---	---	---	218	191	214	181
15	119	139	125	---	e280	---	---	---	208	198	215	176
16	117	131	119	---	e265	---	---	---	198	196	220	205
17	117	142	117	---	e255	---	---	---	195	192	223	249
18	113	153	118	---	e250	---	---	---	202	206	225	264
19	114	157	125	---	e255	---	---	e294	211	199	232	251
20	114	141	142	---	e260	---	---	274	216	202	226	216
21	112	129	284	---	e255	---	---	266	205	193	229	196
22	110	144	---	---	e250	---	---	264	195	198	230	187
23	105	---	---	---	e255	---	---	273	186	192	231	180
24	106	---	---	---	e255	---	---	271	178	184	224	183
25	109	---	---	---	e245	---	---	263	187	192	213	178
26	107	---	---	---	e240	---	---	256	207	193	207	181
27	101	---	---	---	e235	---	---	248	220	193	199	185
28	97	---	---	---	e230	---	---	242	226	190	196	187
29	95	---	---	---	---	---	---	252	226	188	214	193
30	95	---	---	---	---	---	---	258	236	188	219	186
31	99	---	---	---	---	---	---	251	---	200	225	---
TOTAL	3479	---	---	---	---	---	---	---	6430	6068	6614	6062
MEAN	112	---	---	---	---	---	---	---	214	196	213	202
MAX	130	---	---	---	---	---	---	---	241	232	232	264
MIN	95	---	---	---	---	---	---	---	178	168	192	176
AC-FT	6900	---	---	---	---	---	---	---	12750	12040	13120	12020

e Estimated.

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA

LOCATION.--Lat 38°36'48", long 122°50'07", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on left bank 2 mi east of Healdsburg and 3.5 mi upstream from Dry Creek.

DRAINAGE AREA.--793 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 981: 1942. WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 77.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several diversions for irrigation of about 17,800 acres upstream from station. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (station 11461800) 63 mi upstream.

AVERAGE DISCHARGE.--50 years, 1,436 ft^3/s, 1,040,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,300 ft^3/s, Dec. 23, 1964, gage height, 27.00 ft; maximum gage height, 30.0 ft, Feb. 28, 1940; minimum daily discharge, 12 ft^3/s, June 14, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of 30.8 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,500 ft^3/s, Mar. 18, gage height, 11.68 ft; minimum daily, 94 ft^3/s, Oct. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	103	276	1520	526	233	1840	614	225	219	198	210
2	99	108	248	1150	516	845	1900	590	205	208	198	215
3	100	110	227	991	515	1710	2000	566	190	202	202	202
4	103	111	212	936	517	1010	1850	543	193	196	202	191
5	107	109	198	1040	507	1700	1700	530	210	188	194	189
6	115	107	187	1340	500	3980	1520	508	216	178	182	187
7	126	103	177	916	485	3610	1380	466	191	157	190	187
8	128	101	166	735	483	3380	1270	450	204	137	198	177
9	130	103	157	756	504	8850	1190	444	194	130	194	168
10	131	116	152	1280	517	11300	1110	401	180	141	194	170
11	131	114	147	2190	481	13100	1050	380	174	171	190	169
12	132	118	143	1970	379	6330	993	367	180	169	186	169
13	130	116	139	1830	334	4610	922	353	192	164	194	162
14	128	129	135	1740	306	3520	885	339	192	166	194	154
15	121	142	129	1440	286	2640	852	330	179	178	198	145
16	118	135	124	1140	270	3070	814	326	167	178	202	217
17	118	144	121	947	257	3410	785	319	160	168	210	255
18	114	154	122	838	254	10800	758	301	165	184	218	e275
19	115	159	129	746	257	10700	728	288	182	184	214	e250
20	114	144	146	697	264	6420	707	277	189	185	214	218
21	112	132	270	658	258	4970	718	269	180	175	214	199
22	110	145	1470	629	255	3930	725	266	164	178	218	187
23	106	3520	2560	648	257	3340	762	e275	155	173	214	180
24	106	1860	1570	713	256	6680	788	e272	140	159	206	181
25	107	1020	2090	698	247	7880	793	e261	153	173	198	178
26	106	962	1280	669	245	6040	786	e258	177	174	190	180
27	101	650	1010	639	239	4060	726	242	200	177	182	183
28	95	470	1110	582	234	3310	671	236	211	178	174	185
29	94	374	1120	561	---	2910	627	246	212	178	194	193
30	94	316	1030	546	---	2390	616	256	223	178	202	186
31	96	---	1480	534	---	2050	---	251	---	191	206	---
TOTAL	3483	11875	18325	31079	10149	148778	31466	11224	5603	5437	6170	5762
MEAN	112	396	591	1003	362	4799	1049	362	187	175	199	192
MAX	132	3520	2560	2190	526	13100	2000	614	225	219	218	275
MIN	94	101	121	534	234	233	616	236	140	130	174	145
AC-FT	6910	23550	36350	61650	20130	295100	62410	22260	11110	10780	12240	11430

CAL YR 1988 TOTAL 224043 MEAN 612 MAX 18100 MIN 12 AC-FT 444400
WTR YR 1989 TOTAL 289351 MEAN 793 MAX 13100 MIN 94 AC-FT 573900

e Estimated.

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951-66, 1980.
WATER TEMPERATURE: Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to current year.

INSTRUMENTATION.--Temperature recorder since October 1965 provides hourly recordings.

REMARKS.--Records represent water temperature at sensor within 0.5 °C. Interruptions in record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.0 °C, July 13, 14, 1972, June 21, 1981, July 13, 1983, May 14, 15, 1987, and July 18, 1988; minimum recorded, 5.0 °C, Dec. 10, 11, 1972, Feb. 7, 8, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 26.5 °C, May 16, July 18, 20, 22; minimum recorded, 5.0 °C, Feb. 7, 8.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	17.5	16.5	15.0	12.5	10.5	8.0	6.0	11.0	9.5	13.0	10.5
2	21.5	17.5	17.5	15.5	12.5	10.5	8.5	7.0	9.5	8.5	12.0	10.5
3	22.5	17.0	18.0	16.0	12.5	10.5	9.0	7.5	9.0	8.0	11.0	8.0
4	21.5	17.5	19.0	16.5	12.5	10.0	9.0	8.0	8.5	7.5	11.0	9.5
5	22.0	17.5	18.5	15.0	13.0	10.0	9.0	8.5	7.5	6.0	9.5	9.5
6	18.5	17.5	17.5	14.5	13.5	11.0	8.0	6.0	7.0	5.5	11.0	9.5
7	19.0	16.5	16.5	13.5	13.0	10.5	8.0	7.0	7.0	5.0	12.0	11.0
8	20.5	15.0	16.0	13.0	13.0	10.5	7.5	6.5	7.0	5.0	12.0	11.0
9	21.5	16.0	15.0	12.5	13.0	10.0	9.0	7.5	8.5	7.0	12.5	12.0
10	21.0	16.5	16.0	14.0	13.0	10.5	9.0	8.0	10.5	8.0	13.0	12.0
11	20.5	16.5	16.5	13.5	13.0	10.0	8.0	6.5	10.5	9.0	13.5	12.5
12	18.5	16.5	16.5	15.0	12.5	10.0	8.0	6.0	10.5	9.0	13.5	12.0
13	17.0	16.5	15.0	13.0	13.0	10.0	7.5	6.5	11.0	8.5	13.0	11.5
14	20.5	16.5	14.5	12.5	12.0	9.5	7.5	6.0	10.5	8.5	13.0	10.0
15	21.0	16.0	15.0	13.0	10.0	9.0	8.5	6.0	11.0	9.0	13.5	10.5
16	22.0	17.0	15.5	13.0	9.5	8.0	9.0	7.5	12.5	10.5	13.5	12.0
17	22.5	17.5	13.5	11.5	9.5	7.5	9.5	8.0	13.0	10.5	12.0	11.0
18	22.0	17.5	13.0	10.0	9.5	8.0	10.0	8.5	12.5	11.5	11.5	11.0
19	21.5	17.0	13.0	10.5	11.0	9.5	10.0	8.5	14.5	11.0	14.0	11.5
20	21.0	16.5	14.0	11.5	10.5	9.0	9.5	8.5	13.5	11.5	14.0	12.0
21	20.0	16.0	13.5	12.0	10.0	8.5	10.0	8.5	15.0	12.5	14.5	12.0
22	20.0	16.0	15.0	13.0	9.5	8.5	10.5	9.5	14.5	12.0	15.0	12.5
23	19.5	16.0	15.0	12.5	8.5	7.0	11.0	9.5	14.0	10.5	13.5	12.5
24	18.5	16.0	12.5	11.5	8.5	8.0	10.5	9.0	14.0	11.0	13.0	12.0
25	18.0	15.5	12.5	11.5	8.0	6.5	10.0	8.5	14.0	11.0	13.5	12.0
26	17.0	15.5	12.5	11.0	7.5	6.0	10.0	8.5	14.5	10.5	12.0	10.5
27	16.0	14.5	13.0	11.0	7.5	6.5	10.5	9.5	15.5	11.5	14.5	10.5
28	16.5	14.5	14.0	12.5	8.0	7.0	9.5	9.0	14.0	10.5	15.0	12.5
29	17.5	13.0	13.5	11.5	8.0	6.5	10.5	9.0	---	---	15.5	12.0
30	17.5	12.5	12.5	11.0	8.0	7.5	11.0	9.5	---	---	15.5	12.0
31	17.5	13.0	---	---	8.5	7.5	11.0	10.0	---	---	16.5	13.5
MONTH	22.5	12.5	19.0	10.0	13.5	6.0	11.0	6.0	15.5	5.0	16.5	8.0

11464000 RUSSIAN RIVER NEAR HEALDSBURG, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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

11464900 LAKE SONOMA NEAR GEYSERVILLE, CA

LOCATION.--Lat 38°43'21", long 123°00'36", in SW 1/4 SE 1/4 sec.7, T.10 N., R.10 W., Sonoma County, Hydrologic Unit 18010110, in reservoir control tower 400 ft upstream from Warm Springs Dam and 6.0 mi west of Geyserville.

DRAINAGE AREA.--130 mi^2.

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

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

REMARKS.--Reservoir is formed by earthfill dam; storage began in October 1983. Usable capacity 380,570 acre-ft between elevations 221.00 ft, invert of lowest outlet tunnel, and 495.00 ft, spillway crest. Water is released down Dry Creek for domestic use and fisheries. Records, including current year extremes, represent 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, 264,347 acre-ft, Mar. 11, 1986, elevation, 458.19 ft; minimum after initial reservoir filling, 120,888 acre-ft, Nov. 29, 1987, elevation, 392.48 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 193,876 acre-ft, Apr. 9, 11, elevation, 403.49 ft; minimum, 135,098 acre-ft, Dec. 21, elevation, 400.82 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Provided by U. S. Army Corps of Engineers, from 1964 survey)

221	111	280	14,286	360	75,150	440	217,014
230	1,151	300	24,025	380	101,566	460	269,406
240	2,621	320	37,003	400	133,654	480	329,768
260	7,265	340	53,833	420	171,956	495	380,681

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147729	140927	138630	138972	139531	136946	192505	193178	188584	182284	174716	167483
2	147504	140745	138450	139026	139423	137589	192819	193066	188363	182090	174485	167279
3	147335	140618	138270	139080	139315	137947	193066	192976	188120	181874	174233	167034
4	147166	140400	138091	139080	139044	138306	193291	192909	187987	181680	173981	166769
5	146792	140146	137929	139423	138882	139875	193448	192774	187855	181507	173751	166525
6	146531	139875	137768	139549	138792	141455	193651	192639	187656	181313	173520	166261
7	146325	139585	137553	139658	138702	142223	193764	192505	187414	181055	173332	166057
8	146000	139333	137374	139784	138630	143545	193831	192370	187282	180732	173081	165773
9	145897	139098	137213	139983	138612	148406	193876	192213	187062	180495	172810	165530
10	145692	138864	136963	140219	138558	152877	193831	192056	186820	180195	172560	165267
11	145432	138666	136785	140382	138522	157202	193876	191922	186622	179895	172331	165024
12	145153	138468	136536	140473	138468	158892	193809	191810	186468	179766	172143	164842
13	145005	138288	136375	140546	138414	159920	193786	191654	186314	179509	171956	164619
14	144856	138091	136180	140600	138378	160554	193764	191475	186139	179231	171727	164276
15	144727	137911	135896	140618	138288	160972	193741	191363	185920	178953	171437	164035
16	144505	137840	135665	140636	138127	162188	193696	191251	185679	178761	171126	164035
17	144301	137661	135452	140655	138019	162969	193674	191095	185460	178548	170919	163934
18	144006	137464	135240	140600	137893	172435	193674	190917	185241	178313	170649	163753
19	143784	137231	135116	140564	137750	176149	193606	190760	184957	178058	170401	163511
20	143545	136999	135151	140509	137625	177973	193561	190582	184783	177781	170174	163330
21	143250	136928	135098	140437	137499	179124	193561	190448	184586	177526	169926	163190
22	143048	137840	136393	140419	137374	179873	193516	190270	184368	177271	169761	163009
23	142828	139044	136660	140419	137303	181809	193538	190115	184063	176974	169555	162709
24	142608	139188	137589	140419	137106	184434	193448	189959	183824	176741	169329	162508
25	142406	139315	138001	140346	136963	187018	193561	189781	183563	176508	169020	162328
26	142168	139296	138109	140255	136910	188562	193493	189581	183303	176276	168774	162088
27	141948	139206	138234	140146	136839	189648	193448	189382	183064	176064	168548	161968
28	141766	139134	138306	140056	136803	190560	193403	189182	182826	175769	168302	161709
29	141583	138972	138270	139893	---	191251	193268	189005	182696	175516	168077	161549
30	141383	138792	138576	139839	---	191698	193246	188872	182501	175242	167892	161390
31	141200	---	138864	139730	---	192191	---	188739	---	174968	167667	---
MAX	147729	140927	138864	140655	139531	192191	193876	193178	188584	182284	174716	167483
MIN	141200	136928	135098	139026	136803	136946	192505	188739	182501	174968	167667	161390
a	404.22	402.89	402.93	403.41	401.78	429.37	429.84	427.82	424.97	421.44	417.92	414.81
b	-6773	-2408	+72	+866	-2927	+55388	+1055	-4507	-6238	-7533	-7301	-6277

CAL YR 1988 MAX 195844 MIN 135098 b -21571
WTR YR 1989 MAX 193876 MIN 135098 b +13417

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

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA

LOCATION.--Lat 38°43'11", long 122°59'58", in Tzabaco Grant, Sonoma County, Hydrologic Unit 18010110, on right bank of outlet channel, 500 ft downstream from Warm Springs Dam, 500 ft upstream from county road bridge, and 5.0 mi west of Geyserville.

DRAINAGE AREA.--131 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1942 (published as "Dry Creek near Healdsburg"), October 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 188.21 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1942, nonrecording gage at site 500 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow affected by storage in Lake Sonoma since October 1983.

AVERAGE DISCHARGE.--7 years (water years 1983-89), 207 ft^3/s, 150,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft^3/s, Feb. 28, 1940, gage height, 16.9 ft, datum then in use; no flow Oct. 1 to Dec. 8, 1939. Maximum discharge since regulation by Lake Sonoma, 2,580 ft^3/s, Mar. 15, 1986; minimum daily, 6.3 ft^3/s, July 10, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of 21.8 ft from floodmarks, discharge about 25,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 396 ft^3/s, Oct. 5, gage height, 6.04 ft; minimum daily, 68 ft^3/s, Jan. 15-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	112	105	104	83	83	82	84	94	104	109	109
2	108	118	105	87	83	85	80	84	95	104	107	109
3	108	118	104	73	83	86	75	82	96	105	107	108
4	108	118	104	74	83	83	76	81	96	105	107	108
5	140	118	104	74	83	84	77	89	97	105	108	108
6	108	117	104	75	83	83	84	91	97	105	107	107
7	103	119	104	76	82	83	88	94	97	104	107	108
8	102	121	108	76	81	83	85	89	97	101	106	108
9	102	119	111	73	81	87	85	86	97	101	106	108
10	102	112	111	72	82	87	80	87	97	101	107	108
11	102	107	111	69	81	84	76	87	97	100	106	107
12	102	107	111	69	81	83	76	85	96	100	107	108
13	102	107	111	69	81	83	78	85	96	101	107	107
14	102	107	110	69	81	83	79	85	96	101	106	110
15	102	106	111	68	82	83	80	84	98	101	106	106
16	102	106	111	68	82	84	80	84	100	101	107	106
17	114	106	111	68	83	82	77	83	101	101	106	105
18	112	110	111	71	81	90	78	82	101	101	105	103
19	103	115	111	76	81	81	77	82	100	102	105	103
20	101	115	111	80	81	81	75	82	99	103	105	103
21	101	112	109	80	81	81	78	82	99	111	105	102
22	101	111	108	80	82	81	78	89	97	117	105	103
23	101	108	104	79	85	84	76	94	100	115	105	105
24	101	102	105	91	82	81	76	94	103	114	105	105
25	101	101	104	82	81	82	80	94	103	112	104	105
26	101	101	104	83	80	81	79	94	103	111	104	106
27	99	101	104	81	81	88	80	94	103	112	104	111
28	98	101	104	81	82	85	78	93	104	112	104	114
29	98	103	104	81	---	83	81	92	104	112	104	112
30	98	105	105	83	---	84	82	85	104	113	106	100
31	100	---	104	83	---	81	---	96	---	112	108	---
TOTAL	3230	3303	3324	2395	2292	2589	2376	2713	2967	3287	3285	3202
MEAN	104	110	107	77.3	81.9	83.5	79.2	87.5	98.9	106	106	107
MAX	140	121	111	104	85	90	88	96	104	117	109	114
MIN	98	101	104	68	80	81	75	81	94	100	104	100
AC-FT	6410	6550	6590	4750	4550	5140	4710	5380	5890	6520	6520	6350

CAL YR 1988 TOTAL 46209 MEAN 126 MAX 2070 MIN 71 AC-FT 91660
WTR YR 1989 TOTAL 34963 MEAN 95.8 MAX 140 MIN 68 AC-FT 69350

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURE: November 1981 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1981 to current year.

INSTRUMENTATION.--Temperature recorder.

REMARKS.--Water temperature is affected by regulation from Warm Springs Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 27.0 °C, July 11, Aug. 5, 6, 8, 12, 15, 16, 1983; minimum recorded, 6.5 °C, Jan. 20, 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 15.0 °C, Oct. 5, 19; minimum recorded, 9.0 °C, on Mar. 3.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	12.5	14.5	14.0	12.5	12.5	11.5	11.5	10.0	9.5	10.0	10.0
2	12.5	12.5	14.0	14.0	12.5	12.5	11.5	11.5	10.0	9.5	10.0	9.5
3	12.5	12.5	14.0	14.0	12.5	12.5	11.5	11.0	10.0	9.5	10.0	9.0
4	12.5	12.0	14.0	14.0	12.5	12.5	11.0	11.0	10.0	9.5	10.0	9.5
5	15.0	11.5	14.0	14.0	12.5	12.5	11.0	11.0	9.5	9.5	10.0	9.5
6	14.0	13.0	14.0	14.0	12.5	12.5	11.0	11.0	10.0	9.5	10.0	10.0
7	13.0	12.0	14.0	14.0	12.5	12.5	11.0	11.0	10.0	9.5	10.0	10.0
8	12.0	11.0	14.0	13.5	12.5	12.0	11.0	11.0	9.5	9.5	10.0	10.0
9	11.0	11.0	13.5	13.5	12.0	12.0	11.0	10.5	9.5	9.5	10.5	10.0
10	11.0	10.5	14.0	13.5	12.0	12.0	11.0	10.5	10.0	9.5	11.0	10.0
11	11.0	10.5	14.0	14.0	12.0	12.0	11.0	10.5	10.0	9.5	10.5	10.0
12	10.5	10.5	14.0	14.0	12.0	12.0	10.5	10.5	10.0	9.5	10.5	10.0
13	10.5	10.5	14.0	14.0	12.0	12.0	10.5	10.5	10.0	9.5	10.5	10.0
14	11.0	10.5	14.0	14.0	12.0	11.0	10.5	10.5	10.0	9.5	10.5	10.0
15	11.0	11.0	14.0	14.0	11.0	10.5	10.5	10.5	10.0	9.5	10.5	10.0
16	11.0	11.0	14.0	13.5	11.0	10.5	10.5	10.5	9.5	9.5	10.5	10.0
17	13.5	11.0	13.5	13.5	11.0	10.5	10.5	10.5	9.5	9.5	10.0	10.0
18	14.5	13.5	13.5	13.0	11.0	10.5	10.5	10.5	9.5	9.5	10.5	10.0
19	15.0	14.5	13.0	13.0	12.5	11.0	10.5	10.5	9.5	9.5	11.0	10.0
20	14.5	14.5	13.0	13.0	12.5	12.5	10.5	10.5	9.5	9.5	10.5	10.0
21	14.5	14.5	13.0	13.0	12.5	12.5	10.5	10.5	9.5	9.5	10.5	10.0
22	14.5	14.5	13.0	13.0	12.5	12.0	10.5	10.5	10.0	9.5	10.5	10.0
23	14.5	14.5	13.0	13.0	12.5	12.5	10.5	10.5	10.0	9.5	10.5	10.0
24	14.5	14.5	13.0	13.0	12.5	12.0	10.5	10.5	10.0	10.0	10.5	10.0
25	14.5	14.5	13.0	13.0	12.0	12.0	10.5	10.5	10.0	10.0	11.0	10.0
26	14.5	14.5	13.0	13.0	12.0	12.0	10.5	10.5	10.5	10.0	10.5	10.0
27	14.5	14.5	13.0	13.0	12.0	11.0	10.5	10.0	11.0	10.0	10.5	10.0
28	14.5	14.5	13.0	13.0	11.5	11.5	10.5	10.0	10.5	10.0	10.5	10.0
29	14.5	14.5	13.0	12.5	11.5	11.5	10.5	10.0	---	---	10.5	10.0
30	14.5	14.5	12.5	12.5	11.5	11.5	10.5	10.0	---	---	10.5	10.0
31	14.5	14.5	---	---	11.5	11.5	10.0	9.5	---	---	10.5	10.5
MONTH	15.0	10.5	14.5	12.5	12.5	10.5	11.5	9.5	11.0	9.5	11.0	9.0

11465000 DRY CREEK BELOW WARM SPRINGS DAM, NEAR GEYSERVILLE, CA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.5	10.5	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0
2	10.5	10.5	11.0	10.5	11.5	11.0	12.0	12.0	12.5	12.0	12.5	12.0
3	11.0	10.0	11.0	10.5	11.5	11.0	12.0	12.0	12.5	12.0	12.5	12.0
4	11.0	10.5	11.5	11.0	11.5	11.0	12.0	12.0	12.5	12.0	12.5	12.0
5	11.0	10.5	11.0	10.0	11.5	11.0	12.0	12.0	12.5	12.0	12.5	12.0
6	11.0	10.0	10.5	10.0	11.5	11.0	12.0	12.0	12.5	12.0	12.5	12.0
7	11.0	10.5	10.0	9.5	11.5	11.0	12.5	12.0	12.5	12.0	12.5	12.0
8	11.0	10.5	11.0	9.5	11.5	11.0	12.5	12.0	12.5	12.0	12.5	12.0
9	11.0	10.5	11.0	10.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
10	11.0	10.0	10.0	9.5	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
11	11.0	10.5	11.0	9.5	11.5	11.5	12.5	12.0	12.5	12.0	12.5	12.0
12	11.0	10.5	11.0	10.5	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
13	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
14	11.0	10.5	11.0	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
15	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
16	11.0	10.5	11.0	11.0	12.0	11.5	12.5	12.0	12.5	10.0	12.5	12.0
17	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
18	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
19	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
20	11.5	10.5	11.0	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
21	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
22	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
23	11.5	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
24	11.0	10.5	11.0	11.0	12.0	11.5	12.5	12.0	12.5	12.5	12.5	12.0
25	10.5	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	12.0
26	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	11.5
27	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	12.5	10.0
28	11.0	10.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	10.0	10.0
29	11.0	10.5	11.5	11.0	11.5	11.5	12.5	12.0	12.5	12.0	12.0	10.0
30	11.0	10.5	12.0	11.0	12.0	11.5	13.0	12.0	12.5	12.0	12.5	12.0
31	---	---	11.5	11.0	---	---	12.5	12.0	12.5	12.0	---	---
MONTH	11.5	10.0	12.0	9.5	12.0	11.0	13.0	11.5	12.5	10.0	12.5	10.0

11465150 PENA CREEK NEAR GEYSERVILLE, CA

LOCATION.--Lat 38°42'02", long 122°58'16", in sec.21, T.10 N., R.10 W., Sonoma County, Hydrologic Unit 18010110, on right bank on upstream side of bridge on West Dry Creek Road, 1.1 mi upstream from mouth, and 3.7 mi west of Geyserville.

DRAINAGE AREA.--22.3 mi^2.

PERIOD OF RECORD.--October 1978 to current year.
WATER TEMPERATURE: Water years 1979-86.
SEDIMENT DATA: Water years 1979-87.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 195 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation; some small diversion for irrigation of less than 200 acres in summer months.

AVERAGE DISCHARGE.--11 years, 44.3 ft^3/s, 32,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,710 ft^3/s, Jan. 26, 1983, gage height, 9.01 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	2345	*1,080	*5.20				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	2.0	13	2.2	1.4	36	5.3	.00	.00	.00	.00
2	.00	.00	1.7	11	1.9	23	32	4.8	.00	.00	.00	.00
3	.00	.00	1.4	8.8	1.8	18	28	4.7	.00	.00	.00	.00
4	.00	.00	1.1	7.4	1.7	13	25	4.8	.05	.00	.00	.00
5	.00	.00	.79	12	1.5	68	23	4.6	.13	.00	.00	.00
6	.00	.00	.61	10	.99	107	21	4.4	.01	.00	.00	.00
7	.00	.00	.29	11	1.2	47	20	3.7	.00	.00	.00	.00
8	.00	.00	.00	9.5	1.6	92	19	3.2	.00	.00	.00	.00
9	.00	.00	.00	11	2.9	347	17	3.1	.00	.00	.00	.00
10	.00	.00	.00	11	3.2	347	14	2.9	.00	.00	.00	.00
11	.00	.00	.00	11	2.9	480	13	2.8	.00	.00	.00	.00
12	.00	.00	.00	9.2	2.7	164	12	2.6	.00	.00	.00	.00
13	.00	.00	.00	8.1	2.5	84	11	2.6	.00	.00	.00	.00
14	.00	.00	.00	7.2	2.3	55	10	2.4	.00	.00	.00	.00
15	.00	.00	.00	6.4	2.2	46	9.9	2.4	.00	.00	.00	.00
16	.00	.00	.00	6.1	2.3	71	9.0	2.3	.00	.00	.00	.00
17	.00	.58	.00	5.7	2.2	53	8.4	2.1	.00	.00	.00	.00
18	.00	.01	.00	5.3	2.4	514	8.1	1.8	.00	.00	.00	.00
19	.00	.00	.06	5.0	2.7	310	8.0	1.6	.00	.00	.00	.00
20	.00	.00	2.9	4.6	2.3	155	6.9	1.3	.00	.00	.00	.00
21	.00	.00	7.0	4.1	2.4	99	8.8	1.3	.00	.00	.00	.00
22	.00	6.1	61	3.8	2.4	69	6.4	1.0	.00	.00	.00	.00
23	.00	74	21	5.6	2.4	93	8.5	1.8	.00	.00	.00	.00
24	.00	11	44	4.6	1.9	169	6.9	1.3	.00	.00	.00	.00
25	.00	14	26	3.9	1.8	187	10	1.4	.00	.00	.00	.00
26	.00	7.4	15	3.4	2.0	134	11	1.1	.00	.00	.00	.00
27	.00	4.8	12	3.0	2.0	94	7.8	.62	.00	.00	.00	.00
28	.00	3.6	10	2.7	1.6	71	6.6	.14	.00	.00	.00	.00
29	.00	2.8	7.7	2.9	---	56	5.2	.10	.00	.00	.00	.00
30	.00	2.3	9.9	3.0	---	48	5.9	.07	.00	.00	.00	.00
31	.00	---	16	2.7	---	41	---	.01	---	.00	.00	---
TOTAL	0.00	126.59	240.45	213.0	59.99	4056.4	408.4	72.24	0.19	0.00	0.00	0.00
MEAN	.000	4.22	7.76	6.87	2.14	131	13.6	2.33	.006	.000	.000	.000
MAX	.00	74	61	13	3.2	514	36	5.3	.13	.00	.00	.00
MIN	.00	.00	.00	2.7	.99	1.4	5.2	.01	.00	.00	.00	.00
AC-FT	.00	251	477	422	119	8050	810	143	.4	.00	.00	.00

CAL YR 1988 TOTAL 5516.71 MEAN 15.1 MAX 910 MIN .00 AC-FT 10940
WTR YR 1989 TOTAL 5177.26 MEAN 14.2 MAX 514 MIN .00 AC-FT 10270

11465200 DRY CREEK NEAR GEYSERVILLE, CA

LOCATION.--Lat 38°41'55", long 122°57'25", in Tzabaco Grant, Sonoma County, Hydrologic Unit 18010110, on left bank pier of bridge 0.3 mi downstream from Pena Creek and 3 mi west of Geyserville.

DRAINAGE AREA.--162 mi^2.

PERIOD OF RECORD.--October 1959 to current year.
CHEMICAL DATA: Water years 1971-81.
WATER TEMPERATURE: Water years 1964-86.
SEDIMENT DATA: Water years 1964-87.
TURBIDITY: Water years 1964-86.

REVISED RECORDS.--WDR CA-65-1: 1962(M), 1963(M).

GAGE.--Water-stage recorder. Datum of gage is 156.40 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1964, at datum 4.00 ft higher. Oct. 1, 1964, to Apr. 8, 1976, at datum 3.00 ft higher; Apr. 9, 1976, to Sept. 30, 1982, at datum 2.00 ft higher.

REMARKS.--Records good. Small diversions upstream from station for irrigation of about 1,200 acres in summer. Flow regulated by Lake Sonoma (station 11464900) 3.0 mi upstream beginning October 1983.

AVERAGE DISCHARGE.--24 years (water years 1959-83), 342 ft^3/s, 248,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft^3/s, Jan. 31, 1963, gage height, 20.50 ft, present datum; no flow at times. Maximum discharge since regulation by Lake Sonoma, 5,280 ft^3/s, Feb. 17, 1986; minimum daily, 19 ft^3/s, Oct. 18-25, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,540 ft^3/s, Mar. 11, gage height, 7.19 ft; minimum daily, 84 ft^3/s, Jan. 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	116	109	120	90	90	134	99	91	96	111	109
2	113	128	108	106	91	120	130	98	89	96	107	110
3	111	128	109	89	91	111	124	94	85	96	108	112
4	111	126	108	87	90	104	121	95	86	96	108	111
5	148	126	108	91	89	162	119	99	90	94	108	112
6	109	124	111	91	89	238	121	99	91	94	109	111
7	105	126	111	91	88	156	121	105	91	94	106	112
8	103	126	114	90	87	190	116	101	92	94	107	111
9	104	125	120	90	89	501	114	97	93	92	107	111
10	104	118	120	92	90	497	107	99	93	93	108	110
11	105	110	120	88	89	743	104	100	93	92	109	110
12	104	110	119	89	89	302	101	97	92	94	109	109
13	105	111	118	88	89	217	99	97	90	95	111	109
14	105	110	117	87	89	173	99	97	91	98	113	116
15	105	109	118	85	90	151	100	97	93	100	112	110
16	104	110	118	84	91	177	99	97	96	101	115	114
17	116	107	117	84	91	156	97	96	95	99	111	111
18	119	111	116	84	88	873	95	95	97	101	111	107
19	107	118	116	88	88	541	95	95	96	104	110	106
20	105	119	117	91	89	311	92	95	97	107	111	107
21	104	117	116	88	90	229	97	94	97	109	110	107
22	103	119	212	88	90	189	94	100	97	109	109	106
23	102	202	142	89	91	217	97	109	96	111	111	105
24	102	116	176	99	91	336	95	108	99	114	111	104
25	102	119	150	90	88	355	103	109	100	112	110	103
26	104	111	131	91	88	286	102	108	94	112	109	103
27	103	108	125	89	88	243	99	109	94	113	109	111
28	101	107	122	89	89	208	96	e106	94	113	110	117
29	100	109	117	89	---	176	97	e104	97	114	109	118
30	100	111	121	91	---	160	98	e100	97	114	109	93
31	103	---	127	92	---	143	---	e95	---	114	109	---
TOTAL	3320	3577	3833	2810	2502	8355	3166	3094	2906	3171	3397	3275
MEAN	107	119	124	90.6	89.4	270	106	99.8	93.5	102	110	109
MAX	148	202	212	120	91	873	134	109	100	114	115	118
MIN	100	107	108	84	87	90	92	94	85	92	106	93
AC-FT	6590	7090	7600	5570	4960	16570	6280	6140	5570	6290	6740	6500

CAL YR 1988 TOTAL 55197 MEAN 151 MAX 2510 MIN 79 AC-FT 109500
WTR YR 1989 TOTAL 43306 MEAN 119 MAX 873 MIN 84 AC-FT 85900

e Estimated.

11465350 DRY CREEK NEAR MOUTH, NEAR HEALDSBURG, CA

LOCATION.--Lat 38°35'15", long 122°51'40", in Sotoyome Grant, Sonoma County, Hydrologic Unit 18010110, on right bank 0.25 mi upstream from mouth, 0.4 mi downstream from Mill Creek, 1.7 mi south of Healdsburg, and 13.5 mi downstream from Warm Springs Dam.

DRAINAGE AREA.--217 mi^2.

PERIOD OF RECORD.--November 1980 to current year (low flow only).

GAGE.--Water-stage recorder. Elevation of gage is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No records computed above 200 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	91	105	149	91	87	---	116	92	98	94	87
2	98	105	105	133	90	---	---	116	88	96	90	89
3	98	110	104	107	90	160	---	110	85	95	88	89
4	96	110	103	98	90	139	200	107	89	94	89	88
5	119	110	103	120	88	---	189	107	89	93	89	90
6	109	109	103	109	88	---	182	106	90	91	89	90
7	98	109	102	105	88	---	176	110	90	90	86	89
8	91	109	102	102	87	---	166	111	91	89	79	90
9	90	110	109	103	94	---	158	105	91	90	86	89
10	90	117	111	105	93	---	151	105	90	88	87	90
11	90	98	111	103	91	---	143	104	90	89	89	91
12	89	97	111	98	90	---	136	100	90	88	90	90
13	90	108	111	96	89	---	132	98	89	88	91	89
14	92	101	110	95	88	---	130	96	87	89	89	92
15	90	97	111	92	89	---	129	95	85	90	94	90
16	90	101	109	90	89	---	127	95	86	91	96	108
17	91	98	109	88	89	---	126	94	86	91	93	115
18	106	97	109	85	90	---	120	90	88	88	93	95
19	91	105	112	91	90	---	118	90	90	86	91	88
20	89	108	139	93	88	---	113	90	87	88	91	88
21	88	110	132	92	87	---	136	89	83	89	91	88
22	87	122	---	90	88	---	118	89	84	89	91	87
23	88	---	---	104	88	---	130	101	83	92	90	86
24	88	177	---	102	88	---	116	101	86	95	89	87
25	88	153	---	97	85	---	129	101	89	92	89	85
26	88	123	168	94	84	---	133	99	92	91	88	85
27	88	110	151	92	84	---	125	97	92	92	90	88
28	87	105	139	91	84	---	120	94	94	93	90	96
29	85	103	128	90	---	---	118	94	96	94	89	115
30	86	104	163	91	---	---	121	91	99	95	88	89
31	86	---	182	92	---	---	---	90	---	94	88	---
TOTAL	2863	---	---	3097	2480	---	---	3091	2671	2828	2777	2743
MEAN	92.4	---	---	99.9	88.6	---	---	99.7	89.0	91.2	89.6	91.4
MAX	119	---	---	149	94	---	---	116	99	98	96	115
MIN	85	---	---	85	84	---	---	89	83	86	79	85
AC-FT	5680	---	---	6140	4920	---	---	6130	5300	5610	5510	5440

11466500 LAGUNA DE SANTA ROSA NEAR GRATON, CA

LOCATION.--Lat 38°27'10", long 122°50'03", in Molinos Grant, Sonoma County, Hydrologic Unit 18010110, on downstream side of left bank pier of highway bridge, 0.2 mi downstream from Santa Rosa Creek, and 2 mi northeast of Graton.

PERIOD OF RECORD.--February 1940 to September 1949 (contents only), October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 31, 1958, at site 75 ft downstream at same datum.

REMARKS.--The laguna is a natural water channel and overflow basin connecting Santa Rosa Creek, Mark West Creek, and other smaller creeks with the Russian River. During floods directions of flow may be either to or from the Russian River, and the laguna acts as a natural regulator of floods on the lower Russian River. Figures given herein represent only those days when the elevation was above 55.0 ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 74.6 ft, Feb. 18, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 59.9 ft, Mar. 19

ELEVATION (FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	56.1	---	---	---	---	---	---
3	---	---	---	---	---	55.2	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	56.0	---	---	---	---	---	---
10	---	---	---	---	---	57.0	---	---	---	---	---	---
11	---	---	---	---	---	57.1	---	---	---	---	---	---
12	---	---	---	---	---	56.2	---	---	---	---	---	---
13	---	---	---	---	---	55.5	---	---	---	---	---	---
14	---	---	---	---	---	55.0	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	55.3	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	59.8	---	---	---	---	---	---
19	---	---	---	---	---	57.2	---	---	---	---	---	---
20	---	---	---	---	---	56.2	---	---	---	---	---	---
21	---	---	---	---	---	55.1	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	55.6	---	---	---	---	---	---
24	---	---	---	---	---	56.8	---	---	---	---	---	---
25	---	---	---	---	---	55.8	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 38°30'31", long 122°55'36", in NE 1/4 SE 1/4 sec.26, T.8 N., R.10 W., Sonoma County, Hydrologic Unit 18010110, on right bank at downstream side of Hacienda bridge, 0.1 mi upstream from Hobson Creek, and 3.8 mi east of Guerneville.

DRAINAGE AREA.--1,338 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "at Guerneville."

REVISED RECORDS.--WSP 1395: Drainage area at former site. WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 20.14 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1954, nonrecording gage at bridge 5.3 mi downstream at datum 8.58 ft lower. Oct. 1, 1954, to Oct. 23, 1974, at site 0.7 mi downstream at datum 2.75 ft lower. Supplementary water-stage recorder 2.1 mi downstream used during periods of low flow, 1948-54.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Mendocino (station 11461800) 77 mi upstream, since November 1958, and by Lake Sonoma (station 11464900) 26 mi upstream, since October 1983. Many diversions above station for irrigation of about 29,000 acres. Flow also affected by diversion into basin (see REMARKS for East Fork Russian River stations), and by diversion at Wohler pumping plant beginning in May 1959.

AVERAGE DISCHARGE.--50 years, 2,313 ft^3/s, 1,676,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft^3/s, Feb. 18, 1986, gage height, 48.56 ft, from rating curve extended above 39,000 ft^3/s; maximum gage height, 49.7 ft, Dec. 23, 1955, site and datum then in use, from floodmarks; minimum daily discharge, 0.75 ft^3/s, May 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,800 ft^3/s, Mar. 19, gage height, 25.42 ft; minimum daily, 140 ft^3/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	156	505	2160	683	372	2590	779	295	252	183	206
2	140	300	452	1670	663	2120	2440	747	249	237	214	208
3	142	230	409	1360	654	3160	2530	714	253	216	186	206
4	141	220	378	1240	654	2110	2390	687	232	210	186	194
5	146	216	354	1350	651	2270	2170	665	263	203	184	191
6	169	210	333	1710	635	5190	1960	643	251	203	177	189
7	157	203	316	1350	622	5150	1770	605	244	180	175	190
8	172	199	301	1110	617	4550	1620	581	256	164	172	197
9	169	197	292	1030	663	8300	1490	568	237	164	178	183
10	170	222	285	1390	687	17800	1380	469	224	158	179	180
11	163	222	277	2140	676	20600	1290	341	219	172	182	181
12	160	213	268	2330	581	12000	1230	379	215	181	183	223
13	176	218	262	2060	527	7380	1150	378	217	193	186	198
14	190	243	261	1990	493	5300	1100	362	219	168	192	191
15	164	243	257	1720	466	3750	1050	355	209	186	191	171
16	169	240	252	1410	445	3570	1010	363	219	195	194	205
17	166	243	249	1150	425	4660	975	363	184	176	199	363
18	170	245	250	1040	419	12800	940	354	201	202	201	494
19	163	254	259	946	447	22900	901	339	203	170	205	411
20	155	253	323	893	443	11600	861	333	202	171	206	341
21	156	240	547	849	405	7840	880	324	203	156	204	284
22	164	275	1610	804	273	5790	870	293	190	151	205	253
23	165	2670	3660	884	343	4740	898	306	156	187	206	240
24	167	3640	2470	929	347	9590	921	286	159	164	212	236
25	166	1690	2950	913	344	11400	950	260	165	165	198	227
26	165	1410	2230	865	349	10100	982	313	182	166	189	208
27	163	1070	1600	831	346	6720	910	313	199	168	186	212
28	156	820	1560	768	367	4950	857	285	219	172	182	218
29	152	664	1510	737	---	4280	811	299	222	178	185	268
30	152	572	1440	712	---	3500	791	291	236	176	196	272
31	152	---	1900	694	---	2970	---	294	---	173	197	---
TOTAL	4983	17578	27760	39035	14225	227462	39717	13289	6523	5657	5933	7140
MEAN	161	586	895	1259	508	7337	1324	429	217	182	191	238
MAX	190	3640	3660	2330	687	22900	2590	779	295	252	214	494
MIN	140	156	249	694	273	372	791	260	156	151	172	171
AC-FT	9880	34870	55060	77430	28220	451200	78780	26360	12940	11220	11770	14160

CAL YR 1988 TOTAL 340830 MEAN 931 MAX 28700 MIN 98 AC-FT 676000
WTR YR 1989 TOTAL 409302 MEAN 1121 MAX 22900 MIN 140 AC-FT 811900

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL DATA: Water years 1951 to current year. Published as "at Guerneville" in 1961-65.
BIOLOGICAL DATA: Water years 1975-81.
SPECIFIC CONDUCTANCE: Water years 1974 to current year.
WATER TEMPERATURE: Water years 1964 to current year.
SEDIMENT DATA: Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1973 to September 1981.
WATER TEMPERATURE: January 1964 to September 1986.
SUSPENDED-SEDIMENT DISCHARGE: April to September 1967, October 1969 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)
NOV											
15...	1005	246	240	8.10	13.0	8.1	765	9.9	94	--	--
JAN											
24...	1510	934	241	8.30	10.0	5.6	770	11.2	98	K220	210
MAR											
21...	1455	7500	192	7.90	14.5	42	765	9.4	92	K150	330
MAY											
16...	1000	361	274	8.40	19.0	2.0	760	9.3	101	K9	21
JUL											
25...	1035	167	234	8.30	22.5	3.1	755	8.0	93	K8	150
SEP											
22...	1015	253	235	8.10	18.5	2.9	755	8.7	94	73	90

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											
15...	110	22	14	11	17	0.5	1.6	133	109	17	8.4
JAN											
24...	100	21	12	11	19	0.5	1.7	123	101	19	9.4
MAR											
21...	79	16	9.6	7.9	17	0.4	2.0	96	79	13	5.5
MAY											
16...	120	25	15	12	17	0.5	1.4	144	118	14	7.4
JUL											
25...	100	21	12	8.9	16	0.4	1.0	126	103	11	5.0
SEP											
22...	110	21	13	10	17	0.4	1.4	128	105	12	6.0

See footnote at end of table.

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)
NOV 15...	0.10	15	153	155	0.21	<0.010	0.100	0.020	0.020	0.30	0.050
JAN 24...	0.10	13	139	150	0.19	0.010	0.400	0.030	0.020	0.30	0.100
MAR 21...	0.10	16	122	120	0.17	0.010	0.420	0.090	0.080	0.40	0.270
MAY 16...	0.10	11	154	158	0.21	<0.010	0.160	0.020	0.020	0.60	0.060
JUL 25...	0.10	13	125	134	0.17	<0.010	<0.100	<0.010	<0.010	<0.20	0.030
SEP 22...	0.10	13	134	140	0.18	<0.010	<0.100	0.020	0.020	1.1	0.040

DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV 15...	0.040	0.030	<10	1	69	<0.5	<1	<1	<3	1	19
JAN 24...	0.090	0.070	<10	1	60	<0.5	<1	<1	<3	2	19
MAR 21...	0.170	0.130	--	--	--	--	--	--	--	--	--
MAY 16...	0.050	0.050	<10	1	78	<0.5	<1	<1	<3	2	4
JUL 25...	0.020	0.010	--	--	--	--	--	--	--	--	--
SEP 22...	0.040	0.040	<10	1	72	<0.5	<1	<1	<3	<1	12

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 15...	<5	4	10	<0.1	<10	<1	<1	1.0	200	<6	3
JAN 24...	<5	<4	12	<0.1	<10	1	<1	<1.0	210	<6	3
MAR 21...	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	1	5	6	<0.1	<10	1	<1	<1.0	240	<6	<3
JUL 25...	--	--	--	--	--	--	--	--	--	--	--
SEP 22...	1	<4	8	<0.1	<10	2	<1	<1.0	210	<6	<3

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

11467000 RUSSIAN RIVER NEAR GUERNEVILLE, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR										
19...*	1410	79.1	251	8.00	19.0	760	9.4	102	12	88
19...*	1420	92.4	255	8.00	19.0	760	9.7	105	12	90
19...*	1430	102	258	8.00	19.0	760	9.6	104	10	90
19...*	1435	109	259	8.10	19.0	760	9.6	104	11	96
19...*	1500	117	260	8.00	19.0	760	9.4	102	11	96

* Instantaneous streamflow at the time of cross-sectional measurement: Apr. 19, 895 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
15...	1015	246	13.0	9	6.0	96
JAN						
24...	1400	930	10.0	11	28	89
MAR						
21...	1655	7310	14.5	113	2230	84
APR						
19...	1325	895	19.0	11	27	92
MAY						
16...	1030	364	19.0	5	4.9	--
JUL						
25...	1050	167	22.5	9	4.1	99
SEP						
22...	1105	253	18.5	7	4.8	92

11468000 NAVARRO RIVER NEAR NAVARRO, CA

LOCATION.--Lat 39°10'20", long 123°40'06", in SE 1/4 sec.7, T.15 N., R.16 W., Mendocino County, Hydrologic Unit 18010108, on right bank 2.9 mi downstream from North Fork, 5.2 mi upstream from mouth, and 6.8 mi west of Navarro.

DRAINAGE AREA.--303 mi^2.

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

REVISED RECORDS.--WSP 1445: 1954(M). WSP 1929: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4.79 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1969, at site 0.2 mi upstream at datum 1.86 ft higher.

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--39 years, 521 ft^3/s, 377,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,500 ft^3/s, Dec. 22, 1955, gage height, 40.60 ft, site and datum then in use, from rating curve extended above 19,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.23 ft^3/s, July 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of 38.2 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 9	Unknown	10,200	Unknown	Mar. 18	Unknown	*10,900	*17.98

Minimum daily, 1.2 ft^3/s, Oct. 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	4.4	85	522	97	53	567	124	33	24	6.1	3.3
2	1.4	5.7	74	404	93	e231	596	108	29	21	5.8	3.4
3	1.4	17	65	324	95	e400	578	99	28	19	5.5	3.2
4	1.3	41	56	269	104	303	532	91	31	18	5.4	2.9
5	1.3	26	50	383	107	925	491	e85	35	14	5.2	2.8
6	1.2	20	44	482	95	2170	447	e81	33	14	5.1	2.9
7	1.2	16	40	409	87	1140	405	e78	31	13	5.1	3.2
8	1.3	14	38	360	81	1650	371	e75	30	12	5.1	3.5
9	1.3	13	36	439	81	e5470	342	e72	28	12	5.0	3.1
10	2.1	19	35	683	85	5200	313	e68	27	10	4.3	2.8
11	2.0	27	33	760	89	4050	290	e66	27	11	4.0	2.8
12	2.1	31	32	545	91	2240	271	64	26	11	3.6	2.8
13	2.2	32	31	429	85	1560	252	62	26	10	3.2	2.6
14	3.1	57	30	365	81	1100	235	60	25	9.6	3.0	2.7
15	3.8	59	28	301	77	847	223	60	23	9.9	2.8	2.8
16	4.3	49	28	258	72	1190	211	55	21	9.3	2.7	4.5
17	5.9	85	27	227	69	1090	196	51	21	8.6	3.1	8.1
18	5.6	82	27	204	67	e6790	184	48	20	9.4	3.5	15
19	4.6	52	33	184	68	4760	174	46	20	8.6	3.9	17
20	4.3	40	e55	167	68	2330	165	43	18	8.1	3.4	14
21	3.9	36	e300	152	64	1450	163	43	17	7.8	3.3	11
22	3.4	180	e2000	144	63	1050	165	44	16	7.2	3.2	9.8
23	3.9	1910	e720	187	63	933	171	50	17	6.8	3.6	8.9
24	4.3	622	e960	186	64	e2770	170	52	15	6.1	3.8	8.0
25	4.1	359	e640	161	60	3140	155	49	15	6.9	3.6	7.6
26	4.1	310	476	148	57	2350	163	48	14	6.3	3.5	8.1
27	4.1	221	481	137	55	1580	144	46	13	5.9	3.2	7.8
28	4.1	173	658	127	53	1210	129	43	13	6.1	3.0	7.4
29	4.1	140	463	118	---	941	119	42	14	5.8	2.8	12
30	4.1	108	382	110	---	758	127	42	19	5.6	2.8	16
31	4.2	---	640	102	---	645	---	39	---	5.7	3.0	---
TOTAL	96.0	4749.1	8567	9287	2171	60326	8349	1934	685	322.7	121.6	200.0
MEAN	3.10	158	276	300	77.5	1946	278	62.4	22.8	10.4	3.92	6.67
MAX	5.9	1910	2000	760	107	6790	596	124	35	24	6.1	17
MIN	1.2	4.4	27	102	53	53	119	39	13	5.6	2.7	2.6
AC-FT	190	9420	16990	18420	4310	119700	16560	3840	1360	640	241	397

CAL YR 1988 TOTAL 69617.1 MEAN 190 MAX 8850 MIN 1.1 AC-FT 138100
WTR YR 1989 TOTAL 96808.4 MEAN 265 MAX 6790 MIN 1.2 AC-FT 192000

e Estimated.

11468500 NOYO RIVER NEAR FORT BRAGG, CA

LOCATION.--Lat 39°25'42", long 123°44'12", in NE 1/4 sec.15, T.18 N., R.17 W., Mendocino County, Hydrologic Unit 18010108, on right bank 0.7 mi downstream from South Fork and 3.5 mi east of Fort Bragg.

DRAINAGE AREA.--106 mi^2.

PERIOD OF RECORD.--August 1951 to current year.

REVISED RECORDS.--WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 11.73 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--38 years, 214 ft^3/s, 155,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft^3/s, Mar. 29, 1974, gage height, 27.14 ft, from rating curve extended above 4,500 ft^3/s on basis of slope-conveyance study; minimum daily, 0.79 ft^3/s, Sept. 8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0130	*4,180	*12.63	Mar. 25	1015	2,430	9.87
Mar. 18	1045	2,720	10.38				

Minimum daily, 2.7 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.7	10	110	513	78	50	424	70	29	23	10	e6.1
2	e2.9	13	91	403	80	276	568	65	28	20	9.4	e6.2
3	e2.9	45	76	313	85	361	687	62	28	18	9.3	e6.3
4	e3.7	30	64	250	84	307	655	59	28	18	9.1	e6.3
5	3.5	19	57	282	82	536	551	58	27	17	8.9	e6.2
6	3.7	18	51	278	77	1100	445	56	26	16	8.6	e6.2
7	4.4	16	47	288	74	799	364	53	26	15	8.3	e6.1
8	4.1	15	44	303	72	1060	307	50	25	15	8.1	e6.0
9	4.1	15	40	481	72	2100	263	50	24	15	8.0	e5.9
10	e4.8	35	37	945	70	2010	225	50	24	15	7.5	e5.8
11	e4.5	37	35	950	69	1410	199	47	23	15	7.2	e5.9
12	4.1	30	32	640	67	996	177	45	24	15	7.3	e6.0
13	4.5	59	31	467	65	849	157	44	24	14	7.0	e6.1
14	6.7	91	30	360	63	682	143	43	22	14	6.8	e6.2
15	5.5	58	29	286	60	559	133	42	22	14	6.5	e6.1
16	5.6	57	27	237	57	621	123	40	22	14	6.2	e8.0
17	5.4	98	26	203	55	658	113	39	21	14	6.1	e14
18	5.3	68	25	176	55	2200	106	38	20	14	6.0	e16
19	5.2	47	28	155	56	1630	99	35	19	14	6.0	e14
20	5.1	38	66	139	53	984	93	32	19	13	6.0	e12
21	5.1	69	254	124	50	682	93	26	19	13	5.5	e11
22	5.3	1250	693	122	55	515	91	32	18	13	6.1	e10
23	5.5	2330	668	152	61	543	115	41	17	12	7.1	e9.0
24	6.3	707	627	134	57	1340	112	36	17	12	6.8	e8.1
25	6.6	437	639	122	53	2170	100	34	17	11	6.6	e8.0
26	6.9	326	469	114	51	1640	91	32	17	11	5.9	e8.1
27	7.6	246	391	106	49	1040	82	30	17	11	5.9	e8.1
28	8.1	202	389	99	48	817	77	30	17	11	6.0	e8.4
29	8.6	160	336	92	---	647	72	30	20	11	6.0	e11
30	9.0	131	337	86	---	536	76	30	29	11	e6.0	e27
31	9.1	---	533	81	---	474	---	29	---	10	e6.0	---
TOTAL	166.8	6657	6282	8901	1798	29592	6741	1328	669	439	220.2	264.1
MEAN	5.38	222	203	287	64.2	955	225	42.8	22.3	14.2	7.10	8.80
MAX	9.1	2330	693	950	85	2200	687	70	29	23	10	27
MIN	2.7	10	25	81	48	50	72	26	17	10	5.5	5.8
AC-FT	331	13200	12460	17660	3570	58700	13370	2630	1330	871	437	524

CAL YR 1988 TOTAL 36702.1 MEAN 100 MAX 2330 MIN 2.7 AC-FT 72800
WTR YR 1989 TOTAL 63058.1 MEAN 173 MAX 2330 MIN 2.7 AC-FT 125100

e Estimated.

11469000 MATTOLE RIVER NEAR PETROLIA, CA

LOCATION.--Lat 40°18'42", long 124°15'48", in SE 1/4 NW 1/4 sec.11, T.2 S., R.2 W., Humboldt County, Hydrologic Unit 18010107, on right bank 0.2 mi upstream from Clear Creek, 1.5 mi southeast of Petrolia, and 1.7 mi upstream from North Fork.

DRAINAGE AREA.--240 mi^2.

PERIOD OF RECORD.--October 1911 to December 1913, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1285: 1912-13. WSP 1929: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map. November 1911 to December 1913, nonrecording gages at several sites upstream within 0.3 mi of present site at various datums. Dec. 11, 1950, to July 14, 1955, at site 0.3 mi upstream at datum 7.48 ft higher. July 15, 1955, to Oct. 26, 1967, at site 0.4 mi downstream at different datum.

REMARKS.--Records good. Diversions for irrigation of about 350 acres upstream from station.

AVERAGE DISCHARGE.--41 years, 1,344 ft^3/s, 973,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,400 ft^3/s, Dec. 22, 1955, gage height, 29.60 ft, site and datum then in use, from rating curve extended above 26,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 17 ft^3/s, Sept. 5, 15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2045	*28,200	*19.05	Mar. 9	1645	15,100	12.95

Minimum daily, 23 ft^3/s, Sept. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	37	1310	3070	693	870	2190	421	160	168	45	30
2	25	148	1230	2450	693	1760	2580	370	153	118	45	29
3	24	1830	1130	2100	691	1570	2860	355	146	101	45	29
4	27	531	1040	1860	686	1380	2370	334	139	90	44	28
5	34	272	968	2050	665	4680	2030	321	138	84	43	27
6	35	296	918	1970	633	7750	1770	301	135	79	43	26
7	35	224	855	1920	609	4400	1560	286	132	75	41	25
8	32	195	809	1960	592	3190	1390	276	128	71	40	25
9	31	225	763	2710	590	10900	1250	258	123	67	40	24
10	30	1070	737	4140	799	9020	1130	263	120	66	39	24
11	29	678	706	e3080	859	7430	1040	251	116	65	39	24
12	29	502	682	e2380	760	5700	964	238	116	62	38	24
13	34	1810	656	e1920	714	5650	873	235	113	61	38	24
14	99	1960	639	e1600	679	4030	807	226	111	61	36	24
15	99	1190	617	e1430	647	3030	747	219	111	60	35	24
16	66	1090	600	e1310	623	4250	691	213	107	59	34	23
17	49	1560	583	e1220	599	5030	642	206	102	59	33	26
18	42	1040	569	e1120	665	9960	606	201	97	56	33	30
19	39	708	586	e1090	908	6890	557	195	93	56	33	31
20	36	562	732	e1060	807	4680	531	186	91	54	33	32
21	35	2090	1160	1070	740	3350	535	186	88	52	32	30
22	34	20600	2740	1200	1550	2610	560	189	83	50	33	29
23	35	13400	2200	1100	1980	2350	640	280	81	50	37	27
24	34	4790	2860	1020	1500	5090	598	308	80	50	38	28
25	34	4120	2800	956	1250	10400	517	256	78	49	36	27
26	34	2940	2160	898	1110	5860	467	217	78	47	35	27
27	35	2260	2270	857	1000	4070	429	197	78	46	33	30
28	34	2090	2560	818	917	3740	395	190	78	46	32	32
29	34	1700	2120	781	---	3210	381	195	110	46	31	41
30	35	1470	3180	741	---	2640	432	184	277	45	31	46
31	35	---	4240	712	---	2520	---	170	---	44	31	---
TOTAL	1200	71388	44420	50593	23959	148010	31542	7727	3462	2037	1146	846
MEAN	38.7	2380	1433	1632	856	4775	1051	249	115	65.7	37.0	28.2
MAX	99	20600	4240	4140	1980	10900	2860	421	277	168	45	46
MIN	24	37	569	712	590	870	381	170	78	44	31	23
AC-FT	2380	141600	88110	100400	47520	293600	62560	15330	6870	4040	2270	1680

CAL YR 1988 TOTAL 277973 MEAN 759 MAX 20600 MIN 24 AC-FT 551400
WTR YR 1989 TOTAL 386330 MEAN 1058 MAX 20600 MIN 23 AC-FT 766300

e Estimated.

11470000 LAKE PILLSBURY NEAR POTTER VALLEY, CA

LOCATION.--Lat 39°24'30", long 122°57'30", on line between secs.14 and 23, T.18 N., R.10 W., Lake County, Hydrologic Unit 18010103, Mendocino National Forest, at Scott Dam near right bank of Eel River, 0.3 mi downstream from Rice Fork, and 10.2 mi northeast of town of Potter Valley.
DRAINAGE AREA.--289 mi^2.

PERIOD OF RECORD.--October 1922 to September 1928 (daily gage heights only), October 1928 to current year. Monthend contents only for some periods, published in WSP 1315-B. Prior to October 1953, published as "at Hullville".

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 81.7 ft below National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Jan. 26, 1950, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete overflow type dam; storage began in December 1921. Beginning Oct. 1, 1985, capacity based on 1984 resurvey. Usable capacity, 80,556 acre-ft between gage heights 1,822.4 ft, sill of outlet gate, and 1,910.0 ft, top of spillway gates; dead storage, 87 acre-ft. Water is released down Eel River to Van Arsdale Reservoir, most of which is diverted through tunnel to Potter Valley powerplant; part is then used for irrigation and remainder flows into East Fork Russian River. Records given herein represent total contents.
COOPERATION.--Records were provided by Pacific Gas & Electric Co., in connection with a Federal Energy Regulatory Commission project; not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 95,600 acre-ft, May 13, 16, 1925, gage height, 1,910.8 ft; maximum gage height, 1,911.84 ft, Dec. 22, 1964, from floodmarks; minimum contents, 10 acre-ft, Dec. 9, 10, 1931, gage height, 1,822.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 80,620 acre-ft, Apr. 13, gage height, 1,909.99 ft; minimum, 16,469 acre-ft, Nov. 10, gage height, 1,868.59 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table dated April 1984 provided by Pacific Gas & Electric Co.)

1,822.4	87	1,835	1,371	1,855	7,831	1,875	22,450	1,895	50,180
1,824	153	1,840	2,463	1,860	10,460	1,880	28,070	1,900	59,470
1,827	333	1,845	3,391	1,865	13,700	1,885	34,470	1,905	69,680
1,830	626	1,850	5,710	1,870	17,660	1,890	41,810	1,910	80,640

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22067	17157	38365	27197	43241	41905	74804	78987	73946	68063	59039	49524
2	21995	17063	37748	27411	43531	42110	75571	78762	73640	67790	58709	49189
3	21811	17013	37327	27590	43515	44902	75987	78605	73487	67518	58380	48892
4	21566	16987	36753	27950	43450	45951	76206	78314	73422	67247	58033	48560
5	21385	16886	36325	28323	43353	47149	76514	78157	73161	66976	57764	48265
6	21074	16827	35860	29620	43064	52104	77067	77978	72965	66726	57419	47937
7	20954	16727	34913	30321	42744	58052	77778	77688	72770	66457	57095	47611
8	20796	16619	34858	30625	42395	60980	78560	77488	72618	66292	56829	47251
9	20579	16519	34256	30804	42015	63754	79190	77310	72467	66085	56488	46945
10	20355	16469	33007	31419	41717	66809	79733	76956	72316	65777	56224	46640
11	20151	16627	32141	34215	41466	65367	80187	76669	72187	65490	55868	46269
12	19949	16644	32011	35818	41046	64633	80529	76338	71971	65285	55550	45934
13	19797	16652	31495	36510	40567	63123	80620	75987	71800	64857	55214	45633
14	19598	16945	30855	37039	40245	62416	80597	75680	71821	64593	54880	45333
15	19392	17140	30473	37226	39975	61317	80552	75527	71714	64307	54565	45001
16	19131	17182	30120	37313	39894	61635	80438	75418	71457	63979	54304	45035
17	19104	17448	29533	37378	39712	62820	80415	75439	71200	63713	53951	44935
18	18965	17875	28966	37414	39546	72640	80278	75352	71094	63367	53693	44738
19	18828	17963	28444	37588	39576	76360	80142	75243	70859	63030	53343	44507
20	18681	17981	27866	37952	39606	75767	80073	75200	70604	62719	52958	44295
21	18572	18043	27554	38498	39561	74627	80233	75113	70287	62437	52812	44066
22	18455	18374	27221	39049	39561	73182	80142	75113	70012	62115	52794	43871
23	18311	26774	27734	39743	40322	72792	80233	75113	69928	61855	52448	43676
24	18194	34474	27794	40798	41000	74782	80051	75003	69717	61556	52123	43515
25	18061	35930	27818	41513	41357	75113	79937	74892	69419	61277	51834	43257
26	17919	37097	27686	41937	41560	73553	79710	74826	69185	60980	51439	43128
27	17769	37777	27351	42142	41732	73596	79439	74671	69015	60644	51100	42872
28	17699	38114	27079	42395	41827	74165	79280	74716	68781	60329	50815	42713
29	17534	38261	26832	42538	---	73815	79190	74495	68612	60015	50532	42331
30	17431	38158	26668	42713	---	73618	79123	74235	68337	59761	50161	41685
31	17285	---	26867	42904	---	74034	---	74187	---	59410	49859	---
MAX	22067	38261	38365	42904	43531	76360	80620	78987	73946	68063	59039	49524
MIN	17285	16469	26668	27197	39546	41905	74804	74187	68337	59410	49859	41685
a	1869.56	1887.60	1878.99	1890.69	1890.01	1907.03	1909.32	1907.10	1904.36	1899.97	1894.82	1889.92
b	-5123	+20873	-11291	+16037	-1077	+32207	+5089	-4936	-5850	-8927	-9551	-8174

CAL YR 1988 MAX 63896 MIN 16469 b -30112
WTR YR 1989 MAX 80620 MIN 16469 b +19277
a Elevation in feet, at end of month.
b Change in contents, in acre-feet.

11470500 EEL RIVER BELOW SCOTT DAM, NEAR POTTER VALLEY, CA

LOCATION.--Lat 39°24'29", long 122°58'29", in SE 1/4 sec.15, T.18 N., R.10 W., Lake County, Hydrologic Unit 18010103, Mendocino National Forest, on left bank 0.4 mi upstream from Soda Creek, 0.7 mi downstream from Scott Dam, and 9.7 mi northeast of town of Potter Valley.

DRAINAGE AREA.--290 mi^2.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Hullville, and October 1929 to September 1953, "at Hullville."

REVISED RECORDS.--WSP 1315-B: 1923(M), 1938(M). WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,740 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 15, 1930, at datum 3.00 ft higher.

REMARKS.--Flow regulated by Lake Pillsbury (station 11470000) 0.7 mi upstream. No diversion upstream from station.

COOPERATION.--Records 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.--67 years, 559 ft^3/s, 405,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,300 ft^3/s, Dec. 22, 1964, gage height, 24.24 ft, from floodmarks, from rating curve extended above 9,400 ft^3/s on basis of computed flow over Scott Dam at gage heights 18.50 and 21.85 ft; minimum daily, 0.1 ft^3/s, Sept. 8, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,260 ft^3/s, Mar. 9, gage height, 11.86 ft; minimum daily, 59 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	75	328	167	342	233	801	330	204	161	155	153
2	106	76	375	163	371	217	812	330	202	157	155	153
3	106	76	432	163	393	262	823	330	199	153	154	152
4	106	75	454	163	402	316	827	330	199	152	153	154
5	106	75	456	153	403	211	728	330	196	149	154	153
6	106	75	454	135	410	135	490	330	194	146	152	153
7	106	75	464	199	415	414	351	330	192	149	152	156
8	106	75	480	253	419	2580	307	329	175	149	151	158
9	105	75	477	255	404	5730	288	343	151	150	151	158
10	104	76	405	155	405	6550	288	348	145	151	149	158
11	104	75	359	122	427	6750	293	346	145	151	149	157
12	103	76	365	223	453	4040	323	340	144	151	148	157
13	104	77	370	274	371	3000	414	334	143	152	146	156
14	104	76	374	306	262	2230	488	331	148	155	145	153
15	103	76	376	327	239	1710	482	264	152	155	144	153
16	86	77	380	333	238	1690	443	180	148	155	144	133
17	76	76	385	334	238	1070	411	160	150	155	144	117
18	76	76	390	325	239	388	407	165	149	154	144	114
19	76	76	392	299	239	1380	369	164	148	154	146	114
20	76	76	394	273	239	2710	336	163	148	154	149	114
21	76	78	384	267	239	2610	337	163	148	153	92	114
22	76	90	332	269	230	2480	337	163	147	153	59	114
23	76	133	328	238	211	2340	398	166	149	153	126	114
24	76	243	349	240	207	2720	469	165	150	152	155	114
25	76	230	340	278	217	4820	467	163	150	152	152	114
26	76	216	353	310	224	3690	465	160	149	151	152	114
27	75	238	369	318	229	2160	429	159	149	151	153	114
28	75	252	300	318	232	1770	358	168	152	155	153	114
29	75	262	213	322	---	1780	331	176	159	157	154	237
30	75	307	186	326	---	1450	330	175	162	157	154	353
31	75	---	172	326	---	988	---	188	---	156	153	---
TOTAL	2796	3563	11436	7834	8698	68424	13602	7623	4847	4743	4488	4418
MEAN	90.2	119	369	253	311	2207	453	246	162	153	145	147
MAX	106	307	480	334	453	6750	827	348	204	161	155	353
MIN	75	75	172	122	207	135	288	159	143	146	59	114
AC-FT	5550	7070	22680	15540	17250	135700	26980	15120	9610	9410	8900	8760

CAL YR 1988 TOTAL 114565 MEAN 313 MAX 4580 MIN 39 AC-FT 227200
WTR YR 1989 TOTAL 142472 MEAN 390 MAX 6750 MIN 59 AC-FT 282600

11471000 POTTER VALLEY POWERPHOUSE INTAKE NEAR POTTER VALLEY, CA

LOCATION.--Lat 39°22'00", long 123°07'35", in SW 1/4 SW 1/4 sec.31, T.18 N., R.11 W., Mendocino County, Hydrologic Unit 18010103, in penstock of powerhouse of Pacific Gas & Electric Co., 1.5 mi southwest of Van Arsdale Dam, and 3.2 mi northwest of town of Potter Valley.

PERIOD OF RECORD.--December 1909 to current year. Prior to October 1922, monthly discharge only, published in WSP 1315-B. Prior to October 1931, published as Snow Mountain Water and Power Co.'s Tailrace near Potter Valley. October 1931 to September 1984, published as Potter Valley Powerhouse Tailrace near Potter Valley.

REVISED RECORDS.--WSP 1395: 1950.

GAGE.--Acoustic flowmeter in penstock of powerplant. Elevation of gage is 1,440 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 11, 1985, water-stage recorder and Parshall flume. See WSP 1929 for history of changes prior to Apr. 12, 1950.

REMARKS.--Water is diverted from Eel River above Van Arsdale Dam. After passing through powerhouse, part is used for irrigation in Potter Valley and remainder flows into East Fork Russian River.

COOPERATION.--Records 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.--79 years (water years 1911-89), 203 ft^3/s, 147,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1922 TO CURRENT YEAR).--Maximum daily discharge, 351 ft^3/s, Oct. 31, 1982; no flow at times in several years.

REVISIONS.--Revised figures of discharge for the water year 1988, superseding those published in the report for 1988 are given below.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	65	200	305	291	303	89	95	134	134	134	137
2	109	95	239	304	289	302	89	94	134	133	132	137
3	110	95	234	304	296	300	90	100	131	136	137	137
4	109	95	178	132	296	296	92	92	141	133	131	137
5	109	95	165	196	297	293	93	97	142	135	130	138
6	109	96	227	302	298	291	96	97	142	133	134	140
7	109	95	291	302	298	291	94	99	140	138	130	139
8	107	93	286	301	299	239	94	99	138	140	130	139
9	106	99	288	301	299	159	95	113	138	142	130	141
10	106	94	101	301	297	157	93	110	137	137	132	140
11	107	94	190	300	297	157	95	95	141	140	130	142
12	107	95	309	301	296	158	95	93	142	137	132	142
13	107	117	308	301	295	158	96	97	144	137	111	141
14	101	97	309	300	296	158	96	97	142	139	127	142
15	101	98	309	300	295	109	96	113	139	135	128	143
16	105	98	308	299	295	38	96	130	139	138	129	126
17	103	122	307	299	296	47	96	133	137	140	129	110
18	102	106	307	298	296	46	96	130	136	136	128	107
19	102	99	307	295	297	45	123	131	136	137	128	109
20	136	118	307	293	299	42	128	133	137	139	129	109
21	204	120	307	295	302	64	124	135	135	136	130	107
22	202	105	306	297	302	94	125	135	134	136	109	106
23	199	103	306	297	302	94	126	131	125	135	41	107
24	180	104	306	297	301	92	106	132	131	135	29	108
25	169	100	306	286	298	91	110	131	133	134	123	108
26	98	100	305	301	298	91	95	132	128	134	135	108
27	98	100	291	301	296	90	95	132	131	134	134	108
28	111	101	306	300	300	89	91	132	133	136	130	106
29	96	100	301	299	300	90	92	132	133	134	133	104
30	96	141	305	301	---	90	91	133	134	134	136	105
31	97	---	305	290	---	93	---	147	---	134	135	---
TOTAL	3688	3040	8514	8998	8621	4567	2997	3620	4087	4221	3826	3723
MEAN	119	101	275	290	297	147	99.9	117	136	136	123	124
MAX	204	141	309	305	302	303	128	147	144	142	137	143
MIN	93	65	101	132	289	38	89	92	125	133	29	104
AC-FT	7320	6030	16890	17850	17100	9060	5940	7180	8110	8370	7590	7380

CAL YR 1987 TOTAL 52491 MEAN 144 MAX 309 MIN 17 AC-FT 104100
WTR YR 1988 TOTAL 59902 MEAN 164 MAX 309 MIN 29 AC-FT 118800

11471000 POTTER VALLEY POWERPLANT INTAKE NEAR POTTER VALLEY, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	64	312	185	310	134	310	296	135	155	143	141
2	107	64	312	186	305	232	309	292	135	148	143	141
3	107	77	308	192	310	296	309	298	133	143	143	141
4	105	66	309	204	312	309	311	304	131	141	143	141
5	105	68	309	272	311	309	311	305	131	144	143	141
6	102	69	310	261	309	308	312	305	133	146	142	141
7	104	69	296	256	311	308	313	303	133	141	143	141
8	101	70	287	308	310	265	313	300	135	143	143	141
9	94	70	290	311	303	196	313	299	133	141	143	141
10	103	87	294	311	299	242	310	293	134	141	147	141
11	106	76	304	311	302	311	308	302	133	141	142	141
12	106	80	313	311	309	309	308	302	134	142	142	141
13	107	98	315	311	265	309	310	302	134	142	142	141
14	120	116	312	311	169	309	309	300	136	142	142	142
15	112	86	310	311	167	309	310	255	134	143	142	141
16	84	88	309	311	163	309	310	161	143	143	144	142
17	68	111	311	311	162	308	310	150	155	143	142	135
18	69	85	309	311	167	309	310	157	152	144	142	127
19	65	74	309	311	170	308	309	157	139	144	142	109
20	63	69	309	311	171	309	308	155	140	146	142	100
21	64	70	309	311	172	309	308	156	149	145	118	100
22	66	230	309	310	172	309	308	156	154	144	48	101
23	63	194	309	311	171	309	307	155	143	144	73	100
24	63	309	309	307	160	309	307	155	149	144	142	101
25	62	285	309	311	163	275	306	156	155	153	141	100
26	65	308	310	311	167	309	293	154	153	148	141	101
27	66	309	310	311	168	310	287	154	150	143	141	101
28	69	308	264	311	147	309	309	153	153	144	141	101
29	68	308	166	312	---	310	304	157	154	144	141	168
30	67	311	166	312	---	309	303	156	153	144	141	302
31	69	---	166	310	---	310	---	145	---	144	141	---
TOTAL	2657	4219	9055	9013	6445	9057	9235	6933	4246	4470	4223	4004
MEAN	85.7	141	292	291	230	292	308	224	142	144	136	133
MAX	120	311	315	312	312	311	313	305	155	155	147	302
MIN	62	64	166	185	147	134	287	145	131	141	48	100
AC-FT	5270	8370	17960	17880	12780	17960	18320	13750	8420	8870	8380	7940

CAL YR 1988 TOTAL 60591 MEAN 166 MAX 315 MIN 29 AC-FT 120200
WTR YR 1989 TOTAL 73557 MEAN 202 MAX 315 MIN 48 AC-FT 145900

11471099 POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CA

LOCATION.--Lat 39°21'42", long 123°07'38", in SW 1/4 NW 1/4 sec.6, T.17 N., R.11 W., Mendocino County, Hydrologic Unit 18010103, 100 ft downstream from powerhouse of Pacific Gas and Electric Co., 1.8 mi southwest of Van Arsdale Dam, and 2.9 mi northwest of town of Potter Valley.

PERIOD OF RECORD.--October 1987 to current year. October 1931 to September 1984, record published for Potter Valley Powerhouse Tailrace (station 11471000) not equivalent because diversion for irrigation is included.

GAGE.--Discharge computed as difference between Potter Valley powerhouse intake (station 11471000) and the combined flows of Potter Valley Irrigation District east canal and Potter Valley Irrigation District west canal. Elevation of tailrace is 1,020 ft above National Geodetic Vertical Datum, from topographic map.

REMARKS.--Flow represents inflow into the Russian River basin after passing through powerhouse.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 314 ft^3/s, Dec. 13, 1988; minimum daily, 4.3 ft^3/s, Aug. 24, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	58	185	287	291	297	69	86	114	82	91	84
2	83	86	224	287	289	297	72	85	115	81	89	84
3	85	87	219	285	296	295	73	86	110	84	95	89
4	79	87	163	122	296	291	63	76	118	79	88	92
5	76	87	149	187	297	288	64	82	118	81	84	88
6	69	88	208	294	298	287	73	86	115	80	85	87
7	74	87	273	294	298	287	70	87	103	85	82	89
8	75	84	267	295	298	234	67	88	96	84	85	88
9	75	90	270	295	298	155	69	102	96	85	89	83
10	85	85	86	295	297	153	64	100	95	80	94	87
11	75	84	174	294	297	153	61	84	105	82	91	95
12	79	85	294	295	296	153	60	82	110	79	92	94
13	83	105	294	296	295	153	64	85	110	81	73	96
14	79	86	289	296	295	153	77	85	104	83	81	96
15	84	88	286	295	295	105	79	100	97	79	83	97
16	88	86	286	295	295	35	78	118	98	86	85	80
17	87	112	286	295	295	45	80	120	97	90	85	71
18	87	97	286	294	295	43	77	116	97	83	84	68
19	84	89	286	292	297	42	108	117	97	83	88	75
20	115	104	286	290	298	38	116	119	93	86	87	75
21	188	106	286	292	301	53	112	112	94	83	90	67
22	189	91	286	294	301	67	113	95	94	91	84	60
23	188	90	287	295	299	70	115	88	86	97	26	71
24	170	90	287	295	297	71	98	89	91	101	4.3	71
25	159	85	286	283	293	71	102	92	93	103	80	84
26	87	85	286	298	293	76	87	95	88	91	89	88
27	84	85	272	298	291	74	86	95	90	87	87	89
28	94	85	287	298	295	64	83	99	84	93	80	73
29	84	84	283	297	295	57	84	107	79	106	82	70
30	86	126	287	301	---	57	83	108	83	116	86	71
31	86	---	287	289	---	67	---	124	---	96	86	---
TOTAL	3057	2702	7945	8823	8581	4231	2447	3008	2970	2717	2525.3	2462
MEAN	98.6	90.1	256	285	296	136	81.6	97.0	99.0	87.6	81.5	82.1
MAX	189	126	294	301	301	297	116	124	118	116	95	97
MIN	69	58	86	122	289	35	60	76	79	79	4.3	60
AC-FT	6060	5360	15760	17500	17020	8390	4850	5970	5890	5390	5010	4880

CAL YR 1987 TOTAL 47389 MEAN 130 MAX 305 MIN 16 AC-FT 94000
WTR YR 1988 TOTAL 51468.3 MEAN 141 MAX 301 MIN 4.3 AC-FT 102100

11471099 POTTER VALLEY POWERHOUSE TAILRACE NEAR POTTER VALLEY, CA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	64	311	185	309	134	310	288	95	117	121	94
2	87	64	311	186	304	232	309	284	100	111	124	94
3	89	77	307	192	309	296	309	293	100	109	116	94
4	93	66	308	204	311	309	311	296	96	90	110	94
5	95	68	308	272	310	309	311	277	93	95	108	94
6	95	69	309	261	308	308	312	266	96	100	107	94
7	94	69	295	256	310	308	313	266	96	98	108	94
8	86	70	286	308	309	265	313	252	98	98	107	94
9	84	70	289	311	302	196	313	252	91	102	100	96
10	93	87	293	311	298	242	310	252	88	97	100	100
11	93	76	303	311	301	311	308	260	84	90	95	102
12	87	80	312	311	308	309	307	262	85	87	95	100
13	96	98	314	311	264	309	308	263	81	87	95	100
14	118	115	312	311	169	309	303	266	78	87	95	101
15	110	85	310	311	167	309	301	230	73	93	95	100
16	82	86	309	311	163	309	301	136	83	93	97	117
17	66	110	311	311	162	308	301	112	95	94	95	131
18	67	85	309	311	167	309	302	114	92	97	95	124
19	64	74	309	311	170	308	304	114	79	94	95	105
20	63	69	309	311	171	309	299	113	78	96	95	90
21	64	70	309	311	172	309	289	126	92	95	84	87
22	66	225	308	309	172	309	292	132	97	94	36	90
23	63	193	309	311	171	308	296	133	84	94	64	89
24	63	308	309	306	160	309	293	135	87	94	96	90
25	62	284	309	310	163	275	291	138	94	102	90	87
26	63	307	310	310	167	309	283	134	92	96	91	87
27	60	308	310	311	168	310	279	135	94	92	90	89
28	65	307	264	311	147	309	301	138	101	108	90	91
29	68	307	166	312	---	310	296	136	97	103	90	160
30	67	310	166	312	---	309	295	126	104	107	93	294
31	69	---	166	309	---	310	---	103	---	120	94	---
TOTAL	2459	4201	9041	9008	6432	9056	9060	6032	2723	3040	2971	3182
MEAN	79.3	140	292	291	230	292	302	195	90.8	98.1	95.8	106
MAX	118	310	314	312	311	311	313	296	104	120	124	294
MIN	60	64	166	185	147	134	279	103	73	87	36	87
AC-FT	4880	8330	17930	17870	12760	17960	17970	11960	5400	6030	5890	6310

CAL YR 1988 TOTAL 53465.3 MEAN 146 MAX 314 MIN 4.3 AC-FT 106000
WTR YR 1989 TOTAL 67205 MEAN 184 MAX 314 MIN 36 AC-FT 133300

11471500 EEL RIVER AT VAN ARSDALE DAM, NEAR POTTER VALLEY, CA

LOCATION.--Lat 39°23'19", long 123°06'54", in NE 1/4 sec.30, T.18 N., R.11 W, Mendocino County, Hydrologic Unit 18010103, on left bank, 1,000 ft downstream from Van Arsdale Dam, and 4.6 mi north of town of Potter Valley.

DRAINAGE AREA.--349 mi^2.

PERIOD OF RECORD.--November 1909 to September 1922 (combined monthly discharge only, of Eel River at this station and Snow Mountain Water and Power Co.'s tailrace near Potter Valley), October 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Van Arsdale Dam, near Potter Valley.

REVISED RECORDS.--WSP 1315-B: 1913, 1920-23, 1925-27. WSP 1395: 1923(M), 1938.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Nov. 18, 1909, to Mar. 3, 1927, recorder in reservoir 800 ft upstream from Van Arsdale Dam at different datum. Oct. 1, 1927, to Feb. 28, 1937, nonrecording gage at present site and datum.

REMARKS.--Flow regulated by Lake Pillsbury (station 11470000) 11 mi upstream. Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley powerplant (station 11471000) after which part is used for irrigation and remainder flows into East Fork Russian River (station 11471099). Records given herein show only flow passing down Eel River.

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

AVERAGE DISCHARGE (combined flow of Eel River at Van Arsdale Dam and Potter Valley powerhouse tailrace).--80 years (water years 1910-89), 660 ft^3/s, 478,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,100 ft^3/s, Dec. 22, 1964, gage height, 33.9 ft from floodmarks; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,900 ft^3/s, Mar. 10, gage height, 16.84 ft; minimum daily, 4.9 ft^3/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	12	78	97	64	119	649	66	75	11	9.9	5.4
2	8.4	14	105	67	85	330	689	66	75	10	12	5.8
3	11	16	170	71	90	129	710	55	67	12	14	5.6
4	11	12	190	76	91	182	675	48	70	11	12	5.6
5	11	12	195	169	92	460	573	46	66	11	12	5.8
6	10	12	192	72	92	461	370	43	65	11	13	5.8
7	7.9	12	193	63	92	333	222	49	64	11	11	5.4
8	7.3	12	215	63	92	2340	179	43	57	8.2	9.9	5.8
9	7.8	13	209	125	92	6140	124	44	23	8.7	11	6.9
10	7.6	17	190	434	92	7450	102	61	15	8.9	11	6.4
11	8.0	13	93	125	93	7400	99	44	12	9.7	11	6.9
12	8.5	13	94	106	93	4080	100	44	8.2	11	12	9.6
13	8.2	17	94	108	93	2780	146	41	7.4	9.2	10	8.5
14	8.0	13	84	96	93	1920	212	42	6.6	7.9	11	7.8
15	7.5	13	66	91	93	1420	210	55	17	8.6	11	8.5
16	7.6	16	65	87	93	1450	179	74	11	8.5	13	6.0
17	7.6	32	60	80	93	1080	145	46	11	8.1	10	5.1
18	7.5	12	59	81	93	1250	141	33	7.4	8.1	10	5.1
19	7.8	12	65	91	97	1320	124	27	8.2	8.0	8.5	4.9
20	7.6	12	120	81	86	2480	73	26	8.8	8.6	7.8	5.8
21	7.7	26	142	69	89	2230	79	23	8.3	9.8	8.5	6.0
22	8.7	625	235	78	104	2030	74	23	10	8.9	7.5	6.4
23	8.1	891	122	111	104	2000	127	33	10	10	7.2	6.9
24	7.1	145	285	58	93	2540	192	27	11	8.7	8.2	7.5
25	7.0	190	112	60	91	5140	178	22	7.8	7.8	8.2	7.5
26	7.9	70	87	71	90	3930	189	18	8.5	7.4	7.8	8.2
27	8.2	27	94	68	90	2100	173	16	7.9	7.8	8.9	8.2
28	8.3	23	95	58	108	1660	92	20	8.6	7.9	8.2	8.9
29	8.5	14	114	57	---	1700	66	34	10	7.9	8.8	9.2
30	8.5	35	117	63	---	1360	69	34	12	11	7.9	9.3
31	10	---	165	64	---	921	---	36	---	10	5.8	---
TOTAL	258.5	2331	4105	2940	2578	68735	6961	1239	768.7	287.7	307.1	204.8
MEAN	8.34	77.7	132	94.8	92.1	2217	232	40.0	25.6	9.28	9.91	6.83
MAX	11	891	285	434	108	7450	710	74	75	12	14	9.6
MIN	7.0	12	59	57	64	119	66	16	6.6	7.4	5.8	4.9
AC-FT	513	4620	8140	5830	5110	136300	13810	2460	1520	571	609	406

CAL YR 1988 TOTAL 71863.4 MEAN 196 MAX 6380 MIN 4.7 AC-FT 142500
WTR YR 1989 TOTAL 90715.8 MEAN 249 MAX 7450 MIN 4.9 AC-FT 179900

11472150 EEL RIVER NEAR DOS RIOS, CA

LOCATION.--Lat 39°37'30", long 123°20'25", in SW 1/4 SW 1/4 sec.32, T.21 N., R.13 W., Mendocino County, Hydrologic Unit 18010103, on left bank 1,100 ft upstream from Outlet Creek and 6.3 mi south of Dos Rios.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,001.28 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for discharges below 10 ft^3/s and estimated days, which are fair. Flow partly regulated by Lake Pillsbury (station 11470000) 40 mi upstream and by diversion through Potter Valley powerplant (station 11471000).

AVERAGE DISCHARGE.--23 years, 938 ft^3/s, 679,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,100 ft^3/s, Feb. 17, 1986, gage height, 35.54 ft, from rating curve extended above 26,000 ft^3/s on basis of slope-area measurement at gage height 33.64 ft; no flow for many days in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 45.52 ft, from information by local resident, discharge, 100,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,100 ft^3/s, Nov. 22, gage height, 13.66 ft; minimum daily, 7.2 ft^3/s, Oct. 3, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	11	162	890	240	229	e1180	185	77	30	9.5	11
2	7.4	20	167	612	236	948	e1350	177	99	28	11	11
3	7.2	57	183	552	263	1690	e1500	169	98	25	12	10
4	7.5	49	208	513	268	853	e1300	151	97	22	12	9.5
5	8.1	29	214	1260	252	1370	e1050	139	105	22	12	9.5
6	8.6	25	215	950	235	3450	e900	132	105	21	11	9.5
7	8.1	24	213	690	228	2080	e780	127	102	19	12	9.5
8	8.1	23	231	590	221	2640	e660	123	98	19	12	9.5
9	8.1	28	236	1050	227	7120	e570	118	95	16	12	9.5
10	7.9	80	229	2350	233	9440	e510	117	70	15	12	9.5
11	7.4	65	172	1490	251	7980	e440	125	52	16	11	9.5
12	7.2	51	133	953	251	5310	e390	110	41	16	11	10
13	8.4	331	130	768	251	4010	e400	103	38	15	11	11
14	14	310	128	643	254	2860	e450	98	36	14	11	11
15	15	159	123	519	245	2240	e410	94	34	14	11	11
16	14	286	122	459	226	2660	e375	99	35	14	11	15
17	11	342	122	412	221	2770	e340	110	38	14	11	25
18	10	160	122	392	218	e5000	e315	89	32	15	11	28
19	9.2	94	125	391	248	e3500	e290	83	28	15	11	26
20	8.9	74	246	377	251	e2700	e265	82	27	13	11	19
21	8.9	532	765	339	239	e2200	e250	79	26	12	11	14
22	9.3	6300	2180	349	239	e1900	e300	76	26	12	11	13
23	9.5	4960	1340	607	332	e1700	e400	84	25	12	11	13
24	9.5	1430	1360	448	277	e2300	e520	90	23	12	11	13
25	9.1	1240	1120	351	254	e3500	e430	86	22	11	11	13
26	8.9	769	683	316	242	e2700	e365	83	22	10	11	13
27	8.7	451	507	304	236	e2100	357	77	22	11	11	13
28	8.2	314	443	277	232	e1800	264	73	21	10	11	13
29	9.0	232	416	254	---	e1600	206	72	23	10	11	24
30	10	177	773	245	---	e1400	191	77	29	9.7	11	28
31	10	---	1430	245	---	e1250	---	77	---	9.5	11	---
TOTAL	284.9	18623	14498	19596	6870	91300	16758	3305	1546	482.2	346.5	421.0
MEAN	9.19	621	468	632	245	2945	559	107	51.5	15.6	11.2	14.0
MAX	15	6300	2180	2350	332	9440	1500	185	105	30	12	28
MIN	7.2	11	122	245	218	229	191	72	21	9.5	9.5	9.5
AC-FT	565	36940	28760	38870	13630	181100	33240	6560	3070	956	687	835

CAL YR 1988 TOTAL 137012.4 MEAN 374 MAX 7300 MIN 3.8 AC-FT 271800
WTR YR 1989 TOTAL 174030.6 MEAN 477 MAX 9440 MIN 7.2 AC-FT 345200

e Estimated.

11472200 OUTLET CREEK NEAR LONGVALE, CA

LOCATION.--Lat 39°37'05", long 123°21'20", in NE 1/4 sec.1, T.20 N., R.14 W., Mendocino County, Hydrologic Unit 18010103, on right bank 0.2 mi downstream from Bloody Run Creek, 0.9 mi upstream from mouth, and 6.9 mi northeast of Longvale.

DRAINAGE AREA.--161 mi^2.

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WSP 1929: 1958(M), 1960(M), 1963(M).

GAGE.--Water-stage recorder. Datum of gage is 1,018.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those for discharges below 2.0 ft^3/s, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--33 years, 416 ft^3/s, 301,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,900 ft^3/s, Dec. 22, 1964, gage height, 30.6 ft, from floodmarks, from rating curve extended above 17,000 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1959, 1967, 1977, 1981, 1987-89.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1930	*12,200	*13.37				

No flow Oct. 1 to Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	156	890	112	98	664	94	24	10	1.0	.51
2	.00	.00	128	589	117	1750	1220	80	22	11	1.1	.55
3	.00	17	106	469	136	994	1150	74	20	11	1.0	.55
4	.00	16	88	396	148	880	806	68	21	9.4	.97	.56
5	.00	11	77	1050	135	2910	611	62	20	8.0	.87	.61
6	.00	7.1	70	804	117	2390	490	57	20	6.6	.83	.52
7	.00	4.9	64	587	106	1470	392	52	19	5.9	.86	.50
8	.00	4.5	57	543	99	2370	324	48	18	5.0	.80	.47
9	.00	5.2	49	1270	106	4430	282	46	16	4.2	.70	.39
10	.00	92	46	2210	151	3150	248	45	15	3.7	.53	.32
11	.00	69	42	1330	180	2630	222	43	14	3.4	.44	.29
12	.00	74	39	828	143	1780	197	42	13	2.9	.38	.38
13	.00	482	36	599	124	1680	175	39	13	2.8	.36	.54
14	.00	448	33	488	111	1100	157	37	12	2.8	.30	.60
15	.00	178	30	381	99	769	146	35	13	2.6	.25	.56
16	.00	363	28	334	91	1380	134	33	12	2.8	.24	.95
17	.00	416	26	284	86	1600	122	29	11	2.8	.33	2.7
18	.00	158	25	245	98	4330	112	29	11	2.2	.34	5.2
19	.00	82	27	216	159	2370	103	27	11	2.0	.29	3.9
20	.00	61	260	193	124	1440	94	26	9.6	1.8	.26	2.9
21	.00	678	807	173	109	882	94	26	9.2	1.6	.24	2.3
22	.00	5990	2200	191	173	617	115	25	8.8	1.5	.21	2.0
23	.00	4130	1400	481	238	1020	177	33	8.0	1.3	.32	1.6
24	.00	1780	1510	325	160	2360	204	47	7.4	1.4	.51	1.4
25	.00	1430	1180	240	133	3390	151	36	7.2	1.2	.55	1.4
26	.00	771	714	201	118	1910	135	31	6.7	1.1	.55	1.4
27	.00	465	478	176	105	1280	116	28	5.8	1.1	.57	1.7
28	.00	340	410	159	96	1300	100	27	5.3	1.1	.52	2.0
29	.00	254	367	144	---	942	88	26	6.0	1.0	.50	4.6
30	.00	194	1030	130	---	695	89	26	9.5	.97	.52	5.7
31	.00	---	1500	119	---	646	---	25	---	.97	.55	---
TOTAL	0.00	18520.70	12983	16045	3574	54563	8918	1296	388.5	114.14	16.89	47.10
MEAN	.000	617	419	518	128	1760	297	41.8	12.9	3.68	.54	1.57
MAX	.00	5990	2200	2210	238	4430	1220	94	24	11	1.1	5.7
MIN	.00	.00	25	119	86	98	88	25	5.3	.97	.21	.29
AC-FT	.00	36740	25750	31830	7090	108200	17690	2570	771	226	34	93

CAL YR 1988 TOTAL 73851.45 MEAN 202 MAX 5990 MIN .00 AC-FT 146500
WTR YR 1989 TOTAL 116466.33 MEAN 319 MAX 5990 MIN .00 AC-FT 231000

11473900 MIDDLE FORK EEL RIVER NEAR DOS RIOS, CA

LOCATION.--Lat 39°42'23", long 123°19'27", in NE 1/4 SE 1/4 sec.5, T.21 N., R.13 W., Mendocino County, Hydrologic Unit 18010104, on right bank 0.6 mi upstream from Eastman Creek, 1.7 mi southeast of Dos Rios, and 1.9 mi upstream from mouth.

DRAINAGE AREA.--745 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 901.58 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--24 years, 1,634 ft^3/s, 1,184,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 93,100 ft^3/s, Feb. 17, 1986, gage height, 27.41 ft, from rating curve extended above 52,000 ft^3/s; minimum daily, 2.4 ft^3/s, Sept. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25,000 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0115	*33,900	*19.63				

Minimum daily, 8.6 ft^3/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	1080	999	2120	1320	3450	901	243	91	28	17
2	9.8	16	956	837	1880	3010	4550	863	231	89	27	17
3	9.8	39	839	1030	1650	2540	4620	824	225	82	27	16
4	9.4	118	743	1220	1490	2130	3750	805	244	77	26	15
5	10	78	664	2110	1350	5380	3330	805	256	72	25	14
6	11	61	603	1520	1230	8020	3030	797	240	69	25	13
7	11	58	621	1210	1170	4620	2890	768	225	65	25	13
8	12	58	573	1060	1120	6780	2730	740	219	61	24	13
9	11	59	523	2060	1120	15100	2580	719	216	56	23	11
10	11	147	504	4640	1090	13300	2400	710	198	55	22	11
11	11	251	488	2860	1050	11100	2230	661	184	54	21	11
12	11	170	446	2000	1010	7010	2080	605	171	52	20	11
13	11	524	421	1730	970	6500	1920	550	160	49	21	10
14	12	817	399	1530	939	5240	1790	500	148	49	20	9.7
15	14	393	366	1370	911	4310	1690	466	139	48	19	8.6
16	15	473	329	1310	843	4690	1590	442	135	48	19	12
17	15	1150	322	1260	816	5190	1490	413	130	47	19	34
18	15	589	308	1290	851	7570	1430	391	122	46	18	59
19	15	370	302	1460	1430	6720	1330	368	117	43	18	69
20	14	301	344	1640	1320	5710	1260	343	111	43	18	55
21	13	399	682	1710	1210	5210	1190	307	107	41	18	41
22	13	10900	1330	2320	1870	5230	1160	283	98	40	17	34
23	12	17400	1050	3280	2630	4750	1120	318	91	38	18	28
24	12	3910	1140	2460	2000	8090	1120	355	91	35	19	25
25	13	3060	957	2040	1700	9920	1090	343	91	33	20	22
26	13	2540	685	1840	1520	6180	1050	330	90	33	20	21
27	13	1740	561	1750	1450	4520	1010	298	86	31	19	22
28	12	1640	545	1620	1380	5110	956	279	82	31	18	22
29	13	1500	519	1530	---	4350	922	271	84	30	17	26
30	14	1240	720	1850	---	3540	907	276	85	29	17	27
31	14	---	1390	2120	---	3580	---	262	---	28	17	---
TOTAL	380.0	50015	20410	55656	38120	186720	60665	15993	4619	1565	645	687.3
MEAN	12.3	1667	658	1795	1361	6023	2022	516	154	50.5	20.8	22.9
MAX	15	17400	1390	4640	2630	15100	4620	901	256	91	28	69
MIN	9.4	14	302	837	816	1320	907	262	82	28	17	8.6
AC-FT	754	99200	40480	110400	75610	370400	120300	31720	9160	3100	1280	1360

CAL YR 1988 TOTAL 251709.7 MEAN 688 MAX 17400 MIN 7.0 AC-FT 499300
WTR YR 1989 TOTAL 435475.3 MEAN 1193 MAX 17400 MIN 8.6 AC-FT 863800

11475000 EEL RIVER AT FORT SEWARD, CA

LOCATION.--Lat 40°13'05", long 123°37'54", in SE 1/4 NE 1/4 sec.8, T.3 S., R.5 E., Humboldt County, Hydrologic Unit 18010105, on right bank at downstream side of bridge, 1.0 mi southeast of Fort Seward, 1.9 mi upstream from Dobbyn Creek, and 11.8 mi northeast of Garberville.

DRAINAGE AREA.--2,107 mi^2.

PERIOD OF RECORD.--September 1955 to current year. Prior to October 1965, published as "at Alderpoint."

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 217.26 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, at site 7.5 mi upstream at datum 46.55 ft higher. Feb. 2 to Sept. 30, 1965, at site 7.7 mi upstream at datum 49.42 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow slightly regulated by Lake Pillsbury (station 11470000) 99 mi upstream, and by diversion through Potter Valley powerplant (station 11471000).

AVERAGE DISCHARGE.--34 years, 4,696 ft^3/s, 3,402,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 561,000 ft^3/s, Dec. 22, 1964, gage height, 82.6 ft, from floodmarks, present site and datum, 87.2 ft, from floodmarks, site and datum then in use, from rating curve extended above 110,000 ft^3/s on basis of slope-area measurement at gage height 72.5 ft; minimum daily, 1.2 ft^3/s, Sept. 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 41,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0445	*83,600	*31.64	Mar. 18	1445	41,100	24.06
Mar. 10	0245	71,800	29.57				

Minimum daily, 18 ft^3/s, Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	26	2450	5550	3740	2260	9690	1620	587	195	44	33
2	18	33	2120	3840	3450	6640	12100	1520	547	212	43	31
3	18	92	1880	3600	3050	8670	12800	1420	539	213	42	31
4	21	170	1710	4090	2810	5390	10300	1350	530	187	41	31
5	24	278	1580	6640	2530	12500	8710	1310	564	169	43	31
6	23	231	1480	7210	2190	23400	7470	1280	584	157	42	30
7	22	173	1420	4710	2020	15400	6480	1240	557	145	42	30
8	22	148	1390	3830	1910	19700	5730	1180	525	130	38	29
9	22	141	1330	6810	1860	49300	5110	1130	507	116	36	28
10	22	303	1270	16200	1930	54100	4530	1130	496	108	35	27
11	22	725	1240	13400	1960	38000	4040	1110	452	101	35	27
12	22	701	1160	8200	1890	27800	3640	1050	413	96	33	27
13	25	1100	1070	6240	1770	23500	3310	968	380	94	33	26
14	31	3670	1020	5290	1690	18000	3060	916	348	90	32	26
15	30	2000	963	4190	1610	14200	2980	865	326	85	31	26
16	30	1530	901	3710	1530	14300	2790	840	309	83	30	30
17	30	4010	848	3520	1480	17400	2620	800	298	82	30	39
18	31	2560	811	3370	1580	32300	2430	785	294	81	30	56
19	34	1340	778	3720	2550	23700	2290	736	280	77	30	74
20	34	884	883	4210	3010	18000	2150	703	263	73	30	124
21	32	1420	2550	4280	2500	15200	2050	666	253	70	30	131
22	30	23100	6520	5360	2700	13700	2080	634	244	65	29	110
23	28	56800	7550	8180	5260	11800	2090	689	231	61	30	94
24	27	16400	6410	6230	3920	19700	2420	864	212	58	31	81
25	26	10800	5950	4700	3160	28000	2290	895	197	56	32	70
26	26	8580	3690	4020	2760	24100	2160	800	185	54	32	65
27	26	5420	2710	3720	2510	17100	2000	728	177	50	32	62
28	26	4110	2440	3470	2370	15700	1900	661	171	47	32	59
29	26	3720	2220	3190	---	13600	1710	631	170	45	33	72
30	26	2940	3320	3290	---	11100	1650	611	179	45	34	90
31	26	---	7990	3810	---	10300	---	613	---	44	34	---
TOTAL	798	153405	77654	168580	69740	604860	132580	29745	10818	3089	1069	1590
MEAN	25.7	5113	2505	5438	2491	19510	4419	960	361	99.6	34.5	53.0
MAX	34	56800	7990	16200	5260	54100	12800	1620	587	213	44	131
MIN	18	26	778	3190	1480	2260	1650	611	170	44	29	26
AC-FT	1580	304300	154000	334400	138300	1200000	263000	59000	21460	6130	2120	3150

CAL YR 1988 TOTAL 745574 MEAN 2037 MAX 56800 MIN 11 AC-FT 1479000
WTR YR 1989 TOTAL 1253928 MEAN 3435 MAX 56800 MIN 18 AC-FT 2487000

11475560 ELDER CREEK NEAR BRANSCOMB, CA
(Hydrologic benchmark station)

LOCATION.--Lat 39°43'47", long 123°38'34", in NW 1/4 NE 1/4 sec.29, T.22 N., R.16 W., Mendocino County, Hydrologic Unit 18010106, on right bank 0.2 mi upstream from mouth, and 5.3 mi north of Branscomb. Raingage no. 1: Lat 39°43'50", long 123°38'07", in NW 1/4 NW 1/4 sec.28, T.22 N., R.16 W., elevation, 1,440 ft at site 0.5 mi east of gaging station.
DRAINAGE AREA.--6.50 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.
GAGE.--Water-stage recorder, crest-stage gage, and one recording and storage-type precipitation gage. Datum of gage is 1,391.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for flows below 1.0 ft^3/s, which are fair. No regulation; small diversion above station for domestic use.

AVERAGE DISCHARGE.--22 years, 25.8 ft^3/s, 18,690 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,280 ft^3/s, Mar. 29, 1974, gage height, 9.77 ft, from rating curve extended above 660 ft^3/s on basis of slope-area measurements at gage heights 9.40 and 11.41 ft; minimum daily, 0.27 ft^3/s, Sept. 10-15, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 11.41 ft, from floodmarks, discharge, 3,660 ft^3/s by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1700	*361	*6.23				

Minimum daily, 0.53 ft^3/s, Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	1.2	23	36	16	13	52	10	4.4	3.7	2.4	1.2
2	.53	2.0	21	33	15	33	57	9.5	4.4	3.3	2.4	1.2
3	.53	8.3	20	33	14	34	60	9.0	4.3	3.1	2.5	1.2
4	.60	3.0	18	46	13	33	58	8.8	4.3	3.1	2.3	1.2
5	.73	2.1	17	40	12	68	53	8.7	4.3	2.9	2.2	1.2
6	.75	3.0	16	36	11	87	47	8.4	4.2	2.7	2.1	1.2
7	.75	2.4	14	43	11	73	41	8.1	4.1	2.6	2.0	1.2
8	.75	2.0	13	68	10	107	36	7.8	3.9	2.6	1.9	1.2
9	.75	2.6	12	86	10	184	32	7.6	3.8	2.6	1.9	1.2
10	.67	13	11	68	10	172	29	7.3	3.7	2.7	1.9	1.2
11	.65	5.8	11	55	10	129	27	7.1	3.6	2.7	1.9	1.1
12	.65	5.5	10	47	9.5	105	24	6.8	3.6	2.8	1.8	1.1
13	.89	19	9.3	40	9.3	96	23	6.6	3.5	2.6	1.8	1.1
14	1.2	19	9.1	35	9.0	85	21	6.6	3.5	2.5	1.8	1.0
15	1.0	14	8.8	31	8.5	75	20	6.3	3.3	2.5	1.8	1.0
16	.97	20	8.3	29	8.1	75	19	6.1	3.1	2.5	1.8	1.5
17	.91	23	7.8	28	7.9	87	18	5.9	3.1	2.6	1.7	1.6
18	.85	15	7.5	28	9.8	168	17	5.7	2.9	2.6	1.7	1.5
19	.83	11	7.8	28	11	135	16	5.5	2.9	2.6	1.7	1.4
20	.80	8.7	13	28	10	105	15	5.3	2.9	2.4	1.6	1.4
21	.80	30	15	32	9.6	85	15	5.3	2.9	2.5	1.6	1.4
22	.80	205	41	28	14	72	15	5.5	2.9	2.5	1.5	1.3
23	.80	175	32	25	16	70	16	6.7	2.6	2.4	1.5	1.3
24	.80	83	33	23	15	96	15	5.6	2.6	2.3	1.5	1.2
25	.81	66	31	21	14	171	13	5.3	2.6	2.2	1.5	1.2
26	.85	54	25	20	14	130	13	5.1	2.7	2.2	1.5	1.2
27	.87	45	23	19	13	96	12	4.9	2.7	2.2	1.4	1.2
28	.95	37	20	17	12	79	11	4.8	2.7	2.2	1.3	1.2
29	1.0	31	30	17	---	67	10	4.8	3.1	2.3	1.3	1.7
30	1.0	26	45	16	---	60	11	4.8	4.0	2.4	1.3	1.8
31	1.0	---	42	e16	---	55	---	4.7	---	2.4	1.3	---
TOTAL	25.02	932.6	594.6	1072	322.7	2845	796	204.6	102.6	80.7	54.9	38.2
MEAN	.81	31.1	19.2	34.6	11.5	91.8	26.5	6.60	3.42	2.60	1.77	1.27
MAX	1.2	205	45	86	16	184	60	10	4.4	3.7	2.5	1.8
MIN	.53	1.2	7.5	16	7.9	13	10	4.7	2.6	2.2	1.3	1.0
AC-FT	50	1850	1180	2130	640	5640	1580	406	204	160	109	76
a	1.32	21.29	7.87	5.09	2.83	20.99	3.56	1.09	0.74	0.00	0.02	1.84

CAL YR 1988 TOTAL 4482.48 MEAN 12.2 MAX 205 MIN .46 AC-FT 8890
WTR YR 1989 TOTAL 7068.92 MEAN 19.4 MAX 205 MIN .53 AC-FT 14020

e Estimated.
a Precipitation, in inches, at raingage no. 1.

11475560 ELDER CREEK NEAR BRANSCOMB, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.
CHEMICAL DATA: Water years 1968 to current year.
WATER TEMPERATURE: Water years 1968-79.
SEDIMENT DATA: Water years 1969 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1967 to September 1979.
SUSPENDED-SEDIMENT DISCHARGE: October 1973 to September 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)
SEP 15...	1035	0.07

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC 07...	1030	14	120	8.10	8.0	0.60	730	11.3	100	K4	K5
MAR 15...	1515	74	94	8.10	9.5	0.90	725	10.8	99	K3	K2
JUN 14...	1100	3.3	126	8.20	14.0	0.30	725	9.8	100	K5	K16
SEP 13...	1515	1.0	142	8.10	14.0	0.10	725	9.6	98	K6	20

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
DEC 07...	46	12	3.9	6.5	23	0.4	0.70	65	54	3.3	2.4
MAR 15...	36	9.3	3.1	5.3	24	0.4	0.60	53	43	2.4	2.1
JUN 14...	50	13	4.2	7.4	24	0.5	0.60	72	59	3.0	2.5
SEP 13...	60	16	4.7	8.3	23	0.5	0.70	83	68	3.0	2.6

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)
DEC 07...	0.10	15	79	76	0.11	<0.010	<0.100	<0.010	0.020	<0.20	0.020
MAR 15...	0.10	16	61	65	0.08	<0.010	<0.100	0.010	0.020	<0.20	0.020
JUN 14...	<0.10	16	84	82	0.11	<0.010	<0.100	<0.010	0.020	<0.20	0.030
SEP 13...	0.10	15	87	91	0.12	<0.010	<0.100	<0.010	<0.010	<0.20	0.030

See footnotes at end of table.

11475560 ELDER CREEK NEAR BRANSCOMB, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS 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)
DEC										
07...	0.020	0.020	<10	<1	13	<0.5	<1	<1	<3	1
MAR										
15...	0.020	0.020	30	<1	11	<0.5	<1	<1	<3	1
JUN										
14...	0.030	0.030	<10	<1	15	<0.5	<1	<1	<3	2
SEP										
13...	0.030	0.020	<10	<1	18	<0.5	<1	<1	<3	1

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)
DEC										
07...	5	<5	<4	<1	<0.1	<10	<1	<1	<1.0	120
MAR										
15...	32	<5	<4	9	<0.1	<10	<1	<1	1.0	93
JUN										
14...	<3	1	<4	<1	<0.1	<10	<1	<1	<1.0	140
SEP										
13...	<3	<1	<4	2	<0.1	<10	<1	<1	<1.0	150

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, 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)
DEC										
07...	<6	<3	--	--	--	--	--	--	--	--
MAR										
15...	<6	11	<0.4	<0.4	0.8	<0.4	0.7	<0.4	0.03	<0.01
JUN										
14...	<6	6	--	--	--	--	--	--	--	--
SEP										
13...	<6	10	--	--	--	--	--	--	--	--

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	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
MAR										
15...*	1630	13.0	97	8.10	9.5	725	10.8	99	4	--
15...*	1640	20.0	97	8.10	9.5	725	10.8	99	4	--
15...*	1650	25.5	97	8.10	9.5	725	10.8	99	4	--
SEP										
13...*	1615	2.50	142	8.10	14.0	725	9.6	98	13	48
13...*	1640	5.50	142	8.10	14.0	725	9.6	98	12	51
13...*	1700	9.30	142	8.10	14.0	725	9.6	98	11	47

* Instantaneous streamflow at the time of cross-sectional measurement: Mar. 15, 74 ft^3/s; Sept. 13, 1.0 ft^3/s.

11475560 ELDER CREEK NEAR BRANSCOMB, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
07...	1030	14	8.0	9	0.34	43
MAR						
15...	1515	74	9.5	4	0.80	--
JUN						
15...	1100	3.3	14.0	4	0.04	--
SEP						
13...	1515	1.0	14.0	12	0.03	49

11475800 SOUTH FORK EEL RIVER AT LEGGETT, CA

LOCATION.--Lat 39°52'29", long 123°43'10", in NE 1/4 SE 1/4 sec.3, T.23 N., R.17 W., Mendocino County, Hydrologic Unit 18010106, on right bank near Standish Hickey State Park, 0.2 mi upstream from Rock Creek, and 0.7 mi northwest of Leggett.

DRAINAGE AREA.--248 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 691.32 ft above National Geodetic Vertical Datum of 1929. Prior to July 29, 1988, at datum 2.00 ft higher.

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

AVERAGE DISCHARGE.--24 years, 892 ft^3/s, 646,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,700 ft^3/s, Jan. 4, 1966, gage height, 27.4 ft, from floodmarks, present datum, from rating curve extended above 21,000 ft^3/s on basis of slope-area measurement at gage height 28.13 ft; minimum daily, 7.3 ft^3/s, Aug. 4-6, 12, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 28.13 ft, from floodmarks, present datum, discharge, 78,700 ft^3/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2115	*21,700	*15.59	Mar. 18	0700	8,820	10.62

Minimum daily, 13 ft^3/s, Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	521	1500	354	327	1440	300	102	79	31	21
2	13	26	451	1220	359	1400	2080	273	96	71	31	20
3	13	339	405	1080	351	1050	2100	262	92	67	31	21
4	14	185	366	969	345	918	1710	248	91	64	30	20
5	15	88	336	1390	313	3560	1480	238	91	61	30	20
6	15	92	314	1140	286	3130	1250	224	91	59	29	19
7	15	85	294	985	269	2000	1090	217	89	56	28	19
8	15	72	273	971	255	3170	974	208	86	53	26	19
9	15	68	253	1720	259	7730	871	200	84	51	25	18
10	15	518	239	3300	291	5710	785	196	81	49	25	18
11	15	307	225	2370	325	4030	726	188	80	47	25	18
12	15	254	213	1670	303	2850	666	180	80	47	24	18
13	17	858	203	1380	279	2580	600	173	80	46	25	17
14	26	1000	193	1150	262	1920	550	169	78	45	24	17
15	25	600	181	952	242	1590	518	161	77	44	24	16
16	23	601	170	843	230	1910	486	154	76	44	24	20
17	19	981	164	759	217	2260	460	148	74	43	24	26
18	17	522	156	692	276	6410	438	142	72	42	23	28
19	16	346	172	627	421	3540	417	139	71	40	23	28
20	15	269	272	558	338	2300	396	136	69	38	23	25
21	15	1060	988	522	294	1770	400	133	68	37	22	25
22	15	10900	2290	601	378	1470	401	135	65	37	22	24
23	15	8460	1650	774	555	1490	477	190	63	36	23	23
24	15	2630	1880	589	467	2790	458	177	62	36	24	22
25	14	2290	1700	520	426	6150	398	146	62	35	24	21
26	14	1630	1280	485	396	3480	366	134	62	34	24	21
27	14	1230	1050	458	364	2360	339	126	63	34	23	22
28	14	1030	920	432	333	2230	318	119	62	33	22	22
29	14	804	820	411	---	1800	302	118	65	31	21	37
30	14	638	1380	391	---	1540	315	114	79	31	21	44
31	14	---	2060	374	---	1490	---	107	---	31	21	---
TOTAL	489	37898	21419	30833	9188	84955	22811	5455	2311	1421	772	669
MEAN	15.8	1263	691	995	328	2740	760	176	77.0	45.8	24.9	22.3
MAX	26	10900	2290	3300	555	7730	2100	300	102	79	31	44
MIN	13	15	156	374	217	327	302	107	62	31	21	16
AC-FT	970	75170	42480	61160	18220	168500	45250	10820	4580	2820	1530	1330

CAL YR 1988 TOTAL 147459 MEAN 403 MAX 10900 MIN 12 AC-FT 292500
WTR YR 1989 TOTAL 218221 MEAN 598 MAX 10900 MIN 13 AC-FT 432800

11476500 SOUTH FORK EEL RIVER NEAR MIRANDA, CA

LOCATION.--Lat 40°10'55", long 123°46'30", in NW 1/4 sec.30, T.3 S., R.4 E., Humboldt County, Hydrologic Unit 18010106, on right bank 0.5 mi upstream from Rocky Glen Creek, 4.3 mi southeast of Miranda, and 20 mi upstream from mouth.

DRAINAGE AREA.--537 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.-- WSP 1395: Drainage area. WSP 2129: 1955.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 217.57 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1940, nonrecording gage at site 200 ft upstream at datum 0.8 ft higher. Nov. 2, 1940, to Oct. 31, 1944, nonrecording gage at present site and datum.

REMARKS.--Records good. Occasional storage and release for recreational use during summer months at Benbow Dam, 16 mi upstream. No diversion upstream from station.

AVERAGE DISCHARGE.--50 years, 1,930 ft^3/s, 1,398,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 199,000 ft^3/s, Dec. 22, 1964, gage height, 46.0 ft, from floodmarks, from rating curve extended above 53,000 ft^3/s on basis of slope-area measurement at gage height 42.7 ft; minimum observed, 9 ft^3/s, Oct. 17, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0030	*49,800	*23.92	Mar. 18	1345	19,500	15.87
Mar. 9	1700	23,400	17.10	Mar. 25	1515	16,900	14.97

Minimum daily, 23 ft^3/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	34	1230	3910	861	992	3700	614	264	180	54	41
2	23	47	1060	3000	830	e3900	4890	550	247	165	54	40
3	24	668	926	2510	835	2200	5410	516	244	143	51	38
4	26	605	909	2190	823	1730	4540	492	234	129	55	39
5	30	286	847	3000	789	7600	3840	469	230	122	55	36
6	31	222	776	2950	719	10400	3260	444	239	114	53	35
7	31	205	714	2510	666	6080	2800	421	212	109	51	34
8	31	175	649	2450	623	7450	2430	407	214	101	49	33
9	29	161	606	3910	619	20000	2110	391	211	96	46	34
10	29	784	570	7520	652	16100	1840	388	207	93	46	34
11	29	955	540	6180	716	12200	1640	380	198	93	46	34
12	27	527	517	4180	741	8590	1490	352	193	87	45	34
13	31	1510	492	3350	699	7760	1340	345	193	89	44	32
14	49	2780	472	2830	664	5830	1220	343	188	85	43	32
15	63	1580	395	2300	618	4660	1120	337	184	83	42	31
16	58	1260	366	2000	581	5640	1030	319	180	83	42	43
17	51	2160	349	1760	555	7590	944	307	180	80	42	60
18	45	1400	338	1590	706	15600	882	272	177	81	42	71
19	40	873	354	1470	1100	11000	832	260	170	81	43	69
20	38	622	499	1350	1030	7420	782	238	165	77	44	62
21	36	1790	1580	1260	887	5480	801	225	160	74	42	59
22	35	22900	4920	1570	1330	4290	824	174	144	e72	42	203
23	34	26500	4170	1670	2040	4060	895	362	51	e70	45	177
24	34	8070	4580	1460	1700	7280	1020	487	107	69	45	78
25	33	5810	4280	1270	1460	13500	842	406	128	65	45	51
26	33	4160	3050	1170	1270	10100	741	347	128	64	45	52
27	33	2930	2510	1100	1150	7030	666	317	130	63	43	54
28	32	2420	2370	1040	1050	6150	614	273	126	62	43	52
29	32	1870	2020	988	---	5150	577	298	137	61	43	64
30	32	1480	3270	945	---	4300	611	298	173	56	42	78
31	33	---	5750	907	---	4160	---	283	---	54	41	---
TOTAL	1076	94784	51109	74340	25714	234242	53691	11315	5414	2801	1423	1700
MEAN	34.7	3159	1649	2398	918	7556	1790	365	180	90.4	45.9	56.7
MAX	63	26500	5750	7520	2040	20000	5410	614	264	180	55	203
MIN	23	34	338	907	555	992	577	174	51	54	41	31
AC-FT	2130	188000	101400	147500	51000	464600	106500	22440	10740	5560	2820	3370

CAL YR 1988 TOTAL 360999 MEAN 986 MAX 26500 MIN 20 AC-FT 716000
WTR YR 1989 TOTAL 557609 MEAN 1528 MAX 26500 MIN 23 AC-FT 1106000

e Estimated.

11476600 BULL CREEK NEAR WEOTT, CA

LOCATION.--Lat 40°21'05", long 124°00'10", in SW 1/4 NW 1/4 sec.30, T.1 S., R.2 E., Humboldt County, Hydrologic Unit 18010106, on left bank 0.2 mi downstream from Albee Creek, 4.5 mi northwest of Weott, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--28.1 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 269.36 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, water-stage recorder, and Jan. 14 to Aug. 10, 1965, nonrecording gage at site 150 ft downstream at datum 8.90 ft lower.

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair. Minor diversions upstream from station for domestic and recreational use.

AVERAGE DISCHARGE.--29 years, 125 ft^3/s, 90,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,520 ft^3/s, Dec. 22, 1964, gage height, 20.6 ft, from floodmarks, site and datum then in use, from rating curve extended above 2,100 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft^3/s, Sept. 28, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1500	*1,150	*6.18				

Minimum daily, 0.38 ft^3/s, Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	1.7	159	370	58	58	e180	35	14	13	3.7	1.5
2	.38	15	144	312	57	98	e225	32	13	9.9	3.4	1.3
3	.38	51	132	273	55	85	e250	31	13	8.6	3.2	1.3
4	1.3	12	121	e252	54	91	e200	30	13	7.5	3.0	1.0
5	2.3	8.3	113	e242	50	227	e162	28	12	6.6	2.9	.89
6	1.7	15	105	e275	47	275	e140	27	12	6.0	2.6	.92
7	1.4	8.6	98	e261	45	229	e128	25	11	7.1	2.4	.87
8	1.3	13	92	e249	43	244	e112	25	11	6.8	2.3	.74
9	1.2	18	86	e260	43	849	e102	25	10	6.7	2.4	.67
10	1.1	55	82	e570	54	e820	e95	26	9.8	6.5	2.5	.65
11	.93	23	78	e460	54	e680	e89	24	10	6.2	2.5	.66
12	.93	21	74	e380	52	e480	e84	23	9.9	5.8	2.4	.67
13	2.1	109	71	e305	49	e370	e79	22	9.6	5.5	2.2	.52
14	5.2	87	69	e248	47	e290	e74	21	9.3	5.4	2.2	.47
15	2.9	53	65	e200	44	e230	68	20	9.3	5.7	2.1	.48
16	2.3	53	63	e170	42	e280	64	20	9.0	5.4	2.0	.91
17	2.0	68	61	e149	41	e350	60	19	8.4	5.0	2.0	1.9
18	1.7	55	59	e132	45	e740	56	18	8.1	4.8	2.0	2.5
19	1.5	42	64	e120	43	e640	52	18	8.1	4.7	1.8	2.1
20	e1.4	36	86	e110	40	e430	49	17	7.8	4.6	1.8	1.6
21	e1.4	92	122	e111	38	e280	53	17	7.7	4.8	1.8	1.4
22	e1.4	736	246	e122	84	e210	52	19	7.2	4.4	2.1	1.2
23	e1.4	554	206	e110	80	e200	59	27	7.0	4.2	3.1	1.0
24	e1.4	372	267	e95	72	e300	48	25	6.8	4.1	2.8	.97
25	e1.3	339	263	e89	67	e620	45	21	6.7	4.0	2.4	1.1
26	e1.3	277	234	83	64	e560	42	18	7.3	4.0	2.1	1.5
27	e1.3	235	229	78	60	e390	35	17	9.9	3.9	1.9	2.1
28	e1.3	228	244	73	57	e300	37	18	9.8	3.7	1.7	2.0
29	e1.3	195	232	68	---	e265	35	18	18	3.7	1.6	3.2
30	e1.2	175	369	63	---	e230	39	16	19	3.7	1.9	3.3
31	e1.2	---	464	60	---	e200	---	15	---	3.6	1.7	---
TOTAL	46.94	3947.6	4698	6290	1485	11021	2714	697	307.7	175.9	72.5	39.42
MEAN	1.51	132	152	203	53.0	356	90.5	22.5	10.3	5.67	2.34	1.31
MAX	5.2	736	464	570	84	849	250	35	19	13	3.7	3.3
MIN	.38	1.7	59	60	38	58	35	15	6.7	3.6	1.6	.47
AC-FT	93	7830	9320	12480	2950	21860	5380	1380	610	349	144	78

CAL YR 1988 TOTAL 20949.74 MEAN 57.2 MAX 736 MIN .34 AC-FT 41550
WTR YR 1989 TOTAL 31482.06 MEAN 86.3 MAX 849 MIN .38 AC-FT 62440

e Estimated.

11477000 EEL RIVER AT SCOTIA, CA
(National stream-quality accounting network station)

LOCATION.--Lat 40°29'30", long 124°05'55", in SW 1/4 sec.5, T.1 N., R.1 E., Humboldt County, Hydrologic Unit 18010105, near center of span in left pier of A.S. Murphy Memorial Bridge on State Highway 283, 0.5 mi north of Scotia, and 6 mi upstream from Van Duzen River.

DRAINAGE AREA.--3,113 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods and yearly estimates for 1915-16, published in WSP 1315-B.

REVISED RECORDS.--WSP 931: 1938. WSP 1315-B: 1914-15(M), 1917(M), 1927-28(M), 1936(M), 1939(M). WSP 1345: Drainage area. WSP 1715: 1959.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 35.50 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow slightly regulated by Lake Pillsbury (station 11470000) 138 mi upstream and by diversion through Potter Valley powerplant (station 11471000).

AVERAGE DISCHARGE.--79 years, 7,430 ft^3/s, 5,383,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 752,000 ft^3/s, Dec. 23, 1964, gage height, 72.0 ft, from floodmarks, from rating curve extended above 220,000 ft^3/s on basis of maximum flow at upstream stations; minimum observed, 10 ft^3/s, Aug. 12-14, 1924.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 72,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	1015	*137,000	*33.15	Mar. 18	2030	73,800	25.68
Mar. 10	0515	107,000	29.89				

Minimum daily, 53 ft^3/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	87	5650	15000	5710	4200	16400	2940	1170	490	166	115
2	53	115	4960	11100	5460	7270	18500	2800	1080	488	163	109
3	54	276	4480	9400	5040	15000	21900	2620	1020	479	163	108
4	59	891	4060	9190	4750	9960	18800	2510	1000	456	159	103
5	66	816	3780	11300	4440	16400	15600	2410	982	423	155	99
6	70	757	3510	14800	4050	44700	13500	2320	1030	394	152	96
7	71	661	3330	11200	3710	28600	11800	2240	1020	369	147	96
8	74	596	3190	9640	3510	25700	10300	2170	948	346	144	95
9	74	548	3030	13900	3390	74800	8930	2080	908	325	144	95
10	73	867	2910	25800	3480	93400	7990	2040	883	315	142	92
11	71	1760	2790	29200	3630	62500	7250	2010	851	305	139	91
12	71	1950	2690	16900	3580	46900	6570	1940	792	292	137	87
13	72	2330	2510	12500	3410	37200	6050	1820	741	280	135	85
14	83	6280	2370	10700	3250	28500	5490	1720	702	269	133	83
15	105	5260	2290	8780	3090	21600	5210	1660	673	268	127	81
16	114	3530	2190	7650	2960	21400	4950	1580	641	265	124	83
17	119	5750	2110	7070	2850	29900	4620	1540	619	260	122	97
18	117	6200	2020	6590	2830	54600	4340	1480	604	253	117	132
19	110	3630	2010	6500	3790	49200	4120	1410	589	237	115	149
20	105	2520	2180	6890	4830	31600	3900	1340	562	225	109	165
21	104	2480	4570	6960	4310	25000	3840	1270	539	223	109	178
22	99	32100	12000	8160	4350	21400	3860	1220	516	218	119	203
23	95	109000	16600	10700	7190	18400	3940	1300	495	213	137	258
24	90	33900	14000	9930	6920	28700	4300	1580	443	206	135	298
25	88	19300	14600	7780	5560	45100	4150	1710	408	199	135	229
26	87	16100	10600	6760	4910	45500	3830	1570	420	197	135	195
27	83	11300	8600	6180	4490	29800	3570	1430	417	191	130	179
28	81	8990	8110	5820	4300	24700	3340	1360	413	184	122	173
29	83	7890	7300	5440	---	22900	3120	1310	425	182	119	177
30	82	6640	9550	5220	---	18700	3000	1250	480	176	117	183
31	84	---	19000	5580	---	17500	---	1200	---	170	114	---
TOTAL	2591	292524	186990	322640	119790	1001130	233170	55830	21371	8898	4165	4134
MEAN	83.6	9751	6032	10410	4278	32290	7772	1801	712	287	134	138
MAX	119	109000	19000	29200	7190	93400	21900	2940	1170	490	166	298
MIN	53	87	2010	5220	2830	4200	3000	1200	408	170	109	81
AC-FT	5140	580200	370900	640000	237600	1986000	462500	110700	42390	17650	8260	8200

CAL YR 1988 TOTAL 1354135 MEAN 3700 MAX 109000 MIN 44 AC-FT 2686000
WTR YR 1989 TOTAL 2253233 MEAN 6173 MAX 109000 MIN 53 AC-FT 4469000

11477000 EEL RIVER AT SCOTIA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
CHEMICAL DATA: Water years 1952-75, 1977, 1979 to current year.
BIOLOGICAL DATA: Water year 1979-81.
SPECIFIC CONDUCTANCE: Water years 1979-81.
WATER TEMPERATURE: Water years 1958-82.
SEDIMENT DATA: Water years 1955 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to September 1981.
WATER TEMPERATURE: October 1957 to June 1982.
SUSPENDED-SEDIMENT DISCHARGE: October 1957 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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												
01...	1130	85	311	8.50	15.0	0.40	760	10.3	102	K6	K7	150
JAN												
18...	1145	6560	165	8.20	8.0	13	770	11.5	96	K6	K9	70
MAR												
23...	1540	17600	135	8.20	11.5	87	755	10.5	97	K11	K14	63
MAY												
18...	1050	1480	215	8.40	16.5	1.9	770	10.8	109	K2	K2	100
JUL												
27...	1050	192	291	8.40	18.5	0.20	765	9.1	97	K3	K9	130
SEP												
01...	1215	119	303	8.50	21.0	0.20	765	9.3	104	K1	250	140

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	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												
01...	2	40	12	9.6	12	0.4	1.4	179	2	151	23	7.1
JAN												
18...	8	19	5.5	5.3	14	0.3	0.80	74	--	61	13	3.0
MAR												
23...	1	17	5.0	4.5	13	0.3	0.80	81	--	66	8.8	1.9
MAY												
18...	8	28	8.0	6.9	13	0.3	0.90	105	4	92	15	2.8
JUL												
27...	6	37	10	8.5	12	0.3	1.4	144	5	126	17	5.5
SEP												
01...	9	38	11	9.8	13	0.4	1.4	136	12	131	18	6.1

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-PHOROUS TOTAL (MG/L AS P)
NOV											
01...	0.10	10	180	194	0.24	<0.010	<0.100	<0.010	<0.010	0.20	0.010
JAN											
18...	0.10	11	98	94	0.13	<0.010	<0.100	0.020	<0.010	0.20	0.020
MAR											
23...	0.10	11	86	89	0.12	<0.010	<0.100	<0.010	<0.010	<0.20	0.100
MAY											
18...	0.10	12	130	130	0.18	<0.010	<0.100	<0.010	<0.010	0.50	0.020
JUL											
27...	0.10	9.5	174	165	0.24	<0.010	<0.100	<0.010	<0.010	0.30	0.030
SEP											
01...	0.10	11	171	175	0.23	<0.010	<0.100	0.020	<0.010	<0.20	0.020

See footnotes at end of table.

11477000 EEL RIVER AT SCOTIA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
NOV											
01...	0.010	<0.010	<10	<1	87	<0.5	<1	<1	<3	1	3
JAN											
18...	0.020	0.010	20	<1	36	<0.5	<1	<1	<3	2	22
MAR											
23...	0.020	0.010	--	--	--	--	--	--	--	--	--
MAY											
18...	0.020	<0.010	<10	<1	58	<0.5	<1	1	<3	1	7
JUL											
27...	0.030	<0.010	--	--	--	--	--	--	--	--	--
SEP											
01...	<0.010	<0.010	10	<1	89	<0.5	<1	<1	<3	1	8

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
NOV											
01...	<5	5	8	<0.1	<10	3	<1	1.0	440	<6	5
JAN											
18...	<5	4	4	<0.1	<10	1	<1	<1.0	230	<6	3
MAR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
18...	<1	4	4	<0.1	<10	2	<1	<1.0	330	<6	20
JUL											
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
01...	1	4	12	<0.1	<10	1	<1	<1.0	440	<6	9

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR										
23...*	1220	64.0	135	8.20	11.5	755	10.6	98	221	90
23...*	1250	131	134	8.20	11.5	755	10.5	97	220	90
23...*	1320	224	135	8.20	11.5	755	10.5	97	282	72
23...*	1405	324	135	8.20	11.5	755	10.5	97	488	42
23...*	1435	429	136	8.20	11.5	755	10.5	97	303	63
AUG										
31...*	1500	52.0	298	8.60	23.0	760	11.7	137	2	--
31...*	1515	87.0	308	8.50	22.5	760	10.5	122	2	--
31...*	1530	103	305	8.50	22.5	760	10.0	116	2	--
31...*	1545	120	305	8.50	22.5	760	9.9	115	1	--
31...*	1600	149	303	8.50	23.0	760	10.5	123	2	--

*Instantaneous streamflow at the time of cross-sectional measurement: Mar. 23, 17,900 ft^3/s; Aug. 31, 114 ft^3/s.

11477000 EEL RIVER AT SCOTIA CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
01...	1130	85	15.0	1	0.23	--
JAN						
18...	1145	6560	8.0	25	443	87
MAR						
23...	1325	17900	11.5	302	14600	71
MAY						
18...	1050	1480	16.5	4	16	88
AUG						
31...	1535	114	23.0	2	0.62	--
SEP						
01...	1215	119	21.0	2	0.64	--

11478500 VAN DUZEN RIVER NEAR BRIDGEVILLE, CA

LOCATION.--Lat 40°28'50", long 123°53'23", in NE 1/4 SE 1/4 sec.12, T.1 N., R.2 E., Humboldt County, Hydrologic Unit 18010105, on left bank at downstream side of bridge on State Highway 36, 0.9 mi upstream from Grizzly Creek, and 5 mi west of Bridgeville.

DRAINAGE AREA.--222 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 358.18 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1965, at site 2.4 mi upstream at different datum.

REMARKS.--Records fair. No storage or large diversion upstream from station.

AVERAGE DISCHARGE.--39 years, 880 ft^3/s, 637,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s, Dec. 22, 1964, gage height, 24.0 ft, from floodmarks, present site and datum, from rating curve extended above 20,000 ft^3/s on basis of slope-area measurement at gage height 21.3 ft, former site and datum; minimum daily, 4.6 ft^3/s, Aug. 8, 13, 14, Sept. 9-15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2030	*24,100	*14.69	Mar. 9	1000	16,800	12.41

Minimum daily, 6.8 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	9.2	772	1240	1450	596	2530	375	144	65	18	12
2	7.0	13	635	1070	1260	1390	3240	322	132	57	18	12
3	6.8	202	533	1200	1070	1210	2700	299	124	51	18	11
4	7.8	154	463	1310	1010	1120	2040	281	118	47	18	11
5	10	93	420	1840	876	3030	1670	262	113	44	18	10
6	11	107	379	1390	733	3890	1390	243	108	43	16	10
7	10	118	361	1140	566	2390	1190	228	102	41	16	9.8
8	9.2	104	334	1240	556	3440	1020	215	98	38	15	9.7
9	8.8	104	308	2970	568	13400	891	208	93	36	15	9.5
10	8.4	275	291	6000	526	7130	780	201	88	35	14	9.5
11	8.3	299	280	2890	496	6350	701	192	83	34	14	9.4
12	8.3	243	262	1940	477	4010	642	176	79	33	14	9.2
13	8.7	1250	252	1630	442	3970	590	168	75	31	14	9.2
14	10	1050	240	1370	412	2730	545	161	71	30	13	9.4
15	12	637	226	1180	399	2080	508	155	68	30	13	9.0
16	13	911	216	1180	392	2550	458	148	68	29	13	9.1
17	11	1860	210	1200	414	3070	424	140	67	29	13	9.5
18	11	997	202	1180	575	4660	387	133	64	28	13	10
19	10	623	208	1410	e1440	3890	362	128	61	27	12	11
20	10	540	349	1630	1090	2770	342	125	59	25	11	12
21	9.9	1140	942	1680	949	2570	411	122	58	25	11	12
22	9.8	12800	1540	e3440	e2300	2260	600	120	56	24	11	11
23	9.5	11900	1200	e2180	e1950	1930	779	189	53	23	13	9.9
24	9.5	2740	1350	1730	1370	3320	e890	282	51	23	15	9.4
25	9.5	2810	1020	1400	1050	5260	e672	252	48	22	16	9.0
26	9.3	2290	728	1310	868	3230	543	210	48	21	14	9.2
27	9.2	1450	640	1310	749	2400	453	188	47	21	14	9.7
28	9.2	1560	615	1200	674	2470	404	177	45	20	13	11
29	9.2	1140	533	1150	---	2000	368	184	49	20	12	18
30	9.2	913	1370	1520	---	1740	373	177	63	19	12	24
31	9.2	---	1830	1570	---	2890	---	158	---	18	12	---
TOTAL	291.9	48332.2	18709	53500	24662	103746	27903	6219	2333	989	439	325.5
MEAN	9.42	1611	604	1726	881	3347	930	201	77.8	31.9	14.2	10.8
MAX	13	12800	1830	6000	2300	13400	3240	375	144	65	18	24
MIN	6.8	9.2	202	1070	392	596	342	120	45	18	11	9.0
AC-FT	579	95870	37110	106100	48920	205800	55350	12340	4630	1960	871	646

CAL YR 1988 TOTAL 168120.7 MEAN 459 MAX 12800 MIN 6.6 AC-FT 333500
WTR YR 1989 TOTAL 287449.6 MEAN 788 MAX 13400 MIN 6.8 AC-FT 570200

e Estimated.

11480390 MAD RIVER ABOVE RUTH RESERVOIR, NEAR FOREST GLEN, CA

LOCATION.--Lat 40°17'04", long 123°20'03", in NW 1/4 NE 1/4 sec.24, T.2 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, near right bank on downstream end of pier of Zenia Road Bridge, 1,600 ft downstream from Marshall Creek, 1.2 mi northwest of Ruth, and 6.1 mi southwest of Forest Glen.

DRAINAGE AREA.--93.8 mi^2.

PERIOD OF RECORD.--September to December 1971, July 1972, June to September 1977, April to May 1980 (discharge measurements only), June 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,660 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair except those for discharges below 10 ft^3/s, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--9 years (water years 1981-89), 234 ft^3/s, 169,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft^3/s, Feb. 17, 1986, gage height, 11.39 ft in gage, 12.94 ft from crest-stage gage, from rating curve extended above 5,000 ft^3/s; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1915	*8,790	*9.40	Mar. 9	2200	5,070	7.83
Mar. 5	1645	3,190	6.73				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	201	195	332	198	776	88	33	9.4	1.8	.00
2	.00	.08	169	186	281	479	1160	80	31	9.4	1.5	.00
3	.00	3.7	142	226	240	452	1120	75	29	8.8	1.5	.00
4	.00	.42	118	309	211	408	843	71	26	7.9	1.2	.00
5	.00	.15	101	383	177	1870	652	66	27	7.4	1.2	.00
6	.00	.90	89	326	154	1620	515	61	27	6.9	1.1	.00
7	.00	.76	78	264	140	955	416	58	26	6.7	.94	.00
8	.00	.43	67	230	130	1490	344	58	25	5.7	.90	.00
9	.00	.99	61	306	132	3910	289	56	24	5.6	.74	.00
10	.00	12	56	1380	124	2950	248	55	22	5.6	.67	.00
11	.00	3.2	51	831	123	2030	217	54	20	5.1	.62	.00
12	.00	6.0	49	514	118	1370	194	51	19	4.4	.59	.00
13	.00	210	46	391	111	1270	171	49	19	4.0	.54	.00
14	.00	224	44	304	104	939	154	48	17	4.2	.54	.00
15	.00	136	43	253	98	728	140	47	17	4.2	.51	.00
16	.00	290	42	244	95	700	126	45	17	4.2	.35	.00
17	.00	365	39	238	97	816	118	42	16	3.8	.20	.00
18	.00	180	39	250	218	2160	107	42	16	3.7	.05	.00
19	.00	118	39	332	473	1760	99	40	15	3.4	.03	.00
20	.00	87	51	420	365	1170	93	38	15	3.1	.03	.00
21	.00	383	88	439	318	912	95	35	13	3.0	.00	.00
22	.00	4270	99	832	508	762	101	34	13	3.0	.05	.00
23	.00	3030	110	712	544	671	118	51	12	2.9	.12	.00
24	.00	902	117	521	399	920	136	65	11	2.6	.03	.00
25	.00	877	114	402	318	1600	123	59	10	2.3	.00	.00
26	.00	796	100	355	267	1180	119	51	9.5	2.1	.00	.00
27	.00	495	98	335	232	914	113	45	9.4	2.1	.00	.00
28	.00	418	105	302	207	908	103	40	8.7	1.8	.00	.00
29	.00	322	99	282	---	724	93	38	8.7	1.8	.00	.00
30	.00	247	136	337	---	623	90	38	9.1	1.8	.00	.00
31	.00	---	207	356	---	760	---	36	---	1.8	.00	---
TOTAL	0.00	13378.63	2798	12455	6516	37249	8873	1616	545.4	138.7	15.21	0.00
MEAN	.000	446	90.3	402	233	1202	296	52.1	18.2	4.47	.49	.000
MAX	.00	4270	207	1380	544	3910	1160	88	33	9.4	1.8	.00
MIN	.00	.00	39	186	95	198	90	34	8.7	1.8	.00	.00
AC-FT	.00	26540	5550	24700	12920	73880	17600	3210	1080	275	30	.00

CAL YR 1988 TOTAL 46072.36 MEAN 126 MAX 4270 MIN .00 AC-FT 91380
WTR YR 1989 TOTAL 83584.94 MEAN 229 MAX 4270 MIN .00 AC-FT 165800

11480400 RUTH RESERVOIR NEAR FOREST GLEN, CA

LOCATION.--Lat 40°22'08", long 123°25'56", in NW 1/4 NW 1/4 sec.19, T.1 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, near center of Robert W. Matthews Dam on Mad River; 5.6 mi west of Forest Glen.

DRAINAGE AREA.--121 mi^2.

PERIOD OF RECORD.--October 1966 to current year. Records prior to October 1966 in files of Humboldt Bay Municipal Water District.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Humboldt Bay Municipal Water District).

REMARKS.--Reservoir is formed by earthfill dam; storage began July 1961. Total capacity, 48,000 acre-ft at elevation 2,654.0 ft, crest of spillway. Minimum pool capacity, 7,810 acre-ft at elevation 2,600 ft. Water is released down Mad River for municipal use. Records given herein represent total contents.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 68,000 acre-ft, Feb. 17, 1986, elevation, 2,667.06 ft; minimum, 11,700 acre-ft, Oct. 24-28, 1977; minimum elevation, 2,607.13 ft, Oct. 28, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 54,800 acre-ft, Mar. 10, elevation, 2,659.77 ft; minimum contents, 24,800 acre-ft, Nov. 13, elevation, 2,629.29 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Humboldt Bay Municipal Water District in 1977)

2,595	5,920	2,620	18,100	2,645	38,600
2,600	7,810	2,625	21,500	2,650	43,700
2,605	10,000	2,630	25,300	2,655	49,200
2,610	12,500	2,635	29,400	2,660	55,100
2,615	15,100	2,640	33,800	2,664	60,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31600	25800	48500	46000	49000	48600	50200	47100	47600	45900	40900	34600
2	31400	25700	48400	46000	48900	49100	50800	47100	47600	45800	40700	34400
3	31200	25600	48200	46000	48800	49200	50700	47100	47600	45700	40600	34200
4	31000	25400	48000	46300	48600	49200	50400	47100	47600	45500	40400	34000
5	30800	25300	47800	46800	48500	52100	50000	47100	47600	45400	40100	33800
6	30600	25100	47600	47100	48300	51800	49700	47100	47600	45300	39900	33500
7	30400	25000	47400	47300	48300	50900	49400	47100	47600	45200	39700	33300
8	30200	24900	47300	47400	48100	52000	49200	47100	47500	45100	39500	33200
9	30000	24900	47200	47700	48100	54700	49000	47300	47500	44900	39300	32900
10	29800	24900	47000	49800	48000	53400	49000	47400	47500	44800	39100	32700
11	29700	24800	46800	49900	47800	52400	49100	47400	47500	44600	38900	32500
12	29500	24800	46700	49600	47700	51600	49100	47500	47400	44500	38700	32300
13	29300	25300	46700	49300	47600	51200	48900	47500	47400	44300	38500	32100
14	29100	25700	46600	49100	47400	50600	48600	47600	47300	44100	38200	31900
15	28900	26000	46600	48900	47200	50200	48400	47600	47300	44000	38000	31700
16	28700	26800	46600	48700	47100	50300	48300	47700	47200	43900	37800	31600
17	28600	27600	46500	e48600	46900	50700	48200	47700	47100	43700	37600	31400
18	28400	27900	46500	e48600	47200	52400	48000	47700	47100	43500	37400	31200
19	28200	28200	46400	48900	47900	52000	47900	47800	47100	43300	37200	31000
20	28000	28300	46500	49100	48300	51300	47700	47800	46900	43100	37000	30800
21	27800	29400	46800	49200	48500	50700	47700	47800	46900	43000	36800	30600
22	27600	38700	47100	49900	49100	50300	47600	47900	46900	42800	36600	30400
23	27400	44500	47100	49900	49300	50400	47500	47900	46800	42600	36400	30200
24	27300	46000	47000	49600	49200	50800	47500	47900	46700	42500	36100	30000
25	27100	47500	46800	49400	49000	51600	47400	47800	46600	42300	35900	29700
26	26900	48700	46500	49200	48800	51100	47300	47800	46500	42000	35800	29600
27	26700	49000	46300	49100	48700	50700	47200	47700	46300	41800	35500	29400
28	26500	49000	46100	49000	48600	50500	47100	47700	46200	41700	35300	29200
29	26300	49000	45800	48900	---	50200	47100	47700	46200	41500	35100	29100
30	26100	48800	46000	49000	---	50000	47200	47600	46000	41300	34900	28900
31	25900	---	46000	49000	---	50100	---	47600	---	41100	34800	---
MAX	31600	49000	48500	49900	49300	54700	50800	47900	47600	45900	40900	34600
MIN	25900	24800	45800	46000	46900	48600	47100	47100	46000	41100	34800	28900
a	2630.77	2654.68	2652.18	2654.89	2654.48	2655.78	2653.22	2653.62	2652.20	2647.56	2641.05	2634.39
b	-5900	+22900	-2800	+3000	-400	+1500	-2900	+400	-1600	-4900	-6300	-5900

CAL YR 1988 MAX 51700 MIN 24800 b -300
WTR YR 1989 MAX 54700 MIN 24800 b -2900

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

11480410 MAD RIVER BELOW RUTH RESERVOIR, NEAR FOREST GLEN, CA

LOCATION.--Lat 40°22'16", long 123°26'06", in SW 1/4 SW 1/4 sec.18, T.1 S., R.7 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, 1,200 ft downstream from Robert W. Matthews Dam, 5.3 mi northwest of Ruth, and 5.8 mi west of Forest Glen.

DRAINAGE AREA.--121 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those for flows below 10 ft^3/s which are fair. Flow regulated by Ruth Reservoir (station 11480400) 0.3 mi upstream.

AVERAGE DISCHARGE.--9 years, 325 ft^3/s, 235,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft^3/s, Feb. 17, 1986, gage height, 17.61 ft, from floodmarks, from rating curve extended above 8,800 ft^3/s; minimum daily, 6.4 ft^3/s, Dec. 25-28, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,210 ft^3/s, Mar. 10, gage height, 10.46 ft; minimum daily, 8.0 ft^3/s, Nov. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	89	339	217	510	289	905	119	40	69	96	98
2	93	89	282	217	478	404	1180	118	40	69	95	98
3	99	83	241	217	428	573	1400	99	40	69	95	98
4	107	78	217	213	382	584	1210	86	40	69	96	98
5	99	77	211	217	329	1290	989	86	40	70	96	98
6	90	77	210	219	285	2410	816	86	40	69	96	97
7	90	77	172	219	255	1720	675	86	39	70	101	96
8	93	55	142	219	239	1690	573	62	39	69	108	103
9	93	46	143	218	233	3840	496	40	39	69	105	108
10	93	46	143	451	230	4450	343	41	39	73	105	108
11	94	46	143	882	230	3150	248	41	39	80	104	104
12	94	46	103	786	230	2210	267	41	40	79	104	101
13	94	46	63	642	230	1840	346	41	40	79	105	102
14	92	25	55	526	230	1470	372	41	40	79	104	102
15	93	8.0	29	434	230	1140	299	33	40	79	103	101
16	93	8.8	63	380	231	1020	259	30	40	79	103	101
17	92	9.6	63	351	231	1080	235	36	40	79	103	103
18	91	8.3	63	337	230	2150	221	37	40	85	103	102
19	92	8.2	63	365	230	2520	215	40	40	87	103	100
20	92	8.2	52	440	236	1980	215	40	41	87	103	100
21	90	8.7	9.2	512	290	1520	215	40	42	86	101	99
22	91	87	9.3	773	407	1210	215	40	42	88	105	100
23	90	238	127	980	612	1030	215	55	46	89	104	100
24	90	237	217	874	606	1260	215	111	57	88	102	101
25	90	237	217	727	526	1830	215	100	59	88	97	101
26	89	286	217	619	441	1810	215	74	60	89	100	99
27	89	451	217	562	369	1440	192	74	65	88	100	96
28	89	480	217	514	318	1260	155	74	70	88	99	94
29	89	392	217	473	---	1090	119	74	69	90	98	86
30	89	413	129	483	---	926	119	74	69	96	98	88
31	88	---	216	510	---	917	---	63	---	97	97	---
TOTAL	2861	3760.8	4589.5	14577	9246	50103	13139	1982	1375	2496	3129	2982
MEAN	92.3	125	148	470	330	1616	438	63.9	45.8	80.5	101	99.4
MAX	107	480	339	980	612	4450	1400	119	70	97	108	108
MIN	88	8.0	9.2	213	230	289	119	30	39	69	95	86
AC-FT	5670	7460	9100	28910	18340	99380	26060	3930	2730	4950	6210	5910

CAL YR 1988 TOTAL 56853.2 MEAN 155 MAX 2050 MIN 8.0 AC-FT 112800
WTR YR 1989 TOTAL 110240.3 MEAN 302 MAX 4450 MIN 8.0 AC-FT 218700

11480500 MAD RIVER NEAR FOREST GLEN, CA

LOCATION.--Lat 40°27'30", long 123°30'35", in SW 1/4 sec.16, T.1 N., R.6 E., Trinity County, Hydrologic Unit 18010102, Six Rivers National Forest, on right bank 0.7 mi downstream from Lamb Creek and 11.1 mi northwest of Forest Glen.

DRAINAGE AREA.--143 mi^2.

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

REVISED RECORDS.--WSP 1395: 1954. WSP 1715: 1957(M), 1958(P). WSP 1929: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,408.18 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1955, water-stage recorder at site 0.7 mi upstream at different datum. Jan. 13 to June 18, 1956, nonrecording gage at former site at datum 4.17 ft lower than former datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Ruth Reservoir (station 11480400), 9 mi upstream, beginning in July 1961. No diversion upstream from station.

AVERAGE DISCHARGE.--36 years, 381 ft^3/s, 276,000 acre-ft/yr (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,200 ft^3/s, Dec. 22, 1955, gage height, 24.5 ft, present datum, from floodmarks, from rating curve extended above 8,100 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 0.60 ft^3/s, Sept. 15, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,250 ft^3/s, Mar. 10, gage height, 10.04 ft; minimum daily, 24 ft^3/s, Nov. 15, 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	96	368	266	579	343	1090	137	50	70	94	94
2	95	104	307	265	531	475	1370	135	48	70	94	94
3	96	95	264	291	470	592	1590	121	47	70	94	94
4	109	88	236	300	415	623	1440	103	48	69	94	94
5	103	90	225	311	359	1510	1170	103	49	69	94	94
6	94	89	222	287	314	2830	961	102	48	69	94	94
7	92	88	197	275	284	2040	791	101	47	68	95	94
8	95	65	153	272	261	2000	660	89	47	68	104	96
9	96	67	153	343	252	4900	557	53	46	68	102	103
10	96	65	151	716	248	5380	417	55	46	69	103	103
11	96	60	151	1100	247	3810	274	54	46	77	103	102
12	96	64	130	968	247	2650	291	54	46	77	102	99
13	99	101	80	781	245	2200	343	53	46	77	102	99
14	99	42	76	622	242	1780	399	53	45	77	102	99
15	96	24	32	503	241	1420	321	47	45	77	102	99
16	96	75	72	441	240	1300	278	42	45	77	102	101
17	96	51	73	413	243	1440	252	43	45	77	102	102
18	95	28	73	409	279	2520	236	46	45	80	101	102
19	96	24	75	463	290	2960	228	49	45	86	100	100
20	96	24	82	551	277	2320	227	50	45	85	100	99
21	95	339	41	637	315	1810	232	50	46	84	98	99
22	95	861	38	988	468	1500	231	51	46	85	104	99
23	96	370	108	1090	649	1320	239	62	46	86	103	99
24	96	364	251	952	641	1600	236	106	57	86	101	99
25	96	384	243	784	564	2130	232	125	60	86	96	99
26	95	399	241	678	483	2100	229	88	60	86	97	100
27	95	513	244	623	419	1700	206	84	61	86	97	98
28	95	556	242	566	371	1520	186	84	68	86	97	96
29	96	439	242	529	---	1330	138	84	71	87	96	96
30	96	451	179	569	---	1120	140	84	71	93	96	83
31	94	---	279	592	---	1100	---	82	---	94	95	---
TOTAL	2985	6016	5228	17585	10174	60323	14964	2390	1515	2439	3064	2930
MEAN	96.3	201	169	567	363	1946	499	77.1	50.5	78.7	98.8	97.7
MAX	109	861	368	1100	649	5380	1590	137	71	94	104	103
MIN	92	24	32	265	240	343	138	42	45	68	94	83
AC-FT	5920	11930	10370	34880	20180	119700	29680	4740	3010	4840	6080	5810

CAL YR 1988 TOTAL 67791 MEAN 185 MAX 2390 MIN 19 AC-FT 134500
WTR YR 1989 TOTAL 129613 MEAN 355 MAX 5380 MIN 24 AC-FT 257100

11481000 MAD RIVER NEAR ARCATA, CA

LOCATION.--Lat 40°54'35", long 124°03'35", in NW 1/4 NW 1/4 sec.15, T.6 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 100 ft upstream from bridge on U.S. Highway 299, 1.0 mi downstream from Warren Creek, and 2.8 mi northeast of Arcata.

DRAINAGE AREA.--485 mi^2.

PERIOD OF RECORD.--October 1910 to September 1913, August 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-72-1: 1965(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 12.79 ft above National Geodetic Vertical Datum of 1929. December 1910 to September 1913, nonrecording gage at site 0.1 mi upstream at different datum. Aug. 15, 1950, to July 23, 1956, water-stage recorder at site 0.6 mi upstream at datum 11.00 ft higher. July 24, 1956, to Apr. 9, 1965, water-stage recorder at datum 5.00 ft higher, at present site.

REMARKS.--Records fair. Flow regulated by Ruth Reservoir (station 11480400), 68 mi upstream, beginning in July 1961. Water is diverted 0.5 mi upstream from station for municipal supply and industrial use in Humboldt Bay area.

AVERAGE DISCHARGE (adjusted for diversions).--42 years, 1,493 ft^3/s, 1,082,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s, Dec. 22, 1964, gage height, 30.7 ft, present datum, from high-water profile and flood routing study; minimum daily, 0.10 ft^3/s, Aug. 29, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,000 ft^3/s, Nov. 22, gage height, 15.73 ft; minimum daily, 21 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	33	1750	2740	2230	e1260	4750	626	347	82	39	34
2	23	50	1420	2050	2030	2670	6100	551	313	70	39	31
3	21	302	1180	2040	1780	2690	5290	515	294	64	38	30
4	27	216	974	2160	1570	2260	4220	472	274	62	38	33
5	48	116	827	2990	1410	4170	3500	423	267	57	38	30
6	50	123	793	2920	1250	e7450	3020	388	e250	54	36	34
7	38	137	736	2650	1100	e5610	2570	362	e210	49	33	29
8	30	118	638	2580	970	4830	2180	345	e175	46	33	26
9	30	134	538	6190	910	12300	1890	343	e145	44	38	28
10	34	164	497	12000	1020	12200	1670	324	e120	41	41	30
11	35	304	457	6590	1140	9600	1380	304	e108	40	43	35
12	32	219	413	4120	1160	6920	1230	277	e96	41	45	34
13	35	725	375	3360	1050	6840	1100	260	e91	45	38	30
14	40	1290	e340	2850	952	e4990	1120	252	e84	43	38	27
15	44	684	e300	e2340	842	4040	1050	241	93	47	37	26
16	37	750	e277	e2090	802	4550	928	230	93	46	40	28
17	36	2710	219	2020	844	4660	844	219	85	40	40	38
18	35	1310	227	1900	1050	5240	773	223	81	40	37	49
19	34	694	246	e1990	1780	6310	723	221	83	40	36	45
20	32	558	483	e2340	1560	5250	714	213	84	41	37	40
21	33	1280	3100	2590	1450	e5190	788	210	80	43	32	38
22	34	14200	3870	5880	3150	4790	972	218	78	43	37	37
23	32	13700	2950	4400	3970	3830	1070	364	71	39	46	37
24	32	5250	2780	3420	2740	4210	1480	553	56	38	47	36
25	35	4850	2750	2770	2140	6640	1210	521	51	39	42	36
26	36	4420	2000	2280	1780	5990	1060	460	58	40	44	39
27	33	3030	2450	2130	1560	4650	887	373	57	41	40	42
28	33	3920	3170	1970	1420	4590	764	377	52	38	36	42
29	33	2940	2130	1840	---	4070	685	537	61	37	37	49
30	35	2140	2940	2130	---	3600	643	506	75	38	36	61
31	32	---	4030	2360	---	6350	---	419	---	36	36	---
TOTAL	1053	66367	44860	99690	43660	167750	54611	11327	3932	1424	1197	1074
MEAN	34.0	2212	1447	3216	1559	5411	1820	365	131	45.9	38.6	35.8
MAX	50	14200	4030	12000	3970	12300	6100	626	347	82	47	61
MIN	21	33	219	1840	802	1260	643	210	51	36	32	26
AC-FT	2090	131600	88980	197700	86600	332700	108300	22470	7800	2820	2370	2130
a	5280	4600	4830	5220	4640	4900	4980	5240	5250	5800	5870	5440

CAL YR 1988 TOTAL 272569 MEAN 745 MAX 14200 MIN 19 AC-FT 540600
WTR YR 1989 TOTAL 496945 MEAN 1361 MAX 14200 MIN 21 AC-FT 985700

e Estimated.
a Diversion, in acre-feet, for municipal supply and industrial use; provided by Humboldt Bay Municipal Water District.

11481200 LITTLE RIVER NEAR TRINIDAD, CA

LOCATION.--Lat 41°00'40", long 124°04'50", in NE 1/4 sec.8, T.7 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 0.5 mi upstream from Coon Creek, 4.7 mi southeast of Trinidad, and 9.1 mi north of Arcata.

DRAINAGE AREA.--40.5 mi^2.

PERIOD OF RECORD.--October 1955 to current year. Prior to October 1971, published as "at Crannell."

REVISED RECORDS.--WSP 2129: 1956-60. WDR CA-78-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 17.62 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--34 years, 143 ft^3/s, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,830 ft^3/s, Mar. 18, 1975, gage height, 14.19 ft, from rating curve extended above 3,100 ft^3/s on basis of slope-area measurement at gage height 14.08 ft; minimum daily, 2.8 ft^3/s, Oct. 20-22, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1230	4,570	9.42	Jan. 10	0500	*4,800	*9.66

Minimum daily, 4.6 ft^3/s, Oct. 22 to Nov. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.6	e155	395	79	80	542	66	44	25	12	9.4
2	5.6	16	e120	284	81	299	697	59	41	21	12	9.2
3	5.5	90	e90	233	82	211	484	57	38	19	12	8.7
4	5.1	30	e73	201	81	172	364	54	38	18	11	8.0
5	4.8	21	e66	304	75	294	285	51	35	18	12	8.0
6	5.1	50	e61	360	70	471	230	50	35	18	12	8.0
7	5.1	28	e56	394	67	326	192	47	32	18	11	8.0
8	5.1	42	52	400	62	248	166	45	31	17	10	8.0
9	5.1	36	47	1020	61	592	142	47	31	17	10	8.0
10	5.1	72	44	2050	87	480	123	48	31	17	10	7.6
11	5.1	46	42	e820	116	393	109	43	30	16	11	7.4
12	5.5	43	39	e550	96	332	97	41	30	16	11	7.4
13	5.8	125	36	e400	83	541	87	39	29	16	10	7.4
14	6.9	127	34	e300	72	353	82	38	25	15	11	7.4
15	7.3	73	33	e265	64	274	77	36	25	15	10	7.4
16	6.2	84	31	e235	58	500	71	35	26	15	9.4	7.4
17	5.6	186	30	e200	54	419	67	33	24	15	9.4	7.7
18	5.4	106	28	e165	69	399	62	33	22	15	9.2	8.7
19	5.1	61	37	e155	141	404	60	32	22	14	8.7	8.7
20	5.1	51	127	e235	108	296	64	30	21	13	8.7	8.7
21	4.8	307	589	e300	92	552	67	30	21	13	8.7	8.6
22	4.6	2690	814	e480	375	429	78	34	20	13	8.8	8.0
23	4.6	e1400	486	e350	318	320	136	89	20	13	11	7.9
24	4.6	e840	478	e240	194	342	139	87	18	13	11	6.2
25	4.6	e500	462	e190	141	837	115	73	18	13	10	6.2
26	4.6	e410	327	e150	111	477	95	55	18	13	9.4	6.2
27	4.6	e345	548	126	92	350	81	48	18	13	9.4	6.5
28	4.6	e430	709	109	82	371	72	59	18	13	9.4	6.8
29	4.6	e270	393	96	---	331	66	75	23	12	9.4	18
30	4.6	e205	597	84	---	428	74	60	31	12	9.4	18
31	4.6	---	620	76	---	962	---	52	---	12	9.4	---
TOTAL	160.9	8688.6	7224	11167	3011	12483	4924	1546	815	478	316.3	253.5
MEAN	5.19	290	233	360	108	403	164	49.9	27.2	15.4	10.2	8.45
MAX	7.3	2690	814	2050	375	962	697	89	44	25	12	18
MIN	4.6	4.6	28	76	54	80	60	30	18	12	8.7	6.2
AC-FT	319	17230	14330	22150	5970	24760	9770	3070	1620	948	627	503

CAL YR 1988 TOTAL 38143.3 MEAN 104 MAX 2690 MIN 4.6 AC-FT 75660
WTR YR 1989 TOTAL 51067.3 MEAN 140 MAX 2690 MIN 4.6 AC-FT 101300

e Estimated.

11481000 MAD RIVER NEAR ARCATA, CA

LOCATION.--Lat 40°54'35", long 124°03'35", in NW 1/4 NW 1/4 sec.15, T.6 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 100 ft upstream from bridge on U.S. Highway 299, 1.0 mi downstream from Warren Creek, and 2.8 mi northeast of Arcata.

DRAINAGE AREA.--485 mi^2.

PERIOD OF RECORD.--October 1910 to September 1913, August 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-72-1: 1965(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 12.79 ft above National Geodetic Vertical Datum of 1929. December 1910 to September 1913, nonrecording gage at site 0.1 mi upstream at different datum. Aug. 15, 1950, to July 23, 1956, water-stage recorder at site 0.6 mi upstream at datum 11.00 ft higher. July 24, 1956, to Apr. 9, 1965, water-stage recorder at datum 5.00 ft higher, at present site.

REMARKS.--Records fair. Flow regulated by Ruth Reservoir (station 11480400), 68 mi upstream, beginning in July 1961. Water is diverted 0.5 mi upstream from station for municipal supply and industrial use in Humboldt Bay area.

AVERAGE DISCHARGE (adjusted for diversions).--42 years, 1,493 ft^3/s, 1,082,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s, Dec. 22, 1964, gage height, 30.7 ft, present datum, from high-water profile and flood routing study; minimum daily, 0.10 ft^3/s, Aug. 29, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,000 ft^3/s, Nov. 22, gage height, 15.73 ft; minimum daily, 21 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	33	1750	2740	2230	e1260	4750	626	347	82	39	34
2	23	50	1420	2050	2030	2670	6100	551	313	70	39	31
3	21	302	1180	2040	1780	2690	5290	515	294	64	38	30
4	27	216	974	2160	1570	2260	4220	472	274	62	38	33
5	48	116	827	2990	1410	4170	3500	423	267	57	38	30
6	50	123	793	2920	1250	e7450	3020	388	e250	54	36	34
7	38	137	736	2650	1100	e5610	2570	362	e210	49	33	29
8	30	118	638	2580	970	4830	2180	345	e175	46	33	26
9	30	134	538	6190	910	12300	1890	343	e145	44	38	28
10	34	164	497	12000	1020	12200	1670	324	e120	41	41	30
11	35	304	457	6590	1140	9600	1380	304	e108	40	43	35
12	32	219	413	4120	1160	6920	1230	277	e96	41	45	34
13	35	725	375	3360	1050	6840	1100	260	e91	45	38	30
14	40	1290	e340	2850	952	e4990	1120	252	e84	43	38	27
15	44	684	e300	e2340	842	4040	1050	241	93	47	37	26
16	37	750	e277	e2090	802	4550	928	230	93	46	40	28
17	36	2710	219	2020	844	4660	844	219	85	40	40	38
18	35	1310	227	1900	1050	5240	773	223	81	40	37	49
19	34	694	246	e1990	1780	6310	723	221	83	40	36	45
20	32	558	483	e2340	1560	5250	714	213	84	41	37	40
21	33	1280	3100	2590	1450	e5190	788	210	80	43	32	38
22	34	14200	3870	5880	3150	4790	972	218	78	43	37	37
23	32	13700	2950	4400	3970	3830	1070	364	71	39	46	37
24	32	5250	2780	3420	2740	4210	1480	553	56	38	47	36
25	35	4850	2750	2770	2140	6640	1210	521	51	39	42	36
26	36	4420	2000	2280	1780	5990	1060	460	58	40	44	39
27	33	3030	2450	2130	1560	4650	887	373	57	41	40	42
28	33	3920	3170	1970	1420	4590	764	377	52	38	36	42
29	33	2940	2130	1840	---	4070	685	537	61	37	37	49
30	35	2140	2940	2130	---	3600	643	506	75	38	36	61
31	32	---	4030	2360	---	6350	---	419	---	36	36	---
TOTAL	1053	66367	44860	99690	43660	167750	54611	11327	3932	1424	1197	1074
MEAN	34.0	2212	1447	3216	1559	5411	1820	365	131	45.9	38.6	35.8
MAX	50	14200	4030	12000	3970	12300	6100	626	347	82	47	61
MIN	21	33	219	1840	802	1260	643	210	51	36	32	26
AC-FT	2090	131600	88980	197700	86600	332700	108300	22470	7800	2820	2370	2130
a	5280	4600	4830	5220	4640	4900	4980	5240	5250	5800	5870	5440

CAL YR 1988 TOTAL 272569 MEAN 745 MAX 14200 MIN 19 AC-FT 540600
WTR YR 1989 TOTAL 496945 MEAN 1361 MAX 14200 MIN 21 AC-FT 985700

e Estimated.
a Diversion, in acre-feet, for municipal supply and industrial use; provided by Humboldt Bay Municipal Water District.

11481200 LITTLE RIVER NEAR TRINIDAD, CA

LOCATION.--Lat 41°00'40", long 124°04'50", in NE 1/4 sec.8, T.7 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank 0.5 mi upstream from Coon Creek, 4.7 mi southeast of Trinidad, and 9.1 mi north of Arcata.

DRAINAGE AREA.--40.5 mi^2.

PERIOD OF RECORD.--October 1955 to current year. Prior to October 1971, published as "at Crannell."

REVISED RECORDS.--WSP 2129: 1956-60. WDR CA-78-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 17.62 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--34 years, 143 ft^3/s, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,830 ft^3/s, Mar. 18, 1975, gage height, 14.19 ft, from rating curve extended above 3,100 ft^3/s on basis of slope-area measurement at gage height 14.08 ft; minimum daily, 2.8 ft^3/s, Oct. 20-22, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1230	4,570	9.42	Jan. 10	0500	*4,800	*9.66

Minimum daily, 4.6 ft^3/s, Oct. 22 to Nov. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.6	e155	395	79	80	542	66	44	25	12	9.4
2	5.6	16	e120	284	81	299	697	59	41	21	12	9.2
3	5.5	90	e90	233	82	211	484	57	38	19	12	8.7
4	5.1	30	e73	201	81	172	364	54	38	18	11	8.0
5	4.8	21	e66	304	75	294	285	51	35	18	12	8.0
6	5.1	50	e61	360	70	471	230	50	35	18	12	8.0
7	5.1	28	e56	394	67	326	192	47	32	18	11	8.0
8	5.1	42	52	400	62	248	166	45	31	17	10	8.0
9	5.1	36	47	1020	61	592	142	47	31	17	10	8.0
10	5.1	72	44	2050	87	480	123	48	31	17	10	7.6
11	5.1	46	42	e820	116	393	109	43	30	16	11	7.4
12	5.5	43	39	e550	96	332	97	41	30	16	11	7.4
13	5.8	125	36	e400	83	541	87	39	29	16	10	7.4
14	6.9	127	34	e300	72	353	82	38	25	15	11	7.4
15	7.3	73	33	e265	64	274	77	36	25	15	10	7.4
16	6.2	84	31	e235	58	500	71	35	26	15	9.4	7.4
17	5.6	186	30	e200	54	419	67	33	24	15	9.4	7.7
18	5.4	106	28	e165	69	399	62	33	22	15	9.2	8.7
19	5.1	61	37	e155	141	404	60	32	22	14	8.7	8.7
20	5.1	51	127	e235	108	296	64	30	21	13	8.7	8.7
21	4.8	307	589	e300	92	552	67	30	21	13	8.7	8.6
22	4.6	2690	814	e480	375	429	78	34	20	13	8.8	8.0
23	4.6	e1400	486	e350	318	320	136	89	20	13	11	7.9
24	4.6	e840	478	e240	194	342	139	87	18	13	11	6.2
25	4.6	e500	462	e190	141	837	115	73	18	13	10	6.2
26	4.6	e410	327	e150	111	477	95	55	18	13	9.4	6.2
27	4.6	e345	548	126	92	350	81	48	18	13	9.4	6.5
28	4.6	e430	709	109	82	371	72	59	18	13	9.4	6.8
29	4.6	e270	393	96	---	331	66	75	23	12	9.4	18
30	4.6	e205	597	84	---	428	74	60	31	12	9.4	18
31	4.6	---	620	76	---	962	---	52	---	12	9.4	---
TOTAL	160.9	8688.6	7224	11167	3011	12483	4924	1546	815	478	316.3	253.5
MEAN	5.19	290	233	360	108	403	164	49.9	27.2	15.4	10.2	8.45
MAX	7.3	2690	814	2050	375	962	697	89	44	25	12	18
MIN	4.6	4.6	28	76	54	80	60	30	18	12	8.7	6.2
AC-FT	319	17230	14330	22150	5970	24760	9770	3070	1620	948	627	503

CAL YR 1988 TOTAL 38143.3 MEAN 104 MAX 2690 MIN 4.6 AC-FT 75660
WTR YR 1989 TOTAL 51067.3 MEAN 140 MAX 2690 MIN 4.6 AC-FT 101300

e Estimated.

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA

LOCATION.--Lat 40°54'22", long 123°48'51", in SE 1/4 NE 1/4 sec.15, T.6 N., R.3 E., Humboldt County, Hydrologic Unit 18010102, on right bank 400 ft upstream from Lupton Creek and 9.1 mi east of town of Blue Lake.

DRAINAGE AREA.--67.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1953 to September 1958, October 1972 to current year.

REVISED RECORDS.--WDR CA-78-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 850 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--22 years, 250 ft^3/s, 181,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s, Mar. 18, 1975, gage height, 13.70 ft, from rating curve extended above 6,400 ft^3/s; minimum daily, 1.8 ft^3/s, Oct. 19-22, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2030	*5,980	*9.66	Mar. 9	1030	2,680	6.53
Jan. 10	0530	4,820	8.71				

Minimum daily, 4.2 ft^3/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	5.1	305	359	371	300	1080	139	81	e26	e13	8.3
2	4.2	13	253	342	344	549	1220	129	74	e24	e13	7.8
3	4.4	103	220	384	315	432	962	123	69	e22	e13	7.4
4	5.4	26	192	390	292	416	761	118	61	e21	e13	7.3
5	9.0	17	170	461	267	788	634	112	57	e20	e12	7.1
6	6.9	33	170	388	248	795	573	107	55	e19	e12	7.0
7	6.3	21	155	339	238	645	501	101	51	e18	e12	6.8
8	6.0	25	138	393	225	703	439	91	48	e17	e12	6.5
9	5.5	24	125	852	226	1980	401	92	45	e16	e11	6.3
10	5.3	66	115	2530	229	1440	366	95	43	e16	e11	6.4
11	5.2	56	105	974	238	1430	331	87	40	e17	e11	6.1
12	5.0	62	97	702	229	1210	303	83	40	e16	e10	6.0
13	5.4	251	89	617	210	1240	280	80	40	e16	e10	5.6
14	6.9	170	83	522	200	930	257	78	36	e15	e10	5.4
15	7.0	147	76	492	189	774	241	76	38	e15	e9.8	5.4
16	6.1	291	74	476	183	934	224	72	36	e14	e9.5	5.5
17	5.7	377	72	442	194	874	203	70	34	e15	e9.4	7.1
18	5.3	184	71	414	272	911	187	69	32	e14	e9.2	11
19	5.3	120	81	434	340	899	177	66	32	e14	e9.1	10
20	5.3	130	123	458	297	718	174	62	31	e14	e9.0	8.5
21	5.2	461	309	483	300	1000	198	60	27	e14	e9.0	7.6
22	5.0	3290	462	840	681	837	195	65	24	e14	e9.3	7.0
23	5.0	1440	366	599	579	727	207	117	23	e13	e10	6.4
24	5.0	610	320	491	433	858	206	126	22	e13	e9.6	6.3
25	4.8	873	272	425	378	1210	190	107	21	e13	9.6	6.3
26	4.7	685	239	396	345	916	176	94	e20	e13	9.2	6.6
27	4.7	482	232	377	325	782	164	87	e19	e13	8.7	7.6
28	4.7	655	223	342	305	869	154	98	e19	e13	8.3	7.4
29	4.7	452	211	331	---	679	146	119	e23	e13	7.9	13
30	4.7	367	357	376	---	771	151	99	e28	e13	8.5	16
31	4.8	---	443	392	---	1230	---	88	---	e13	8.9	---
TOTAL	168.0	11436.1	6148	17021	8453	27847	11101	2910	1169	494	318.0	225.7
MEAN	5.42	381	198	549	302	898	370	93.9	39.0	15.9	10.3	7.52
MAX	9.0	3290	462	2530	681	1980	1220	139	81	26	13	16
MIN	4.2	5.1	71	331	183	300	146	60	19	13	7.9	5.4
AC-FT	333	22680	12190	33760	16770	55230	22020	5770	2320	980	631	448

CAL YR 1988 TOTAL 48747.8 MEAN 133 MAX 3290 MIN 4.2 AC-FT 96690
WTR YR 1989 TOTAL 87290.8 MEAN 239 MAX 3290 MIN 4.2 AC-FT 173100

e Estimated.

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.
CHEMICAL DATA: Water years 1974-75.
WATER TEMPERATURE: Water years 1973 to current year.
SEDIMENT DATA: Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1972 to September 1981, October 1981 to current year (storm season only).
SUSPENDED-SEDIMENT DISCHARGE: October 1972 to September 1981, October 1981 to current year (storm season only).
REMARKS.--Sediment samples were collected on most days where a water temperature is published.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 33.5 °C, Aug. 2, 1977; minimum recorded, 0.5 °C, Jan. 9, 1977.
SEDIMENT CONCENTRATION: Maximum daily mean, 11,200 mg/L, Mar. 18, 1975; minimum daily mean, 0 mg/L, on several days in 1976, 1980, 1983-85, 1988, and on Oct. 17, 1988
SEDIMENT LOAD: Maximum daily, 276,000 tons, Mar. 18, 1975; minimum daily, 0 ton, several days in 1976, 1980, 1983-85, 1988, and on Oct. 17, 1988

EXTREMES FOR CURRENT YEAR (storm season only).--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,430 mg/L, Nov. 22; minimum daily mean, 0 mg/L, Oct. 17.
SEDIMENT LOAD: Maximum daily, 26,200 tons, Nov. 22; minimum daily, 0 ton, Oct. 17.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	---	---	---	---	4.0	7.0	---
2	---	12.0	8.5	7.0	---	6.0	---
3	---	13.0	---	---	---	5.0	---
4	---	12.0	---	---	---	5.0	---
5	15.5	12.0	---	5.0	2.0	---	---
6	---	10.0	7.5	4.0	---	9.0	---
7	---	---	---	---	---	8.5	10.0
8	---	10.0	---	---	---	8.0	---
9	---	---	8.0	7.0	---	9.5	---
10	15.0	11.0	---	6.0	---	9.0	---
11	---	11.0	---	4.5	---	---	---
12	---	11.0	8.0	---	4.0	---	---
13	15.0	---	---	4.0	---	8.0	---
14	---	9.0	---	---	---	8.0	10.5
15	---	9.0	5.0	6.0	5.5	9.0	---
16	---	10.0	4.0	---	---	8.0	---
17	15.0	8.5	---	---	---	7.0	---
18	---	7.0	---	6.5	7.0	9.0	15.0
19	---	---	7.0	---	7.0	---	---
20	---	---	6.0	---	---	---	---
21	15.0	9.0	4.0	---	---	10.0	---
22	---	10.5	5.0	7.0	8.0	9.0	11.0
23	---	---	---	6.0	6.0	---	---
24	---	---	---	---	---	---	---
25	11.0	---	---	---	6.0	---	---
26	---	---	---	---	---	---	---
27	---	---	---	7.0	---	---	---
28	12.0	8.0	3.0	---	---	---	---
29	---	---	---	---	---	---	10.0
30	---	7.0	---	---	---	---	---
31	12.0	---	---	---	---	---	---

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	4.5	1	.01	5.1	2	.03	305	36	30
2	4.2	1	.01	13	8	1.1	253	39	27
3	4.4	1	.01	103	62	23	220	33	20
4	5.4	2	.03	26	4	.28	192	26	13
5	9.0	2	.05	17	4	.18	170	22	10
6	6.9	1	.02	33	6	.53	170	21	9.6
7	6.3	1	.02	21	2	.11	155	17	7.1
8	6.0	1	.02	25	1	.07	138	11	4.1
9	5.5	1	.01	24	1	.06	125	6	2.0
10	5.3	1	.01	66	24	4.6	115	4	1.2
11	5.2	1	.01	56	6	.91	105	4	1.1
12	5.0	1	.01	62	3	.50	97	4	1.0
13	5.4	1	.01	251	165	162	89	3	.72
14	6.9	1	.02	170	30	14	83	3	.67
15	7.0	1	.02	147	10	4.0	76	2	.41
16	6.1	1	.02	291	153	212	74	2	.40
17	5.7	0	.00	377	85	87	72	2	.39
18	5.3	1	.01	184	10	5.0	71	2	.38
19	5.3	1	.01	120	4	1.3	81	3	.66
20	5.3	2	.03	130	8	2.8	123	43	18
21	5.2	5	.07	461	319	656	309	130	131
22	5.0	4	.05	3290	2430	26200	462	146	192
23	5.0	3	.04	1440	1340	5210	366	65	64
24	5.0	3	.04	610	230	379	320	30	26
25	4.8	6	.08	873	267	654	272	18	13
26	4.7	5	.06	685	140	259	239	16	10
27	4.7	6	.08	482	60	78	232	13	8.1
28	4.7	7	.09	655	172	322	223	6	3.6
29	4.7	6	.08	452	80	98	211	4	2.3
30	4.7	5	.06	367	36	36	357	89	102
31	4.8	4	.05	---	---	---	443	54	65
TOTAL	168.0	---	1.03	11436.1	---	34411.47	6148	---	764.73
		JANUARY			FEBRUARY			MARCH	
1	359	29	28	371	17	17	300	42	41
2	342	27	25	344	15	14	549	254	372
3	384	20	21	315	13	11	432	50	58
4	390	12	13	292	17	13	416	28	31
5	461	51	66	267	26	19	788	403	1090
6	388	24	25	248	21	14	795	330	708
7	339	16	15	238	17	11	645	150	261
8	393	103	127	225	13	7.9	703	248	530
9	852	697	1670	226	11	6.7	1980	2090	11700
10	2530	2090	17800	229	9	5.6	1440	830	3360
11	974	450	1180	238	8	5.1	1430	400	1540
12	702	160	303	229	9	5.6	1210	222	820
13	617	100	167	210	9	5.1	1240	400	1340
14	522	25	35	200	7	3.8	930	145	364
15	492	40	54	189	5	2.6	774	85	178
16	476	37	48	183	5	2.5	934	154	391
17	442	30	36	194	5	2.6	874	112	264
18	414	22	25	272	17	12	911	78	198
19	434	18	21	340	32	29	899	85	206
20	458	13	16	297	19	15	718	66	128
21	483	19	30	300	10	8.1	1000	240	674
22	840	152	353	681	685	1720	837	100	226
23	599	97	157	579	220	344	727	83	170
24	491	76	101	433	60	70	858	104	241
25	425	54	62	378	30	31	1210	271	905
26	396	35	37	345	22	20	916	148	366
27	377	21	21	325	17	15	782	118	249
28	342	18	17	305	12	9.9	869	140	328
29	331	16	14	---	---	---	679	92	169
30	376	20	20	---	---	---	771	139	368
31	392	25	26	---	---	---	1230	184	646
TOTAL	17021	---	22513	8453	---	2420.5	27847	---	27922

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL	
1	1080	152	492
2	1220	155	511
3	962	80	208
4	761	55	113
5	634	45	77
6	573	36	56
7	501	28	38
8	439	17	20
9	401	15	16
10	366	13	13
11	331	11	9.8
12	303	10	8.2
13	280	9	6.8
14	257	8	5.6
15	241	7	4.6
16	224	6	3.6
17	203	5	2.7
18	187	4	2.0
19	177	4	1.9
20	174	3	1.4
21	198	7	3.7
22	195	14	7.4
23	207	11	6.1
24	206	13	7.2
25	190	11	5.6
26	176	9	4.3
27	164	8	3.5
28	154	6	2.5
29	146	4	1.6
30	151	3	1.2
31	---	---	---
TOTAL	11101	---	1633.7
PERIOD	82174.1		89666.43

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	168.00	1.03	0	1
NOVEMBER	11436.10	34411.47	1480	35900
DECEMBER	6148.00	764.73	29	794
JANUARY 1989	17021.00	22513.00	1140	23700
FEBRUARY	8453.00	2420.50	100	2520
MARCH	27847.00	27922.00	3090	31000
APRIL	11101.00	1633.70	546	2180
PERIOD	82174.10	89666.43	6385	96095

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV								
22...	1410	4000	10.5	2450	26500	24	26	37
22...	1525	4110	10.5	3090	34300	--	--	--
JAN								
10...	1105	2850	6.0	2250	17300	18	24	32
10...	1305	2370	6.0	1670	10700	19	24	28
MAR								
09...	1215	2390	9.5	2210	14300	18	24	34
09...	1240	1320	9.0	748	2670	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV								
22...	48	60	67	73	82	90	96	100
22...	--	--	70	--	--	--	--	--
JAN								
10...	42	51	61	67	78	84	95	100
10...	41	51	60	72	83	91	98	100
MAR								
09...	46	55	63	70	79	91	98	100
09...	--	--	58	65	76	86	97	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
SEP							
28...	1330	1	7.4	6	19	57	77
28...	1335	1	7.4	--	1	7	42
28...	1340	1	7.4	1	1	2	4
28...	1345	1	7.4	--	1	4	13
28...	1350	1	7.4	--	--	1	8
28...	1355	1	7.4	--	--	1	4
28...	1400	1	7.4	--	--	1	3
28...	1405	1	7.4	--	--	1	4
28...	1410	1	7.4	--	--	--	1
28...	1415	1	7.4	--	--	--	--
28...	1420	1	7.4	--	--	1	2
28...	1425	1	7.4	--	1	2	4
28...	1430	1	7.4	--	--	--	--

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
SEP							
28...	78	78	78	80	84	100	--
28...	65	70	73	76	83	100	--
28...	5	7	14	42	80	100	--
28...	22	33	49	68	87	100	--
28...	18	33	47	60	71	92	100
28...	10	16	23	31	47	77	100
28...	7	14	22	33	56	100	--
28...	10	22	38	55	73	100	--
28...	2	3	6	9	22	100	--
28...	--	--	--	--	1	6	100
28...	3	5	9	17	29	74	100
28...	5	7	8	12	31	100	--
28...	--	--	--	--	--	34	100

11481500 REDWOOD CREEK NEAR BLUE LAKE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	DIS-CHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
JAN 10...	1345	6.0	15	2260	95.0	392	1	6

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
JAN 10...	15	24	30	38	47	57	74	100

11482110 LACKS CREEK NEAR ORICK, CA

LOCATION.--Lat 41°03'39", long 123°51'57", unsurveyed, Humboldt County, Hydrologic Unit 18010102, on right bank at private road bridge, 0.3 mi upstream from mouth, and 19 mi southeast of Orick.

DRAINAGE AREA.--16.9 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--9 years, 71.3 ft^3/s, 51,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,940 ft^3/s, Nov. 22, 1988, gage height, 27.99 ft; minimum daily, 0.16 ft^3/s, Sept. 1-4, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 880 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1800	*4,940	*27.99	Mar. 5	1600	966	23.99
Jan. 10	0345	2,500	26.84				

Minimum daily, 0.30 ft^3/s, Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.46	93	196	62	57	308	23	23	5.4	2.5	1.3
2	.30	4.1	75	153	57	319	357	21	20	4.7	2.3	1.3
3	.30	32	61	155	51	189	275	19	18	4.3	2.2	1.2
4	.37	6.2	51	165	46	150	191	18	16	4.1	2.1	1.2
5	.62	3.7	44	206	41	540	141	17	15	4.0	2.0	1.2
6	.56	12	41	173	37	413	110	16	14	3.7	1.8	1.2
7	.52	4.9	36	142	35	250	88	15	13	3.5	1.7	1.1
8	.51	8.7	32	185	33	200	73	15	13	3.4	1.7	1.1
9	.51	9.4	29	497	34	423	62	14	12	3.4	1.7	1.1
10	.51	39	26	1140	39	326	53	14	11	3.3	1.7	1.1
11	.51	18	24	386	45	241	47	14	11	3.3	1.7	1.1
12	.47	27	22	229	46	193	42	13	10	3.2	1.6	1.1
13	.64	108	20	184	42	257	37	12	9.0	3.2	1.6	1.0
14	.99	77	19	146	39	184	33	12	8.5	3.1	1.5	1.0
15	.76	46	18	139	36	143	30	11	9.0	3.1	1.5	.98
16	.71	140	17	151	35	209	27	11	8.7	3.2	1.4	.97
17	.66	173	16	141	37	206	25	10	7.4	3.0	1.4	1.3
18	.61	79	15	126	88	187	23	10	6.9	2.9	1.4	1.6
19	.61	54	19	124	127	183	21	9.5	6.8	2.8	1.4	1.4
20	.56	46	71	126	97	146	21	9.1	6.3	2.7	1.4	1.3
21	.56	427	226	145	84	223	24	8.8	6.0	2.8	1.3	1.3
22	.52	2640	445	292	183	193	28	10	5.5	2.8	1.5	1.2
23	.45	781	265	187	158	160	42	29	5.1	2.6	1.8	1.2
24	.45	357	184	134	115	156	43	41	4.8	2.5	1.6	1.1
25	.45	448	134	107	89	387	42	31	4.6	2.4	1.5	1.1
26	.45	344	105	90	71	296	36	24	4.6	2.4	1.5	1.2
27	.43	216	96	80	59	210	31	20	4.6	2.4	1.4	1.3
28	.39	240	84	70	51	207	27	28	4.5	2.4	1.3	1.3
29	.39	159	79	65	---	170	24	42	5.9	2.2	1.3	3.4
30	.39	120	254	65	---	212	27	32	6.4	2.3	1.4	3.3
31	.39	---	297	65	---	396	---	27	---	2.4	1.4	---
TOTAL	15.90	6620.46	2898	6064	1837	7426	2288	576.4	290.6	97.5	50.6	39.95
MEAN	.51	221	93.5	196	65.6	240	76.3	18.6	9.69	3.15	1.63	1.33
MAX	.99	2640	445	1140	183	540	357	42	23	5.4	2.5	3.4
MIN	.30	.46	15	65	33	57	21	8.8	4.5	2.2	1.3	.97
AC-FT	32	13130	5750	12030	3640	14730	4540	1140	576	193	100	79

CAL YR 1988 TOTAL 19406.53 MEAN 53.0 MAX 2640 MIN .26 AC-FT 38490
WTR YR 1989 TOTAL 28204.41 MEAN 77.3 MAX 2640 MIN .30 AC-FT 55940

11482110 LACKS CREEK NEAR ORICK, CA--Continued

WATER-QUALITY RECORDS

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

REMARKS.--Prior to October 1975, published in U.S. Geological Survey Open-File Report 76-678, "Redwood National Park Studies." Zero bedload discharge observed for flows less than 50 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT					
05...	1030	0.66	14.5	2	0.00
NOV					
18...	1350	76	8.0	5	1.0
JAN					
05...	1200	202	6.5	25	14
FEB					
28...	1325	51	7.0	4	0.55
APR					
03...	1150	276	8.5	33	25
MAY					
12...	1035	13	11.0	1	0.03

11482120 REDWOOD CREEK ABOVE PANTHER CREEK, NEAR ORICK, CA

LOCATION.--Lat 41°05'21", long 123°54'23", unsurveyed, Humboldt County, Hydrologic Unit 18010102, on right bank 100 ft upstream from Panther Creek, 2.0 mi upstream from south boundary of Redwood National Park, 16 mi southeast of Orick, and 28 mi upstream from mouth.

DRAINAGE AREA.--150 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1989 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--9 years, 573 ft^3/s, 415,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft^3/s, Feb. 17, 1986, gage height, 17.49 ft; minimum daily, 3.2 ft^3/s, Sept. 15-18, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2000	*12,700	*16.41	Jan. 10	0715	9,610	14.25

Minimum daily, 4.0 ft^3/s, Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.4	691	1150	711	558	2230	248	187	69	27	16
2	4.3	17	589	967	663	1530	2780	230	168	57	27	16
3	4.1	244	508	982	571	1160	2240	217	154	57	27	16
4	4.1	80	438	985	510	1020	1790	207	145	54	26	16
5	6.2	44	390	1180	446	2340	1530	195	135	50	25	15
6	10	66	375	1060	411	2350	1300	180	130	48	23	15
7	11	56	348	935	382	1660	1130	169	124	45	22	15
8	9.7	59	317	1130	360	1510	1010	162	119	40	21	14
9	10	66	291	2640	353	3370	898	157	115	34	20	13
10	20	160	270	6330	381	2680	790	157	109	44	20	12
11	9.0	148	250	2890	400	2290	705	155	105	41	19	12
12	7.2	158	231	1880	403	1920	627	145	101	40	19	12
13	7.5	568	215	1730	373	2260	546	137	95	39	19	12
14	11	565	202	1490	347	1700	490	132	90	39	19	12
15	11	331	189	1340	323	1430	443	127	91	32	18	12
16	10	619	179	1310	311	1770	402	116	94	35	18	12
17	8.8	1200	169	1190	323	1710	369	108	86	37	18	12
18	7.6	533	161	1070	512	1610	343	107	80	37	17	14
19	6.6	329	188	1040	795	1620	319	104	78	35	16	18
20	5.8	308	359	1040	636	1370	299	99	75	31	14	19
21	5.8	1530	1140	1060	565	1780	336	98	72	31	14	19
22	5.8	8370	1900	1890	1330	1640	360	102	e68	31	15	19
23	8.0	4940	1360	1380	1360	1420	400	172	e64	31	16	16
24	5.7	2030	1090	1130	1010	1520	431	329	e61	31	17	15
25	5.1	2750	887	985	838	2450	379	256	e59	30	19	12
26	4.9	2160	722	885	732	1950	338	213	e57	29	18	12
27	4.6	1390	685	816	654	1680	300	191	55	28	18	13
28	4.6	1680	652	748	582	1750	279	216	55	28	17	13
29	4.6	1110	592	696	---	1520	259	286	67	28	16	20
30	4.6	846	1170	717	---	1580	262	244	70	27	16	e30
31	4.0	---	1550	732	---	2730	---	211	---	27	16	---
TOTAL	226.2	32361.4	18108	43378	16282	55878	23585	5470	2909	1185	597	452
MEAN	7.30	1079	584	1399	581	1803	786	176	97.0	38.2	19.3	15.1
MAX	20	8370	1900	6330	1360	3370	2780	329	187	69	27	30
MIN	4.0	4.4	161	696	311	558	259	98	55	27	14	12
AC-FT	449	64190	35920	86040	32300	110800	46780	10850	5770	2350	1180	897

CAL YR 1988 TOTAL 134212.4 MEAN 367 MAX 8370 MIN 3.2 AC-FT 266200
WTR YR 1989 TOTAL 200431.6 MEAN 549 MAX 8370 MIN 4.0 AC-FT 397600

e Estimated.

11482120 REDWOOD CREEK ABOVE PANTHER CREEK, NEAR ORICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-76, 1980 to September 1989 (discontinued).
CHEMICAL DATA: Water years 1974-75.
SEDIMENT DATA: Water years 1974-76, 1980 to September 1989 (discontinued).

REMARKS.--Prior to October 1975, published in U.S. Geological Survey Open-File Report 76-678, "Redwood National Park Studies." Zero-bedload discharge observed for flows less than 128 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT								
07...	1100	11	14.5	2	0.06	--	--	--
NOV								
08...	1200	61	11.0	1	0.16	--	--	--
22...	1445	10200	11.5	2460	67700	--	--	--
22...	1525	9880	11.5	2410	64300	23	29	38
23...	1345	3810	10.0	1190	12200	19	27	36
23...	1545	3510	10.0	1110	10500	18	24	33
DEC								
23...	1455	1240	8.0	115	385	--	--	--
JAN								
10...	1415	6050	9.0	1720	28100	20	27	37
10...	1600	5470	7.5	2040	30100	--	--	--
10...	1620	5390	9.0	1530	22300	18	26	36
11...	1430	2630	7.5	525	3730	--	--	--
FEB								
27...	1415	653	7.0	13	23	--	--	--
MAR								
09...	1255	3990	9.0	1720	18500	26	27	36
09...	1435	4020	9.0	1770	19200	18	23	36
APR								
12...	1115	640	9.5	14	24	--	--	--
MAY								
15...	1420	126	15.5	3	1.0	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
OCT								
07...	--	--	--	--	--	--	--	--
NOV								
08...	--	--	--	--	--	--	--	--
22...	--	--	72	--	--	--	--	--
22...	52	63	72	83	92	98	100	--
23...	47	58	66	76	85	96	98	100
23...	42	53	60	69	81	94	99	100
DEC								
23...	--	--	--	--	--	--	--	--
JAN								
10...	50	62	71	81	90	96	99	100
10...	--	--	--	--	--	--	--	--
10...	48	60	68	79	88	95	100	--
11...	--	--	58	68	79	94	99	100
FEB								
27...	--	--	--	--	--	--	--	--
MAR								
09...	52	66	75	82	90	95	98	100
09...	47	60	67	75	82	88	94	100
APR								
12...	--	--	--	--	--	--	--	--
MAY								
15...	--	--	--	--	--	--	--	--

11482125 PANTHER CREEK NEAR ORICK, CA

LOCATION.--Lat 41°05'19", long 123°54'26", unsurveyed, Humboldt County, Hydrologic Unit 18010102, on right bank 300 ft upstream from mouth, 16 mi southeast of Orick.

DRAINAGE AREA.--6.07 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair for discharges above 2.0 ft^3/s, poor below. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--10 years, 26.2 ft^3/s, 18,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 839 ft^3/s, Feb. 17, 1986, gage height, 4.28 ft; minimum daily, 0.25 ft^3/s, Sept. 1-4, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1915	304	3.05	Jan. 10	0245	*327	*3.12

Minimum daily, 0.57 ft^3/s, Oct. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.83	35	54	33	28	98	17	9.8	5.7	2.0	2.0
2	.82	3.4	32	50	31	38	115	16	9.0	5.2	2.0	2.0
3	.83	6.8	29	46	29	32	107	15	8.1	5.0	1.7	2.0
4	.82	1.7	26	43	27	31	95	15	8.1	4.5	1.7	2.0
5	.99	1.7	24	46	25	44	82	14	8.1	4.5	2.0	1.7
6	1.0	3.8	23	46	23	56	73	13	8.0	4.4	1.7	1.3
7	1.0	1.6	21	44	22	54	64	12	7.7	4.1	1.7	1.3
8	.89	4.0	20	54	22	55	56	12	7.7	3.8	1.5	1.3
9	.76	3.2	19	110	20	74	51	12	7.6	3.8	1.5	1.3
10	.75	9.0	17	243	21	76	45	12	7.2	3.8	1.5	1.3
11	.75	4.8	15	187	22	81	42	12	6.6	3.7	1.5	1.3
12	.75	5.5	15	136	20	82	38	11	6.6	3.2	1.5	1.3
13	.93	11	15	116	19	86	35	10	6.5	3.2	1.5	1.2
14	1.3	9.9	14	94	17	75	32	9.9	6.2	3.2	1.7	1.0
15	1.2	8.1	13	79	16	70	30	9.8	6.2	3.2	1.7	1.0
16	.97	11	13	69	16	84	28	9.2	6.2	3.2	1.5	1.0
17	.75	16	12	60	15	76	26	8.4	6.1	3.2	1.5	1.2
18	.75	11	12	54	19	73	25	8.4	5.9	3.2	1.5	1.3
19	.77	8.9	13	49	22	69	23	8.4	5.9	2.7	1.5	1.3
20	.75	8.7	21	46	20	64	23	8.1	5.8	2.6	1.5	1.3
21	.75	24	43	47	18	74	23	8.1	5.5	2.6	1.5	1.2
22	.73	201	59	57	36	66	23	9.9	5.2	2.6	1.4	1.0
23	.65	131	50	49	33	63	26	15	5.1	2.6	1.7	1.0
24	.65	78	47	47	30	62	25	14	4.8	2.6	1.7	1.0
25	.93	80	44	46	29	92	23	12	4.8	2.3	1.7	1.0
26	.64	62	40	44	28	76	22	10	4.8	2.3	1.7	1.0
27	.57	53	39	42	27	73	20	9.7	4.8	2.0	1.7	1.2
28	.69	54	38	40	27	72	19	13	4.9	1.7	1.7	1.2
29	.75	44	35	38	---	67	18	14	5.8	1.7	1.7	1.3
30	.75	39	52	35	---	76	18	12	6.5	1.7	1.7	2.1
31	.75	---	60	33	---	102	---	11	---	1.9	1.7	---
TOTAL	25.29	896.93	896	2104	667	2071	1305	361.9	195.5	100.2	50.9	40.1
MEAN	.82	29.9	28.9	67.9	23.8	66.8	43.5	11.7	6.52	3.23	1.64	1.34
MAX	1.3	201	60	243	36	102	115	17	9.8	5.7	2.0	2.1
MIN	.57	.83	12	33	15	28	18	8.1	4.8	1.7	1.4	1.0
AC-FT	50	1780	1780	4170	1320	4110	2590	718	388	199	101	80

CAL YR 1988 TOTAL 5973.27 MEAN 16.3 MAX 201 MIN .55 AC-FT 11850
WTR YR 1989 TOTAL 8713.82 MEAN 23.9 MAX 243 MIN .57 AC-FT 17280

11482125 PANTHER CREEK NEAR ORICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.
WATER TEMPERATURE: Water year 1980.
SEDIMENT DATA: Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: December 1979 to September 1980.

REMARKS.--Zero-bedload discharge observed for flows less than 22 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT					
03...	1310	0.89	12.5	5	0.01
NOV					
08...	0925	6.2	10.0	3	0.05
21...	1430	41	9.0	146	16
FEB					
08...	1345	22	4.5	6	0.36
27...	1510	28	6.5	17	1.3
APR					
05...	1315	83	9.5	22	4.9
MAY					
15...	1255	9.9	12.0	1	0.03

11482130 COYOTE CREEK NEAR ORICK, CA

LOCATION.--Lat 41°07'03", long 123°54'34", unsurveyed, Humboldt County, Hydrologic Unit 18010102, on left bank 300 ft downstream from small left-bank tributary, 1,900 ft upstream from mouth, and 15 mi southeast of Orick.

DRAINAGE AREA.--7.78 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1982, October 1983 to September 1989 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 9, 1980, at datum 2.00 ft higher.

REMARKS.--Records poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--9 years, 37.3 ft^3/s, 27,020 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft^3/s, Nov. 22, 1988, gage height, 7.75 ft; minimum daily, 0.10 ft^3/s, Sept. 23-25, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1900	*3,340	*7.75	Mar. 5	0945	1,270	6.06
Jan. 10	0245	3,020	7.53	Mar. 9	2000	674	5.38
Feb. 22	1230	688	5.40	Mar. 30	2230	660	5.36

Minimum daily, 0.13 ft^3/s, Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.31	24	71	6.8	48	222	5.0	4.0	1.5	e.86	e.37
2	.13	2.2	19	35	6.3	449	271	4.8	3.9	1.4	e.80	e.36
3	.13	12	14	34	5.5	144	190	4.8	3.6	1.4	e.76	e.35
4	.16	4.1	11	e36	5.0	99	108	4.8	3.5	1.3	e.72	e.35
5	.20	3.0	9.9	e50	4.6	650	51	4.8	3.3	e1.3	e.68	e.35
6	.20	8.5	9.3	e42	4.4	476	23	4.8	3.2	e1.3	e.63	e.34
7	.19	3.8	8.1	e33	4.3	211	15	4.8	3.1	e1.2	e.60	e.33
8	.19	6.2	7.6	51	4.4	142	11	4.8	3.0	e1.2	e.58	e.33
9	.18	6.2	7.1	482	4.4	502	9.0	5.0	2.9	e1.2	e.56	e.33
10	.17	38	6.8	1210	6.0	312	7.5	4.9	2.8	e1.1	e.55	e.33
11	.22	14	6.9	364	8.1	238	6.7	4.8	2.8	e1.1	e.54	e.33
12	.23	26	6.9	173	7.8	196	6.1	4.7	2.7	e1.1	e.52	e.32
13	.28	72	6.9	130	6.4	293	5.4	4.7	2.6	e1.0	e.49	e.31
14	.37	47	6.4	75	5.6	155	5.0	4.8	2.5	e1.0	e.47	e.31
15	.28	40	5.5	96	5.1	e110	4.8	4.8	2.4	e1.0	e.45	e.30
16	.25	87	4.8	99	5.2	192	4.6	4.7	2.4	e.98	e.44	e.30
17	.23	83	4.5	59	5.7	170	4.6	4.7	2.3	e.96	e.43	e.35
18	.22	40	4.1	33	54	144	4.4	4.6	2.2	e.94	e.42	e.45
19	.22	28	4.6	24	75	e125	4.3	4.4	2.1	e.92	e.41	e.38
20	.22	27	10	19	32	e110	4.4	4.3	2.0	e.90	e.40	e.34
21	.21	238	46	54	21	189	4.6	4.2	1.9	e.88	e.39	e.33
22	.21	1690	274	231	310	e140	5.2	4.2	1.8	e.86	e.43	e.31
23	.21	790	93	73	183	e120	7.9	5.7	1.8	e.84	e.50	e.29
24	.21	338	43	29	99	e110	7.2	6.4	1.7	e.82	e.44	e.27
25	.20	459	e25	17	62	331	6.2	5.4	1.6	e.80	e.42	e.27
26	.20	259	e18	13	41	e200	5.7	4.5	1.6	e.78	e.40	e.31
27	.20	145	e13	10	30	e160	5.1	4.2	1.6	e.76	e.38	e.38
28	.20	140	e10	9.0	25	e140	4.9	5.7	1.5	e.74	e.36	e.40
29	.21	58	e9.0	7.9	---	e130	4.7	7.8	1.6	e.74	e.36	1.6
30	.21	33	194	7.8	---	211	5.2	5.1	1.8	e.78	e.38	1.6
31	.22	---	178	7.3	---	353	---	4.4	---	e.84	e.38	---
TOTAL	6.48	4698.31	1080.4	3575.0	1027.6	6850	1014.5	152.6	74.2	31.64	15.75	12.59
MEAN	.21	157	34.9	115	36.7	221	33.8	4.92	2.47	1.02	.51	.42
MAX	.37	1690	274	1210	310	650	271	7.8	4.0	1.5	.86	1.6
MIN	.13	.31	4.1	7.3	4.3	48	4.3	4.2	1.5	.74	.36	.27
AC-FT	13	9320	2140	7090	2040	13590	2010	303	147	63	31	25

CAL YR 1988 TOTAL 10557.40 MEAN 28.8 MAX 1690 MIN .11 AC-FT 20940
WTR YR 1989 TOTAL 18539.07 MEAN 50.8 MAX 1690 MIN .13 AC-FT 36770

e Estimated.

11482130 COYOTE CREEK NEAR ORICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979-83, October 1984 to September 1989 (discontinued).
WATER TEMPERATURE: December 1979 to September 1980.
SEDIMENT DATA: November 1979-83, October 1984 to September 1989.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: December 1979 to September 1980.

REMARKS.--Prior to October 1975, published in U.S. Geological Survey Open-File Report 76-678, "Redwood National Park Studies." Zero bedload observed for flows less than 28 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT					
03...	1030	0.14	14.5	0	0.0
DEC					
13...	1215	7.1	9.0	5	0.10
23...	1235	84	8.0	63	14
FEB					
27...	1130	29	6.5	16	1.3
APR					
05...	1125	54	9.5	16	2.3
MAY					
15...	1135	4.8	10.5	2	0.03

11482468 LITTLE LOST MAN CREEK AT SITE NO. 2, NEAR ORICK, CA

LOCATION.--Lat 41°19'20", long 124°01'10", in NE 1/4 SE 1/4 sec.23, T.11 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, Redwood National Park, on right bank 0.8 mi upstream from mouth, and 3.2 mi northeast of Orick.

DRAINAGE AREA.--3.46 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1974 to September 1982, October 1984 to September 1989 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good for flows above 1.0 ft^3/s and poor below. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years, 10.2 ft^3/s, 7,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 808 ft^3/s, Mar. 18, 1975, gage height, 4.32 ft; minimum daily, 0.10 ft^3/s, Dec. 19-26, 28, 1976, Feb. 19, 1977.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1930	*471	*3.71	Mar. 9	2400	105	2.47
Jan. 10	0415	414	3.58	Apr. 1	2230	133	2.63

Minimum daily, 0.21 ft^3/s, Oct. 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.22	11	35	6.9	6.0	94	9.2	6.6	1.7	.68	.40
2	.22	1.1	8.3	26	6.4	34	83	8.8	6.1	1.5	.68	.36
3	.22	1.9	6.5	20	5.8	28	42	8.2	6.3	1.5	.68	.34
4	.22	.58	5.1	17	5.8	19	34	7.9	6.1	1.4	.68	.32
5	.22	1.0	4.2	25	4.8	21	26	8.0	5.1	1.4	.68	.30
6	.24	2.3	3.8	29	4.5	33	19	8.0	4.2	1.4	.57	.30
7	.26	.54	3.3	31	4.1	27	28	7.4	3.8	.94	.56	.30
8	.25	2.4	2.9	32	3.8	20	26	6.5	3.8	.89	.56	.29
9	.23	1.1	2.5	64	3.6	57	20	7.5	3.7	.89	.56	.27
10	.23	3.1	2.3	180	3.7	75	16	9.2	3.5	.93	.56	.27
11	.23	1.4	2.0	70	4.1	61	14	8.2	3.3	.91	.62	.27
12	.23	2.5	1.9	44	4.9	50	13	7.2	3.2	.91	.62	.27
13	.28	9.8	1.7	46	5.1	77	11	7.1	2.8	.94	.62	.27
14	.35	8.6	1.5	40	5.3	70	10	7.0	2.5	.88	.57	.25
15	.35	3.2	1.4	32	5.0	51	9.8	6.1	2.6	.94	.56	.24
16	.33	2.7	1.3	26	4.6	53	9.2	5.8	2.4	.89	.50	.25
17	.28	5.0	1.2	21	4.5	52	8.5	5.6	2.2	.82	.45	.30
18	.26	3.7	1.1	16	7.0	46	8.6	5.5	2.0	.82	.41	.35
19	.26	2.3	1.7	13	11	38	8.6	5.1	1.9	.82	.41	.33
20	.26	2.0	4.6	11	9.2	28	8.8	4.7	1.9	.82	.43	.30
21	.25	8.0	26	17	7.5	34	8.5	4.3	1.8	.82	.43	.28
22	.23	156	43	52	30	32	9.3	4.4	1.7	.77	.46	.30
23	.23	86	35	39	29	22	12	9.5	1.5	.67	.57	.28
24	.23	48	32	29	20	17	13	9.5	1.4	.62	.47	.27
25	.23	40	32	20	12	41	13	9.3	1.3	.62	.45	.24
26	.22	32	25	15	9.6	33	12	8.2	1.3	.62	.41	.25
27	.22	21	37	13	7.6	21	11	7.4	1.3	.62	.41	.27
28	.22	41	52	10	6.3	20	10	7.1	1.3	.62	.39	.27
29	.22	27	36	9.1	---	19	9.6	7.7	1.9	.62	.37	.59
30	.21	16	36	7.6	---	24	9.4	8.2	2.3	.62	.41	.74
31	.21	---	46	6.9	---	115	---	7.6	---	.68	.43	---
TOTAL	7.61	530.44	468.3	996.6	232.1	1224.0	597.3	226.2	89.8	28.58	16.20	9.47
MEAN	.25	17.7	15.1	32.1	8.29	39.5	19.9	7.30	2.99	.92	.52	.32
MAX	.35	156	52	180	30	115	94	9.5	6.6	1.7	.68	.74
MIN	.21	.22	1.1	6.9	3.6	6.0	8.5	4.3	1.3	.62	.37	.24
AC-FT	15	1050	929	1980	460	2430	1180	449	178	57	32	19

CAL YR 1988 TOTAL 2780.88 MEAN 7.60 MAX 156 MIN .21 AC-FT 5520
WTR YR 1989 TOTAL 4426.60 MEAN 12.1 MAX 180 MIN .21 AC-FT 8780

11482468 LITTLE LOST MAN CREEK AT SITE NO. 2, NEAR ORICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-82, October 1984 to September 1989 (discontinued).
CHEMICAL DATA: Water years 1974-77.
SEDIMENT DATA: Water years 1974-76, 1978-82, October 1984 to September 1989 (discontinued).

REMARKS.--Prior to October 1975, published in U.S. Geological Survey Open-File Report 76-678, "Redwood National Park Studies." Zero bedload discharge observed for flows less than 46 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT					
06...	1330	0.23	12.5	0	0.0
25...	1245	0.22	--	1	0.00
NOV					
14...	1120	8.0	9.5	5	0.11
DEC					
21...	1250	32	8.0	38	3.3
22...	1215	46	8.0	19	2.4
JAN					
30...	1205	7.2	7.0	0	0.0
FEB					
24...	1205	18	6.5	5	0.24
APR					
04...	1140	33	9.0	7	0.62
MAY					
11...	1145	8.3	10.5	2	0.05

11482500 REDWOOD CREEK AT ORICK, CA

LOCATION.--Lat 41°17'58", long 124°03'00", in NE 1/4 NE 1/4 sec.34, T.11 N., R.1 E., Humboldt County, Hydrologic Unit 18010102, on right bank on U.S. Highway 101, 0.8 mi north of Orick, 300 ft downstream from Prairie Creek, and 3.7 mi upstream from mouth.
DRAINAGE AREA.--277 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to September 1913, October 1953 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
REVISED RECORDS.--WSP 1315-B: 1912-13.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 5.16 ft above National Geodetic Vertical Datum of 1929. Sept. 10, 1911, to Aug. 9, 1913, nonrecording gage at different datum. October 1953 to April 16, 1987, at site 0.9 mi downstream at same datum. May 7, 1987, to Aug. 3, 1987, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--38 years, 1,052 ft^3/s, 762,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,500 ft^3/s, Dec. 22, 1964, gage height, 24.0 ft, former site, from outside high-water marks; minimum daily, 2.1 ft^3/s, Oct. 20-22, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 18, 1953, reached a stage of 23.95 ft, former site, from floodmarks, discharge, 50,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2245	*21,400	*22.19	Jan. 10	1015	17,400	20.84

Minimum daily, 12 ft^3/s, Oct. 29-31, Nov. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	12	1370	2330	1290	1130	3910	550	347	148	61	31
2	16	34	1200	2150	1240	2970	4830	498	316	132	57	30
3	15	399	1040	2100	1140	2480	3840	473	296	121	54	30
4	14	319	911	2100	1040	1980	3070	454	279	116	52	29
5	14	152	829	2360	928	3610	2520	431	257	110	50	28
6	16	288	791	2450	847	4400	2180	408	250	103	48	26
7	18	176	750	2470	786	3000	1950	389	245	99	45	26
8	20	209	695	2570	732	2570	1770	370	234	93	42	25
9	20	197	633	5180	702	5300	1610	362	226	91	42	25
10	18	439	606	12500	747	4840	1440	395	212	81	41	24
11	24	424	571	5990	823	4020	1310	364	210	90	41	24
12	24	392	537	3330	849	3210	1170	336	202	83	40	23
13	19	772	502	2910	801	4310	1070	320	197	82	39	22
14	23	980	472	2630	750	3420	992	308	193	81	38	21
15	26	525	447	2330	695	2780	921	295	189	81	37	20
16	24	577	422	2310	648	3490	846	278	188	76	36	20
17	23	1170	408	2160	653	3560	781	270	177	79	35	21
18	19	634	390	1990	870	3250	730	265	166	78	34	23
19	16	390	435	1900	1560	3260	689	256	158	75	34	23
20	15	326	634	1840	1270	2700	664	247	152	72	33	25
21	14	1230	2210	1840	1120	3400	694	242	147	71	32	27
22	14	12300	3690	3600	2450	3200	750	246	137	70	32	26
23	14	10100	2680	2530	2780	2670	822	449	130	68	35	25
24	14	3370	2250	2030	1970	2700	897	582	112	66	36	23
25	14	3610	2060	1740	1580	4450	785	477	116	64	34	22
26	13	3230	1760	1570	1360	3610	717	403	117	63	34	21
27	13	2240	2150	1480	1250	2910	650	362	119	63	33	20
28	13	2850	2290	1380	1190	3020	603	383	119	61	32	21
29	12	2060	1890	1300	---	2670	560	478	136	59	31	28
30	12	1600	2390	1290	---	2700	565	433	189	58	31	41
31	12	---	2960	1310	---	5260	---	387	---	58	32	---
TOTAL	525	51005	39973	83670	32071	102870	43336	11711	5816	2592	1221	750
MEAN	16.9	1700	1289	2699	1145	3318	1445	378	194	83.6	39.4	25.0
MAX	26	12300	3690	12500	2780	5300	4830	582	347	148	61	41
MIN	12	12	390	1290	648	1130	560	242	112	58	31	20
AC-FT	1040	101200	79290	166000	63610	204000	85960	23230	11540	5140	2420	1490

CAL YR 1988 TOTAL 238377 MEAN 651 MAX 12300 MIN 12 AC-FT 472800
WTR YR 1989 TOTAL 375540 MEAN 1029 MAX 12500 MIN 12 AC-FT 744900

11482500 REDWOOD CREEK AT ORICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-56, 1959 to current year.
CHEMICAL DATA: Water years 1959-66, 1973-81.
WATER TEMPERATURE: Water years 1966 to current year.
SEDIMENT DATA: Water years 1955-56, 1970 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to September 1981, October 1981 to current year (storm season only).
SUSPENDED-SEDIMENT DISCHARGE: March 1970 to September 1981, October 1981 to current year (storm season only).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 9,610 mg/L, Mar. 18, 1975; minimum daily mean, 0 mg/L, Nov. 10-12, 1986, Apr. 20, 29, 30, 1987.
SEDIMENT LOAD: Maximum daily, 1,070,000 tons, Mar. 18, 1975; minimum daily, 0 ton, Nov. 10-12, 1986, Apr. 20, 29, 30, 1987.

EXTREMES FOR CURRENT YEAR (storm season only).--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,490 mg/L, Nov. 22; minimum daily mean, 1 mg/L, Oct. 18 to Nov. 1.
SEDIMENT LOAD: Maximum daily, 114,000 tons, Nov. 22; minimum daily, 0.03 ton, Oct. 29 to Nov. 1.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---
4	---	---	---	---	---	---	9.5
5	---	---	---	---	---	---	---
6	14.5	---	---	---	---	---	---
7	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---
9	---	---	---	---	---	9.5	---
10	---	---	---	7.5	---	9.5	---
11	---	---	---	7.0	---	---	---
12	---	---	---	7.0	---	---	---
13	---	---	---	---	---	---	12.5
14	---	10.0	---	---	---	---	---
15	---	11.0	---	---	---	---	---
16	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---
21	---	---	8.0	---	---	---	---
22	---	11.5	7.5	---	---	---	---
23	---	10.5	---	---	8.0	---	---
24	---	---	---	---	---	---	---
25	13.0	---	---	---	---	---	---
26	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---
30	---	10.0	---	---	---	---	---
31	---	---	---	---	---	---	---

11482500 REDWOOD CREEK AT ORICK, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	16	2	.09	12	1	.03	1370	90	333
2	16	2	.09	34	4	.72	1200	70	227
3	15	2	.08	399	13	14	1040	50	140
4	14	2	.08	319	7	6.0	911	36	89
5	14	2	.08	152	5	2.1	829	30	67
6	16	2	.09	288	8	6.9	791	28	60
7	18	2	.10	176	4	1.9	750	25	51
8	20	2	.11	209	6	3.4	695	22	41
9	20	2	.11	197	5	2.7	633	20	34
10	18	2	.10	439	10	12	606	18	29
11	24	2	.13	424	7	8.0	571	16	25
12	24	2	.13	392	7	7.4	537	14	20
13	19	2	.10	772	28	77	502	12	16
14	23	2	.12	980	58	153	472	11	14
15	26	3	.21	525	14	20	447	10	12
16	24	2	.13	577	16	28	422	9	10
17	23	2	.12	1170	63	216	408	9	9.9
18	19	1	.05	634	21	36	390	8	8.4
19	16	1	.04	390	15	16	435	10	12
20	15	1	.04	326	10	8.8	634	26	67
21	14	1	.04	1230	147	1150	2210	291	2090
22	14	1	.04	12300	2490	114000	3690	455	4660
23	14	1	.04	10100	1720	58600	2680	247	1790
24	14	1	.04	3370	450	4090	2250	198	1200
25	14	1	.04	3610	364	3590	2060	148	823
26	13	1	.04	3230	230	2010	1760	100	475
27	13	1	.04	2240	162	980	2150	199	1330
28	13	1	.04	2850	258	2020	2290	185	1140
29	12	1	.03	2060	150	834	1890	120	612
30	12	1	.03	1600	110	475	2390	219	1580
31	12	1	.03	---	---	---	2960	225	1800
TOTAL	525	---	2.41	51005	---	188368.95	39973	---	18765.3
		JANUARY			FEBRUARY			MARCH	
1	2330	172	1080	1290	58	202	1130	60	183
2	2150	150	871	1240	56	187	2970	290	2490
3	2100	138	782	1140	50	154	2480	166	1110
4	2100	130	737	1040	42	118	1980	124	663
5	2360	155	988	928	34	85	3610	478	6500
6	2450	145	959	847	28	64	4400	490	5820
7	2470	160	1070	786	24	51	3000	320	2590
8	2570	160	1110	732	22	43	2570	265	1840
9	5180	565	8180	702	20	38	5300	805	12400
10	12500	2340	88800	747	22	44	4840	540	7060
11	5990	649	11300	823	28	62	4020	410	4450
12	3330	280	2520	849	30	69	3210	330	2860
13	2910	277	2170	801	25	54	4310	347	4050
14	2630	235	1670	750	22	45	3420	230	2120
15	2330	210	1320	695	19	36	2780	192	1440
16	2310	195	1220	648	15	26	3490	361	3420
17	2160	155	904	653	15	26	3560	304	2920
18	1990	133	715	870	33	90	3250	260	2280
19	1900	120	616	1560	68	286	3260	266	2340
20	1840	105	522	1270	35	120	2700	230	1680
21	1840	111	584	1120	30	91	3400	354	3360
22	3600	308	3050	2450	235	2140	3200	296	2560
23	2530	190	1300	2780	230	1730	2670	248	1790
24	2030	140	767	1970	150	798	2700	250	1820
25	1740	110	517	1580	120	512	4450	404	5000
26	1570	90	382	1360	100	367	3610	275	2680
27	1480	80	320	1250	85	287	2910	230	1810
28	1380	70	261	1190	70	225	3020	240	1960
29	1300	60	211	---	---	---	2670	215	1550
30	1290	58	202	---	---	---	2700	226	1760
31	1310	60	212	---	---	---	5260	454	6690
TOTAL	83670	---	135340	32071	---	7950	102870	---	99196

11482500 REDWOOD CREEK AT ORICK, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL	
1	3910	289	3140
2	4830	385	5180
3	3840	200	2070
4	3070	135	1120
5	2520	105	714
6	2180	80	471
7	1950	60	316
8	1770	50	239
9	1610	40	174
10	1440	32	124
11	1310	24	85
12	1170	21	66
13	1070	18	52
14	992	16	43
15	921	14	35
16	846	13	30
17	781	12	25
18	730	11	22
19	689	10	19
20	664	9	16
21	694	10	19
22	750	11	22
23	822	14	31
24	897	15	36
25	785	12	25
26	717	11	21
27	650	10	18
28	603	8	13
29	560	7	11
30	565	7	11
31	---	---	---
TOTAL	43336	---	14148
PERIOD	353450		463770.66

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	525.00	2.41	0	2
NOVEMBER	51005.00	188368.95	9210	198000
DECEMBER	39973.00	18765.30	5930	24700
JANUARY 1989	83670.00	135340.00	15500	151000
FEBRUARY	32071.00	7950.00	4560	12500
MARCH	102870.00	99196.00	19100	118000
APRIL	43336.00	14148.00	6650	20800
PERIOD	353450.00	463770.66	60950	525002

11482500 REDWOOD CREEK AT ORICK, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV								
22...	1110	12200	11.0	2940	96800	15	20	28
22...	1415	17700	11.5	3720	178000	20	26	37
23...	1045	9200	10.5	1630	40500	24	27	37
23...	1400	7280	10.5	1290	25400	22	31	42
DEC								
22...	1200	4240	7.5	638	7300	--	--	--
JAN								
10...	1205	16200	7.5	3160	138000	22	29	38
10...	1600	12800	7.5	2110	72900	21	28	38
11...	1215	5690	7.0	624	9590	--	--	--
11...	1520	5220	7.0	509	7170	--	--	--
12...	1255	3240	7.0	264	2310	--	--	--
MAR								
10...	1250	4600	9.5	506	6200	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV								
22...	40	52	62	74	88	97	99	100
22...	50	62	70	81	93	98	100	--
23...	49	59	68	77	88	97	100	--
23...	53	64	73	81	90	98	99	100
DEC								
22...	--	--	60	72	84	96	100	--
JAN								
10...	52	64	71	82	93	99	100	--
10...	50	63	71	81	91	98	100	--
11...	--	--	60	68	76	90	97	100
11...	--	--	64	72	80	95	98	100
12...	--	--	69	76	82	93	94	100
MAR								
10...	--	--	80	85	91	98	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	DIS-CHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM
NOV								
23...	1140	10.0	18	8680	274	1020	2	5
23...	1435	10.5	18	6990	269	583	4	13
30...	1315	10.0	22	1570	117	475	1	6
DEC								
22...	1240	7.5	20	4280	243	803	5	12
JAN								
10...	1300	7.5	20	15400	305	1230	5	16
10...	1640	7.5	20	12200	298	1490	2	12
11...	1310	7.0	20	5490	268	2730	4	6
11...	1440	7.0	20	5290	264	1210	2	10
12...	1345	7.0	20	3230	200	2490	2	6
FEB								
23...	1700	8.0	20	2370	169	589	2	12
MAR								
09...	1330	9.0	21	6250	265	2720	1	3
09...	1545	9.0	21	6480	265	830	4	14
10...	1345	9.5	22	4470	222	1320	2	12
APR								
13...	1000	12.5	19	1070	130	164	--	2

11482500 REDWOOD CREEK AT ORICK, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
NOV							
23...	23	42	58	74	91	100	--
23...	25	44	65	83	95	100	--
30...	24	48	68	86	98	100	--
DEC							
22...	16	26	39	58	84	100	--
JAN							
10...	22	27	33	45	64	89	100
10...	26	36	48	65	81	100	--
11...	10	26	49	70	86	100	--
11...	22	36	58	74	89	98	100
12...	13	33	58	78	94	100	--
FEB							
23...	22	37	55	78	94	100	--
MAR							
09...	11	28	50	73	92	100	--
09...	24	34	51	68	90	100	--
10...	28	46	64	82	95	100	--
APR							
13...	19	47	70	91	99	100	--

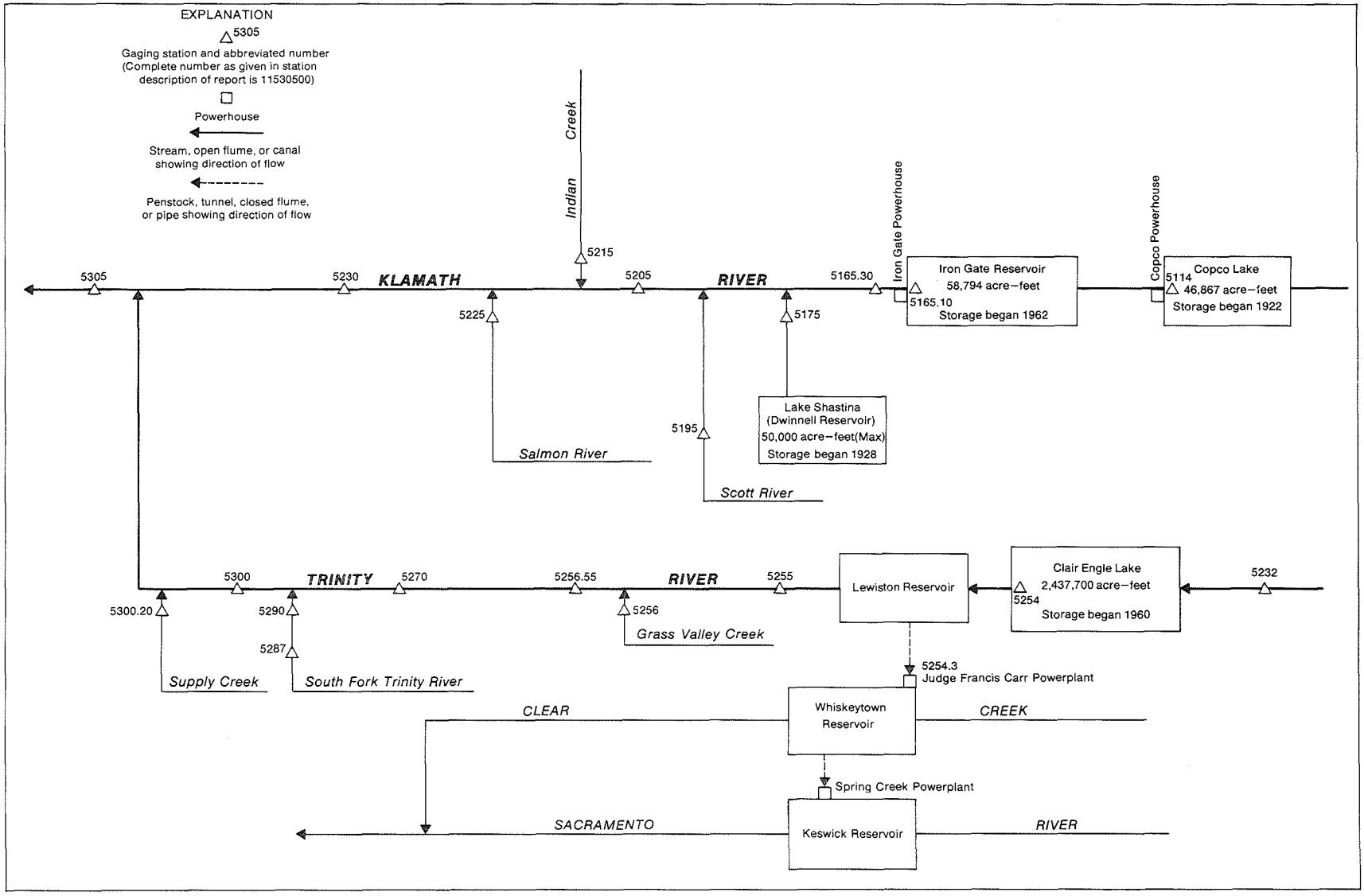


Figure 24.--Diversions and storage in Klamath River and Trinity River basins.

RESERVOIRS IN KLAMATH RIVER BASIN, CA

11511400 COPCO LAKE NEAR COPCO.--Lat 41°58'46", long 122°20'00", in SE 1/4 SW 1/4 sec.29, T.48 N., R.4 W., Siskiyou County, Hydrologic Unit 18010206, 12.7 mi northeast of Hornbrook. DRAINAGE AREA, 4,300 mi^2, approximately (not including Lost River, Butte Creek or Lower Klamath Lake basins). PERIOD OF RECORD, October 1967 to current year (monthend contents only). GAGE, pressure device and telemark read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Power and Light Co.). Monthend contents computed from capacity table dated Aug. 25, 1964 provided by Pacific Power and Light Co.

REMARKS.--Lake is formed by gravity-type dam completed in 1922. Usable capacity, 17,107 acre-ft between elevations 2,607.5 ft, top of tainter gates, and 2,588.5 ft, invert to powerplant intake. Dead storage 29,760 acre-ft below elevation 2,588.5 ft. Figures given herein represent total contents at 0800 hours. Lake is used for power generation. See schematic diagram of Klamath and Trinity River basins.

COOPERATION.--Records were provided by Pacific Power and Light Co. in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 46,818 acre-ft, June 24, 1969, elevation, 2,607.45 ft; minimum since first filling, 30,360 acre-ft, Aug. 19, 1971, elevation, 2,589.24 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 45,822 acre-ft, Sept. 2, elevation, 2,606.44 ft; minimum, 41,462 acre-ft, Oct. 30, elevation, 2,601.89 ft.

11516510 IRON GATE RESERVOIR NEAR HORNBROOK.--Lat 41°55'58", long 122°26'06", in SW 1/4 SW 1/4 sec.9, T.47 N., R.5 W., Siskiyou County, Hydrologic Unit 18010206, 6.6 mi northeast of Hornbrook. DRAINAGE AREA, 4,573 mi^2, approximately (not including Lost River, Butte Creek or Lower Klamath Lake basins). PERIOD OF RECORD, October 1967 to current year (monthend contents only). GAGE, pressure device and telemark read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Power and Light Co.). Monthend contents computed from capacity table dated Feb. 15, 1960, provided by Pacific Power and Light Co.

REMARKS.--Reservoir is formed by earth and rockfill dam completed in 1962. Usable capacity, 58,387 acre-ft, between elevations 2,328.0 ft, crest of spillway, and 2,184.75 ft, invert to diversion tunnel. Dead storage 407 acre-ft. Normal operating pool is from elevations 2,305.0 ft, capacity, 39,963 acre-ft, to 2,328.0 ft, capacity, 58,794 acre-ft. Figures herein represent total contents at 0800 hours. Reservoir is used for power generation and recreation. See schematic diagram of Klamath and Trinity River basins.

COOPERATION.--Records were provided by Pacific Power and Light Co. in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (at 0800) FOR PERIOD OF RECORD.--Maximum contents, 61,776 acre-ft, Mar. 3, 1972, elevation, 2,330.96 ft; minimum since first filling, 50,103 acre-ft, Dec. 9, 1968, elevation, 2,318.40 ft.

EXTREMES (at 0800) FOR CURRENT YEAR.--Maximum contents, 61,510 acre-ft, Mar. 11, elevation, 2,330.70 ft; minimum, 56,107 acre-ft, Sept. 16, elevation, 2,325.19 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11511400 COPCO LAKE			11516510 IRON GATE RESERVOIR		
Sept. 30	2,604.30	43,746	--	2,326.41	57,259	--
Oct. 31	2,603.05	42,555	-1,191	2,325.33	56,238	-1,021
Nov. 30	2,602.56	42,093	-462	2,326.13	56,991	+753
Dec. 31	2,604.15	43,602	+1,509	2,325.81	56,688	-303
CAL YR 1988	--	--	+3,090	--	--	-972
Jan. 31	2,605.32	44,729	+1,127	2,325.75	56,632	-56
Feb. 28	2,605.30	44,710	-19	2,328.21	59,002	+2,370
Mar. 31	2,602.82	42,338	-2,372	2,329.94	60,733	+1,731
Apr. 30	2,603.80	43,268	+930	2,329.76	60,552	-181
May 31	2,603.24	42,735	-533	2,327.97	58,765	-1,787
June 30	2,603.77	43,240	+505	2,328.55	59,339	+574
July 31	2,604.72	44,150	+910	2,325.99	56,858	-2,481
Aug. 31	2,605.57	44,972	+822	2,327.74	58,541	+1,683
Sept. 30	2,603.30	42,792	-2180	2,325.98	56,848	-1,693
WTR YR 1989	--	--	-954	--	--	-411

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA

LOCATION.--Lat 41°55'41", long 122°26'35", in SE 1/4 NE 1/4 sec.17, T.47 N., R.5 W., Siskiyou County, Hydrologic Unit 18010206, on left bank 0.1 mi downstream from Bogus Creek, 0.6 mi downstream from Iron Gate Dam, and 5.9 mi northeast of Hornbrook.

DRAINAGE AREA.--4,630 mi^2, approximately (not including Lost River, Butte Creek or Lower Klamath Lake basins).

PERIOD OF RECORD.--October 1960 to current year.
CHEMICAL DATA: Water years 1962-81.
WATER TEMPERATURE: Water years 1963-80.

GAGE.--Water-stage recorder. Datum of gage is 2,162.44 ft above National Geodetic Vertical Datum of 1929 (levels by Pacific Power & Light Co.).

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Upper Klamath Lake, capacity, 523,700 acre-ft; Iron Gate Reservoir (station 11516510), other smaller reservoirs, and diversions above station.

AVERAGE DISCHARGE.--29 years, 2,238 ft^3/s, 1,621,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft^3/s, Dec. 22, 1964, gage height, 13.63 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 539 ft^3/s, July 7, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft^3/s, Mar. 11, gage height, 9.24 ft; minimum daily, 731 ft^3/s, July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	1020	1320	1320	1780	1770	6690	5290	2200	748	1030	1330
2	1040	1020	1320	1330	1780	1830	6800	3340	2050	746	1030	1340
3	1040	1020	1320	1330	1770	1800	6790	2960	1790	745	1030	1330
4	1040	1020	1320	1330	2270	1790	6610	2910	1530	745	1030	1330
5	1040	1020	1320	1330	2700	1760	6530	2900	1310	746	1030	1330
6	1040	1030	1320	1560	3040	1850	6480	2880	980	745	1030	1330
7	1040	1020	1320	1770	2810	2100	6110	2850	733	747	1030	1330
8	1040	1020	1320	1770	2780	3650	4890	2860	733	741	1040	1330
9	1040	1020	1320	1780	2610	5890	4530	3070	733	735	1030	1330
10	1040	1020	1320	1890	2560	8150	4070	3320	733	737	1030	1340
11	1040	1020	1320	1800	2730	9780	3450	3450	734	733	1030	1340
12	1040	1020	1320	1780	2780	8520	3040	3830	733	734	1030	1330
13	1040	1030	1330	1770	2780	7110	3050	3230	733	735	1030	1340
14	1040	1020	1330	1770	2650	6740	3270	3190	734	735	1030	1340
15	1040	1020	1320	1760	2620	6660	3310	3170	738	736	1030	1340
16	1040	1020	1320	1770	2440	6690	3290	2720	741	731	1030	1340
17	1040	1020	1320	1770	1670	6990	3280	2290	736	734	1040	1380
18	1040	1020	1320	1770	1360	6770	3270	1830	735	736	1040	1330
19	1040	1020	1320	1620	1360	6780	3250	1780	762	737	1040	1320
20	1040	1020	1330	1410	1350	6590	3230	1770	756	740	1040	1330
21	1040	1030	1330	1330	1350	6650	3310	1770	740	735	1040	1340
22	1040	1360	1330	1390	1390	6750	3370	1610	742	739	1040	1340
23	1040	1620	1330	1340	1560	6690	3510	1230	738	740	1030	1340
24	1030	1790	1330	1340	1780	6690	4060	1400	749	747	1030	1340
25	1030	1710	1330	1340	1910	6790	4880	1400	739	749	1030	1340
26	1030	1510	1330	1510	1940	6560	5590	1480	741	751	1030	1340
27	1040	1420	1320	1770	1900	6480	6280	1580	738	739	1030	1340
28	1030	1430	1340	1780	1820	6650	6290	1570	736	736	1030	1340
29	1030	1360	1320	1770	---	6670	5620	1320	740	736	1040	1340
30	1030	1320	1320	1770	---	6630	5420	1450	768	737	1060	1340
31	1020	---	1320	1770	---	6660	---	2030	---	744	1060	---
TOTAL	32160	34970	41030	49740	59490	176440	140270	76480	27625	22939	32070	40110
MEAN	1037	1166	1324	1605	2125	5692	4676	2467	921	740	1035	1337
MAX	1040	1790	1340	1890	3040	9780	6800	5290	2200	751	1060	1380
MIN	1020	1020	1320	13	1350	1760	3040	1230	733	731	1030	1320
AC-FT	63790	69360	81380	98660	118000	350000	278200	151700	54790	45500	63610	79560

CAL YR 1988 TOTAL 455204 MEAN 1244 MAX 2870 MIN 539 AC-FT 902900
WTR YR 1989 TOTAL 733324 MEAN 2009 MAX 9780 MIN 731 AC-FT 1455000

11517500 SHASTA RIVER NEAR YREKA, CA

LOCATION.--Lat 41°49'23", long 122°35'40", in SE 1/4 NE 1/4 sec.24, T.46 N., R.7 W., Siskiyou County, Hydrologic Unit 18010207, on right bank 24 mi downstream from Lake Shastina, 0.5 mi upstream from mouth, and 7 mi north of Yreka.

DRAINAGE AREA.--793 mi^2.

PERIOD OF RECORD.--October 1933 to December 1941, December 1944 to current year.
CHEMICAL DATA: Water years 1959-79.
WATER TEMPERATURE: Water years 1965-79.
SEDIMENT DATA: Water years 1955-56, 1958-62.

REVISED RECORDS.--WSP 1929: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 2, 1933, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. Low flow completely regulated by Lake Shastina (formerly Lake Dwinnell) beginning in 1928; storage limited to 50,000 acre-ft. Many diversions above station for irrigation. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--52 years (water years 1934-41, 1946-89), 187 ft^3/s, 135,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s, Dec. 22, 1964, gage height, 12.92 ft, in gage well, 13.85 ft, from floodmarks, from rating curve extended above 4,100 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft^3/s, Aug. 24, 1981, July 17, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 630 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2230	745	5.10	Mar. 9	2015	*893	*5.36

Minimum daily, 11 ft^3/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	129	177	170	204	178	312	166	111	37	24	41
2	35	135	179	171	195	235	286	157	98	41	30	28
3	50	173	176	175	185	219	292	133	82	47	31	26
4	39	156	172	179	175	204	274	105	137	42	25	28
5	46	151	171	189	169	235	274	88	119	37	21	29
6	41	152	172	196	169	328	255	79	143	38	21	36
7	41	151	172	186	157	355	237	69	135	41	17	33
8	34	152	169	182	157	372	232	94	117	32	27	31
9	38	156	169	184	160	672	222	314	96	20	124	30
10	55	160	171	297	161	756	217	347	85	16	90	30
11	93	156	170	285	168	636	215	354	75	37	49	33
12	81	166	169	214	170	532	180	305	50	30	26	35
13	68	181	169	196	170	453	168	224	64	29	26	33
14	64	178	169	187	166	387	161	187	49	28	36	48
15	79	169	166	186	163	345	153	152	50	52	28	43
16	104	167	164	187	165	355	134	87	60	41	35	45
17	114	174	164	185	170	360	132	94	48	29	33	197
18	123	169	164	182	176	347	138	85	55	27	30	368
19	124	168	167	180	176	324	136	75	47	27	41	289
20	127	178	169	177	174	301	141	72	38	18	28	202
21	125	187	174	175	170	300	174	67	34	12	22	176
22	126	357	184	200	173	329	207	61	33	14	23	156
23	132	439	184	226	209	310	199	65	27	15	24	151
24	125	243	179	198	197	303	256	80	32	23	28	150
25	133	206	178	187	186	318	261	83	36	26	30	144
26	127	189	173	185	183	306	252	84	38	22	37	142
27	128	182	169	181	180	288	228	72	36	14	36	140
28	134	186	168	180	181	266	206	73	34	12	43	144
29	131	182	171	184	---	249	191	117	40	12	43	146
30	129	179	171	188	---	238	170	132	39	11	48	158
31	129	---	171	196	---	293	---	122	---	12	62	---
TOTAL	2811	5571	5321	6008	4909	10794	6303	4143	2008	842	1138	3112
MEAN	90.7	186	172	194	175	348	210	134	66.9	27.2	36.7	104
MAX	134	439	184	297	209	756	312	354	143	52	124	368
MIN	34	129	164	170	157	178	132	61	27	11	17	26
AC-FT	5580	11050	10550	11920	9740	21410	12500	8220	3980	1670	2260	6170

CAL YR 1988 TOTAL 39863 MEAN 109 MAX 439 MIN 12 AC-FT 79070
WTR YR 1989 TOTAL 52960 MEAN 145 MAX 756 MIN 11 AC-FT 105000

11519500 SCOTT RIVER NEAR FORT JONES, CA

LOCATION.--Lat 41°38'27", long 123°00'50", in NE 1/4 NE 1/4 sec.29, T.44 N., R.10 W., Siskiyou County, Hydrologic Unit 18010208, on right bank 1.8 mi upstream from Snow Creek and 9.0 mi west of Fort Jones.

DRAINAGE AREA.--653 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only October to December 1941, published in WSP 1315-B.
CHEMICAL DATA: Water years 1959-79.
SEDIMENT DATA: Water years 1955-56.

REVISED RECORDS.--WSP 1445: 1942-43(M), 1946(M), 1948. WSP 1715: 1951-52(M). WSP 1929: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,623.80 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1966, water-stage recorder 400 ft downstream at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Diversions for irrigation of about 30,000 acres above station. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--48 years, 656 ft^3/s, 475,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,600 ft^3/s, Dec. 22, 1964, gage height, 25.34 ft, from floodmarks, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement at 21.40 ft, site and datum then in use; minimum daily, 5.0 ft^3/s, several days during August 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0900	4,540	11.24	Mar. 10	0400	*6,430	*12.61

Minimum daily, 14 ft^3/s, Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	27	403	229	347	365	1620	825	474	137	30	22
2	14	31	374	226	347	486	1480	822	514	137	29	22
3	14	34	349	233	341	504	1360	841	566	129	27	20
4	15	61	326	238	325	437	1230	945	718	123	24	20
5	19	75	310	245	301	740	1190	1150	742	121	23	21
6	20	67	314	242	275	2290	1270	1400	664	110	21	22
7	21	62	344	238	271	1810	1490	1440	627	103	19	22
8	21	60	330	234	271	1530	1690	1460	580	98	17	23
9	23	61	314	236	277	3080	1760	1730	536	88	20	22
10	25	68	306	410	284	5230	1820	1870	472	85	22	22
11	25	69	308	503	286	3800	1680	1440	429	83	24	22
12	26	73	309	400	281	2860	1600	1170	413	80	23	23
13	28	80	319	365	273	2290	1580	1040	395	75	21	23
14	30	96	324	339	267	1820	1720	955	366	71	21	25
15	31	106	309	322	262	1530	1940	891	355	69	20	25
16	31	104	292	315	261	1440	1950	854	355	67	18	25
17	32	111	282	307	266	1340	1860	862	323	64	17	31
18	34	118	274	297	285	1290	1920	860	287	62	19	38
19	35	118	268	292	316	1330	2030	769	267	58	19	41
20	34	116	268	290	318	1250	1970	693	246	53	21	41
21	33	133	276	291	304	1560	1780	662	218	52	20	42
22	32	1240	279	338	350	1930	1550	642	201	53	19	43
23	33	3450	269	377	490	1610	1320	664	184	49	19	43
24	33	1310	266	350	461	1510	1180	640	168	48	19	43
25	33	796	258	334	426	1740	1060	608	162	46	19	45
26	35	585	242	324	397	1590	974	572	166	44	18	48
27	33	477	234	318	381	1390	894	551	154	41	18	47
28	32	527	236	312	371	1430	832	545	140	38	19	47
29	32	522	233	308	---	1380	794	533	140	34	17	47
30	29	449	233	310	---	1280	777	504	143	33	18	49
31	27	---	233	326	---	1690	---	478	---	31	19	---
TOTAL	846	11026	9082	9549	9034	52532	44321	28416	11005	2282	640	964
MEAN	27.3	368	293	308	323	1695	1477	917	367	73.6	20.6	32.1
MAX	35	3450	403	503	490	5230	2030	1870	742	137	30	49
MIN	14	27	233	226	261	365	777	478	140	31	17	20
AC-FT	1680	21870	18010	18940	17920	104200	87910	56360	21830	4530	1270	1910

CAL YR 1988 TOTAL 109141.6 MEAN 298 MAX 3450 MIN 6.2 AC-FT 216500
WTR YR 1989 TOTAL 179697 MEAN 492 MAX 5230 MIN 14 AC-FT 356400

11520500 KLAMATH RIVER NEAR SEIAD VALLEY, CA

LOCATION.--Lat 41°51'14", long 123°13'52", in SW 1/4 SW 1/4 sec.3, T.46 N., R.12 W., Siskiyou County, Hydrologic Unit 18010206, Klamath National Forest, on left bank 0.4 mi upstream from Bittenbender Creek, 1.4 mi downstream from Grider Creek, 2.2 mi west of Seiad Valley, and 55 mi downstream from Iron Gate Dam.

DRAINAGE AREA.--6,940 mi^2, approximately (not including Lost River, Butte Creek or Lower Klamath Lake basins).

PERIOD OF RECORD.--October 1912 to September 1925, July 1951 to current year. Monthly discharges only for some periods, published in WSP 1315-B.
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURE: Water years 1964-79.
SEDIMENT DATA: Water years 1955-56.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above National Geodetic Vertical Datum of 1929, from river-profile map. November 1912 to June 1925, nonrecording gage at site 3.5 mi upstream at different datum.

REMARKS.--Records good. Low flow regulated considerably by reservoirs and powerplants upstream from station. Large diversions upstream from station for irrigation. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--51 years (water years 1913-25, 1952-89), 4,071 ft^3/s, 2,949,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 165,000 ft^3/s, Dec. 23, 1964, gage height, 33.75 ft, from floodmarks, from rating curve extended above 49,000 ft^3/s on basis of slope-area measurements at gage heights 20.1 and 29.2 ft; minimum daily, 320 ft^3/s, Nov. 25, 1917.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0315	11,000	9.16	Mar. 10	0730	*19,700	*12.14

Minimum daily, 939 ft^3/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	1280	2400	1990	2980	2890	10600	7610	3410	1300	1080	e1670
2	1180	1340	2310	2000	2930	3140	10500	6090	3410	1220	e1310	e1670
3	1200	1520	2250	2050	2850	3280	10400	5140	3190	1200	e1300	e1650
4	1200	1420	2190	2080	2870	3070	9980	5040	3310	1190	e1290	e1650
5	1220	1390	2150	2130	3300	3790	9770	5310	2990	1170	e1290	e1660
6	1220	1420	2160	2130	3800	6920	9870	5640	2770	1150	e1290	e1670
7	1210	1400	2180	2440	3710	6250	10000	5680	2220	1120	e1280	e1660
8	1200	1390	2160	2470	3600	6740	9210	5780	2090	1110	e1300	e1660
9	1200	1390	2140	2530	3490	11100	8540	6860	2000	1080	e1410	e1660
10	1200	1490	2140	4070	3390	18200	8330	7500	1900	1050	e1370	e1670
11	1240	1450	2140	3810	3400	17500	7250	6650	1810	1050	e1320	e1670
12	1260	1440	2130	3200	3560	16300	6830	6620	1750	1060	e1310	e1670
13	1240	1590	2150	3000	3550	13600	6480	5980	1710	1050	e1300	e1680
14	1230	1580	2140	2850	3460	11700	6820	5550	1660	1040	e1300	e1700
15	1240	1530	2100	2770	3340	10800	7240	5360	1660	1050	e1290	e1680
16	1270	1540	2070	2730	3340	10500	7180	5020	1660	1050	e1300	e1680
17	1270	1640	2050	2710	2820	10600	7040	4520	1600	1040	e1310	e1930
18	1290	1550	2030	2670	2330	10500	7130	3970	1510	1020	e1310	e2080
19	1290	1510	2030	2640	2370	10600	7280	3540	1460	1010	e1320	e1980
20	1290	1510	2060	2430	2400	10200	7190	3380	1440	1000	e1310	e1890
21	1300	1700	2120	2300	2400	10700	6980	3310	1390	987	e1300	e1850
22	1300	4910	2150	2630	2640	11500	6700	3270	1310	972	e1300	e1830
23	1300	8980	2120	2660	3030	10900	6350	2890	1280	987	e1290	e1790
24	1290	4770	2080	2500	3230	10600	6340	2890	1250	987	e1290	e1790
25	1290	3610	2070	2410	3120	11100	7290	2870	1250	987	e1290	e1770
26	1290	3160	2020	2360	3210	10700	7620	2790	1240	979	e1300	e1760
27	1290	2640	1990	2650	3090	10100	8430	2900	1220	987	e1300	e1740
28	1290	2780	1990	2700	3010	10200	8530	2900	1180	972	e1310	e1730
29	1290	2730	1990	2690	---	10200	8080	2890	1200	959	e1320	e1720
30	1290	2480	2010	2750	---	10000	7400	2430	1240	939	e1350	e1700
31	1290	---	2010	2860	---	10600	---	3000	---	945	e1370	---
TOTAL	38860	67140	65530	81210	87220	304280	241360	143380	56110	32661	40410	52260
MEAN	1254	2238	2114	2620	3115	9815	8045	4625	1870	1054	1304	1742
MAX	1300	8980	2400	4070	3800	18200	10600	7610	3410	1300	1410	2080
MIN	1180	1280	1990	1990	2330	2890	6340	2430	1180	939	1080	1650
AC-FT	77080	133200	130000	161100	173000	603500	478700	284400	111300	64780	80150	103700

CAL YR 1988 TOTAL 748074 MEAN 2044 MAX 8980 MIN 745 AC-FT 1484000
WTR YR 1989 TOTAL 1210421 MEAN 3316 MAX 18200 MIN 939 AC-FT 2401000

e Estimated.

11521500 INDIAN CREEK NEAR HAPPY CAMP, CA

LOCATION.--Lat 41°50'07", long 123°22'55", in SW 1/4 SW 1/4 sec.26, T.17 N., R.7 E., Siskiyou County, Hydrologic Unit 18010209, on left bank 0.2 mi upstream from Slater Creek, 3.0 mi north of Happy Camp, and 3.5 mi upstream from mouth.
DRAINAGE AREA.--120 mi^2.
PERIOD OF RECORD.--September 1911 to September 1921 (fragmentary), December 1956 to current year. Monthly discharge only for some periods, published in WSP 1315-B.
REVISED RECORDS.--WSP 1635: 1957-58.
GAGE.--Water-stage recorder. Datum of gage is 1,198.37 ft above National Geodetic Vertical Datum of 1929. Prior to December 1956, nonrecording gages at sites 1.0 mi upstream at different datums. December 1956 to Sept. 20, 1969, water-stage recorder at site 0.8 mi upstream at different datum.
REMARKS.--Records good. Small diversions upstream from station for irrigation. See schematic diagram of Klamath and Trinity River basins.
AVERAGE DISCHARGE.--35 years (water years 1912-14, 1958-89), 429 ft^3/s, 310,800 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft^3/s, Dec. 22, 1964, gage height, 24.3 ft, from floodmarks, present site and datum; 36.59 ft from floodmarks in gage well, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurement at gage height 29.0 ft, previous site and datum; minimum discharge observed, 20 ft^3/s, Aug. 19 to Sept. 6, 1914.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 29.0 ft, at 1956-69 site and datum, from floodmarks, discharge, 23,000 ft^3/s on basis of slope-area measurement of peak flow.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1845	*7,390	*11.65	Mar. 9	2200	3,470	8.94
Jan. 10	e0500	4,610	a9.88				

a From floodmarks in gage well

Minimum daily, 36 ft^3/s, several days during October.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	37	360	192	458	433	1090	530	297	125	74	49
2	37	75	319	192	418	470	1090	508	304	119	71	48
3	36	126	291	201	372	417	1040	520	294	115	69	47
4	36	70	271	201	337	395	952	568	288	112	67	46
5	40	66	255	201	296	1420	973	656	273	109	66	46
6	41	93	295	201	278	1920	1090	645	258	106	64	45
7	39	67	319	198	263	1320	1220	618	237	102	63	45
8	39	63	288	195	254	1120	1240	626	225	100	62	45
9	38	67	275	e627	242	2660	1250	608	217	98	63	44
10	37	221	302	e1700	233	2530	1200	517	206	97	62	44
11	37	147	326	585	224	2560	1060	450	198	95	61	44
12	37	161	319	438	219	2040	1050	417	192	93	60	43
13	37	245	334	377	213	1830	1070	398	185	91	59	42
14	40	206	302	323	208	1380	1100	383	183	90	58	42
15	40	195	261	297	202	1140	1050	373	188	88	57	42
16	39	264	236	278	201	1130	983	369	182	88	56	42
17	39	360	218	270	213	1070	954	371	169	88	54	61
18	37	209	201	261	273	1360	959	357	162	86	53	60
19	37	159	198	257	377	1430	920	320	158	83	52	53
20	37	154	215	256	375	1190	862	304	152	81	52	49
21	37	715	218	290	402	1590	799	299	146	79	52	48
22	36	4340	230	418	906	1450	688	297	142	77	53	46
23	36	2020	209	381	910	1170	635	340	141	75	55	45
24	36	853	209	340	701	1150	584	331	138	74	54	44
25	36	592	192	311	589	1560	561	327	132	72	53	44
26	36	506	179	293	518	1240	528	334	128	71	52	45
27	36	427	176	287	478	1060	497	366	125	70	50	51
28	36	669	166	284	445	1210	480	355	124	70	49	49
29	36	506	159	288	---	1120	473	318	135	68	49	54
30	36	415	192	366	---	1050	512	299	139	69	50	69
31	37	---	204	440	---	1210	---	293	---	71	50	---
TOTAL	1158	14028	7719	10948	10605	41625	26910	13097	5718	2762	1790	1432
MEAN	37.4	468	249	353	379	1343	897	422	191	89.1	57.7	47.7
MAX	41	4340	360	1700	910	2660	1250	656	304	125	74	69
MIN	36	37	159	192	201	395	473	293	124	68	49	42
AC-FT	2300	27820	15310	21720	21040	82560	53380	25980	11340	5480	3550	2840

CAL YR 1988 TOTAL 90909 MEAN 248 MAX 4340 MIN 35 AC-FT 180300
WTR YR 1989 TOTAL 137792 MEAN 378 MAX 4340 MIN 36 AC-FT 273300

e Estimated.

11522500 SALMON RIVER AT SOMES BAR, CA

LOCATION.--Lat 41°22'40", long 123°28'35", in NE 1/4 sec.3, T.11 N., R.6 E., Siskiyou County, Hydrologic Unit 18010210, Klamath National Forest, on left bank at Somes Bar, 1.0 mi upstream from mouth.

DRAINAGE AREA.--751 mi^2.

PERIOD OF RECORD.--September 1911 to September 1915, October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1285: 1912, 1914, 1915(M), 1946(M), 1948(M). WDR CA-72-1: 1970-1971(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 482.97 ft above National Geodetic Vertical Datum of 1929. Prior to October 1927, nonrecording gage at different datum, October 1927 to Dec. 22, 1964, water-stage recorder at site 0.5 mi upstream at datum 6.54 ft higher.

REMARKS.--Records fair. No storage or large diversion above station.

AVERAGE DISCHARGE.--66 years, 1,811 ft^3/s, 1,312,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 133,000 ft^3/s, Dec. 22, 1964, gage height, 46.6 ft, present site and datum, from floodmarks, from rating curve extended above 33,000 ft^3/s; minimum, 70 ft^3/s, Aug. 25, Sept. 4, 5, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2100	*24,400	*14.75	Mar. 9	2245	13,900	10.65

Minimum daily, 132 ft^3/s, Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	133	1760	e1110	2500	e1530	5730	e2540	1640	743	320	220
2	141	243	1590	e1100	2310	2280	5630	e2500	1880	661	317	213
3	141	935	e1500	e1130	2050	2180	5350	e2400	2080	622	308	208
4	146	486	e1410	1190	1830	1990	4900	e2300	2210	599	299	201
5	189	338	e1370	1340	e1720	4380	4710	e2400	2070	573	288	197
6	180	429	e1430	1310	e1700	7920	4840	e2590	1890	553	280	193
7	174	399	e1500	1230	e1710	5940	5200	e2630	1820	534	272	190
8	175	348	e1460	1170	e1670	5160	5370	e2570	1700	517	265	189
9	171	334	e1350	1300	e1610	10600	e5200	e2510	1560	504	270	189
10	165	539	e1400	3590	e1580	11100	e4800	e2680	1400	490	283	186
11	158	543	e1450	3080	e1530	8650	e4450	e2700	1350	479	275	184
12	157	537	e1400	2420	e1500	6780	e4200	e2510	1340	467	260	179
13	157	902	e1370	2100	e1490	6010	e4000	2380	1280	457	256	178
14	159	889	e1300	1820	e1470	5040	e3900	2270	1180	446	252	179
15	164	661	e1210	1640	e1430	4450	e4000	2160	1180	436	247	175
16	164	746	e1170	1530	e1410	4320	e3810	2110	1150	428	244	179
17	164	1310	e1150	1450	e1390	3970	e3600	e2030	1030	427	240	286
18	156	848	e1120	1410	e1370	4020	e3600	e1980	970	424	233	476
19	151	645	e1090	1420	e1530	4500	e3700	1910	933	409	264	374
20	151	618	e1080	1550	e1590	4230	e3610	1800	890	396	256	309
21	150	1500	e1200	1750	e1650	5700	e3430	1770	827	387	239	273
22	145	12800	e1450	2630	e2000	6020	e3220	1770	799	379	237	252
23	141	11600	e1410	2600	e2600	5070	e3080	1770	822	366	263	236
24	138	4240	e1330	2270	e2300	4940	e2940	1770	809	357	269	226
25	138	3020	e1260	2010	e2030	5780	e2830	1730	767	346	253	216
26	136	2470	e1170	1840	e1890	5110	e2750	1690	737	338	243	216
27	135	2030	e1110	1790	e1780	4600	e2760	1690	697	330	233	228
28	135	2790	e1080	1750	e1670	4970	e2800	1700	681	322	225	225
29	135	2470	e1000	1730	---	4640	e2850	1680	722	316	219	236
30	133	2030	e1070	2070	---	4380	e2690	1580	847	313	220	327
31	132	---	e1240	2450	---	6200	---	1510	---	312	225	---
TOTAL	4732	56833	40430	55780	49310	162460	119950	65630	37261	13931	8055	6940
MEAN	153	1894	1304	1799	1761	5241	3998	2117	1242	449	260	231
MAX	189	12800	1760	3590	2600	11100	5730	2700	2210	743	320	476
MIN	132	133	1000	1100	1370	1530	2690	1510	681	312	219	175
AC-FT	9390	112700	80190	110600	97810	322200	237900	130200	73910	27630	15980	13770

CAL YR 1988 TOTAL 410302 MEAN 1121 MAX 12800 MIN 132 AC-FT 813800
WTR YR 1989 TOTAL 621312 MEAN 1702 MAX 12800 MIN 132 AC-FT 1232000

e Estimated.

11523000 KLAMATH RIVER AT ORLEANS, CA

LOCATION.--Lat 41°18'13", long 123°32'00", in SW 1/4 NE 1/4 sec.31, T.11 N., R.6 E., Humboldt County, Hydrologic Unit 18010209, Six Rivers National Forest, on right bank at Orleans, 25 ft upstream from highway bridge, and 0.2 mi downstream from Cheenitch Creek.

DRAINAGE AREA.--8,475 mi^2, not including Lost River or Lower Klamath Lake basins.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1965, published as "at Somesbar."

REVISED RECORDS.--WSP 1565: 1935(M), 1949.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 355.98 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1965, at site 6.7 mi upstream at datum 90.68 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--62 years, 8,266 ft^3/s, 5,989,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 307,000 ft^3/s, Dec. 22, 1964, gage height, 76.5 ft, from floodmarks, site and datum then in use, from rating curve extended above 80,000 ft^3/s by slope-conveyance study; minimum daily, 320 ft^3/s, Aug. 25, Sept. 1, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	2210	*66,800	*18.86				

Minimum daily, 1,540 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1570	1640	7580	4900	8930	7810	23500	13800	6870	3040	1780	1790
2	1550	2010	6920	4820	8610	9330	23500	13200	7320	2910	1870	1890
3	1540	3470	6410	5040	7940	9240	22900	11600	7400	2810	1980	1960
4	1560	2520	6010	5210	7380	8740	21700	11600	7300	2760	1980	1960
5	1620	2100	5700	5490	7230	14900	21100	12600	7130	2700	1970	1960
6	1630	2440	5850	5450	7320	27400	21500	13300	6510	2630	1930	1950
7	1610	2250	6060	5390	7480	22700	22300	13200	6060	2560	1910	1950
8	1600	2130	5730	5540	7080	19600	22200	13200	5470	2500	1890	1950
9	1570	2110	5530	5910	6930	29900	21200	14300	5190	2460	1890	1950
10	1570	3470	5690	13700	6640	38000	20700	14800	4890	2400	1980	1950
11	1570	3250	5850	13000	6460	35300	19100	13000	4680	2350	1980	1940
12	1600	2950	5700	10000	6490	32000	18400	12000	4560	2320	1910	1930
13	1610	4270	5730	8830	6450	29600	17900	11600	4400	2260	1880	1920
14	1630	4440	5520	7930	6350	25200	18400	10700	4230	2230	1860	1920
15	1630	3630	5180	7320	6150	22500	18900	10300	4200	2200	1850	1920
16	1620	4000	4910	7000	6070	21800	18300	10100	4210	2180	1840	1920
17	1640	5910	4690	6800	6040	21400	17900	9650	3960	2180	1830	2060
18	1630	4250	4520	6630	5870	23000	18000	9140	3790	2160	1830	2550
19	1650	3440	4510	6570	6670	24300	18200	8050	3650	2100	1840	2540
20	1640	3310	4650	6570	6680	22700	17900	7570	3540	2060	1850	2350
21	1640	6430	5300	6600	6780	24700	16900	7410	3440	2020	1840	2230
22	1640	36300	5890	8920	9260	26500	15500	7300	3310	1990	1810	2180
23	1640	34200	5760	9050	12000	23900	14300	7690	3240	1950	1810	2140
24	1640	17400	5430	8170	10300	23000	13600	7220	3190	1930	1820	2120
25	1640	12700	5120	7450	9390	25900	13600	7130	3100	1900	1830	2110
26	1620	10800	4790	6990	8760	24500	13800	7010	3040	1870	1830	2100
27	1640	9160	4650	6890	8380	22300	14100	7120	2980	1850	1810	2200
28	1640	10700	4530	7070	8040	22800	14400	7170	2940	1840	1800	2160
29	1640	9960	4390	6980	---	22400	14100	6930	2980	1810	1790	2170
30	1640	8550	4720	7680	---	21100	13500	6480	3180	1790	1780	2350
31	1640	---	5120	8620	---	24000	---	6270	---	1780	1800	---
TOTAL	50060	219790	168440	226520	211680	706520	547400	311440	136760	69540	57770	62120
MEAN	1615	7326	5434	7307	7560	22790	18250	10050	4559	2243	1864	2071
MAX	1650	36300	7580	13700	12000	38000	23500	14800	7400	3040	1980	2550
MIN	1540	1640	4390	4820	5870	7810	13500	6270	2940	1780	1780	1790
AC-FT	99290	436000	334100	449300	419900	1401000	1086000	617700	271300	137900	114600	123200

CAL YR 1988 TOTAL 1689260 MEAN 4615 MAX 36300 MIN 1450 AC-FT 3351000
WTR YR 1989 TOTAL 2768040 MEAN 7584 MAX 38000 MIN 1540 AC-FT 5490000

11523200 TRINITY RIVER ABOVE COFFEE CREEK, NEAR TRINITY CENTER, CA

LOCATION.--Lat 41°06'41", long 122°42'16", in SW 1/4 NW 1/4 sec.32, T.38 N., R.7 W., Trinity County, Hydrologic Unit 18010211, Shasta National Forest, on left bank 24 ft upstream from State Highway No. 3 bridge, 1.8 mi upstream from Coffee Creek, and 8.6 mi north of Trinity Center.

DRAINAGE AREA.--149 mi^2.

PERIOD OF RECORD.--September 1957 to current year.

REVISED RECORDS.--WDR CA-85-2: 1982 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,536.93 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, water-stage recorder at site 0.2 mi downstream at datum 3.57 ft lower.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--32 years, 414 ft^3/s, 299,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,500 ft^3/s, Jan. 16, 1974, gage height, 12.96 ft, site and datum then in use, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 13.78 ft, Nov. 16, 1981, present site and datum; minimum daily, 16 ft^3/s, Sept. 11-14, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 10.5 ft, previous site and datum, from floodmarks, discharge, 11,400 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 9	1530	*10,100	*12.57				

Minimum daily, 29 ft^3/s, Sept. 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	35	136	97	268	204	830	767	306	119	47	32
2	34	66	132	97	238	219	815	723	323	106	47	32
3	34	203	129	106	214	201	730	760	339	97	47	32
4	34	81	126	112	183	190	685	858	421	93	45	31
5	35	62	123	120	160	281	784	1020	349	89	43	31
6	36	62	133	119	159	519	1010	1070	363	85	42	31
7	36	60	156	117	155	634	1340	1020	297	80	41	30
8	36	56	147	114	149	1300	1500	1020	272	77	41	30
9	36	60	145	114	151	7190	1530	1170	249	76	49	30
10	35	100	171	129	141	4220	1460	1010	228	75	46	30
11	35	88	186	123	136	3730	1310	761	216	71	42	30
12	35	98	186	115	130	2210	1270	653	217	68	41	29
13	35	149	211	114	126	1500	1280	605	201	67	40	29
14	41	119	188	112	122	1050	1430	556	187	65	40	29
15	42	100	162	114	119	836	1520	529	180	65	39	29
16	40	120	149	111	118	806	1450	527	176	65	38	39
17	38	122	137	110	118	717	1430	549	159	65	38	86
18	37	97	130	111	135	730	1470	517	149	63	38	94
19	36	86	127	126	150	743	1540	438	141	60	39	65
20	36	80	129	144	152	698	1410	414	133	58	38	50
21	36	89	127	154	152	751	1260	405	130	57	36	44
22	36	441	122	206	238	846	919	408	125	56	35	40
23	36	537	115	195	297	777	813	473	121	55	38	38
24	36	238	114	178	248	1000	700	394	116	53	38	38
25	35	175	106	169	224	1620	621	371	110	52	37	37
26	35	144	97	165	213	1080	574	348	104	50	36	38
27	35	127	96	171	210	873	566	336	102	49	35	43
28	35	155	103	171	206	920	553	325	102	49	34	41
29	35	154	98	176	---	831	559	311	107	48	33	41
30	35	142	100	224	---	747	726	296	148	47	32	54
31	35	---	100	266	---	835	---	295	---	47	32	---
TOTAL	1115	4046	4181	4380	4912	38258	32085	18929	6071	2107	1227	1203
MEAN	36.0	135	135	141	175	1234	1069	611	202	68.0	39.6	40.1
MAX	42	537	211	266	297	7190	1540	1170	421	119	49	94
MIN	34	35	96	97	118	190	553	295	102	47	32	29
AC-FT	2210	8030	8290	8690	9740	75880	63640	37550	12040	4180	2430	2390

CAL YR 1988 TOTAL 91734 MEAN 251 MAX 890 MIN 34 AC-FT 182000
WTR YR 1989 TOTAL 118514 MEAN 325 MAX 7190 MIN 29 AC-FT 235100

11525400 CLAIR ENGLE LAKE NEAR LEWISTON, CA

LOCATION.--Lat 40°48'05", long 122°45'44", in NW 1/4 SW 1/4 sec.15, T.34 N., R.8 W., Trinity County, Hydrologic Unit 18010211, Trinity National Forest, Whiskeytown-Shasta-Trinity National Recreation Area, on side of intake structure of Trinity Dam on Trinity River, 9 mi north of Lewiston.
DRAINAGE AREA.--692 mi^2.
PERIOD OF RECORD.--November 1960 to current year. Prior to October 1963 published as Trinity Lake near Lewiston.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Jan. 4, 1962, nonrecording gage at same site and datum. Contents based on capacity table dated April 1962 provided by U.S. Bureau of Reclamation.
REMARKS.--The lake is formed by an earthfill dam completed in November 1960. Storage began Nov. 23, 1960. Usable capacity, 2,437,700 acre-ft between elevations 1,995.5 ft, elevation of invert of river outlets, and 2,370.0 ft, crest of glory hole spillway. Dead storage, 10,000 acre-ft. Operating pool is from elevation 2,145.0 ft, capacity, 312,621 acre-ft, to 2,370.0 ft, capacity, 2,447,700 acre-ft. Figures given herein represent total contents at 2400 hours. Lake is used for power generation, flood control, and recreation. See schematic diagram of Klamath and Trinity River basins.
COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.
EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 2,588,000 acre-ft, Jan. 19, 1974, elevation, 2,378.32 ft; minimum since first filling, 222,400 acre-ft, Nov. 9, 1977, elevation, 2,120.22 ft.
EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 1,917,740 acre-ft, June 14, elevation, 2,335.19 ft; minimum, 1,195,012 acre-ft, Nov. 20, elevation, 2,275.67 ft.

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

2,100	162,231	2,250	955,140
2,140	292,859	2,310	1,583,586
2,190	529,611	2,380	2,616,989

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1471671	1264650	1231155	1249584	1277724	1308784	1672500	1843239	1894865	1907332	1722064	1560782
2	1463607	1259678	1231986	1249794	1279433	1311834	1679362	1844194	1897659	1907473	1715492	1557329
3	1456520	1254525	1232713	1250319	1280711	1313794	1685448	1845564	1900732	1906070	1709062	1553766
4	1448393	1249062	1232921	1250424	1281995	1316314	1691305	1849828	1903539	1905648	1702521	1548353
5	1440767	1244467	1233126	1251475	1282962	1325531	1697292	1855190	1906211	1903539	1695601	1544431
6	1433177	1238209	1233957	1252001	1282962	1336133	1704875	1860147	1908597	1897939	1689093	1540394
7	1425143	1230948	1234683	1252738	1283605	1345809	1714176	1864846	1910703	1891232	1682211	1533546
8	1418534	1224030	1235514	1253264	1284142	1361598	1724166	1869409	1912390	1883983	1675607	1526973
9	1412292	1217850	1236135	1253791	1284895	1413907	1734333	1875504	1913793	1877312	1668892	1519564
10	1406067	1212831	1236862	1255157	1285860	1448393	1744133	1879535	1915199	1870931	1661806	1512297
11	1399981	1209247	1237485	1255999	1286397	1477501	1753028	1881204	1917033	1864984	1654620	1504939
12	1393338	1206392	1238313	1256733	1287150	1495435	1761424	1882592	1917316	1858070	1647314	1498192
13	1386952	1204965	1239351	1257365	1287688	1508071	1770244	1883426	1917316	1851202	1640043	1491479
14	1380688	1201404	1240500	1257996	1288118	1517746	1779621	1884261	1917740	1844468	1633035	1485011
15	1375139	1198961	1241230	1258733	1288438	1525149	1789704	1884818	1916892	1837489	1628217	1477382
16	1369703	1198046	1241439	1259152	1288975	1531965	1799559	1885371	1915765	1830515	1623904	1470247
17	1364638	1196429	1241857	1259573	1289513	1539536	1809302	1885788	1916047	1824248	1619223	1465147
18	1358896	1195417	1242066	1260099	1290910	1549215	1818800	1885927	1916613	1818118	1612662	1458643
19	1352625	1195518	1242066	1260733	1291983	1557945	1825885	1885649	1915765	1811607	1608876	1453217
20	1346697	1195012	1243007	1261581	1293279	1565233	1832290	1885235	1916189	1805640	1605611	1446162
21	1340580	1197135	1243945	1262639	1294792	1572903	1836807	1884818	1915482	1798883	1601845	1439009
22	1333151	1210782	1245199	1264756	1296522	1581102	1839269	1883983	1915623	1792536	1597702	1431426
23	1325863	1219392	1246242	1266135	1299012	1589454	1840910	1883566	1914496	1786077	1594075	1424099
24	1318727	1222895	1247078	1267192	1300742	1599964	1842006	1884539	1914496	1779355	1590204	1417142
25	1311507	1224959	1247601	1268358	1302363	1614806	1842280	1885649	1914496	1772387	1586708	1409641
26	1304753	1226401	1247601	1269630	1303992	1625300	1842143	1886344	1913933	1765293	1583089	1401816
27	1297713	1227330	1247705	1270582	1305298	1634052	1841595	1886901	1912671	1758093	1579735	1394940
28	1291338	1228565	1248124	1271647	1306606	1642465	1841321	1887460	1910141	1752098	1576132	1387864
29	1284465	1229704	1248333	1272925	---	1650005	1840910	1888159	1910000	1744664	1571662	1383078
30	1278045	1230327	1249166	1274420	---	1657054	1842143	1889834	1909160	1736973	1568075	1376159
31	1270900	---	1249584	1276126	---	1665026	---	1891932	---	1729184	1564491	---
MAX	1471671	1264650	1249584	1276126	1306606	1665026	1842280	1891932	1917740	1907473	1722064	1560782
MIN	1270900	1195012	1231155	1249584	1277724	1308784	1672500	1843239	1894865	1729184	1564491	1376159
a	2282.99	2279.12	2280.97	2283.48	2286.31	2316.43	2329.75	2333.35	2334.58	2321.35	2308.46	2292.57
b	-208150	-40573	+19257	+26542	+30480	+358420	+177117	+49789	+17228	-179976	-164693	-188332
c	2470	468	352	210	542	996	3713	5097	7100	8169	6797	4090

CAL YR 1988 b -373431
WTR YR 1989 b -102891

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet; not reviewed by U.S. Geological Survey.

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, at powerplant 1.6 mi downstream from Mill Creek and 3.8 mi south of French Gulch.

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

GAGE.--Recorded powerplant output.

REMARKS.--No estimated daily discharges. Water is diverted from Trinity River at NW 1/4 SE 1/4 sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of Klamath and Trinity River basins.

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

AVERAGE DISCHARGE.--26 years, 1,490 ft^3/s, 1,080,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,000 ft^3/s, Oct. 18, 1987; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3595	2846	.00	.00	.00	.00	.00	802	.00	822	3010	1508
2	3595	3335	.00	.00	.00	.00	.00	705	.00	.00	3014	1469
3	3480	3016	.00	.00	.00	.00	.00	829	.00	798	3006	1545
4	3526	2890	.00	.00	.00	.00	.00	.00	.00	.00	3004	1506
5	3306	2473	.00	.00	.00	.00	.00	30	.00	824	3012	1533
6	3544	2996	.00	.00	332	.00	.00	.00	.00	3010	2995	1486
7	3549	3379	.00	.00	.00	.00	.00	.00	.00	3023	3009	3006
8	2976	3328	.00	.00	.00	186	.00	.00	.00	3028	3013	3022
9	2888	3277	.00	.00	.00	243	.00	.00	.00	3012	3006	3450
10	2907	2773	.00	.00	.00	.00	.00	.00	.00	3021	3015	3489
11	3025	1680	.00	.00	.00	.00	.00	.00	.00	2980	2999	3286
12	3024	1514	.00	.00	.00	.00	.00	.00	.00	2960	3022	3041
13	3015	1470	.00	127	.00	.00	.00	.00	.00	2729	2997	3107
14	2908	2029	.00	.00	.00	.00	.00	.00	.00	2942	3009	3021
15	2550	1482	.00	.00	.00	.00	.00	.00	455	2999	2094	3492
16	2698	1254	.00	.00	.00	.00	.00	.00	429	2910	2017	3500
17	2405	982	.00	.00	.00	.00	.00	.00	.00	3020	2016	3174
18	2737	540	.00	.00	.00	.00	1	.00	.00	2973	3000	3325
19	2788	.00	272	.00	.00	.00	1530	.00	362	2975	1522	2653
20	2792	.00	.00	.00	.00	.00	1538	.00	.00	2329	1465	3411
21	2776	.00	.00	.00	.00	.00	1517	.00	406	2973	1513	3411
22	3271	.00	.00	.00	.00	.00	1688	.00	406	2985	1463	3432
23	3365	.00	.00	.00	.00	.00	1367	.00	405	2965	1526	3436
24	3356	.00	.00	.00	.00	.00	1358	.00	406	3008	1520	3425
25	3327	.00	.00	.00	.00	.00	1461	.00	.00	3021	1480	3433
26	2884	.00	.00	.00	.00	.00	1509	.00	405	3012	1509	3422
27	3359	.00	19	.00	.00	.00	1677	.00	658	3000	1513	3430
28	3075	.00	7	.00	.00	.00	722	.00	658	2422	1508	3286
29	3082	5	.00	.00	---	.00	827	.00	.00	3010	1443	2743
30	3092	16	.00	.00	---	.00	881	.00	594	3004	1502	3390
31	3287	---	.00	.00	---	.00	---	.00	---	3009	1552	---
TOTAL	96182	41285.00	298.00	127.00	332.00	429.00	16076.00	2366.00	5184.00	78764.00	70754	87432
MEAN	3103	1376	9.61	4.10	11.9	13.8	536	76.3	173	2541	2282	2914
MAX	3595	3379	272	127	332	243	1688	829	658	3028	3022	3500
MIN	2405	.00	.00	.00	.00	.00	.00	.00	.00	.00	1443	1469
AC-FT	190800	81890	591	252	659	851	31890	4690	10280	156200	140300	173400

CAL YR 1988 TOTAL 457243.00 MEAN 1249 MAX 3660 MIN .00 AC-FT 906900
WTR YR 1989 TOTAL 399229.00 MEAN 1094 MAX 3595 MIN .00 AC-FT 791900

11525500 TRINITY RIVER AT LEWISTON, CA

LOCATION.--Lat 40°43'10", long 122°48'09", in SW 1/4 NW 1/4 sec.17, T.33 N., R.8 W., Trinity County, Hydrologic Unit 18010211, on right bank 400 ft upstream from Deadwood Creek, 0.8 mi downstream from Lewiston Diversion Dam, and 0.8 mi northeast of Lewiston.
DRAINAGE AREA.--719 mi^2.
PERIOD OF RECORD.--August 1911 to current year.
CHEMICAL DATA: Water years 1951-81.
WATER TEMPERATURE: Water years 1952-55, 1958-83.
SEDIMENT DATA: Water years 1955-61.
REVISED RECORDS.--WSP 331: 1911-12. WSP 1181: 1949. WSP 1929: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 1,815.95 ft above National Geodetic Vertical Datum of 1929. See WSP 1929 for history of changes prior to July 7, 1964.
REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Clair Engle Lake (station 11525400) beginning in November 1960 and Lewiston Lake, capacity, 14,660 acre-ft, when diversion to Judge Francis Carr powerplant (station 11525430) began in April 1963. Small diversions above head of Clair Engle Lake for irrigation, power, placer mining, and domestic use between Trinity Dam and station at Lewiston. See schematic diagram of Klamath and Trinity River basins.
AVERAGE DISCHARGE.--49 years (water years 1912-60) prior to storage and diversions, 1,641 ft^3/s, 1,189,000 acre-ft/yr; 29 years (water years 1961-89), 1,906 ft^3/s, 1,381,000 acre-ft/yr, adjusted for changes in contents, evaporation, and diversion; unadjusted flow for same period was 431 ft^3/s, 312,300 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,600 ft^3/s, Dec. 22, 1955, gage height, 27.3 ft, from floodmarks, site and datum then in use; minimum, 23 ft^3/s, July 30, 1924. Since completion of Trinity Dam in 1960, maximum discharge, 14,400 ft^3/s, Jan. 18, 1974, gage height, 10.41 ft; minimum daily, 100 ft^3/s, Apr. 14, 1976.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1861 reached a stage of 21.6 ft, from floodmarks, at site 1.1 mi downstream at different datum, discharge not determined.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,980 ft^3/s, May 9, gage height, 5.84 ft; minimum daily, 151 ft^3/s, Mar. 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	297	301	286	303	300	251	154	1480	343	489	495	304
2	296	304	286	303	302	172	154	1470	352	489	494	305
3	296	304	284	303	301	167	154	1450	353	493	493	352
4	293	305	284	305	301	169	158	1440	355	507	493	1170
5	293	302	286	306	301	175	303	1440	350	508	493	574
6	293	301	286	304	300	172	309	1840	384	511	493	310
7	293	301	285	303	302	157	293	1850	382	511	493	294
8	295	313	285	303	302	152	292	1850	378	516	493	276
9	297	310	283	302	302	169	293	1900	377	519	492	273
10	296	298	283	303	302	165	291	1960	379	515	491	272
11	294	301	286	306	303	155	291	1960	381	501	491	270
12	303	301	286	305	301	154	292	1960	735	487	490	301
13	291	303	285	305	301	153	291	1960	751	497	490	325
14	284	304	283	304	300	153	289	1960	748	501	484	319
15	279	304	286	304	301	151	291	1950	724	501	364	316
16	275	305	289	304	301	151	288	1950	379	502	346	410
17	290	302	289	303	301	152	287	1950	383	503	323	421
18	304	301	290	304	302	154	292	1960	381	501	317	418
19	303	301	295	304	303	154	293	1960	378	500	318	418
20	303	301	292	304	303	154	292	1960	377	499	319	410
21	301	290	295	303	303	154	701	1960	375	503	315	408
22	301	288	309	304	304	153	812	1960	376	501	309	408
23	301	282	304	304	301	162	810	1850	375	503	307	410
24	302	282	317	303	300	156	820	1100	378	502	304	407
25	302	277	324	305	300	155	819	989	379	502	305	403
26	304	286	324	303	299	154	821	989	376	502	304	405
27	304	286	314	303	299	153	814	992	376	496	306	407
28	304	286	303	304	302	154	1390	993	375	493	306	404
29	303	285	303	304	---	155	1500	923	386	496	307	404
30	302	286	303	304	---	154	1490	364	385	496	304	401
31	303	---	303	303	---	154	---	333	---	497	305	---
TOTAL	9202	8910	9128	9418	8437	4984	15284	48703	12671	15541	12244	11795
MEAN	297	297	294	304	301	161	509	1571	422	501	395	393
MAX	304	313	324	306	304	251	1500	1960	751	519	495	1170
MIN	275	277	283	302	299	151	154	333	343	487	304	270
AC-FT	18250	17670	18110	18680	16730	9890	30320	96600	25130	30830	24290	23400
MEAN a	54.8	999	623	743	872	6020	4084	2540	1004	248	109	211
AC-FT a	3370	59460	38310	45680	48410	370160	243000	156200	59740	15220	6694	12560

CAL YR 1988 TOTAL 128543 MEAN 351 MAX 617 MIN 275 AC-FT 255000 MEAN a 1147 AC-FT a 832600
WTR YR 1989 TOTAL 166317 MEAN 456 MAX 1960 MIN 151 AC-FT 329900 MEAN a 1462 AC-FT a 1059000

a Adjusted for change in contents and evaporation from Clair Engle Lake and diversion to Judge Francis Carr powerplant. Adjustments provided by U.S. Bureau of Reclamation; evaporation adjustments not reviewed by the U.S. Geological Survey.

11525550 GRASS VALLEY CREEK NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°36'52", long 122°44'43", in NW 1/4 SW 1/4, sec.23, T.32 N., R.8 W., Trinity County, Hydrologic Unit 18010211, on right bank 0.8 mi downstream from an unnamed perennial tributary, 7.1 mi southeast of Lewiston, and 10.6 mi east of Douglas City.

DRAINAGE AREA.--7.93 mi^2.

PERIOD OF RECORD.--
SEDIMENT DATA: Water years 1985 to April 1989 (discontinued).

REMARKS.--Zero bedload observed at flows less than 19 ft^3/s. Record is collected for hydrologic and sediment-transport correlation studies with Grass Valley Creek at Fawn Lodge, near Lewiston (station 11525600).

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
OCT											
13...	0830	5.8	9.5	2	0.03	--	--	--	--	--	--
NOV											
03...	1025	11	9.5	4	0.12	55	--	--	--	--	--
30...	0905	12	1.5	6	0.19	52	--	--	--	--	--
MAR											
06...	0915	19	6.0	2	0.10	--	--	--	--	--	--
09...	1430	215	6.0	530	308	44	51	59	79	95	100
APR											
06...	0855	49	6.5	2	0.26	--	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	DIS-CHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
APR												
06...	0905	6.5	16	49	25.0	6.9	2	8	40	70	91	100

11525580 LITTLE GRASS VALLEY CREEK NEAR LEWISTON, CA

LOCATION.--Lat 40°39'45", long 122°47'57", in NE 1/4 NW 1/4, sec.5, T.32 N., R.8 W., Trinity County, Hydrologic Unit 18010211, on left bank 0.2 mi upstream from the confluence with Grass Valley Creek, 0.9 mi west of Buckhorn Station, and 3.1 mi south of Lewiston on State Highway 299.

DRAINAGE AREA.--10.69 mi^2.

PERIOD OF RECORD.--
SEDIMENT DATA: Water years 1985 to current year.

REMARKS.--Zero bedload observed at flows less than 7.7 ft^3/s. Record is collected for hydrologic and sediment-transport correlation studies with Grass Valley Creek at Fawn Lodge, near Lewiston (station 11525600).

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	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
OCT										
13...	0930	1.6	10.0	3	0.01	--	--	--	--	--
NOV										
03...	1145	4.0	10.0	27	0.29	71	--	--	--	--
30...	1020	3.0	3.5	4	0.03	54	--	--	--	--
JAN										
03...	1155	2.6	3.5	4	0.03	--	--	--	--	--
FEB										
06...	0835	1.7	0.0	10	0.05	56	--	--	--	--
MAR										
06...	1030	9.0	4.0	40	0.97	66	76	100	--	--
09...	1315	44	7.0	622	74	69	77	86	94	100
APR										
06...	1040	9.2	8.0	18	0.45	72	--	--	--	--
MAY										
08...	1400	4.6	13.0	8	0.10	--	--	--	--	--
JUN										
01...	0830	3.4	10.0	2	0.02	--	--	--	--	--
JUL										
07...	0815	1.9	12.5	4	0.02	--	--	--	--	--
AUG										
04...	0900	1.4	12.5	4	0.01	--	--	--	--	--
SEP										
01...	0830	1.2	10.0	5	0.02	--	--	--	--	--
18...	0915	7.7	10.0	88	1.8	81	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	DIS-CHARGE, INST. CUBIC FEET PER SECOND	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JUN							
01...	0840	10.0	1	3.4	4	13	33
01...	0845	10.0	1	3.4	2	16	27
01...	0850	10.0	1	3.4	2	9	21

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
JUN						
01...	62	91	100	--	--	--
01...	40	61	85	100	--	--
01...	38	57	73	83	88	100

11525580 LITTLE GRASS VALLEY CREEK NEAR LEWISTON--Continued

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
MAR							
06...	1040	4.0	15	9.0	9.60	6.6	4
09...	1330	7.0	10	44	11.0	27	5

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
MAR							
06...	18	37	63	93	99	99	100
09...	19	43	65	87	98	100	--

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA

LOCATION.--Lat 40°40'35", long 122°49'46", in SW 1/4, NE 1/4 sec.36, T.33 N., R.9 W., Trinity County, Hydrologic Unit 18010211, on right bank 0.1 mi upstream from Phillips Gulch and 2.5 mi southwest of Lewiston.

DRAINAGE AREA.--30.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1975 to current year.

REVISED RECORDS.--WDR CA-86-2: 1983(M)

GAGE.--Water-stage recorder. Datum of gage is 2,049.73 ft above National Geodetic Vertical Datum of 1929 (California State Highway Department bench mark).

REMARKS.--Records fair except for estimated daily discharges for ice-affected period, Feb. 4-9, which is poor. No regulation; small pumping diversions above station. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--13 years (water years 1977-89), 46.9 ft^3/s, 33,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,140 ft^3/s, Feb. 28, 1983; gage height, 10.11 ft, from rating curve extended above 700 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 4.3 ft^3/s, many days in 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 9	2245	*536	*6.89				

Minimum daily, 6.9 ft^3/s, Sept. 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	10	19	16	23	23	83	43	23	17	9.8	7.5
2	8.1	14	19	16	21	29	81	40	22	16	9.5	7.5
3	8.2	23	18	16	20	26	78	39	22	15	9.2	7.4
4	8.5	12	18	16	e15	25	74	38	22	15	8.9	7.2
5	9.1	12	17	17	e12	53	71	36	23	14	8.7	7.0
6	9.0	12	17	16	e10	73	68	35	23	14	8.4	7.0
7	9.0	11	17	16	e10	71	66	34	22	14	8.3	7.2
8	8.9	12	17	16	e12	118	64	34	21	13	8.1	7.2
9	8.7	12	17	16	e15	357	61	35	21	13	8.3	7.2
10	8.5	22	17	29	18	288	59	37	21	12	7.8	7.2
11	8.7	14	17	22	18	206	57	35	20	12	7.5	7.1
12	9.0	15	17	19	17	150	55	34	20	12	7.5	6.9
13	9.2	23	17	19	17	127	53	33	19	12	7.8	6.9
14	11	19	16	18	16	108	52	33	19	11	7.8	6.9
15	10	14	16	17	16	94	51	32	19	11	7.7	6.9
16	10	17	16	17	17	90	50	31	19	11	7.7	9.9
17	9.9	18	16	17	17	86	49	31	18	11	7.7	27
18	9.6	15	16	17	20	108	48	30	18	11	8.0	21
19	9.4	14	17	17	22	94	47	30	18	10	7.9	12
20	9.6	13	19	17	21	86	47	29	17	10	7.6	11
21	9.5	18	19	17	22	83	48	29	17	9.7	7.2	9.8
22	9.5	52	19	28	26	80	46	29	17	9.7	7.6	9.5
23	9.7	54	17	25	26	81	49	29	16	9.4	9.0	9.3
24	9.7	33	18	21	25	110	46	29	16	9.3	8.4	9.4
25	9.6	29	17	20	24	140	45	29	16	8.9	8.0	9.3
26	9.6	25	16	19	23	114	44	28	16	8.7	7.7	10
27	9.7	22	17	19	23	102	42	26	16	9.2	7.5	10
28	9.9	23	16	18	22	99	41	26	16	9.5	7.3	9.9
29	10	21	16	18	---	90	39	25	17	9.1	7.2	14
30	11	20	16	19	---	86	44	25	18	9.0	7.6	15
31	10	---	16	21	---	85	---	24	---	9.3	7.8	---
TOTAL	290.7	599	530	579	528	3282	1658	988	572	355.8	249.5	294.2
MEAN	9.38	20.0	17.1	18.7	18.9	106	55.3	31.9	19.1	11.5	8.05	9.81
MAX	11	54	19	29	26	357	83	43	23	17	9.8	27
MIN	8.1	10	16	16	10	23	39	24	16	8.7	7.2	6.9
AC-FT	577	1190	1050	1150	1050	6510	3290	1960	1130	706	495	584

CAL YR 1988 TOTAL 8607.6 MEAN 23.5 MAX 73 MIN 7.4 AC-FT 17070
WTR YR 1989 TOTAL 9926.2 MEAN 27.2 MAX 357 MIN 6.9 AC-FT 19690

e Estimated.

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.
WATER TEMPERATURE: Water years 1976 to current year.
SEDIMENT DATA: Water years 1976 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: November 1975 to current year.

REMARKS.--Sediment samples were collected on most days where a water temperature is published. Zero bedload observed at flows less than 42 ft^3/s.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 9,550 mg/L, Mar. 2, 1983; minimum daily mean, 0 mg/L several days most years.
SEDIMENT LOAD: Maximum daily, 65,200 tons, Mar. 2, 1983; minimum daily, 0 ton several days most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,180 mg/L, Mar. 9; minimum daily mean, 0 mg/L many days.
SEDIMENT LOAD: Maximum daily, 1,230 tons, Mar. 9; minimum daily, 0 ton, many days.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	10.5	10.5	---	---	11.5
2	---	10.0	---	3.0	---	2.5	---	---	---	---	17.5	---
3	---	10.0	---	3.0	1.0	---	5.5	---	---	17.5	---	---
4	---	10.5	---	---	---	---	---	---	---	---	15.0	---
5	---	---	3.0	---	---	3.0	---	---	---	18.5	---	---
6	10.0	---	---	2.0	.0	4.0	8.5	---	15.0	---	---	16.0
7	---	7.5	4.0	---	.5	6.5	---	---	---	14.5	---	---
8	---	---	---	---	---	5.5	---	10.5	---	18.5	---	13.0
9	---	---	---	---	---	7.0	---	---	14.0	---	---	---
10	10.0	8.5	---	2.5	---	6.0	---	10.5	---	---	18.5	---
11	---	---	---	---	---	7.0	8.0	---	---	---	---	---
12	---	---	4.0	---	---	5.0	---	---	---	---	---	---
13	10.5	8.5	---	---	3.5	5.0	---	---	17.0	---	---	---
14	---	---	---	1.0	---	7.5	---	---	---	---	---	11.0
15	---	8.0	---	---	---	---	13.5	12.5	---	---	14.5	---
16	---	8.0	3.5	---	---	7.0	---	---	---	---	---	---
17	10.5	---	---	---	4.5	5.5	---	---	16.0	---	---	12.0
18	---	---	---	---	---	5.5	---	---	---	---	19.0	11.0
19	---	---	---	---	4.0	8.5	---	13.0	---	---	---	---
20	9.0	---	---	---	---	---	---	---	16.0	---	---	---
21	---	6.0	---	---	5.5	9.0	9.5	---	---	---	19.5	---
22	---	6.0	---	---	---	---	---	11.5	---	---	---	---
23	---	9.0	2.0	---	---	6.5	7.0	---	---	---	---	---
24	8.0	---	---	---	---	8.5	7.0	---	---	---	12.5	---
25	---	---	---	2.0	---	6.0	---	7.5	---	---	---	12.0
26	---	4.0	---	---	4.0	4.0	---	---	15.5	---	---	---
27	---	---	---	---	5.5	5.0	6.5	---	---	15.0	17.5	12.5
28	9.0	---	1.0	3.0	---	---	6.5	---	14.0	19.0	---	---
29	---	3.5	---	---	---	6.0	---	---	13.0	18.0	17.0	13.5
30	---	3.5	---	---	---	---	9.0	9.5	---	---	---	12.0
31	9.0	---	---	---	---	6.5	---	---	---	17.0	17.0	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	8.1	1	.02	10	1	.03	19	3	.15
2	8.1	1	.02	14	17	.87	19	3	.15
3	8.2	2	.04	23	53	3.4	18	2	.10
4	8.5	2	.05	12	2	.06	18	1	.05
5	9.1	3	.07	12	1	.03	17	0	.00
6	9.0	3	.07	12	2	.06	17	1	.05
7	9.0	3	.07	11	1	.03	17	1	.05
8	8.9	3	.07	12	1	.03	17	1	.05
9	8.7	3	.07	12	2	.06	17	1	.05
10	8.5	3	.07	22	12	.77	17	1	.05
11	8.7	2	.05	14	3	.11	17	1	.05
12	9.0	2	.05	15	2	.08	17	0	.00
13	9.2	2	.05	23	13	.90	17	0	.00
14	11	2	.06	19	3	.15	16	0	.00
15	10	1	.03	14	2	.08	16	0	.00
16	10	1	.03	17	4	.18	16	0	.00
17	9.9	0	.00	18	5	.24	16	0	.00
18	9.6	0	.00	15	2	.08	16	0	.00
19	9.4	0	.00	14	2	.08	17	1	.05
20	9.6	0	.00	13	2	.07	19	1	.05
21	9.5	0	.00	18	6	.36	19	1	.05
22	9.5	0	.00	52	78	13	19	1	.05
23	9.7	0	.00	54	40	7.1	17	1	.05
24	9.7	0	.00	33	4	.36	18	1	.05
25	9.6	0	.00	29	4	.31	17	1	.05
26	9.6	1	.03	25	4	.27	16	1	.04
27	9.7	1	.03	22	4	.24	17	1	.05
28	9.9	1	.03	23	4	.25	16	1	.04
29	10	1	.03	21	3	.17	16	1	.04
30	11	1	.03	20	3	.16	16	1	.04
31	10	1	.03	---	---	---	16	2	.09
TOTAL	290.7	---	1.00	599	---	29.53	530	---	1.40
		JANUARY			FEBRUARY			MARCH	
1	16	2	.09	23	4	.25	23	8	.50
2	16	3	.13	21	4	.23	29	50	3.9
3	16	1	.04	20	4	.22	26	14	.98
4	16	1	.04	e15	3	.12	25	6	.40
5	17	1	.05	e12	3	.10	53	143	28
6	16	0	.00	e10	3	.08	73	65	13
7	16	1	.04	e10	3	.08	71	41	7.9
8	16	1	.04	e12	3	.10	118	321	116
9	16	1	.04	e15	3	.12	357	1180	1230
10	29	20	1.8	18	3	.15	288	663	562
11	22	3	.18	18	2	.10	206	374	208
12	19	4	.21	17	2	.09	150	130	53
13	19	2	.10	17	1	.05	127	60	21
14	18	1	.05	16	1	.04	108	42	12
15	17	1	.05	16	1	.04	94	37	9.4
16	17	1	.05	17	1	.05	90	28	6.8
17	17	1	.05	17	1	.05	86	22	5.1
18	17	1	.05	20	3	.16	108	72	21
19	17	1	.05	22	4	.24	94	37	9.4
20	17	1	.05	21	5	.28	86	28	6.5
21	17	1	.05	22	6	.36	83	24	5.4
22	28	7	.53	26	6	.42	80	19	4.1
23	25	3	.20	26	3	.21	81	29	6.3
24	21	2	.11	25	2	.13	110	84	26
25	20	2	.11	24	1	.06	140	114	44
26	19	2	.10	23	2	.12	114	50	15
27	19	1	.05	23	3	.19	102	38	10
28	18	0	.00	22	3	.18	99	28	7.5
29	18	0	.00	---	---	---	90	20	4.9
30	19	1	.05	---	---	---	86	18	4.2
31	21	3	.17	---	---	---	85	17	3.9
TOTAL	579	---	4.48	528	---	4.22	3282	---	2446.18

See footnote at end of table.

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	83	14	3.1	43	6	.70	23	2	.12
2	81	10	2.2	40	6	.65	22	2	.12
3	78	7	1.5	39	6	.63	22	3	.18
4	74	7	1.4	38	5	.51	22	3	.18
5	71	7	1.3	36	5	.49	23	4	.25
6	68	7	1.3	35	4	.38	23	4	.25
7	66	7	1.2	34	4	.37	22	4	.24
8	64	6	1.0	34	4	.37	21	4	.23
9	61	6	.99	35	5	.47	21	4	.23
10	59	5	.80	37	7	.70	21	4	.23
11	57	5	.77	35	6	.57	20	3	.16
12	55	5	.74	34	5	.46	20	3	.16
13	53	5	.72	33	4	.36	19	3	.15
14	52	5	.70	33	3	.27	19	3	.15
15	51	6	.83	32	3	.26	19	3	.15
16	50	6	.81	31	3	.25	19	3	.15
17	49	5	.66	31	2	.17	18	3	.15
18	48	5	.65	30	2	.16	18	3	.15
19	47	4	.51	30	2	.16	18	3	.15
20	47	4	.51	29	2	.16	17	3	.14
21	48	3	.39	29	2	.16	17	3	.14
22	46	3	.37	29	2	.16	17	3	.14
23	49	11	1.5	29	2	.16	16	3	.13
24	46	7	.87	29	1	.08	16	3	.13
25	45	5	.61	29	1	.08	16	3	.13
26	44	4	.48	28	1	.08	16	3	.13
27	42	2	.23	26	2	.14	16	2	.09
28	41	2	.22	26	3	.21	16	2	.09
29	39	2	.21	25	3	.20	17	1	.05
30	44	10	1.2	25	4	.27	18	1	.05
31	---	---	---	24	3	.19	---	---	---
TOTAL	1658	---	27.77	988	---	9.82	572	---	4.62
		JULY			AUGUST			SEPTEMBER	
1	17	1	.05	9.8	1	.03	7.5	2	.04
2	16	1	.04	9.5	0	.00	7.5	2	.04
3	15	1	.04	9.2	1	.02	7.4	2	.04
4	15	1	.04	8.9	2	.05	7.2	2	.04
5	14	1	.04	8.7	2	.05	7.0	2	.04
6	14	2	.08	8.4	2	.05	7.0	2	.04
7	14	2	.08	8.3	2	.04	7.2	1	.02
8	13	0	.00	8.1	2	.04	7.2	1	.02
9	13	0	.00	8.3	2	.04	7.2	1	.02
10	12	0	.00	7.8	2	.04	7.2	2	.04
11	12	1	.03	7.5	2	.04	7.1	2	.04
12	12	1	.03	7.5	2	.04	6.9	3	.06
13	12	1	.03	7.8	2	.04	6.9	3	.06
14	11	1	.03	7.8	2	.04	6.9	3	.06
15	11	1	.03	7.7	2	.04	6.9	3	.06
16	11	1	.03	7.7	2	.04	9.9	20	.53
17	11	1	.03	7.7	3	.06	27	179	19
18	11	1	.03	8.0	3	.06	21	48	3.1
19	10	1	.03	7.9	3	.06	12	10	.32
20	10	1	.03	7.6	2	.04	11	6	.18
21	9.7	1	.03	7.2	2	.04	9.8	6	.16
22	9.7	1	.03	7.6	2	.04	9.5	5	.13
23	9.4	1	.03	9.0	1	.02	9.3	5	.13
24	9.3	1	.03	8.4	1	.02	9.4	4	.10
25	8.9	1	.02	8.0	1	.02	9.3	4	.10
26	8.7	0	.00	7.7	2	.04	10	4	.11
27	9.2	0	.00	7.5	2	.04	10	5	.13
28	9.5	1	.03	7.3	2	.04	9.9	5	.13
29	9.1	3	.07	7.2	2	.04	14	44	2.0
30	9.0	2	.05	7.6	2	.04	15	62	2.5
31	9.3	2	.05	7.8	2	.04	---	---	---
TOTAL	355.8	---	1.01	249.5	---	1.20	294.2	---	29.24
YEAR	9926.2		2560.47						

e Estimated.

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	290.70	1.00	0	1
NOVEMBER	599.00	29.53	1	31
DECEMBER	530.00	1.40	0	1
JANUARY 1989	579.00	4.48	0	4
FEBRUARY	528.00	4.22	0	4
MARCH	3282.00	2446.18	1370	3820
APRIL	1658.00	27.77	20	48
MAY	988.00	9.82	0	10
JUNE	572.00	4.62	0	5
JULY	355.80	1.01	0	1
AUGUST	249.50	1.20	0	1
SEPTEMBER ...	294.20	29.24	0	29
TOTAL	9926.20	2560.47	1391	3955

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV											
03...	1315	19	10.0	198	11	97	100	--	--	--	--
30...	1145	19	3.5	3	0.15	52	--	--	--	--	--
MAR											
06...	0935	65	4.0	42	7.2	59	64	67	78	96	100
07...	1600	63	6.5	58	9.9	63	--	--	--	--	--
09...	1200	323	7.0	1270	1110	44	50	57	70	84	100
16...	1200	89	7.0	31	7.4	55	--	--	--	--	--
17...	0955	83	6.0	22	4.9	59	--	--	--	--	--
17...	1000	83	5.5	18	4.3	54	61	74	86	100	--
19...	1600	91	8.5	32	7.9	39	--	--	--	--	--
21...	1400	83	9.0	24	5.4	36	--	--	--	--	--
23...	1000	76	6.5	14	2.9	62	--	--	--	--	--
24...	1630	106	8.5	40	11	52	--	--	--	--	--
26...	0800	116	4.0	56	18	23	--	--	--	--	--
27...	0800	101	5.0	40	11	21	--	--	--	--	--
29...	1000	91	6.0	19	4.7	36	--	--	--	--	--
31...	0730	87	6.5	17	4.0	47	--	--	--	--	--
APR											
28...	1015	42	6.5	4	0.45	69	--	--	--	--	--
MAY											
08...	1300	34	10.5	5	0.46	73	--	--	--	--	--
SEP											
18...	1045	28	11.0	96	7.3	92	--	--	--	--	--

11525600 GRASS VALLEY CREEK AT FAWN LODGE, NEAR LEWISTON, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	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
JUN							
01...	1020	10.5	1	24	--	--	--
01...	1025	10.5	1	24	2	5	12
01...	1030	10.5	1	24	--	2	6

DATE	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
JUN						
01...	--	--	--	3	48	100
01...	18	23	25	25	73	100
01...	14	22	28	34	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
MAR												
06...	1115	5.0	22	65	30.0	11	2	11	32	72	96	100

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA

LOCATION.--Lat 40°40'21", long 122°55'07", in SW 1/4 NW 1/4 sec.32, T.33 N., R.9 W., Trinity County, Hydrologic Unit 18010211, on left bank 1.8 mi northeast of Douglas City, 2.3 mi downstream from Limekiln Gulch, and 11.3 mi downstream from Lewiston diversion dam.

DRAINAGE AREA.--812 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,650 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Flow regulated by Clair Engle Lake (station 11525400) and transbasin diversion to Judge Francis Carr powerplant (station 11525430). Small diversion for irrigation upstream from station.

AVERAGE DISCHARGE.--8 years, 796 ft^3/s, 576,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,070 ft^3/s, June 12, 1983, gage height, 10.45 ft; minimum daily, 273 ft^3/s, Mar. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,020 ft^3/s, May 9, gage height, 6.74 ft; minimum daily, 273 ft^3/s, Mar. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	307	348	344	382	347	393	1570	377	503	507	311
2	302	319	344	344	381	300	378	1550	382	529	507	311
3	302	366	339	344	374	288	359	1520	392	529	507	313
4	302	335	336	344	365	273	346	1530	396	552	504	1090
5	302	330	334	357	353	574	439	1530	387	554	501	762
6	302	330	334	354	348	722	499	1830	413	554	501	319
7	302	330	334	350	348	568	503	1890	411	554	501	310
8	302	331	334	348	347	661	499	1890	409	554	501	292
9	302	340	330	348	348	1420	492	1960	409	559	501	285
10	302	347	330	417	348	1160	481	2000	412	561	501	289
11	302	340	330	403	348	848	466	1960	409	559	501	284
12	311	344	330	378	347	663	460	1950	697	548	501	291
13	309	365	330	372	344	552	452	1950	774	535	501	316
14	306	363	329	365	342	463	452	1950	774	529	501	316
15	298	349	325	360	339	411	457	1950	774	524	392	311
16	293	352	327	358	339	387	451	1950	481	524	359	394
17	295	367	330	355	339	369	445	1950	390	524	338	466
18	307	350	330	352	350	504	441	1950	393	524	318	458
19	307	347	332	348	372	479	444	1950	390	524	316	435
20	307	344	338	348	372	428	440	1940	388	524	316	415
21	307	355	348	353	372	410	679	1930	388	524	316	407
22	307	e650	369	405	380	412	854	1930	391	524	316	404
23	307	e669	360	415	388	386	858	1910	393	528	316	404
24	307	411	367	394	380	461	852	1180	393	529	316	404
25	307	376	362	380	373	534	852	984	393	529	312	403
26	307	369	363	371	369	466	854	969	393	529	307	398
27	307	362	358	367	363	433	849	969	393	525	307	395
28	307	358	346	367	363	436	1310	965	396	512	307	393
29	307	357	344	367	---	409	1550	945	403	507	307	411
30	307	352	344	368	---	381	1570	472	414	507	307	432
31	307	---	344	377	---	416	---	377	---	507	310	---
TOTAL	9432	11115	10569	11353	10074	16161	19125	49401	13415	16485	12495	12019
MEAN	304	370	341	366	360	521	637	1594	447	532	403	401
MAX	311	669	369	417	388	1420	1570	2000	774	561	507	1090
MIN	293	307	325	344	339	273	346	377	377	503	307	284
AC-FT	18710	22050	20960	22520	19980	32060	37930	97990	26610	32700	24780	23840

CAL YR 1988 TOTAL 146586 MEAN 401 MAX 718 MIN 293 AC-FT 290800
WTR YR 1989 TOTAL 191644 MEAN 525 MAX 2000 MIN 273 AC-FT 380100

e Estimated.

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.
WATER TEMPERATURE: Water years 1981 to current year.
SEDIMENT DATA: Water years 1981 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: April 1981 to current year.

REMARKS.--Sediment samples were collected most days where a water temperature is published. Zero bedload observed at flows less than 844 ft^3/s.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,990 mg/L, Feb. 14, 1986; minimum daily mean, 0 mg/L, several days most years.
SEDIMENT LOAD: Maximum daily, 17,300 tons, Feb. 14, 1986; minimum daily, 0 ton, several days most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 162 mg/L, Mar. 9; minimum daily mean, 0 mg/L several days during the year.
SEDIMENT LOAD: Maximum daily, 648 tons, Mar. 9; minimum daily, 0 ton, several days during the year.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	10.0	12.0	---	---	11.5
2	---	10.0	---	5.0	---	---	---	---	---	---	14.0	---
3	---	10.0	---	5.5	---	---	7.5	---	---	16.5	---	---
4	---	10.0	---	---	4.0	---	---	---	---	---	10.5	---
5	---	---	6.5	---	---	5.5	---	---	---	17.0	---	---
6	9.5	---	---	4.5	2.0	6.0	10.5	---	14.0	---	---	13.5
7	---	9.0	7.0	---	3.5	6.0	---	---	---	12.0	---	---
8	---	---	---	---	---	6.5	---	8.0	---	18.0	---	13.0
9	---	---	---	---	---	7.0	---	---	13.0	---	---	---
10	9.5	9.5	---	4.5	---	7.0	---	9.0	---	---	---	---
11	---	---	---	---	---	7.5	10.0	---	---	---	---	---
12	---	---	7.0	---	---	7.0	---	---	---	---	---	---
13	10.0	9.0	---	---	5.0	6.5	---	---	14.0	---	---	---
14	---	---	---	---	---	8.0	---	---	---	---	---	9.5
15	---	9.0	---	5.0	---	---	13.5	10.0	---	---	10.0	---
16	---	---	6.5	---	---	8.0	---	---	---	---	---	---
17	9.5	---	---	---	6.0	7.5	---	---	16.0	---	---	10.0
18	---	---	---	---	---	7.0	---	---	---	---	12.5	10.0
19	---	---	---	---	6.0	9.5	---	10.5	---	---	---	---
20	9.0	---	---	---	---	---	---	---	16.0	---	---	---
21	---	7.5	---	---	6.0	10.5	11.0	---	---	---	15.0	---
22	---	7.5	---	---	---	---	---	10.0	---	---	---	---
23	---	7.0	5.5	---	---	8.5	9.5	---	---	---	---	---
24	9.0	---	---	---	---	8.5	9.5	---	---	---	11.0	---
25	---	---	---	5.0	---	8.0	---	9.0	---	---	---	9.0
26	---	---	---	---	6.0	7.5	---	---	15.0	---	---	---
27	---	---	---	---	7.0	7.5	8.5	---	---	11.0	14.5	9.5
28	9.0	---	5.0	5.5	---	---	8.5	---	14.0	14.5	---	---
29	---	7.0	---	---	---	8.0	---	---	13.5	12.5	14.0	9.5
30	---	6.5	---	---	---	---	9.0	9.0	---	---	---	9.5
31	10.0	---	---	---	---	8.0	---	---	---	14.0	14.0	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	302	4	3.3	307	1	.83	348	2	1.9
2	302	4	3.3	319	3	2.6	344	2	1.9
3	302	4	3.3	366	8	7.9	339	2	1.8
4	302	4	3.3	335	1	.90	336	2	1.8
5	302	4	3.3	330	1	.89	334	2	1.8
6	302	4	3.3	330	1	.89	334	1	.90
7	302	4	3.3	330	0	.00	334	1	.90
8	302	4	3.3	331	1	.89	334	1	.90
9	302	4	3.3	340	2	1.8	330	2	1.8
10	302	4	3.3	347	2	1.9	330	2	1.8
11	302	3	2.4	340	2	1.8	330	3	2.7
12	311	2	1.7	344	2	1.9	330	3	2.7
13	309	2	1.7	365	2	2.0	330	3	2.7
14	306	2	1.7	363	2	2.0	329	2	1.8
15	298	1	.80	349	1	.94	325	2	1.8
16	293	1	.79	352	1	.95	327	2	1.8
17	295	0	.00	367	1	.99	330	2	1.8
18	307	0	.00	350	1	.94	330	2	1.8
19	307	0	.00	347	1	.94	332	2	1.8
20	307	0	.00	344	1	.93	338	2	1.8
21	307	1	.83	355	1	.96	348	2	1.9
22	307	1	.83	e650	18	39	369	2	2.0
23	307	2	1.7	e669	23	45	360	2	1.9
24	307	2	1.7	411	7	7.8	367	2	2.0
25	307	2	1.7	376	4	4.1	362	2	2.0
26	307	2	1.7	369	4	4.0	363	3	2.9
27	307	2	1.7	362	4	3.9	358	3	2.9
28	307	2	1.7	358	3	2.9	346	3	2.8
29	307	2	1.7	357	3	2.9	344	3	2.8
30	307	2	1.7	352	2	1.9	344	4	3.7
31	307	2	1.7	---	---	---	344	4	3.7
TOTAL	9432	---	59.05	11115	---	144.45	10569	---	64.80
		JANUARY			FEBRUARY			MARCH	
1	344	5	4.6	382	3	3.1	347	1	.94
2	344	5	4.6	381	4	4.1	300	1	.81
3	344	1	.93	374	4	4.0	288	1	.78
4	344	1	.93	365	4	3.9	273	1	.74
5	357	2	1.9	353	3	2.9	574	39	91
6	354	3	2.9	348	3	2.8	722	28	54
7	350	4	3.8	348	2	1.9	568	12	18
8	348	5	4.7	347	2	1.9	661	27	48
9	348	7	6.6	348	2	1.9	1420	162	648
10	417	9	10	348	2	1.9	1160	75	235
11	403	7	7.6	348	2	1.9	848	30	69
12	378	5	5.1	347	2	1.9	663	22	39
13	372	4	4.0	344	2	1.9	552	20	30
14	365	4	3.9	342	2	1.8	463	13	16
15	360	4	3.9	339	1	.92	411	10	11
16	358	4	3.9	339	1	.92	387	8	8.4
17	355	4	3.8	339	1	.92	369	5	5.0
18	352	4	3.8	350	2	1.9	504	25	34
19	348	4	3.8	372	3	3.0	479	15	19
20	348	4	3.8	372	2	2.0	428	12	14
21	353	4	3.8	372	1	1.0	410	11	12
22	405	4	4.4	380	1	1.0	412	10	11
23	415	5	5.6	388	1	1.0	386	8	8.3
24	394	5	5.3	380	1	1.0	461	13	16
25	380	5	5.1	373	1	1.0	534	22	32
26	371	4	4.0	369	1	1.0	466	10	13
27	367	3	3.0	363	3	2.9	433	7	8.2
28	367	3	3.0	363	2	2.0	436	7	8.2
29	367	3	3.0	---	---	---	409	6	6.6
30	368	3	3.0	---	---	---	381	6	6.2
31	377	3	3.1	---	---	---	416	6	6.7
TOTAL	11353	---	127.86	10074	---	56.46	16161	---	1470.87

e Estimated.

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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	393	5	5.3	1570	8	34	377	2	2.0
2	378	5	5.1	1550	8	33	382	2	2.1
3	359	4	3.9	1520	7	29	392	2	2.1
4	346	3	2.8	1530	6	25	396	2	2.1
5	439	4	4.7	1530	6	25	387	3	3.1
6	499	5	6.7	1830	23	117	413	3	3.3
7	503	5	6.8	1890	17	87	411	3	3.3
8	499	4	5.4	1890	14	71	409	3	3.3
9	492	4	5.3	1960	13	69	409	3	3.3
10	481	3	3.9	2000	13	70	412	3	3.3
11	466	2	2.5	1960	13	69	409	2	2.2
12	460	2	2.5	1950	12	63	697	2	3.8
13	452	2	2.4	1950	12	63	774	2	4.2
14	452	1	1.2	1950	11	58	774	2	4.2
15	457	1	1.2	1950	11	58	774	2	4.2
16	451	1	1.2	1950	10	53	481	3	3.9
17	445	1	1.2	1950	10	53	390	3	3.2
18	441	1	1.2	1950	9	47	393	2	2.1
19	444	1	1.2	1950	8	42	390	1	1.1
20	440	1	1.2	1940	8	42	388	0	.00
21	679	13	28	1930	7	36	388	0	.00
22	854	10	23	1930	7	36	391	1	1.1
23	858	7	16	1910	6	31	393	2	2.1
24	852	5	12	1180	5	16	393	2	2.1
25	852	4	9.2	984	4	11	393	2	2.1
26	854	4	9.2	969	4	10	393	2	2.1
27	849	3	6.9	969	3	7.8	393	1	1.1
28	1310	24	96	965	2	5.2	396	0	.00
29	1550	19	80	945	2	5.1	403	3	3.3
30	1570	11	47	472	2	2.5	414	3	3.4
31	---	---	---	377	2	2.0	---	---	---
TOTAL	19125	---	393.0	49401	---	1270.6	13415	---	74.10
		JULY			AUGUST			SEPTEMBER	
1	503	4	5.4	507	3	4.1	311	2	1.7
2	529	5	7.1	507	3	4.1	311	2	1.7
3	529	6	8.6	507	4	5.5	313	2	1.7
4	552	4	6.0	504	5	6.8	1090	3	8.8
5	554	3	4.5	501	5	6.8	762	5	10
6	554	2	3.0	501	5	6.8	319	8	6.9
7	554	2	3.0	501	4	5.4	310	7	5.9
8	554	3	4.5	501	4	5.4	292	6	4.7
9	559	3	4.5	501	3	4.1	285	5	3.8
10	561	3	4.5	501	3	4.1	289	4	3.1
11	559	3	4.5	501	3	4.1	284	3	2.3
12	548	3	4.4	501	2	2.7	291	3	2.4
13	535	2	2.9	501	2	2.7	316	3	2.6
14	529	2	2.9	501	2	2.7	316	3	2.6
15	524	2	2.8	392	2	2.1	311	3	2.5
16	524	2	2.8	359	2	1.9	394	5	5.3
17	524	2	2.8	338	3	2.7	466	8	10
18	524	1	1.4	318	3	2.6	458	9	11
19	524	1	1.4	316	3	2.6	435	9	11
20	524	2	2.8	316	2	1.7	415	6	6.7
21	524	2	2.8	316	2	1.7	407	6	6.6
22	524	2	2.8	316	2	1.7	404	5	5.5
23	528	3	4.3	316	3	2.6	404	5	5.5
24	529	3	4.3	316	3	2.6	404	5	5.5
25	529	3	4.3	312	3	2.5	403	5	5.4
26	529	3	4.3	307	3	2.5	398	4	4.3
27	525	3	4.3	307	3	2.5	395	4	4.3
28	512	3	4.1	307	3	2.5	393	4	4.2
29	507	3	4.1	307	3	2.5	411	6	6.7
30	507	4	5.5	307	4	3.3	432	11	13
31	507	4	5.5	310	4	3.3	---	---	---
TOTAL	16485	---	126.1	12495	---	106.6	12019	---	165.7
YEAR	191644		4059.59						

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1988	9432.00	59.05	0	59
NOVEMBER	11115.00	144.45	0	144
DECEMBER	10569.00	64.80	0	65
JANUARY 1989	11353.00	127.86	0	128
FEBRUARY	10074.00	56.46	0	56
MARCH	16161.00	1470.87	4	1470
APRIL	19125.00	393.00	9	402
MAY	49401.00	1270.60	214	1480
JUNE	13415.00	74.10	0	74
JULY	16485.00	126.10	0	126
AUGUST	12495.00	106.60	0	107
SEPTEMBER ...	12019.00	165.70	1	167
TOTAL	191644.00	4059.59	228	4278

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV										
03...	1130	377	10.0	9	9.2	95	--	--	--	--
FEB										
06...	1200	344	2.0	3	2.8	72	--	--	--	--
MAR										
06...	1330	653	6.0	19	33	87	93	100	--	--
07...	1700	501	6.0	11	15	94	--	--	--	--
08...	1000	640	6.5	28	48	95	--	--	--	--
08...	1300	647	6.5	28	49	96	--	--	--	--
08...	1800	647	6.5	27	47	89	--	--	--	--
09...	0915	1280	7.0	143	494	89	94	98	99	100
09...	1005	1300	7.0	151	530	87	--	--	--	--
09...	1600	1670	7.0	241	1090	81	--	--	--	--
10...	0800	1250	7.0	85	287	85	--	--	--	--
10...	1530	997	7.0	47	127	89	--	--	--	--
11...	1000	868	7.5	32	75	90	--	--	--	--
11...	1600	789	7.5	29	62	84	--	--	--	--
12...	0700	688	7.0	24	45	82	--	--	--	--
13...	1030	548	6.5	20	30	81	--	--	--	--
14...	1400	457	8.0	12	15	76	--	--	--	--
17...	0820	372	7.5	6	6.0	96	--	--	--	--
18...	1000	535	7.0	29	42	87	--	--	--	--
19...	1500	463	9.5	13	16	76	--	--	--	--
21...	1500	409	10.5	11	12	72	--	--	--	--
23...	1100	372	8.5	8	8.0	77	--	--	--	--
25...	0830	561	8.0	23	35	90	--	--	--	--
26...	1100	468	7.5	10	13	84	--	--	--	--
31...	0830	436	8.0	8	9.4	86	--	--	--	--
APR										
06...	1355	501	10.5	8	11	63	--	--	--	--
21...	1030	716	11.0	16	31	71	--	--	--	--
21...	1215	827	11.0	25	56	78	--	--	--	--
28...	1230	1530	8.5	46	190	65	78	89	100	--
MAY										
08...	1055	1890	8.0	14	71	60	--	--	--	--
JUN										
01...	1305	377	12.0	3	3.1	74	--	--	--	--
SEP										
18...	1215	468	10.0	9	11	75	--	--	--	--

11525655 TRINITY RIVER BELOW LIMEKILN GULCH, NEAR DOUGLAS CITY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JUN							
01...	1320	12.0	1	377	--	1	3
01...	1325	12.0	1	377	--	1	3
01...	1330	12.0	1	377	1	4	11
01...	1335	12.0	1	377	1	5	12
01...	1340	12.0	1	377	1	6	11

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
JUN							
01...	5	8	12	18	34	85	100
01...	6	10	14	18	28	54	100
01...	28	32	33	34	34	66	100
01...	24	39	45	46	48	68	100
01...	16	24	30	32	36	100	--

PARTICLE-SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM
MAR											
09...	1000	7.0	18	1290	136	1.3	36	73	93	96	100
APR											
28...	1300	8.5	20	1530	137	2.5	32	79	95	98	100

11527000 TRINITY RIVER NEAR BURNT RANCH, CA

LOCATION.--Lat 40°47'20", long 123°26'20", in S 1/2 sec.19, T.5 N., R.7 E., Trinity County, Hydrologic Unit 18010211, Trinity National Forest, on left bank 500 ft upstream from Cedar Flat Creek, 700 ft upstream from highway bridge at Cedar Flat, and 2.3 mi southeast of town of Burnt Ranch.

DRAINAGE AREA.--1,439 mi^2.

PERIOD OF RECORD.--October 1931 to September 1940, October 1956 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-78-2: 1975 (M). WSP 1929: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 944.05 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1931, to Jan. 19, 1940, at site 2 mi upstream at different datum.

REMARKS.--Records good. Flow regulated since November 1960 by Clair Engle Lake (station 11525400), 64 mi upstream, and by transbasin diversion to Judge Francis Carr powerplant (station 11525430) since April 1963. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--13 years (water years 1932-40, 1957-60), 2,785 ft^3/s, 2,016,000 acre-ft/yr; 26 years (water years 1964-89), 1,747 ft^3/s, 1,266,000 acre-ft/yr .

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,500 ft^3/s, Feb. 25, 1958, gage height, 30.50 ft, from rating curve extended above 40,000 ft^3/s on basis of slope-area measurement at gage height 43.2 ft; minimum, 82 ft^3/s, Aug. 31, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 43.2 ft, from floodmarks, discharge, 172,000 ft^3/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,600 ft^3/s, Mar. 10, gage height, 13.76 ft; minimum daily, 318 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	344	1360	659	2460	1410	3630	2570	908	731	586	375
2	321	379	1240	655	2230	1680	3530	2470	994	764	585	373
3	324	897	1130	727	e2050	1780	3370	2430	1140	742	576	374
4	331	628	1020	836	e1800	1580	3050	2520	1160	741	572	479
5	342	519	918	990	e1630	3240	2950	2710	1140	745	567	997
6	345	524	903	1020	e1480	7530	3080	2980	1150	732	562	559
7	342	544	1000	975	e1350	6210	3240	3110	1100	729	563	401
8	339	495	915	924	e1260	6090	3250	3170	1090	720	558	385
9	337	488	857	927	e1200	12900	3140	3480	1030	712	557	363
10	337	569	890	1900	1160	12800	3000	3550	e1010	705	557	356
11	337	611	913	2320	1100	9210	2710	3070	e1000	695	557	354
12	337	587	873	1790	1050	6950	2590	2880	e1060	678	552	351
13	340	762	880	1570	1010	5610	2470	2780	1310	664	551	361
14	343	1020	843	1420	971	4420	2540	2740	1230	669	549	384
15	343	703	752	1290	933	3700	2600	2700	1260	666	534	380
16	342	717	685	1220	907	3390	2440	2700	1140	662	443	383
17	339	1230	656	1180	925	3060	2360	2760	796	655	423	570
18	338	909	640	1160	1090	3700	2350	2770	765	647	403	698
19	343	690	632	1220	1460	4120	2350	2620	747	643	395	629
20	343	642	642	1370	1470	3810	2310	2560	718	634	396	569
21	343	719	738	1520	1460	3870	2090	2580	683	626	392	539
22	343	5800	860	2280	1850	4130	2260	2590	676	624	392	517
23	343	9490	889	2780	2360	3500	2120	2580	727	617	395	505
24	343	3560	844	2280	1960	4250	1990	2190	726	613	398	500
25	343	2360	826	1910	1700	5050	1880	1580	709	605	395	492
26	343	1860	750	1700	1570	4470	1800	1510	704	599	386	487
27	343	1590	709	1620	1500	3840	1740	1490	682	597	384	494
28	343	1690	690	1610	1440	3760	1810	1470	669	586	383	497
29	343	1750	660	1600	---	3490	2320	1450	665	586	379	524
30	343	1530	665	1830	---	3130	2410	1250	730	586	376	698
31	343	---	679	2310	---	3830	---	894	---	586	376	---
TOTAL	10514	43607	26059	45593	41376	146510	77380	76154	27719	20559	14742	14594
MEAN	339	1454	841	1471	1478	4726	2579	2457	924	663	476	486
MAX	345	9490	1360	2780	2460	12900	3630	3550	1310	764	586	997
MIN	318	344	632	655	907	1410	1740	894	665	586	376	351
AC-FT	20850	86490	51690	90430	82070	290600	153500	151100	54980	40780	29240	28950

CAL YR 1988 TOTAL 381905 MEAN 1043 MAX 9490 MIN 306 AC-FT 757500
WTR YR 1989 TOTAL 544807 MEAN 1493 MAX 12900 MIN 318 AC-FT 1081000

e Estimated.

11528700 SOUTH FORK TRINITY RIVER BELOW HYAMPOM, CA

LOCATION.--Lat 40°39'00", long 123°29'35", in NW 1/4 SW 1/4 sec.10, T.3 N., R.6 E., Trinity County, Hydrologic Unit 18010212, Trinity National Forest, on left bank 0.3 mi downstream from Big Creek, 3.0 mi northeast of Hyampom, and 3.5 mi downstream from Hayfork Creek.

DRAINAGE AREA.--764 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,211.37 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--24 years, 1,447 ft^3/s, 1,048,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,000 ft^3/s, Feb. 17, 1986, gage height, 25.47 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 28.00 ft, Jan. 26, 1983; minimum daily, 14 ft^3/s, Aug. 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 30.45 ft, from floodmarks, discharge, 88,000 ft^3/s, on basis of flood-routing study.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0045	14,200	11.56	Mar. 11	Unknown	*14,600	Unknown

Minimum daily, 29 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	46	1120	604	1760	e930	e3100	1030	498	251	91	54
2	30	65	975	585	1610	e1090	e3400	988	475	233	91	54
3	29	198	861	671	1410	e1140	e3000	950	452	206	91	53
4	32	187	760	789	1260	e1080	e2800	922	442	203	91	52
5	39	137	681	943	1100	e2100	e2800	897	449	194	87	51
6	43	131	648	962	979	e5200	e2820	874	452	185	84	53
7	44	123	620	888	911	e4700	e2900	853	430	176	78	53
8	44	121	588	820	855	e4300	2740	833	412	166	75	54
9	43	120	556	813	885	e6800	2500	870	393	161	72	54
10	42	201	533	1980	850	e13000	2360	887	371	157	71	54
11	44	266	512	2010	793	e10500	2260	835	344	152	69	54
12	47	222	491	1500	757	e7400	2110	790	342	148	67	54
13	50	364	474	1300	725	e6000	2000	761	332	143	66	55
14	69	639	456	1120	711	e4600	1910	742	322	141	65	55
15	77	425	433	974	706	e3850	1800	725	318	138	65	55
16	73	456	416	887	695	e3500	1710	702	317	134	62	57
17	66	834	404	849	686	e3500	1610	672	306	131	62	77
18	63	612	393	836	785	e3750	1540	659	291	131	59	138
19	60	418	397	870	e920	e4200	1480	628	282	127	57	175
20	58	343	431	976	e960	e4500	1420	612	276	123	56	168
21	56	535	571	1140	e940	e4250	1420	597	268	120	54	129
22	54	5640	e720	2030	e1200	e4310	1380	590	257	118	54	101
23	51	8520	e780	2220	e1500	e4150	1340	666	249	115	55	88
24	48	2920	e720	1760	e1320	e4050	1290	704	236	109	63	81
25	47	2010	e700	1470	e1120	e4300	1230	661	225	107	66	75
26	47	1840	e680	1310	e1020	e4600	1220	619	221	101	66	74
27	44	1590	e610	1260	e980	e4300	1200	587	212	95	66	72
28	44	1610	e540	1240	e930	e3800	1130	569	208	95	63	76
29	44	1550	e485	1190	---	e3100	1070	565	216	93	60	82
30	45	1320	535	1310	---	e3150	1050	548	249	91	57	140
31	45	---	628	1630	---	e3300	---	515	---	91	55	---
TOTAL	1508	33443	18718	36937	28368	135450	58590	22851	9845	4435	2118	2338
MEAN	48.6	1115	604	1192	1013	4369	1953	737	328	143	68.3	77.9
MAX	77	8520	1120	2220	1760	13000	3400	1030	498	251	91	175
MIN	29	46	393	585	686	930	1050	515	208	91	54	51
AC-FT	2990	66330	37130	73260	56270	268700	116200	45320	19530	8800	4200	4640

CAL YR 1988 TOTAL 235074 MEAN 642 MAX 8520 MIN 19 AC-FT 466300
WTR YR 1989 TOTAL 354601 MEAN 972 MAX 13000 MIN 29 AC-FT 703400

e Estimated.

11530000 TRINITY RIVER AT HOOPA, CA

LOCATION.--Lat 41°03'00", long 123°40'15", in SE 1/4 NW 1/4 sec.25, T.8 N., R.4 E., Humboldt County, Hydrologic Unit 18010211, in Hoopa Valley Indian Reservation, on left bank at Hoopa, 0.4 mi upstream from Supply Creek.

DRAINAGE AREA.--2,853 mi^2.

PERIOD OF RECORD.--October 1911 to January 1914, October 1916 to September 1918, October 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near Hoopa" 1931-60.

REVISED RECORDS.--WSP 1565: 1913. WDR CA-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 274.82 ft above National Geodetic Vertical Datum of 1929. Prior to October 1931, nonrecording gage at site 0.4 mi upstream at different datum. October 1931 to Dec. 22, 1964, water-stage recorder at site 2.5 mi upstream at datum 31.67 ft higher.

REMARKS.--Records fair. Flow regulated since November 1960 by Clair Engle Lake (station 11525400) 84 mi upstream, and by transbasin diversion to Judge Francis Carr powerplant (station 11525430) since April 1963. Small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--33 years (water years 1912-13, 1917-18, 1932-60), 5,619 ft^3/s, 4,071,000 acre-ft/yr; 26 years (water years 1964-89), 4,928 ft^3/s, 3,570,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 231,000 ft^3/s, Dec. 22, 1964, gage height, 57.0 ft, present site and datum, from floodmarks, from rating curve extended above 123,000 ft^3/s; minimum, 162 ft^3/s, Oct. 4, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 22,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0300	46,000	29.13	Mar. 10	0300	*47,100	*29.37

Minimum daily, 483 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	495	523	4500	2870	7590	4820	13200	5460	2300	1490	915	613
2	489	584	4050	2780	7120	6640	13700	5170	2350	1440	915	605
3	483	1610	3620	2910	e6230	7140	13400	5040	2480	1400	904	600
4	502	1430	3260	3170	e5520	6330	12200	5070	2500	1360	891	600
5	556	942	3020	3680	e4900	9720	11300	5200	2490	1360	877	1080
6	556	875	2900	3850	e4440	24100	10900	5350	2450	1330	862	1050
7	542	908	2910	3620	e4090	18700	10700	5570	2370	1300	850	655
8	530	839	2770	3400	e3820	16500	10400	5510	2300	1270	843	600
9	528	819	2610	3850	3730	33800	9890	5580	2250	1250	835	575
10	522	1030	2560	8810	3590	41200	9390	6040	2120	1220	835	560
11	522	1350	2540	9990	3390	32300	8670	5270	2040	1200	830	553
12	518	1300	2450	e7700	3220	25300	8120	4890	2020	1170	819	551
13	524	1870	2390	6480	3090	21500	7730	4710	2290	1130	815	541
14	553	2910	2300	5630	2960	16800	7540	4610	2270	1130	810	570
15	558	2160	e2130	4970	2850	14000	7450	4550	2270	1120	804	576
16	560	2180	e2070	4640	2780	13100	7030	4490	2240	1110	743	576
17	549	3940	1930	4430	2800	12400	6720	4510	1810	1090	679	749
18	536	2880	1840	4280	3280	13600	6590	4500	1640	1080	652	1080
19	543	1920	1840	4320	4920	16100	6450	4330	1600	1070	634	1070
20	545	1590	2010	4700	5210	14600	6250	4210	1560	1050	633	957
21	537	2480	e2700	5280	4990	14200	5910	4190	1490	1030	629	872
22	536	19600	3220	7830	6780	14600	6060	4210	1430	1010	629	815
23	532	34100	3420	9630	9410	12800	5770	4460	1440	1000	646	783
24	526	12600	3140	8200	7610	15100	5540	4420	1450	985	658	762
25	526	8940	2960	6820	6020	17900	5180	3520	1420	967	654	751
26	526	7710	2700	5980	5590	16600	4960	3250	1380	950	647	746
27	522	6150	2540	5620	5010	14100	4750	3160	1350	940	634	779
28	522	6450	2480	5490	4540	13700	4580	3120	1310	927	623	777
29	523	6270	2350	5300	---	12700	5060	3150	1370	913	614	824
30	520	5220	2530	5840	---	11800	5220	2980	1450	907	611	1060
31	518	---	2990	7130	---	13700	---	2440	---	907	613	---
TOTAL	16399	141180	84730	169200	135480	505850	240660	138960	57440	35106	23104	22330
MEAN	529	4706	2733	5458	4839	16320	8022	4483	1915	1132	745	744
MAX	560	34100	4500	9990	9410	41200	13700	6040	2500	1490	915	1080
MIN	483	523	1840	2780	2780	4820	4580	2440	1310	907	611	541
AC-FT	32530	280000	168100	335600	268700	1003000	477300	275600	113900	69630	45830	44290

CAL YR 1988 TOTAL 966929 MEAN 2642 MAX 34100 MIN 469 AC-FT 1918000
WTR YR 1989 TOTAL 1570439 MEAN 4303 MAX 41200 MIN 483 AC-FT 3115000

e Estimated.

11530500 KLAMATH RIVER NEAR KLAMATH, CA
(National stream-quality accounting network station)

LOCATION.--Lat 41°30'52", long 123°59'57", in SW 1/4, sec.13, T.13 N., R.2 E., Del Norte County, Hydrologic Unit 18010209, on right bank 0.2 mi upstream from Turwar Creek and 2.2 mi southeast of Klamath.

DRAINAGE AREA.--12,100 mi^2, approximately (not including Lost River or Lower Klamath Lake basins).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to December 1926 (published as "near Requa"), October 1950 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WSP 1285: 1951(P). WSP 1445: 1918-20. WDR CA-81-2: 1980.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to June 1926, nonrecording gage at site 2.6 mi upstream at different datum. Oct. 1, 1950, to Oct. 2, 1975, water-stage recorder at site 2.6 mi upstream at datum 5.60 ft above NGVD.

REMARKS.--No estimated daily discharges. Records good except for those less than 8,000 ft^3/s, which are poor. Medium and low flows considerably regulated by reservoirs and powerplants above station. Large diversions for irrigation above station. See schematic diagram of Klamath and Trinity River basins.

AVERAGE DISCHARGE.--55 years, 17,830 ft^3/s, 12,920,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 557,000 ft^3/s, Dec. 23, 1964, gage height, 55.3 ft, former datum, from floodmarks, from rating curve extended above 230,000 ft^3/s on basis of flood-routing study; minimum daily, 1,310 ft^3/s, Sept. 4, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 23	0430	*154,000	*25.15	Mar. 10	1030	104,000	21.65

Minimum daily, 2,040 ft^3/s, Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	2450	19100	14300	22500	17500	57200	23100	11800	5740	3180	2420
2	2090	2630	17000	13200	22100	22800	59100	22700	12400	5360	3100	2380
3	2040	5270	15400	13000	20100	24600	57300	20400	12700	5160	3270	2600
4	2060	6210	14100	13600	18300	22200	53000	20000	12500	5010	3280	2590
5	2220	4360	13000	14800	16900	28800	49200	20900	12600	4910	3210	2630
6	2310	4180	12500	15200	16200	68600	47500	22200	11700	4790	3110	3300
7	2280	4380	12800	14700	15900	62400	47600	22500	11100	4670	3060	2800
8	2250	4060	12100	14600	15200	53100	47100	22400	10100	4540	3010	2520
9	2210	4000	11400	19000	14600	70200	44300	22900	9600	4450	2960	2470
10	2190	5240	11100	45100	14300	99900	42200	25500	9150	4370	3050	2450
11	2190	7070	11200	44400	13900	87200	38500	23200	8690	4270	3110	2420
12	2210	6390	11000	31200	13600	78800	35400	20800	8440	4190	3020	2440
13	2260	8340	10700	25600	13400	75000	33900	20100	8390	4130	2910	2430
14	2350	13000	10400	22600	13000	66500	33500	18800	8350	4050	2850	2400
15	2350	9820	9790	20300	12500	58900	33900	18100	8160	4020	2830	2400
16	2350	9540	9230	19600	12100	56200	32500	17700	8270	3990	2810	2380
17	2360	17100	8810	18700	12200	54600	31000	17300	7720	3950	2690	2490
18	2340	14200	8470	17800	12800	55400	30600	16800	6940	3910	2600	3250
19	2420	9660	8610	17300	16400	61500	30600	15600	6640	3830	2580	3910
20	2490	8190	9080	17400	17200	58100	30000	14600	6420	3730	2610	3640
21	2500	11900	13600	18000	16800	58700	28500	14200	6190	3650	2600	3290
22	2500	66600	18700	25200	20500	62800	27000	14100	5900	3660	2590	3010
23	2480	122000	18700	28900	32300	56400	25400	15300	5710	3590	2600	2860
24	2490	59900	16200	25200	27100	54400	23900	16100	5680	3550	2600	2780
25	2440	41700	14700	21900	23300	63100	23000	14800	5540	3470	2570	2740
26	2400	35300	13000	19800	20800	62500	23200	13800	5410	3400	2540	2740
27	2410	28000	12300	18500	19400	55800	22800	13500	5300	3350	2500	2890
28	2420	29000	11700	18200	18300	55900	23000	13700	5180	3300	2460	2900
29	2440	27200	10900	17800	---	54800	23000	13600	5370	3230	2400	2910
30	2440	22400	12200	18400	---	50600	22700	13000	5720	3170	2390	3210
31	2440	---	15600	20900	---	57400	---	11700	---	3140	2420	---
TOTAL	72070	590090	393390	645200	491700	1754700	1076900	559400	247670	126580	86910	83250
MEAN	2325	19670	12690	20810	17560	56600	35900	18050	8256	4083	2804	2775
MAX	2500	122000	19100	45100	32300	99900	59100	25500	12700	5740	3280	3910
MIN	2040	2450	8470	13000	12100	17500	22700	11700	5180	3140	2390	2380
AC-FT	143000	1170000	780300	1280000	975300	3480000	2136000	1110000	491300	251100	172400	165100

CAL YR 1988 TOTAL 3869590 MEAN 10570 MAX 122000 MIN 1990 AC-FT 7675000
WTR YR 1989 TOTAL 6127860 MEAN 16790 MAX 122000 MIN 2040 AC-FT 12150000

11530500 KLAMATH RIVER NEAR KLAMATH, 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 1975-81.
WATER TEMPERATURE: Water years 1966-81.
SEDIMENT DATA: Water years 1955-56, 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: November 1965 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)
MAR 09...	1420	0.02

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 07...	1230	4450	197	8.3	13.0	1.5	765	10.1	95	32	27
JAN 24...	1400	24900	141	8.2	6.0	14	765	12.1	97	K4	K8
MAR 29...	1425	54100	116	8.2	10.0	25	770	11.6	102	K1	K2
MAY 16...	1345	17600	141	8.3	15.0	5.8	765	9.9	98	K2	K2
JUL 19...	1350	3810	178	8.5	21.5	0.40	765	8.8	99	K2	K6
SEP 29...	1205	2920	202	8.3	17.5	0.60	765	8.8	92	K16	K16

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	CARBONATE WATER DIS IT FIELD MG/L AS CO3	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
NOV 07...	87	20	9.0	9.3	19	0.4	1.4	98	--	80	13
JAN 24...	61	14	6.2	4.1	13	0.2	0.70	73	--	60	7.3
MAR 29...	53	12	5.6	4.2	14	0.3	0.80	64	--	53	6.9
MAY 16...	63	14	6.9	6.3	17	0.3	1.0	76	--	62	7.0
JUL 19...	77	18	7.9	7.1	16	0.4	1.1	94	1	78	10
SEP 29...	82	18	8.9	11	22	0.5	1.8	101	--	84	12

See footnotes at end of table.

11530500 KLAMATH RIVER NEAR KLAMATH, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
NOV											
07...	5.5	0.10	20	119	128	0.16	<0.010	0.340	0.020	0.040	0.40
JAN											
24...	2.3	0.10	16	85	87	0.12	<0.010	0.120	0.020	0.010	0.50
MAR											
29...	1.6	0.10	16	69	79	0.09	<0.010	0.130	0.010	0.020	0.30
MAY											
16...	1.9	0.10	16	80	91	0.11	<0.010	0.050	0.020	0.010	0.50
JUL											
19...	3.7	0.10	15	111	110	0.15	<0.010	<0.100	0.020	0.020	0.20
SEP											
29...	4.9	0.10	22	110	129	0.15	<0.010	0.160	<0.010	<0.010	0.50

DATE	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)
NOV											
07...	0.060	0.060	0.050	<10	3	18	<0.5	1	<1	<3	2
JAN											
24...	0.050	0.020	0.020	30	1	12	<0.5	<1	1	<3	1
MAR											
29...	0.090	0.020	0.010	--	--	--	--	--	--	--	--
MAY											
16...	0.030	0.030	0.010	30	1	12	<0.5	<1	1	<3	3
JUL											
19...	0.020	0.020	0.020	--	--	--	--	--	--	--	--
SEP											
29...	0.090	0.050	0.060	<10	3	17	<0.5	<1	<1	<3	1

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)
NOV										
07...	19	<5	7	5	<0.1	<10	3	<1	<1.0	120
JAN										
24...	38	<5	5	3	<0.1	<10	4	<1	<1.0	82
MAR										
29...	--	--	--	--	--	--	--	--	--	--
MAY										
16...	32	2	<4	3	<0.1	<10	3	<1	<1.0	75
JUL										
19...	--	--	--	--	--	--	--	--	--	--
SEP										
29...	14	1	6	4	<0.1	<10	2	<1	<1.0	120

See footnotes at end of table.

11530500 KLAMATH RIVER NEAR KLAMATH, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
NOV										
07...	<6	3	--	--	--	--	--	--	--	--
JAN										
24...	<6	20	--	--	--	--	--	--	--	--
MAR										
29...	--	--	<0.4	<0.4	0.7	0.8	0.6	0.8	0.04	0.05
MAY										
16...	<6	12	--	--	--	--	--	--	--	--
JUL										
19...	--	--	--	--	--	--	--	--	--	--
SEP										
29...	<6	14	--	--	--	--	--	--	--	--

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR										
29...*	1210	635	116	8.20	10.0	770	11.6	102	96	75
29...*	1235	495	116	8.20	10.0	770	11.6	102	108	68
29...*	1300	365	116	8.20	10.0	770	11.6	102	118	61
29...*	1325	255	116	8.20	10.0	770	11.4	100	141	51
29...*	1350	130	115	8.20	10.0	770	11.6	102	145	49
SEP										
28...*	1335	145	202	8.60	18.0	765	10.7	113	7	--
28...*	1405	245	202	8.60	18.0	765	10.6	112	4	--
28...*	1430	357	203	8.60	18.0	765	10.8	114	4	--
28...*	1455	460	202	8.60	18.0	765	10.9	115	3	--
28...*	1520	545	202	8.70	18.0	765	11.1	117	1	--

Instantaneous streamflow at the time of cross-sectional measurement: Mar. 29, 55,300 ft^3/s; Sept. 28, 2,880 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
07...	1230	4450	13.0	4	48	--
JAN						
24...	1400	24900	6.0	46	3090	60
MAR						
29...	1300	55300	10.0	122	18200	61
MAY						
16...	1345	17600	15.0	23	1090	--
JUL						
19...	1350	3810	21.5	1	10	--
SEP						
28...	1425	2880	18.0	4	31	--
29...	1205	2920	17.5	18	142	58

11532500 SMITH RIVER NEAR CRESCENT CITY, CA
(National stream-quality accounting network station)

LOCATION.--Lat 41°47'22", long 124°03'14", in SW 1/4 SW 1/4 sec.10, T.16 N., R.1 E., Del Norte County, Hydrologic Unit 18010101, Six Rivers National Forest, on left bank 0.5 mi downstream from South Fork and 8.1 mi east of Crescent City.

DRAINAGE AREA.--609 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 89.61 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--58 years, 3,835 ft^3/s, 2,778,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 228,000 ft^3/s, Dec. 22, 1964, gage height, 48.5 ft, from floodmarks, from rating curve extended above 110,000 ft^3/s on basis of slope-area measurement at gage height 39.51 ft; minimum daily, 160 ft^3/s, Oct. 24, 25, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 36,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1915	*111,000	*34.58	Jan. 10	0415	67,300	28.57

Minimum daily, 230 ft^3/s, Oct. 25-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	241	4700	5740	3520	3110	10200	1940	1700	754	437	288
2	254	480	3950	4560	3170	5160	13600	1780	1530	674	416	282
3	254	1740	3400	4380	2860	4780	13300	1700	1410	639	399	275
4	261	1130	3020	4620	2570	4040	9650	1680	1320	614	389	271
5	274	749	2740	5570	2310	15800	7710	1650	1250	598	378	266
6	273	2220	2710	4900	2140	23000	6650	1590	1190	580	370	264
7	268	1020	2510	4150	2010	12100	5960	1480	1130	560	361	258
8	264	943	2300	4250	1910	8600	5350	1440	1080	542	353	257
9	259	902	2140	13400	1840	16100	4870	1400	1040	531	353	257
10	255	2620	2050	38300	1800	17900	4360	1360	999	520	353	253
11	252	2440	1930	13200	1760	17200	3790	1250	961	520	343	252
12	252	2750	1780	8260	1780	e16000	3540	1180	933	513	340	252
13	252	5510	1680	6790	1750	e19200	3330	1130	904	506	331	246
14	259	7270	1550	5790	1700	13200	3150	1090	887	497	330	243
15	262	5810	1450	6330	1650	9780	2930	1050	925	492	320	243
16	254	5600	1370	7960	1720	10500	2710	1020	895	491	315	238
17	252	10200	1310	7110	2440	11400	2560	998	836	498	311	252
18	246	5250	1250	5810	3600	e14300	2450	1020	808	494	305	287
19	241	3390	1410	5270	6090	e13300	2310	982	787	477	305	281
20	241	3450	1940	5030	4520	e9780	2300	923	766	462	299	265
21	241	10200	4740	5750	4000	14500	2270	894	743	462	296	253
22	236	68000	8590	11700	11000	e11600	2140	941	717	449	308	252
23	235	34100	6850	7560	11000	e8540	2330	1920	693	440	345	247
24	231	12800	5710	5640	7360	8010	2320	3380	672	435	332	243
25	230	12400	4460	4540	5600	22100	2640	2930	661	426	314	243
26	230	10300	3510	3910	4500	13200	2970	2410	658	421	300	247
27	230	7770	3230	3620	3810	9930	2570	2250	640	427	298	281
28	230	12100	3000	3320	3340	13600	2290	2270	628	418	287	278
29	230	7680	2780	3130	---	11200	2100	2340	718	403	287	284
30	232	5780	7380	3560	---	9100	2040	2120	901	409	298	348
31	235	---	8520	3650	---	11900	---	1910	---	418	305	---
TOTAL	7691	244845	103960	217800	101750	378930	134390	50028	28382	15670	10378	7906
MEAN	248	8161	3354	7026	3634	12220	4480	1614	946	505	335	264
MAX	274	68000	8590	38300	11000	23000	13600	3380	1700	754	437	348
MIN	230	241	1250	3130	1650	3110	2040	894	628	403	287	238
AC-FT	15260	485600	206200	432000	201800	751600	266600	99230	56300	31080	20580	15680

CAL YR 1988 TOTAL 984255 MEAN 2689 MAX 68000 MIN 230 AC-FT 1952000
WTR YR 1989 TOTAL 1301730 MEAN 3566 MAX 68000 MIN 230 AC-FT 2582000

e Estimated.

11532500 SMITH RIVER NEAR CRESCENT CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
CHEMICAL DATA: Water years 1952 to current year.
BIOLOGICAL DATA: Water years 1978-81.
SPECIFIC CONDUCTANCE: Water years 1979-81.
WATER TEMPERATURE: Water years 1966-81.
SEDIMENT DATA: Water years 1955-56, November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1978 to September 1981.
WATER TEMPERATURE: October 1965 to September 1981.
SUSPENDED-SEDIMENT DISCHARGE: November 1977 to September 1979, October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)
DEC												
09...	1125	2120	107	8.10	8.0	0.60	765	12.2	103	K5	K8	51
MAR												
13...	1720	17900	78	8.10	8.0	4.2	770	12.7	106	K2	K6	40
JUN												
02...	1025	1540	104	8.20	15.5	0.20	760	10.3	104	K3	K3	55
SEP												
06...	1505	262	148	8.40	19.0	1.4	755	9.2	100	K1	K10	74

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	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											
09...	2	5.6	9.1	1.9	7	0.1	0.30	59	48	2.8	2.2
MAR											
13...	2	4.2	7.1	1.5	8	0.1	0.20	45	37	2.6	1.6
JUN											
02...	4	6.4	9.5	1.8	7	0.1	0.30	61	50	2.0	1.6
SEP											
06...	4	8.0	13	2.7	7	0.1	0.30	83	69	4.0	2.5

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)
DEC											
09...	<0.10	14	68	65	0.09	<0.010	<0.100	<0.010	<0.010	<0.20	<0.010
MAR											
13...	0.10	13	45	53	0.06	<0.010	<0.100	<0.010	<0.010	<0.20	0.010
JUN											
02...	<0.10	13	60	65	0.08	<0.010	<0.100	<0.010	0.010	0.20	<0.010
SEP											
06...	<0.10	14	86	85	0.12	<0.010	<0.100	0.020	0.020	<0.20	<0.010

See footnotes at end of table.

11532500 SMITH RIVER NEAR CRESCENT CITY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS 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											
09...	<0.010	<0.010	10	<1	6	<0.5	<1	2	<3	1	9
MAR											
13...	0.010	0.010	20	<1	5	<0.5	<1	3	<3	<1	42
JUN											
02...	<0.010	<0.010	<10	<1	5	<0.5	<1	2	<3	1	4
SEP											
06...	<0.010	<0.010	<10	<1	7	<0.5	<1	3	<3	3	<3

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											
09...	<5	<4	1	<0.1	<10	8	<1	<1.0	31	<6	<3
MAR											
13...	<5	<4	1	<0.1	<10	5	<1	<1.0	22	<6	10
JUN											
02...	1	<4	1	<0.1	<10	7	<1	<1.0	29	<6	6
SEP											
06...	<1	<4	<1	<0.1	<10	4	<1	<1.0	45	<6	4

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	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
MAR										
13...*	1500	52.0	76	8.10	8.0	770	12.4	104	18	69
13...*	1530	102	76	8.10	8.0	770	12.1	101	19	62
13...*	1600	147	76	8.10	8.0	770	12.7	106	21	53
13...*	1630	197	76	8.10	8.0	770	12.8	107	32	36
13...*	1700	292	78	8.10	8.0	770	12.7	106	18	62
SEP										
07...*	1005	35.0	149	8.30	18.5	760	8.9	95	20	46
07...*	1020	55.0	149	8.30	18.0	760	8.7	92	13	41
07...*	1035	71.0	149	8.30	18.0	760	8.7	92	16	55
07...*	1050	88.0	149	8.30	18.0	760	8.9	94	16	55
07...*	1105	112	149	8.30	18.5	760	8.9	95	16	50

*Instantaneous streamflow at the time of cross-sectional measurement: Mar. 13, 17,900 ft^3/s; Sept. 7, 257 ft^3/s.

11532500 SMITH RIVER NEAR CRESCENT CITY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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						
09...	1125	2120	8.0	6	34	51
MAR						
13...	1720	17900	8.0	21	1010	56
JUN						
02...	1025	1540	15.5	2	8.3	69
SEP						
06...	1505	262	19.0	16	11	53
07...	1030	257	18.0	16	11	49

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- or flood-flow analyses, depending on the type of data collected.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. The column headed "Period of record" shows the water years in which measurements were made at the same or practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1989

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Klamath River basin				
11525520	Deadwood Creek at Lewiston, CA	Lat 40°43'02", long 122°48'04", in SW 1/4 NW 1/4 sec.17, T.33 N., R.8 W.,Trinity County, 300 ft upstream from mouth and 0.7 mi northeast of Lewiston.	9.10	b1965-75 1976-89	01-12-89	a6.40
					03-03-89	a8.88
					03-06-89	47.7
					04-21-89	a4.61
					07-06-89	a0.48
					08-03-89	a0.52

a Base flow.
b Published as a miscellaneous measurement.

Special study and miscellaneous sites

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the State.

Discharge measurements made at special study and miscellaneous sites during water year 1989

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		Santa Rosa Creek Basin				
11142200 Santa Rosa Creek near Cambria, CA		Lat 35°34'35", long 120°59'50", in NE 1/4 NE 1/4 sec.21, T.27 S., R.9 E., San Luis Obispo County, Hydrologic Unit 18060006, on left bank and 4.8 mi east of Cambria.	12.5	1988	3-22-88	a3.66
					11-18-88	0
					12-20-88	1.96
					12-22-88	6.43
					12-26-88	13.2
					12-28-88	7.01
					1-06-89	22.4
					1-31-89	2.60
		Salinas River Basin				
11151870 Arroyo Seco near Greenfield, CA		Lat 36°14'15", long 121°28'50", in NE 1/4 SE 1/4 sec.36, T.19 S., R.4 E., Monterey County, Hydrologic Unit 18060005, on right bank 0.6 mi downstream from Rocky Creek and 14.5 mi southwest of Greenfield.	113	1962-88	10-03-88	b0.81
					11-01-88	b3.03
					12-01-88	10.5
					2-01-89	b23.3
					2-07-89	270
					3-03-89	73.0
					4-04-89	81.8
					5-02-89	24.4
		Frenchmans Creek Basin				
11162635 Frenchmans Creek near Half Moon Bay, CA		Lat 37°29'00", long 122°26'42", in Corral de Tierra (Vasquez) Grant, San Mateo County, Hydrologic Unit 18050006, at bridge on State Highway 1, 0.4 mi upstream from mouth, and 1.7 mi northwest of town of Half Moon Bay.	4.17	1977, 1988	10-19-88	0.01
					11-09-88	0.40
					12-15-88	b0.34
					1-18-89	1.25
					2-16-89	1.31
					3-23-89	13.9
					4-11-89	5.53
					6-07-89	b0.68
					7-26-89	b0.98
					9-05-89	0.11
		Purisima Creek Basin				
Purisima Creek		Lat 37°24'09", long 122°24'41", in Canada de Verde Y Arroyo de la Purisima Grant, San Mateo County, Hydrologic Unit 18050006, at bridge on Verde Road, 0.5 mi northwest of Lobitos and 4 mi south of Half Moon Bay.	8.35	1988	10-19-88	0.29
					11-09-88	0.43
					12-15-88	b0.39
					1-18-89	2.34
					2-16-89	2.63
					3-23-89	13.3
					4-11-89	5.05
					6-07-89	b1.01
					7-26-89	b0.66
					9-05-89	0.51
		Santa Rosa Creek Basin				
Santa Rosa Creek		Lat 35°33'39", long 121°05'39", San Luis Obispo County, Hydrologic Unit 18060006, at Highway 1 bridge, 1.3 mi upstream from mouth, and 0.8 mi west of Cambria.	46.6	1988	3-22-88	a2.35
					11-17-88	0
					12-19-88	0
Tributary 1	Santa Rosa Creek	Lat 35°33'55", long 121°04'26", San Luis Obispo County, Hydrologic Unit 18060006, at convergence with Santa Rosa Creek, 300 ft downstream from Main Street bridge in Cambria.	0.38	1988	11-17-88	0

See footnotes at end of table.

Discharge measurements made at special study and miscellaneous sites during water year 1989--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured Previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		Santa Rosa Creek Basin--Continued				
Santa Rosa Creek		Lat 35°33'58", long 121°04'26", San Luis Obispo County, Hydrologic Unit 18060006, at Main Street bridge in Cambria.	44.7	1988	11-17-88	0
					12-19-88	0
					12-26-88	7.70
					12-28-88	2.98
					1-06-89	24.3
					1-31-89	3.28
Santa Rosa Creek		Lat 35°34'06", long 121°06'11", San Luis Obispo County, Hydrologic Unit 18060006, at bridge at intersection of Windsor Boulevard and County Road, 0.5 mi upstream from mouth, and 1.3 mi west of Cambria.	47.1	1988	11-17-88	0
					12-19-88	0
					12-26-88	5.11
					12-28-88	0.61
					1-06-89	21.0
					1-31-89	3.70
Tributary 4	Santa Rosa Creek	Lat 35°34'13", long 121°03'47", in SE 1/4 SW 1/4 sec.24, T.27 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060006, at northern side of Santa Rosa Creek Road and 1 mi northeast of Cambria.	0.83	1988	11-18-88	0
					12-20-88	0
					1-31-89	0
Tributary 5	Santa Rosa Creek	Lat 35°34'19", long 121°03'16", in NE 1/4 SE 1/4 sec.24, T.27 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060006, on southern side of Santa Rosa Creek Road and 1.7 mi northeast of Cambria.	1.23	1988	11-18-88	0
					12-20-88	0
					1-31-89	0
Santa Rosa Creek		Lat 35°34'25", long 121°02'11", San Luis Obispo County, Hydrologic Unit 18060006, at Fiscalini Bridge, 2.3 mi northeast of Cambria.	--	--	12-26-88	9.06
					12-28-88	3.11
					1-06-89	22.8
Tributary 6	Santa Rosa Creek	Lat 35°34'37", long 121°01'31", in SE 1/4 NW 1/4 sec.20, T.27 S., R.9 E., San Luis Obispo County, Hydrologic Unit 18060006, at northern edge of Santa Rosa Creek Road and 3.2 mi northeast of Cambria.	0.42	1988	11-18-88	0
					12-20-88	0
					1-31-89	0
Tributary 7	Santa Rosa Creek	Lat 35°34'50", long 121°00'07", in SW 1/4 SE 1/4 sec.16, T.27 S., R.9 E., San Luis Obispo County, Hydrologic Unit 18060006, on eastern side of Santa Rosa Creek Road, 100 ft north of intersection and 4.6 mi northeast of Cambria.	2.09	1988	11-18-88	0
					12-20-88	0
					1-06-89	e0.67
					1-31-89	0
		San Simeon Creek Basin				
Van Gordon Creek	San Simeon Creek	Lat 35°35'58", long 121°07'04", San Luis Obispo County, Hydrologic Unit 18060006, at downstream end of culvert under San Simeon Creek Road, 3.2 mi northwest of Cambria.	2.49	1988	11-17-88	e0.05
					12-19-88	e0.04
					1-31-89	e0.05
San Simeon Creek		Lat 35°36'01", long 121°06'19", San Luis Obispo County, Hydrologic Unit 18060006, approximately 200 ft south of San Simeon Creek Road at end of dirt road and 3 mi northwest of Cambria.	25.4	1988	3-24-88	a1.56
					11-17-88	0
					12-19-88	0
					12-27-88	18.8
					1-04-89	8.85
					1-31-89	3.42

See footnotes at end of table.

Discharge measurements made at special study and miscellaneous sites during water year 1989--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured Previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		San Simeon Creek Basin--Continued				
Tributary 2	San Simeon Creek	Lat 35°36'04", long 121°06'22", San Luis Obispo County, Hydrologic Unit 18060006, at north shoulder of San Simeon Creek Road and 2.9 mi northwest of Cambria.	0.57	1988	11-17-88	0
					12-19-88	0
					1-31-89	0
Tributary 4	San Simeon Creek	Lat 35°36'28", long 121°04'53", in SE 1/4 NW 1/4 sec.11, T.27 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060006, on southwest edge of San Simeon Creek Road and 3 mi north of Cambria.	0.37	1988	11-17-88	0
					1-31-89	0
San Simeon Creek		Lat 35°36'35", long 121°04'31", in NE 1/4 SW 1/4 sec.11, T.27 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060006, at bridge on San Simeon Creek Road, at Palmer Flats and 3.1 mi north of Cambria.	23.1	1988	3-24-88	a2.20
					11-17-88	0
					12-19-88	0
					12-20-88	5.98
					12-22-88	11.4
					12-25-88	79.1
					12-27-88	21.7
					1-04-89	9.02
					1-31-89	3.75
San Simeon Creek		Lat 35°36'39", long 121°05'06", San Luis Obispo County, Hydrologic Unit 18060006, 0.5 mi upstream from first bridge crossing on San Simeon Creek Road, 2.5 mi upstream of mouth, and 3.2 mi north of Cambria.	--	--	12-27-88	20.4
					1-04-89	6.50
		Pescadero Creek Basin				
Butano Creek	Pescadero Creek	Lat 37°15'00", long 122°23'41", (revised), in Butano Grant, San Mateo County, Hydrologic Unit 18050006, at bridge on Pescadero Road near intersection of Bean Hollow Road and Pescadero Road, 1.2 mi east of State Highway 1 and 0.7 mi southwest of Pescadero.	20.3	1988	10-19-88	0
					11-10-88	0.61
					12-16-88	b1.31
					1-19-89	6.73
					2-17-89	3.99
					3-22-89	36.2
					4-21-89	5.21
					6-01-89	b1.54
					7-26-89	be<.01
					9-06-89	0.28
		Pilarcitos Creek Basin				
Arroyo Leon	Pilarcitos Creek	Lat 37°27'44", long 122°25'32", in Miramontes Grant, San Mateo County, Hydrologic Unit 18050006, at bridge at entrance to Cemetery, at east end of Half Moon Bay city limits, and 0.2 mi upstream from mouth.	8.52	1988	10-19-88	0
					11-09-88	0
					12-04-88	0.02
					1-18-89	0.80
					2-16-89	1.38
					3-23-89	10.4
					4-11-89	0.16
					6-07-89	0
					7-26-89	0
					9-05-89	0
		Alameda Creek Basin				
11177200 Vallecitos Creek	Arroyo de la Laguna	Lat 37°35'42", long 121°52'51", in Valle de San Jose Grant, Alameda County, Hydrologic Unit 18050004, on right bank at culvert on Sunol Road, 700 ft upstream from mouth and 0.3 mi east of Sunol.	7.48	1975-76, 1977-89	10-13-88	14.6
					11-23-88	20.5
					1-12-89	38.2
					3-23-89	23.5
					4-24-89	10.3
					6-08-89	63.0
					8-17-89	47.8

Discharge measurements made at special study and miscellaneous sites during water year 1989--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured Previously (water year)	Measurements Date	Measurements Discharge (ft^3/s)
		San Lorenzo Creek Basin				
11180940 Cull Creek tributary No. 4 above Cull Creek Reservoir, CA	Cull Creek	Lat 37°45'02", long 122°03'21", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on left bank, 50 ft upstream from Cull Canyon Road, and 3.2 mi upstream from Cull Creek Dam.	0.45	1979-86, 1989	3-15-89 6-15-89	0.02 0.01
		Corte Madera Creek Basin				
11460015 Corte Madera Creek at College Avenue, at Kentfield	San Francisco Bay	Lat 37°57'16", long 122°32'51" in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, on downstream side of College Avenue bridge, 0.7 mi southeast of town of Ross, and 3.1 mi upstream from mouth.	18.2	--	3-2-89 3-2-89	446 261

a Not previously published.
b No measurable precipitation had fallen for 10 days prior to discharge measurement.
e Estimated.
< Actual value is known to be less than the value shown.

SANTA ROSA CREEK BASIN

11142200 SANTA ROSA CREEK NEAR CAMBRIA, CA

LOCATION.--Lat 35°34'35", long 120°59'50", in NE 1/4 NE 1/4 sec.21, T.27 S., R.9 E., San Luis Obispo County, Hydrologic Unit 18060006, on left bank 4.8 mi east of Cambria.

DRAINAGE AREA.--12.5 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	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)
DEC									
20...	1350	2.0	472	--	12.5	--	--	--	--
JAN									
31...	1555	2.6	753	--	12.0	--	--	--	--
FEB									
24...	1345	a2.1	737	8.10	13.0	390	72	51	22

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
DEC								
20...	--	--	--	--	--	--	--	--
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
24...	11	0.5	1.4	304	110	14	0.20	<0.010

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
DEC								
20...	--	--	--	--	--	--	--	--
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
24...	19	469	472	<0.010	<0.010	130	7	3

a Provided by San Luis Obispo County Engineering Department.
< Actual value is known to be less than the value shown.

PAJARO RIVER BASIN

11153500 LLAGAS CREEK NEAR MORGAN HILL, CA

LOCATION.--Lat 37°06'52", long 121°41'22", in Las Uvas Grant, Santa Clara County, Hydrologic Unit 18060002, 500 ft upstream from Llagas Avenue bridge, 0.3 mi downstream from Chesbro Dam, 0.3 mi upstream from small left-bank tributary, and 2.3 mi west of Morgan Hill.
DRAINAGE AREA.--19.6 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1979 to current year.
SEDIMENT DATA: Water year 1985.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JUN											
06...	1530	0.30	578	8.20	24.0	--	--	--	--	300	47
JUL											
25...	1600	0.30	586	8.10	26.0	6.2	750	8.30	104	280	50
AUG											
28...	1430	0.50	631	8.30	23.0	10	750	7.90	94	300	41

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN										
06...	56	39	15	10	0.4	2.4	254	54	13	0.2
JUL										
25...	48	40	15	10	0.4	2.8	235	59	15	0.2
AUG										
28...	52	42	17	11	0.4	2.9	262	63	15	0.1

DATE	BROMIDE DISSOLVED (MG/L AS BR)	IODIDE, DISSOLVED (MG/L AS I)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
JUN										
06...	--	--	12	344	0.47	<0.01	--	<0.10	--	0.02
JUL										
25...	<0.01	0.023	13	335	0.26	<0.01	<0.01	<0.10	<0.10	0.02
AUG										
28...	--	--	11	361	0.49	<0.01	--	<0.10	--	0.04

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
JUN										
06...	0.05	0.7	0.5	0.05	0.03	0.03	290	8	--	--
JUL										
25...	0.05	1.0	0.4	0.07	0.04	0.06	310	4	5.6	0.5
AUG										
28...	0.08	0.5	0.5	0.04	0.06	0.03	340	5	5.7	0.6

See footnote at the end of table.

PAJARO RIVER BASIN

11153500 LLAGAS CREEK NEAR MORGAN HILL, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)
JUL 25...	1600	<10	2	82	<1	<1	<1	2	<1	4

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JUL 25...	24	<0.1	<1	3	<1	<1.0	310	12	4

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

PAJARO RIVER BASIN

11153555 LLAGAS CREEK AT SAN MARTIN, CA

LOCATION.--Lat 37°05'13", long 121°36'15", in San Francisco de Las Llagas Grant, Santa Clara County, Hydrologic Unit 18060002, at bridge on San Martin Avenue, 0.3 mi east of San Martin.
DRAINAGE AREA.--28.2 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1980-86, October 1988 to September 1989.
SEDIMENT DATA: Water year 1985-87.
REMARKS.--Water was pumped from Uvas Creek by means of the Uvas-Llagas pipeline from July 24 to Sept. 18, 1989.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HARDNESS TOTAL (MG/L AS CACO3)
AUG										
29...	1700	e0.45	410	8.30	24.0	0.8	750	9.50	115	180

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
AUG									
29...	13	39	21	15	15	0.5	2.2	171	37

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
AUG									
29...	9.5	0.1	17	244	0.33	<0.01	<0.10	0.01	0.01

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
AUG									
29...	0.4	0.2	0.09	0.08	0.06	120	9	4.0	0.2

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

GUADALUPE RIVER BASIN

11166710 ARROYO CALERO ABOVE CALERO RESERVOIR, NEAR NEW ALMADEN, CA

LOCATION.--Lat 37°10'38", long 121°45'45", in Pueblo Lands of San Jose Grant, T.9 S., R.2 E., Santa Clara County, Hydrologic Unit 18050003, 3.2 mi east of New Almaden.

DRAINAGE AREA.--3.14 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1986 to current year.
BIOLOGICAL DATA: Water year 1986 to current year. Prior to October 1987, published with Calero Reservoir (station 11166740) as "at Calero Creek above Calero Reservoir"

REMARKS.--Phytoplankton analyzed by Chadwick and Associates. Streamflow data provided by Santa Clara Valley Water District; not reviewed by the U.S. Geological Survey.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
NOV											
16...	1145	e100	649	7.80	16.0	8.1	755	9.1	93	140	25
JUN											
05...	1515	e125	669	7.90	16.0	5.1	--	--	--	140	25
JUL											
27...	0900	e140	680	8.30	20.0	6.7	750	9.5	106	130	24

DATE	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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
NOV										
16...	18	78	55	3	3.7	89	46	120	0.1	--
JUN										
05...	18	83	56	3	3.8	80	51	120	0.1	--
JUL										
27...	17	79	56	3	4.2	85	53	120	0.1	0.31

DATE	IODIDE, DIS-SOLVED (MG/L AS I)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (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)
NOV										
16...	--	17	361	0.49	<0.01	--	0.40	--	0.01	<0.01
JUN										
05...	--	19	370	0.5	<0.01	--	0.80	--	0.01	0.02
JUL										
27...	0.024	18	370	0.5	<0.01	<0.01	0.50	0.50	<0.01	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L)
NOV										
16...	0.8	0.4	1.2	0.08	0.08	0.05	180	7	0.50	<0.10
JUN										
05...	0.5	0.4	1.3	0.09	0.07	0.09	190	11	0.80	0.10
JUL										
27...	0.4	--	0.9	0.10	--	0.06	190	7	4.60	0.90

See footnotes at end of table.

GUADALUPE RIVER BASIN

11166710 ARROYO CALERO ABOVE CALERO RESERVOIR, NEAR NEW ALMADEN, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)
JUL 27...	0900	<10	2	45	<1	<1	<1	3	<1	5

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JUL 27...	<1	<0.1	1	2	<1	<1.0	250	5	4

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

GUADALUPE RIVER BASIN

11166710 ARROYO CALERO ABOVE CALERO RESERVOIR, NEAR NEW ALMADEN, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

PHYTOPLANKTON

DATE	11/16/88		06/05/89		07/29/89	
TIME	1145		1515		0900	
ORGANISM	CELLS/ ML	CELL VOLUME μM^3/ML	CELLS/ ML	CELL. VOLUME μM^3/ML	CELLS/ ML	CELL VOLUME μM^3/ML
BACILLARIOPHYTA (Diatoms)						
Order Centrales						
Cyclotella stelligera	--	--	34	6528	40	7680
Melosira granulata var. angustissima	--	--	--	--	27	13554
Stephanodiscus astrea var. minutula	--	--	279	70866	54	13716
Stephanodiscus niagarae	--	--	25	98675	14	55258
Order Pennales						
Achnanthes lanceolata var. dubia	--	--	8	1008	--	--
Achnanthes minutissima	--	--	16	944	30	1770
Asterionella formosa	--	--	--	--	45	16515
Cocconeis placentula var. euglypta	5	10179	8	12568	--	--
Fragilaria crotonensis	--	--	8	2512	30	9420
Gomphonema sp.	1	220	8	2352	--	--
Navicula accomoda	291	180571	--	--	--	--
Navicula radiosa var. tenella	--	--	25	14725	--	--
Navicula sp.	--	--	--	--	15	25200
Navicula sp. 1	--	--	8	6512	--	--
Navicula sp. 2	--	--	8	1208	--	--
Nitzschia frustulum var. perpusilla	--	--	--	--	15	1440
Nitzschia palea	37	6926	59	31624	--	--
Nitzschia recta	--	--	8	9424	--	--
Nitzschia romana	--	--	51	16677	--	--
Nitzschia sp. 1	--	--	8	1808	--	--
Nitzschia sp. 2	--	--	8	10776	--	--
Synedra rumpens var. scotica	74	19354	--	--	--	--
Synedra ulna	17	52873	--	--	--	--
Surirella ovata	--	--	8	27144	--	--
CHLOROPHYTA (Green algae)						
Chlamydomonas sp.	--	--	68	16048	--	--
Chlorococcum sp.	--	--	--	--	338	7098
Dictyosphaerium pulchellum	--	--	--	--	270	8910
Elakatothrix viridis	--	--	--	--	68	6868
Eudorina elegans	--	--	202	174528	--	--
Gloeocystis sp.	--	--	--	--	1553	71438
Kirchneriella sp.	--	--	68	2788	270	11070
Oocystis solitaria	--	--	135	51570	270	103140
Tetrastrum glabrum	--	--	--	--	270	8640
CYANOPHYTA (Blue-green algae)						
Anabaena sp.	--	--	169	4732	--	--
Aphanocapsa delicatissima	17755	3551	--	--	945	945
Aphanocapsa elachista var. conferta	21752	31323	--	--	--	--
Chroococcus dispersus	--	--	--	--	2093	43953
Chroococcus multicoloratus	--	--	--	--	743	2972
Oscillatoria sp.	--	--	--	--	202	3838
Synechococcus sp.	--	--	101	2020	--	--
Synechocystis sp.	7592	45096	--	--	--	--
CRYPTOPHYTA (Cryptomonads)						
Chroomonas sp.	--	--	34	5882	--	--
TOTAL CELLS/ML	47524		1346		7292	
TOTAL ALGAL BIOMASS AS BIOVOLUME (μM^3/ML)	350093		572919		413425	
NUMBER OF SPECIES	9		24		20	

GUADALUPE RIVER BASIN

11166900 ALAMITOS CREEK NEAR NEW ALMADEN, CA

LOCATION.--Lat 37°13'21", long 121°51'00", in Pueblo Lands of San Jose Grant, Santa Clara County, on right bank at Greystone bridge, 1.1 mi downstream from Arroyo Calero, 3.4 mi southwest of Edenvale, and 3.5 mi northwest of New Almaden.
DRAINAGE AREA.--31.8 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1985 to current year.
SEDIMENT DATA: Water years 1985, 1987 to current year.
REMARKS.--Bed-material samples were divided into two fractions prior to analysis. Chemical and particle-size analyses are representative of the sample fraction which was finer than 2.0 mm.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)
JUN											
06...	1145	6.00	655	8.40	20.0	--	--	--	--	13	240
JUL											
25...	1215	7.40	699	8.00	21.5	3.0	755	10.8	124	26	210
AUG											
30...	1130	6.20	645	8.00	19.0	1.5	755	9.40	103	14	250

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN											
06...	61	35	37	50	31	1	2.1	179	41	85	0.2
JUL											
25...	67	33	32	61	38	2	2.7	148	43	100	0.2
AUG											
30...	37	36	40	35	23	1	1.9	218	32	54	0.1

DATE	BROMIDE DISSOLVED (MG/L AS BR)	IODIDE, DISSOLVED (MG/L AS I)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
JUN											
06...	--	--	21	379	0.52	<0.01	--	0.20	--	<0.01	0.05
JUL											
25...	0.25	0.014	20	382	0.52	<0.01	<0.01	0.20	0.19	<0.05	<0.01
AUG											
30...	--	--	23	353	0.48	<0.01	--	0.20	--	<0.01	<0.01

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
JUN										
06...	0.8	0.4	1.0	0.02	0.01	0.01	190	15	--	--
JUL										
25...	0.5	0.2	0.7	0.05	0.03	0.02	220	7	2.7	0.5
AUG										
30...	0.3	0.3	0.5	0.02	0.02	<0.01	200	<3	1.9	0.2

See footnote at end of table.

GUADALUPE RIVER BASIN

11166900 ALAMITOS CREEK NEAR NEW ALMADEN, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, DIS-SOLVED (UG/L AS CO)
JUL 25...	1215	20	1	10	80	<1	3	<1	80	<1

DATE	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY DIS-SOLVED (UG/L AS HG)
JUL 25...	<50	1	20	15000	<1	<100	5	3	360	<0.1

DATE	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G 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)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	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)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)
JUL 25...	44	1	2	<1	<1	<1.0	280	1	12	60

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	BED MAT. FALL DIAM.DW % FINER THAN .002 MM	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. FALL DIAM.DW % FINER THAN .008 MM	BED MAT. FALL DIAM.DW % FINER THAN .016 MM
JUL 25...	1215	7.40	21.5	1	2	2	3

DATE	BED MAT. FALL DIAM.DW % FINER THAN .031 MM	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
JUL 25...	4	4	5	9	25	58	100

GUADALUPE RIVER BASIN

11167500 GUADALUPE CREEK AT GUADALUPE, CA

LOCATION.--Lat 37°13'02", long 121°54'35", in SW 1/4 sec.19, T.8 S, R.1 E., Santa Clara County, Hydrologic Unit 18050003, on left bank 0.1 mi downstream from small left-bank tributary, 0.5 mi northwest of Guadalupe.
DRAINAGE AREA.--12.8 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1980 to current year.
SEDIMENT DATA: Water years 1985 to current year.
REMARKS.--Bed-material samples were divided into two fractions prior to analysis. Chemical and particle-size analyses are representative of the sample fraction which was finer than 2.0 mm.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)
JUN											
06...	1045	3.60	492	8.30	14.0	--	--	--	--	14	240
JUL											
25...	1100	3.00	421	7.80	17.5	2.5	755	9.60	101	11	210
AUG											
30...	1030	1.20	478	7.80	15.5	1.5	750	9.60	98	18	220

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)
JUN											
06...	42	34	22	16	0.6	0.8	236	26	13	0.1	--
JUL											
25...	42	26	16	14	0.5	1.4	195	18	10	0.2	<0.01
AUG											
30...	40	30	20	16	0.6	1.6	241	22	11	0.1	--

DATE	IODIDE, DISSOLVED (MG/L AS I)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
JUN										
06...	--	8.7	289	0.39	<0.01	--	<0.10	--	<0.01	0.02
JUL										
25...	0.007	9.5	242	0.33	<0.01	<0.01	0.40	0.35	0.05	0.09
AUG										
30...	--	8.0	278	0.38	<0.01	--	<0.10	--	0.01	<0.01

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
JUN										
06...	0.3	0.3	--	0.03	0.03	0.02	430	9	--	--
JUL										
25...	0.5	0.4	0.9	0.08	0.07	0.05	260	6	2.9	0.2
AUG										
30...	<0.2	0.3	--	0.02	0.02	0.01	370	4	2.9	0.2

See footnote at end of table.

GUADALUPE RIVER BASIN

11167500 GUADALUPE CREEK AT GUADALUPE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, DISSOLVED (UG/L AS CO)
JUL 25...	1100	<10	2	5	67	<1	4	<1	200	<1

DATE	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY DISSOLVED (UG/L AS HG)
JUL 25...	50	<1	40	19000	<1	20	7	5	910	<0.1

DATE	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)
JUL 25...	10	<1	4	<1	<1	<1.0	280	1	4	80

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989.

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	BED MAT. FALL DIAM.DW % FINER THAN .002 MM	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. FALL DIAM.DW % FINER THAN .008 MM	BED MAT. FALL DIAM.DW % FINER THAN .016 MM
JUL 25...	1100	3.00	17.5	7	7	9	13

DATE	BED MAT. FALL DIAM.DW % FINER THAN .031 MM	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
JUL 25...	17	19	23	30	44	69	100

GUADALUPE RIVER BASIN

11167572 GUADALUPE RIVER AT ALAMITOS RECHARGE FACILITY, AT SAN JOSE, CA

LOCATION.--Lat 37°14'51", long 121°52'08", in San Juan Bautista Grant, Santa Clara County, Hydrologic Unit 18050003, at south city limits of San Jose, 0.2 mi downstream from confluence at Alamitos and Guadalupe Creeks.
DRAINAGE AREA.--53.0 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1979 to current year.
SEDIMENT DATA: Water years 1985-87, 1989.
REMARKS.--Bed-material samples were divided into two fractions prior to analysis. Chemical and particle-size analyses are representative of the sample fraction which was finer than 2.0 mm.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)
JUN											
06...	1245	1.40	723	8.30	21.0	--	--	--	--	24	240
JUL											
25...	1330	3.60	759	8.60	26.0	1.1	755	9.90	124	16	260
AUG											
30...	1215	1.10	783	8.20	22.0	2.9	755	8.90	103	18	270

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN											
06...	70	36	37	57	34	2	2.2	172	52	110	0.2
JUL											
25...	77	38	39	60	34	2	2.4	179	51	110	0.2
AUG											
30...	68	37	42	55	31	1	2.2	198	52	96	0.1

DATE	BROMIDE DISSOLVED (MG/L AS BR)	IODIDE, DISSOLVED (MG/L AS I)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
JUN										
06...	--	--	14	412	0.56	<0.01	--	<0.10	--	0.03
JUL										
25...	0.24	0.011	18	427	0.58	<0.01	<0.01	<0.10	<0.10	<0.01
AUG										
30...	--	--	16	419	0.57	<0.01	--	<0.10	--	0.01

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
JUN										
06...	0.05	1.1	0.4	0.02	<0.01	<0.01	190	11	--	--
JUL										
25...	<0.01	0.4	0.7	0.02	<0.01	<0.01	200	4	2.7	0.4
AUG										
30...	<0.01	<0.2	0.3	0.02	0.02	<0.01	190	5	2.9	0.2

See footnote at end of table.

GUADALUPE RIVER BASIN

11167572 GUADALUPE RIVER AT ALAMITOS RECHARGE FACILITY, AT SAN JOSE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, DIS-SOLVED (UG/L AS CO)
JUL 25...	1330	<10	1	5	93	1	2	<1	100	<1

DATE	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY DIS-SOLVED (UG/L AS HG)
JUL 25...	<50	3	50	14000	1	<100	6	3	430	<0.1

DATE	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G 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)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	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)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)
JUL 25...	13	<1	4	<1	<1	<1.0	290	4	8	110

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	BED MAT. FALL DIAM.DW % FINER THAN .002 MM	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. FALL DIAM.DW % FINER THAN .008 MM	BED MAT. FALL DIAM.DW % FINER THAN .016 MM	BED MAT. FALL DIAM.DW % FINER THAN .031 MM	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
JUL 25...	1330	3.60	26.0	8	10	12	16	20	24	48	68	100

GUADALUPE RIVER BASIN

11168000 LOS GATOS CREEK AT LOS GATOS, CA

LOCATION.--Lat 37°13'03", long 121°59'11", in SE 1/4 sec.20, T.8 S., R.1 W., Santa Clara County, Hyldrologic Unit 18050003, on right bank 0.4 mi upstream from Main Street bridge, 0.7 mi southwest of Los Gatos Post Office, and 1.1 mi downstream from Lexington Dam.

DRAINAGE AREA.-- 39 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1952-66, 1980-87, October 1988 to September 1989.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN											
06...	0945	6.4	664	8.00	18.0	--	--	--	--	17	310
JUL											
25...	0930	4.7	704	8.00	21.0	4.1	750	8.60	98	20	340
AUG											
30...	0930	12.0	715	8.00	19.0	4.6	750	8.50	93	25	320

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JUN										
06...	78	27	24	14	0.6	3.2	180	160	14	0.2
JUL										
25...	86	30	26	14	0.6	3.9	190	160	14	0.3
AUG										
30...	82	28	26	15	0.6	3.8	203	160	14	0.2

DATE	BROMIDE DIS-SOLVED (MG/L AS BR)	IODIDE, DIS-SOLVED (MG/L AS I)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
JUN										
06...	--	--	9.4	424	0.58	<0.01	--	<0.10	--	0.02
JUL										
25...	0.03	0.012	10	445	0.61	<0.01	<0.01	<0.10	<0.10	0.02
AUG										
30...	--	--	11	447	0.61	<0.01	--	<0.10	--	0.02

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
JUN										
06...	0.04	0.3	0.3	0.01	<0.01	<0.01	90	11	--	--
JUL										
25...	0.01	0.4	0.3	0.02	<0.01	<0.01	120	<3	4.3	0.8
AUG										
30...	0.02	0.3	0.4	0.03	0.02	0.01	120	<3	4.6	0.6

See footnote at end of table.

GUADALUPE RIVER BASIN

11168000 LOS GATOS CREEK AT LOS GATOS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)
JUL 25...	0930	<10	2	72	<1	<1	<1	2	<1	11

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JUL 25...	42	<0.1	2	2	<1	<1.0	490	1	5

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

GUADALUPE RIVER BASIN

11168660 LOS GATOS CREEK AT LARK AVENUE, AT LOS GATOS, CA

LOCATION.--Lat 37°15'07", long 121°57'48", in Rinconada de Los Gatos Grant, Santa Clara County, Hydrologic Unit 18050003, at bridge on Lark Avenue, 1,800 ft downstream from Vasona Dam, and 2 mi northeast of Los Gatos Post Office.

DRAINAGE AREA.--43.3 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1979 to current year.
SEDIMENT DATA: Water years 1985 to current year.

REMARKS.--Bed material samples were divided into two fractions prior to analysis. Chemical and particle-size analyses are representative of the sample fraction which was finer than 2.0 mm.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS TOTAL (MG/L AS CACO3)
JUN											
06...	0830	4.70	651	8.00	20.0	--	--	--	--	27	290
JUL											
25...	0800	4.10	652	7.80	23.5	2.1	755	11.0	131	19	290
AUG											
30...	0830	4.90	680	8.10	20.0	2.0	750	7.20	81	26	290

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN										
06...	69	29	25	16	0.6	2.9	190	120	22	0.2
JUL										
25...	67	29	25	16	0.6	3.5	171	140	21	0.3
AUG										
30...	69	29	27	17	0.7	3.6	184	150	19	0.2

DATE	BROMIDE DISSOLVED (MG/L AS BR)	IODIDE, DISSOLVED (MG/L AS I)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
JUN										
06...	--	--	11	393	0.53	<0.01	--	<0.10	--	0.06
JUL										
25...	0.03	0.013	12	401	0.55	<0.01	<0.01	<0.10	<0.10	0.03
AUG										
30...	--	--	11	419	0.57	<0.01	--	<0.10	--	0.05

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
JUN										
06...	0.08	0.6	0.3	0.06	0.03	0.02	100	5	--	--
JUL										
25...	0.03	0.6	0.3	0.07	0.03	0.03	110	5	4.2	0.8
AUG										
30...	0.04	0.6	0.3	0.05	0.02	0.01	100	5	4.4	0.8

See footnote at end of table.

GUADALUPE RIVER BASIN

11168660 LOS GATOS CREEK AT LARK AVENUE, AT LOS GATOS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, DISSOLVED (UG/L AS CO)
JUL 25...	0800	<10	2	4	78	<1	<10	<1	40	<1

DATE	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY DISSOLVED (UG/L AS HG)
JUL 25...	<10	<1	110	11000	<1	160	9	240	930	<0.1

DATE	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)
JUL 25...	0.18	2	1	<1	<1	<1.0	430	1	8	2200

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	BED MAT. FALL DIAM.DW % FINER THAN .002 MM	BED MAT. FALL DIAM. % FINER THAN .004 MM	BED MAT. FALL DIAM.DW % FINER THAN .008 MM	BED MAT. FALL DIAM.DW % FINER THAN .016 MM
JUL 25...	0800	4.10	23.5	3	3	3	5

DATE	BED MAT. FALL DIAM.DW % FINER THAN .031 MM	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
JUL 25...	9	17	35	87	93	100

SAN LORENZO CREEK BASIN

11180940 CULL CREEK TRIBUTARY NO. 4 ABOVE CULL CREEK RESERVOIR, CA

LOCATION.--Lat 37°45'02", long 122°03'21", in San Lorenzo Grant, Alameda County, Hydrologic Unit 18050004, on left bank, 50 ft upstream from Cull Canyon Road, and 3.2 mi upstream from Cull Canyon Dam.

DRAINAGE AREA.--0.45 mi^2.

PERIOD OF RECORD.--
SEDIMENT DATA: Water year October 1988 to September 1989.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
MAR					
15...	1535	0.02	14.0	44	0.00
15...	1540	0.02	14.0	29	0.00

CORTE MADERA CREEK BASIN

11460015 CORTE MADERA CREEK AT COLLEGE AVENUE, AT KENTFIELD, CA

LOCATION.--Lat 37°57'16", long 122°32'51", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, on downstream side of College Avenue bridge, 0.7 mi southeast of Ross, and 3.1 mi upstream of mouth.

DRAINAGE AREA.--18.2 mi^2.

PERIOD OF RECORD.--
SEDIMENT DATA: October 1987 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAR										
02...	1140	380	12.0	426	437	79	86	97	99	100
02...	1530	230	11.0	226	140	63	67	78	97	100

PARTICLE SIZE DISTRIBUTION OF BEDLOAD, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	TEMPERATURE WATER (DEG C)	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, INST. CUBIC FEET PER SECOND	STREAM WIDTH (FT)	SEDIMENT DISCHARGE, BEDLOAD (TONS/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM
MAR							
02...	1215	12.0	15	330	33.0	2.1	1
02...	1555	11.0	16	225	33.0	3.1	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
MAR							
02...	3	56	88	94	100	--	--
02...	1	36	92	96	99	99	100

SANTA ROSA CREEK BASIN

353339121053900 SANTA ROSA CREEK ON HIGHWAY 1 BRIDGE AT CAMBRIA, CA

LOCATION.--Lat 35°33'39", long 121°05'39", in San Luis Obispo County, Hydrologic Unit 18060006, at Highway 1 bridge, 1.3 mi upstream from mouth, and 0.8 mi west of Cambria.

DRAINAGE AREA.--46.6 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	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)
JAN 31...	1755	a4.4	814	--	12.0	--	--	--	--
FEB 24...	1110	a5.0	822	8.30	13.0	410	71	57	31

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
JAN 31...	--	--	--	--	--	--	--	--
FEB 24...	14	0.7	1.6	328	100	24	0.20	0.022

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN 31...	--	--	--	--	--	--	--	--
FEB 24...	12	520	494	<0.010	<0.010	150	9	8

a Provided by San Luis Obispo County Engineering Department.
< Actual value is known to be less than the value shown.

SANTA ROSA CREEK BASIN

353406121061100 SANTA ROSA CREEK AT WINDSOR BOULEVARD, NEAR CAMBRIA, CA

LOCATION.--Lat 35°34'06", long 121°06'11", in San Luis Obispo County, Hydrologic Unit 18060006, at bridge at intersection of Windsor Boulevard and County Road, 0.5 mi upstream from mouth, and 1.3 mi west of Cambria.

DRAINAGE AREA.--47.1 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	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)
JAN									
31...	1500	3.7	856	--	11.5	--	--	--	--
FEB									
24...	0935	--	838	7.90	12.0	410	70	57	32

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
24...	14	0.7	1.7	326	120	30	0.30	0.037

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
24...	12	530	519	<0.010	<0.010	150	6	9

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

SAN SIMEON CREEK BASIN

353635121043101 SAN SIMEON CREEK AT PALMER FLATS, NEAR CAMBRIA, CA

LOCATION.--Lat 35°36'35", long 121°04'31", in NE 1/4 SW 1/4 sec.11, T.27 S., R.8 E., San Luis Obispo County, Hydrologic Unit 18060006, at bridge on San Simeon Creek Road, 3.1 mi north of Cambria.

DRAINAGE AREA.--23.1 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1988 to February 1989 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

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)	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)
DEC									
20...	1050	6.0	472	--	10.5	--	--	--	--
JAN									
31...	1415	3.8	492	--	12.0	--	--	--	--
FEB									
23...	1700	a3.9	468	8.00	14.5	220	41	29	15

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
DEC								
20...	--	--	--	--	--	--	--	--
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
23...	13	0.4	1.0	202	42	12	0.20	<0.010

DATE	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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
DEC								
20...	--	--	--	--	--	--	--	--
JAN								
31...	--	--	--	--	--	--	--	--
FEB								
23...	14	280	276	<0.010	<0.010	200	6	1

a Provided by San Luis Obispo County Engineering Department.
< Actual value is known to be less than the value shown.

LOBOS CREEK BASIN

374715122285601 LOBOS CREEK AT PRESIDIO MILITARY RESERVATION, SAN FRANCISCO, CA

LOCATION.--Lat 37°47'15", long 122°28'56", unsurveyed, San Francisco County, Hydrologic Unit 18050005, 600 ft upstream of Lincoln Boulevard, Presidio Military Reservation, San Francisco.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
CHEMICAL DATA: October 1988 to September 1989.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	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
DEC											
08...	1500	--	607	16.5	7.20	240	29	41	38	25	1
MAY											
15...	1545	1.8	617	17.0	7.20	250	30	42	39	25	1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, 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 DIS-SOLVED (MG/L AS N)
DEC											
08...	2.7	190	48	44	0.1	0.27	25	371	0.04	6.60	0.04
MAY											
15...	2.7	190	51	44	0.1	0.26	25	374	0.04	5.90	0.05

CORTE MADERA CREEK BASIN

375658122324000 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 0, CA

LOCATION.--Lat 37°56'58", long 122°32'40", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 0.3 mi downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: Water year 1988 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987 17...	1315	1	71	34	54	77	86

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
DEC 1987 17...	91	93	98	100	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988 12...	1325	1	0.07	17	29	45	59
JUN 1989 01...	1635	1	1.4	--	1	4	63

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
OCT 1988 12...	73	89	96	97	99	100
JUN 1989 01...	98	99	100	--	--	--

CORTE MADERA CREEK BASIN

375701122324200 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 1, CA

LOCATION.--Lat 37°57'01", long 122°32'42", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 0.29 mi downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: October 1987 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987										
17...	1335	1	71	32	61	76	84	92	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988										
12...	1650	1	0.07	20	28	40	57	84	99	100
JUN 1989										
01...	1605	1	1.6	1	5	76	100	--	--	--

CORTE MADERA CREEK BASIN

375704122324200 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 2, CA

LOCATION.--Lat 37°57'04", long 122°32'42", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 0.21 mi downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: October 1987 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987										
17...	1355	1	69	4	12	24	82	97	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988										
12...	1630	1	0.07	11	39	74	88	93	98	100
JUN 1989										
01...	1550	1	1.6	1	2	50	97	98	99	100

CORTE MADERA CREEK BASIN

375710122324000 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 3, CA

LOCATION.--Lat 37°57'10", long 122°32'40", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 0.15 mi downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: October 1988 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988											
12...	1610	1	0.07	2	6	28	60	82	97	100	--
JUN 1989											
01...	1535	1	1.6	2	6	16	74	87	93	98	100

CORTE MADERA CREEK BASIN

375711122324600 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 4, CA

LOCATION.--Lat 37°57'11", long 122°32'46", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 325 ft downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: Water year 1988 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987							
17...	1420	1	68	1	8	73	92

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
DEC 1987						
17...	94	96	98	99	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988							
12...	1545	1	0.07	--	--	11	62
JUN 1989							
01...	1515	1	1.6	1	2	4	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
OCT 1988						
12...	70	76	83	90	98	100
JUN 1989						
01...	10	17	31	58	91	100

CORTE MADERA CREEK BASIN

375712122325100 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 5, CA

LOCATION.--Lat 37°57'12", long 122°32'51, in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 7 ft downstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: Water year 1988 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987 17...	1435	1	68	1	2	40	97

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
DEC 1987 17...	98	99	100	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE 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
OCT 1988 12...	1530	1	0.07	--	--	1	2
JUN 1989 01...	1500	1	1.6	--	1	2	3

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
OCT 1988 12...	8	15	23	36	60	100
JUN 1989 01...	6	14	30	53	85	100

CORTE MADERA CREEK BASIN

375712122325200 CORTE MADERA CREEK NEAR COLLEGE AVENUE, AT KENTFIELD, AT CROSS SECTION 6, CA

LOCATION.--Lat 37°57'12", long 122°32'52", in Punta de Quentin Grant, Marin County, Hydrologic Unit 18050002, 95 ft upstream from College Avenue.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
SEDIMENT DATA: Water year 1988 to September 1989 (discontinued).

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
DEC 1987							
17...	1455	1	66	--	1	1	3

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
DEC 1987						
17...	6	11	17	31	66	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	NUMBER OF SAMPLING POINTS (COUNT)	DISCHARGE, 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
OCT 1988							
12...	1510	1	0.07	17	25	38	56
JUN 1989							
01...	1440	1	1.6	1	2	11	12

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
OCT 1988						
12...	81	100	--	--	--	--
JUN 1989						
01...	16	23	32	43	57	100

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October 1, 1978

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

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

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

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