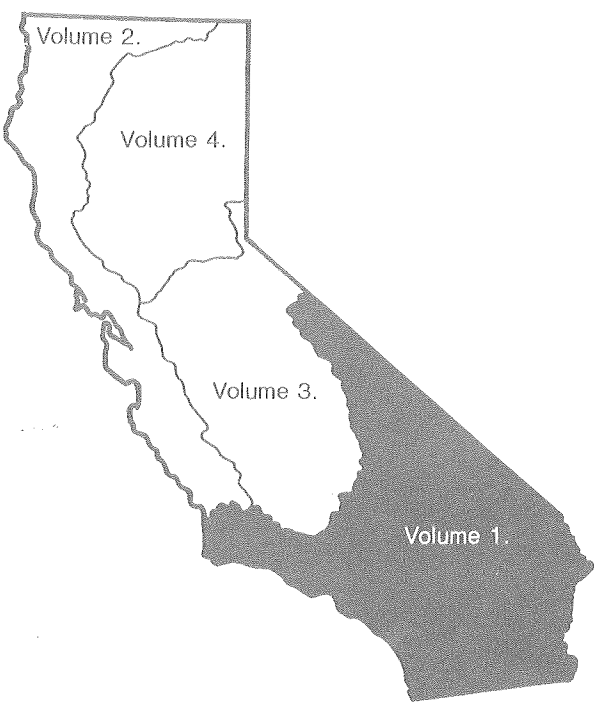
Water Resources Data California

Water Year 1988

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-88-1
Prepared in cooperation with the California Department of Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1988

1987

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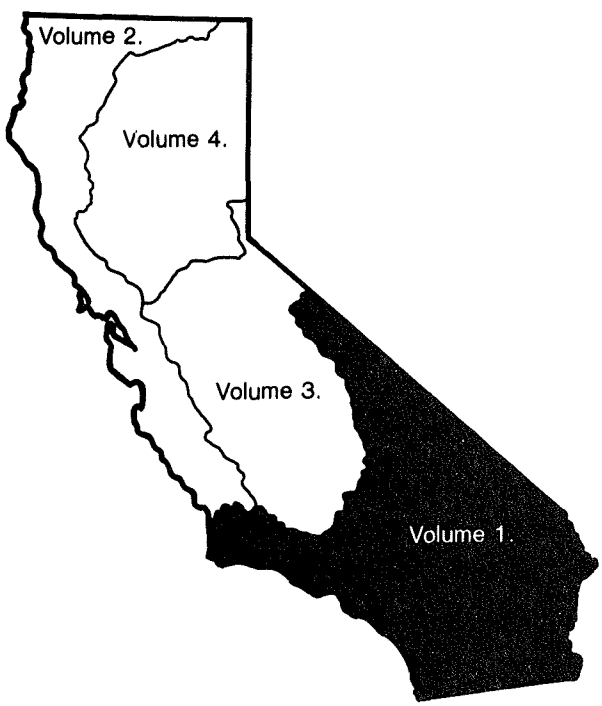
Water Resources Data California

Water Year 1988

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

by K.G. Polinoski, E.B. Hoffman, G.B. Smith, and J.C. Bowers



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-88-1
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

1989

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.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-89/250	2.	3. Recipient's Accession No.

4. Title and Subtitle Water Resources Data for California, Water Year 1988 Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River

5. Report Date April 1989

6.

7. Author(s) K.G. Polinoski, E.B. Hoffman, G.B. Smith, and J.C. Bowers

8. Performing Organization Rept. No. USGS-WDR-88-1

9. Performing Organization Name and Address

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2800 Cottage Way, Room W-2234
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10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.

(C)

(G)

12. Sponsoring Organization Name and Address

U.S. Geological Survey, Water Resources Division
California District
2800 Cottage Way, Room W-2234
Sacramento, CA 95825

13. Type of Report & Period Covered Annual--Oct. 1, 1987 to Sept. 30, 1988

14.

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 1988 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 1 contains discharge records for 134 gaging stations; stage and contents for 17 lakes and reservoirs; and water quality for 24 streams. Also included are 10 crest-stage partial-record stations, 5 miscellaneous measurement sites, and 16 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.

17. Document Analysis a. Descriptors

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

c. COSATI Field/Group

18. Availability Statement: No restriction on distribution. This report may be purchased from National Technical Information Service Springfield, VA 22161

19. Security Class (This Report) Unclassified

20. Security Class (This Page) Unclassified

21. No. of Pages 282

22. Price

(See ANSI-Z39.18) *See Instructions on Reverse* OPTIONAL FORM 272 (Formerly NTIS-35) Department of Commer

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

[Letters after station name designate type of data: (d), discharge; (l), lake contents; (c), chemical; (b), biological; (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 1988

VOLUME 1--SOUTHERN GREAT BASIN FROM MEXICAN BORDER TO MONO LAKE BASIN,

AND PACIFIC SLOPE BASINS FROM TIJUANA RIVER TO SANTA MARIA RIVER

By K.G. Polinoski, E.B. Hoffman, G.B. Smith, and J.C. Bowers

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 134 streamflow-gaging stations, 10 crest-stage partial-record streamflow stations, and 5 miscellaneous measurement stations; (2) stage and contents records for 17 lakes and reservoirs; and (3) water-quality records for 24 streamflow-gaging stations and 16 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 for ground-water levels and quality was published for California.

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

Publications similar to this report are published annually by the U.S. Geological Survey for all States. 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-88-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

COOPERATION

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

Antelope Valley-East Kern Water Agency, Wallace G. Spinarski, General Manager.
California Department of Boating and Water Ways, Marty Mercado, Director.
California Department of Water Resources, David N. Kennedy, Director.
Carpinteria County Water District, Robert R. Lieberknecht, General Manager/Secretary.
Casitas Municipal Water District, Robert N. McKinney, General Manager and Chief Engineer.
Coachella Valley Water District, Lowell O. Weeks, General Manager-Chief Engineer.
Crestline-Lake Arrowhead Water Agency, Roxanne M. Holmes, Assistant General Manager.
Desert Water Agency, Paul G. Payne, General Manager.
East Valley Water District, Larry W. Rowe, General Manager.
Goleta Water District, Lloyd C. Fowler, General Manager and Chief Engineer.
Imperial County Department of Public Works, David E. Pierson, Director.
Imperial Irrigation District, Donald A. Twogood, General Manager.
Indian Wells Valley Water District, James H. Stramler, General Manager.
Inyo County Department of Water, Gregory L. James, Director.
Los Angeles Department of Water and Power, Leval Lund, Engineer, Aqueduct Division.
Mojave Water Agency, Jon D. Edson, General Manager.
Montecito Water District, Charles C. Evans, General Manager and Chief Engineer.
Newport Beach, City of, John Wolter, Senior Civil Engineer.
Orange County Environmental Management Agency, Murray I. Storm, Director.
Orange County Water District, Neil M. Cline, Secretary-Manager.
Rancho California Water District, Stan Mills, General Manager.
Riverside County Flood Control and Water Conservation District, Kenneth L. Edwards, Chief Engineer.
San Bernardino Valley Municipal Water District, G. Louis Fletcher, General Manager.
San Diego, City of, R.W. King, Water Utilities Director.
San Diego County Department of Sanitation and Flood Control, R.J. Massman, Director.
Santa Barbara, City of, Robert W. Puddicombe, Director.
Santa Barbara County Flood Control and Water Conservation District, James M. Stubchaer, Flood Control Engineer.
Santa Barbara County Water Agency, James M. Stubchaer, Engineer-Manager.
Santa Maria Valley Water Conservation District, Maurice F. Twitchell, Secretary.
United Water Conservation District, G.I. Wilde, General Manager and Chief Engineer.
Ventura County Flood Control District, Arthur Goulet, Director.
Western Municipal Water District, Howard A. Hicks, General Manager.

Assistance in the form of funds or services was given by the Vandenberg Air Force Base, U.S. Air Force; Corps of Engineers, U.S. Army; Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, and National Park Service, U.S. Department of the Interior; Marine Corps, U.S. Navy; and Naval Weapons Center, U.S. Navy.

The following organizations aided in collecting records: California Department of Water Resources, Southern California Edison Co., and United Water Conservation District.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

As is common in California, streamflow varied greatly in the 1988 water year--month by month and regionally. The variations are related to differences in precipitation, temperature, topography, and geology. Runoff during the 1988 water year in the area covered by this volume was 153 percent of the 1951-80 median (based on seven representative streamflow records). Total runoff in percent of median, at selected sites in California is shown in figure 1. Runoff ranged from 283 percent of median at Borrego Palm Creek near Borrego Springs (station 10255810) to 59 percent at Santa Cruz Creek near Santa Ynez (station 11124500). Monthly mean runoff in the 1988 water year at four index stations is compared to the 1951-80 maximum, minimum, and median monthly mean runoff in figure 2. Few streams exceeded the peak discharge bases; none had peaks of record.

There were no significant region-wide storms during this water year. In August a moist, unstable tropical air mass spawned numerous convective storms with intense rainfall, causing flash flooding throughout the desert region. The first 3 months were well above normal, producing about 50 percent of the water year total; this period normally produces about 25 percent. The normally wet period of January through March had only a few minor storms, producing about 25 percent of the water year total; this period normally produces about 75 percent. The month of April was above average, but May through September were all below normal, except in the desert. Precipitation, generally normal throughout the area covered by this volume, was 101 percent of the long-term average, (based on seven representative precipitation gages). Precipitation ranged from 133 percent of the long-term mean at San Diego, to 72 percent at San Bernardino County Hospital.

FIGURE 1.-- Runoff, in percent of median, for the 1988 water year.

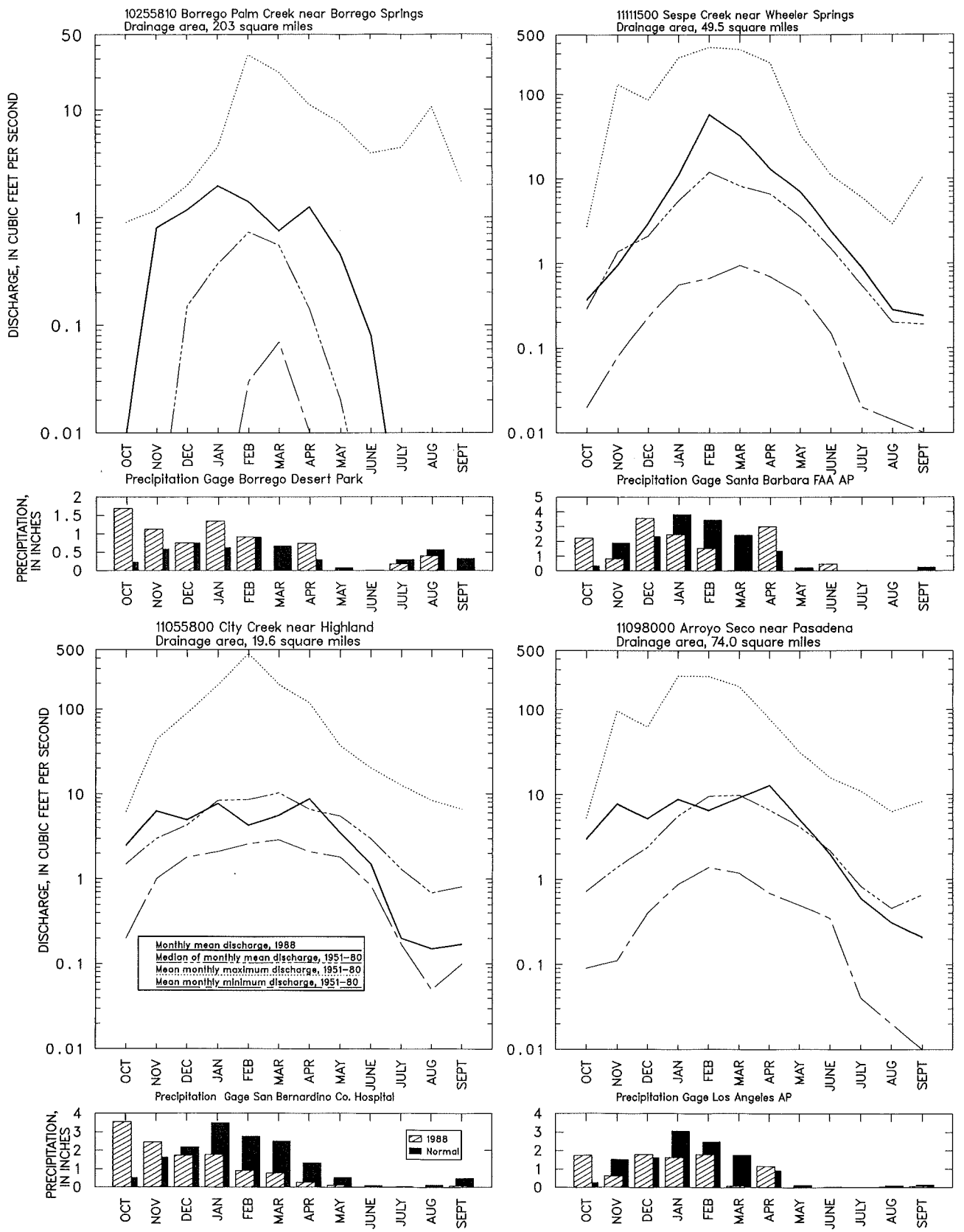

FIGURE 2.--Comparison of discharge during water year 1988 with long-term discharge statistics and rainfall of four representative gaging stations.

Water Quality

Water samples collected at five NASQAN stations reported in this volume were analyzed for water-quality constituents during the 1988 water year. Specific conductance varied from 673 microsiemens at the Santa Ana River below Prado Dam (station 11074000) to 3,260 microsiemens at the Alamo River at Drop 3, near Calipatria (station 10254670). Median dissolved-solids concentrations for samples collected from these stations varied slightly from those values reported in 1987. The monthly mean dissolved-solids concentrations during water year 1988 are compared with long-term mean dissolved-solids concentrations at two selected stations (fig. 3).

Four NASQAN stations indicated fecal-coliform and fecal-streptococcus bacterial densities increasing from the 1987 water year. The largest densities of fecal-coliform and fecal-streptococci bacteria were found in water samples from the Alamo River at Drop 3, near Calipatria, 14,000 colonies per 100 milliliters and 28,000 colonies per 100 milliliters, respectively.

Chemical-constituent concentrations in excess of U.S. Environmental Protection Agency water-quality criteria were detected in water samples collected from three NASQAN stations for sulfate; two NASQAN stations for manganese, chloride, and hardness; and one NASQAN station for pH.

Water samples also were collected from other locations covered in this volume. Samples from those stations that had concentrations of constituents that exceeded U.S. Environmental Protection Agency water-quality criteria are listed below:

Station		WATER-QUALITY CONSTITUENT EXCEEDING EPA WATER-QUALITY CRITERIA
11104000	Topanga Creek near Topanga Beach	Sulfate
11105500	Malibu Creek at Crater Camp, near Calabasas	Sulfate
11120500	San Jose Creek near Goleta	Sulfate
11132500	Salsipuedes Creek near Lompoc	Sulfate
11133000	Santa Ynez River at Narrows, near Lompoc	Sulfate
11134800	Miguelito Creek at Lompoc	Sulfate
11136100	San Antonio Creek near Casmalia	Sulfate, chloride, boron
11136800	Cuyama River below Buckhorn Canyon, near Santa Maria	Sulfate
11138500	Susquoc River near Sisquoc	Sulfate
11141050	Orcutt Creek near Orcutt	Sulfate, chloride
340248118352401	Tuna Creek near Topanga Beach	Sulfate
340613118424301	Las Vergenes Creek at Mulholland Road, near Brown Ranch	Sulfate
340616118450001	Malibu Creek below Malibu Lake	Sulfate
340655118451801	Medea Creek at Paramount Ranch, near Cornell	Sulfate
340757118491701	Malibu Creek at Lindero Road, near Westlake	Sulfate
341047118460701	Medea Creek at Kanan Road, near Simi Peak	Sulfate
345727120375401	Green Canyon Creek at Main Street, near Guadalupe	Nitrate plus nitrite

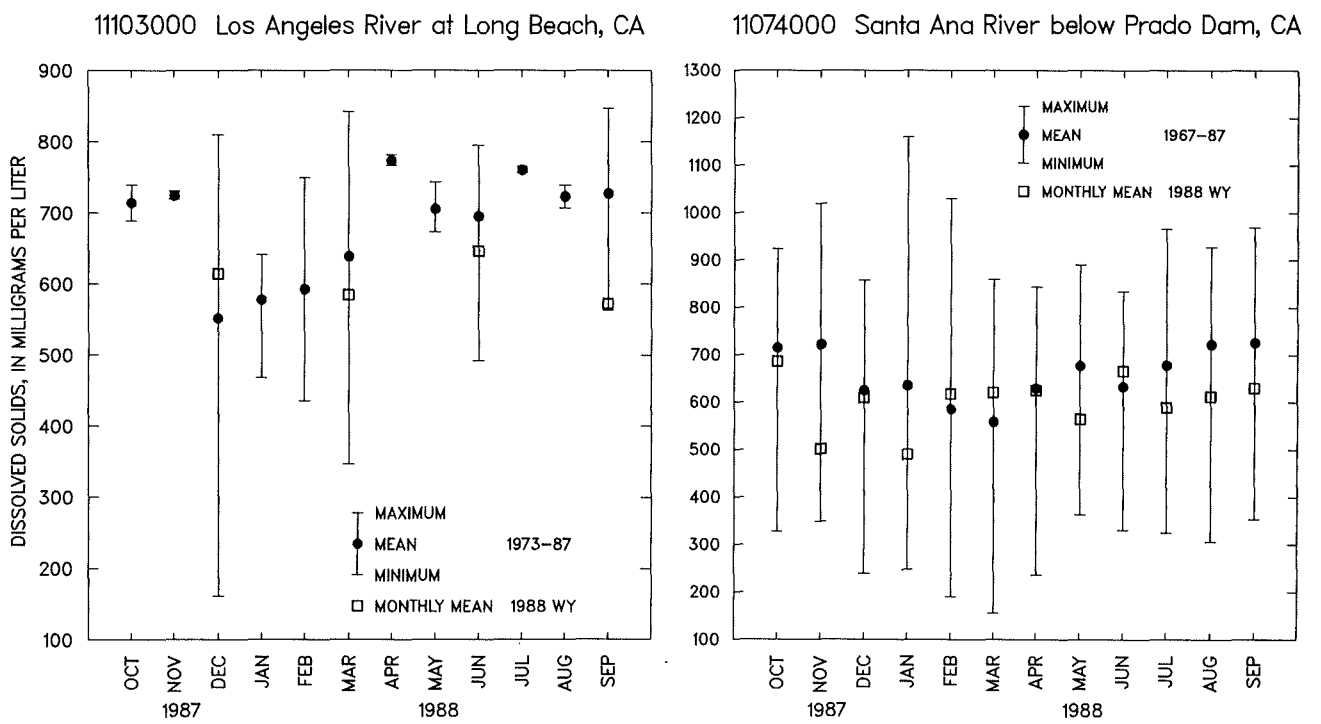

FIGURE 3.--Comparison of monthly mean dissolved-solids concentration during water year 1988 with long-term dissolved-solids concentration of two selected stations

Sediment

Suspended-sediment discharge and concentration were monitored daily at 2 stations and periodically at 13 stations in the area included in this volume. Monthly and annual bedload discharges were estimated for one of the daily stations. The variation in storm patterns and basin characteristics in southern California resulted in significant differences in sediment-discharge rates and concentrations at the sampled streams.

Sediment discharge was significantly less than normal during the 1988 water year, with the majority of sediment transported during a few localized fall and winter storms. Annual sediment discharge ranged from 1 percent of the 1971-87 mean for San Juan Creek at La Novia Street Bridge, at San Juan Capistrano (station 11046530) to 2 percent of the 1982-87 mean for the Santa Ana River near Mentone (station 11051500).

Annual sediment discharge at the daily stations ranged from 815 tons for the Santa Ana River near Mentone to 1,230 tons for San Juan Creek at La Novia Street Bridge, at San Juan Capistrano. Annual sediment discharge per square mile of drainage area ranged from a minimum of 3.9 tons per square mile for the Santa Ana River near Mentone to 11 tons per square mile for San Juan Creek at La Novia Street Bridge, at San Juan Capistrano.

SPECIAL NETWORKS AND PROGRAMS

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

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

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1988 water year that began October 1, 1987, and ended September 30, 1988. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The locations of the stations where the data were collected are shown in figures 5 through 14. 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 11078000, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "078000." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

Latitude-Longitude System

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

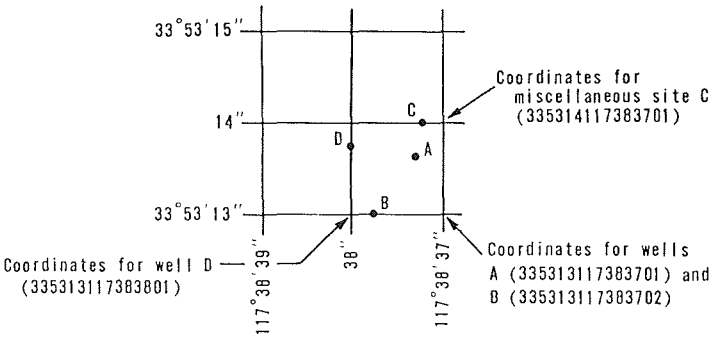

FIGURE 4.-- System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown, by county, in figures 5 through 14.

Data Collection and Computation

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

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

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

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

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

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

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

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

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

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

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

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

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was published is given.

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

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

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

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

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

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

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

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

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

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

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than 1 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

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

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

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 5 through 14.

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. 21 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the California District office.

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

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

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

Water Temperature

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

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

Sediment

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

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

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

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

Cross-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 record, sediment pumping sampler, or other sampling device is in operation at a station.

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

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

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

REVISIONS.--If errors in water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions 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.

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

ACCESS TO WATSTORE DATA

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

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

General inquiries about WATSTORE may be directed to:

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

DEFINITION OF TERMS

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

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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

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

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

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

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

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

Bacteria--Continued

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

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

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

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

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 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^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1988, is called the "1988 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3-A11. Measurement of 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-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 inital 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: UGSG--TWRI Book 5, Chapter A5. 1977. 95 pages.

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

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

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 1988 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
10251100	Salt Creek near Stovepipe Wells	Indeterminate	1974-88
11013600	Jamul Creek at Lee Valley, near Jamul	2.26	1984-85, 1987-88
11075755	Santa Ana River at Ball Road, at Anaheim	1,587	1977-88
11115000	Matilija Reservoir at Matilija Hot Springs	54.4	1948-65, 1971-88
11115500	Matilija Creek at Matilija Hot Springs	54.6	1928-88
11116550	Ventura River near Meiners Oaks	76.4	1959-78, 1981-83, 1984-88
11117600	Coyote Creek near Oak View	13.2	1959-88
11117800	Santa Ana Creek near Oak View	9.11	1959-88
11117900	Lake Casitas near Casitas Springs	38.6	1979-88

DISCONTINUED WATER-QUALITY STATIONS

The following water-quality stations reported in this volume have been discontinued as of the 1988 water year. Continuous records of chemical and sediment data were collected and published for the period of record shown.

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
10251100	Salt Creek near Stovepipe Wells	Indeterminate	C	1975-76, 1978-86, 1988
11108500	Santa Clara River at Los Angeles-Ventura County Line	625	C	1969, 1973-78
			S	1969-88

Type of record: C (water quality); S (sediment).

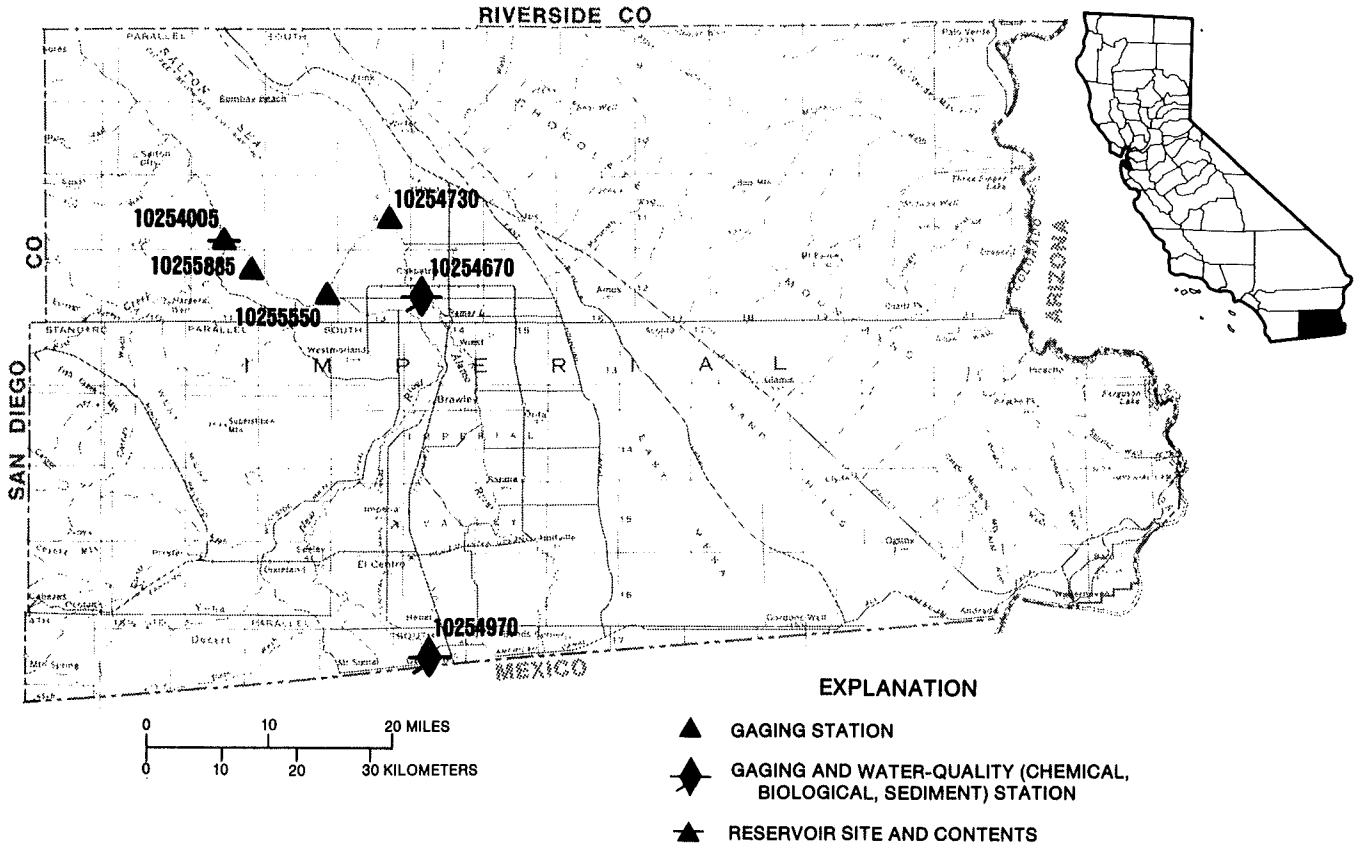

FIGURE 5.--Location of discharge and water-quality stations in Imperial County.

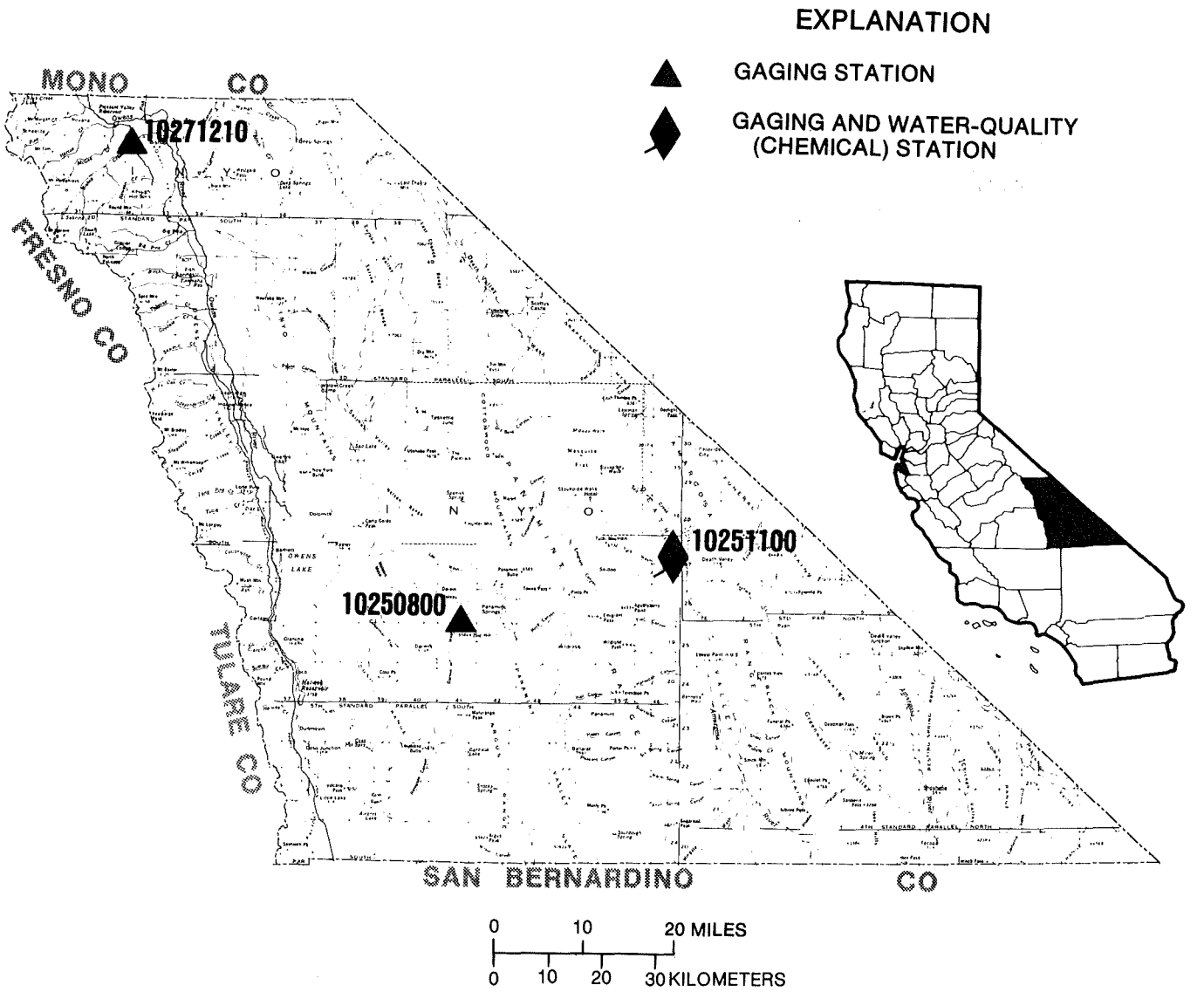

FIGURE 6.--Location of discharge and water-quality stations in Inyo County.

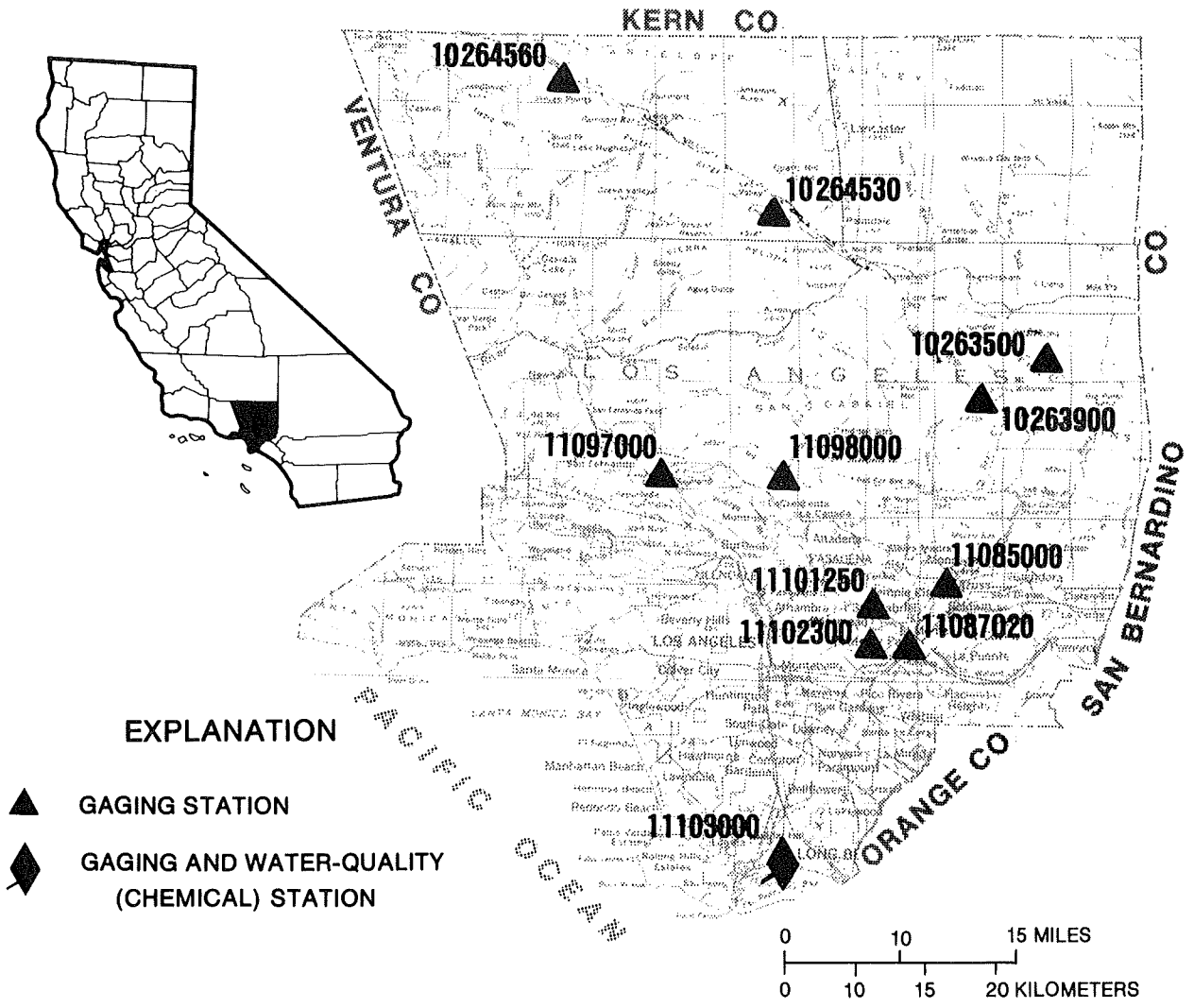

FIGURE 7.--Location of discharge and water-quality stations in Los Angeles County.

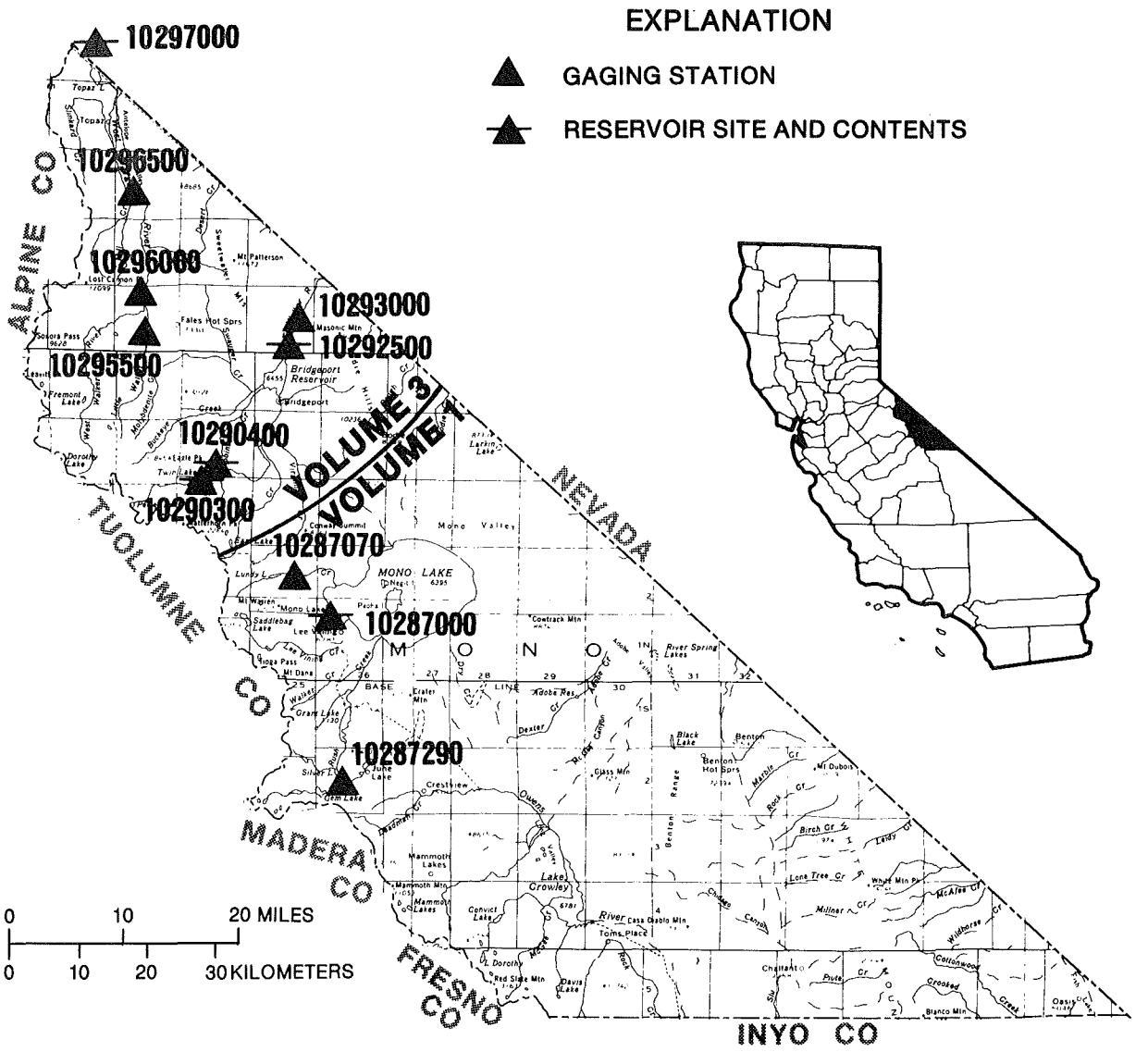

FIGURE 8.--Location of discharge stations in Mono County.
(Note: Records for stations 10290300 through 10297000 published in volume 3)

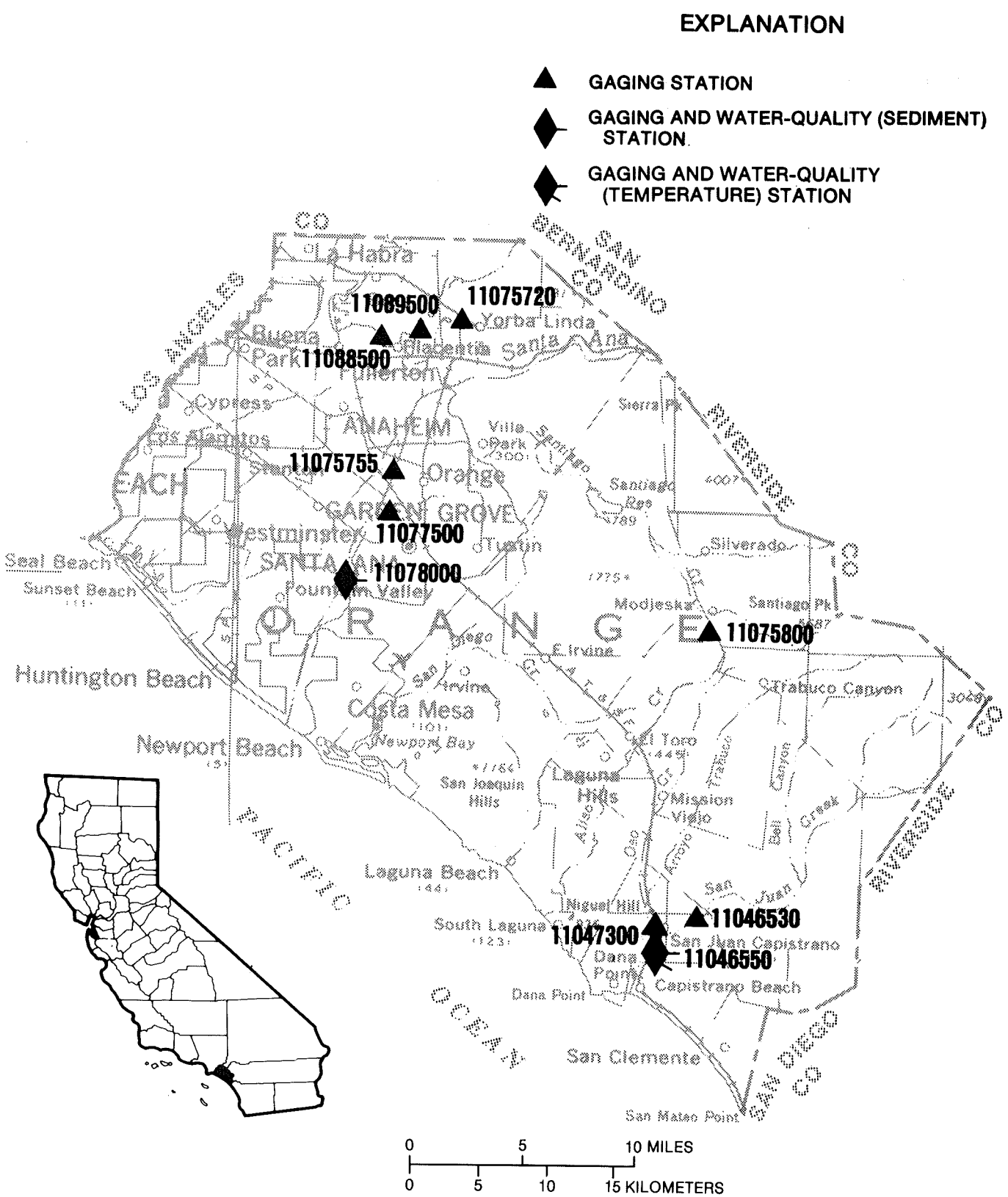

FIGURE 9.--Location of discharge and water-quality stations in Orange County.

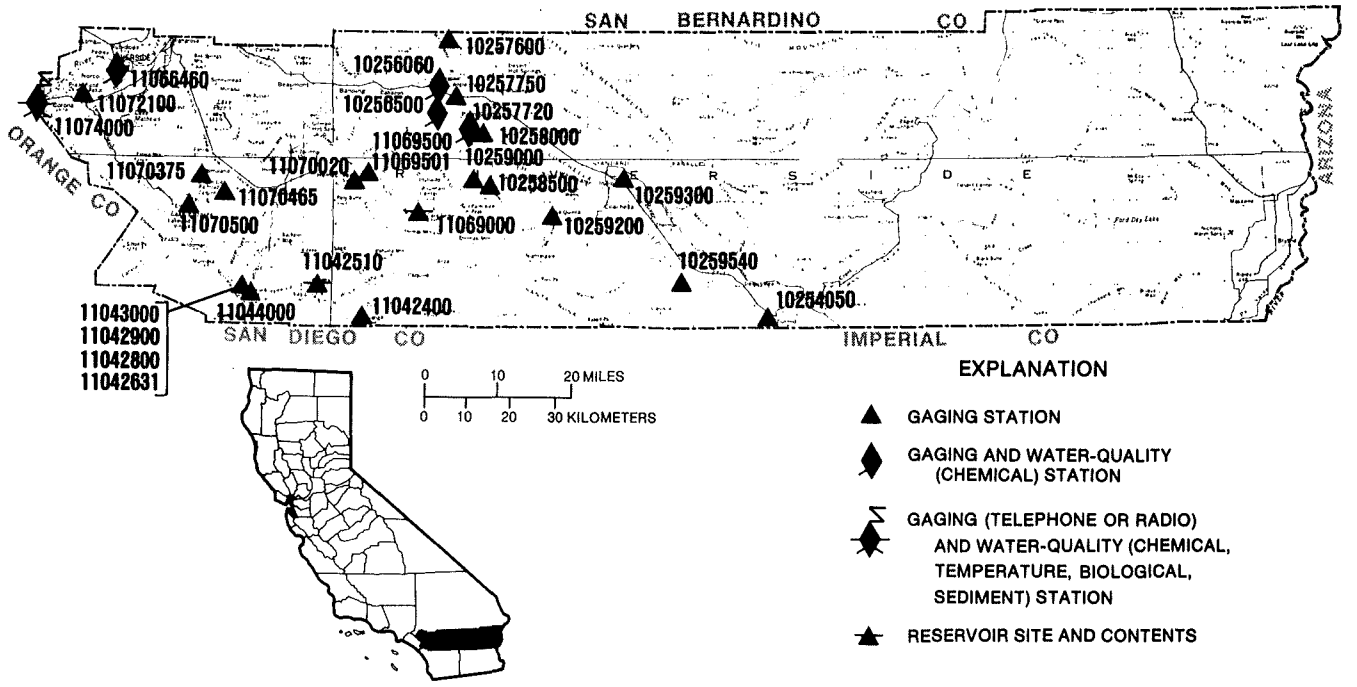

FIGURE 10.--Location of discharge and water-quality stations in Riverside County.

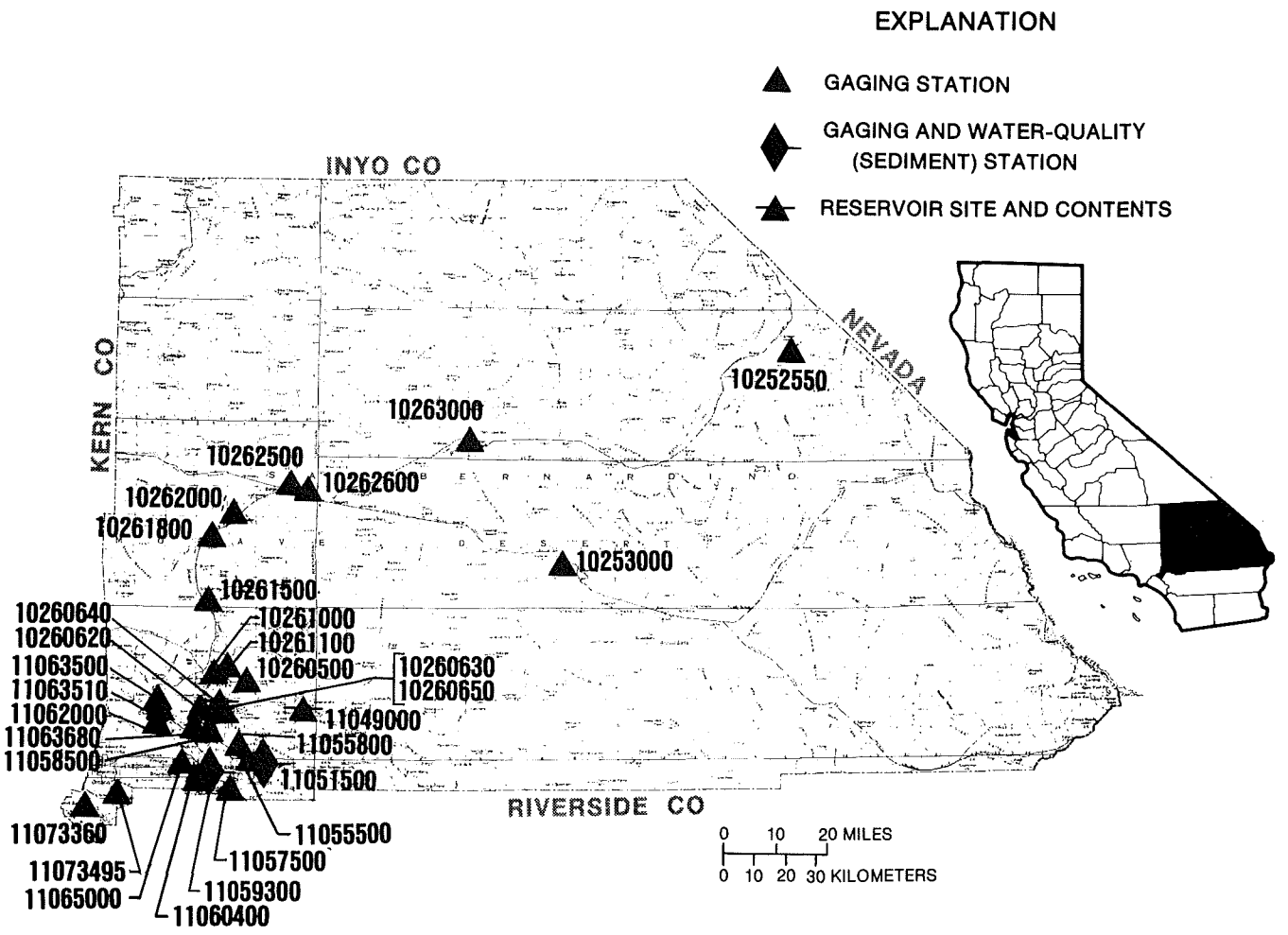

FIGURE 11.--Location of discharge and water-quality stations in San Bernardino County.

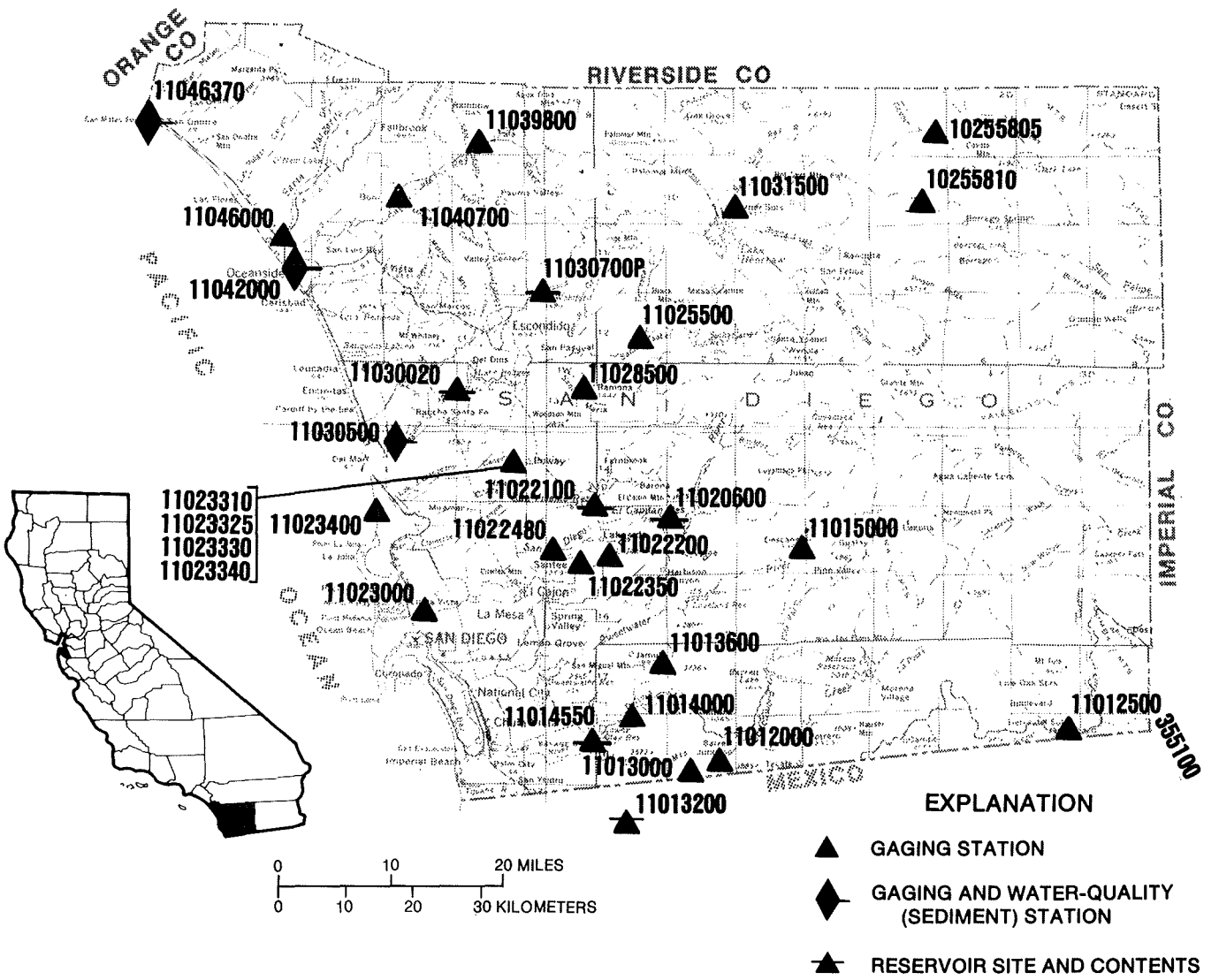

FIGURE 12.--Location of discharge and water-quality stations in San Diego County.

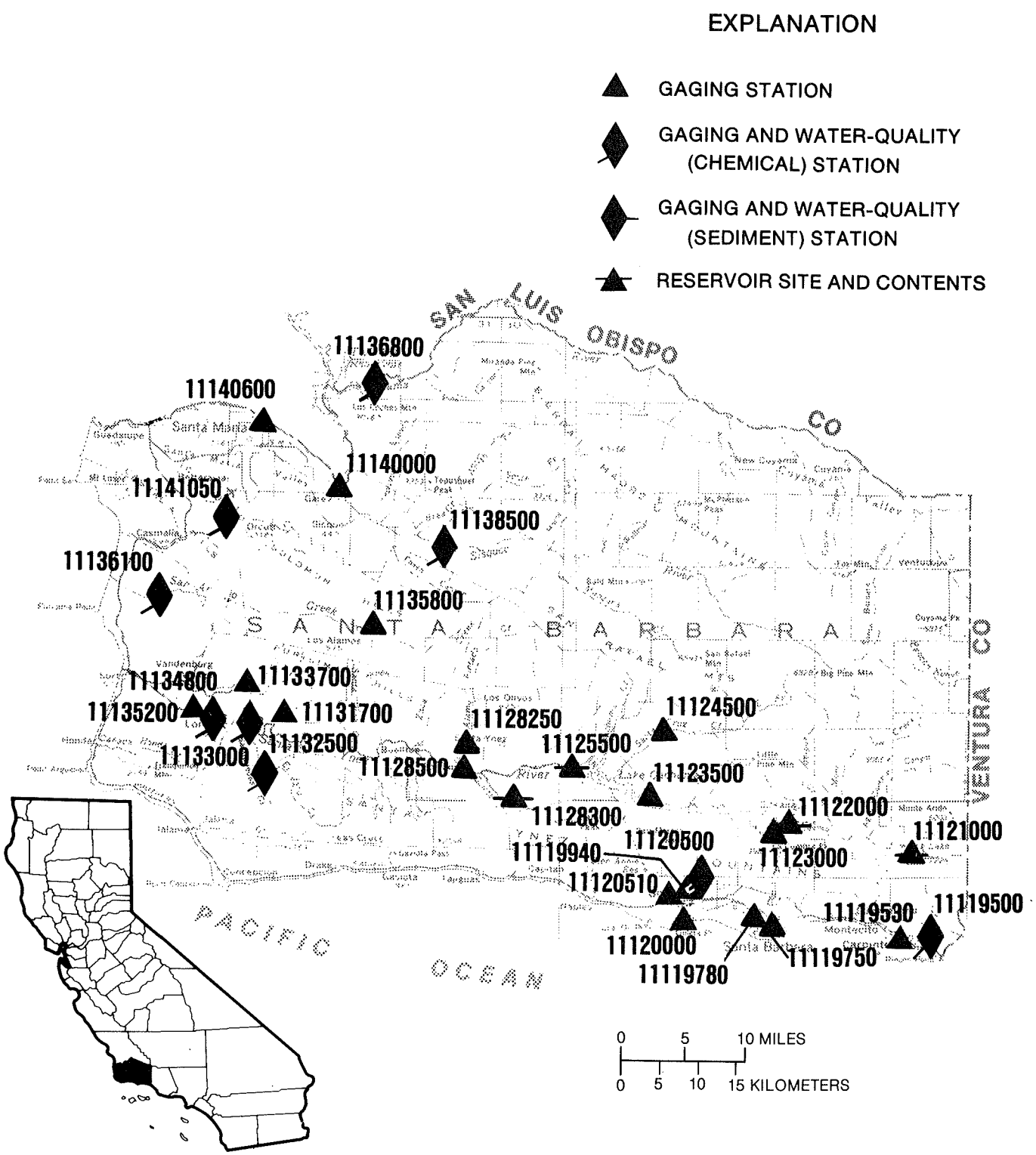

FIGURE 13.--Location of discharge and water-quality stations in Santa Barbara County.

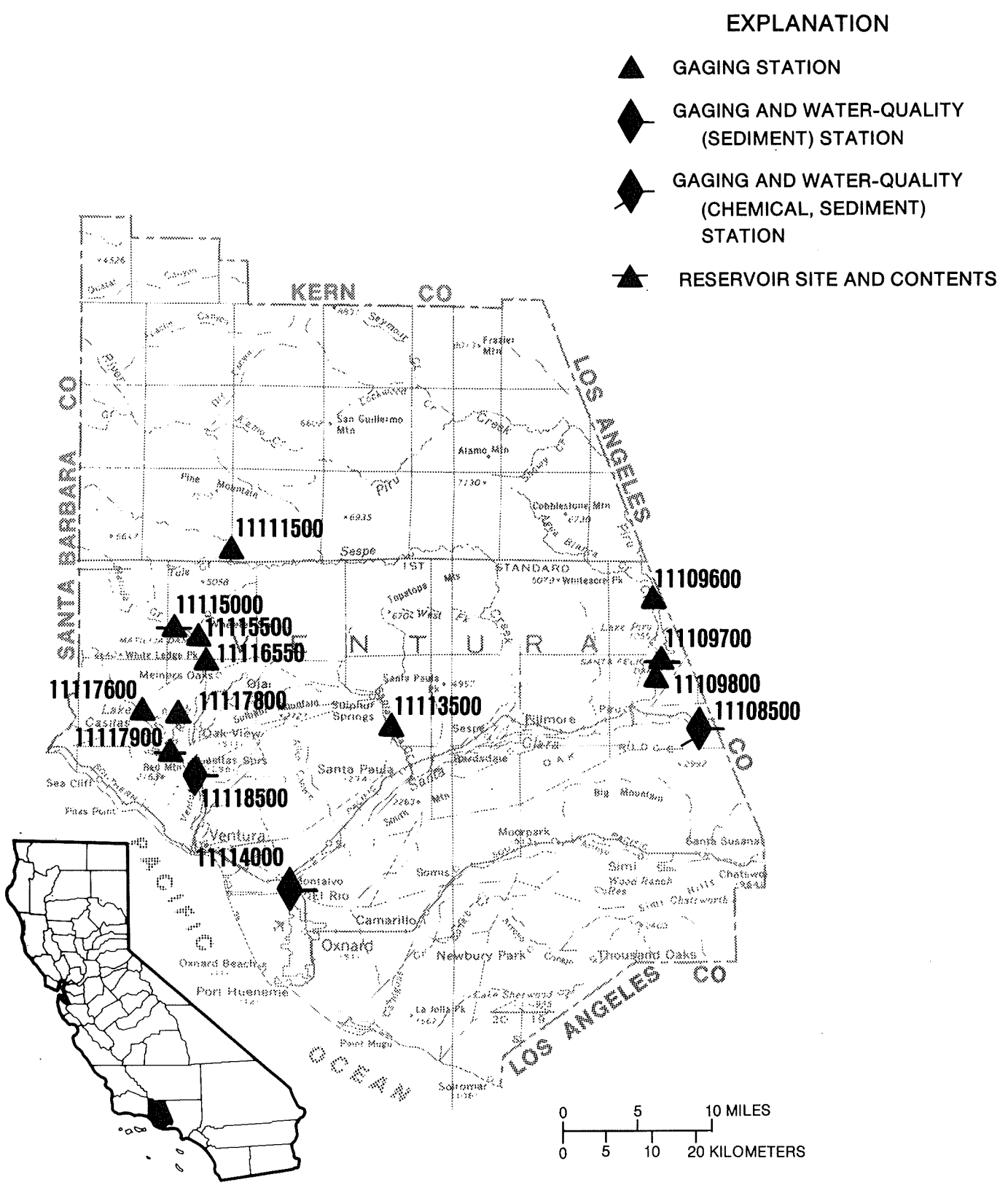

FIGURE 14.--Location of discharge and water-quality stations in Ventura County.

PANAMINT VALLEY

10250800 DARWIN CREEK NEAR DARWIN, CA

LOCATION.--Lat 36°19'14", long 117°31'23", in SE 1/4 SW 1/4 sec.34, T.18 S., R.41 E., Inyo County, Hydrologic Unit 18090204, on left bank 510 ft downstream from Darwin Falls, 1.6 mi upstream from unnamed tributary, and 5.2 mi northeast of Darwin.

DRAINAGE AREA.--173 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 6, 1970, at site 190 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 1, and Aug. 25 to Sept. 30. Records good except for estimated daily discharges, which are poor. No regulation above station. Town of Darwin pumps water above station for municipal supply.

AVERAGE DISCHARGE.--26 years, 0.67 ft^3/s, 485 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft^3/s, Jan. 25, 1969, gage height, 8.40 ft, at site then in use, from floodmarks, on basis of slope-conveyance study of peak flow; minimum daily, 0.05 ft^3/s, Aug. 30 to Sept. 4, 1969, Sept. 10-12, 15, 17, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 20.42 ft, present site, from floodmarks, date and discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft^3/s and maximum (*) from rating curve extended above 1.0 ft^3/s on basis of slope-area measurement at gage height 6.45 ft and slope-conveyance study at gage-height 8.40 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 25	1545	*1,320	*7.15	Aug. 28	1830	700	6.57

Minimum daily, 0.13 ft^3/s, July 19.

DISCHARGE, IN 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	.24	.24	.34	.35	.47	.40	.26	.35	.43	.27	.16	.30
2	.24	.24	.34	.35	.47	.41	.44	.35	.42	.27	.15	.30
3	.24	.24	.34	.35	.47	.35	.47	.35	.39	.28	.17	.30
4	.24	.24	.54	.35	.47	.35	.47	.35	.48	.35	.14	.30
5	.24	.24	.57	.35	.47	.35	.47	.35	.45	.38	.15	.30
6	.24	.35	.47	.35	.47	.35	.41	.35	.47	.39	.15	.30
7	.24	.35	.47	.35	.47	.35	.35	.35	.36	.38	.19	.30
8	.24	.35	.47	.35	.47	.37	.35	.35	.47	.36	.15	.30
9	.24	.35	.47	.35	.47	.47	.35	.35	.38	.29	.16	.30
10	.24	.35	.47	.35	.47	.47	.35	.35	.32	.29	.14	.30
11	.24	.35	.47	.35	.47	.47	.35	.32	.36	.33	.15	.30
12	.24	.35	.40	.35	.47	.47	.35	.31	.31	.33	.15	.30
13	.24	.35	.35	.35	.47	.47	.35	.31	.25	.33	.17	.30
14	.24	.35	.35	.40	.47	.47	.44	.30	.23	.35	.16	.30
15	.24	.35	.35	.47	.47	.47	1.0	.28	.28	.43	.20	.30
16	.24	.35	.35	.47	.35	.47	.81	.30	.27	.29	.16	.30
17	.24	.35	.35	.95	.35	.47	.63	.35	.30	.28	.15	.30
18	.24	.35	.35	.71	.35	.47	.47	.39	.30	.22	.15	.30
19	.24	.35	.35	.64	.35	.47	.47	.31	.30	.13	.16	.30
20	.24	.34	.35	.64	.35	.47	.47	.31	.30	.14	.19	.30
21	.24	.34	.35	.64	.35	.47	.47	.27	.28	.15	.24	.30
22	.24	.35	.35	.64	.35	.47	.47	.30	.30	.15	.21	.30
23	.24	.35	.35	.64	.35	.47	.47	.28	.35	.17	.22	.30
24	.24	.35	.35	.64	.35	.47	.47	.29	.30	.15	.22	.30
25	.24	.32	.35	.64	.35	.41	.47	.30	.29	.16	63	.30
26	.24	.33	.35	.64	.35	.29	.42	.31	.28	.15	29	.30
27	.24	.34	.35	.63	.35	.24	.35	.32	.27	.14	2.2	.30
28	.24	.34	.35	.47	.35	.24	.35	.32	.32	.14	26	.30
29	.24	.35	.35	.47	.35	.24	.35	.35	.28	.14	.30	.30
30	.24	.34	.35	.47	---	.24	.31	.42	.28	.14	.30	.30
31	.24	---	.35	.47	---	.24	---	.43	---	.17	.30	---
TOTAL	7.44	9.85	12.00	15.18	11.95	12.35	13.39	10.27	10.02	7.75	125.19	9.00
MEAN	.24	.33	.39	.49	.41	.40	.45	.33	.33	.25	4.04	.30
MAX	.24	.35	.57	.95	.47	.47	1.0	.43	.48	.43	63	.30
MIN	.24	.24	.34	.35	.35	.24	.26	.27	.23	.13	.14	.30
AC-FT	15	20	24	30	24	24	27	20	20	15	248	18

CAL YR 1987 TOTAL 110.08 MEAN .30 MAX 1.3 MIN .13 AC-FT 218
WTR YR 1988 TOTAL 244.39 MEAN .67 MAX 63 MIN .13 AC-FT 485

DEATH VALLEY

10251100 SALT CREEK NEAR STOVEPIPE WELLS, CA

LOCATION.--Lat 36°35'58", long 117°00'46", in NE 1/4 sec.6, T.16 S., R.46 E., Inyo County, Hydrologic Unit 18090203, Death Valley National Monument, on left bank 3.0 mi southeast of intersection of State Highway 190 and Stovepipe Wells Road, and 7.4 mi southeast of Stovepipe Wells Hotel.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1974 to September 1988 (discontinued).

GAGE.--Water-stage recorder, Parshall flume, and flashboard weir. Flashboard weir installed Feb. 2, 1984. Elevation of gage is 180 ft below National Geodetic Vertical Datum of 1929, from topographic map.

AVERAGE DISCHARGE.--14 years (water years 1975-88), 0.346 ft^3/s, 251 acre-ft/yr.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 363 ft^3/s, Feb. 9, 1976, gage height, 4.81 ft, based on slope-conveyance study of peak flow; maximum gage height, 4.87 ft, July 22, 1984 (flashboard weir installed); minimum daily, 0.05 ft^3/s, July 14, 19, Aug. 4-6, 8, 1979, and several days during August 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 6	0030	5.7	2.90	Apr. 15	1515	*136	*4.15
Jan. 17	1500	16	3.29	Aug. 26	2345	13	3.22

Minimum daily, 0.06 ft^3/s, July 11.

DISCHARGE, IN 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	.11	.18	.19	.28	.45	.54	.39	.37	.19	.09	.08	.09
2	.11	.16	.19	.29	.47	.51	.40	.39	.18	.08	.08	.08
3	.11	.15	.19	.29	.45	.49	.41	.43	.16	.08	.08	.09
4	.11	.15	.20	.30	.43	.48	.41	.41	.13	.07	.08	.09
5	.11	.30	.21	.32	.43	.48	.38	.35	.13	.07	.08	.09
6	.11	1.3	.20	.31	.44	.50	.39	.39	.14	.08	.08	.09
7	.11	.19	.20	.31	.44	.47	.40	.39	.16	.08	.08	.09
8	.11	.18	.20	.31	.45	.44	.35	.38	.16	.08	.09	.09
9	.11	.18	.20	.31	.46	.46	.36	.38	.16	.09	.09	.09
10	.11	.17	.20	.32	.46	.42	.36	.37	.15	.07	.09	.10
11	.11	.17	.20	.33	.45	.43	.36	.36	.15	.06	.09	.09
12	.10	.18	.20	.31	.46	.44	.36	.33	.15	.07	.09	.09
13	.12	.18	.19	.31	.47	.44	.37	.30	.14	.09	.09	.10
14	.12	.16	.20	.32	.45	.46	.90	.29	.14	.08	.09	.10
15	.11	.16	.20	.34	.46	.46	58	.27	.11	.08	.09	.11
16	.11	.17	.20	.33	.45	.42	28	.23	.11	.09	.10	.11
17	.11	.21	.26	3.9	.41	.43	1.9	.23	.12	.09	.10	.11
18	.12	.19	.23	2.8	.43	.45	1.1	.23	.12	.07	.09	.11
19	.12	.18	.24	.84	.42	.45	.84	.21	.13	.07	.09	.11
20	.12	.18	.23	.48	.45	.45	.74	.21	.12	.07	.09	.11
21	.12	.18	.24	.46	.47	.45	.75	.21	.11	.07	.10	.14
22	.12	.18	.26	.42	.47	.44	.65	.21	.13	.08	.09	.14
23	.12	.18	.28	.45	.47	.45	.59	.20	.11	.08	.09	.14
24	.13	.18	.24	.44	.47	.43	.59	.18	.10	.08	.10	.13
25	.13	.17	.25	.44	.47	.43	.58	.17	.09	.08	.08	.12
26	.13	.18	.25	.44	.48	.42	.56	.16	.11	.08	.53	.12
27	.13	.18	.26	.46	.74	.41	.53	.16	.10	.08	.79	.13
28	.13	.18	.27	.46	.66	.37	.46	.16	.09	.08	.10	.12
29	.13	.18	.28	.47	.57	.39	.44	.17	.09	.08	.09	.12
30	.13	.19	.28	.45	---	.40	.44	.18	.09	.08	.09	.12
31	.19	---	.27	.45	---	.38	---	.18	---	.08	.09	---
TOTAL	3.70	6.54	7.01	17.94	13.73	13.79	102.01	8.50	3.87	2.43	3.90	3.22
MEAN	.12	.22	.23	.58	.47	.44	3.40	.27	.13	.078	.13	.11
MAX	.19	1.3	.28	3.9	.74	.54	58	.43	.19	.09	.79	.14
MIN	.10	.15	.19	.28	.41	.37	.35	.16	.09	.06	.08	.08
AC-FT	7.3	13	14	36	27	27	202	17	7.7	4.8	7.7	6.4

CAL YR 1987 TOTAL 90.35 MEAN .25 MAX 1.3 MIN .05 AC-FT 179
WTR YR 1988 TOTAL 186.64 MEAN .51 MAX 58 MIN .06 AC-FT 370

DEATH VALLEY

10251100 SALT CREEK NEAR STOVEPIPE WELLS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-76, 1978-86, October 1987 to September 1988 (discontinued).
CHEMICAL DATA: Water years 1975-76, 1978-86, October 1987 to September 1988 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
MAY									
19...	0845	0.26	28400	8.10	19.5	1800	1300	120	370

DATE	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
MAY									
19...	6300	88	65	58	533	3900	8300	1.2	57

DATE	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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY								
19...	19600	19500	26.7	<0.100	0.090	34000	80	50

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

BRISTOL LAKE BASIN

10252550 CARUTHERS CREEK NEAR IVANPAH, CA

LOCATION.--Lat 35°14'33", long 115°17'58", in NW 1/4 NE 1/4 sec.6, T.13 N., R.16 E., San Bernardino County, Hydrologic Unit 15030102, on left bank 6.6 mi south of Ivanpah.

DRAINAGE AREA.--1.13 mi^2.

PERIOD OF RECORD.--October 1963 to September 1981, May 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--24 years (water years 1964-81, 1983-88), 0.116 ft^3/s, 84 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 814 ft^3/s, Aug. 12, 1979, gage height, 5.75 ft, from rating curve extended above 2.5 ft^3/s on basis of slope-conveyance studies; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft^3/s and maximum (*), from rating curve extended above 2.5 ft^3/s on basis of slope-conveyance studies:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 1	0415	21	1.82	Aug. 24	1230	*263	*3.95
Aug. 1	2045	76	2.82				

No flow for many days.

DISCHARGE, IN 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	0	4.3	0	.02	0		0	.02			2.0	.11
2	0	1.2	0	.02	.01		0	.01			.34	.01
3	0	.67	0	0	.01		0	.01			.02	.01
4	0	.34	0	0	0		0	.01			0	0
5	0	3.0	.10	.01	0		0	.01			.01	0
6	0	.89	0	.01	0		0	.01			0	0
7	0	.39	0	.01	0		0	0			0	0
8	0	.18	0	0	0		0	0			0	0
9	0	.11	0	0	0		0	0			0	0
10	0	.08	0	0	0		0	0			0	0
11	0	.02	0	0	0		0	0			0	0
12	0	.01	0	0	0		0	0			0	0
13	0	.01	0	0	0		.07	0			0	0
14	0	0	0	0	0		.01	0			0	0
15	0	0	0	0	0		1.2	0			0	0
16	0	0	0	0	0		.49	0			0	0
17	0	0	0	.14	0		.29	0			0	0
18	0	0	.09	0	0		.14	0			0	0
19	0	0	.01	0	0		.08	0			0	0
20	0	0	.01	.01	0		.69	0			0	0
21	0	0	.01	0	0		.67	0			2.0	0
22	0	0	.08	0	0		.29	0			1.4	0
23	0	0	.06	.02	0		.25	0			10	0
24	0	0	.04	.02	0		.14	0			11	0
25	0	0	.04	.01	0		.11	0			4.1	0
26	0	0	.04	.01	0		.08	0			1.7	0
27	0	0	.04	0	0		.06	0			1.0	0
28	0	0	.04	0	0		.06	0			.44	0
29	0	0	.04	0	0		.04	0			.34	0
30	0	0	.02	0	---		.02	0			.18	0
31	.87	---	.02	0	---		---	0	---		.14	---
TOTAL	.87	11.20	.64	.28	.02	0	4.69	.07	0	0	34.67	.13
MEAN	.028	.37	.021	.009	.0007	0	.16	.002	0	0	1.12	.004
MAX	.87	4.3	.10	.14	.01	0	1.2	.02	0	0	11	.11
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1.7	22	1.3	.6	.04	0	9.3	.1	0	0	69	.3

CAL YR 1987 TOTAL 15.01 MEAN .041 MAX 4.3 MIN 0 AC-FT 30
WTR YR 1988 TOTAL 52.57 MEAN .14 MAX 11 MIN 0 AC-FT 104

SALTON SEA BASIN

10254005 SALTON SEA NEAR WESTMORLAND, CA

LOCATION.--Lat 33°11'33", long 115°49'59", in SE 1/4 SW 1/4 sec. 21, T.11 S., R.11 E., Imperial County, Hydrologic Unit 18100200, on western shore at Sandy Beach and 15.5 mi northwest of Westmorland.

DRAINAGE AREA.--8,360 mi^2, approximately.

PERIOD OF RECORD.--November 1904 to current year. Records prior to 1932 are published in WSP 735. Monthend contents only prior to October 1987.

REVISED RECORDS.--WDR CA-87-1: 1980-85.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. See WSP 1734 for history of changes prior to Mar. 2, 1956.

REMARKS.--Bottom of sea is 277.7 ft below NGVD. See WSP 300, 735, and 918 for condensed history of Salton Sea.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 195.9 ft below NGVD, in February and March 1907; minimum since 1906, 251.6 ft below NGVD in November 1924.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevation, 227.1 ft below NGVD, Apr. 16-22, May 13-16, and May 19-27; minimum, 228.2 ft below NGVD, Oct. 1-30.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-228.2	-228.1	-228.1	-227.9	-227.7	-227.5	-227.2	-227.2	-227.2	-227.4	-227.6	-227.8
2	-228.2	-228.1	-228.1	-228.0	-227.6	-227.5	-227.2	-227.2	-227.2	-227.4	-227.6	-227.8
3	-228.2	-228.1	-228.1	-228.0	-227.6	-227.5	-227.2	-227.2	-227.2	-227.4	-227.6	-227.8
4	-228.2	-228.1	-228.1	-228.0	-227.6	-227.4	-227.2	-227.2	-227.2	-227.4	-227.6	-227.8
5	-228.2	-228.1	-228.1	-228.0	-227.6	-227.4	-227.2	-227.2	-227.3	-227.4	-227.6	-227.8
6	-228.2	-228.1	-228.1	-228.0	-227.6	-227.4	-227.2	-227.2	-227.3	-227.4	-227.6	-227.8
7	-228.2	-228.1	-228.0	-228.0	-227.6	-227.4	-227.2	-227.2	-227.3	-227.4	-227.6	-227.8
8	-228.2	-228.1	-228.0	-228.0	-227.6	-227.4	-227.2	-227.2	-227.3	-227.4	-227.6	-227.8
9	-228.2	-228.1	-228.0	-227.9	-227.6	-227.4	-227.2	-227.2	-227.3	-227.4	-227.7	-227.8
10	-228.2	-228.1	-228.0	-227.9	-227.6	-227.4	-227.2	-227.2	-227.4	-227.4	-227.7	-227.8
11	-228.2	-228.1	-228.0	-227.9	-227.6	-227.4	-227.2	-227.2	-227.4	-227.5	-227.7	-227.8
12	-228.2	-228.1	-227.9	-227.9	-227.6	-227.4	-227.2	-227.2	-227.4	-227.5	-227.7	-227.9
13	-228.2	-228.1	-227.8	-227.9	-227.6	-227.4	-227.2	-227.1	-227.4	-227.5	-227.7	-227.9
14	-228.2	-228.1	-228.0	-227.9	-227.6	-227.4	-227.2	-227.1	-227.4	-227.5	-227.7	-227.9
15	-228.2	-228.1	-228.1	-227.8	-227.6	-227.4	-227.2	-227.1	-227.4	-227.5	-227.8	-227.9
16	-228.2	-228.1	-228.1	-227.8	-227.5	-227.4	-227.1	-227.1	-227.4	-227.5	-227.8	-227.9
17	-228.2	-228.1	-228.0	-227.9	-227.4	-227.4	-227.1	-227.2	-227.4	-227.5	-227.8	-227.9
18	-228.2	-228.1	-228.0	-227.9	-227.5	-227.3	-227.1	-227.2	-227.4	-227.5	-227.8	-227.9
19	-228.2	-228.1	-228.0	-227.8	-227.5	-227.3	-227.1	-227.1	-227.3	-227.5	-227.8	-228.0
20	-228.2	-228.1	-228.0	-227.8	-227.6	-227.3	-227.1	-227.1	-227.3	-227.5	-227.8	-228.1
21	-228.2	-228.1	-228.0	-227.8	-227.5	-227.3	-227.1	-227.1	-227.3	-227.5	-227.8	-228.1
22	-228.2	-228.1	-228.0	-227.8	-227.6	-227.3	-227.1	-227.1	-227.3	-227.5	-227.8	-228.1
23	-228.2	-228.1	-228.0	-227.8	-227.5	-227.3	-227.2	-227.1	-227.3	-227.5	-227.8	-228.1
24	-228.2	-228.1	-227.9	-227.8	-227.5	-227.3	-227.2	-227.1	-227.4	-227.5	-227.8	-228.1
25	-228.2	-228.0	-227.9	-227.8	-227.5	-227.2	-227.2	-227.1	-227.4	-227.5	-227.8	-228.1
26	-228.2	-228.0	-228.0	-227.8	-227.5	-227.2	-227.2	-227.1	-227.4	-227.5	-227.8	-228.1
27	-228.2	-228.1	-228.0	-227.8	-227.5	-227.2	-227.2	-227.1	-227.4	-227.5	-227.8	-228.1
28	-228.2	-228.1	-228.0	-227.8	-227.5	-227.2	-227.2	-227.2	-227.4	-227.5	-227.8	-228.1
29	-228.2	-228.1	-228.0	-227.8	-227.5	-227.2	-227.2	-227.2	-227.4	-227.5	-227.8	-228.1
30	-228.2	-228.1	-228.0	-227.7	---	-227.2	-227.2	-227.2	-227.4	-227.6	-227.8	-228.1
31	-228.1	---	-228.0	-227.7	---	-227.2	---	-227.2	---	-227.6	-227.8	---
MAX	-228.1	-228.0	-227.8	-227.7	-227.4	-227.2	-227.1	-227.1	-227.2	-227.4	-227.6	-227.8
MIN	-228.2	-228.1	-228.1	-228.0	-227.7	-227.5	-227.2	-227.2	-227.4	-227.6	-227.8	-228.1

CAL YR 1987 MAX -227.1 MAX -228.3
WTR YR 1988 MAX -227.1 MIN -228.2

SALTON SEA BASIN

INFLOW TO SALTON SEA

Salton Sea, located near the northwest corner of Imperial County, is a closed basin consisting of approximately 8,360 mi^2. The following table shows monthly and annual inflow to the Salton Sea from the Imperial and Coachella Valleys, in acre-feet, for the water year October 1987 to September 1988 and the annual inflow for the calendar year January to December 1987. Inflow from Imperial Valley is the sum of flows in Alamo River (station 10254730), New River (station 10255550), San Felipe Creek (station 10255885), and 36 drains. Drain inflow provided by Imperial Irrigation District. Inflow from Coachella Valley is the sum of flows in Salt Creek (station 10254050), Whitewater River (station 10259540), and 24 drains. Drain inflow provided by Coachella Valley County Water District. Ungaged drains and natural runoff are not included in totals.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Inflow from												
Imperial Valley	103560	83420	85470	87090	87450	112260	121080	110410	89580	92760	105400	95860
Coachella Valley	8790	8210	8110	9410	10720	11430	11040	11350	10360	10790	11500	8560

TOTAL CAL YR 1987 1,220,340 ac-ft
TOTAL WTR YR 1988 1,294,610 ac-ft

The following table lists the monthly and annual flows, in acre-feet, of the Alamo River and New River (station 10254970) at the United States-Mexico international boundary. Data for Alamo River provided by Imperial Irrigation District.

FLOW FROM MEXICO AT INTERNATIONAL BOUNDARY

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Alamo River	138	182	211	191	209	268	264	183	168	142	167	119
New River	20510	19710	21890	20700	17390	20260	21950	18320	16120	17350	23580	15140

CAL YR 1987: Alamo River 2,060 ac-ft WTR YR 1988: 2,240 ac-ft
CAL YR 1987: New River 253,050 ac-ft WTR YR 1988: 232,900 ac-ft

SALTON SEA BASIN

10254050 SALT CREEK NEAR MECCA, CA

LOCATION.--Lat 33°26'49", long 115°50'33", in SE 1/4 SW 1/4 sec.28, T.8 S., R.11 E., Riverside County, Hydrologic Unit 18100200, on pier of Southern Pacific railroad bridge, 0.3 mi upstream from mouth, and 16 mi southeast of Mecca.

DRAINAGE AREA.--269 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 230 ft below National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 21, 1984, at same site, at datum 2.50 ft lower.

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

AVERAGE DISCHARGE.--27 years, 7.24 ft^3/s, 5,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft^3/s, Sept. 24, 1976, gage height, 16.8 ft, present datum, from floodmarks, from rating curve extended above 20 ft^3/s on basis of contracted-opening measurement of peak flow; maximum gage height, 19.4 ft, present datum, Mar. 2, 1983 (backwater from Salton Sea and channel vegetation); minimum daily, 0.06 ft^3/s, Nov. 1, 4, 5, 9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 394 ft^3/s, Nov. 1, gage height, 7.80 ft, from rating curve extended above 5 ft^3/s on basis of estimated peak flow; minimum daily, 0.23 ft^3/s, July 9.

DISCHARGE, IN 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	1.8	70	4.5	4.5	4.9	4.6	3.1	2.5	.96	.68	.81	2.4
2	1.8	9.0	4.6	4.4	9.5	4.5	3.4	2.0	1.0	.64	.83	2.6
3	1.8	5.0	4.7	4.3	16	4.4	3.1	2.1	1.0	.60	.80	2.1
4	1.7	4.6	4.8	4.4	8.7	4.3	3.4	1.8	.93	.59	.83	1.4
5	1.7	4.6	4.8	4.5	5.8	4.4	3.4	1.7	.86	.53	.83	1.2
6	1.9	5.5	5.3	4.5	4.8	4.3	3.6	2.5	.89	.52	.82	1.2
7	1.9	4.4	5.1	4.4	4.6	4.4	3.6	3.8	.95	.45	.72	1.4
8	2.1	4.0	5.1	4.4	4.6	4.2	3.5	2.5	1.1	.33	.59	1.4
9	2.1	3.9	5.1	4.5	4.7	3.8	3.5	2.1	1.1	.23	.75	1.3
10	2.0	3.7	4.9	4.5	4.7	3.8	3.2	2.1	1.2	.27	.86	1.4
11	2.3	4.1	5.0	4.5	4.5	3.6	3.0	1.9	1.2	.56	.80	1.3
12	3.0	3.9	5.1	4.6	4.3	4.0	3.1	1.7	1.1	.61	.77	1.1
13	4.0	3.9	5.1	4.5	4.3	4.4	4.5	1.3	1.0	.59	.79	.95
14	4.2	4.1	4.6	4.3	4.4	3.7	6.4	1.1	1.1	.51	.95	.93
15	4.2	3.5	4.7	4.4	4.2	4.0	4.8	1.1	1.1	.41	1.0	.99
16	3.5	3.5	5.5	4.6	4.0	4.2	4.0	1.3	1.1	.39	.96	.97
17	3.1	3.8	6.7	8.7	4.2	4.0	3.4	1.3	1.2	.44	.94	1.0
18	2.9	4.5	6.7	28	3.9	4.7	3.2	1.3	1.3	.47	.91	1.1
19	2.6	4.9	4.8	10	4.0	3.8	2.9	1.3	1.3	.48	.93	1.1
20	2.7	4.8	4.3	5.2	4.2	3.8	2.9	1.3	1.2	.70	.99	1.1
21	2.9	5.1	4.2	4.3	4.2	3.8	4.5	1.0	1.1	1.5	1.1	1.1
22	3.1	4.7	4.2	4.5	4.6	3.8	4.1	1.1	1.0	2.5	1.2	1.1
23	3.2	4.3	4.3	4.5	4.7	4.0	3.4	1.1	.99	1.2	1.2	1.1
24	3.2	4.4	4.2	4.9	4.7	3.9	2.8	1.2	1.0	.82	1.2	1.2
25	3.2	4.6	3.8	4.9	4.6	3.7	2.7	1.0	.97	.73	1.3	1.2
26	3.2	4.6	3.7	4.7	4.7	3.5	2.8	.99	.97	.65	1.3	1.3
27	3.2	4.3	3.8	4.9	5.0	3.3	2.5	.79	1.2	.51	1.3	1.3
28	3.2	4.5	4.3	5.0	4.7	3.2	3.4	.71	.92	.36	1.3	1.3
29	3.1	4.9	4.6	5.1	4.6	2.9	2.5	.81	.82	.28	1.3	1.1
30	3.3	4.8	4.3	5.0	---	3.0	2.3	.75	.72	.31	1.3	.98
31	7.3	---	4.2	4.9	---	3.4	---	.90	---	.61	1.3	---
TOTAL	90.2	201.9	147.0	175.9	152.1	121.4	103.0	47.05	31.28	19.47	30.68	38.62
MEAN	2.91	6.73	4.74	5.67	5.24	3.92	3.43	1.52	1.04	.63	.99	1.29
MAX	7.3	70	6.7	28	16	4.7	6.4	3.8	1.3	2.5	1.3	2.6
MIN	1.7	3.5	3.7	4.3	3.9	2.9	2.3	.71	.72	.23	.59	.93
AC-FT	179	400	292	349	302	241	204	93	62	39	61	77

CAL YR 1987 TOTAL 1149.81 MEAN 3.15 MAX 70 MIN .65 AC-FT 2280
WTR YR 1988 TOTAL 1158.60 MEAN 3.17 MAX 70 MIN .23 AC-FT 2300

SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA
(National stream-quality accounting network station)

LOCATION.--Lat 33°06'16", long 115°32'39", on line between secs.19 and 20, T.12 S., R.14 E., Imperial County, Hydrologic Unit 18100200, on right bank 2.2 mi southeast of Calipatria.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year. Records prior to October 1979 in files of the Imperial Irrigation District.

GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 185 ft below National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records excellent. Flow is mainly return from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,940 ft^3/s, Mar. 3, 1983, gage height, 5.95 ft, from rating curve extended above 1,000 ft^3/s; maximum gage height, 7.06 ft, Oct. 10, 1986 (backwater from debris); minimum daily, 259 ft^3/s, Jan. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft^3/s, Feb. 3, gage height, 2.74 ft; minimum daily, 337 ft^3/s, Dec. 26.

DISCHARGE, IN 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	835	926	623	530	590	658	967	932	671	621	739	671
2	821	620	617	404	689	719	1030	898	670	644	726	700
3	860	466	643	445	1080	717	1060	889	662	678	684	678
4	850	416	653	478	608	666	912	868	734	663	691	671
5	859	410	656	522	438	667	830	882	689	643	712	708
6	806	446	666	528	406	669	920	834	636	648	716	685
7	852	426	587	541	364	649	946	893	609	659	708	708
8	847	417	580	542	343	632	959	902	612	643	720	723
9	861	415	607	565	374	680	938	859	618	667	733	723
10	839	438	615	553	429	711	958	841	652	642	727	723
11	835	494	618	529	436	734	968	875	659	604	746	730
12	926	512	592	531	500	783	906	885	661	603	710	723
13	790	517	590	578	521	795	925	907	652	626	732	723
14	710	561	599	597	573	794	911	878	613	629	728	768
15	643	574	620	592	607	889	950	844	627	631	782	768
16	619	572	653	601	622	853	905	876	655	667	748	820
17	594	600	730	533	569	847	882	819	654	685	767	844
18	590	656	612	484	584	879	737	769	682	652	767	828
19	580	658	532	446	645	914	749	804	695	671	758	738
20	579	615	452	461	687	885	783	875	672	639	795	755
21	642	625	423	502	678	948	854	799	669	680	876	743
22	638	614	424	569	684	885	983	839	694	732	948	825
23	677	623	473	586	698	838	923	800	673	725	951	808
24	677	651	433	599	757	854	784	767	657	728	911	839
25	681	667	389	498	721	908	660	746	649	716	843	853
26	672	650	337	505	708	906	687	729	614	701	743	811
27	661	597	371	566	692	974	765	809	604	722	669	830
28	669	614	446	625	679	888	837	877	594	728	657	824
29	760	634	493	626	650	854	843	875	593	718	643	834
30	841	650	579	623	---	870	933	753	595	748	608	861
31	739	---	568	612	---	952	---	647	---	751	657	---
TOTAL	22953	17064	17181	16771	17332	25018	26505	25971	19465	20864	23195	22915
MEAN	740	569	554	541	598	807	884	838	649	673	748	764
MAX	926	926	730	626	1080	974	1060	932	734	751	951	861
MIN	579	410	337	404	343	632	660	647	593	603	608	671
AC-FT	45530	33850	34080	33270	34380	49620	52570	51510	38610	41380	46010	45450

CAL YR 1987 TOTAL 245110 MEAN 672 MAX 971 MIN 337 AC-FT 486200
WTR YR 1988 TOTAL 255234 MEAN 697 MAX 1080 MIN 337 AC-FT 506300

SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-70, 1975 to current year.
CHEMICAL DATA: Water years 1969-70, 1975-77, 1979 to current year.
BIOLOGICAL DATA: Water years 1979-81.
SPECIFIC CONDUCTANCE: Water years 1969-70, 1975-77, 1979-84.
WATER TEMPERATURE: Water years 1969-70, 1975-77, 1979-84.
SEDIMENT DATA: Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1981 to September 1984.
WATER TEMPERATURE: March 1981 to September 1984.

INSTRUMENTATION.--Water-quality monitor from March 1981 to September 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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												
16...	0945	671	3260	8.1	9.0	90	765	11.6	101	3200	28000	660
MAR												
25...	0930	923	3110	7.9	20.0	260	770	8.1	89	4600	22000	740
JUN												
17...	0630	664	2910	8.0	26.5	870	760	6.7	84	K5000	1400	660
SEP												
16...	0900	775	3180	7.9	25.5	100	760	7.1	88	K14000	5700	660

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 WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
DEC												
16...	450	140	75	420	58	7	9.6	259	0	212	212	770
MAR												
25...	540	160	83	410	54	7	6.1	252	0	207	207	760
JUN												
17...	450	140	75	370	55	6	1.1	263	0	216	216	690
SEP												
16...	440	130	80	410	57	7	11	263	0	216	216	790

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
DEC												
16...	520	0.50	12	2250	2120	3.06	0.310	7.80	1.90	1.80	2.7	0.430
MAR												
25...	390	0.50	11	2120	1980	2.88	0.600	6.40	2.50	2.10	3.5	0.670
JUN												
17...	440	0.40	10	1930	1860	2.62	--	--	1.40	--	2.2	0.360
SEP												
16...	470	0.50	14	2200	2060	2.99	0.620	5.30	1.50	1.50	2.7	0.520

See footnote at end of table.

SALTON SEA BASIN

10254670 ALAMO RIVER AT DROP NO. 3, NEAR CALIPATRIA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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											
16...	0.360	0.320	20	3	100	<10	<1	5	1	3	20
MAR											
25...	0.610	0.510	<10	5	100	<10	<1	<1	1	1	20
JUN											
17...	--	--	<10	6	<100	<10	<1	1	<1	2	30
SEP											
16...	0.340	0.270	10	5	<100	<10	<1	<1	<1	3	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											
16...	<5	160	20	<0.1	12	2	8	<1.0	3300	8	<10
MAR											
25...	<5	150	10	<0.1	14	4	8	<1.0	2700	13	<10
JUN											
17...	<5	140	<10	<0.1	14	2	7	<1.0	2400	16	<10
SEP											
16...	<5	140	<10	<0.1	12	3	7	<1.0	2800	12	<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 1987 TO SEPTEMBER 1988

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										
25...*	1330	12.0	3010	7.8	20.5	770	8.1	90	771	81
25...*	1340	22.0	3030	7.8	20.5	770	8.2	91	1150	54
25...*	1350	33.0	3050	7.8	20.5	770	8.2	91	1010	64
25...*	1400	43.0	3040	7.8	20.5	770	8.2	91	1240	53
25...*	1410	54.0	2980	7.8	20.5	770	8.1	90	859	76
SEP										
16...*	1315	11.0	3390	7.9	26.0	760	7.1	89	406	83
16...*	1325	22.0	3400	7.9	26.0	760	7.3	91	541	71
16...*	1335	33.0	3380	7.9	26.0	760	7.3	91	608	61
16...*	1345	43.0	3370	7.9	26.0	760	7.2	90	609	65
16...*	1355	54.0	3300	7.9	26.0	760	7.2	90	555	73

* Instantaneous streamflow at the time of cross-sectional measurement: Mar. 25, 979 ft^3/s; Sept. 16, 805 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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						
16...	0945	671	9.0	455	824	90
MAR						
25...	0930	923	20.0	1020	2540	58
25...	1345	979	20.5	1010	2670	66
SEP						
16...	0900	775	25.5	486	1020	70
16...	1330	805	26.0	544	1180	71

SALTON SEA BASIN

10254730 ALAMO RIVER NEAR NILAND, CA

LOCATION.--Lat 33°11'56", long 115°35'46", in SW 1/4 NW 1/4 sec.23, T.11 S., R.13 E., Imperial County, Hydrologic Unit 18100200, on left bank 1.0 mi upstream from mouth, and 4.5 mi southwest of Niland.

PERIOD OF RECORD.--January 1943 to September 1960 (monthly discharge only, published in WSP 1743), October 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft below National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1986, at site 0.4 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 13, Jan. 15-18, Mar. 1, 15, 31, Apr. 16, 17, 30, May 1, 17, 19, and June 5. Records fair. Discharge mainly represents seepage and return flow from irrigated areas.

COOPERATION.--Gage-height record was provided by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,500 ft^3/s, Aug. 17, 1977, estimated by Imperial Irrigation District; minimum daily, 288 ft^3/s, Jan 2, 1966, Dec. 15, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,210 ft^3/s, Apr. 3; minimum daily, 382 ft^3/s, Dec. 27.

DISCHARGE, IN 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	977	1050	672	601	704	840	1080	980	782	701	858	721
2	956	810	648	509	915	835	1150	905	791	705	819	758
3	988	579	705	476	1130	817	1210	882	766	765	791	765
4	946	509	713	543	828	764	1090	925	847	777	782	747
5	936	529	730	579	634	747	946	1140	870	756	800	756
6	895	522	738	571	556	765	1000	1020	847	730	876	755
7	925	502	640	609	522	722	1050	998	782	732	838	773
8	936	502	616	610	505	699	1040	949	745	747	827	810
9	905	489	648	646	515	789	1080	895	713	765	800	806
10	886	515	656	632	566	828	1070	866	782	723	800	791
11	925	536	688	605	578	810	1050	886	819	672	835	838
12	1110	579	721	632	624	851	1030	905	786	696	800	822
13	936	586	700	673	644	836	1030	935	738	688	810	810
14	791	721	672	695	680	828	1060	915	672	747	834	828
15	713	680	656	700	689	1000	1080	905	680	705	866	915
16	696	624	810	720	745	962	1030	925	738	730	810	925
17	680	664	915	660	810	915	1000	920	756	746	823	956
18	648	765	773	620	751	936	893	886	773	696	828	946
19	648	773	601	570	828	950	905	876	773	696	800	825
20	656	721	536	515	820	943	946	905	791	694	794	1010
21	713	721	489	546	817	967	998	878	753	738	886	847
22	765	696	476	616	810	947	1160	925	782	828	956	860
23	791	688	550	609	811	921	1160	915	791	815	937	866
24	857	688	579	677	868	935	936	895	782	819	956	895
25	773	773	522	571	831	977	782	886	790	800	936	946
26	756	747	387	574	795	970	765	894	721	786	800	895
27	730	672	382	648	795	1060	819	905	664	800	712	895
28	782	688	457	721	769	988	988	998	654	819	713	857
29	838	721	536	735	797	946	946	1000	656	840	680	863
30	925	696	640	730	---	982	1000	861	648	838	710	863
31	886	---	648	732	---	1050	---	800	---	866	705	---
TOTAL	25969	19746	19504	19325	21337	27580	30294	28575	22692	23420	25382	25344
MEAN	838	658	629	623	736	890	1010	922	756	755	819	845
MAX	1110	1050	915	735	1130	1060	1210	1140	870	866	956	1010
MIN	648	489	382	476	505	699	765	800	648	672	680	721
AC-FT	51510	39170	38690	38330	42320	54700	60090	56680	45010	46450	50350	50270

CAL YR 1987 TOTAL 261814 MEAN 717 MAX 1110 MIN 382 AC-FT 519300
WTR YR 1988 TOTAL 289168 MEAN 790 MAX 1210 MIN 382 AC-FT 573600

SALTON SEA BASIN

10254970 NEW RIVER AT INTERNATIONAL BOUNDARY, AT CALEXICO, CA

LOCATION.--Lat 32°39'57", long 115°30'08", in SW 1/4 SE 1/4 sec.14, T.17 S., R.14 E., Imperial County, Hydrologic Unit 18100200, on left bank 200 ft downstream from bridge on Second Street, 0.2 mi downstream from International Boundary in Calexico.

PERIOD OF RECORD.--October 1979 to current year. October 1945 to September 1979, in files of Imperial Irrigation District.

GAGE.--Water-stage recorder. Elevation of gage is 35 ft below National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records excellent. Discharge represents seepage and return flow from irrigated areas.

AVERAGE DISCHARGE.--9 years (water years 1980-88), 299 ft^3/s, 216,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 833 ft^3/s, Dec. 9, 1982, gage height, 14.73 ft; minimum daily, 130 ft^3/s, Nov. 29, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 809 ft^3/s, Aug. 24, gage height, 14.45 ft; minimum daily, 222 ft^3/s, Sept. 13.

DISCHARGE, IN 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	324	446	343	295	291	344	310	319	298	255	327	336
2	312	520	359	324	341	384	309	317	293	254	340	307
3	306	516	349	351	341	364	320	319	282	256	358	305
4	320	463	340	345	365	351	334	331	280	262	342	296
5	332	407	322	342	328	354	363	363	279	265	317	279
6	353	346	317	320	303	376	382	335	283	278	311	265
7	339	335	353	309	301	376	374	296	288	280	307	259
8	301	312	367	295	303	399	340	299	273	283	296	240
9	297	294	361	282	320	396	340	299	272	268	307	235
10	299	293	336	283	303	364	329	317	270	266	303	232
11	312	299	329	295	288	340	333	325	276	266	297	227
12	367	295	308	329	288	329	330	306	285	264	286	223
13	423	295	306	375	279	304	323	293	284	266	280	222
14	432	289	319	403	270	301	326	286	273	270	279	223
15	390	273	341	398	276	301	352	283	263	259	276	228
16	371	289	377	373	289	297	393	287	261	251	284	229
17	365	305	395	381	286	296	390	278	264	264	301	235
18	348	319	417	377	277	292	391	283	261	263	308	248
19	345	304	483	416	282	287	425	286	259	263	315	252
20	326	293	483	421	279	287	450	288	252	274	348	246
21	302	309	458	362	286	300	461	292	255	272	410	240
22	292	317	425	321	303	307	437	285	256	278	495	239
23	280	296	406	301	336	329	433	283	251	292	556	237
24	287	305	370	302	330	338	416	290	252	309	704	243
25	288	325	317	303	308	333	396	287	271	323	599	238
26	300	301	316	328	294	311	399	282	259	333	558	242
27	317	287	327	325	298	318	401	276	273	329	564	269
28	344	296	325	314	290	317	360	276	281	329	541	278
29	366	302	311	317	310	312	332	282	274	326	475	286
30	344	304	291	336	---	309	317	277	257	324	425	272
31	358	---	284	313	---	300	---	294	---	327	380	---
TOTAL	10340	9935	11035	10436	8765	10216	11066	9234	8125	8749	11889	7631
MEAN	334	331	356	337	302	330	369	298	271	282	384	254
MAX	432	520	483	421	365	399	461	363	298	333	704	336
MIN	280	273	284	282	270	287	309	276	251	251	276	222
AC-FT	20510	19710	21890	20700	17390	20260	21950	18320	16120	17350	23580	15140

CAL YR 1987 TOTAL 127581 MEAN 350 MAX 520 MIN 257 AC-FT 253100
WTR YR 1988 TOTAL 117421 MEAN 321 MAX 704 MIN 222 AC-FT 232900

SALTON SEA BASIN

10255550 NEW RIVER NEAR WESTMORLAND, CA

LOCATION.--Lat 33°06'17", long 115°39'49", in SW 1/4 SW 1/4 sec.19, T.12 S., R.13 E., Imperial County, Hydrologic Unit 18100200, on right bank 3.5 mi upstream from mouth, and 5.2 mi northwest of Westmorland.

PERIOD OF RECORD.--January 1943 to September 1960 (monthly discharge only, published in WSP 1734), October 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft below National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records excellent. Discharge mainly represents seepage and return flow from irrigated areas.

COOPERATION.--Gage height, Oct. 1 to June 22, was provided by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,000 ft^3/s, Aug. 17, 18, 1977, estimated by Imperial Irrigation District; minimum daily, 293 ft^3/s, Jan. 6, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 934 ft^3/s, Aug. 27; minimum daily, 563 ft^3/s, Nov. 10.

DISCHARGE, IN 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	762	861	627	582	654	697	859	791	652	599	695	753
2	771	720	652	573	693	691	843	784	656	610	691	719
3	710	703	697	603	808	736	863	827	687	614	684	699
4	723	723	703	611	746	746	847	804	677	591	701	656
5	708	720	685	635	644	725	838	791	652	587	720	637
6	714	662	652	644	623	740	833	808	637	589	704	622
7	736	613	635	667	590	714	877	840	646	589	670	640
8	749	592	644	660	578	742	894	766	650	607	665	651
9	720	573	652	644	594	777	915	720	641	623	705	648
10	681	563	693	652	594	799	913	714	617	608	689	629
11	683	567	673	586	607	795	913	716	627	589	691	622
12	720	582	656	571	598	808	894	749	625	588	685	588
13	723	590	667	590	601	802	884	757	633	591	691	564
14	729	584	629	633	619	793	866	766	644	610	729	576
15	777	590	648	662	611	815	850	740	627	606	747	566
16	762	573	669	689	633	818	859	710	637	622	695	570
17	738	577	695	731	631	840	894	725	639	616	655	591
18	733	607	679	746	637	833	873	695	648	613	690	577
19	703	613	650	725	648	824	880	693	644	611	689	617
20	658	617	658	712	671	782	884	703	631	607	679	635
21	671	623	693	755	660	793	915	706	629	625	759	596
22	673	605	714	764	682	797	906	720	631	654	845	612
23	641	611	685	753	706	793	925	714	626	666	836	625
24	644	629	669	714	708	833	866	710	586	674	886	636
25	654	633	619	689	771	854	813	689	586	654	903	670
26	669	629	592	681	764	866	804	708	592	676	917	641
27	723	631	571	695	729	859	808	667	586	667	934	626
28	720	611	611	710	714	845	829	652	585	672	857	659
29	736	615	623	703	689	838	815	644	571	682	838	692
30	720	631	637	710	---	836	802	646	600	678	827	706
31	720	---	615	699	---	887	---	642	---	706	777	---
TOTAL	22071	18848	20293	20789	19203	24678	25962	22597	18862	19424	23254	19023
MEAN	712	628	655	671	662	796	865	729	629	627	750	634
MAX	777	861	714	764	808	887	925	840	687	706	934	753
MIN	641	563	571	571	578	691	802	642	571	587	655	564
AC-FT	43780	37380	40250	41230	38090	48950	51500	44820	37410	38530	46120	37730

CAL YR 1987 TOTAL 250799 MEAN 687 MAX 878 MIN 528 AC-FT 497500
WTR YR 1988 TOTAL 255004 MEAN 697 MAX 934 MIN 563 AC-FT 505800

SALTON SEA BASIN

10255805 COYOTE CREEK BELOW BOX CANYON, NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°21'54", long 116°24'57", in SW 1/4 NW 1/4 sec.25, T.9 S., R.5 E., San Diego County, Hydrologic Unit 18100200, in Anza-Borrego Desert State Park, on right bank 0.9 mi downstream from Box Canyon, 1.4 mi northwest of Rancho De Anza, and 7.8 mi northwest of Borrego Springs.

DRAINAGE AREA.--154 mi^2.

PERIOD OF RECORD.--October 1983 to current year. Records for water years 1984-86 published as Coyote Creek near Borrego Springs (station 10255800). Records for Coyote Creek near Borrego Springs (station 10255800) prior to October 1983 not equivalent because of difference in drainage areas.

GAGE.--Water-stage recorder. Elevation of gage is 1,100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 9 to Dec. 4. Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--5 years, 3.60 ft^3/s, 2,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67 ft^3/s, Feb. 15. 1986, gage height, 2.39 ft; maximum gage height, 2.83 ft, Aug. 27, 1986; minimum daily, 1.0 ft^3/s, July 10, 17, 22, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 20	2400	*9.7	*3.33				

Minimum daily, 1.0 ft^3/s, July 10, 17, 22.

DISCHARGE, IN 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	2.8	3.6	4.2	3.6	3.5	3.0	2.2	1.6	1.5	1.2	1.4	2.4
2	2.8	3.5	4.2	3.6	3.9	3.0	2.0	1.6	1.4	1.3	1.4	2.1
3	2.7	3.5	4.2	3.5	3.9	3.0	1.9	1.6	1.3	1.2	1.4	2.1
4	2.8	3.8	4.3	3.5	3.8	3.0	1.8	1.6	1.3	1.2	1.4	2.1
5	2.8	3.9	4.4	3.4	3.7	2.9	1.7	1.8	1.4	1.2	1.4	2.1
6	2.8	3.6	4.6	3.4	3.8	2.9	1.6	1.8	1.4	1.1	1.3	2.0
7	2.8	3.4	4.8	3.4	3.8	2.9	1.6	1.8	1.5	1.1	1.3	2.0
8	2.8	3.5	4.7	3.4	3.6	2.9	1.6	1.8	1.4	1.1	1.3	2.0
9	2.9	3.4	4.6	3.5	3.7	2.9	1.6	1.7	1.4	1.1	1.3	1.9
10	3.2	3.0	4.7	3.5	3.9	2.9	1.6	1.6	1.3	1.0	1.2	1.9
11	3.3	2.9	4.6	3.5	4.0	2.9	1.6	1.5	1.4	1.1	1.2	1.9
12	3.5	2.9	4.4	3.5	4.1	2.9	1.6	1.5	1.4	1.1	1.3	2.0
13	3.5	3.0	4.4	3.5	4.1	2.9	1.7	1.5	1.3	1.1	1.2	2.1
14	3.4	2.9	4.4	3.5	4.0	3.0	1.7	1.5	1.3	1.1	1.2	2.1
15	3.4	3.0	4.4	3.5	4.0	2.9	1.7	1.5	1.3	1.1	1.2	2.0
16	3.4	3.1	4.4	3.5	3.7	2.9	1.7	1.5	1.3	1.1	1.2	1.9
17	3.3	3.2	4.5	3.8	3.9	2.8	1.7	1.6	1.3	1.0	1.2	1.8
18	3.3	3.3	4.3	4.2	3.9	2.9	1.7	1.6	1.4	1.1	1.2	1.8
19	3.3	3.2	4.2	3.8	3.9	2.9	1.7	1.5	1.3	1.1	1.2	1.9
20	3.4	3.0	4.2	3.7	3.4	2.7	1.8	1.5	1.3	1.1	2.0	2.1
21	3.4	3.1	4.1	3.6	3.2	2.6	1.8	1.5	1.3	1.1	3.4	2.2
22	3.4	3.1	4.1	3.5	3.2	2.6	1.8	1.5	1.3	1.0	2.4	2.2
23	3.5	3.1	4.0	3.5	3.2	2.6	1.8	1.5	1.3	1.4	2.4	2.1
24	3.5	3.2	3.9	3.5	3.2	2.5	1.8	1.5	1.3	2.1	3.5	2.1
25	3.4	3.5	3.8	3.5	3.2	2.5	1.7	1.5	1.3	1.7	2.4	1.9
26	3.4	4.0	3.8	3.5	3.1	2.4	1.6	1.5	1.3	1.6	2.4	1.9
27	3.4	4.2	3.7	3.5	3.1	2.3	1.5	1.5	1.3	1.7	2.3	1.9
28	3.4	4.4	3.7	3.5	3.1	2.3	1.6	1.5	1.3	1.6	2.3	1.9
29	3.4	4.4	3.7	3.5	3.1	2.3	1.6	1.6	1.2	1.5	2.5	1.9
30	3.4	4.3	3.6	3.5	---	2.3	1.6	1.6	1.2	1.5	2.4	1.9
31	3.5	---	3.7	3.5	---	2.3	---	1.5	---	1.5	2.3	---
TOTAL	99.9	103.0	130.6	109.9	105.0	84.9	51.3	48.8	40.0	39.1	54.6	60.2
MEAN	3.22	3.43	4.21	3.55	3.62	2.74	1.71	1.57	1.33	1.26	1.76	2.01
MAX	3.5	4.4	4.8	4.2	4.1	3.0	2.2	1.8	1.5	2.1	3.5	2.4
MIN	2.7	2.9	3.6	3.4	3.1	2.3	1.5	1.5	1.2	1.0	1.2	1.8
AC-FT	198	204	259	218	208	168	102	97	79	78	108	119

CAL YR 1987 TOTAL 1110.0 MEAN 3.04 MAX 9.0 MIN 1.2 AC-FT 2200
WTR YR 1988 TOTAL 927.3 MEAN 2.53 MAX 4.8 MIN 1.0 AC-FT 1840

SALTON SEA BASIN

10255810 BORREGO PALM CREEK NEAR BORREGO SPRINGS, CA

LOCATION.--Lat 33°16'44", long 116°25'45", in Anza-Borrego Desert State Park, San Diego County, Hydrologic Unit 18100200, on left bank 3.3 mi northwest of Borrego Springs.

DRAINAGE AREA.--21.8 mi^2.

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1960, published as Palm Canyon Creek near Borrego Springs. Monthly discharge only for October to November 1950, published in WSP 1734.

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,200 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.--38 years, 0.98 ft^3/s, 710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,640 ft^3/s, Aug. 16, 1979, gage height, 9.8 ft, from floodmarks, on basis of slope-area measurement of peak flow; no flow for many days in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2230	*19	*3.41				

No flow for many days.

DISCHARGE, IN 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	0	.54	.96	1.1	1.2	1.2	.62	.82	.21			
2	0	.34	.96	1.1	4.3	1.4	.62	.77	.22			
3	0	.38	.95	1.1	4.4	1.0	.58	.72	.20			
4	0	.73	.94	1.2	2.3	.92	.59	.65	.19			
5	0	2.4	1.6	1.4	1.9	.87	.57	.76	.20			
6	0	1.6	1.1	2.7	1.7	.85	.52	.98	.20			
7	0	1.0	.99	1.7	1.6	.82	.48	1.1	.18			
8	0	.79	.95	1.6	1.5	.79	.44	.96	.16			
9	0	.70	.93	1.5	1.4	.73	.44	.76	.14			
10	0	.65	.90	1.4	1.3	.74	.44	.63	.12			
11	0	.61	.89	1.4	1.3	.76	.43	.54	.12			
12	0	.61	.95	1.3	1.2	.77	.46	.46	.12			
13	0	.62	1.0	1.3	1.1	.77	2.7	.41	.10			
14	0	.61	.98	1.3	1.0	.76	1.8	.38	.08			
15	0	.63	1.0	1.3	1.1	.77	1.2	.32	.06			
16	0	.64	1.1	1.4	1.0	.77	1.4	.30	.04			
17	0	.67	2.4	6.7	1.0	.74	1.1	.30	.03			
18	0	.75	1.7	9.2	1.0	.69	1.0	.45	.02			
19	0	.68	1.5	3.2	1.0	.68	.93	.38	.01			
20	0	.64	1.6	2.1	.97	.67	2.4	.32	0			
21	0	.66	1.3	1.8	.94	.64	3.0	.27	0			
22	0	.67	1.3	1.7	.93	.63	4.1	.24	0			
23	0	.67	1.3	1.6	.88	.62	2.6	.21	0			
24	0	.73	1.2	1.7	.88	.62	2.7	.19	0			
25	0	.89	1.1	1.6	.88	.60	1.5	.17	0			
26	0	.94	1.0	1.5	.89	.54	1.1	.15	0			
27	0	.97	1.0	1.4	.90	.52	.87	.14	0			
28	0	1.0	1.1	1.4	.92	.53	.87	.13	0			
29	0	.99	1.1	1.3	.92	.57	.82	.16	0			
30	0	.95	1.3	1.3	---	.58	.77	.19	0			
31	.23	---	1.2	1.2	---	.61	---	.24	---			---
TOTAL	.23	24.06	36.30	60.5	40.41	23.16	37.05	14.10	2.40	0	0	0
MEAN	.007	.80	1.17	1.95	1.39	.75	1.24	.45	.080	0	0	0
MAX	.23	2.4	2.4	9.2	4.4	1.4	4.1	1.1	.22	0	0	0
MIN	0	.34	.89	1.1	.88	.52	.43	.13	0	0	0	0
AC-FT	.5	48	72	120	80	46	73	28	4.8	0	0	0

CAL YR 1987 TOTAL 259.36 MEAN .71 MAX 5.5 MIN 0 AC-FT 514
WTR YR 1988 TOTAL 238.21 MEAN .65 MAX 9.2 MIN 0 AC-FT 472

SALTON SEA BASIN

10255885 SAN FELIPE CREEK NEAR WESTMORLAND, CA

LOCATION.--Lat 33°07'26", long 115°51'08", in NW 1/4 SW 1/4 sec.17, T.12 S., R.11 E., Imperial County, Hydrologic Unit 18100200, on left bank 320 ft downstream from bridge on State Highway 86, 14.6 mi northwest of Westmorland, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--1,693 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 190 ft below National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 10, 1976, at site on left bank 320 ft downstream from bridge on State Highway 86 at different datum.

REMARKS.--Estimated daily discharges: Oct. 1-30, Nov. 2 to Aug. 11. Records fair except those for estimated daily discharges, which are poor. No regulation upstream from station. Diversion and pumping for domestic use and irrigation in Borrego Valley 25 mi upstream.

AVERAGE DISCHARGE.--27 years (water years 1962-88), 7.44 ft^3/s, 5,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft^3/s, Sept. 10, 1976, gage height, 19.0 ft, site and datum then in use, from rating curve extended above 500 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow; no flow for many days during 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)
Nov. 1	0430	1,100	9.51	Aug. 26	2100	*1,750	*10.77
Aug. 20	1630	404	7.78				

Minimum daily, 0.26 ft^3/s, Aug. 15.

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	.80	265	.92	1.5	1.3	1.2	1.2	1.1	.80	.52	.34	.92
2	.80	45	.90	1.5	4.0	1.2	1.2	1.1	.78	.50	.34	.76
3	.80	6.0	.88	1.5	30	1.2	1.2	1.1	.78	.50	.34	.66
4	.80	5.6	.86	1.5	5.0	1.2	1.2	1.1	.76	.50	.34	.57
5	.80	15	.85	1.5	3.0	1.2	1.2	1.1	.76	.48	.33	.57
6	.80	4.8	.84	1.5	2.4	1.2	1.1	1.0	.74	.48	.33	.57
7	.80	3.6	.83	1.5	2.1	1.2	1.1	1.0	.72	.48	.32	.52
8	.80	3.1	.82	1.5	1.9	1.2	1.1	1.0	.72	.46	.32	.52
9	.80	2.7	.81	1.4	1.7	1.2	1.1	1.0	.70	.46	.32	.52
10	.80	2.4	.80	1.4	1.6	1.2	1.1	1.0	.70	.44	.32	.46
11	.80	2.2	.80	1.4	1.6	1.2	1.1	1.0	.68	.44	.30	.46
12	4.0	2.0	.80	1.4	1.5	1.2	1.1	1.0	.68	.43	.28	.46
13	15	1.8	.80	1.3	1.4	1.2	1.1	1.0	.66	.43	.28	.46
14	3.5	1.7	.80	1.3	1.4	1.2	1.1	1.0	.66	.42	.28	.57
15	1.2	1.6	.80	1.3	1.3	1.2	1.1	1.0	.64	.42	.26	.57
16	.99	1.5	.80	1.2	1.3	1.2	1.1	1.0	.64	.41	.28	.52
17	.89	1.5	5.0	1.2	1.3	1.2	1.1	.98	.62	.41	.31	.52
18	.84	1.4	20	25	1.3	1.2	1.1	.98	.62	.40	.31	.52
19	.81	1.4	6.5	9.0	1.2	1.2	1.1	.96	.60	.40	.31	.52
20	.80	1.3	2.6	3.0	1.2	1.2	1.1	.94	.60	.40	36	.57
21	.80	1.3	2.1	2.4	1.2	1.2	1.1	.92	.60	.39	7.9	.57
22	.80	1.3	1.9	2.1	1.2	1.2	1.1	.92	.58	.39	2.6	.57
23	.80	1.2	1.8	1.9	1.2	1.2	1.1	.90	.58	.38	.92	.57
24	.80	1.2	1.7	1.8	1.2	1.2	1.1	.90	.56	.38	.38	.57
25	.80	1.1	1.6	1.7	1.2	1.2	1.1	.88	.56	.37	.38	.66
26	.80	1.1	1.6	1.6	1.2	1.2	1.1	.88	.56	.37	135	.57
27	.80	1.1	1.5	1.5	1.2	1.2	1.1	.86	.54	.37	29	.57
28	.80	1.0	1.5	1.4	1.2	1.2	1.1	.84	.54	.36	1.1	.57
29	.80	.98	1.5	1.4	1.2	1.2	1.1	.84	.52	.36	.57	.52
30	.80	.95	1.5	1.3	---	1.2	1.1	.82	.52	.35	8.5	.52
31	23	---	1.5	1.3	---	1.2	---	.80	---	.35	3.4	---
TOTAL	67.83	380.83	65.61	79.3	77.3	37.2	33.5	29.92	19.42	13.05	231.66	16.93
MEAN	2.19	12.7	2.12	2.56	2.67	1.20	1.12	.97	.65	.42	7.47	.56
MAX	23	265	20	25	30	1.2	1.2	1.1	.80	.52	135	.92
MIN	.80	.95	.80	1.2	1.2	1.2	1.1	.80	.52	.35	.26	.46
AC-FT	135	755	130	157	153	74	66	59	39	26	459	34

CAL YR 1987 TOTAL 1110.27 MEAN 3.03 MAX 265 MIN .80 AC-FT 2200
WTR YR 1988 TOTAL 1052.55 MEAN 2.88 MAX 265 MIN .26 AC-FT 2090

SALTON SEA BASIN

10256060 WHITEWATER RIVER AT WHITE WATER CUTOFF, AT WHITE WATER, CA

LOCATION.--Lat 33°55'31", long 116°38'07", in NE 1/4 SE 1/4 sec.11, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on center pier of White Water Cutoff (old Highway 99) bridge, 0.1 mi east of White Water, 0.75 mi downstream from Metropolitan Water District's Colorado River Aqueduct turnout, and 2.0 mi upstream from San Gorgonio River.

DRAINAGE AREA.--59.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year. Discharge measurements only, October 1987 to September 1988. Discharge measurements for the period October 1984 to September 1985 available in files of U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete rectangular weir. Elevation of gage is 1,360 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Indeterminate stage-discharge relation during 1988 water year. Imported water is released to the Whitewater River from the Colorado River Aqueduct at a point 0.75 mi upstream. Water is diverted out of the basin 16.5 mi upstream to powerplants in the San Gorgonio River basin and then to an area north of Banning for irrigation. For records of releases and diversions see Whitewater River at Windy Point, near White Water (station 10257550). Discharge measurements are shown in the table below.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s, Feb. 15, 1986, gage height, 11.97 ft, from rating curve extended above 900 ft^3/s; no flow for many days in some years.

DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Time	Discharge (ft^3/s)	Date	Time	Discharge (ft^3/s)
Oct. 23	1130	42	Apr. 4	1030	0.96
Nov. 3	1100	20	Apr. 18	1200	3.3
Nov. 23	1400	8.1	June 6	1200	2.4
Dec. 1	1100	5.0	July 6	0930	0.35
Jan. 6	1030	20	July 12	1500	0
Feb. 1	1030	7.5	Aug. 1	1100	3.7
Mar. 2	1230	8.0	Aug. 9	1430	0.59
Mar. 10	1000	0.92	Aug. 15	1130	1.6
Mar. 17	0900	0.79	Aug. 22	1300	6.7

10256060 WHITEWATER RIVER AT WHITE WATER CUTOFF, AT WHITE WATER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1972-76, 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV										
23...	1415	8.1	391	8.60	18.0	180	9	51	12	13
MAR										
10...	1015	0.92	382	8.70	9.0	180	12	50	13	14

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)
NOV										
23...	13	0.4	4.6	197	3	167	168	35	3.8	0.90
MAR										
10...	14	0.5	4.4	181	11	167	167	34	4.8	1.0

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
23...	16	238	239	0.32	0.490	0.050	20	17	2
MAR									
10...	15	232	238	0.32	0.340	0.020	10	<3	<1

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

SALTON SEA BASIN

10256500 SNOW CREEK NEAR WHITE WATER, CA

LOCATION.--Lat 33°52'14", long 116°40'49", in NW 1/4 NW 1/4 sec.33, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on left bank 10 ft upstream from Desert Water Agency diversion dam, 0.1 mi downstream from East Fork, and 4.4 mi southwest of White Water.
DRAINAGE AREA.--10.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to current year. Yearly discharge only for 1930, published in WSP 1314.
GAGE.--Water-stage recorder and broad-crested weir. Elevation of gage is 2,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to September 1931, at various sites within 500 ft of present site at different datums. October 1959 to Oct. 6, 1970, at site 40 ft upstream at present datum. Oct. 6, 1970, to Oct. 25, 1978, at site 290 ft upstream above diversion at present datum. Gage moved to present site 10 ft downstream from diversion and 10 ft upstream from concrete diversion dam Oct. 25, 1978.
REMARKS.--Estimated daily discharges: Nov. 15, 16, 19, Nov. 26 to Dec. 3, Dec. 5, 6, 8-10, 12-31, Jan. 1-4, and Aug. 15 to Sept. 1. Records fair except for estimated daily discharges, which are poor. No regulation above station. Desert Water Agency diverts 10 ft upstream, generally taking most of the base flow. Total flow is computed by combining discharge records for the diversion and the creek. Discharge records for Snow Creek diversion October 1978 through September 1987 available in files of the U.S. Geological Survey.
AVERAGE DISCHARGE.--Combined creek and diversion: 36 years (water years 1923-26, 1929-31, 1960-88), 9.69 ft^3/s, 7,020 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/s, Jan. 25, 1969, gage height, 13.8 ft, from floodmarks, site and datum then in use, from rating curve extended above 55 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 2.1 ft^3/s, June 23-27, Sept. 5-11, 1961.
EXTREMES FOR CURRENT YEAR.--Combined creek and diversion: Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	1900	*138	*3.71				

Minimum daily, 2.9 ft^3/s, Aug. 6-9.

DISCHARGE, IN 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	4.0	31	5.3	5.1	8.1	7.6	6.0	8.6	5.7	4.0	3.5	3.6
2	4.1	13	5.2	5.1	11	7.7	5.7	8.3	5.7	4.0	3.5	3.4
3	4.2	8.1	5.2	5.0	11	7.5	5.7	7.9	5.7	4.0	3.3	3.3
4	4.1	21	5.1	4.9	9.8	7.1	5.7	7.8	5.8	3.9	3.0	3.3
5	4.1	30	15	34	9.1	7.0	5.8	7.7	5.7	3.8	3.0	3.3
6	4.1	13	10	28	8.4	7.0	6.0	7.9	5.5	3.7	2.9	3.4
7	4.3	10	8.1	15	8.3	7.0	6.3	7.5	5.4	3.6	2.9	3.4
8	4.2	11	6.0	12	7.8	7.0	6.6	7.1	5.3	3.7	2.9	3.6
9	4.2	9.7	6.4	11	7.8	6.6	6.6	7.0	5.1	3.6	2.9	3.7
10	4.3	8.4	10	9.7	7.9	6.7	6.4	7.2	5.0	3.6	3.1	3.7
11	5.1	8.1	6.4	9.9	7.9	6.7	6.3	7.5	5.1	3.5	3.6	3.6
12	27	7.5	5.5	9.4	7.8	6.6	6.2	8.2	5.0	3.6	3.6	3.8
13	15	7.0	5.1	8.2	7.6	6.2	6.6	9.7	4.9	3.6	3.6	3.6
14	7.7	6.7	5.0	7.8	7.4	6.0	8.1	9.5	5.1	3.5	3.6	3.7
15	6.2	6.5	5.0	7.4	7.2	6.1	9.2	9.2	5.1	3.5	3.6	3.6
16	5.6	6.3	5.4	7.6	7.2	5.9	8.4	8.9	5.0	3.4	3.6	3.6
17	5.5	6.2	20	18	7.0	5.8	7.9	8.9	5.0	3.4	3.6	3.7
18	5.3	6.9	9.0	16	6.8	5.8	7.5	8.4	4.7	3.4	3.6	3.7
19	5.1	6.5	7.0	11	6.7	5.7	6.9	8.0	4.5	3.6	3.6	3.7
20	5.1	6.1	6.0	10	6.6	5.7	19	7.5	5.0	3.6	3.6	3.8
21	4.7	6.0	5.9	9.2	6.6	5.7	16	7.2	4.8	3.5	3.6	3.9
22	4.7	5.0	5.8	8.6	6.4	5.5	12	7.1	4.5	3.4	3.6	3.9
23	5.1	5.6	5.7	8.5	6.3	5.8	10	7.2	4.3	6.1	3.6	3.8
24	5.1	5.8	5.6	9.2	6.3	5.9	9.6	7.1	4.3	6.0	3.6	3.8
25	5.1	5.7	5.6	9.1	6.3	6.0	10	6.8	4.3	4.1	3.6	3.9
26	5.3	5.6	5.5	8.7	6.3	6.1	9.9	6.6	4.1	3.7	3.6	3.8
27	5.1	5.5	5.5	8.4	6.5	6.5	10	6.3	4.2	3.6	3.6	3.9
28	3.9	5.4	5.4	8.5	7.1	6.9	9.9	6.3	4.3	3.5	3.6	3.7
29	4.6	5.4	5.3	8.7	7.1	6.7	9.5	6.5	4.2	3.5	3.6	3.7
30	5.4	5.4	5.3	8.6	---	6.3	9.3	6.1	4.2	3.5	3.6	3.7
31	44	---	5.2	8.5	---	6.2	---	5.9	---	3.5	3.6	---
TOTAL	222.2	278.4	211.5	331.1	220.3	199.3	253.1	235.9	147.5	117.4	106.6	109.6
MEAN	7.17	9.28	6.82	10.7	7.60	6.43	8.44	7.61	4.92	3.79	3.44	3.65
MAX	44	31	20	34	11	7.7	19	9.7	5.8	6.1	3.6	3.9
MIN	3.9	5.0	5.0	4.9	6.3	5.5	5.7	5.9	4.1	3.4	2.9	3.3
AC-FT	441	552	420	657	437	395	502	468	293	233	211	217

CAL YR 1987 TOTAL 2525.4 MEAN 6.92 MAX 44 MIN 3.9 AC-FT 5010
WTR YR 1988 TOTAL 2432.9 MEAN 6.65 MAX 44 MIN 2.9 AC-FT 4830

SALTON SEA BASIN

10256500 SNOW CREEK NEAR WHITE WATER, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1972-76, 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV										
25...	1100	5.7	105	8.10	11.0	34	0	12	0.99	8.7
MAR										
09...	1120	6.4	105	7.70	9.0	34	0	12	0.97	8.6

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)
NOV										
25...	34	0.7	2.1	63	0	52	53	2.5	2.0	0.10
MAR										
09...	34	0.7	2.0	63	0	52	51	2.4	1.7	0.10

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
25...	19	80	79	0.11	<0.100	<0.010	<10	9	1
MAR									
09...	20	74	78	0.10	<0.100	<0.010	<10	4	<1

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

SALTON SEA BASIN

10257550 WHITEWATER RIVER AT WINDY POINT, NEAR WHITE WATER, CA

LOCATION.--Lat 33°53'56", long 116°37'13", in SW 1/4 NE 1/4 sec.24, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on right bank 200 ft north of Highway 111, 2.0 mi southeast of White Water, and 3.8 mi east of the junction of Highway 111 and Interstate 10.

DRAINAGE AREA.--264 mi^2 (revised).

PERIOD OF RECORD.--October 1984 to current year. Discharge measurements only, October 1987 to September 1988. Discharge measurements for the period July 1982 to September 1984 available in files of U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,040 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Indeterminate stage-discharge relation at the gage during water year 1988 due to construction work in the channel upstream. Imported water is released to the Whitewater River from the Colorado River Aqueduct at a point 2.75 mi upstream for ground-water recharge in the upper Coachella Valley. Water is diverted out of the basin 18.5 mi upstream to powerplants in the San Gorgonio River basin and then to an area north of Banning for irrigation. Discharge measurements are shown in the table below.

COOPERATION.--Records of diversion out of basin were provided by Southern California Edison Co. Records of Colorado River Aqueduct releases were provided by Coachella Valley Water District (from Metropolitan Water District's monthly reports).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft^3/s, Nov. 22, 1986, gage height, 4.33 ft; no flow for several days in most years.

DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Time	Discharge (ft^3/s)	Date	Time	Discharge (ft^3/s)
Oct. 5	1330	0	Mar. 3	1030	3.2
Oct. 13	1400	16	Mar. 9	1630	0
Oct. 23	1030	45	Mar. 17	1000	0
Oct. 30	1100	4.7	Apr. 4	1130	0
Nov. 20	1130	2.1	Apr. 18	0930	0
Nov. 20	1145	1.8	June 6	1330	0
Dec. 3	1300	0	July 6	1300	0
Jan. 5	0900	0	Aug. 4	1030	0
Feb. 1	1400	4.9	Aug. 22	1430	4.6

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT
a	738	0	0	0	0	1,100	0	0	0	0	0	0
b	145	170	178	143	172	194	192	171	135	68	104	65

a Discharge, in acre-feet, of imported water released to river 2.75 mi upstream.
b Discharge, in acre-feet, diverted out of basin 18.5 mi upstream.

SALTON SEA BASIN

10257600 MISSION CREEK NEAR DESERT HOT SPRINGS, CA

LOCATION.--Lat 34°00'40", long 116°37'38", in NE 1/4 SW 1/4 sec.12, T.2 S., R.3 E., Riverside County, Hydrologic Unit 18100200, in Mission Creek Indian Reservation, 0.6 mi downstream from West Fork, and 6.8 mi northwest of Desert Hot Springs.

DRAINAGE AREA.--35.7 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 5-15, 18, Jan. 10-13, June 2-5, 8, 22, 24, June 26 to Aug. 2, and Aug. 20 to Sept. 30. Records poor. Slight regulation of low flow by two small dams with a combined capacity of about 3 acre-ft, 2 mi above station.

AVERAGE DISCHARGE.--21 years, 3.57 ft^3/s, 2,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft^3/s, Aug. 17, 1983, gage height, 3.33 ft, on basis of slope-conveyance study of peak flow; maximum gage height, 6.40 ft, Jan. 25, 1969; no flow for long periods in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 20	1900	e*800	*2.96				

e Estimated

No flow for many days.

DISCHARGE, IN 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		0	.20	.02	.64	.64	.64	.44	.39	.16	.07	
2		0	.20	0	.88	.64	.44	.44	.33	.16	.07	
3		0	.20	.01	.64	.64	.33	.43	.33	.16	.07	
4		0	.25	0	.64	.64	.45	.33	.33	.20	.07	
5		.26	.44	.06	.44	.64	.33	.64	.33	.20	.07	
6		.11	.33	.06	.44	.64	.33	.88	.33	.13	.06	
7		.09	.33	.07	.44	.44	.32	.64	.33	.11	.06	
8		.09	.44	.07	.44	.44	.25	.64	.33	.11	.06	
9		.09	.44	.07	.44	.44	.25	.33	.25	.11	.06	
10		.09	.40	.06	.44	.64	.25	.25	.20	.11	.06	
11		.08	.44	.06	.64	.64	.20	.20	.20	.11	.06	
12		.08	.64	.06	.64	.64	.20	.16	.20	.13	.06	
13		.07	.38	.06	.64	.64	.33	.20	.16	.13	.07	
14		.07	.06	.06	.64	.64	.43	.25	.13	.13	.07	
15		.09	.04	.05	.88	.64	.64	.25	.13	.14	.07	
16		.11	.03	.05	.74	.64	.44	.25	.16	.16	.06	
17		.13	.06	1.6	.88	.88	.33	.33	.25	.13	.06	
18		.08	.09	.64	.88	.88	.33	.33	.25	.15	.05	
19		.13	.11	.44	.88	.88	.33	.25	.16	.16	.05	
20		.20	.16	.59	.64	.64	.64	.25	.20	.20	52	
21		.20	.20	.64	.64	.64	.64	.20	.20	.16	2.0	
22		.20	.20	.88	.64	.64	.44	.22	.25	.16	.10	
23		.20	.25	.88	.88	.44	.81	.20	.25	.15	0	
24		.20	.21	.88	.88	.44	.64	.25	.25	.14	0	
25		.22	.04	.88	.88	.44	.44	.16	.25	.12	0	
26		.25	0	.74	.64	.33	.33	.16	.25	.10	0	
27		.25	.01	.64	.64	.33	.25	.25	.25	.08	0	
28		.25	.01	.44	.64	.44	.33	.25	.25	.06	0	
29		.25	.03	.44	.64	.64	.33	.44	.20	.05	0	
30		.25	.06	.64	---	.64	.33	.64	.20	.05	0	
31		---	.05	.64	---	.64	---	.44	---	.06	0	---
TOTAL	0	4.04	6.30	11.73	19.38	18.54	12.00	10.70	7.34	4.02	55.30	0
MEAN	0	.13	.20	.38	.67	.60	.40	.35	.24	.13	1.78	0
MAX	0	.26	.64	1.6	.88	.88	.81	.88	.39	.20	52	0
MIN	0	0	0	0	.44	.33	.20	.16	.13	.05	0	0
AC-FT	0	8.0	12	23	38	37	24	21	15	8.0	110	0

CAL YR 1987	TOTAL 101.10	MEAN .28	MAX 5.0	MIN 0	AC-FT 201		
WTR YR 1988	TOTAL 149.35	MEAN .41	MAX 52	MIN 0	AC-FT 296		

SALTON SEA BASIN

10257720 CHINO CANYON CREEK BELOW TRAMWAY, NEAR PALM SPRINGS, CA

LOCATION.--Lat 35°50'39", long 116°36'16", in NW 1/4 NE 1/4 sec.7, T.4 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on left bank 0.5 mi downstream from tram building, 3.5 mi west of Highway 111 on road leading to Palm Springs aerial tramway, and 5.5 mi west of Palm Springs.

DRAINAGE AREA.--4.71 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 8-15, 23-25, Oct. 29 to Nov. 7, Nov. 9, Nov. 13 to Jan. 6, Jan. 17-30, and Aug. 25-31. Records fair except for estimated daily discharges, which are poor. Two small diversions 2 mi upstream, one for city of Palm Springs and one for Palm Springs aerial tramway.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15 ft^3/s, Aug. 24, 1988, gage height, 9.24 ft; minimum daily, 0.01 ft^3/s, several days in 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft^3/s, Aug. 24, gage height, 9.24 ft; minimum daily, 0.01 ft^3/s, several days.

DISCHARGE, IN 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	.14	.70	.70	.43	1.2	1.2	.70	.88	.28	.03	.01	.02
2	.16	.60	.81	.51	1.9	1.1	.70	1.0	.27	.03	.01	.04
3	.15	.51	.85	.43	3.0	1.0	.70	.76	.27	.03	.01	.02
4	.16	.70	.60	.43	2.5	.98	.70	.60	.25	.03	.01	.03
5	.18	.92	.81	1.5	2.4	.92	.61	.60	.32	.03	.01	.02
6	.13	.70	.51	1.0	2.3	.87	.51	.60	.28	.03	.01	.03
7	.14	.60	.51	1.0	2.1	.81	.51	.60	.26	.03	.02	.03
8	.17	.57	.51	1.0	2.0	.84	.51	.60	.25	.02	.02	.02
9	.22	.63	.51	1.0	1.8	.81	.51	.56	.22	.03	.02	.02
10	.25	.66	.47	1.0	1.8	.81	.51	.48	.20	.03	.02	.03
11	.28	.70	.43	1.0	1.8	.81	.48	.43	.20	.02	.02	.03
12	.31	.70	.51	1.1	1.6	.81	.39	.43	.19	.02	.02	.03
13	.35	.70	.43	1.2	1.5	.81	.38	.41	.13	.03	.02	.03
14	.28	.70	.51	1.2	1.5	.81	.43	.35	.14	.02	.02	.03
15	.28	.70	.51	1.2	1.5	.81	.71	.35	.11	.03	.02	.03
16	.26	.70	.51	1.2	1.5	.73	.60	.35	.06	.02	.02	.03
17	.27	.65	.51	1.7	1.5	.70	.60	.35	.09	.02	.02	.03
18	.28	.60	.51	1.4	1.5	.70	.66	.32	.08	.02	.01	.02
19	.28	.70	.51	1.2	1.5	.70	.62	.28	.04	.02	.01	.03
20	.26	.81	.51	1.2	1.5	.70	.75	.28	.06	.02	.02	.03
21	.22	.81	.55	1.1	1.5	.70	1.3	.28	.04	.02	.01	.05
22	.22	.70	.60	1.1	1.3	.70	1.2	.28	.04	.02	.01	.04
23	.22	.75	.51	1.1	1.2	.81	1.1	.28	.03	.02	.01	.03
24	.17	.81	.55	1.1	1.2	.81	.99	.28	.02	.02	1.6	.03
25	.17	.75	.51	1.1	1.2	.81	.92	.28	.03	.02	.48	.04
26	.17	.81	.51	1.1	1.2	.81	.83	.26	.02	.01	.19	.02
27	.17	.81	.55	1.1	1.2	.81	1.0	.25	.02	.02	.85	.02
28	.17	.70	.43	1.1	1.2	.81	.74	.26	.02	.02	.49	.02
29	.24	.70	.51	1.1	1.2	.77	.64	.32	.02	.02	.30	.03
30	.23	.70	.43	1.1	---	.70	.61	.40	.03	.02	.20	.03
31	.22	---	.60	1.1	---	.70	---	.28	---	.02	.15	---
TOTAL	6.75	21.09	16.97	32.80	47.6	25.35	20.91	13.40	3.97	.72	4.61	.86
MEAN	.22	.70	.55	1.06	1.64	.82	.70	.43	.13	.023	.15	.029
MAX	.35	.92	.85	1.7	3.0	1.2	1.3	1.0	.32	.03	1.6	.05
MIN	.13	.51	.43	.43	1.2	.70	.38	.25	.02	.01	.01	.02
AC-FT	13	42	34	65	94	50	41	27	7.9	1.4	9.1	1.7

CAL YR 1987 TOTAL 218.25 MEAN .60 MAX 2.1 MIN .10 AC-FT 433
WTR YR 1988 TOTAL 195.03 MEAN .53 MAX 3.0 MIN .01 AC-FT 387

10257720 CHINO CANYON CREEK BELOW TRAMWAY, NEAR PALM SPRINGS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV										
23...	1130	0.76	209	8.50	12.0	81	0	28	2.6	10
MAR										
09...	1500	0.73	207	8.70	14.5	79	0	27	2.7	10

DATE	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	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)
NOV										
23...	20	0.5	5.3	113	3	97	97	7.5	3.2	0.10
MAR										
09...	20	0.5	5.2	115	2	98	98	7.2	2.6	0.10

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
23...	17	133	133	0.18	0.140	<0.010	20	6	1
MAR									
09...	16	128	130	0.17	0.130	<0.010	10	3	3

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

SALTON SEA BASIN

10258000 TAHQUITZ CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°48'18", long 116°33'30", in SW 1/4 SW 1/4 sec.22, T.4 S., R.4 E., Riverside County, Hydrologic Unit 18100200, 2.2 mi southwest of Palm Springs and 7 mi upstream from mouth.

DRAINAGE AREA.--16.9 mi^2, revised.

PERIOD OF RECORD.--October 1947 to September 1982, October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 762.5 ft above National Geodetic Vertical Datum of 1929 (levels by Riverside County Flood Control District). Prior to Aug. 25, 1970, at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Jan. 30 to Feb. 3. Records fair except those for estimated daily discharges, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--40 years (water years 1948-82, 1984-88), 5.17 ft^3/s, 3,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,900 ft^3/s, Nov. 22, 1965, Jan. 25, 1969, gage height, 12.34 ft, from rating curve extended above 70 ft^3/s on basis of slope-area measurements at gage heights 10.45 and 12.34 ft; maximum gage height, 15.78 ft, Sept. 7, 1981, from debris wave produced by thunderstorm following a brushfire; no flow for parts of most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 85 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2215	*18	*4.73				

No flow for many days.

DISCHARGE, IN 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	.08	2.8	.57	1.1	2.3	2.5	2.2	3.1	1.1	.03	0	.03
2	.07	1.5	.62	1.0	3.0	2.6	2.1	3.0	.99	.02	0	.02
3	.05	1.2	.71	1.0	2.5	2.5	2.0	2.8	.85	.02	0	.01
4	.05	1.2	.84	1.1	2.3	2.4	1.9	2.7	.76	.03	0	0
5	.05	1.8	1.4	1.2	2.2	2.4	1.9	2.7	.70	.01	0	0
6	.04	2.2	1.0	4.9	2.1	2.5	1.9	2.9	.73	.01	0	0
7	.04	1.9	.98	3.3	2.1	2.5	1.9	3.0	.75	0	0	0
8	.04	1.7	.94	2.6	2.1	2.5	1.9	2.8	.71	0	0	0
9	.05	1.2	1.0	2.3	2.2	2.5	1.8	2.7	.63	0	0	0
10	.06	.40	1.1	2.1	2.2	2.5	1.8	2.5	.57	0	0	0
11	.20	.29	1.0	2.1	2.3	2.5	1.7	2.3	.50	0	0	0
12	.95	.23	.94	2.0	2.2	2.4	1.9	2.2	.48	0	0	0
13	1.2	.19	.92	1.9	2.2	2.3	2.1	2.1	.44	0	0	0
14	.63	.07	.94	1.8	2.2	2.2	2.5	2.1	.39	0	0	0
15	.47	.09	.96	1.8	2.2	2.3	2.7	2.1	.33	0	0	0
16	.37	.11	1.1	1.8	2.2	2.2	2.7	2.0	.22	0	0	0
17	.33	.12	1.8	5.6	2.2	2.1	2.6	2.0	.17	0	0	0
18	.31	.17	1.5	4.6	2.2	2.1	2.5	2.0	.21	0	0	0
19	.29	.12	1.3	3.0	2.1	2.1	2.4	1.9	.26	0	0	0
20	.28	.09	1.3	2.7	2.1	2.0	3.1	1.7	.23	0	0	0
21	.28	.07	1.2	2.5	2.1	2.1	3.5	1.6	.20	0	0	0
22	.32	.06	1.2	2.3	2.1	2.1	3.2	1.5	.17	0	0	0
23	.37	.07	1.3	2.2	2.1	2.2	3.0	1.4	.15	0	0	0
24	.40	.07	1.2	2.4	2.1	2.2	2.8	1.3	.13	0	.98	0
25	.48	.13	1.2	2.4	2.2	2.3	3.0	1.3	.10	0	.17	0
26	.45	.40	1.2	2.3	2.2	2.3	3.0	1.2	.09	0	.06	0
27	.41	.50	1.2	2.2	2.4	2.4	3.2	1.1	.07	0	.03	0
28	.38	.52	1.1	2.3	2.6	2.5	3.4	1.1	.05	0	.02	0
29	.40	.53	1.1	2.3	2.6	2.4	3.3	1.1	.04	0	.08	0
30	.46	.54	1.2	2.3	---	2.3	3.2	1.3	.04	0	.14	0
31	1.8	---	1.1	2.3	---	2.2	---	1.3	---	0	.05	---
TOTAL	11.31	20.27	33.92	73.4	65.3	72.1	75.2	62.8	12.06	.12	1.53	.06
MEAN	.36	.68	1.09	2.37	2.25	2.33	2.51	2.03	.40	.004	.049	.002
MAX	1.8	2.8	1.8	5.6	3.0	2.6	3.5	3.1	1.1	.03	.98	.03
MIN	.04	.06	.57	1.0	2.1	2.0	1.7	1.1	.04	0	0	0
AC-FT	22	40	67	146	130	143	149	125	24	.2	3.0	.1

CAL YR 1987 TOTAL 484.06 MEAN 1.33 MAX 4.8 MIN 0 AC-FT 960
WTR YR 1988 TOTAL 428.07 MEAN 1.17 MAX 5.6 MIN 0 AC-FT 849

SALTON SEA BASIN

10258500 PALM CANYON CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°44'42", long 116°32'05", in SW 1/4 SE 1/4 sec.11, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on right bank 0.8 mi upstream from Murray Canyon Creek and 6 mi south of Palm Springs.

DRAINAGE AREA.--93.1 mi^2, revised.

PERIOD OF RECORD.--January 1930 to January 1942, October 1947 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 14, 1942, at datum 0.2 ft higher.

REMARKS.--Estimated daily discharges: Dec. 2 to Jan. 7. Records fair except those for estimated daily discharges, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--52 years (water years 1931-41, 1948-88), 5.22 ft^3/s, 3,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft^3/s, Feb. 21, 1980, gage height, 7.29 ft, from rating curve extended above 650 ft^3/s on basis of slope-area measurement at gage height 6.38 ft; no flow for several months in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 6	--	e200	Unknown	Aug. 24	0245	*2,450	*5.53
Jan. 17	2315	372	3.72				

e estimated.

No flow for several months.

DISCHARGE, IN 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				0	.57	0					0	
2				0	4.8	.11					0	
3				0	9.5	.05					0	
4				0	4.2	0					0	
5				2.5	2.9	0					0	
6				30	2.2	0					0	
7				4.5	1.8	0					0	
8				.75	1.5	0					0	
9				.66	1.3	0					0	
10				.66	1.2	0					0	
11				.63	1.0	0					0	
12				.56	.93	0					0	
13				.51	.83	0					0	
14				.49	.71	0					0	
15				.48	.63	0					0	
16				.46	.59	0					0	
17				48	.48	0					0	
18				41	.46	0					0	
19				6.0	.37	0					0	
20				3.1	.34	0					0	
21				2.2	.29	0					0	
22				1.7	.26	0					0	
23				1.4	.14	0					0	
24				1.3	.05	0					93	
25				1.2	.01	0					0	
26				.98	0	0					0	
27				.82	0	0					0	
28				.77	0	0					0	
29				.72	0	0					0	
30				.68	---	0					0	
31		---		.64	---	0	---		---		0	---
TOTAL	0	0	0	152.71	37.06	.16	0	0	0	0	93	0
MEAN	0	0	0	4.93	1.28	.005	0	0	0	0	3.00	0
MAX	0	0	0	48	9.5	.11	0	0	0	0	93	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	303	74	.3	0	0	0	0	184	0

CAL YR 1987 TOTAL 104.05 MEAN .29 MAX 4.3 MIN 0 AC-FT 206
WTR YR 1988 TOTAL 282.93 MEAN .77 MAX 93 MIN 0 AC-FT 561

SALTON SEA BASIN

10259000 ANDREAS CREEK NEAR PALM SPRINGS, CA

LOCATION.--Lat 33°45'36", long 116°32'57", in SE 1/4 SE 1/4 sec.3, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on left bank at U.S. Bureau of Indian Affairs diversion dam, 1.1 mi above mouth, and 5.1 mi south of Palm Springs.

DRAINAGE AREA.--8.65 mi^2 (revised).

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 800 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 25, 1949, reference point at same site at different datum.

REMARKS.--No estimated daily discharges. Records fair. No regulation above station. One small diversion for domestic use about 1 mi above station.

AVERAGE DISCHARGE.--40 years, 3.01 ft^3/s, 2,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,960 ft^3/s, Aug. 31, 1954, gage height, 7.11 ft, from rating curve extended above 80 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 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 24	0330	*310	*3.87				

Minimum daily, 0.49 ft^3/s, Aug. 18.

DISCHARGE, IN 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	1.1	4.3	2.2	2.4	2.7	2.6	2.1	1.9	1.4	.94	.74	1.1
2	1.0	2.5	2.2	2.4	4.4	2.6	2.1	1.9	1.3	.92	.73	1.0
3	1.0	2.1	2.2	2.4	3.6	2.5	2.0	1.8	1.3	.88	.72	.95
4	.99	2.7	2.3	2.4	3.2	2.5	2.0	1.8	1.2	.86	.67	.95
5	1.0	4.6	3.2	4.6	3.0	2.4	2.0	1.9	1.3	.84	.67	.98
6	1.0	3.0	2.5	6.0	2.9	2.4	1.9	2.1	1.4	.81	.55	.94
7	1.0	2.4	2.4	3.7	2.9	2.4	1.9	1.9	1.4	.81	.58	.97
8	1.1	2.2	2.3	3.2	2.8	2.4	1.9	1.9	1.3	.78	.60	1.0
9	1.2	2.1	2.3	2.9	2.8	2.4	1.8	1.8	1.3	.73	.61	.94
10	1.2	2.0	2.3	2.8	2.7	2.4	1.8	1.8	1.2	.78	.55	.88
11	2.2	2.0	2.3	2.7	2.7	2.4	1.8	1.7	1.2	.90	.51	.88
12	2.5	2.0	2.2	2.7	2.7	2.4	1.9	1.6	1.2	.82	.55	.95
13	2.1	2.0	2.2	2.6	2.7	2.3	2.1	1.5	1.2	.75	.55	1.0
14	1.5	2.0	2.2	2.6	2.6	2.3	2.1	1.6	1.2	.72	.53	.97
15	1.4	2.1	2.2	2.5	2.6	2.3	2.2	1.5	1.2	.74	.50	.94
16	1.3	2.1	2.4	2.5	2.6	2.3	2.1	1.5	1.1	.71	.51	.95
17	1.4	2.2	3.2	7.0	2.5	2.3	2.1	1.6	1.2	.67	.50	.95
18	1.4	2.2	2.7	6.1	2.6	2.2	2.0	1.6	1.2	.79	.49	.96
19	1.4	2.1	2.6	3.8	2.5	2.2	2.0	1.5	1.1	.86	.64	.98
20	1.4	2.1	2.5	3.3	2.5	2.2	2.5	1.4	1.3	.85	1.0	1.1
21	1.5	2.1	2.5	3.1	2.5	2.2	2.5	1.4	1.1	.84	1.0	1.2
22	1.5	2.1	2.5	3.0	2.5	2.1	2.4	1.4	1.1	.77	.86	1.2
23	1.6	2.1	2.6	2.9	2.5	2.1	2.3	1.3	1.1	.75	.88	1.1
24	1.7	2.1	2.5	3.0	2.5	2.1	2.2	1.4	1.1	.76	18	1.1
25	1.6	2.2	2.4	2.9	2.5	2.1	2.1	1.4	1.1	.63	2.2	1.1
26	1.6	2.1	2.4	2.9	2.5	2.1	2.1	1.3	1.1	.57	2.0	1.1
27	1.5	2.2	2.4	2.9	2.5	2.1	2.0	1.3	1.0	.66	1.7	1.0
28	1.5	2.2	2.4	2.8	2.5	2.1	2.0	1.3	1.0	.70	1.4	.94
29	1.8	2.2	2.6	2.8	2.5	2.2	1.9	1.5	1.0	.78	1.6	.94
30	1.6	2.2	2.5	2.8	---	2.1	1.9	1.6	1.0	.83	1.4	.94
31	4.0	---	2.4	2.8	---	2.1	---	1.5	---	.87	1.2	---
TOTAL	47.09	70.2	75.6	100.5	79.5	70.8	61.7	49.7	35.6	24.32	44.44	30.01
MEAN	1.52	2.34	2.44	3.24	2.74	2.28	2.06	1.60	1.19	.78	1.43	1.00
MAX	4.0	4.6	3.2	7.0	4.4	2.6	2.5	2.1	1.4	.94	18	1.2
MIN	.99	2.0	2.2	2.4	2.5	2.1	1.8	1.3	1.0	.57	.49	.88
AC-FT	93	139	150	199	158	140	122	99	71	48	88	60

CAL YR 1987	TOTAL 830.33	MEAN 2.27	MAX 6.7	MIN .86	AC-FT 1650			
WTR YR 1988	TOTAL 689,46	MEAN 1.88	MAX 18	MIN .49	AC-FT 1370			

SALTON SEA BASIN

10259050 PALM CANYON WASH NEAR CATHEDRAL CITY, CA

LOCATION.--Lat 33°47'49", long 116°28'44", in SE 1/4 NE 1/4 sec.29, T.5 S., R.4 E., Riverside County, Hydrologic Unit 18100200, on right bank 500 ft downstream from Golf Club Drive, 0.4 mi upstream from Whitewater River, and 1.5 mi northeast of Cathedral City.

PERIOD OF RECORD.--January to September 1988.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 330 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. No regulation above station. Two diversions for domestic use upstream from station on Andreas Creek.

EXTREMES FOR CURRENT PERIOD.-- Maximum discharge during period January to September, 600 ft^3/s, Aug. 24, gage height, 3.69 ft, from rating curve based on critical depth computations; no flow for most of period.

DISCHARGE, IN 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					0						0	
2					.82						0	
3					0						0	
4					0						0	
5					0						0	
6					0						0	
7					0						0	
8					0						0	
9					0						0	
10					0						0	
11					0						0	
12					0						0	
13					0						0	
14					0						0	
15					0						0	
16					0						0	
17					0						0	
18					0						0	
19					0						0	
20					0						0	
21					0						0	
22					0						0	
23					0						0	
24					0						44	
25					0						0	
26					0						0	
27					0						0	
28				0	0						0	
29				0	0						.10	
30				0	---						0	
31				0	---		---		---		0	---
TOTAL					.82	0	0	0	0	0	44.10	0
MEAN					.028	0	0	0	0	0	1.42	0
MAX					.82	0	0	0	0	0	44	0
MIN					0	0	0	0	0	0	0	0
AC-FT					1.6	0	0	0	0	0	87	0

SALTON SEA BASIN

10259200 DEEP CREEK NEAR PALM DESERT, CA

LOCATION.--Lat 33°37'52", long 116°23'29", in NE 1/4 SE 1/4 sec.19, T.6 S., R.6 E., Riverside County, Hydrologic Unit 18100200, on left bank 500 ft downstream from unnamed tributary and 6.3 mi south of Palm Desert.

DRAINAGE AREA.--30.6 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Aug. 20-23, 25, 26. Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--26 years, 2.27 ft^3/s, 1,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,100 ft^3/s, Sept. 10, 1976, gage height, 7.84, from rating curve extended above 40 ft^3/s on basis of slope-area measurement at gage heights 2.68, 5.15, and 7.84 ft; maximum gage height, 10.27 ft, Aug. 14, 1984 (backwater from debris); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft^3/s and maximum (*), from rating curve extended above 40 ft^3/s on basis of slope-area measurements at gage heights 2.68, 5.15, and 7.84 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 5	1430	29	2.46	Aug. 20	1715	*293	*3.75
Jan. 17	2245	45	2.62	Aug. 24	1730	208	3.49
Feb. 2	2045	32	2.50				

No flow Aug. 12, 13, 16-18.

DISCHARGE, IN 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	.01	.02	.28	.48	3.0	1.3	.17	.21	.06	.02	.01	.07
2	.01	.01	.28	.43	14	1.6	.20	.20	.05	.02	.01	.05
3	.01	.01	.28	.37	26	1.4	.17	.25	.05	.02	.01	.04
4	.01	.61	.34	.37	16	1.3	.14	.20	.05	.02	.01	.03
5	.01	20	1.8	.43	11	1.2	.13	.20	.05	.02	.01	.02
6	.01	9.0	.67	2.1	7.3	1.2	.11	.26	.04	.02	.01	.02
7	.01	2.9	.55	1.8	5.2	1.1	.12	.23	.04	.02	.01	.02
8	.01	1.2	.49	1.1	3.9	1.0	.11	.22	.04	.02	.01	.02
9	.01	.82	.44	.89	3.1	.98	.10	.20	.04	.02	.01	.02
10	.01	.64	.43	.77	2.6	.96	.10	.16	.04	.02	.01	.01
11	.03	.52	.42	.66	2.5	.97	.09	.14	.04	.02	.01	.01
12	.07	.47	.41	.60	2.3	.93	.11	.11	.04	.02	0	.01
13	.02	.42	.37	.53	2.3	.89	.16	.11	.04	.02	0	.01
14	.01	.35	.32	.47	1.9	.88	.19	.10	.03	.02	.01	.01
15	.01	.29	.37	.42	1.8	.83	.37	.10	.03	.02	.01	.01
16	.01	.31	.52	.40	1.3	.82	.32	.10	.03	.02	0	.01
17	.01	.33	2.4	14	1.2	.77	.24	.09	.03	.02	0	.01
18	.01	.57	1.2	27	1.3	.71	.22	.09	.02	.02	0	.01
19	.01	.40	.91	13	.98	.64	.17	.08	.02	.02	.01	.01
20	.01	.37	.96	7.5	1.0	.60	.38	.08	.02	.02	20	.01
21	.01	.34	.89	5.1	.94	.54	.87	.09	.02	.02	.73	.01
22	.01	.34	.83	4.4	.94	.49	.74	.09	.02	.02	.28	.01
23	.01	.33	3.9	3.6	.89	.48	.63	.08	.02	.01	.28	.01
24	.01	.28	2.8	4.4	.82	.41	.58	.07	.02	.01	29	.01
25	.01	.28	1.5	4.4	.81	.37	.45	.07	.02	.01	3.4	.01
26	.01	.28	.98	3.7	.79	.32	.36	.07	.02	.01	1.0	.01
27	.01	.28	.84	3.5	.88	.28	.31	.07	.02	.01	.32	.01
28	.01	.31	.71	3.8	.98	.24	.29	.07	.02	.01	.13	.01
29	.01	.28	.72	4.4	1.1	.27	.27	.06	.02	.01	1.2	.01
30	.01	.28	.68	4.6	---	.22	.22	.07	.02	.01	.28	.01
31	.04	---	.54	3.8	---	.18	---	.06	---	.01	.11	---
TOTAL	.43	42.24	27.83	119.02	116.83	23.88	8.32	3.93	.96	.53	56.87	.50
MEAN	.014	1.41	.90	3.84	4.03	.77	.28	.13	.032	.017	1.83	.017
MAX	.07	20	3.9	27	26	1.6	.87	.26	.06	.02	29	.07
MIN	.01	.01	.28	.37	.79	.18	.09	.06	.02	.01	0	.01
AC-FT	.9	84	55	236	232	47	17	7.8	1.9	1.1	113	1.0

CAL YR 1987 TOTAL 182.22 MEAN .50 MAX 20 MIN 0 AC-FT 361
WTR YR 1988 TOTAL 401.34 MEAN 1.10 MAX 29 MIN 0 AC-FT 796

SALTON SEA BASIN

10259300 WHITEWATER RIVER AT INDIO, CA

LOCATION.--Lat 33°44'14", long 116°14'07", in SE 1/4 NE 1/4 sec.15, T.5 S., R.7 E., Riverside County, Hydrologic Unit 18100200, on right bank of concrete drop structure, 1,000 ft upstream from Monroe Street bridge, and 1.7 mi northwest of Indio.

DRAINAGE AREA.--1,073 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Oct. 1, 1979. Elevation of gage is 0 ft National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1979, water-stage recorder at site 0.5 mi upstream at different datum. Oct. 1, 1979, to Feb. 17, 1983, at datum 1.03 ft lower.

REMARKS.--No estimated daily discharges. Records excellent. No regulation upstream from station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs.

AVERAGE DISCHARGE.--22 years, 3.13 ft^3/s, 2,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft^3/s, Jan. 25, 1969, gage height, 14.41 ft, site and datum then in use, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement at gage height 15.3 ft for flood of Nov. 22, 1965; no flow all or most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 2 or 3, 1938, reached a discharge of 29,000 ft^3/s on basis of slope-area measurement, at site 5.0 mi upstream. Flood of November 22, 1965, reached a stage of 15.3 ft, from floodmark, at site and datum used prior to Oct. 1, 1979, discharge 14,100 ft^3/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharge above 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)
Aug. 24	0915	*152	*2.29				

No flow for many days.

DISCHARGE, IN 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	0	.06		0	0						0	
2	0	0		0	.06						0	
3	0	0		0	.32						0	
4	0	.03		0	0						0	
5	0	2.1		0	0						0	
6	0	0		0	0						0	
7	0	0		0	0						0	
8	0	0		0	0						0	
9	0	0		0	0						0	
10	0	0		0	0						0	
11	0	0		0	0						0	
12	0	.30		0	0						0	
13	0	0		0	0						0	
14	0	0		0	0						0	
15	0	0		0	0						0	
16	0	0		0	0						0	
17	0	0		.04	0						0	
18	0	0		2.2	0						0	
19	0	0		0	0						0	
20	0	0		0	0						0	
21	0	0		0	0						0	
22	0	0		0	0						0	
23	0	0		0	0						0	
24	0	0		0	0						17	
25	0	0		0	0						.10	
26	0	0		0	0						0	
27	0	0		0	0						0	
28	0	0		0	0						0	
29	0	0		0	0						0	
30	0	0		0	---						0	
31	.01	---		0	---		---		---		0	---
TOTAL	.01	2.49	0	2.24	.38	0	0	0	0	0	17.10	0
MEAN	.0003	.083	0	.072	.013	0	0	0	0	0	.55	0
MAX	.01	2.1	0	2.2	.32	0	0	0	0	0	17	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.02	4.9	0	4.4	.8	0	0	0	0	0	34	0

CAL YR 1987 TOTAL 2.50 MEAN .0070 MAX 2.1 MIN 0 AC-FT 5.0
WTR YR 1988 TOTAL 22.22 MEAN .061 MAX 17 MIN 0 AC-FT 44

SALTON SEA BASIN

10259540 WHITEWATER RIVER NEAR MECCA, CA

LOCATION.--Lat 33°31'29", long 116°04'36", in NW 1/4 NW 1/4 sec.32, T.7 S., R.9 E., Riverside County, Hydrologic Unit 18100200, on left bank 1.6 mi upstream from mouth at Salton Sea, and 3.3 mi south of Mecca.

DRAINAGE AREA.--1,495 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 221.00 ft below National Geodetic Vertical Datum of 1929 (levels by Coachella Valley Water District). Oct. 1, 1960, to Mar. 22, 1967, at site 1.3 mi downstream and Mar. 23, 1967, to July 22, 1970, at site 0.7 mi downstream at different datums.

REMARKS.--Estimated daily discharges: July 7 to Aug. 25. Records fair. Most flow represents seepage and return flow from irrigated areas.

COOPERATION.--One discharge measurement was provided by Coachella Valley Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,500 ft^3/s, Jan. 25, 1969, estimated; minimum daily, 37 ft^3/s, Nov. 25-29, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 425 ft^3/s, Nov. 1, gage height, 5.15 ft; minimum daily, 59 ft^3/s, Dec. 11.

DISCHARGE, IN 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	75	310	79	77	94	113	120	91	107	84	94	83
2	63	132	78	71	99	109	118	99	102	92	95	79
3	71	91	74	74	150	98	116	101	103	91	95	77
4	69	94	76	70	91	101	114	99	98	93	95	76
5	69	158	76	62	89	114	102	95	104	88	96	76
6	65	104	76	69	90	125	101	93	102	87	96	76
7	76	87	64	64	91	120	106	94	90	88	96	76
8	80	84	61	70	92	117	105	101	86	88	96	84
9	74	73	61	74	103	101	96	103	91	88	96	83
10	82	70	62	81	98	108	90	92	95	88	97	85
11	99	74	59	98	102	97	105	92	90	89	97	78
12	122	76	63	90	102	89	105	103	89	89	97	75
13	139	79	74	74	114	95	114	102	96	89	98	76
14	82	75	74	79	112	105	164	100	95	90	98	84
15	77	70	74	83	107	107	117	103	96	90	98	82
16	71	78	64	91	110	99	120	105	81	90	98	81
17	74	75	93	102	98	98	108	106	77	90	99	85
18	79	77	83	195	106	100	121	104	81	90	99	86
19	77	67	67	122	106	103	135	103	79	90	100	83
20	71	65	66	90	114	103	113	113	86	91	100	80
21	73	77	62	90	123	105	113	115	74	91	100	86
22	78	74	69	83	113	101	120	112	76	91	100	81
23	74	67	72	85	115	105	100	108	76	92	100	77
24	74	62	67	91	111	102	96	101	75	92	200	78
25	82	76	66	91	105	105	91	94	75	92	300	82
26	87	76	75	94	110	109	87	103	82	92	104	77
27	74	74	86	86	100	120	83	102	77	93	111	81
28	64	79	78	81	101	105	92	95	77	93	106	83
29	69	75	73	83	106	100	92	96	81	93	96	80
30	81	70	70	89	---	124	94	107	81	94	87	71
31	133	---	66	88	---	121	---	107	---	94	87	---
TOTAL	2504	2669	2208	2697	3052	3299	3238	3139	2622	2802	3331	2401
MEAN	80.8	89.0	71.2	87.0	105	106	108	101	87.4	90.4	107	80.0
MAX	139	310	93	195	150	125	164	115	107	94	300	86
MIN	63	62	59	62	89	89	83	91	74	84	87	71
AC-FT	4970	5290	4380	5350	6050	6540	6420	6230	5200	5560	6610	4760

CAL YR 1987 TOTAL 29658 MEAN 81.3 MAX 310 MIN 41 AC-FT 58830
WTR YR 1988 TOTAL 33962 MEAN 92.8 MAX 310 MIN 59 AC-FT 67360

MOJAVE RIVER BASIN

10260500 DEEP CREEK NEAR HESPERIA, CA

LOCATION.--Lat 34°20'28", long 117°13'39", in NE 1/4 SE 1/4 sec.18, T.3 N., R.3 W., San Bernardino County, Hydrologic Unit 18090208, on right bank 0.5 mi upstream from confluence with West Fork Mojave River at Mojave River Forks Dam, 7 mi southeast of Hesperia, and 11 mi downstream from Lake Arrowhead.

DRAINAGE AREA.--134 mi^2.

PERIOD OF RECORD.--October 1904 to September 1922, October 1929 to current year. Prior to January 1930, monthly discharge only, published in WSP 1314.

GAGE.--Water-stage recorder. Broad-crested weir since December 1938. Elevation of gage is 3,050 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1314 for history of changes prior to Dec. 10, 1938.

REMARKS.--Estimated daily discharges: July 30 to Aug. 2. Records fair. Slight regulation by Lake Arrowhead, capacity, 48,000 acre-ft, used principally for recreation.

AVERAGE DISCHARGE.--77 years, 69.9 ft^3/s, 50,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft^3/s, Mar. 2, 1938, gage height unknown, based on slope-area measurement of peak flow; maximum gage height, 23.81 ft, Feb. 10, 1978 (backwater from Mojave River Forks Reservoir); no flow July 17, 18, 1961.

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)
Apr. 20	1200	*687	*3.26				

Minimum daily, 0.35 ft^3/s, Aug. 6.

DISCHARGE, IN 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	1.3	105	7.7	10	39	73	16	45	8.9	1.3	.42	1.6
2	1.3	68	7.7	10	38	83	15	36	8.0	1.3	.43	1.6
3	1.3	67	7.8	11	38	82	15	33	7.3	1.3	.40	1.4
4	1.3	32	7.8	11	31	66	14	30	6.8	1.1	.40	1.2
5	1.3	57	25	13	28	59	14	26	6.8	1.0	.40	1.2
6	1.4	65	22	28	25	51	14	27	7.1	1.0	.35	1.2
7	1.3	39	15	35	24	45	14	28	7.2	1.0	.36	1.2
8	1.2	27	13	25	23	41	13	25	7.3	.94	.38	1.2
9	1.2	21	12	21	24	37	12	25	7.3	.90	.44	1.3
10	1.2	17	11	19	25	34	12	25	7.0	.75	.46	1.4
11	1.3	15	11	20	27	32	11	21	6.6	.74	.44	1.6
12	1.7	13	10	21	27	28	11	21	6.3	.66	.52	1.1
13	2.0	11	9.4	20	27	26	11	18	6.0	.64	.64	1.4
14	2.4	10	8.3	18	26	24	12	17	5.6	.61	.76	1.3
15	2.8	9.3	8.8	18	25	23	43	15	5.1	.58	.50	1.2
16	2.5	8.6	9.5	18	25	22	35	14	4.5	.57	.45	1.1
17	2.4	8.6	16	83	25	21	26	14	4.3	.53	.40	1.1
18	2.3	9.0	15	85	24	20	28	14	4.1	.46	.42	.91
19	2.3	8.6	15	52	23	19	25	13	4.1	.42	.46	.83
20	2.3	8.3	14	36	20	19	231	13	3.9	.46	.40	.86
21	2.5	8.2	13	31	19	19	141	12	3.8	.77	.36	1.1
22	3.1	8.1	13	29	19	19	82	11	3.6	.56	.40	1.2
23	75	8.0	17	28	19	19	66	10	3.5	.55	.44	.89
24	38	8.0	17	34	19	19	62	9.2	3.3	.48	.97	.86
25	16	7.9	12	45	20	20	80	8.7	3.1	.46	1.3	.91
26	11	7.9	12	45	21	19	90	8.2	2.9	.41	1.3	1.4
27	8.4	7.8	11	46	23	20	87	8.1	2.6	.42	.86	1.3
28	7.7	7.8	11	48	34	20	70	8.3	2.4	.40	1.1	1.3
29	7.4	7.8	12	58	46	19	55	14	2.3	.43	1.3	1.2
30	7.8	7.8	11	60	---	18	46	12	1.8	.43	1.5	1.2
31	16	---	10	47	---	17	---	10	---	.43	1.5	---
TOTAL	227.7	678.7	385.0	1025	764	1014	1351	571.5	153.5	21.60	20.06	36.06
MEAN	7.35	22.6	12.4	33.1	26.3	32.7	45.0	18.4	5.12	.70	.65	1.20
MAX	75	105	25	85	46	83	231	45	8.9	1.3	1.5	1.6
MIN	1.2	7.8	7.7	10	19	17	11	8.1	1.8	.40	.35	.83
AC-FT	452	1350	764	2030	1520	2010	2680	1130	304	43	40	72

CAL YR 1987 TOTAL 5721.79 MEAN 15.7 MAX 796 MIN .34 AC-FT 11350
WTR YR 1988 TOTAL 6248.12 MEAN 17.1 MAX 231 MIN .35 AC-FT 12390

MOJAVE RIVER BASIN

10260620 HOUSTON CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'33", long 117°16'48", in NE 1/4 SE 1/4 sec.22, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 0.1 mi east of Wildrose Road, 0.1 mi southeast of intersection of Lake Gregory Road and Wildrose Road, and 0.3 mi east of Crestline.

DRAINAGE AREA.--0.35 mi^2.

PERIOD OF RECORD.--March 1979 to current year.

REVISED RECORDS.--WDR CA-82-1: 1980-81(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation above station.

AVERAGE DISCHARGE.--9 years, 0.70 ft^3/s, 507 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 295 ft^3/s, Feb. 19, 1980, gage height, 7.40 ft, from rating curve extended above 70 ft^3/s on basis of slope-conveyance study at gage height 7.40 ft; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 23	0345	*48	*5.96				

No flow for several days.

DISCHARGE, IN 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	0	.56	.02	.04	.30	5.8	.07	.32	.17	.02	.01	.01
2	0	4.3	.02	.04	.56	1.5	.07	.28	.16	.02	.01	.01
3	0	.33	.07	.07	.34	.56	.07	.27	.16	.02	.01	.01
4	0	2.5	2.9	.12	.29	.38	.07	.25	.15	.02	.01	.01
5	0	1.8	.30	.50	.25	.28	.07	.45	.15	.02	.01	.01
6	0	.54	.12	.15	.25	.25	.07	.31	.15	.02	.01	.01
7	0	.27	.12	.13	.23	.24	.07	.28	.15	.02	.01	.01
8	0	.20	.07	.12	.18	.22	.08	.29	.12	.02	.01	.01
9	0	.14	.07	.11	.17	.21	.10	.27	.12	.02	.01	.01
10	0	.13	.06	.11	.17	.21	.10	.25	.10	.02	.01	.01
11	.06	.11	.04	.12	.17	.21	.10	.24	.10	.02	.01	.01
12	.06	.10	.03	.10	.17	.20	.11	.23	.09	.02	.01	.01
13	0	.10	.04	.10	.16	.18	.12	.23	.06	.02	.01	.01
14	0	.11	.04	.10	.15	.17	5.4	.21	.06	.02	.01	.01
15	0	.10	.05	.10	.12	.18	1.0	.20	.06	.02	.01	.01
16	0	.08	.10	.10	.12	.17	.33	.19	.06	.02	.01	.01
17	0	.09	.33	4.1	.14	.18	1.0	.18	.06	.02	.01	.01
18	0	.09	.26	.66	.15	.15	.24	.18	.05	.02	.01	.01
19	0	.06	.16	.40	.15	.14	2.0	.18	.05	.02	.01	.01
20	0	.08	.17	.31	.15	.14	11	.18	.05	.02	.01	1.3
21	0	.06	.15	.31	.12	.14	1.4	.18	.05	.02	.01	.11
22	2.6	.07	.43	.27	.08	.13	.94	.17	.05	.02	.01	.02
23	2.2	.06	.27	.30	.07	.14	1.3	.16	.03	.01	.01	.02
24	.04	.05	.12	.31	.05	.13	.83	.16	.03	.01	.01	.02
25	.01	.05	.10	.30	.07	.12	.60	.15	.03	.01	.01	.03
26	.01	.04	.10	.29	.09	.12	.47	.17	.03	.01	.01	.03
27	.01	.04	.10	.34	.65	.12	.42	.15	.03	.01	.01	.03
28	.01	.04	.10	.37	.28	.10	.41	.15	.03	.01	.01	.24
29	.63	.03	.10	.36	3.3	.10	.34	1.6	.02	.01	.07	.32
30	.06	.02	.10	.32	---	.10	.34	.22	.02	.01	.01	.36
31	4.1	---	.05	.30	---	.09	---	.21	---	.01	.01	---
TOTAL	9.79	12.15	6.59	10.95	8.93	12.66	29.12	8.31	2.39	.53	.37	2.67
MEAN	.32	.41	.21	.35	.31	.41	.97	.27	.080	.017	.012	.089
MAX	4.1	4.3	2.9	4.1	3.3	5.8	11	1.6	.17	.02	.07	1.3
MIN	0	.02	.02	.04	.05	.09	.07	.15	.02	.01	.01	.01
AC-FT	19	24	13	22	18	25	58	16	4.7	1.1	.7	5.3

CAL YR 1987 TOTAL 76.68 MEAN .21 MAX 10 MIN 0 AC-FT 152
WTR YR 1988 TOTAL 104.46 MEAN .29 MAX 11 MIN 0 AC-FT 207

MOJAVE RIVER BASIN

10260630 ABONDIGAS CREEK ABOVE LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'16", long 117°15'51", in SW 1/4 SE 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on right bank 400 ft south of east gate for San Moritz Park, and 1.4 mi east of Crestline.

DRAINAGE AREA.--1.15 mi^2.

PERIOD OF RECORD.--March 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,540 ft (revised) above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1983, at site 200 ft upstream at datum 5.78 ft higher.

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

AVERAGE DISCHARGE.--9 years, 1.23 ft^3/s, 891 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 580 ft^3/s, Feb. 27, 1983, gage height, 6.32 ft, site and datum then in use, from rating curve extended above 94 ft^3/s on basis of field estimate of peak flow; no flow at times in some years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 22	2230	*44	*7.08				

No flow for many days.

DISCHARGE, IN 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	0	1.2	.02	.09	.25	5.1	.18	.64	.14	0	0	0
2	0	6.3	.02	.11	.29	3.4	.17	.63	.14	0	0	0
3	0	.71	.03	.10	.24	1.2	.18	.57	.11	0	0	0
4	0	3.3	3.8	.09	.19	.97	.18	.59	.08	0	0	0
5	0	3.7	1.3	.31	.15	.88	.19	.71	.09	0	0	0
6	0	1.0	.18	.34	.13	.99	.19	.72	.07	0	0	0
7	0	.56	.19	.27	.12	1.0	.17	.70	.05	0	0	0
8	0	.48	.15	.30	.09	.75	.13	.62	.03	.02	0	0
9	0	.36	.09	.32	.07	.63	.14	.57	.03	.05	0	0
10	0	.26	.05	.25	.06	.51	.16	.57	.03	.07	0	0
11	0	.24	.06	.25	.05	.46	.16	.49	.02	.03	0	0
12	0	.29	.10	.22	.04	.61	.13	.32	.02	.01	0	0
13	0	.22	.03	.19	.04	.75	.15	.05	.02	.01	0	0
14	0	.21	.02	.17	.03	.84	4.2	.09	.02	0	0	0
15	0	.12	.03	.19	.02	.82	1.2	.19	.01	0	0	0
16	0	.07	.35	.78	.02	.76	.52	.17	.01	0	0	0
17	0	.08	.84	3.3	.01	.71	.67	.09	.01	0	0	0
18	0	.06	.06	1.1	.01	.78	.52	.09	.01	0	0	0
19	0	.03	.06	.72	.01	.76	1.4	.07	.01	0	0	0
20	0	.02	.04	.52	0	.70	13	.07	.02	0	0	.02
21	0	.02	.03	.44	0	.56	3.8	.07	.02	0	0	.09
22	3.6	.02	.06	.39	0	.52	2.0	.05	.01	0	0	0
23	4.2	.05	.22	.43	0	.53	1.7	.06	.01	0	0	0
24	.18	.04	.14	.41	0	.48	1.4	.08	.01	0	0	0
25	.12	.05	.24	.38	0	.44	1.2	.07	.01	0	0	0
26	.09	.04	.19	.33	0	.42	1.1	.08	.01	0	0	0
27	.06	.02	.17	.30	.22	.31	1.0	.04	.01	0	0	0
28	.04	.03	.13	.32	.75	.24	.99	.02	.01	0	0	0
29	1.1	.06	.27	.33	2.7	.20	.89	2.0	.01	0	.35	0
30	.08	.05	.13	.33	---	.18	.63	.32	.01	0	.01	0
31	7.5	---	.11	.29	---	.17	---	.20	---	0	.01	---
TOTAL	16.97	19.59	9.11	13.57	5.49	26.67	38.35	10.94	1.03	.19	.37	.11
MEAN	.55	.65	.29	.44	.19	.86	1.28	.35	.034	.006	.012	.004
MAX	7.5	6.3	3.8	3.3	2.7	5.1	13	2.0	.14	.07	.35	.09
MIN	0	.02	.02	.09	0	.17	.13	.02	.01	0	0	0
AC-FT	34	39	18	27	11	53	76	22	2.0	.4	.7	.2

CAL YR 1987 TOTAL 103.10 MEAN .28 MAX 7.7 MIN 0 AC-FT 204
WTR YR 1988 TOTAL 142.39 MEAN .39 MAX 13 MIN 0 AC-FT 282

MOJAVE RIVER BASIN

10260640 LAKE GREGORY AT CRESTLINE, CA

LOCATION.--Lat 34°14'35", long 117°16'22", in NW 1/4 SW 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, in boathouse on north side of Lake Gregory, 0.8 mi east of Lake Gregory Drive, and 0.9 mi east of Crestline.

DRAINAGE AREA.--2.66 mi^2.

PERIOD OF RECORD.--August 1978 to current year. Records for September 1966 through November 1971 in files of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft, based on map from land survey of 1892 (see REMARKS paragraph); approximately 7.0 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by earth-type dam. Dam was completed to a height of 90 ft in 1938. Capacity table developed from land survey dated 1892 (provided by California Department of Water Resources). Capacity is 2,070 acre-ft below spillway elevation, 4,517.0 ft. Water is released from lake to Houston Creek for eventual water supply and recreational use in Silverwood Lake, 4.5 mi downstream. Spillway elevation is raised by addition of flashboards to accommodate summer recreational use.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents recorded, 2,360 acre-ft, Jan. 29, 1980, elevation, 4,520.33 ft; minimum, 1,920 acre-ft, Nov. 7, 1984, elevation, 4,515.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 2,270 acre-ft, Apr. 20, elevation, 4,519.30 ft; minimum, 1,960 acre-ft, Oct. 21, 22, elevation, 4,515.75 ft.

MONTHEND ELEVATION, 1892 DATUM, AND CONTENTS, AT 0800 HRS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,515.96	1,980	--
Oct. 31	4,516.91	2,060	+80
Nov. 30	4,516.88	2,060	0
Dec. 31	4,517.40	2,110	+50
CAL YR 1987	--	--	+20
Jan. 31	4,517.26	2,090	-20
Feb. 29	4,517.27	2,100	+10
Mar. 31	4,517.19	2,090	-10
Apr. 30	4,519.02	2,250	+160
May 31	4,519.04	2,250	0
June 30	4,518.73	2,220	-30
July 31	4,518.11	2,170	-50
Aug. 31	4,517.66	2,130	-40
Sept. 30	4,517.11	2,080	-50
WTR YR 1988	--	--	+100

MOJAVE RIVER BASIN

10260650 HOUSTON CREEK BELOW LAKE GREGORY, AT CRESTLINE, CA

LOCATION.--Lat 34°14'54", long 117°16'05", in NE 1/4 NW 1/4 sec.23, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank of channel on Camp Switzerland campgrounds, 0.2 mi downstream from Lake Gregory spillway, 0.5 mi east of the intersection of Lake Gregory Road and Lake Gregory Drive, and 1.2 mi northeast of Crestline.

DRAINAGE AREA.--2.68 mi^2.

PERIOD OF RECORD.--March 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake Gregory (station 10260640) 0.2 mi upstream, usable capacity, 2,070 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 570 ft^3/s, Jan. 29, 1980, gage height, 7.31 ft, from rating curve extended above 180 ft^3/s on basis of velocity-area study of peak flow; no flow for several days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42 ft^3/s, Mar. 1, gage height, 6.08 ft; no flow for several days.

DISCHARGE, IN 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	.02	.28	.06	.70	1.8	14	.07	.94	.76	.04	.02	.04
2	.02	2.2	.07	.63	2.6	18	.07	.82	.71	.03	.02	.04
3	.03	4.4	.04	.57	2.6	7.0	.07	1.0	.75	.02	.02	.03
4	.02	5.0	.26	.62	2.1	4.2	.07	1.3	.89	.02	.02	.04
5	.02	5.1	.36	.81	1.7	3.0	.06	1.2	.72	.01	.01	.05
6	.03	12	.15	1.1	1.5	2.3	.06	1.2	.60	.01	.02	.05
7	.03	8.7	.09	.96	1.5	1.8	.06	1.0	.26	.01	.01	.04
8	.04	5.1	.07	.85	1.3	1.6	.04	.93	.13	.01	.01	.04
9	.05	4.3	.06	.79	1.3	1.4	.04	.84	.15	.01	.01	.04
10	.05	4.3	.06	.77	1.2	1.2	.04	.74	.15	.01	.01	1.1
11	.06	4.3	.06	.78	1.1	1.0	.03	.74	.17	.01	.01	1.5
12	.07	11	.06	.71	1.1	.93	.03	.83	.10	.01	.01	.96
13	.06	6.4	.05	.59	1.1	.86	.03	.88	.09	.01	0	.70
14	.06	4.4	.02	.56	.97	.86	.36	.96	.09	.01	0	.53
15	.06	4.2	.02	.73	.97	1.1	.09	1.1	.09	.02	0	.39
16	.06	4.1	.14	.70	.87	.69	.06	.77	.08	.02	0	.24
17	.07	2.7	2.3	17	.79	.63	.06	.59	.08	.01	0	.12
18	.07	.08	2.2	11	.71	.62	.05	.27	.08	.01	.01	.05
19	.04	.07	2.5	4.6	.59	.62	.14	.25	.07	.01	.03	.02
20	.04	.07	1.8	2.9	.58	.62	7.2	.23	.07	.01	.04	.11
21	.04	.08	1.4	2.2	.61	.59	10	.32	.06	.01	.03	.08
22	.26	.08	1.3	1.9	.59	.53	5.3	.40	.06	0	.02	.03
23	.22	.08	1.8	1.8	.61	.52	4.2	.60	.05	.01	.02	.02
24	.05	.08	1.4	1.6	.58	.46	3.7	.38	.05	.01	.04	.02
25	.04	.08	1.0	1.6	.58	.44	2.6	.37	.05	.01	.03	.02
26	.04	.08	.79	1.6	.64	.42	2.2	.34	.05	.01	.03	.01
27	.04	.08	.66	1.5	.98	.40	2.0	.25	.04	.01	.03	.01
28	.06	.08	.57	1.8	2.4	.30	1.9	.33	.03	.01	.04	.01
29	.15	.07	.96	1.8	3.9	.34	1.5	2.0	.03	.01	.05	.01
30	.04	.07	1.1	1.6	---	.24	1.3	1.5	.03	.01	.05	.01
31	.48	---	.83	1.7	---	.13	---	1.2	---	.01	.05	---
TOTAL	2.32	89.48	22.18	66.47	37.27	66.80	43.33	24.28	6.49	.39	.64	6.31
MEAN	.075	2.98	.72	2.14	1.29	2.15	1.44	.78	.22	.013	.021	.21
MAX	.48	12	2.5	17	3.9	18	10	2.0	.89	.04	.05	1.5
MIN	.02	.07	.02	.56	.58	.13	.03	.23	.03	0	0	.01
AC-FT	4.6	177	44	132	74	132	86	48	13	.8	1.3	13

CAL YR 1987 TOTAL 297.50 MEAN .82 MAX 27 MIN .01 AC-FT 590
WTR YR 1988 TOTAL 365.96 MEAN 1.00 MAX 18 MIN 0 AC-FT 726

MOJAVE RIVER BASIN

10261000 WEST FORK MOJAVE RIVER NEAR HESPERIA, CA

LOCATION.--Lat 34°20'20", long 117°15'25", in NW 1/4 NW 1/4 sec.24, T.3 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank on upstream wingwall of concrete double box culvert on Arrowhead Lake Road, 0.1 mi northeast of junction with Highway 174, 4.5 mi downstream from Cedar Springs Dam, and 6.5 mi southeast of Hesperia.

DRAINAGE AREA.--70.3 mi^2.

PERIOD OF RECORD.--October 1904 to September 1922, October 1929 to September 1971, October 1974 to current year.

REVISED RECORDS.--WDR CA-84-1: 1983.

GAGE.--Water-stage recorder. Elevation of gage is 3,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 30, 1922, nonrecording gage or water-stage recorder 1.6 mi downstream at different datum. June 30, 1922, to September 1971, water-stage recorder 1.5 mi downstream at different datum. June 30, 1942, to Apr. 14, 1966, at datum 2.00 ft higher than datum then in use.

REMARKS.--Estimated daily discharges: Nov. 3 to Dec. 2, and Dec. 5 to Jan. 7. Records good except those for estimated daily discharges, which are poor. Since 1972 regulated by Cedar Springs Dam (holding basin for imported water), total capacity, 78,000 acre-ft, 4.5 mi upstream.

AVERAGE DISCHARGE.--60 years (water years 1905-22, 1930-71), 39.4 ft^3/s, 28,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft^3/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 487 ft^3/s, Jan. 17, gage height, 2.16 ft; no flow for many days.

DISCHARGE, IN 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		0	12	4.0	14	15	.90	4.3	10			
2		0	12	3.5	16	24	.68	4.1	9.9			
3		0	11	3.3	14	67	1.5	4.2	9.6			
4		0	13	3.1	14	45	1.6	3.7	5.2			
5		0	20	3.0	14	15	.64	4.2	3.8			
6		0	15	2.9	14	14	.51	5.9	3.4			
7		0	10	2.9	14	13	.50	4.3	2.9			
8		0	9.5	2.6	14	12	.50	3.8	2.3			
9		0	8.5	2.5	14	11	.11	2.5	2.0			
10		0	7.0	2.5	13	10	0	.90	1.1			
11		0	7.0	2.5	13	9.5	0	.16	.78			
12		0	6.0	2.1	13	9.1	0	0	1.3			
13		0	5.0	2.1	13	9.8	0	0	1.1			
14		0	4.0	5.8	12	9.8	0	0	.68			
15		0	4.5	6.5	13	6.9	4.0	0	.53			
16		0	5.0	6.6	14	5.8	.50	0	.36			
17		0	7.0	132	14	5.6	.16	25	.37			
18		0	8.0	75	14	5.4	.23	47	.38			
19		0	8.0	84	14	5.6	.49	60	.40			
20		0	7.0	79	14	5.5	80	66	.21			
21		0	6.0	63	14	5.7	84	66	0			
22		0	6.0	22	13	5.6	46	28	0			
23		0	7.0	18	14	5.8	14	13	0			
24		0	7.0	17	13	4.8	13	12	0			
25		12	5.0	16	14	4.7	10	12	0			
26		12	5.0	17	14	4.6	8.7	12	0			
27		12	5.0	16	14	4.7	7.5	12	0			
28		12	5.0	16	15	4.4	6.2	12	0			
29		12	5.0	16	15	4.5	5.3	12	0			
30		12	5.5	15	---	4.1	4.8	11	0			
31		---	5.0	14	---	1.9	---	11	---			---
TOTAL	0	72	241.0	655.9	401	349.8	291.82	437.06	56.31	0	0	0
MEAN	0	2.40	7.77	21.2	13.8	11.3	9.73	14.1	1.88	0	0	0
MAX	0	12	20	132	16	67	84	66	10	0	0	0
MIN	0	0	4.0	2.1	12	1.9	0	0	0	0	0	0
AC-FT	0	143	478	1300	795	694	579	867	112	0	0	0

CAL YR 1987 TOTAL 655.99 MEAN 1.80 MAX 45 MIN 0 AC-FT 1300
WTR YR 1988 TOTAL 2504.89 MEAN 6.84 MAX 132 MIN 0 AC-FT 4970

MOJAVE RIVER BASIN

10261100 MOJAVE RIVER BELOW FORKS RESERVOIR, NEAR HESPERIA, CA

LOCATION.--Lat 34°21'17", long 117°14'40", in NE 1/4 NE 1/4 sec.13, T.3 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 0.8 mi downstream from Mojave River Forks Reservoir, 6.2 mi downstream from Silverwood Lake on West Fork Mojave River, 6.5 mi southeast of Hesperia, and 12.2 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--211 mi^2.

PERIOD OF RECORD.--October 1971 to September 1974, October 1980 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1971 to September 1974, water-stage recorder at site 0.8 mi upstream on reservoir outlet channel at different datum.

REMARKS.--Estimated daily discharges: Oct. 23, Oct. 27 to Nov. 1, and June 1-25. Records poor. Flow partially regulated by Lake Arrowhead, capacity, 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for the storage and distribution of imported water and recreation; and Mojave River Forks Reservoir, capacity, 89,700 acre-ft, used for flood control. Silverwood Reservoir releases all natural inflow to the West Fork Mojave River as soon as possible after a storm. Sewage effluent from Lake Arrowhead area is released above gage at times.

AVERAGE DISCHARGE.--11 years (water years 1972-74, 1981-88), 71.4 ft^3/s, 51,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 11,700 ft^3/s, Mar. 2, 1983, on basis of flood routing; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 423 ft^3/s, Jan. 17, gage height, 2.19 ft; no flow for many days.

DISCHARGE, IN 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	0	65	18	29	67	98	16	39	7.0			
2	0	61	18	16	68	193	14	31	7.0			
3	0	65	16	12	74	127	14	26	7.0			
4	0	40	17	12	70	106	15	22	7.0			
5	0	50	31	13	59	70	16	19	7.0			
6	0	63	39	21	57	61	14	17	7.0			
7	0	46	28	37	56	56	14	23	7.0			
8	0	32	24	30	56	52	13	24	7.0			
9	0	24	22	24	56	51	12	20	7.0			
10	0	21	21	22	56	48	11	16	7.0			
11	0	15	20	22	57	44	10	10	6.0			
12	0	13	19	22	59	40	9.7	11	6.0			
13	0	9.6	19	21	57	37	9.5	9.3	6.0			
14	0	7.6	17	21	56	37	8.9	7.7	5.0			
15	0	6.4	17	23	56	34	10	5.0	3.0			
16	0	5.3	16	24	56	30	43	4.2	3.0			
17	0	5.3	25	150	56	27	42	16	3.0			
18	0	5.3	28	164	56	24	31	48	3.0			
19	0	5.3	24	137	54	23	31	55	3.0			
20	0	4.8	22	127	48	23	28	62	1.5			
21	0	4.0	19	88	46	22	205	66	1.5			
22	0	4.8	18	69	44	22	227	39	1.5			
23	50	7.6	19	64	44	21	117	9.5	1.0			
24	26	10	21	67	44	21	68	6.6	.50			
25	6.4	16	16	76	42	21	65	5.7	0			
26	2.3	17	14	73	46	22	69	6.1	0			
27	2.3	18	15	70	46	23	72	5.3	0			
28	2.3	18	14	72	57	23	68	4.9	0			
29	2.3	18	13	78	68	23	64	5.8	0			
30	2.3	18	14	81	---	21	53	8.3	0			
31	2.3	---	13	74	---	18	---	8.8	---			---
TOTAL	96.2	676.0	617	1739	1611	1418	1370.1	631.2	114.00	0	0	0
MEAN	3.10	22.5	19.9	56.1	55.6	45.7	45.7	20.4	3.80	0	0	0
MAX	50	65	39	164	74	193	227	66	7.0	0	0	0
MIN	0	4.0	13	12	42	18	8.9	4.2	0	0	0	0
AC-FT	191	1340	1220	3450	3200	2810	2720	1250	226	0	0	0

CAL YR 1987 TOTAL 5432.82 MEAN 14.9 MAX 488 MIN 0 AC-FT 10780
WTR YR 1988 TOTAL 8272.50 MEAN 22.6 MAX 227 MIN 0 AC-FT 16410

MOJAVE RIVER BASIN

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA

LOCATION.--Lat 34°34'23", long 117°19'11", in SW 1/4 SE 1/4 sec.29, T.6 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 650 ft upstream from bridge on county road (formerly U.S. Highway 66), 0.6 mi downstream from Atchison, Topeka, & Santa Fe Railway bridge, 3 mi northwest of Victorville, 17.8 mi downstream from Mojave River Forks Reservoir, 24 mi downstream from Silverwood Lake on the West Fork Mojave River, and 30 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--513 mi^2.

PERIOD OF RECORD.--February 1899 to September 1906, October 1930 to current year. Monthly discharge only for January to September 1906, October, November 1930, published in WSP 1314. Prior to October 1936, published as "at Victorville" and as "near Victorville" in 1937.

GAGE.--Water-stage recorder. Datum of gage is 2,643.01 ft above National Geodetic Vertical Datum of 1929. See WSP 1314 for history of gage changes prior to Mar. 28, 1938. Mar. 28, 1938, to Apr. 14, 1966, at site 350 ft upstream at datum 5.00 ft higher; Apr. 15, 1966, to July 17, 1969, at site 350 ft upstream at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 31, and Sept. 1-30. Records fair except for estimated daily discharges, which are poor. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft used for storage and distribution of imported water and recreation; and Mojave River Forks Reservoir, capacity, 89,700 acre-ft. Diversions and pumping for irrigation of about 5,000 acres and Mojave State Fish Hatchery above station. During the year no imported water was released from Silverwood Lake into the West Fork Mojave River, only natural inflow.

AVERAGE DISCHARGE.--65 years (water years 1900-06, 1931-88), 77.1 ft^3/s, 55,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,600 ft^3/s, Mar. 2, 1938, gage height, 23.7 ft, present datum, from rating curve extended above 10,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.4 ft^3/s, July 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 410 ft^3/s, Jan. 17, gage height, 4.93 ft; minimum daily, 5.2 ft^3/s, Aug. 16, 20.

DISCHARGE, IN 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	11	50	30	33	29	40	28	19	10	12	5.9	10
2	11	30	30	28	29	45	23	18	10	13	5.5	10
3	11	30	30	26	27	41	22	20	10	11	5.5	10
4	11	30	30	27	29	39	33	15	10	11	5.5	10
5	11	38	38	28	32	41	29	17	10	10	6.0	10
6	11	34	35	30	35	40	27	17	10	11	6.1	10
7	11	30	35	35	38	40	26	18	13	11	6.1	10
8	11	30	30	34	38	40	23	19	15	9.8	6.1	10
9	11	30	30	27	33	40	22	17	15	9.6	6.5	10
10	11	30	30	23	30	38	22	17	13	9.1	7.9	10
11	11	30	30	26	27	38	22	19	13	8.3	6.5	10
12	11	30	30	30	29	36	21	16	11	7.8	8.0	10
13	13	30	30	40	32	38	17	15	10	7.6	7.2	10
14	11	30	30	44	29	39	20	15	10	7.2	7.1	10
15	11	32	30	43	30	45	28	13	11	6.9	5.5	10
16	11	30	30	40	32	47	22	13	10	7.0	5.2	10
17	11	30	100	134	34	48	21	13	11	7.2	5.3	10
18	11	30	60	66	32	46	20	13	10	6.8	5.7	10
19	11	30	45	56	26	45	20	15	10	6.5	6.7	10
20	11	30	35	49	28	37	24	14	9.8	6.3	5.2	10
21	11	30	35	48	31	40	20	13	10	6.1	5.9	10
22	11	30	35	49	31	42	20	11	9.8	5.8	6.0	10
23	35	30	35	48	31	40	20	11	9.8	5.8	6.7	10
24	25	30	35	51	35	34	20	12	9.1	5.8	17	10
25	20	30	35	50	36	32	20	12	9.1	5.8	10	10
26	20	30	35	45	33	28	20	11	10	5.8	10	10
27	20	30	35	51	34	26	18	11	10	5.7	10	10
28	20	30	35	50	36	26	18	11	11	5.5	10	10
29	20	30	33	53	38	26	17	11	11	5.5	11	10
30	20	30	33	41	---	27	19	11	11	5.5	12	10
31	20	---	33	38	---	27	---	10	---	5.5	10	---
TOTAL	444	934	1117	1343	924	1171	662	447	322.6	241.9	232.1	300
MEAN	14.3	31.1	36.0	43.3	31.9	37.8	22.1	14.4	10.8	7.80	7.49	10.0
MAX	35	50	100	134	38	48	33	20	15	13	17	10
MIN	11	30	30	23	26	26	17	10	9.1	5.5	5.2	10
AC-FT	881	1850	2220	2660	1830	2320	1310	887	640	480	460	595

CAL YR 1987 TOTAL 7835.6 MEAN 21.5 MAX 120 MIN 7.1 AC-FT 15540
WTR YR 1988 TOTAL 8138.6 MEAN 22.2 MAX 134 MIN 5.2 AC-FT 16140

MOJAVE RIVER BASIN

10262000 MOJAVE RIVER NEAR HODGE, CA

LOCATION.--Lat 34°50'09", long 117°11'27", in SE 1/4 SE 1/4 sec.28, T.9 N., R.3 W., San Bernardino County, Hydrologic Unit 18090208, at county bridge 1.5 mi north of Hodge, 10.9 mi southwest of Barstow, 42 mi downstream from Mojave Forks Reservoir, 48 mi downstream from Silverwood Lake on West Fork Mojave River, and 54 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--1,091 mi^2.

PERIOD OF RECORD.--October 1930 to September 1932, October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,260 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1970, at different datum.

REMARKS.--No estimated daily discharges. Regulation by Lake Arrowhead, capacity 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for storage and distribution of imported water and recreation; and Mojave Forks Reservoir, capacity 89,700 acre-ft. Diversion and pumping for irrigation of about 12,000 acres above station.

AVERAGE DISCHARGE.--20 years (water years 1931-32, 1971-88), 39.9 ft^3/s, 28,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft^3/s, Feb. 10, 1978, gage height, 8.80 ft on basis of slope-area measurement of peak flow; no flow for all or most of each year.

EXTREMES FOR CURRENT YEAR.--No flow for entire year.

MOJAVE RIVER BASIN

10262500 MOJAVE RIVER AT BARSTOW, CA

LOCATION.--Lat 34°54'25", long 117°01'19", in SW 1/4 SW 1/4 sec.31, T.10 N., R.1 W., San Bernardino County, Hydrologic Unit 18090208, on left bank 75 ft upstream from bridge on U.S. Highway 91 at Barstow, 54 mi downstream from Mojave Forks Reservoir, 60 mi downstream from Silverwood Lake on West Fork Mojave River, and 66 mi downstream from Lake Arrowhead on Deep Creek (East Fork Mojave River).

DRAINAGE AREA.--1,291 mi^2.

PERIOD OF RECORD.--October 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,089.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Apr. 13 and Aug. 29. Records poor. Regulation by Lake Arrowhead, capacity, 48,000 acre-ft, used principally for recreation; Silverwood Lake, capacity, 78,000 acre-ft, used for storage and distribution of imported water and recreation; and Mojave Forks Reservoir, capacity, 89,700 acre-ft. Diversions and pumping for irrigation of about 15,000 acres above station.

AVERAGE DISCHARGE.--58 years, 24.3 ft^3/s, 17,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,300 ft^3/s, Mar. 3, 1938, gage height, 8.60 ft, on basis of slope-area measurement of peak flow; no flow for all or most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50 ft^3/s, estimated, Aug. 29, gage height, 1.66 ft; no flow for most of year.

DISCHARGE, IN 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							0				0	
2							0				0	
3							0				0	
4							0				0	
5							0				0	
6							0				0	
7							0				0	
8							0				0	
9							0				0	
10							0				0	
11							0				0	
12							0				0	
13							.20				0	
14							0				0	
15							0				0	
16							0				0	
17							0				0	
18							0				0	
19							0				0	
20							0				0	
21							0				0	
22							0				0	
23							0				0	
24							0				0	
25							0				0	
26							0				0	
27							0				0	
28							0				0	
29							0				4.0	
30					---		0				0	
31		---			---		---		---		0	---
TOTAL	0	0	0	0	0	0	.20	0	0	0	4.0	0
MEAN	0	0	0	0	0	0	.007	0	0	0	.13	0
MAX	0	0	0	0	0	0	.20	0	0	0	4.0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	.4	0	0	0	7.9	0

CAL YR 1987 TOTAL 0.01 MEAN .0000 MAX .01 MIN 0 AC-FT .0
WTR YR 1988 TOTAL 4.20 MEAN .012 MAX 4.0 MIN 0 AC-FT 8.3

MOJAVE RIVER BASIN

10263000 MOJAVE RIVER AT AFTON, CA

LOCATION.--Lat 35°02'14", long 116°23'00", in NW 1/4 SE 1/4 sec.18, T.11 N., R.6 E., San Bernardino County, Hydrologic Unit 18090208, on downstream end of right pier of Union Pacific Railroad bridge, 0.3 mi west of Afton, and 63 mi east of Barstow.

DRAINAGE AREA.--2,121 mi^2.

PERIOD OF RECORD.--October 1929 to September 1932, October 1952 to current year. Records for water year 1930 incomplete; yearly estimate published in WSP 1314. Records for water years 1979 and 1980 incomplete; discharge measurements only were published at that time.

GAGE.--Water-stage recorder. Datum of gage is 1,398.15 ft above National Geodetic Vertical Datum of 1929. Dec. 21, 1929, to Sept. 30, 1932, at site 1.7 mi downstream at different datum; October 1952 to May 1978, at datum 2 ft higher.

REMARKS.--Estimated daily discharges: Aug. 21 -25, and Aug. 29 to Sept. 30. Records fair. Natural flow affected by ground-water withdrawals, diversions, municipal use, and storage in reservoirs 100 mi upstream. For description of upstream reservoirs see Mojave River at Barstow (station 10262500).

AVERAGE DISCHARGE.--37 years (water years 1930-32, 1953-78, 1981-88), 6.40 ft^3/s, 4,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s, Jan. 26, 1969, gage height, 12.40 ft (present datum), from rating curve extended above 3,200 ft^3/s on basis of slope-area measurement of peak flow; no flow at times for many years.

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)
Aug. 20	1715	*304	3.06	Aug. 29	2130	e250	*3.53

e estimated

Minimum daily, 0.11 ft^3/s, July 10-12.

DISCHARGE, IN 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	.41	1.2	1.6	1.3	1.3	1.2	1.2	.89	.24	.16	.16	6.8
2	.41	1.1	1.7	1.3	1.4	1.2	1.1	.62	.24	.16	.16	6.8
3	.41	1.1	1.7	1.3	1.4	1.2	1.1	.62	.19	.19	.16	6.8
4	.41	1.1	1.7	1.2	1.3	1.1	1.1	.62	.24	.19	.14	6.8
5	.50	1.1	1.6	1.2	1.3	1.2	1.1	.41	.19	.19	.12	6.8
6	.50	1.1	1.6	1.2	1.3	1.2	1.2	.50	.24	.19	.14	6.0
7	.50	1.2	1.6	1.2	1.3	1.2	1.2	.50	.33	.16	.14	6.0
8	.50	1.1	1.6	1.2	1.3	1.2	1.3	.50	.41	.16	.12	6.0
9	.50	1.2	1.6	1.3	1.3	1.2	1.2	.41	.41	.14	.14	6.0
10	.50	1.2	1.5	1.3	1.3	1.2	1.2	.41	.50	.11	.14	5.0
11	.62	1.2	1.5	1.3	1.2	1.2	1.2	.41	.62	.11	.16	5.0
12	.70	1.2	1.5	1.3	1.2	1.2	1.3	.33	.62	.11	.14	5.0
13	.89	1.2	1.5	1.3	1.2	1.2	1.7	.19	.50	.12	.14	5.0
14	1.0	1.3	1.5	1.2	1.2	1.2	1.4	.19	.41	.14	.16	5.0
15	.79	1.3	1.5	1.3	1.2	1.1	1.6	.19	.41	.12	.16	4.0
16	.79	1.4	1.5	1.3	1.1	1.1	1.2	.16	.50	.14	.14	4.0
17	.89	1.4	1.5	1.4	1.1	1.1	1.1	.14	.62	.14	.14	4.0
18	.89	1.5	1.5	1.3	1.1	1.1	1.1	.16	.70	.14	.14	4.0
19	.89	1.5	1.5	1.3	1.1	1.2	1.1	.19	.70	.19	.14	4.0
20	.79	1.5	1.4	1.3	1.1	1.2	1.3	.24	.70	.19	15	3.0
21	.79	1.5	1.4	1.3	1.1	1.2	1.1	.24	.79	.19	1.0	3.0
22	.89	1.6	1.4	1.3	1.2	1.2	1.0	.24	.79	.19	.50	3.0
23	.89	1.6	1.4	1.3	1.2	1.2	1.1	.33	.79	.19	.50	3.0
24	1.0	1.7	1.4	1.3	1.2	1.3	1.2	.33	.70	.19	.50	3.0
25	1.0	1.7	1.3	1.3	1.2	1.2	.79	.24	.62	.14	.50	2.0
26	1.0	1.7	1.3	1.3	1.1	1.2	1.1	.33	.33	.12	.70	2.0
27	1.1	1.7	1.4	1.2	1.1	1.2	1.1	.24	.33	.14	.50	2.0
28	1.1	1.6	1.4	1.2	1.2	1.3	.79	.24	.19	.14	.50	2.0
29	1.1	1.7	1.4	1.2	1.2	1.3	.70	.33	.19	.16	10	1.5
30	1.0	1.6	1.3	1.2	---	1.3	.70	.24	.16	.14	6.8	1.5
31	1.1	---	1.3	1.2	---	1.2	---	.24	---	.16	6.8	---
TOTAL	23.86	41.3	46.1	39.3	35.2	37.1	34.28	10.68	13.66	4.81	46.04	129.0
MEAN	.77	1.38	1.49	1.27	1.21	1.20	1.14	.34	.46	.16	1.49	4.30
MAX	1.1	1.7	1.7	1.4	1.4	1.3	1.7	.89	.79	.19	15	6.8
MIN	.41	1.1	1.3	1.2	1.1	1.1	.70	.14	.16	.11	.12	1.5
AC-FT	47	82	91	78	70	74	68	21	27	9.5	91	256

CAL YR 1987 TOTAL 300.80 MEAN .82 MAX 3.7 MIN .11 AC-FT 597
WTR YR 1988 TOTAL 461.33 MEAN 1.26 MAX 15 MIN .11 AC-FT 915

ANTELOPE VALLEY

10263500 BIG ROCK CREEK NEAR VALYERMO, CA

LOCATION.--Lat 34°25'15", long 117°50'19", in SE 1/4 NE 1/4 sec.20, T.4 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, on left bank 0.1 mi upstream from Punchbowl Canyon and 1.9 mi southeast of Valyermo.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--January 1923 to current year. Monthly discharge only for October 1937 to January 1939, published in WSP 1314. Prior to October 1954, published as Rock Creek near Valyermo.

GAGE.--Water-stage recorder. Elevation of gage is 4,050 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 4, 1938, at same site at different datums. May 4, 1938, to Jan. 26, 1939, at site 0.2 mi downstream (below Punchbowl Canyon) at different datum.

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

AVERAGE DISCHARGE.--65 years (water years 1924-88), 17.5 ft^3/s, 12,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,300 ft^3/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; minimum daily, 0.70 ft^3/s, Nov. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 23	0200	140	2.85	Feb. 28	0245	173	2.94
Oct. 31	2330	*247	*3.13	Apr. 20	0430	240	3.11
Jan. 17	1045	55	2.55	Aug. 25	1600	90	2.69

Minimum daily, 1.6 ft^3/s, Oct. 6, 9-11.

DISCHARGE, IN 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	1.8	96	5.6	5.3	15	109	20	39	18	14	12	13
2	1.7	39	5.6	5.2	15	77	19	34	17	14	12	11
3	1.7	26	5.3	5.4	14	61	18	30	16	14	11	11
4	1.7	19	8.5	5.6	14	51	18	29	17	14	11	11
5	1.7	25	8.9	6.8	13	45	17	29	20	14	11	12
6	1.6	21	6.2	7.5	13	40	18	28	20	14	11	12
7	1.7	17	6.1	7.4	12	38	19	26	20	13	11	12
8	1.7	15	6.0	7.4	12	35	20	25	20	13	11	12
9	1.6	14	5.7	7.2	11	33	19	24	19	13	11	12
10	1.6	12	5.4	6.9	11	32	19	23	19	13	10	12
11	1.6	11	5.2	6.9	11	29	18	23	19	13	10	12
12	2.1	11	5.5	6.9	12	28	18	22	19	13	10	13
13	2.2	10	4.3	6.9	11	26	18	23	17	13	10	13
14	2.0	9.5	4.3	6.9	11	25	26	22	16	13	11	12
15	2.0	9.0	4.6	6.9	11	24	27	21	17	13	11	12
16	2.0	9.0	5.0	7.2	11	23	25	21	17	14	11	12
17	2.0	8.6	5.5	23	11	23	26	21	18	12	11	11
18	1.9	8.2	5.7	17	11	22	27	21	18	11	10	10
19	1.9	7.8	5.6	15	10	20	29	21	18	11	10	10
20	2.0	7.9	5.3	14	10	20	156	21	17	12	10	11
21	2.0	7.4	5.3	13	9.8	20	91	19	17	13	10	12
22	3.1	7.1	5.8	12	9.7	20	67	18	17	13	10	12
23	29	6.9	6.1	12	9.5	20	53	19	16	11	10	12
24	4.9	6.9	5.5	12	9.3	20	45	19	16	9.9	17	11
25	3.6	6.6	4.9	13	9.5	20	49	19	17	9.5	25	11
26	2.9	6.3	5.7	13	9.5	20	53	18	17	9.3	12	11
27	2.4	6.1	5.5	13	16	21	55	17	16	9.2	10	10
28	2.3	6.2	5.1	14	110	22	50	17	16	9.2	9.8	10
29	6.3	5.9	5.1	16	88	21	45	19	16	9.2	12	10
30	5.7	5.6	5.5	16	---	20	43	19	15	9.9	16	10
31	104	---	5.3	16	---	20	---	19	---	11	14	---
TOTAL	202.7	441.0	174.1	325.4	510.3	985	1108	706	525	375.2	360.8	343
MEAN	6.54	14.7	5.62	10.5	17.6	31.8	36.9	22.8	17.5	12.1	11.6	11.4
MAX	104	96	8.9	23	110	109	156	39	20	14	25	13
MIN	1.6	5.6	4.3	5.2	9.3	20	17	17	15	9.2	9.8	10
AC-FT	402	875	345	645	1010	1950	2200	1400	1040	744	716	680

CAL YR 1987 TOTAL 2215.6 MEAN 6.07 MAX 104 MIN 1.6 AC-FT 4390
WTR YR 1988 TOTAL 6056.5 MEAN 16.5 MAX 156 MIN 1.6 AC-FT 12010

OWENS LAKE BASIN

10271210 BISHOP CREEK BELOW POWERPLANT NO. 6, NEAR BISHOP, CA

LOCATION.--Lat 37°20'59", long 118°27'41", in SE 1/4 SE 1/4 sec.9, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, below powerplant No. 6 tailrace and 3.6 mi west of Bishop.

DRAINAGE AREA.--104 mi^2, natural flow.

PERIOD OF RECORD.--October 1936 to current year. Monthly and yearly mean discharge prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder on creek, and venturi meter on powerplant conduit.

REMARKS.--Flow regulated for power development by South Lake, Lake Sabrina, and Intake No. 2 Reservoir, combined capacity, 20,660 acre-ft, and many powerplants. Records for "ACTUAL FLOW" include Bishop Creek above powerplant No. 6 tailrace and Bishop Creek powerplant No. 6 conduit. Records for "NATURAL FLOW" include "ACTUAL FLOW" of Bishop Creek below powerplant No. 6, Abelour ditch near Bishop, minus Birch-McGee diversion to Bishop Creek powerplant near Bishop, and the change in contents and evaporation for South Lake, Lake Sabrina, and Intake No. 2 Reservoir.

COOPERATION.--Records were provided by Southern California Edison Co. and reviewed by U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE (ACTUAL FLOW).--53 years, 104 ft^3/s, 75,350 acre-ft/yr.
(NATURAL FLOW).--53 years, 107 ft^3/s, 77,520 acre-ft/yr.

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 1,070 ft^3/s, Sept. 26, 1982; minimum daily, 32 ft^3/s, Dec. 19, 1977.

DISCHARGE, IN 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	71	66	72	80	84	80	99	81	109	92	94	93
2	71	66	73	79	81	86	100	94	113	94	93	93
3	72	67	72	71	82	83	98	96	112	94	91	91
4	70	72	73	70	82	82	98	94	115	94	96	92
5	71	72	72	77	87	78	99	86	113	94	92	92
6	71	61	71	75	82	76	114	88	112	94	96	91
7	69	66	70	72	82	77	103	90	113	93	91	94
8	71	66	69	73	81	79	103	91	113	93	93	94
9	70	66	66	74	79	78	103	91	113	93	92	93
10	72	66	62	76	72	76	107	90	111	92	92	93
11	72	66	63	73	74	74	110	85	111	94	93	93
12	72	66	60	74	91	70	100	95	108	94	93	92
13	72	66	59	72	90	73	58	91	108	93	94	94
14	73	66	57	73	92	69	57	95	108	92	93	93
15	67	66	64	79	93	76	66	104	107	91	93	92
16	67	64	64	78	92	78	76	108	108	91	92	93
17	66	64	70	104	91	80	79	104	107	92	93	94
18	68	66	70	101	92	82	77	106	106	91	93	93
19	69	66	70	101	92	81	75	104	105	92	93	95
20	66	66	70	101	92	84	75	100	109	94	93	96
21	69	71	72	100	92	81	74	100	112	97	94	98
22	69	72	74	85	92	85	79	101	106	103	93	93
23	70	73	72	85	93	93	75	103	104	93	92	97
24	71	72	73	84	93	87	75	101	103	94	94	93
25	73	74	72	84	93	89	74	102	107	99	93	94
26	67	70	76	85	93	90	73	100	108	94	93	93
27	67	69	74	85	91	89	71	100	105	93	92	87
28	67	73	71	85	89	82	72	100	104	94	92	99
29	67	72	72	81	78	74	75	105	104	93	93	98
30	65	72	71	83	---	97	87	104	98	93	93	96
31	66	---	71	83	---	99	---	102	---	94	92	---
TOTAL	2151	2042	2145	2543	2525	2528	2552	3011	3252	2904	2881	2809
MEAN	69.4	68.1	69.2	82.0	87.1	81.5	85.1	97.1	108	93.7	92.9	93.6
MAX	73	74	76	104	93	99	114	108	115	103	96	99
MIN	65	61	57	70	72	69	57	81	98	91	91	87
AC-FT	4270	4050	4250	5040	5010	5010	5060	5970	6450	5760	5710	5570
a	2460	2500	2240	2770	2190	2750	4680	6670	10250	7510	4540	2880

CAL YR 1987 TOTAL 32000 MEAN 87.7 MAX 141 MIN 57 AC-FT 63470 a 60260
WTR YR 1988 TOTAL 31343 MEAN 85.6 MAX 115 MIN 57 AC-FT 62170 a 51440

a Computed "NATURAL FLOW", in acre-feet.

10287000 MONO LAKE NEAR MONO LAKE, CA

LOCATION.--Lat 37°58'46", long 119°08'11", in NW 1/4 sec.5, T.2 N., R.26 E., Mono County, Hydrologic Unit 18090101, on west bank 1 mi south of town of Mono Lake.

DRAINAGE AREA.--785 mi^2.

PERIOD OF RECORD.--June 1912 to current year. Records prior to September 1934, published in WSP 765.

GAGE.--Nonrecording gage or reference point read once a week. Gage readings have been reduced to elevations to National Geodetic Vertical Datum of 1929. Gage heights prior to October 1944 are converted to elevations to NGVD in WSP 1314.

REMARKS.--Since 1941 water diverted to Owens Lake basin via Mono tunnel, capacity, 200 ft^3/s.

COOPERATION.--Elevations were provided by city of Los Angeles, Department of Water and Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 6,428.1 ft, July 18, 1919, present datum; minimum observed, 6,372.00 ft, Dec. 17, 30, 1981.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation	Date	Elevation	Date	Elevation	Date	Elevation
Oct. 7	6,378.9	Dec. 23	6,378.6	Mar. 30	6,378.9	June 27	6,378.4
15	6,378.8	Jan. 5	6,378.7	Apr. 1	6,378.9	July 5	6,378.2
21	6,378.8	12	6,378.7	6	6,378.8	18	6,378.1
28	6,378.8	19	6,378.8	12	6,378.8	26	6,378.0
Nov. 4	6,378.8	Feb. 2	6,378.8	20	6,378.8	Aug. 11	6,377.8
11	6,378.8	9	6,378.8	28	6,378.8	17	6,377.7
18	6,378.8	16	6,378.9	May 4	6,378.7	23	6,377.7
25	6,378.8	23	6,378.9	18	6,378.6	26	6,377.7
Dec. 2	6,378.7	Mar. 1	6,378.9	27	6,378.6	Sept. 7	6,377.6
9	6,378.7	8	6,378.9	June 1	6,378.5	19	6,377.4
17	6,378.6	16	6,378.9	15	6,378.4	26	6,377.3

MONO LAKE BASIN

10287070 MILL CREEK BELOW LUNDY LAKE, NEAR MONO LAKE, CA

LOCATION.--Lat 38°01'58", long 119°12'53", in SE 1/4 NE 1/4 sec.16, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, at road crossing 1,500 ft downstream from Lundy Lake Dam, and 4.9 mi northwest of Mono Lake Post Office.

DRAINAGE AREA.--18.1 mi^2.

PERIOD OF RECORD.--October 1942 to current year. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume on creek. Elevation of gage is 7,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow regulated for power development by Lundy Lake, capacity, 3,820 acre-ft. Records for "ACTUAL FLOW" include Mill Creek, Lundy powerplant tailrace, and Upper Conway ditch. Records for "NATURAL FLOW" are computed as the "ACTUAL FLOW" plus change in contents and evaporation of Lundy Lake.

COOPERATION.--Records were provided by Southern California Edison Co. and reviewed by the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE (ACTUAL FLOW).--47 years, 29.3 ft^3/s, 21,230 acre-ft/yr.
(NATURAL FLOW).--47 years, 30.6 ft^3/s, 22,170 acre-ft/yr.

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 229 ft^3/s, June 22, 1983; no flow for many days in 1971 and 1974.

DISCHARGE, IN 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	8.6	5.9	6.9	6.8	6.9	8.8	15	5.3	20	36	26	19
2	8.6	6.0	6.9	6.8	6.9	8.9	13	5.3	20	36	26	19
3	8.6	6.1	6.9	6.7	6.9	9.0	5.5	5.3	21	36	26	19
4	8.4	6.1	7.0	6.8	7.0	8.9	5.5	5.4	21	36	26	19
5	8.4	6.1	6.9	6.8	7.0	8.8	5.7	5.4	21	36	26	19
6	8.3	6.0	6.9	6.8	7.0	8.7	5.6	5.4	21	36	26	19
7	8.3	5.9	6.9	6.9	7.0	14	5.0	5.4	22	36	25	19
8	8.3	5.9	7.0	6.9	7.0	18	5.0	5.4	22	35	25	19
9	8.3	5.9	6.9	6.9	7.0	19	5.0	5.4	24	35	25	19
10	8.3	5.9	6.9	6.9	7.0	19	5.0	5.4	25	36	25	18
11	8.3	5.9	6.9	6.7	7.0	19	5.0	5.4	25	36	25	18
12	8.4	5.9	6.9	6.7	7.0	19	5.0	5.4	25	35	25	18
13	8.4	5.8	6.9	6.7	7.0	19	5.0	5.4	25	35	25	18
14	8.4	5.7	7.0	6.7	7.0	19	5.0	5.4	26	35	25	18
15	8.4	5.7	7.0	6.7	7.0	19	5.0	5.4	26	35	25	18
16	8.4	5.7	6.8	6.7	7.0	19	5.0	12	26	35	25	18
17	8.4	6.2	6.7	6.7	7.0	24	5.0	19	26	35	25	17
18	8.4	6.9	6.7	6.5	6.9	20	4.5	19	26	33	25	17
19	8.4	6.9	6.9	6.5	6.9	19	4.1	19	27	32	25	17
20	8.4	6.9	6.7	6.5	6.8	19	4.1	19	27	31	24	18
21	8.4	6.9	6.6	6.6	6.7	19	4.2	19	27	30	24	17
22	8.4	6.9	6.7	6.5	6.7	19	4.3	19	25	32	24	17
23	7.9	6.9	6.7	6.5	7.6	19	4.1	19	22	32	24	17
24	7.1	6.9	6.7	6.6	8.6	19	4.7	19	23	32	24	17
25	7.5	6.9	6.8	6.7	8.7	19	5.3	19	25	32	24	17
26	7.5	6.9	6.8	6.7	8.6	19	5.3	19	33	31	24	13
27	6.7	6.9	6.9	6.7	8.6	19	7.1	19	34	30	24	10
28	5.9	6.9	6.9	6.7	8.7	19	5.4	20	36	29	24	10
29	5.9	6.9	6.9	6.7	8.8	19	5.4	20	36	28	24	10
30	5.9	6.9	6.9	6.7	---	19	5.4	20	36	27	21	10
31	5.9	---	6.9	6.8	---	19	---	21	---	27	19	---
TOTAL	245.1	190.4	212.5	207.9	212.3	528.1	169.2	382.7	773	1030	761	504
MEAN	7.91	6.35	6.85	6.71	7.32	17.0	5.64	12.3	25.8	33.2	24.5	16.8
MAX	8.6	6.9	7.0	6.9	8.8	24	15	21	36	36	26	19
MIN	5.9	5.7	6.6	6.5	6.7	8.7	4.1	5.3	20	27	19	10
AC-FT	486	378	421	412	421	1050	336	759	1530	2040	1510	1000
a	447	477	387	412	400	374	722	2050	2880	1550	625	431

CAL YR 1987 TOTAL 5049.5 MEAN 13.8 MAX 66 MIN 5.7 AC-FT 10020 a 10320
WTR YR 1988 TOTAL 5216.2 MEAN 14.3 MAX 36 MIN 4.1 AC-FT 10350 a 10750

a Computed "NATURAL FLOW", in acre-feet.

MONO LAKE BASIN

10287290 RUSH CREEK BELOW AGNEW LAKE, NEAR JUNE LAKE, CA

LOCATION.--Lat 37°45'32", long 119°07'47", in NE 1/4 SW 1/4 sec.20, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, 500 ft downstream from Agnew Lake Dam, and 3.4 mi southwest of town of June Lake.

DRAINAGE AREA.--23.3 mi^2.

PERIOD OF RECORD.--October 1951 to current year. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.--Water-stage recorder and Parshall flume on creek. Elevation of gage is 8,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Flow regulated for power development by Waugh, Gem, and Agnew Lakes, combined capacity, 23,420 acre-ft, and Rush Creek powerplant. "ACTUAL FLOW" is total flow of Rush Creek below Agnew Lake and Rush Creek power-plant tailrace. "NATURAL FLOW" is the sum of "ACTUAL FLOW," change in contents, and evaporation for Waugh, Gem, and Agnew Lakes.

COOPERATION.--Records were provided by Southern California Edison Co., and reviewed by the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

AVERAGE DISCHARGE (ACTUAL FLOW).--37 years, 56.5 ft^3/s, 40,930 acre-ft/yr.
(NATURAL FLOW).--37 years, 60.8 ft^3/s, 44,050 acre-ft/yr.

EXTREMES (ACTUAL FLOW) FOR PERIOD OF RECORD (SINCE 1970).--Maximum daily discharge, 421 ft^3/s, July 15, 1978; minimum daily, 0.90 ft^3/s, Aug. 31 to Sept. 2, 1976.

DISCHARGE, IN 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	27	23	23	26	24	50	30	17	25	34	28	32
2	24	24	23	26	37	54	16	17	25	34	28	20
3	24	24	22	26	48	52	16	17	25	35	26	27
4	24	24	22	26	48	52	16	16	25	35	34	27
5	24	28	22	26	49	52	16	17	25	35	28	27
6	23	23	22	26	49	52	17	17	25	35	16	27
7	23	23	23	26	50	52	17	17	26	35	16	27
8	24	23	26	26	51	52	17	17	26	27	28	27
9	24	23	26	26	52	52	17	17	29	24	34	26
10	24	23	26	26	51	52	17	17	29	35	34	26
11	24	23	26	26	48	52	17	17	29	35	36	26
12	24	23	26	25	44	53	17	17	29	35	31	27
13	25	24	28	25	51	52	17	17	29	35	34	27
14	25	24	26	25	50	52	17	17	29	35	30	27
15	25	24	25	26	50	52	17	17	29	35	34	26
16	42	24	26	38	50	52	17	17	29	35	34	25
17	61	23	26	56	52	46	17	17	30	35	33	25
18	61	24	26	56	51	51	17	17	30	35	33	25
19	62	24	26	55	52	51	17	17	30	35	33	26
20	62	23	26	56	50	50	17	17	30	35	33	26
21	60	23	26	55	50	50	16	17	30	42	34	26
22	61	24	26	55	50	50	17	17	30	28	34	26
23	59	24	26	55	48	50	18	17	32	13	34	26
24	60	24	26	56	47	50	18	17	32	13	34	25
25	50	23	26	56	47	50	17	17	32	20	34	25
26	41	23	26	57	47	50	17	17	32	28	34	25
27	41	23	26	56	48	51	17	20	32	27	34	25
28	41	23	25	38	48	51	17	25	31	35	33	25
29	30	23	26	24	48	50	17	25	32	26	33	25
30	25	23	26	24	---	49	17	25	35	34	34	26
31	24	---	26	24	---	49	---	25	---	34	34	---
TOTAL	1144	707	781	1148	1390	1581	520	561	872	979	975	780
MEAN	36.9	23.6	25.2	37.0	47.9	51.0	17.3	18.1	29.1	31.6	31.5	26.0
MAX	62	28	28	57	52	54	30	25	35	42	36	32
MIN	23	23	22	24	24	46	16	16	25	13	16	20
AC-FT	2270	1400	1550	2280	2760	3140	1030	1110	1730	1940	1930	1550
a	246	520	356	355	121	813	3340	8860	6800	2750	1100	63

CAL YR 1987 TOTAL 9531.8 MEAN 26.1 MAX 62 MIN 5.8 AC-FT 18910 a 22000
WTR YR 1988 TOTAL 11438.0 MEAN 31.3 MAX 62 MIN 13 AC-FT 22690 a 25330

a Computed "NATURAL FLOW", in acre-feet. When "ACTUAL FLOW" was small and other quantities were large, negative figures of flow may appear. This arises primarily from the difficulty of computing "NATURAL FLOW" as the residual of several larger quantities, which are not conducive to precise measurement. When this occurs, adjustments are made to produce non-negative flows.

PACIFIC SLOPE BASINS IN CALIFORNIA

TIJUANA RIVER BASIN

11011000 BARRETT LAKE NEAR DULZURA, CA

LOCATION.--Lat 32°30'46", long 116°40'11", in NW 1/4 NW 1/4 sec.22, T.17 S., R.3 E., San Diego County, Hydrologic Unit 18070305, on Barrett Dam outlet tower, 7.2 mi downstream from Morena Reservoir, and 7.0 mi northeast of Dulzura.

DRAINAGE AREA.--245 mi^2.

PERIOD OF RECORD.--October 1960 to September 1966 (monthend contents only, published in WSP 1928), published as Cottonwood Creek at Barrett Dam. October 1986 to current year (October 1986 to June 1988, monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of San Diego). Prior to July 6, 1988, nonrecording gage at datum 1,446.12 ft higher.

REMARKS.--Reservoir is formed by gravity-concrete and masonry dam built in 1922. Total capacity at top of flash gates on spillway, 44,760 acre-ft, elevation, 1,615.00 ft. Capacity at permanent spillway level, 37,950 acre-ft, elevation, 1,607.00 ft. Dead storage below lowest outlet, 719 acre-ft, elevation, 1,505.00 ft. Water from Barrett Lake is diverted out of basin to Lower Otay Lake (station 11014550) by Dulzura conduit for municipal use.

COOPERATION.--Contents for October to June were provided by city of San Diego, Utilities Engineering Division.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 22,110 acre-ft, Oct. 1, 1986, elevation, 1,584.38 ft; minimum, 6,430 acre-ft, Sept. 30, 1988, elevation, 1,546.30 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 13,270 acre-ft, Oct. 31, elevation, 1,566.80 ft; minimum, 6,430 acre-ft, Sept. 30, elevation, 1,546.30 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Mar. 27, 1956)

1,530	3,140	1,560	10,610	1,590	25,580
1,540	4,960	1,570	14,650	1,600	32,510
1,550	7,420	1,580	19,620	1,615	44,760

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	7420	7400
2	---	---	---	---	---	---	---	---	---	---	7420	7400
3	---	---	---	---	---	---	---	---	---	---	7420	7400
4	---	---	---	---	---	---	---	---	---	---	7410	7390
5	---	---	---	---	---	---	---	---	---	---	7410	7380
6	---	---	---	---	---	---	---	---	---	8390	7410	7380
7	---	---	---	---	---	---	---	---	---	8340	7400	7370
8	---	---	---	---	---	---	---	---	---	8300	7400	7350
9	---	---	---	---	---	---	---	---	---	8250	7400	7340
10	---	---	---	---	---	---	---	---	---	8200	7390	7340
11	---	---	---	---	---	---	---	---	---	8140	7390	7340
12	---	---	---	---	---	---	---	---	---	8090	7390	7320
13	---	---	---	---	---	---	---	---	---	8040	7380	7290
14	---	---	---	---	---	---	---	---	---	7980	7380	7250
15	---	---	---	---	---	---	---	---	---	7930	7380	7190
16	---	---	---	---	---	---	---	---	---	7880	7390	7140
17	---	---	---	---	---	---	---	---	---	7830	7390	7090
18	---	---	---	---	---	---	---	---	---	7780	7390	7030
19	---	---	---	---	---	---	---	---	---	7730	7390	6980
20	---	---	---	---	---	---	---	---	---	7690	7390	6930
21	---	---	---	---	---	---	---	---	---	7630	7390	6870
22	---	---	---	---	---	---	---	---	---	7560	7390	6830
23	---	---	---	---	---	---	---	---	---	7480	7390	6780
24	---	---	---	---	---	---	---	---	---	7440	7400	6730
25	---	---	---	---	---	---	---	---	---	7440	7410	6680
26	---	---	---	---	---	---	---	---	---	7440	7410	6640
27	---	---	---	---	---	---	---	---	---	7430	7410	6580
28	---	---	---	---	---	---	---	---	---	7430	7410	6530
29	---	---	---	---	11680	---	---	---	---	7430	7410	6480
30	---	12530	---	---	---	---	10770	---	8700	7430	7410	6430
31	13270	---	11860	12080	---	10880	---	10240	---	7420	7400	---
MAX	---	---	---	---	---	---	---	---	---	---	7400	7400
MIN	---	---	---	---	---	---	---	---	---	---	7400	6400
a	1566.80	1565.01	1563.32	1563.87	1562.84	1560.73	1560.44	1558.97	1554.33	1550.02	1549.96	1546.30
b	-870	-740	-670	+220	-400	-800	-110	-530	-1540	-1280	-20	-970

CAL YR 1987 b -7880
WTR YR 1988 b -7710

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

TIJUANA RIVER BASIN

11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA

LOCATION.--Lat 32°34'30", long 116°45'11", in NW 1/4 SW 1/4 sec.26, T.18 S., R.2 E., San Diego County, Hydrologic Unit 18070305, on right bank 0.8 mi upstream from confluence with Tecate Creek, 5.1 mi south of Dulzura, and 11.3 mi downstream from Barrett Lake.

DRAINAGE AREA.--310 mi^2.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.40 ft above National Geodetic Vertical Datum of 1929 (levels by International Boundary and Water Commission).

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Morena Reservoir, capacity, 50,120 acre-ft, and Barrett Reservoir, capacity, 44,760 acre-ft. Water diverted from Barrett Reservoir through San Diego and Dulzura conduits to Lower Otay Reservoir.

AVERAGE DISCHARGE.--52 years, 14.4 ft^3/s, 10,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft^3/s, Feb. 21, 1980, gage height, 11.15 ft, from rating curve extended above 8,700 ft^3/s; no flow for part of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 317 ft^3/s, Jan. 18, gage height, 5.01 ft; no flow for many days.

DISCHARGE, IN 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		0	.26	.84	2.6	3.1	.18	1.8	.03			
2		0	.26	.73	10	5.2	.17	1.5	0			
3		.13	.25	.73	38	4.3	.16	1.0	0			
4		.27	.31	.65	15	3.3	.17	.77	0			
5		3.9	.86	1.3	11	3.0	.17	.64	0			
6		4.8	.37	1.9	8.7	2.8	.14	.50	0			
7		2.3	.26	1.2	7.5	2.7	.12	.47	0			
8		1.5	.22	.96	6.6	2.4	.11	.49	0			
9		1.1	.21	.86	6.0	2.2	.09	.45	0			
10		.77	.19	.84	5.5	2.2	.06	.40	0			
11		.57	.18	.75	5.1	2.1	.05	.30	0			
12		.43	.18	.69	4.6	1.9	.05	.22	0			
13		.39	.15	.58	4.3	1.8	.07	.18	0			
14		.50	.15	.51	4.0	1.7	.20	.16	0			
15		.35	.17	.50	3.6	1.7	1.5	.16	0			
16		.31	1.4	.56	3.5	1.7	.82	.17	0			
17		.31	6.4	14	3.2	1.6	1.0	.17	0			
18		.43	4.1	160	3.0	1.3	1.1	.18	0			
19		.28	3.3	35	2.9	1.1	.96	.16	0			
20		.26	4.7	17	2.6	1.0	3.2	.11	0			
21		.32	3.3	12	2.5	.88	5.6	.08	0			
22		.34	2.8	8.8	2.4	.85	6.0	.05	0			
23		.32	2.4	7.1	2.4	.80	5.4	.03	0			
24		.30	2.1	6.0	2.3	.69	4.0	0	0			
25		.31	1.8	4.8	2.2	.46	3.3	0	0			
26		.24	1.5	4.0	2.2	.38	2.9	.02	0			
27		.22	1.3	3.6	2.2	.34	2.6	.01	0			
28		.23	1.2	3.3	2.2	.30	2.4	0	0			
29		.25	1.2	3.0	2.3	.23	2.4	.07	0			
30		.26	1.4	2.9	---	.23	2.1	.13	0			
31		---	1.1	2.7	---	.23	---	.09	---			---
TOTAL	0	21.39	44.02	297.80	168.4	52.49	47.02	10.31	.03	0	0	0
MEAN	0	.71	1.42	9.61	5.81	1.69	1.57	.33	.001	0	0	0
MAX	0	4.8	6.4	160	38	5.2	6.0	1.8	.03	0	0	0
MIN	0	0	.15	.50	2.2	.23	.05	0	0	0	0	0
AC-FT	0	42	87	591	334	104	93	20	.06	0	0	0

CAL YR 1987 TOTAL 156.15 MEAN .43 MAX 6.4 MIN 0 AC-FT 310
WTR YR 1988 TOTAL 641.46 MEAN 1.75 MAX 160 MIN 0 AC-FT 1270

TIJUANA RIVER BASIN

11012500 CAMPO CREEK NEAR CAMPO, CA

LOCATION.--Lat 32°35'28", long 116°31'29", in NE 1/4 SE 1/4 sec.24, T.18 S., R.4 E., San Diego County, Hydrologic Unit 18070305, on left bank just upstream from bridge on State Highway 94 and 3.5 mi southwest of Campo.

DRAINAGE AREA.--85.0 mi^2, of which 3 mi^2 are in Mexico.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder and broad-crested weir. Broad-crested weir was buried by sand Mar. 25, 1982, to Sept. 30, 1985, and was ineffective as a control. Datum of gage is 2,178.92 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 1, 1954, at datum 1 ft higher.

REMARKS.--Estimated daily discharges: Nov. 6 to Dec. 8, Mar. 2 to Apr. 11. Records good except for periods of estimated record, which are fair. Peaks are attenuated by small conservation reservoir 1 mi upstream since August 1956. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 3.26 ft^3/s, 2,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 895 ft^3/s, Mar. 24, 1983, gage height, 5.39 ft, from rating curve extended above 340 ft^3/s; no flow for part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 389 ft^3/s, Jan. 18, gage height, 3.24 ft; minimum daily, 0.06 ft^3/s, several days during year.

DISCHARGE, IN 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	.07	.58	.25	.67	2.4	3.2	1.0	.80	.53	.13	.11	.09
2	.06	.47	.25	.64	18	7.0	1.0	.74	.52	.13	.12	.08
3	.06	.40	.25	.65	34	5.0	1.0	.72	.49	.12	.13	.08
4	.06	.50	.30	.66	5.5	3.0	.95	.71	.49	.11	.14	.07
5	.06	.88	.50	1.1	3.9	2.5	.90	.74	.48	.12	.12	.06
6	.07	.55	.35	3.2	3.2	2.0	.85	.83	.50	.12	.11	.06
7	.09	.45	.30	2.7	2.9	2.0	.80	.84	.50	.13	.11	.10
8	.12	.40	.25	2.1	2.7	1.9	.70	.84	.47	.13	.11	.14
9	.14	.35	.22	1.7	2.6	1.8	.60	.81	.44	.12	.11	.17
10	.14	.35	.22	1.3	2.6	1.8	.50	.76	.41	.12	.10	.25
11	.27	.30	.22	1.2	2.3	1.7	.45	.70	.41	.12	.10	.29
12	.26	.30	.22	1.2	2.2	1.7	.50	.62	.40	.13	.11	.38
13	.30	.30	.22	.92	2.2	1.6	.52	.59	.34	.13	.11	.11
14	.22	.30	.22	.83	2.3	1.6	.58	.58	.29	.14	.10	.10
15	.22	.25	.23	.84	2.2	1.5	1.2	.53	.19	.14	.10	.10
16	.21	.25	.35	1.3	2.3	1.5	.90	.52	.22	.13	.09	.11
17	.20	.25	.66	18	2.2	1.5	.96	.53	.28	.12	.10	.13
18	.23	.25	.46	141	2.0	1.5	1.0	.54	.25	.14	.10	.15
19	.24	.25	.52	9.4	2.2	1.4	1.0	.33	.25	.18	.09	.13
20	.24	.25	.49	5.2	1.8	1.4	2.4	.44	.26	.16	.11	.16
21	.25	.25	.46	4.2	1.7	1.4	7.4	.43	.23	.20	.11	.18
22	.30	.25	.47	3.4	1.9	1.3	8.4	.43	.20	.22	.10	.16
23	.33	.25	.48	3.1	2.1	1.3	5.3	.43	.19	.18	.14	.15
24	.42	.25	.47	3.0	2.1	1.3	3.4	.46	.19	.12	.15	.15
25	.32	.25	.47	2.7	2.1	1.3	2.5	.49	.18	.08	.14	.15
26	.28	.25	.47	2.5	2.1	1.2	1.7	.49	.16	.06	.14	.15
27	.29	.25	.48	2.5	2.3	1.2	1.2	.51	.13	.07	.11	.12
28	.32	.25	.48	2.5	2.3	1.2	.96	.54	.12	.09	.09	.11
29	.57	.25	.51	2.4	2.2	1.1	.88	.58	.12	.09	.10	.08
30	.34	.25	.62	2.3	---	1.1	.85	.57	.12	.11	.11	.09
31	1.0	---	.71	2.3	---	1.1	---	.55	---	.10	.09	---
TOTAL	7.68	10.13	12.10	225.51	118.3	59.1	50.40	18.65	9.36	3.94	3.45	4.10
MEAN	.25	.34	.39	7.27	4.08	1.91	1.68	.60	.31	.13	.11	.14
MAX	1.0	.88	.71	141	34	7.0	8.4	.84	.53	.22	.15	.38
MIN	.06	.25	.22	.64	1.7	1.1	.45	.33	.12	.06	.09	.06
AC-FT	15	20	24	447	235	117	100	37	19	7.8	6.8	8.1

CAL YR 1987 TOTAL 439.61 MEAN 1.20 MAX 16 MIN .02 AC-FT 872
WTR YR 1988 TOTAL 522.72 MEAN 1.43 MAX 141 MIN .06 AC-FT 1040

TIJUANA RIVER BASIN

11013000 TIJUANA RIVER NEAR DULZURA, CA

LOCATION.--Lat 32°33'56", long 116°46'27", in E 1/2 sec.33, T.18 S., R.2 E., San Diego County, Hydrologic Unit 18070305, on left bank 0.5 mi downstream from confluence of Cottonwood and Tecate Creeks, 5.5 mi south of Dulzura, and 12.8 mi downstream from Barrett Reservoir.

DRAINAGE AREA.--481 mi^2, of which 70 mi^2 are in Mexico.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 542.42 ft above National Geodetic Vertical Datum of 1929 (levels by International Boundary and Water Commission). Prior to Sept. 19, 1939, at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Feb. 10 to Mar. 1, Apr. 12-19, and June 13 to Sept. 30. Records poor. Flow regulated by Morena Reservoir, capacity, 50,210 acre-ft and Barrett Reservoir, capacity, 44,760 acre-ft. Water diverted from Barrett Reservoir through San Diego and Dulzura conduits to Lower Otay Reservoir.

AVERAGE DISCHARGE.--52 years, 24.7 ft^3/s, 17,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s, Mar. 3, 1983, gage height, 7.03 ft, from rating curve extended above 3,500 ft^3/s; maximum gage height, 11.19 ft, Feb. 18, 1980; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft^3/s, Jan. 18, gage height, 4.24 ft; minimum daily, 0.11 ft^3/s, Oct. 5.

DISCHARGE, IN 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	1.3	44	1.2	5.9	8.6	15	2.9	6.2	1.4	1.2	.95	1.1
2	.81	2.4	1.2	5.4	44	25	2.7	2.8	1.1	1.2	.95	1.1
3	.61	.71	1.4	6.4	157	13	2.8	1.7	1.0	1.2	.90	1.1
4	.50	1.1	2.5	5.1	65	5.8	2.7	2.3	1.0	1.2	.90	1.1
5	.11	74	7.0	12	43	3.3	3.3	1.0	1.1	1.2	.90	1.1
6	.21	92	3.2	25	30	3.1	3.1	2.1	1.1	1.2	.90	1.1
7	.48	40	2.2	16	23	2.8	3.0	2.2	1.1	1.2	.90	1.1
8	.61	18	2.9	14	17	4.0	3.0	1.6	1.2	1.2	.90	1.1
9	.57	7.5	4.3	13	18	5.9	2.9	.82	1.2	1.2	.90	1.2
10	.39	6.2	4.5	11	10	3.5	2.5	1.4	1.7	1.2	.90	1.2
11	1.2	3.0	4.4	8.4	9.5	4.9	2.6	.93	2.0	1.2	.90	1.2
12	.37	2.1	4.0	9.6	9.0	5.0	2.5	.81	1.4	1.2	.90	1.2
13	1.3	1.5	3.4	10	9.0	3.7	2.4	1.3	1.3	1.2	.90	1.2
14	1.6	2.5	2.4	8.6	9.5	4.0	2.3	.86	1.3	1.1	.90	1.2
15	1.1	2.1	4.7	9.8	9.0	7.7	2.3	.73	1.3	1.1	.90	1.2
16	.77	1.4	10	11	9.0	8.9	2.2	.91	1.3	1.1	.90	1.2
17	.78	1.1	89	83	9.0	4.6	2.2	1.2	1.3	1.1	.90	1.2
18	.54	1.3	51	604	8.5	7.6	2.1	1.0	1.3	1.1	.95	1.2
19	.36	.84	34	187	8.5	11	2.1	.90	1.3	1.1	.95	1.2
20	.12	.86	43	100	8.0	12	15	.72	1.3	1.1	.95	1.3
21	.25	.91	24	69	7.5	3.4	30	.70	1.3	1.0	.95	1.3
22	.19	.93	19	48	8.0	2.9	32	.79	1.3	1.0	1.0	1.3
23	.79	.77	18	38	8.5	14	23	.78	1.3	1.0	1.0	1.3
24	1.0	.95	16	30	8.5	18	15	.76	1.3	1.0	1.0	1.3
25	1.1	1.2	10	19	9.0	6.4	8.4	1.1	1.3	1.0	1.0	1.3
26	.21	1.4	5.9	19	9.0	4.3	11	1.3	1.2	1.0	1.1	1.3
27	.13	1.4	5.1	12	9.5	3.7	6.3	1.2	1.2	1.0	1.1	1.3
28	.12	1.8	4.9	11	9.5	3.2	5.0	1.1	1.2	1.0	1.1	1.3
29	.70	1.7	7.9	8.9	10	2.4	3.6	1.2	1.2	.95	1.1	1.3
30	1.5	1.0	12	9.5	---	2.8	5.9	1.2	1.2	.95	1.1	1.3
31	10	---	9.0	9.3	---	6.7	---	1.2	---	.95	1.1	---
TOTAL	29.72	314.67	408.1	1418.9	584.1	218.6	204.8	42.81	38.2	34.15	29.80	36.3
MEAN	.96	10.5	13.2	45.8	20.1	7.05	6.83	1.38	1.27	1.10	.96	1.21
MAX	10	92	89	604	157	25	32	6.2	2.0	1.2	1.1	1.3
MIN	.11	.71	1.2	5.1	7.5	2.4	2.1	.70	1.0	.95	.90	1.1
AC-FT	59	624	809	2810	1160	434	406	85	76	68	59	72

CAL YR 1987 TOTAL 1494.12 MEAN 4.09 MAX 92 MIN .11 AC-FT 2960
WTR YR 1988 TOTAL 3360.15 MEAN 9.18 MAX 604 MIN .11 AC-FT 6660

TIJUANA RIVER BASIN

11013200 RODRIGUEZ RESERVOIR AT RODRIGUEZ DAM, BAJA CALIFORNIA, MEXICO

LOCATION.--Lat 32°26'40", long 116°54'25", Baja California, Mexico, Hydrologic Unit 18070305, at Rodriguez Dam on Rio de las Palmas, 0.2 mi upstream from Arroyo Matanuco, and 10 mi southeast of Tijuana.

DRAINAGE AREA.--977 mi^2, of which 10 mi^2 are in the United States.

PERIOD OF RECORD.--April 1937 to current year. Published with Tijuana River near Nestor (station 11013500), October 1953 to September 1957. Monthend contents for April 1937 to September 1950 published in WSP 1315-B and for October 1950 to September 1960 in WSP 1735.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Nonrecording gage read once a day. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by National Irrigation Commission, Mexico).

REMARKS.--Reservoir is formed by thin-shell concrete-arch dam completed in 1936; storage began in 1937. Capacity table is based on surveys made in 1927. Maximum capacity at crest of spillway gates, 111,070 acre-ft, elevation 410.10 ft; at spillway lip, 74,580 acre-ft, elevation, 380.08 ft; and at outlet, 1,650 acre-ft, elevation 267.39 ft, not usable. Reservoir stores water for irrigation of 3,000 acres on both banks 0.5 to 5.5 mi downstream and municipal supply for city of Tijuana. Since August 1972, Colorado River water diverted through Otay aqueduct into the reservoir for Tijuana emergency use; this year none was imported.

COOPERATION.--Records were provided by Ministry of Hydraulic Resources, Government of Mexico, through International Boundary and Water Commission, United States section.

EXTREMES FOR PERIOD OF RECORD.--Reservoir spilled during March 1938, September 1940, February to May 1941, March 1942, February and March 1944, January to July 1980, April 1983; reservoir dry Apr. 2, 1964, to Apr. 9, 1965, Aug. 21 to Nov. 22, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 13,130 acre-ft, Oct. 31; minimum observed, 4,230 acre-ft, Sept. 30.

MONTHEND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	14,510	--
Oct. 31	13,130	-1,380
Nov. 30	11,760	-1,370
Dec. 31	10,540	-1,220
CAL YR 1987	--	-18,910
Jan. 31	10,480	-60
Feb. 29	11,550	+1,070
Mar. 31	11,420	-130
Apr. 30	10,160	-1,260
May 31	8,970	-1,190
June 30	7,630	-1,340
July 31	6,340	-1,290
Aug. 31	5,090	-1,250
Sept. 30	4,230	-860
WTR YR 1988	--	-10,280

OTAY RIVER BASIN

11013600 JAMUL CREEK AT LEE VALLEY, NEAR JAMUL, CA

LOCATION.--Lat 32°42'39", long 116°48'52", in SE 1/4 NW 1/4 sec.7, T.17 S., R.2 E., San Diego County, Hydrologic Unit 18070304, on right bank 3.5 mi southeast of Jamul.

DRAINAGE AREA.--2.26 mi^2.

PERIOD OF RECORD.--October 1983 to April 1985, October 1986 to September 1988 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 182 ft^3/s, July 14, 1984, gage height, 2.72 ft, from rating curve extended above 1.0 ft^3/s; no flow for much of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft^3/s and maximum (*), from rating curve extended above 0.80 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	0130	*20	*1.43				

No flow for many days.

DISCHARGE, IN 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	0	.55	0	0	.04	.04	.01	.03	.01			
2	0	.04	0	0	.15	.07	.01	.03	0			
3	0	0	0	0	.07	.04	.01	.03	0			
4	0	.38	0	0	.06	.03	.01	.03	0			
5	0	.10	.02	.01	.04	.03	.01	.02	0			
6	0	.06	.02	.01	.04	.03	0	.02	0			
7	0	.03	.01	.01	.03	.03	.01	.03	0			
8	0	.07	.01	.01	.04	.03	.01	.03	0			
9	0	.03	0	.01	.04	.03	.01	.03	0			
10	0	.03	.01	.01	.04	.03	0	.02	0			
11	0	.01	.01	.01	.04	.03	0	.02	0			
12	.05	0	.01	.01	.04	.03	0	.02	0			
13	0	.01	.01	.01	.04	.03	0	0	0			
14	0	0	.01	.01	.03	.03	.01	0	0			
15	0	0	.01	.01	.03	.03	.03	0	0			
16	0	0	.03	.01	.03	.03	.02	.02	0			
17	0	0	.05	3.1	.03	.03	.02	.02	0			
18	0	0	.01	4.5	.03	.02	.02	.01	0			
19	0	0	.01	.15	.03	.02	.02	.01	0			
20	0	0	.01	.07	.03	.02	.06	.01	0			
21	0	0	0	.06	.03	.02	.28	.01	0			
22	0	0	0	.05	.03	.02	.13	.01	0			
23	0	0	0	.05	.03	.02	.06	0	0			
24	0	0	0	.05	.03	.02	.05	0	0			
25	0	0	0	.04	.03	.02	.05	0	0			
26	0	0	0	.04	.03	.02	.04	.01	0			
27	0	0	0	.04	.03	.02	.04	.01	0			
28	0	0	0	.03	.03	.02	.04	.01	0			
29	0	0	0	.03	.03	.02	.03	.01	0			
30	0	0	0	.03	---	.02	.03	.01	0			
31	.64	---	0	.03	---	.01	---	.01	---			---
TOTAL	.69	1.31	.23	8.39	1.15	.84	1.01	.46	.01	0	0	0
MEAN	.022	.044	.007	.27	.040	.027	.034	.015	.0003	0	0	0
MAX	.64	.55	.05	4.5	.15	.07	.28	.03	.01	0	0	0
MIN	0	0	0	0	.03	.01	0	0	0	0	0	0
AC-FT	1.4	2.6	.5	17	2.3	1.7	2.0	.9	.02	0	0	0

CAL YR 1987 TOTAL 10.48 MEAN .029 MAX 1.3 MIN 0 AC-FT 21
WTR YR 1988 TOTAL 14.09 MEAN .039 MAX 4.5 MIN 0 AC-FT 28

OTAY RIVER BASIN

11014000 JAMUL CREEK NEAR JAMUL, CA

LOCATION.--Lat 32°38'15", long 116°53'00", in NW 1/4 NE 1/4 sec.4, T.18 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on right bank 300 ft upstream from Otay Road crossing at upper end of Lower Otay Lake, 1.4 mi downstream from Dulzura Creek, and 5.5 mi south of Jamul.

DRAINAGE AREA.--70.2 mi^2.

PERIOD OF RECORD.--April 1940 to September 1978, October 1985 to current year.

REVISED RECORDS.--WDR CA-73-1: Drainage area.

GAGE.--Water-stage recorder and broad-crested weir control with low-water venturi-type flume. Datum of gage is 511.64 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Apr. 25 to May 12, Aug. 7, 12-16. Records good. No regulation upstream from station. Water diverted from Cottonwood Creek at Barrett Lake via San Diego and Dulzura conduit into Dulzura Creek, a tributary to Jamul Creek, and is included in discharge for this station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft^3/s, Dec. 1, 1947, gage height, 6.42 ft, present datum, from rating curve extended above 1,200 ft^3/s; no flow for many days most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	0315	*868	*4.04	Feb. 2	1800	259	3.49

No flow for many days.

DISCHARGE, IN 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	14	26	18	16	22	18	15	2.3	21	18	.25	0
2	14	18	18	16	64	30	15	2.0	20	16	.19	0
3	14	17	18	16	63	19	15	1.8	20	15	.14	0
4	14	18	18	16	38	19	15	1.6	20	14	.14	0
5	14	26	20	16	32	18	15	1.5	20	15	.10	0
6	15	22	18	17	29	18	15	1.3	20	15	.07	0
7	14	19	18	16	27	18	15	1.2	20	16	0	0
8	15	18	18	23	26	18	15	1.1	20	16	.10	0
9	14	18	18	25	26	18	15	2.5	20	18	.08	0
10	15	17	18	25	25	17	15	5.2	20	20	.07	0
11	16	17	18	25	24	17	15	2.0	20	21	.07	0
12	17	17	18	25	24	17	15	.60	20	21	.02	0
13	20	17	18	25	23	17	15	.52	19	20	0	0
14	17	18	18	25	23	17	15	.47	22	19	0	1.8
15	16	18	18	25	23	17	22	.52	20	19	0	8.6
16	15	18	25	25	23	17	17	.51	21	18	0	14
17	15	18	43	62	22	17	14	.59	22	17	0	17
18	15	18	21	211	21	17	11	.57	20	18	0	18
19	15	17	19	46	21	17	9.2	.48	18	16	0	19
20	15	17	18	35	20	17	8.4	1.9	18	17	0	19
21	15	19	17	31	20	17	15	7.4	20	19	0	19
22	16	20	17	28	19	17	20	15	21	22	0	19
23	16	20	17	26	19	17	11	17	21	26	0	20
24	15	18	16	25	19	16	8.6	17	21	25	0	20
25	15	17	16	24	18	16	7.0	18	21	6.4	0	19
26	15	17	16	24	18	16	5.5	21	18	3.3	0	19
27	15	17	16	23	18	16	4.5	21	20	2.3	0	19
28	15	18	16	22	18	15	3.7	22	17	1.8	0	20
29	16	18	16	22	17	15	3.1	22	17	1.3	0	20
30	15	18	16	22	---	15	2.6	21	19	1.1	0	22
31	22	---	16	22	---	15	---	21	---	.79	0	---
TOTAL	479	556	577	959	742	538	372.6	231.06	596	457.99	1.23	294.4
MEAN	15.5	18.5	18.6	30.9	25.6	17.4	12.4	7.45	19.9	14.8	.040	9.81
MAX	22	26	43	211	64	30	22	22	22	26	.25	22
MIN	14	17	16	16	17	15	2.6	.47	17	.79	0	0
AC-FT	950	1100	1140	1900	1470	1070	739	458	1180	908	2.4	584

CAL YR 1987 TOTAL 5056.50 MEAN 13.9 MAX 43 MIN 1.4 AC-FT 10030
WTR YR 1988 TOTAL 5804.28 MEAN 15.9 MAX 211 MIN 0 AC-FT 11510

OTAY RIVER BASIN

11014550 LOWER OTAY LAKE NEAR CHULA VISTA, CA

LOCATION (REVISED).--Lat 32°36'33", long 116°55'38", in NE 1/4 NE 1/4 sec.13, T.18 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on right bank, 30 ft west of right end of Savage Dam on Otay River, and 9.0 mi east of Chula Vista.

DRAINAGE AREA.--99.0 mi^2.
PERIOD OF RECORD.--October 1945 to September 1959 (published with Otay River at Savage Dam, station 11014500), October 1972 to current year. Prior to October 1987 monthend contents only. Monthend gage heights October 1936 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

REVISED RECORD.--WDR CA-73-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by county of San Diego). October 1972 to current year, supplementary water-stage recorder for flood warning only, on right bank 30 ft upstream from dam at datum 397.20 ft higher.

REMARKS.--Reservoir is formed by gravity section concrete and masonry dam, built in 1919. Maximum capacity at top of spillway gates, 56,520 acre-ft, elevation, 490.70 ft. Capacity at permanent spillway level, 49,510 acre-ft, elevation, 484.70 ft. Dead storage below lowest outlet, 1,150 acre-ft, elevation, 395.05 ft. Dulzura conduit carries water from Barrett Lake (station 11011000) to Dulzura Creek, where water is carried to the reservoir by Jamul Creek (station 11014000). Reservoir storage includes supplemental Colorado River water. Small diversions for local use near reservoir. Water used for municipal supply by city of San Diego.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 51,860 acre-ft, spilling, Mar. 3, 1983, elevation, 486.78 ft; minimum observed, 3,160 acre-ft, Dec. 31, 1951, elevation, 407.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 43,970 acre-ft, Apr. 26, elevation, 479.48 ft; minimum, 40,540 acre-ft, Sept. 20, elevation, 475.98 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey dated Apr. 3, 1956)

430	10,090	445	17,340	470	35,100
435	12,250	450	20,280	480	44,500
440	14,460	460	27,060	489	54,460

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41250	41090	41030	41210	42620	43700	43650	43920	43810	43470	42730	41090
2	41230	41090	41020	41210	43010	43760	43620	43910	43830	43460	42680	41040
3	41210	41090	41000	41230	43220	43780	43610	43900	43830	43430	42620	41010
4	41170	41120	41000	41230	43290	43800	43580	43890	43830	43410	42560	40980
5	41140	41150	40990	41260	43340	43810	43570	43860	43820	43390	42510	40960
6	41120	41180	40980	41280	43390	43830	43560	43860	43810	43370	42460	40930
7	41130	41190	40970	41290	43420	43840	43530	43850	43790	43350	42420	40920
8	41100	41200	40950	41340	43450	43850	43520	43840	43770	43330	42360	40870
9	41080	41210	40950	41380	43480	43860	43500	43840	43760	43300	42310	40850
10	41050	41220	40970	41420	43510	43860	43480	43840	43750	43300	42250	40800
11	41080	41230	40980	41440	43520	43870	43490	43830	43730	43280	42190	40740
12	41140	41220	40980	41440	43540	43860	43520	43820	43710	43260	42130	40690
13	41150	41220	40950	41450	43550	43870	43540	43800	43700	43250	42080	40650
14	41140	41230	40940	41480	43580	43870	43610	43790	43690	43240	42030	40620
15	41130	41240	40950	41530	43600	43870	43650	43780	43680	43220	41970	40590
16	41110	41230	41070	41580	43610	43880	43680	43760	43660	43210	41910	40570
17	41090	41240	41190	41730	43630	43890	43680	43740	43640	43200	41850	40570
18	41070	41240	41220	42100	43630	43890	43700	43740	43640	43180	41800	40560
19	41050	41240	41240	42200	43650	43880	43710	43740	43620	43160	41750	40550
20	41030	41240	41250	42270	43670	43890	43780	43730	43610	43140	41690	40540
21	41020	41230	41260	42340	43690	43870	43860	43740	43610	43140	41640	40560
22	41020	41210	41240	42370	43690	43860	43920	43750	43600	43140	41590	40580
23	41030	41190	41240	42400	43680	43840	43930	43760	43580	43140	41530	40580
24	41020	41170	41210	42440	43670	43830	43950	43760	43570	43150	41490	40570
25	41010	41140	41190	42460	43670	43830	43960	43760	43560	43110	41440	40580
26	41000	41130	41200	42500	43660	43800	43950	43770	43550	43060	41390	40560
27	40980	41110	41190	42520	43660	43770	43950	43770	43540	43000	41340	40570
28	40980	41090	41180	42540	43650	43750	43950	43770	43520	42950	41290	40580
29	40980	41070	41170	42560	43650	43730	43950	43770	43510	42900	41240	40570
30	40960	41050	41190	42580	---	43700	43930	43790	43490	42840	41190	40570
31	41070	---	41200	42590	---	43680	---	43800	---	42790	41140	---
MAX	41250	41240	41260	42590	43690	43890	43960	43920	43830	43470	42730	41090
MIN	40960	41050	40940	41210	42620	43680	43480	43730	43490	42790	41140	40540
a	476.53	476.51	476.67	478.10	479.16	479.19	479.44	479.31	479.00	478.30	476.61	476.01
b	-160	-20	+150	+1390	+1060	+30	+250	-130	-310	-700	-1650	-570

CAL YR 1987 MAX 46270 MIN 40940 b -4400
WTR YR 1988 MAX 43960 MIN 40540 b -660

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

SWEETWATER RIVER BASIN

11015000 SWEETWATER RIVER NEAR DESCANSO, CA

LOCATION.--Lat 32°50'05", long 116°37'20", in NW 1/4 SE 1/4 sec.25, T.15 S., R.3 E., San Diego County, Hydrologic Unit 18070304, near right bank at Los Terrenitos Road bridge, 0.7 mi downstream from unnamed tributary, and 1.3 mi south of Descanso.

DRAINAGE AREA.--45.4 mi^2.

PERIOD OF RECORD.--October 1905 to September 1927 (monthly discharge only, published in WSP 1315-B), October 1956 to current year. Prior to September 1927, records unadjusted for diversion. Records adjusted for diversion, October 1956 to November 1976. No diversion since November 1976.

REVISED RECORD.--WDR CA-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,269.24 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1927, nonrecording gages at several sites and datums, upstream about 0.1 mi. Diversion gage at site 0.3 mi upstream, October 1956 to September 1984, at different datum.

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

AVERAGE DISCHARGE.--54 years (water years 1906-27, 1957-88), 11.6 ft^3/s, 8,400 acre-ft/yr, unadjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 11,200 ft^3/s, Feb. 16, 1927, gage height, 13.2 ft, from floodmarks, site and datum then in use, on basis of slope-area measurement of peak flow; no flow many days in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2245	*274	*6.31				

No flow for many days.

DISCHARGE, IN 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	0	.59	.30	.56	1.6	2.7	.85	2.2	.78	.03		
2	0	.48	.30	.54	11	4.3	.82	2.0	.64	.02		
3	0	.38	.29	.54	15	2.7	.81	1.8	.52	.01		
4	0	.43	.40	.53	6.9	2.1	.81	1.8	.40	0		
5	0	.79	.92	.90	4.8	1.8	.75	1.8	.36	0		
6	0	.65	.55	.89	3.8	1.7	.68	2.2	.31	0		
7	0	.53	.54	.76	3.1	1.6	.68	2.2	.34	0		
8	0	.45	.47	.72	2.8	1.4	.67	2.1	.37	0		
9	0	.39	.45	.69	2.6	1.4	.57	1.9	.34	0		
10	0	.34	.42	.67	2.4	1.4	.53	1.7	.32	0		
11	.01	.30	.42	.66	2.2	1.3	.52	1.6	.32	0		
12	.01	.29	.42	.62	2.1	1.3	.56	1.4	.31	0		
13	0	.30	.50	.61	2.0	1.2	.64	1.3	.33	0		
14	0	.39	.52	.59	2.0	1.2	.76	1.3	.26	0		
15	0	.31	.52	.61	1.9	1.2	1.1	1.4	.20	0		
16	0	.30	.81	.63	1.9	1.3	.93	1.3	.25	0		
17	0	.30	1.5	46	1.8	1.3	1.1	1.2	.24	0		
18	0	.33	.91	87	1.8	1.1	1.0	1.3	.20	0		
19	0	.25	.85	15	1.8	1.1	.96	1.1	.19	0		
20	0	.25	.77	7.3	1.6	1.1	3.4	.97	.22	0		
21	0	.29	.69	4.8	1.6	1.1	5.5	.87	.22	0		
22	0	.28	.66	4.0	1.7	1.1	13	.79	.15	0		
23	0	.27	.67	2.9	1.6	1.2	7.1	.74	.10	0		
24	0	.27	.63	2.5	1.6	1.0	6.1	.68	.09	0		
25	.16	.29	.61	2.1	1.6	.96	4.7	.65	.09	0		
26	.17	.27	.59	1.9	1.6	.91	3.7	.57	.08	0		
27	.17	.27	.58	1.8	1.6	.88	3.1	.54	.06	0		
28	.16	.29	.57	1.8	1.5	.86	2.9	.64	.05	0		
29	.30	.29	.67	1.7	1.6	.91	2.6	.99	.04	0		
30	.13	.28	.71	1.7	---	.99	2.4	.99	.04	0		
31	.41	---	.60	1.7	---	.89	---	.92	---	0		---
TOTAL	1.52	10.85	18.84	192.72	87.5	44.00	69.24	40.95	7.82	.06	0	0
MEAN	.049	.36	.61	6.22	3.02	1.42	2.31	1.32	.26	.002	0	0
MAX	.41	.79	1.5	87	15	4.3	13	2.2	.78	.03	0	0
MIN	0	.25	.29	.53	1.5	.86	.52	.54	.04	0	0	0
AC-FT	3.0	22	37	382	174	87	137	81	16	.1	0	0

CAL YR 1987 TOTAL 478.65 MEAN 1.31 MAX 15 MIN 0 AC-FT 949
WTR YR 1988 TOTAL 473.50 MEAN 1.29 MAX 87 MIN 0 AC-FT 939

SAN DIEGO RIVER BASIN

11020600 EL CAPITAN LAKE NEAR LAKESIDE, CA

LOCATION (REVISED).--Lat 32°52'56", long 116°48'30", in SE 1/4 NE 1/4 sec.7, T.15 S., R.2 E., San Diego County, Hydrologic Unit 18070304, on left bank 100 ft upstream from El Capitan Dam on San Diego River and 7.0 mi east of Lakeside.

DRAINAGE AREA.--188 mi^2.

PERIOD OF RECORD.--October 1936 to September 1966 (published with San Diego River at El Capitan Dam, station 11020500), October 1972 to current year. Monthend contents only October 1972 to September 1987. October 1936 to September 1945, published in WSP 1315-B, not equivalent owing to exclusion of greater part of flow released from Cuyamaca Reservoir.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of San Diego). Prior to October 1987, nonrecording gage at same site.

REMARKS.--Reservoir is formed by hydraulic fill-rock embankment, completed in 1935. Capacity of reservoir at spillway level, 112,810 acre-ft, elevation, 750.00 ft. Dead storage below lowest outlet, 59 acre-ft, elevation, 574.00 ft. Reservoir storage includes supplemental Colorado River water. No significant diversion upstream from reservoir. Inflow partly regulated by Cuyamaca Reservoir (capacity, 11,760 acre-ft). Water is released as required for municipal use and irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 114,500 acre-ft, spilling, Mar. 7, 1980, elevation, 751.09 ft; minimum observed, 2,252 acre-ft, May 1, 1957, elevation, 606.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 36,620 acre-ft, Sept. 30, elevation, 683.65 ft; minimum, 22,490 acre-ft, Jan. 10, elevation, 663.22 ft.

Capacity table (elevation in feet, and contents, in acre-feet)
(Based on table dated May 25, 1956)

600	1,450	640	11,310	700	50,730
610	2,820	650	15,530	720	71,790
620	4,940	660	20,650	740	97,790
630	7,820	680	33,780	753	117,550

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23930	24060	24190	23230	26120	29200	31490	35470	36080	35830	35130	35370
2	23930	24070	24200	23200	26360	29420	31600	35560	36050	35810	35070	35420
3	23920	24070	24150	23140	26580	29560	31710	35620	35990	35870	35000	35480
4	23900	24170	24120	23060	26760	29790	31820	35680	35960	35920	34850	35490
5	23890	24260	24140	23030	26960	29840	31930	35770	35950	35940	34690	35510
6	23880	24280	24130	23020	27130	29830	32040	35880	36010	35880	34570	35500
7	23870	24280	24080	23010	27300	29770	32010	35970	35990	35840	34460	35490
8	23860	24280	24040	22640	27480	29720	32030	36090	36020	35770	34370	35500
9	23840	24280	24000	22600	27620	29650	31140	36190	36030	35730	34400	35530
10	23840	24280	23930	22490	27740	29620	32250	36260	36050	35750	34480	35560
11	23870	24270	23860	22780	27870	29620	32350	36240	36040	35740	34560	35620
12	23890	24270	23830	22840	27990	29690	32460	36180	36060	35700	34580	35630
13	23880	24270	23840	22910	28040	29810	32540	36130	36060	35630	34640	35710
14	23870	24270	23790	22980	28060	29930	32670	36100	36040	35550	34710	35770
15	23870	24270	23720	23060	28060	29960	32810	36090	36020	35490	34720	35810
16	23860	24260	23690	23110	28060	29970	32930	36060	35930	35520	34600	35870
17	23860	24260	23760	23470	28150	30000	33060	36030	35910	35550	34600	35920
18	23850	24260	23760	24250	28270	30130	33200	36020	35950	35560	34660	35960
19	23850	24250	23760	24460	28390	30250	33330	36000	36040	35560	34710	36020
20	23840	24250	23740	24660	28470	30370	33520	35990	36090	35590	34770	36060
21	23840	24240	23690	24840	28550	30480	33760	36020	36060	35600	34830	36110
22	23870	24240	23660	24910	28660	30500	34030	36000	35960	35590	34900	36170
23	23870	24230	23620	24990	28740	30600	34240	35970	35840	35570	34960	36230
24	23870	24230	23590	25050	28840	30700	34460	35980	35780	35520	35030	36280
25	23870	24220	23560	25110	28960	30790	34640	35970	35810	35480	35070	36320
26	23870	24220	23550	25190	29040	30890	34810	35980	35840	35420	35100	36380
27	23860	24220	23530	25300	29060	30990	34980	35980	35860	35370	35150	36440
28	23880	24210	23480	25400	29060	31090	35100	35980	35880	35320	35210	36500
29	23870	24200	23440	25620	29140	31180	35240	36030	35880	35270	35260	36550
30	23870	24200	23400	25780	---	31280	35340	36110	35860	35230	35300	36600
31	24040	---	23320	25940	---	31380	---	36130	---	35180	35330	---
MAX	24040	24280	24200	25940	29140	31380	35340	36260	36090	35940	35330	36600
MIN	23840	24060	23320	22490	26120	29200	31140	35470	35780	35180	34370	35370
a	665.82	666.08	664.63	668.84	673.62	676.77	682.03	683.04	682.69	681.82	682.01	683.63
b	+150	+160	-880	+2620	+3200	+2240	+3960	+790	-270	-680	+150	+1270

CAL YR 1987 MAX 32150 MIN 23320 b -6100
WTR YR 1988 MAX 36600 MIN 22490 b +12710

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

SAN DIEGO RIVER BASIN

11022100 SAN VICENTE RESERVOIR NEAR LAKESIDE, CA

LOCATION.--Lat 32°54'45", long 116°55'25", in SW 1/4 NW 1/4 sec.31, T.14 S., R.1 E., San Diego County, Hydrologic Unit 18070304, at outlet tower near center of upstream face of San Vicente Dam on San Vicente Creek and 3.6 mi north of Lakeside.

DRAINAGE AREA.--74.2 mi^2.

PERIOD OF RECORD.--October 1946 to September 1961 (published with San Vicente Creek at San Vicente Dam, at Foster, station 11022000), October 1972 to current year. Monthend contents only October 1972 to September 1987.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by county of San Diego). October 1972 to current year, supplementary water-stage recorder used for flood warning only, at same site at datum 560 ft higher. Prior to October 1987, nonrecording gage at same site.

REMARKS.--Reservoir is formed by concrete-gravity dam, constructed in 1941-43 by city of San Diego; storage began during construction period. Capacity of reservoir at spillway level, 90,230 acre-ft, elevation, 650 ft. Dead storage below lowest outlet, 350 acre-ft, elevation, 493.0 ft. Reservoir storage includes supplemental water from the San Diego River, Santa Ysabel Creek, and Colorado River basins. No diversion upstream from reservior. Water is released as required for municipal use.

COOPERATION.--Gage heights for Aug. 4 to Sept. 8, Sept. 19-30, were provided by city of San Diego, Utilities Engineering Division.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 94,200 acre-ft, spilling, Feb. 21, 1980, elevation, 653.54 ft; minimum observed, 12,390 acre-ft, Nov. 1, 1947, elevation, 549.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 80,570 acre-ft, May 8, 9, elevation, 640.77 ft; minimum, 73,630 acre-ft, Oct.7, elevation, 633.84 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Feb. 18, 1944, provided by City of San Diego)

610	51,870	640	79,800
620	60,610	650	90,230
630	69,920	654	94,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74050	74310	73910	75260	76440	78170	79050	80490	80260	79760	79450	77690
2	74000	74310	73910	75280	76620	78320	79050	80480	80240	79740	79440	77560
3	73910	74320	73960	75290	76720	78420	79080	80460	80230	79720	79430	77480
4	73800	74440	74110	75300	76810	78450	79110	80440	80210	79700	79410	77370
5	73710	74580	74300	75370	76910	78540	79130	80440	80190	79690	79390	77260
6	73660	74630	74430	75410	77010	78560	79130	80490	80170	79670	79370	77150
7	73630	74670	74550	75430	77110	78560	79110	80530	80140	79650	79350	77060
8	73650	74720	74570	75460	77190	78560	79100	80570	80120	79620	79330	77020
9	73660	74730	74600	75470	77270	78540	79100	80570	80100	79600	79300	76980
10	73690	74690	74620	75480	77150	78590	79100	80560	80090	79580	79280	76930
11	73780	74630	74650	75470	77210	78670	79100	80550	80070	79560	79260	76920
12	73850	74590	74660	75470	77250	78710	79110	80540	80060	79540	79240	76910
13	73860	74540	74700	75480	77300	78700	79120	80530	80040	79520	79220	76870
14	73880	74510	74710	75470	77410	78700	79190	80510	80020	79500	79190	76800
15	73880	74450	74740	75480	77520	78690	79250	80500	80010	79490	79170	76720
16	73900	74410	74880	75480	77650	78690	79310	80480	80000	79470	79140	76620
17	73910	74420	75010	75760	77710	78700	79370	80470	79980	79450	79060	76560
18	73910	74460	75050	75990	77730	78740	79430	80450	79960	79440	78950	76570
19	73910	74450	75100	76030	77730	78770	79520	80440	79950	79420	78840	76560
20	73880	74370	75130	76110	77720	78820	79720	80420	79930	79400	78810	76510
21	73820	74310	75170	76220	77730	78840	79900	80420	79920	79390	78810	76510
22	73840	74240	75200	76170	77720	78870	80050	80400	79900	79380	78740	76530
23	73890	74190	75220	76180	77720	78920	80160	80380	79890	79380	78640	76560
24	73920	74110	75210	76170	77730	79000	80260	80360	79870	79430	78550	76580
25	73950	74060	75210	76170	77730	79050	80340	80340	79860	79470	78450	76600
26	73890	74030	75200	76170	77740	79040	80380	80330	79840	79490	78340	76610
27	73920	74000	75210	76180	77800	79030	80420	80310	79820	79480	78240	76620
28	73980	73960	75210	76230	77950	79040	80470	80290	79810	79480	78140	76610
29	74050	73920	75230	76270	78070	79040	80500	80290	79790	79470	78040	76580
30	74070	73890	75240	76330	---	79030	80490	80290	79780	79460	77930	76550
31	74240	---	75250	76380	---	79040	---	80270	---	79460	77830	---
MAX	74240	74730	75250	76380	78070	79050	80500	80570	80260	79760	79450	77690
MIN	73630	73890	73910	75260	76440	78170	79050	80270	79780	79380	77830	76510
a	634.46	634.11	635.48	636.63	638.31	639.26	640.69	640.47	639.98	639.67	638.07	636.80
b	+20	-350	+1360	+1130	+1690	+970	+1450	-220	-490	-320	-1630	-1280

CAL YR 1987 MAX 73930 MIN 70560 b -550
WTR YR 1988 MAX 80570 MIN 73630 b +2330

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

SAN DIEGO RIVER BASIN

11022200 LOS COCHES CREEK NEAR LAKESIDE, CA

LOCATION.--Lat 32°50'10", long 116°53'58", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on upstream right bank side of bridge on Old Highway 8, 2.7 mi upstream from mouth, and 1.9 mi southeast of Lakeside.

DRAINAGE AREA.--12.2 mi^2.

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

REVISED RECORDS.--WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--5 years, 1.39 ft^3/s, 1,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 470 ft^3/s, Dec. 18, 1984, gage height, 7.20 ft from floodmarks; minimum daily, 0.07 ft^3/s, July 11, 12, 1984.

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)
Oct. 31	2015	*146	*5.22	Jan. 17	2045	117	4.91
Nov. 4	2245	59	4.03	Feb. 2	1545	54	3.95
Dec. 4	2330	136	5.12	Apr. 15	0145	44	3.77
Dec. 17	0900	56	3.99				

Minimum daily, 0.14 ft^3/s, Sept. 4, 5.

DISCHARGE, IN 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	.24	5.5	.68	1.0	1.2	1.9	.54	1.1	.53	.31	.31	.18
2	.22	1.7	.67	1.0	16	6.8	.55	1.1	.50	.31	.27	.18
3	.22	.98	.67	1.0	2.8	1.2	.56	1.1	.48	.30	.25	.16
4	.23	11	8.7	1.0	1.7	1.0	.56	1.1	.48	.29	.24	.14
5	.24	8.9	8.3	3.3	1.5	.92	.55	1.0	.49	.28	.25	.14
6	.23	1.7	1.1	1.5	1.4	.86	.52	1.0	.49	.27	.27	.15
7	.25	1.1	.96	1.1	1.4	.80	.49	1.0	.50	.25	.24	.15
8	.28	1.0	.89	1.0	1.3	.74	.47	1.0	.48	.24	.24	.16
9	.29	.94	.82	1.0	1.3	.74	.48	.98	.45	.24	.28	.17
10	.29	.84	.80	1.0	1.2	.87	.44	.91	.48	.25	.26	.18
11	4.5	.80	.79	.98	1.2	.85	.40	.86	.45	.25	.23	.20
12	2.8	.75	.80	.99	1.2	.84	.40	.82	.71	.24	.23	.18
13	1.4	.77	.80	.99	1.2	.83	.43	.78	.63	.30	.22	.18
14	.55	.90	.75	.98	1.1	.81	4.5	.80	.41	.25	.22	.19
15	.48	.76	.79	1.0	1.1	.79	7.2	.79	.41	.24	.22	.18
16	.46	.73	14	.99	1.2	.79	1.2	.79	.38	.24	.21	.18
17	.46	.72	15	38	1.1	.77	1.2	.80	.51	.22	.22	.19
18	.49	1.1	1.7	15	1.2	.73	1.0	.81	.50	.24	.21	.21
19	.49	.67	8.8	2.5	1.1	.72	.95	.74	.44	.24	.21	.21
20	.47	.66	2.0	1.8	1.1	.70	12	.69	.42	.23	.22	.30
21	.48	.75	1.4	1.7	1.1	.70	13	.64	.38	.26	.21	.37
22	.96	.73	1.2	1.5	1.1	.72	9.1	.63	.38	.25	.22	.29
23	.88	.71	1.2	1.5	1.1	.73	1.8	.62	.37	.21	.19	.29
24	.59	.68	1.1	1.4	1.0	.71	1.5	.60	.35	.23	.19	.30
25	.52	.71	1.1	1.3	1.0	.65	1.5	.62	.34	.22	.19	.31
26	.49	.68	1.0	1.3	1.0	.62	1.4	.61	.33	.21	.19	.30
27	.47	.67	1.1	1.3	1.0	.61	1.3	.59	.32	.22	.17	.29
28	.70	.69	1.1	1.2	1.0	.59	1.3	.60	.32	.23	.16	.28
29	2.1	.66	1.2	1.2	1.1	.56	1.2	.72	.30	.24	.16	.26
30	.61	.66	1.1	1.2	---	.62	1.2	.63	.31	.24	.17	.24
31	20	---	1.0	1.2	---	.59	---	.56	---	.29	.17	---
TOTAL	42.39	48.46	81.52	90.93	50.7	30.76	67.74	24.99	13.14	7.79	6.82	6.56
MEAN	1.37	1.62	2.63	2.93	1.75	.99	2.26	.81	.44	.25	.22	.22
MAX	20	11	15	38	16	6.8	13	1.1	.71	.31	.31	.37
MIN	.22	.66	.67	.98	1.0	.56	.40	.56	.30	.21	.16	.14
AC-FT	84	96	162	180	101	61	134	50	26	15	14	13

CAL YR 1987 TOTAL 411.21 MEAN 1.13 MAX 20 MIN .19 AC-FT 816
WTR YR 1988 TOTAL 471.80 MEAN 1.29 MAX 38 MIN .14 AC-FT 936

SAN DIEGO RIVER BASIN

11022350 FORESTER CREEK AT EL CAJON, CA

LOCATION.--Lat 32°49'16", long 116°58'32", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on right bank at downstream side of bridge on Billy Mitchell Drive, 0.8 mi upstream from unnamed tributary, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--21.3 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 370 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--5 years, 6.29 ft^3/s, 4,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,800 ft^3/s, Feb. 15, 1986, gage height, 9.25 ft, from rating curve extended above 600 ft^3/s; minimum daily, 0.48 ft^3/s, Sept. 25, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*), from rating curve extended above 900 ft^3/s on basis of runoff comparisons with nearby stations:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 11	1815	1,040	7.44	Dec. 4	2215	*2,070	*9.31
Oct. 31	1930	1,750	8.80	Jan. 17	1315	1,030	7.42

Minimum daily, 0.48 ft^3/s, Sept. 25.

DISCHARGE, IN 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	1.4	22	1.3	1.6	2.0	24	1.6	2.1	2.6	1.1	1.5	1.2
2	1.5	9.3	1.3	1.6	118	43	1.4	2.1	2.4	1.1	1.5	1.4
3	1.4	1.5	1.3	1.6	4.8	1.7	1.5	2.2	2.4	1.1	1.3	1.3
4	1.4	71	92	1.6	2.9	1.6	1.5	2.3	2.2	1.1	1.3	1.3
5	1.5	36	16	21	2.5	1.6	1.5	2.0	2.0	1.0	1.4	2.6
6	1.5	2.8	1.7	2.1	2.5	1.6	1.7	2.1	2.2	1.2	1.4	1.1
7	1.5	1.6	1.6	1.5	2.4	1.7	1.8	2.1	2.1	1.3	1.3	.99
8	1.4	1.4	1.4	1.4	2.4	1.7	1.7	2.2	1.8	1.5	1.5	.81
9	1.4	1.7	1.4	1.7	2.5	1.7	1.7	2.2	1.9	1.6	1.1	.85
10	1.5	1.8	1.4	1.8	2.5	1.8	1.7	2.3	2.0	1.6	1.3	.70
11	110	1.3	1.4	1.9	2.4	1.7	1.8	2.4	1.8	1.8	1.1	.66
12	35	1.5	1.4	1.8	2.6	1.6	1.8	2.3	1.7	1.8	1.2	.63
13	4.1	1.6	1.3	1.7	2.4	1.6	2.1	2.3	1.9	1.8	1.1	.64
14	1.3	5.2	1.2	1.7	2.4	1.7	75	2.3	1.6	1.6	1.2	.78
15	1.2	1.5	1.3	3.0	2.4	1.7	63	2.3	1.7	1.6	1.2	.73
16	1.1	1.5	219	2.3	2.6	1.6	3.7	2.3	1.6	1.6	1.1	.69
17	1.1	2.0	83	264	2.5	1.5	16	2.4	1.6	1.8	1.1	.71
18	1.0	15	3.1	42	2.4	1.6	4.1	2.4	1.5	2.2	1.1	.61
19	1.0	1.4	38	3.4	2.3	1.6	3.0	2.4	1.5	2.1	1.1	.60
20	.95	1.4	3.1	2.4	2.2	1.7	124	2.4	1.6	2.0	1.0	.60
21	.97	1.8	2.1	2.4	2.3	1.6	108	2.4	1.3	2.2	.94	1.4
22	14	1.3	1.9	2.3	2.4	1.6	39	2.3	1.3	2.2	.92	.61
23	7.7	1.3	1.9	2.3	2.5	1.7	4.2	2.5	1.4	1.9	1.0	.61
24	1.6	1.4	1.7	2.2	2.3	1.7	2.5	2.5	1.3	1.8	1.2	.50
25	1.1	1.3	1.8	2.0	2.3	1.7	2.3	2.7	1.1	1.8	1.3	.48
26	1.1	1.2	1.7	2.0	2.4	1.7	2.3	2.5	1.2	1.7	1.3	.61
27	1.2	1.1	1.6	2.0	2.3	1.7	2.3	2.5	1.1	1.8	1.3	.66
28	16	1.2	1.7	2.0	4.2	1.7	2.3	2.5	1.1	1.4	1.2	.92
29	25	1.2	4.9	2.0	10	1.5	2.3	6.7	1.1	1.3	1.3	.79
30	1.1	1.2	2.3	2.0	---	1.6	2.2	2.5	1.1	1.3	1.3	.94
31	170	---	1.7	2.4	---	1.7	---	2.4	---	1.2	1.5	---
TOTAL	411.02	194.5	495.5	383.7	197.4	114.9	478.0	76.6	50.1	49.5	38.06	26.42
MEAN	13.3	6.48	16.0	12.4	6.81	3.71	15.9	2.47	1.67	1.60	1.23	.88
MAX	170	71	219	264	118	43	124	6.7	2.6	2.2	1.5	2.6
MIN	.95	1.1	1.2	1.4	2.0	1.5	1.4	2.0	1.1	1.0	.92	.48
AC-FT	815	386	983	761	392	228	948	152	99	98	75	52

CAL YR 1987 TOTAL 2294.52 MEAN 6.29 MAX 219 MIN .95 AC-FT 4550
WTR YR 1988 TOTAL 2515.70 MEAN 6.87 MAX 264 MIN .48 AC-FT 4990

SAN DIEGO RIVER BASIN

11022480 SAN DIEGO RIVER AT MAST ROAD, NEAR SANTEE, CA

LOCATION.--Lat 32°49'29", long 117°03'17", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, near left bank at Mast Road bridge, 0.7 mi upstream from Old Mission Damsite, 2.8 mi west of Santee, and 14.2 mi downstream from El Capitan Lake.

DRAINAGE AREA.--368 mi^2.

PERIOD OF RECORD.--May 1912 to December 1915, April 1916 to current year. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP-1315-B. Prior to September 1981 published as "near Santee".

GAGE.--Water-stage recorder. Elevation of gage is 300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 10, 1920, nonrecording gage at site 0.7 mi downstream at different datum. Nov. 10, 1920, to Jan. 19, 1982, at site 2.6 mi downstream at different datum (station 11022500).

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Cuyamaca Reservoir, capacity, 11,540 acre-ft, El Capitan Lake (station 11020600), and San Vicente Reservoir (station 11022100). Diversions by city of San Diego for municipal supply and by Helix Irrigation District. AVERAGE DISCHARGE represents flow to ocean during period of record, regardless of upstream development.

AVERAGE DISCHARGE.--75 years (water years 1913-15, 1917-88), 25.2 ft^3/s, 18,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,400 ft^3/s, Feb. 16, 1927, on basis of slope-area measurement of peak flow, gage height, 18.1 ft, from floodmarks; no flow for many days some years.

EXTREMES OUTSIDE PERIOD OF RECORD.-- Maximum discharge, 70,200 ft^3/s, Jan. 27, 1916, based on slope-conveyance computation of peak flow, gage height, 25.1 ft, from floodmarks, site and datum then in use; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 679 ft^3/s, Dec. 16, gage height, 8.61 ft, from rating curve extended above 400 ft^3/s; minimum daily, 2.2 ft^3/s, Sept. 12-16, 19.

DISCHARGE, IN 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	3.2	125	7.7	13	13	35	7.2	11	5.2	3.9	3.3	2.5
2	3.1	50	7.5	12	153	77	7.0	10	5.1	3.9	3.4	2.4
3	3.2	34	7.5	12	41	16	7.0	9.7	5.0	3.7	3.3	2.3
4	2.9	76	34	12	31	15	6.9	9.6	5.2	3.6	3.3	2.3
5	2.8	120	129	34	27	13	6.6	9.2	5.0	3.7	3.3	3.1
6	3.0	41	21	20	23	12	6.5	9.1	4.9	3.5	3.4	2.7
7	3.1	27	16	14	20	12	6.6	9.0	4.7	3.4	3.1	2.4
8	3.1	21	14	13	17	11	6.5	9.0	4.7	3.4	3.3	2.4
9	3.0	17	12	13	16	10	6.4	8.7	4.5	3.3	3.1	2.3
10	2.9	15	10	12	15	10	6.3	8.4	4.5	3.3	3.1	2.3
11	113	12	9.3	12	15	9.8	6.2	8.0	4.7	3.2	3.0	2.3
12	62	11	8.8	12	14	9.7	6.0	7.7	4.5	3.4	3.0	2.2
13	51	10	8.8	11	14	9.6	6.2	7.4	4.5	3.4	2.9	2.2
14	16	15	8.4	11	13	9.4	33	7.5	4.4	3.3	2.9	2.2
15	13	9.6	8.2	11	13	9.2	124	7.5	4.3	3.6	2.9	2.2
16	11	9.0	224	12	13	9.1	19	7.3	4.3	4.2	2.9	2.2
17	9.7	8.6	210	257	12	9.4	31	7.2	4.5	4.6	2.9	2.3
18	9.1	27	54	173	12	9.7	15	7.2	4.5	4.5	2.9	2.3
19	8.6	9.5	84	71	12	9.4	12	6.8	4.4	4.4	2.8	2.2
20	8.0	8.7	42	43	12	9.6	166	6.7	4.5	4.4	2.8	2.3
21	7.5	8.8	32	33	12	9.3	162	6.5	4.3	4.4	2.8	2.9
22	14	8.3	26	26	12	9.1	135	6.7	4.2	4.1	2.7	2.6
23	30	8.2	21	22	12	8.4	43	6.6	4.4	4.0	2.6	2.5
24	11	8.2	17	20	11	8.2	30	6.3	4.0	3.8	2.6	2.5
25	9.1	8.1	15	18	11	8.0	21	6.4	4.1	3.7	2.6	2.5
26	8.4	8.2	14	17	11	7.8	16	6.2	3.8	3.6	2.6	2.5
27	7.8	8.1	13	16	11	8.0	14	5.9	3.8	3.7	2.5	2.5
28	8.6	8.1	12	15	14	7.8	13	5.9	3.9	3.6	2.5	2.5
29	59	8.1	14	15	13	7.4	12	8.4	3.9	3.5	2.5	2.5
30	11	7.9	15	14	---	7.3	11	6.2	3.8	3.5	2.4	2.5
31	146	---	13	14	---	7.4	---	5.5	---	3.4	2.5	---
TOTAL	644.1	728.4	1108.2	978	593	394.6	942.4	237.6	133.6	116.0	89.9	72.6
MEAN	20.8	24.3	35.7	31.5	20.4	12.7	31.4	7.66	4.45	3.74	2.90	2.42
MAX	146	125	224	257	153	77	166	11	5.2	4.6	3.4	3.1
MIN	2.8	7.9	7.5	11	11	7.3	6.0	5.5	3.8	3.2	2.4	2.2
AC-FT	1280	1440	2200	1940	1180	783	1870	471	265	230	178	144

CAL YR 1987 TOTAL 5247.3 MEAN 14.4 MAX 224 MIN 2.1 AC-FT 10410
WTR YR 1988 TOTAL 6038.4 MEAN 16.5 MAX 257 MIN 2.2 AC-FT 11980

SAN DIEGO RIVER BASIN

11023000 SAN DIEGO RIVER AT FASHION VALLEY, AT SAN DIEGO, CA

LOCATION.--Lat 32°45'54", long 117°10'04", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, on left bank 2.6 mi upstream from mouth, 500 ft upstream from Fashion Valley road crossing, 0.4 mi downstream from unnamed tributary, and 26.4 mi downstream from El Capitan Lake.

DRAINAGE AREA.--429 mi^2.

PERIOD OF RECORD.--October 1912 to January 1916 published as San Diego River at San Diego (monthly discharge only, published in WSP 1315-B), January 1982 to current year. Records published October 1912 to January 1916, not equivalent because of construction of El Capitan and San Vicente Reservoirs completed in 1934 and 1943.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1315-B for history of changes for period October 1912 to January 1916.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Cuyamaca Reservoir, capacity, 11,540 acre-ft; El Capitan Lake (station 11020600), and San Vicente Reservoir (station 11022100). Diversions by city of San Diego for municipal supply and by Helix Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,000 ft^3/s, Jan. 27, 1916, gage height, 19.3 ft, estimated on basis of upstream station, San Diego River near Santee; no flow at times during most years. Maximum discharge recorded since storage began in El Capitan Lake and San Vicente Reservoir, 8,280 ft^3/s, Mar. 2, 1983, gage height, 13.11 ft, from rating curve extended above 5,800 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,620 ft^3/s, Dec. 16, gage height, 9.51 ft; minimum daily, 0.01 ft^3/s, Sept. 13.

DISCHARGE, IN 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	8.1	252	9.2	22	17	61	7.6	21	7.2	4.2	4.6	1.2
2	7.8	107	9.0	20	297	205	7.5	16	7.8	5.4	3.8	2.0
3	8.4	56	8.2	18	245	84	8.2	15	7.2	5.4	3.8	1.1
4	8.3	51	22	18	71	36	8.3	13	7.2	5.4	4.4	.58
5	8.4	314	276	21	56	27	7.7	13	5.8	5.6	3.7	1.2
6	8.3	146	97	46	41	22	7.2	12	6.4	5.6	4.6	.48
7	8.4	67	46	51	35	18	8.8	4.8	7.7	4.2	5.4	2.7
8	8.4	44	31	30	30	15	7.5	2.8	7.2	1.5	4.6	2.8
9	6.7	35	26	19	26	14	7.2	22	7.8	5.3	4.6	.83
10	7.8	34	21	18	36	13	8.8	4.6	7.8	4.8	5.2	.96
11	13	37	19	17	28	14	8.8	2.9	7.2	4.6	2.0	2.8
12	73	41	16	14	19	13	7.5	2.7	7.2	1.7	1.4	2.3
13	120	34	17	14	20	13	6.9	2.8	7.2	1.9	.32	.01
14	59	25	14	14	19	12	15	5.0	8.5	3.8	1.5	.51
15	27	27	13	15	18	11	226	9.9	5.4	3.2	.27	1.6
16	13	24	318	15	18	13	107	9.7	6.7	5.2	.96	2.1
17	15	15	759	242	17	15	9.9	10	5.9	5.3	.53	1.6
18	8.0	22	195	596	16	12	8.2	9.9	5.6	1.7	3.3	2.1
19	11	27	100	143	16	14	4.6	9.7	5.6	1.0	3.3	1.4
20	13	23	127	74	15	15	374	6.9	6.4	.52	3.8	1.6
21	13	20	67	63	16	13	715	6.2	6.4	.13	3.5	1.6
22	16	22	50	46	6.5	12	408	6.1	7.5	.74	3.5	1.6
23	17	26	43	39	3.4	13	125	6.7	5.9	3.6	.58	1.6
24	22	18	37	40	11	11	74	6.7	5.6	4.8	1.3	.12
25	18	15	32	31	12	12	55	6.7	5.6	4.8	.43	21
26	19	13	26	26	28	10	45	6.9	5.9	4.1	.96	1.3
27	15	12	24	22	16	11	35	5.9	5.4	4.3	.48	.04
28	15	9.3	17	20	19	10	29	6.4	5.4	4.1	.48	1.3
29	24	8.0	21	20	27	8.8	25	6.7	5.6	3.5	.99	1.2
30	30	11	26	19	---	7.6	24	6.9	5.2	4.4	1.8	2.1
31	53	---	23	18	---	8.0	---	7.2	---	4.7	.85	---
TOTAL	674.6	1535.3	2489.4	1751	1178.9	743.4	2381.7	266.1	196.3	115.49	76.95	61.73
MEAN	21.8	51.2	80.3	56.5	40.7	24.0	79.4	8.58	6.54	3.73	2.48	2.06
MAX	120	314	759	596	297	205	715	22	8.5	5.6	5.4	21
MIN	6.7	8.0	8.2	14	3.4	7.6	4.6	2.7	5.2	.13	.27	.01
AC-FT	1340	3050	4940	3470	2340	1470	4720	528	389	229	153	122

CAL YR 1987 TOTAL 9764.69 MEAN 26.8 MAX 759 MIN .53 AC-FT 19370
WTR YR 1988 TOTAL 11470.87 MEAN 31.3 MAX 759 MIN .01 AC-FT 22750

LOS PENASQUITOS CREEK BASIN

11023310 RATTLESNAKE CREEK AT POWAY, CA

LOCATION.--Lat 32°57'07", long 117°02'56", in SE 1/4 SE 1/4 sec.14, T.14 S., R.2 W., San Diego County, Hydrologic Unit 18070304, on right bank 400 ft upstream from its confluence with Poway Creek and 1.0 mi southwest of Poway Post Office.

DRAINAGE AREA.--8.13 mi^2.

PERIOD OF RECORD.--October 1969 to September 1977 (gage heights and discharge measurements only), October 1977 to current year.

GAGE.--Water-stage recorder. Concrete control since Aug. 17, 1982. Elevation of gage is 460 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.--11 years, 2.43 ft^3/s, 1,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,430 ft^3/s, Feb. 21, 1980, gage height, 2.88 ft, from rating curve extended above 100 ft^3/s on basis of stepback-water computations, and slope-conveyence study at gage height 1.20 ft; no flow for many days most years.

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. 4	2145	*166	*1.34	Apr. 21	2115	100	1.18
Dec. 16	2045	104	1.19				

Minimum daily, 0.02 ft^3/s, Sept. 14.

DISCHARGE, IN 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	.07	1.5	.38	.24	.72	1.1	.54	.37	.09	.15	.60	.76
2	.05	1.2	.40	.25	21	2.8	.54	.29	.06	.10	.55	.67
3	.07	.52	.40	.27	1.2	.30	.56	.32	.09	.11	.34	.55
4	.05	5.0	12	.27	.52	.23	.55	.33	.09	.13	.14	.55
5	.05	4.3	4.0	2.9	.40	.24	.53	.33	.08	.15	.17	.51
6	.07	.75	.29	.59	.40	.23	.57	.35	.09	.10	.18	.49
7	.09	.42	.24	.29	.40	.22	.52	.29	.10	.11	.22	.38
8	.10	.40	.20	.29	.40	.20	.55	.29	.11	.17	.21	.31
9	.08	.40	.22	.29	.40	.20	.54	.29	.11	.08	.20	.12
10	.10	.38	.21	.29	.38	.20	.50	.29	.10	.11	.18	.08
11	13	.35	.21	.29	.31	.20	.52	.30	.10	.20	.16	.06
12	2.2	.35	.32	.33	.30	.20	.53	.37	.10	.19	.20	.07
13	.89	.42	.37	.27	.33	.20	.51	.29	.16	.29	.16	.07
14	.22	.93	.18	.22	.31	.20	2.8	.29	.13	.30	.14	.02
15	.20	.36	.20	.26	.34	.20	6.7	.29	.11	.29	.11	.03
16	.20	.37	30	.29	.32	.22	.70	.29	.14	.22	.12	.03
17	.20	.31	7.4	26	.26	.22	.88	.27	.16	.37	.09	.03
18	.20	.99	.69	9.4	.25	.21	.58	.29	.16	.38	.06	.03
19	.20	.29	2.8	1.1	.22	.21	.60	.27	.19	.23	.11	.05
20	.20	.29	.63	.87	.22	.20	21	.21	.18	.28	.13	.06
21	.19	.37	.30	.79	.24	.21	29	.20	.19	.51	.14	.06
22	.31	.38	.29	.72	.26	.24	5.3	.20	.21	.38	.08	.05
23	1.1	.29	.29	.72	.27	.25	.99	.16	.20	.19	.04	.07
24	.30	.36	.29	.77	.25	.21	.56	.12	.21	.17	.33	.06
25	.29	.31	.28	.65	.29	.21	.55	.15	.14	.11	.78	.06
26	.29	.30	.24	.68	.29	.23	.47	.15	.10	.07	1.1	.09
27	.29	.29	.26	.72	.29	.27	.43	.15	.13	.19	.86	.09
28	1.6	.33	.28	.72	.54	.26	.41	.17	.12	.32	.64	.08
29	1.7	.35	.52	.73	.43	.41	.40	.80	.09	.30	.63	.07
30	.29	.35	.34	.72	---	.60	.40	.12	.15	.26	.62	.06
31	3.3	---	.29	.72	---	.55	---	.10	---	.44	.52	---
TOTAL	27.90	22.86	64.52	52.65	31.54	11.22	78.73	8.34	3.89	6.90	9.81	5.56
MEAN	.90	.76	2.08	1.70	1.09	.36	2.62	.27	.13	.22	.32	.19
MAX	13	5.0	30	26	21	2.8	29	.80	.21	.51	1.1	.76
MIN	.05	.29	.18	.22	.22	.20	.40	.10	.06	.07	.04	.02
AC-FT	55	45	128	104	63	22	156	17	7.7	14	19	11

CAL YR 1987 TOTAL 267.69 MEAN .73 MAX 30 MIN 0 AC-FT 531
WTR YR 1988 TOTAL 323.92 MEAN .89 MAX 30 MIN .02 AC-FT 642

LOS PENASQUITOS CREEK BASIN

11023325 BEELER CREEK AT POMERADO ROAD, NEAR POWAY, CA

LOCATION.--Lat 32°56'23", long 117°03'57", in NW 1/4 SW 1/4 sec.23, T.14 S., R.2 W., San Diego County, Hydrologic Unit 18070304, on right downstream wingwall of bridge on Pomerado Road, 0.8 mi upstream from Los Penasquitos Creek, and 1.7 mi southwest of Poway Post Office.

DRAINAGE AREA.--5.46 mi^2.

PERIOD OF RECORD.--November 1969 to September 1977 (gage heights and discharge measurements only), October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 465 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow partially regulated by several conservation reservoirs upstream from station.

AVERAGE DISCHARGE.--12 years, 1.63 ft^3/s, 1,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,410 ft^3/s, Jan. 29, 1980, gage height, 9.20 ft, from rating curve extended above 80 ft^3/s on basis of slope-area measurement at gage height 8.79 ft; no flow for much of each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 21	2200	*23	*5.46				

No flow for many days.

DISCHARGE, IN 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			0	.17	.14	.23	.08	.23	.10			
2			0	.16	.44	.26	.08	.23	.10			
3			0	.14	.70	.23	.09	.22	.10			
4			.01	.13	.38	.26	.09	.22	.10			
5			.01	.12	.33	.26	.09	.23	.10			
6			0	.11	.33	.22	.09	.23	.10			
7			0	.10	.32	.20	.09	.23	.08			
8			0	.09	.29	.19	.09	.21	.08			
9			0	.10	.31	.22	.10	.20	.07			
10			0	.09	.36	.17	.13	.17	.06			
11			.01	.07	.36	.17	.13	.15	.05			
12			.01	.07	.33	.13	.13	.12	.05			
13			.01	.08	.32	.12	.13	.24	.04			
14			.01	.09	.32	.10	.12	.09	.03			
15			.01	.09	.32	.09	.14	.09	.02			
16			.10	.09	.32	.10	.12	.09	.02			
17			.05	.15	.28	.14	.14	.09	.02			
18			.03	.27	.27	.09	.12	.09	.02			
19			.03	.26	.24	.09	.10	.09	.02			
20			.04	.22	.23	.07	.16	.10	.04			
21			.04	.20	.23	.09	1.5	.09	.06			
22			.05	.17	.23	.09	1.8	.09	.06			
23			.06	.17	.25	.09	.41	.09	.06			
24			.08	.14	.27	.09	.34	.10	.05			
25			.10	.14	.27	.08	.32	.11	.04			
26			.11	.14	.27	.09	.30	.11	.02			
27			.13	.15	.27	.09	.27	.10	.01			
28			.11	.16	.25	.08	.27	.10	0			
29			.13	.14	.24	.08	.25	.10	0			
30			.14	.14	---	.08	.24	.10	.01			
31		---	.16	.14	---	.08	---	.10	---			---
TOTAL	0	0	1.43	4.29	8.87	4.28	7.92	4.41	1.51	0	0	0
MEAN	0	0	.046	.14	.31	.14	.26	.14	.050	0	0	0
MAX	0	0	.16	.27	.70	.26	1.8	.24	.10	0	0	0
MIN	0	0	0	.07	.14	.07	.08	.09	0	0	0	0
AC-FT	0	0	2.8	8.5	18	8.5	16	8.7	3.0	0	0	0

CAL YR 1987 TOTAL 9.85 MEAN .027 MAX .24 MIN 0 AC-FT 20
WTR YR 1988 TOTAL 32.71 MEAN .089 MAX 1.8 MIN 0 AC-FT 65

LOS PENASQUITOS CREEK BASIN

11023330 LOS PENASQUITOS CREEK BELOW POWAY CREEK, NEAR POWAY, CA

LOCATION.--Lat 32°56'58", long 117°04'08", in NE 1/4 NE 1/4 sec.22, T.14 S., R.2 W., San Diego County, Hydrologic Unit 18070304, on right bank 10 ft upstream from concrete ford on Cobblestone Creek Road, 0.2 mi downstream from confluence of Poway and Pomerado Creeks, and 2.0 mi southwest of Poway.

DRAINAGE AREA.--31.2 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 415 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow partly regulated by small conservation reservoirs.

AVERAGE DISCHARGE.--18 years, 6.31 ft^3/s, 4,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,990 ft^3/s, Feb. 21, 1980, gage height, 11.11 ft, from rating curve extended above 300 ft^3/s on basis of slope-area measurements at gage heights 9.58 and 11.11 ft; no flow at times during some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 11	1930	233	5.33	Jan. 17	2100	405	5.88
Dec. 4	2330	619	6.41	Feb. 2	1500	319	5.63
Dec. 16	2130	637	6.45	Apr. 21	2000	*1,420	*7.76

Minimum daily, 0.13 ft^3/s, Oct. 4.

DISCHARGE, IN 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	.18	6.4	1.1	.79	1.4	7.8	.95	.80	.70	.64	.73	.78
2	.17	4.2	1.1	.82	102	14	.97	1.0	.52	.41	.63	.63
3	.24	1.6	1.1	.82	6.8	1.5	.95	.94	.54	.27	.57	.58
4	.13	9.8	48	.82	2.3	1.3	.91	.97	.63	.30	.54	.50
5	.14	18	36	11	1.8	1.3	.85	1.0	.42	.31	.62	.51
6	.17	3.0	1.5	2.8	1.6	1.2	.92	1.3	.56	.34	.58	.49
7	.16	1.4	1.3	1.2	1.5	1.1	.88	1.0	.59	.34	.51	.57
8	.20	1.2	.97	1.2	1.5	1.0	.91	1.0	.67	.42	.56	.59
9	.22	1.2	.85	1.2	1.5	1.2	.94	.96	.70	.49	.60	.63
10	.24	1.1	.92	1.2	1.4	1.3	.92	.86	.78	.53	.59	.66
11	39	1.2	.82	1.3	1.3	1.2	.89	.91	.77	.59	.58	.63
12	8.2	1.2	.92	1.4	1.3	1.2	.97	.95	.82	.41	.65	.63
13	3.8	1.1	1.0	1.5	1.4	1.2	.97	.98	.94	.46	.62	.65
14	1.3	2.4	.64	1.2	1.4	1.2	3.5	1.1	.84	.56	.68	.64
15	1.1	1.2	.67	1.3	1.3	1.3	22	1.1	.70	.59	.63	.61
16	1.2	1.2	148	1.5	1.4	1.3	1.7	1.1	.83	.68	.64	.69
17	1.3	1.3	40	82	1.3	1.3	1.9	1.1	.40	.49	.61	.69
18	1.3	2.7	1.9	34	1.3	1.1	1.3	1.0	.35	.50	.66	.72
19	1.1	1.2	9.9	2.6	1.3	1.1	1.2	1.1	.55	.64	.69	.75
20	1.1	1.1	2.3	2.0	1.3	1.2	95	.97	.82	.51	.70	.70
21	1.2	1.2	1.2	1.9	1.3	1.2	275	.99	.46	.71	.62	.82
22	1.7	1.1	1.1	1.8	1.4	1.3	71	.97	.31	.65	.63	.60
23	3.4	1.1	1.0	1.5	1.4	1.3	4.4	1.0	.35	.58	.63	.58
24	1.6	1.1	.93	1.6	1.4	1.3	1.8	1.1	.48	.53	.66	.64
25	1.4	1.2	.85	1.5	1.4	1.3	1.1	1.1	.34	.58	.69	.64
26	1.3	1.1	.89	1.4	1.2	1.1	.83	.99	.28	.79	.73	.60
27	1.3	1.1	.95	1.4	1.2	1.2	.97	1.2	.31	.70	.65	.55
28	3.6	1.1	.90	1.5	2.0	1.2	1.0	.91	.55	.67	.60	.58
29	3.8	1.1	1.4	1.6	3.3	1.0	.84	2.6	.35	.66	.62	.69
30	2.1	1.3	1.2	1.5	---	.96	.75	.76	.55	.67	.63	.69
31	11	---	.86	1.4	---	.94	---	.66	---	.68	.64	---
TOTAL	93.65	73.9	310.27	167.75	149.7	56.60	496.32	32.42	17.11	16.70	19.49	19.04
MEAN	3.02	2.46	10.0	5.41	5.16	1.83	16.5	1.05	.57	.54	.63	.63
MAX	39	18	148	82	102	14	275	2.6	.94	.79	.73	.82
MIN	.13	1.1	.64	.79	1.2	.94	.75	.66	.28	.27	.51	.49
AC-FT	186	147	615	333	297	112	984	64	34	33	39	38

CAL YR 1987 TOTAL 1023.53 MEAN 2.80 MAX 148 MIN .09 AC-FT 2030
WTR YR 1988 TOTAL 1452.95 MEAN 3.97 MAX 275 MIN .13 AC-FT 2880

LOS PENASQUITOS CREEK BASIN

11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA

LOCATION.--Lat 32°56'35", long 117°07'15", in Los Penasquitos Grant, San Diego County, Hydrologic Unit 18070304, on left bank 1.0 mi downstream from Cypress Creek and 5.5 mi southwest of Poway.

DRAINAGE AREA.--42.1 mi^2.

PERIOD OF RECORD.--October 1964 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.--Estimated daily discharges: Feb. 4-10. Records fair. Flow partly regulated by several conservation reservoirs upstream from station. Pumping from wells along stream for irrigation. Flow augmented by reclaimed water from Poway area.

AVERAGE DISCHARGE.--24 years, 8.23 ft^3/s, 5,960 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft^3/s, Feb. 21, 1980, gage height, 10.26 ft, from rating curve extended above 1,400 ft^3/s; no flow at times in 1968, 1972, and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	0030	420	4.42	Apr. 21	2045	*1,720	*7.10
Dec. 16	2230	725	5.30				

Minimum daily, 0.46 ft^3/s, Oct. 5.

DISCHARGE, IN 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	.90	17	1.5	1.6	1.9	12	1.5	1.7	1.8	1.2	2.3	1.5
2	.78	9.5	1.3	1.4	135	30	1.4	1.6	1.8	2.0	1.5	1.5
3	.73	3.5	1.2	1.3	40	3.4	1.3	1.9	1.4	1.6	1.1	2.3
4	.47	8.0	15	1.3	15	2.3	1.3	1.7	2.0	1.5	1.3	2.7
5	.46	66	77	12	6.0	2.0	1.3	1.9	1.8	.80	1.3	1.5
6	.48	13	4.3	11	4.0	1.9	1.4	2.5	.96	.95	2.1	.69
7	.51	5.1	2.6	2.5	3.2	1.8	1.5	2.0	1.1	1.0	1.9	.93
8	.69	3.3	2.3	2.0	2.8	1.6	1.2	1.9	2.2	1.0	1.0	1.0
9	.99	2.0	2.0	1.9	2.6	1.5	1.3	1.9	1.2	1.8	1.3	1.2
10	1.1	1.7	1.7	1.8	2.4	2.3	1.1	1.9	.95	2.0	1.5	1.9
11	40	1.7	1.8	1.7	2.3	2.1	.93	1.8	1.5	1.3	1.8	2.1
12	33	1.7	2.5	1.9	2.1	2.0	.64	1.9	1.4	1.3	1.6	1.8
13	8.2	1.6	3.1	2.0	2.3	2.1	1.1	1.9	.87	1.2	2.5	1.7
14	2.9	4.0	1.6	1.7	2.3	1.9	4.4	2.1	1.1	1.2	3.0	1.6
15	2.0	2.1	1.3	1.6	2.1	2.0	49	2.0	1.4	1.5	2.3	1.5
16	1.6	1.6	182	1.9	2.1	2.0	5.3	1.8	1.5	2.1	1.6	1.5
17	1.6	1.5	97	104	2.1	1.9	5.4	1.7	1.2	2.0	1.7	2.0
18	1.7	4.8	8.1	71	1.9	1.9	3.6	1.7	1.7	1.2	1.8	2.1
19	1.6	2.1	16	6.2	2.0	1.8	2.6	1.5	1.7	1.4	1.8	1.8
20	1.3	1.4	10	3.9	1.9	1.8	145	1.4	1.4	1.3	2.1	2.0
21	1.2	1.3	3.1	3.0	1.9	1.9	301	1.5	1.6	1.6	2.0	2.2
22	1.5	1.3	2.7	2.9	2.1	2.1	107	1.5	1.2	1.6	1.5	1.8
23	7.1	1.5	2.4	2.3	2.0	2.5	13	1.3	1.2	2.0	1.5	1.6
24	2.4	1.3	2.2	2.2	1.9	2.5	6.8	1.0	1.4	1.8	1.2	2.0
25	1.7	2.3	1.8	3.2	1.9	2.4	3.5	1.1	1.6	1.2	1.3	2.1
26	1.3	1.5	1.6	2.2	1.8	2.0	2.9	1.1	1.5	1.4	1.4	1.5
27	1.1	1.2	1.7	2.0	1.8	1.8	2.6	1.1	.88	1.6	1.9	1.8
28	2.6	1.1	1.7	2.0	2.7	1.7	2.8	2.1	.99	1.5	1.7	1.7
29	13	1.2	2.7	1.9	3.6	1.8	2.2	10	1.0	1.5	1.3	1.6
30	3.2	1.2	3.7	2.1	---	1.5	2.0	4.0	.90	1.9	1.4	1.5
31	18	---	1.9	1.9	---	1.6	---	2.2	---	1.8	1.3	---
TOTAL	154.11	165.5	457.8	258.4	253.7	100.1	675.07	63.7	41.25	46.25	52.0	51.12
MEAN	4.97	5.52	14.8	8.34	8.75	3.23	22.5	2.05	1.38	1.49	1.68	1.70
MAX	40	66	182	104	135	30	301	10	2.2	2.1	3.0	2.7
MIN	.46	1.1	1.2	1.3	1.8	1.5	.64	1.0	.87	.80	1.0	.69
AC-FT	306	328	908	513	503	199	1340	126	82	92	103	101

CAL YR 1987 TOTAL 1659.24 MEAN 4.55 MAX 182 MIN .46 AC-FT 3290
WTR YR 1988 TOTAL 2319.00 MEAN 6.34 MAX 301 MIN .46 AC-FT 4600

SAN DIEGUITO RIVER BASIN

11025500 SANTA YSABEL CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°06'25", long 116°51'55", in NW 1/4 NE 1/4 sec.27, T.12 S., R.1 E., San Diego County, Hydrologic Unit 18070304, on left bank 1.6 mi downstream from Temescal Creek, 4.5 mi north of Ramona, and 5.0 mi downstream from Lake Sutherland.

DRAINAGE AREA.--112 mi^2.

PERIOD OF RECORD.--February 1912 to February 1923 (monthly discharge only for February 1912, published in WSP 1315-B), October 1943 to current year.

REVISED RECORD.--WDR CA-63-1: Drainage area.

GAGE.--Water-stage recorder and concrete cutoff wall. Datum of gage is 847.88 ft above National Geodetic Vertical Datum of 1929 (levels by city of San Diego Water Department). See WSP 1315-B for history of changes prior to Feb. 3, 1923.

REMARKS.--Estimated daily discharges: Oct. 1 to Jan. 27. Records good except those for estimated period, which are fair. Flow regulated by Lake Sutherland (station 11024000) since July 1954. Some small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,400 ft^3/s, Jan. 27, 1916, gage height, 14.0 ft, datum then in use, from rating curve extended above 1,500 ft^3/s on basis of slope-conveyance study of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 540 ft^3/s, Jan. 17, gage height, 4.63 ft; no flow for several days.

DISCHARGE, IN 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	.10	1.2	.75	1.1	2.5	2.0	.67	3.4	.14	.05	.01	.02
2	.10	1.0	.75	1.1	6.2	7.5	.64	3.3	.13	.05	.02	.01
3	.10	.85	.75	1.1	18	6.1	.53	2.6	.15	.04	.02	.02
4	.10	.90	.80	1.1	8.8	4.3	.48	1.6	.12	.03	.01	.02
5	.10	1.6	2.0	1.3	6.1	3.7	.42	1.5	.12	.03	.01	.02
6	1.0	1.3	1.2	1.7	4.7	2.8	.42	1.9	.11	.03	.01	.02
7	.10	1.1	.96	1.6	3.7	2.4	.41	1.9	.10	.02	.01	.02
8	.10	.95	.96	1.5	3.3	2.2	.37	2.0	.09	.02	.01	.01
9	.10	.85	.96	1.4	3.1	2.1	.35	1.6	.08	.02	.01	0
10	.10	.80	.96	1.4	2.9	2.0	.30	1.5	.08	.02	.02	0
11	.09	.75	.96	1.4	2.6	1.8	.30	1.1	.08	.02	.02	0
12	.09	.75	.96	1.4	2.5	1.6	.30	.83	.07	.02	.02	.01
13	.09	.75	1.0	1.4	2.3	1.5	.33	.62	.07	.02	.02	.01
14	.09	.85	1.1	1.4	2.1	1.4	.43	.47	.07	.02	.01	.01
15	.09	.80	1.2	1.4	2.0	1.4	1.2	.38	.06	.02	.01	.01
16	.09	.75	1.7	1.5	1.9	1.4	1.6	.34	.06	.02	.01	.01
17	.09	.75	3.0	60	1.8	1.4	1.6	.35	.06	.01	.01	.01
18	.09	.70	2.0	130	1.8	1.3	1.7	.34	.06	.02	.01	.01
19	.09	.70	1.8	25	1.7	1.2	1.9	.32	.06	.02	.01	.01
20	.09	.70	1.5	10	1.5	1.1	4.6	.27	.05	.02	.01	.01
21	.09	.70	1.4	6.0	1.6	1.0	11	.21	.04	.02	.01	.01
22	.10	.70	1.4	4.9	1.6	.98	18	.20	.04	.02	.01	0
23	.10	.70	1.3	4.3	1.5	.99	9.5	.18	.04	.02	.01	0
24	.10	.70	1.3	3.8	1.4	1.1	8.2	.17	.04	.01	.01	0
25	.11	.70	1.2	3.5	1.5	1.0	6.2	.16	.04	.01	.01	0
26	.11	.70	1.2	3.2	1.5	.94	4.6	.16	.04	.02	.02	0
27	.12	.70	1.1	2.9	1.6	.90	3.8	.16	.03	.04	.02	0
28	.12	.70	1.2	2.7	1.4	.83	3.6	.15	.03	.05	.01	0
29	.60	.70	1.3	2.5	1.4	.69	4.1	.22	.03	.05	.02	0
30	.35	.70	1.2	2.5	---	.69	3.9	.20	.03	.04	.02	0
31	.80	---	1.2	2.5	---	.70	---	.16	---	.03	.02	---
TOTAL	5.40	25.05	39.11	285.6	93.0	59.02	91.45	28.29	2.12	.81	.42	.24
MEAN	.17	.84	1.26	9.21	3.21	1.90	3.05	.91	.071	.026	.014	.008
MAX	1.0	1.6	3.0	130	18	7.5	18	3.4	.15	.05	.02	.02
MIN	.09	.70	.75	1.1	1.4	.69	.30	.15	.03	.01	.01	0
AC-FT	11	50	78	566	184	117	181	56	4.2	1.6	.8	.5

CAL YR 1987 TOTAL 430.66 MEAN 1.18 MAX 15 MIN 0 AC-FT 854
WTR YR 1988 TOTAL 630.51 MEAN 1.72 MAX 130 MIN 0 AC-FT 1250

SAN DIEGUITO RIVER BASIN

11028500 SANTA MARIA CREEK NEAR RAMONA, CA

LOCATION.--Lat 33°03'08", long 116°56'41", in SE 1/4 SE 1/4 sec.11, T.13 S., R.1 W., San Diego County, Hydrologic Unit 18070304, on left bank 3.8 mi northwest of Ramona, 3.1 mi northwest of Jensens, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--57.6 mi^2.

PERIOD OF RECORD.--December 1912 to September 1920, October 1946 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Concrete control since October 1946. Datum of gage is 1,294.44 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1946, at same site, but at datum 1.78 ft lower.

REMARKS.--Estimated daily discharges: Feb. 7-29, Mar. 22 to Apr. 4. Records fair. No regulation upstream from station.

AVERAGE DISCHARGE.--49 years (water years 1914-20, 1947-88), 6.00 ft^3/s, 4,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft^3/s, Feb. 21, 1980, gage height, 14.39 ft, from rating curve extended above 130 ft^3/s on basis of slope-area measurement at gage height 4.56 ft and slope-conveyance study at gage height 14.39 ft; no flow for many days in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 18	0115	*411	*3.08				

No flow for several days.

DISCHARGE, IN 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	0	.93	.66	1.1	1.1	2.4	.18	.81	.67	.06	0	0
2	0	.42	.89	1.3	46	4.6	.16	.73	1.1	.05	0	0
3	0	.26	.92	1.3	28	2.3	.15	.73	1.1	.05	0	0
4	0	1.3	1.0	1.2	8.3	1.4	.13	.91	.87	.03	0	0
5	.04	1.9	1.5	1.1	4.9	.79	.11	.62	1.1	.02	0	0
6	.07	.65	.82	1.2	3.0	.71	.09	.69	.47	.01	.06	0
7	.07	1.1	.53	1.7	2.2	.68	.13	.68	.34	.03	.17	0
8	.04	.78	1.5	1.6	2.0	.88	.12	.75	.11	.14	.38	.10
9	.03	1.1	1.2	1.5	1.8	.84	.10	.69	.11	.35	.43	.18
10	.02	.90	1.3	1.5	1.6	.66	.06	.58	.25	.42	.04	.07
11	.17	.56	1.1	1.3	1.5	.64	.07	.34	.16	.41	.04	.17
12	.28	.94	.52	.56	1.4	.48	.29	.18	.15	.42	.04	.18
13	.17	.48	.76	1.0	1.3	.17	.85	.16	.24	.07	.11	.04
14	.04	1.3	.36	.97	1.2	.19	.54	.15	.09	.06	.26	.02
15	.34	1.0	1.1	1.0	1.1	.88	1.2	.15	.18	.06	.29	.31
16	.10	.89	4.9	.50	1.1	.67	.42	.13	.08	.05	.11	.44
17	.41	.83	14	54	1.0	.75	.41	.14	.03	.04	.03	.40
18	.31	.93	5.0	112	.95	.58	.32	.63	.10	.02	.02	.39
19	.48	.59	4.1	7.6	.90	.29	.26	.67	.33	.22	.01	.37
20	.09	.24	7.8	4.6	.90	.79	11	.42	.49	.58	.01	.38
21	.13	.27	3.3	3.9	.85	.69	19	.18	.52	.67	.02	.30
22	.15	.27	1.7	2.9	.85	.25	35	.18	.27	.26	.01	.07
23	.15	.28	1.6	3.0	.85	.35	7.2	.18	.68	.11	.14	.14
24	.48	.45	1.1	2.7	.85	.50	4.9	.19	.23	.10	.39	.16
25	.65	.81	1.5	1.9	.80	.35	2.5	.15	.15	.09	.19	.15
26	.27	.73	1.4	1.5	.80	.25	2.6	.20	.41	.25	.04	.10
27	.69	.92	1.4	1.6	.80	.23	1.7	.13	.54	.19	.02	.51
28	.40	.94	1.2	2.2	.80	.22	2.0	.27	.51	.11	.02	.18
29	.53	1.3	.62	1.1	.80	.21	2.3	.81	.21	.07	.02	.57
30	.14	1.1	.79	1.0	---	.20	.86	.89	.24	.04	.01	.10
31	1.1	---	1.1	1.1	---	.19	---	.93	---	.01	0	---
TOTAL	7.35	24.17	65.67	219.93	117.65	24.14	94.65	14.27	11.73	4.99	2.86	5.33
MEAN	.24	.81	2.12	7.09	4.06	.78	3.16	.46	.39	.16	.092	.18
MAX	1.1	1.9	14	112	46	4.6	35	.93	1.1	.67	.43	.57
MIN	0	.24	.36	.50	.80	.17	.06	.13	.03	.01	0	0
AC-FT	15	48	130	436	233	48	188	28	23	9.9	5.7	11

CAL YR 1987 TOTAL 360.18 MEAN .99 MAX 14 MIN 0 AC-FT 714
WTR YR 1988 TOTAL 592.74 MEAN 1.62 MAX 112 MIN 0 AC-FT 1180

SAN DIEGUITO RIVER BASIN

11030020 LAKE HODGES NEAR ESCONDIDO, CA

LOCATION.--Lat 33°02'46", long 117°07'39", in SE 1/4 NW 1/4 sec.18, T.13 S., R.2 W., San Diego County, Hydrologic Unit 18070304, 300 ft upstream from right upstream end of Hodges Dam on San Dieguito River, 6.4 mi southwest of Escondido, and 20 mi southwest of Sutherland Reservoir.
DRAINAGE AREA.--303 mi^2.
PERIOD OF RECORD.--October 1945 to September 1968 (published with San Dieguito River at Lake Hodges, station 11030000), October 1972 to current year. Monthend contents only October 1972 to September 1987. Monthend gage heights February 1919 to September 1945, in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by county of San Diego). Prior to Oct. 1, 1972, nonrecording gage at site 800 ft upstream on right bank at same datum. October 1972 to current year, supplementary water-stage recorder used for flood warning only, on left upstream face of dam at datum 200 feet higher.
REMARKS.--Reservoir is formed by multiple-arch reinforced concrete dam, constructed in 1917-19. Storage began in February 1919. Capacity of reservoir at spillway level, 33,550 acre-ft, elevation, 315.0 ft. Dead storage below lowest outlet, 1,160 acre-ft, elevation 254.0 ft, included in these records. Reservoir can be drawn down to 207 acre-ft, elevation, 240.0 ft by pumping. Water drawn from Lake Hodges passes through a conduit to San Dieguito re-regulating reservoir, from which it is released as required for municipal use. Flow regulated since July 1954 by Sutherland Reservoir (station 11024000). Diversions for irrigation upstream from Lake Hodges.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 41,620 acre-ft, spilling, Feb. 21, 1980, elevation, 321.50 ft; minimum observed, 114 acre-ft, Oct. 31, 1965, elevation, 235.80 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,570 acre-ft, Feb. 15, elevation, 305.84 ft; minimum, 18,200 acre-ft, Sept. 30, elevation, 299.57 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated July 1, 1953, provided by city of San Diego)

280	7,340	300	18,530
285	9,440	305	22,780
290	11,950	310	27,780
295	14,950	315	33,550

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20900	20970	21130	22030	22890	23460	22760	23300	22370	21160	19930	19180
2	20850	21020	21130	21960	23320	23500	22720	23280	22340	21120	19880	19130
3	20830	21030	21140	21920	23450	23490	22690	23270	22310	21090	19830	19090
4	20780	21120	21190	22000	23500	23490	22650	23250	22260	21030	19810	19040
5	20740	21320	21280	22140	23520	23480	22620	23200	22210	20990	19790	19000
6	20720	21360	21360	22180	23520	23470	22600	23180	22160	20960	19780	18940
7	20700	21360	21400	22180	23540	23460	22570	23160	22110	20910	19770	18910
8	20690	21360	21390	22180	23540	23440	22530	23140	22080	20870	19740	18880
9	20660	21360	21380	22180	23540	23430	22500	23120	22040	20830	19730	18810
10	20660	21370	21380	22170	23550	23410	22460	23100	21990	20780	19720	18760
11	20830	21380	21370	22160	23550	23380	22420	23080	21960	20740	19700	18730
12	20900	21380	21360	22150	23560	23350	22370	23040	21920	20710	19690	18700
13	20930	21380	21360	22150	23560	23320	22350	23000	21880	20660	19680	18650
14	20930	21420	21360	22150	23560	23290	22350	22980	21830	20610	19660	18590
15	20920	21420	21350	22150	23570	23270	22420	22950	21800	20570	19640	18570
16	20910	21420	21710	22140	23560	23250	22410	22920	21760	20530	19640	18530
17	20910	21430	21960	22490	23540	23220	22390	22880	21720	20490	19620	18480
18	20900	21430	22010	22790	23540	23200	22360	22850	21690	20450	19610	18450
19	20900	21420	22050	22870	23510	23170	22340	22830	21650	20430	19600	18440
20	20900	21410	22110	22890	23510	23140	22720	22800	21600	20420	19590	18420
21	20880	21390	22140	22930	23490	23110	23110	22750	21570	20410	19580	18400
22	20900	21360	22140	22930	23480	23080	23250	22720	21520	20400	19550	18380
23	20900	21350	22140	22930	23470	23060	23320	22690	21490	20350	19510	18350
24	20910	21330	22140	22940	23450	23030	23350	22650	21440	20300	19480	18340
25	20910	21300	22140	22930	23440	23010	23370	22620	21420	20260	19440	18340
26	20900	21260	22140	22930	23430	22980	23380	22590	21370	20220	19410	18320
27	20890	21220	22130	22910	23400	22940	23380	22550	21330	20170	19360	18290
28	20860	21210	22120	22910	23390	22900	23370	22510	21290	20120	19330	18280
29	20900	21200	22120	22900	23390	22870	23360	22480	21250	20070	19290	18240
30	20890	21170	22110	22900	---	22840	23320	22450	21200	20020	19250	18200
31	20960	---	22070	22890	---	22810	---	22410	---	19970	19220	---
MAX	20960	21430	22140	22940	23570	23500	23380	23300	22370	21160	19930	19180
MIN	20660	20970	21130	21920	22890	22810	22340	22410	21200	19970	19220	18200
a	302.95	303.20	304.22	305.12	305.65	305.03	305.58	304.59	303.23	301.79	300.87	299.57
b	-650	+210	+900	+820	+500	-580	+510	-910	-1210	-1230	-750	-1020

CAL YR 1987 MAX 28670 MIN 20660 b -4550
WTR YR 1988 MAX 23570 MIN 18200 b -3410

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

SAN DIEGUITO RIVER BASIN

11030500 SAN DIEGUITO RIVER NEAR DEL MAR, CA

LOCATION.--Lat 32°54'23", long 117°12'45", in SE 1/4 SW 1/4 sec.6, T.14 S., R.3 W., San Diego County, Hydrologic Unit 18070304, on downstream side of second pier from right bank of El Camino Real bridge, 0.3 mi south of intersection of El Camino Real and Via Del La Valle, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--338 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1984 to current year. Prior to October 1986, published as San Dieguito Creek near Del Mar.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Sutherland Lake (station 11024000), capacity 29,680 acre-ft, since July 1954 and Lake Hodges (station 11030020), capacity 33,550 acre-ft, since 1919. Diversions and pumping from wells in San Pasqual Valley and lower San Dieguito Valley.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft^3/s, Mar. 17, 1986, gage height, 10.69 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61 ft^3/s, Apr. 22, gage height, 8.04 ft; no flow many days.

DISCHARGE, IN 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	0	1.5	.28	.62	.59	.77	.04	.51	.14	.07	0	.03
2	0	2.5	.34	.45	5.1	1.5	.02	.35	.10	.06	0	.03
3	0	1.6	.37	.39	29	1.8	.02	.28	.10	.06	0	.03
4	0	1.2	.65	.41	16	.95	.03	.27	.16	.06	0	.03
5	0	3.1	12	.46	6.0	.69	.03	.21	.13	.05	0	.03
6	0	6.1	3.2	.70	3.7	.70	.04	.23	.07	.05	0	.03
7	0	2.5	1.3	.94	2.8	.78	.02	.62	.06	.05	0	.03
8	0	1.5	.91	.60	2.1	.85	.12	.20	.13	.04	0	.02
9	0	.96	.75	.41	1.7	.84	.04	.28	.16	.04	0	.01
10	0	.64	.68	.35	1.4	.89	.04	.15	.19	.04	0	0
11	0	.42	.68	.37	1.2	.91	.12	.07	.24	.03	0	0
12	.54	.34	.68	.36	1.2	1.2	.30	.04	.28	.03	0	0
13	2.0	.39	.62	.29	.86	.78	.11	.02	.27	.03	0	0
14	1.3	.49	.46	.32	.66	.73	.15	.03	.25	.02	0	0
15	.58	.52	.46	.39	.60	.75	1.6	.07	.25	.02	0	0
16	.32	.38	1.9	.62	.55	.72	1.6	.14	.25	.02	0	.02
17	.19	.36	30	1.4	.56	.57	.67	.18	.20	0	0	.03
18	.16	.58	25	6.4	.59	.43	.21	.22	.20	0	0	.03
19	.19	.47	7.0	8.5	.99	.30	.03	.14	.20	0	0	.03
20	.16	.29	4.1	4.7	.74	.29	3.2	.06	.15	0	0	.03
21	.13	.35	3.0	2.7	.57	.24	11	.03	.15	0	0	.03
22	.22	.39	2.5	1.7	.46	.28	34	.02	.10	0	0	.03
23	.57	.41	1.9	1.3	.50	.28	32	.03	.10	0	0	.03
24	.42	.34	1.3	.86	.44	.32	9.0	.02	.09	0	0	.03
25	.27	.32	.85	.65	.46	.26	4.7	0	.09	0	0	.03
26	.21	.36	.57	.54	.88	.14	3.0	0	.08	0	0	.03
27	.20	.29	.46	.54	.60	.14	2.1	.03	.08	0	0	.03
28	.21	.32	.48	1.1	.44	.16	1.5	.24	.08	0	0	.03
29	.51	.34	1.2	.99	.41	.11	1.1	.41	.07	0	0	.03
30	.48	.29	1.3	.62	---	.08	.77	.42	.07	0	.01	.03
31	.72	---	.66	.54	---	.10	---	.27	---	0	.02	---
TOTAL	9.38	29.25	105.60	40.22	81.10	18.56	107.56	5.54	4.44	.67	.03	.68
MEAN	.30	.98	3.41	1.30	2.80	.60	3.59	.18	.15	.022	.001	.023
MAX	2.0	6.1	30	8.5	29	1.8	34	.62	.28	.07	.02	.03
MIN	0	.29	.28	.29	.41	.08	.02	0	.06	0	0	0
AC-FT	19	58	209	80	161	37	213	11	8.8	1.3	.06	1.3

CAL YR 1987 TOTAL 308.22 MEAN .84 MAX 41 MIN 0 AC-FT 611
WTR YR 1988 TOTAL 403.03 MEAN 1.10 MAX 34 MIN 0 AC-FT 799

SAN DIEGUITO RIVER BASIN

11030500 SAN DIEGUITO RIVER NEAR DEL MAR, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
SEDIMENT DATA: Water years 1982 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: January to September 1984.
SEDIMENT DATA: January to September 1984.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
OCT						
13...	1220	2.1	20.5	25	0.14	--
NOV						
06...	1045	7.8	16.5	4	0.08	--
DEC						
17...	1045	33	10.0	1450	129	100
JAN						
04...	1215	0.46	9.5	63	0.08	--
18...	1515	6.8	13.0	31	0.57	94
FEB						
01...	0945	0.52	11.0	61	0.09	--
MAR						
31...	1445	0.08	20.5	67	0.01	--
APR						
21...	1215	9.7	18.0	54	1.4	--
MAY						
18...	0645	0.24	16.5	117	0.08	43
JUN						
23...	1015	0.09	19.0	21	0.01	--
SEP						
29...	1030	0.03	18.0	27	0.00	63

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	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
JAN											
04...	1230	9.5	4	0.46	23	42	66	85	96	98	100

ESCONDIDO CREEK BASIN

11030700 LAKE WOHLFORD NEAR ESCONDIDO, CA

LOCATION (REVISED).--Lat 33°09 59", long 117°00'14", in NW 1/4 NE 1/4 sec.5, T.12 S., R.1 W., San Diego County, Hydrologic Unit 18070303, near left abutment of Lake Wohlford Dam, 4.7 mi southeast of Valley Center Post Office, and 5.7 mi northeast of Escondido.

DRAINAGE AREA.--7.96 mi^2.

PERIOD OF RECORD.--October 1972 to current year. October 1933 to September 1972 in files of San Diego County Department of Sanitation and Flood Control.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of Escondido Engineering Department). Since October 1972, supplementary water-stage recorder for flood warning only, at same site at datum 1,400 ft higher.

REMARKS.--Reservoir is formed by earthfill dam riprapped upstream and downstream, with concrete spillway anchored to natural rock. Dam was completed in 1932. Capacity at spillway level, 6,940 acre-ft, elevation, 1,480.0 ft. Dead storage below lowest outlet, 131 acre-ft, elevation, 1,420 ft. Reservoir storage includes supplemental water diverted from the San Luis Rey River via Escondido Mutual Water Co.'s canal to Lake Wohlford Reservoir. Stored water is released for municipal use by Vista Irrigation District and city of Escondido.

COOPERATION.--Selected gage heights were provided by Escondido Mutual Water Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 7,140 acre-ft, Feb. 21, 1980, elevation, 1,480.9 ft; minimum, 1,050 acre-ft, Dec. 23-25, 1978, elevation, 1,440.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,320 acre-ft, July 12, elevation, 1,477.10 ft; minimum, 2,600 acre-ft, Dec. 16, elevation, 1,455.64 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated March 1955, provided by city of Escondido)

1,440	1,000	1,455	2,510	1,470	4,910
1,445	1,410	1,460	3,220	1,475	5,880
1,450	1,910	1,465	4,020	1,481	7,160

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5070	3870	3000	2700	3310	3780	3990	4370	5260	6020	6150	5990
2	5030	3850	2970	2700	3370	3810	4010	4350	5280	6050	6140	5980
3	4980	3830	2940	2710	3400	3830	4040	4360	5300	6080	6130	5990
4	4940	3830	2920	2710	3410	3850	4060	4370	5310	6120	6140	5950
5	4890	3840	2910	2720	3420	3870	4080	4420	5330	6150	6150	5940
6	4840	3840	2900	2740	3430	3900	4070	4460	5350	6180	6160	5930
7	4800	3830	2860	2750	3440	3910	4080	4500	5380	6210	6170	5910
8	4750	3800	2840	2750	3440	3930	4090	4530	5400	6240	6180	5900
9	4710	3770	2790	2760	3440	3940	4110	4570	5430	6270	6200	5890
10	4660	3740	2760	2780	3450	3960	4120	4600	5450	6300	6210	5890
11	4640	3700	2730	2790	3460	3970	4130	4640	5470	6280	6240	5880
12	4610	3670	2700	2790	3480	3990	4140	4670	5490	6310	6230	5870
13	4570	3640	2660	2830	3500	4010	4150	4700	5510	6310	6220	5870
14	4530	3610	2640	2840	3530	4020	4160	4730	5540	6290	6210	5860
15	4490	3570	2610	2870	3540	4040	4190	4760	5590	6280	6200	5850
16	4450	3540	2600	2900	3560	4050	4200	4790	5610	6260	6180	5840
17	4410	3510	2610	3000	3570	4040	4210	4820	5630	6250	6170	5830
18	4370	3480	2630	3070	3590	4030	4220	4850	5660	6250	6160	5820
19	4330	3440	2640	3110	3600	4020	4220	4880	5680	6250	6160	5810
20	4300	3400	2640	3130	3620	4020	4260	4910	5720	6240	6150	5810
21	4260	3350	2650	3140	3640	4020	4310	4940	5750	6230	6150	5820
22	4230	3320	2660	3150	3650	4040	4330	4960	5760	6220	6140	5830
23	4200	3290	2660	3150	3670	4050	4350	4990	5750	6210	6130	5820
24	4160	3250	2660	3170	3680	4070	4380	5010	5770	6200	6120	5810
25	4140	3210	2670	3180	3690	4050	4380	5040	5820	6200	6070	5800
26	4080	3170	2670	3190	3710	4020	4380	5060	5900	6190	6050	5790
27	4040	3140	2670	3210	3730	4020	4360	5090	5950	6180	6030	5780
28	4000	3100	2680	3230	3750	4000	4360	5120	5950	6170	6020	5770
29	3960	3060	2680	3240	3760	4000	4370	5150	5960	6160	6010	5760
30	3920	3030	2690	3260	---	3980	4370	5170	5990	6160	6010	5740
31	3890	---	2700	3290	---	3980	---	5210	---	6150	6000	---
MAX	5070	3870	3000	3290	3760	4070	4380	5210	5990	6310	6240	5990
MIN	3890	3030	2600	2700	3310	3780	3990	4350	5260	6020	6000	5740
a	1464.25	1458.70	1456.38	1460.47	1463.47	1464.79	1467.03	1471.62	1475.55	1476.33	1475.58	1474.31
b	-1260	-860	-330	+590	+470	+220	+390	+840	+780	+160	-150	-260

CAL YR 1987 MAX 6680 MIN 2600 b +280
WTR YR 1988 MAX 6310 MIN 2600 b +590

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

SAN LUIS REY RIVER BASIN

11039800 SAN LUIS REY RIVER AT COUSER CANYON BRIDGE, NEAR PALA, CA

LOCATION.--Lat 33°20'26", long 117°07'50", in NW 1/4 NE 1/4 sec.6, T.10 S., R.2 W., in San Diego County, Hydrologic Unit 18070303, on left bank 10 ft upstream from bridge on Couser Canyon Road, 6.5 mi northeast of Bonsall, and 27 mi downstream from Lake Henshaw.

DRAINAGE AREA.--364 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 29 to Apr. 6. Records good. Flow regulated by Lake Henshaw, capacity, 194,300 acre-ft. Several small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 179 ft^3/s, Jan. 18, 1988, gage height, 3.34 ft, from rating curve extended above 12 ft^3/s; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft^3/s, Jan. 18, gage height, 3.34 ft, from rating curve extended above 12 ft^3/s; no flow for many days.

DISCHARGE, IN 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		0	1.6	3.6	7.2	3.7	.82	1.5				
2		0	1.6	3.8	7.7	4.5	.78	1.4				
3		3.9	1.7	3.6	11	6.2	.74	1.2				
4		3.9	1.9	3.4	11	5.5	.72	1.4				
5		17	16	3.3	9.2	5.1	.70	1.6				
6		12	8.5	3.8	8.4	4.8	.65	1.4				
7		6.0	5.4	4.3	8.1	4.3	.55	1.4				
8		4.1	4.4	4.4	7.8	3.8	.46	1.5				
9		3.2	3.7	4.2	7.1	3.6	.39	1.4				
10		2.5	3.4	4.0	6.9	3.5	.36	1.2				
11		2.2	3.0	3.7	6.5	3.4	.35	1.1				
12		1.6	2.8	3.3	6.2	3.3	.28	.91				
13		1.0	2.8	3.3	6.2	3.2	.24	.80				
14		.97	2.8	3.2	6.0	2.9	.28	.68				
15		1.6	2.9	3.1	5.8	2.8	.58	.73				
16		1.5	3.4	2.9	5.4	2.7	.62	.71				
17		1.1	4.9	4.8	5.3	2.3	.80	.61				
18		1.5	5.0	77	5.1	1.9	.88	.61				
19		1.4	4.3	25	4.8	1.9	.89	.49				
20		1.3	4.4	15	4.6	1.9	1.1	.26				
21		1.1	4.1	13	4.7	1.6	9.7	.15				
22		1.4	3.9	12	4.6	1.4	8.7	.08				
23		1.5	3.4	11	4.2	1.3	6.4	.06				
24		1.6	3.3	10	4.2	1.2	5.8	.03				
25		1.7	3.4	9.8	4.0	1.1	5.2	.01				
26		1.6	3.6	9.2	3.9	1.1	4.1	.01				
27		1.7	3.4	8.9	3.8	1.1	3.5	0				
28		1.6	3.3	8.1	3.9	1.0	3.0	0				
29		1.7	3.2	7.8	3.7	.95	2.5	.01				
30		1.7	3.7	7.8	---	.90	2.2	.03				
31		---	3.8	7.8	---	.85	---	.02	---			---
TOTAL	0	82.37	123.6	285.1	177.3	83.80	63.29	21.30	0	0	0	0
MEAN	0	2.75	3.99	9.20	6.11	2.70	2.11	.69	0	0	0	0
MAX	0	17	16	77	11	6.2	9.7	1.6	0	0	0	0
MIN	0	0	1.6	2.9	3.7	.85	.24	0	0	0	0	0
AC-FT	0	163	245	565	352	166	126	42	0	0	0	0

CAL YR 1987 TOTAL 704.80 MEAN 1.93 MAX 17 MIN 0 AC-FT 1400
WTR YR 1988 TOTAL 836.76 MEAN 2.29 MAX 77 MIN 0 AC-FT 1660

SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 33°13'05", long 117°22'34", in SE 1/4 SW 1/4 sec.13, T.11 S., R.5 W., San Diego County, Hydrologic Unit 18070303, on right bank 1.9 mi upstream from bridge on Interstate Highway 5, 2.4 mi upstream from mouth, and 1.9 mi northeast of Oceanside.

DRAINAGE AREA.--557 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map. April 1912 to September 1914, nonrecording gage at site 0.4 mi downstream at different datum. January 1916, nonrecording gage 1.4 mi downstream at different datum. Prior to Oct. 1, 1978, at datum 10.00 ft lower. Prior to Nov. 9, 1981, at site 0.8 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake Henshaw, capacity, 194,300 acre-ft since 1923. Several diversions for irrigation and domestic use upstream from station. AVERAGE DISCHARGE represents flow to ocean during period of record regardless of upstream development.

AVERAGE DISCHARGE.--56 years (water years 1913-14, 1930-41, 1947-88), 35.1 ft^3/s, 25,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft^3/s, Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in some years. Since regulation by Lake Henshaw in 1923, maximum discharge, 25,000 ft^3/s, Feb. 21, 1980, gage height, 14.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 321 ft^3/s, Jan. 19, gage height, 13.69 ft; minimum daily, 4.0 ft^3/s, several days during October and September.

DISCHARGE, IN 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	4.7	14	19	42	48	43	23	34	15	8.9	6.9	5.2
2	4.7	15	19	41	88	46	23	32	14	8.9	6.7	4.7
3	4.3	14	19	39	131	46	22	31	14	8.9	6.4	4.6
4	4.0	14	19	39	126	45	22	29	14	8.9	6.2	4.4
5	4.0	19	38	45	105	43	22	28	14	8.6	6.3	4.2
6	4.0	22	36	57	94	43	22	27	13	9.1	6.1	4.1
7	4.0	22	36	56	86	42	21	27	18	9.5	6.1	4.0
8	4.0	23	34	44	82	40	21	26	17	9.2	6.1	4.0
9	4.0	23	32	42	77	38	20	25	16	9.2	6.1	4.0
10	4.0	23	31	41	75	38	20	24	15	9.2	5.9	4.1
11	4.5	23	29	40	71	37	20	23	14	9.1	5.9	4.2
12	14	22	28	37	68	36	19	24	14	8.7	5.7	4.1
13	17	21	28	37	67	36	19	22	14	8.3	5.7	4.1
14	9.7	21	26	37	66	35	23	21	14	7.8	5.6	4.1
15	6.7	21	25	36	63	33	43	21	14	7.5	5.6	4.3
16	5.8	21	39	36	59	33	36	20	13	7.9	5.7	4.2
17	5.6	19	111	64	57	32	33	20	11	8.0	5.7	4.1
18	5.6	18	104	153	56	31	31	20	7.7	7.8	5.5	4.3
19	6.4	18	88	288	55	31	28	19	10	7.7	5.2	4.3
20	8.2	18	77	169	54	30	42	19	11	7.4	5.0	4.8
21	8.3	19	71	107	53	30	65	18	11	7.4	4.7	4.7
22	8.4	19	66	88	52	29	70	18	10	7.5	4.3	4.6
23	9.4	19	63	77	50	28	70	18	10	7.4	4.6	4.6
24	9.3	19	68	75	48	28	63	17	9.9	7.2	6.2	4.6
25	9.3	19	66	71	48	27	53	17	9.5	7.2	6.1	4.6
26	9.3	19	63	68	47	27	47	17	8.9	7.5	5.6	4.5
27	9.3	19	63	66	47	27	41	16	9.2	7.2	5.3	4.5
28	9.3	19	60	64	46	26	38	16	9.2	7.0	5.1	4.6
29	9.7	19	45	57	45	25	37	16	8.9	7.0	5.2	4.7
30	10	19	49	50	---	24	36	16	8.9	7.0	5.3	4.6
31	13	---	44	45	---	24	---	15	---	7.0	5.3	---
TOTAL	230.5	581	1496	2111	1964	1053	1030	676	368.2	250.0	176.1	131.8
MEAN	7.44	19.4	48.3	68.1	67.7	34.0	34.3	21.8	12.3	8.06	5.68	4.39
MAX	17	23	111	288	131	46	70	34	18	9.5	6.9	5.2
MIN	4.0	14	19	36	45	24	19	15	7.7	7.0	4.3	4.0
AC-FT	457	1150	2970	4190	3900	2090	2040	1340	730	496	349	261

CAL YR 1987 TOTAL 9308.0 MEAN 25.5 MAX 146 MIN 3.8 AC-FT 18460
WTR YR 1988 TOTAL 10067.6 MEAN 27.5 MAX 288 MIN 4.0 AC-FT 19970

SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.
CHEMICAL DATA: Water years 1978 to current year.
BIOLOGICAL DATA: Water years 1978-81.
SPECIFIC CONDUCTANCE: Water years 1978-81.
WATER TEMPERATURE: Water years 1971-81.
SEDIMENT DATA: Water years 1969 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1978, December 1983 to September 1984.

REMARKS.--Sample taken on Jan. 28 was collected 1.3 miles upstream from gage.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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												
24...	1230	18	2160	8.0	16.0	2.2	765	10.4	106	440	220	730
JAN												
28...	1100	64	1830	8.2	14.0	7.1	760	10.8	106	140	170	590
MAR												
23...	1330	27	2100	8.3	19.0	2.8	765	10.1	109	300	380	680
MAY												
25...	1330	17	2080	8.4	22.5	1.8	760	13.4	156	K52	150	660
JUL												
21...	1330	7.5	2260	8.0	24.5	0.70	760	9.0	109	70	340	730
SEP												
28...	1300	4.8	2390	7.9	19.0	1.3	760	9.2	100	70	280	690

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 WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV												
24...	500	160	80	210	38	3	8.7	277	0	227	227	420
JAN												
28...	370	130	64	150	35	3	8.2	265	0	217	217	350
MAR												
23...	440	150	73	190	38	3	7.1	285	0	234	234	410
MAY												
25...	470	140	74	200	40	3	7.1	227	--	186	186	430
JUL												
21...	520	160	80	220	39	4	8.5	255	0	209	209	430
SEP												
28...	450	160	71	240	43	4	9.8	295	0	242	242	430

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)
NOV												
24...	380	0.50	23	1440	1430	1.96	<0.010	1.30	0.050	0.030	0.70	0.130
JAN												
28...	260	0.30	24	1180	1130	1.60	0.020	2.30	0.050	0.050	0.60	0.150
MAR												
23...	280	0.40	23	1390	1280	1.89	<0.010	1.80	0.060	0.030	0.50	0.130
MAY												
25...	350	0.40	15	1400	1330	1.90	0.010	0.640	0.040	0.030	0.90	0.120
JUL												
21...	390	0.30	12	1480	1430	2.01	<0.010	1.00	0.060	0.060	0.50	0.210
SEP												
28...	410	0.30	19	1570	1500	2.14	<0.010	1.90	0.050	0.050	0.50	0.170

See footnotes at end of table.

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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											
24...	0.110	0.100	10	1	100	<10	<1	1	1	1	10
JAN											
28...	0.110	0.090	--	--	--	--	--	--	--	--	--
MAR											
23...	0.100	0.090	<10	<1	<100	<10	<1	<1	1	<1	20
MAY											
25...	0.110	0.070	<10	1	<100	<10	<1	<1	<1	2	20
JUL											
21...	0.180	0.140	--	--	--	--	--	--	--	--	--
SEP											
28...	0.140	0.120	10	1	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)
NOV											
24...	<5	<10	60	<0.1	11	1	<1	<1.0	720	9	<10
JAN											
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	<5	<10	70	0.1	13	5	1	<1.0	700	11	<10
MAY											
25...	<5	<10	80	<0.1	11	<1	1	<1.0	680	11	<10
JUL											
21...	--	--	--	--	--	--	--	--	--	--	--
SEP											
28...	<5	<10	40	<0.1	10	<1	1	<1.0	1000	9	<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 1987 TO SEPTEMBER 1988

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
MAY										
25...*	1530	4.00	2070	8.5	23.0	760	14.2	167	31	51
25...*	1540	8.00	2070	8.5	23.0	760	14.1	166	21	56
25...*	1550	108	2080	8.4	23.0	760	13.6	160	16	65
25...*	1600	112	2070	8.4	23.0	760	13.6	160	20	74
SEP										
28...*	1545	2.00	2390	8.0	19.0	760	9.9	108	21	46
28...*	1555	5.00	2390	8.0	19.0	760	9.9	108	11	60
28...*	1605	107	2390	7.9	19.0	760	9.2	100	7	57
28...*	1615	111	2390	7.9	19.0	760	9.1	99	8	56

* Instantaneous streamflow at the time of cross-sectional measurement: May 25, 17 ft^3/s; Sept. 28, 4.8 ft^3/s.

SAN LUIS REY RIVER BASIN

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
OCT						
02...	1130	4.7	21.5	16	0.20	--
13...	1050	17	19.0	5	0.23	--
NOV						
06...	1220	22	19.5	6	0.36	--
24...	1230	18	16.0	13	0.63	78
JAN						
04...	1415	40	13.0	28	3.0	--
18...	1315	130	12.0	128	45	98
28...	1100	64	14.0	106	18	24
FEB						
01...	1155	45	15.0	16	1.9	--
MAR						
23...	1330	27	19.0	60	4.4	32
31...	1300	25	20.0	31	2.1	--
APR						
21...	1050	63	18.0	34	5.8	88
MAY						
25...	1330	17	22.5	20	0.92	65
25...	1545	17	23.0	22	1.0	62
JUN						
23...	1245	10	25.0	20	0.54	--
JUL						
21...	1330	7.5	24.5	16	0.32	74
SEP						
28...	1300	4.8	19.0	9	0.12	53
28...	1600	4.8	19.0	12	0.16	55

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM
JAN							
04...	1350	13.0	1	40	6	13	28
04...	1355	13.0	1	40	4	16	69
04...	1400	13.0	1	40	1	2	6
04...	1405	13.0	1	40	15	31	53
04...	1410	13.0	1	40	1	1	14

DATE	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
JAN						
04...	55	83	94	98	100	--
04...	92	98	100	--	--	--
04...	34	80	98	100	--	--
04...	75	89	96	98	99	100
04...	77	99	100	--	--	--

SANTA MARGARITA RIVER BASIN

11042400 TEMECULA CREEK NEAR AGUANGA, CA

LOCATION.--Lat 33°27'33", long 116°55'22", in SW 1/4 SW 1/4 sec.19, T.8 S., R.1 E., Riverside County, Hydrologic Unit 18070302, on right bank 1.6 mi downstream from Long Canyon and 3.5 mi northwest of Aguanga.

DRAINAGE AREA.--131 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,590 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation upstream from station. Pumping upstream from staton for irrigation of less than 1,000 acres.

AVERAGE DISCHARGE.--31 years, 6.95 ft^3/s, 5,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,540 ft^3/s, Apr. 3, 1958, gage height, 6.57 ft, from rating curve extended above 1,200 ft^3/s; maximum gage height, 12.0 ft, from floodmarks, Feb. 21, 1980; no flow several days in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2300	*441	*3.52				

Minimum daily, 0.36 ft^3/s, July 26, 27.

DISCHARGE, IN 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	1.6	3.4	2.8	2.9	5.1	4.4	2.1	3.5	1.0	.57	.42	.51
2	1.1	3.1	3.0	2.9	10	6.1	2.1	3.3	.93	.60	.42	.51
3	1.0	2.9	2.9	2.8	14	4.8	2.2	3.1	.80	.62	.38	.49
4	.94	3.1	3.2	3.0	9.6	4.3	2.1	2.9	.77	.62	.38	.51
5	1.1	5.3	4.9	3.2	8.0	4.2	2.1	2.7	.87	.62	.41	.51
6	1.2	5.5	3.2	4.8	6.6	4.1	1.9	3.3	.89	.60	.42	.47
7	1.2	4.5	2.5	4.3	6.1	4.0	2.1	3.2	.96	.60	.42	.48
8	1.1	3.7	2.5	3.8	5.8	3.8	1.7	3.0	.97	.55	.49	.50
9	1.4	3.2	2.5	3.6	5.5	3.7	1.6	2.7	.87	.51	.49	.66
10	1.4	2.8	2.7	3.4	5.4	3.7	1.4	2.3	.87	.53	.48	.60
11	1.9	2.5	2.8	3.4	5.0	3.6	1.6	2.0	.93	.57	.48	.62
12	3.4	2.3	2.7	3.2	4.8	3.5	1.6	1.8	.91	.61	.49	.71
13	3.0	2.3	2.7	3.1	4.6	3.5	1.9	1.6	.82	.62	.56	.70
14	2.5	2.2	2.8	3.1	4.5	3.5	2.4	1.6	.78	.63	.53	.67
15	2.6	2.2	3.3	3.1	4.5	3.5	4.3	1.5	.74	.50	.55	.68
16	2.0	2.2	4.0	3.2	4.4	3.5	3.9	1.6	.71	.45	.44	.66
17	2.2	2.6	7.6	61	4.3	3.6	3.5	1.5	.75	.40	.44	.70
18	2.4	2.7	5.2	80	4.4	3.6	3.4	1.5	.75	.44	.51	.86
19	2.2	2.7	4.4	20	4.2	3.2	3.3	1.4	.76	.42	.49	1.1
20	2.1	2.7	4.0	13	4.0	2.7	9.0	1.1	.84	.41	.50	1.4
21	2.0	2.8	3.9	9.9	4.0	2.4	10	.99	.83	.42	.56	1.6
22	2.4	2.7	3.8	8.0	4.1	2.6	7.4	.93	.78	.42	.55	1.4
23	3.3	2.2	3.6	7.3	4.1	2.7	6.0	.96	.75	.39	.57	.95
24	3.0	2.4	3.3	6.4	4.0	2.6	6.6	.89	.73	.42	.58	1.2
25	2.9	2.5	3.0	5.8	3.9	2.4	5.3	.95	.72	.37	.54	1.1
26	2.3	2.4	3.1	5.6	4.0	2.2	4.6	.92	.69	.36	.51	.96
27	1.5	2.5	2.9	5.2	4.0	2.5	4.3	.93	.67	.36	.57	.93
28	1.7	2.5	3.1	5.0	4.0	2.2	4.1	1.1	.64	.38	.65	.84
29	1.7	2.5	3.4	4.7	4.1	2.1	3.9	1.1	.63	.39	.65	.61
30	2.1	2.7	3.7	4.9	---	2.3	3.7	1.3	.57	.38	.55	.60
31	3.2	---	3.2	5.5	---	2.2	---	1.2	---	.40	.52	---
TOTAL	62.44	87.1	106.7	296.1	157.0	103.5	110.1	56.87	23.93	15.16	15.55	23.53
MEAN	2.01	2.90	3.44	9.55	5.41	3.34	3.67	1.83	.80	.49	.50	.78
MAX	3.4	5.5	7.6	80	14	6.1	10	3.5	1.0	.63	.65	1.6
MIN	.94	2.2	2.5	2.8	3.9	2.1	1.4	.89	.57	.36	.38	.47
AC-FT	124	173	212	587	311	205	218	113	47	30	31	47

CAL YR 1987 TOTAL 986.59 MEAN 2.70 MAX 12 MIN .57 AC-FT 1960
WTR YR 1988 TOTAL 1057.98 MEAN 2.89 MAX 80 MIN .36 AC-FT 2100

SANTA MARGARITA RIVER BASIN

11042510 VAIL LAKE NEAR TEMECULA, CA

LOCATION.--Lat 33°29'44", long 116°58'33", in Pauba Grant, Riverside County, Hydrologic Unit 18070302, near center of Vail Dam on Temecula Creek, 0.2 mi downstream from Arroyo Seco, and 10 mi east of Temecula.

DRAINAGE AREA.--320 mi^2.

PERIOD OF RECORD.--October 1960 to September 1985 (monthend contents only). Prior to October 1977, published with Temecula Creek at Vail Dam. October 1987 to September 1988.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation. October 1960 to June 3, 1969, water-stage recorder, June 4, 1969 to September 1985, nonrecording gage; at datum 1,446.12 ft higher.

REMARKS.--Reservoir is formed by concrete arch-type dam, completed in June 1969. Total capacity, 49,370 acre-ft between elevations 1,350 ft, bottom of lowest outlet, and 1,470 ft, crest of spillway, all of which is available for release. There had been no spill from Nov. 13, 1948, date of closure, to Feb. 20, 1980, when a peak spill of about 8,000 ft^3/s occurred (from theoretical discharge curve). Water is released down Temecula Creek for diversion about 1 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, about 52,670 acre-ft, Feb. 21, 1980, elevation, 1,473.0 ft, from observed highwater mark; minimum 1,038 acre-ft, Oct. 31, 1960, elevation, 1,379.44 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,710 acre-ft, Mar. 15, elevation, 1,442.69 ft; minimum, 19,460 acre-ft, Sept. 29, 30, elevation, 1,435.06 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Dec. 22, 1953)

1,390	2,400	1,420	11,400	1,450	30,420
1,400	4,530	1,430	16,390	1,460	39,280
1,410	7,560	1,440	22,780	1,475	54,940

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23920	23010	23050	23350	24120	24570	23950	22750	21570	20620	20020	19720
2	23860	23010	23050	23360	24210	24620	23900	22700	21530	20620	20010	19720
3	23800	23010	23050	23380	24260	24630	23850	22680	21490	20600	20000	19710
4	23740	23030	23100	23390	24280	24640	23820	22610	21450	20600	19990	19700
5	23690	23060	23120	23370	24300	24650	23770	22580	21400	20580	19980	19680
6	23640	23070	23120	23380	24330	24660	23730	22530	21350	20550	19970	19670
7	23560	23070	23140	23390	24340	24670	23680	22510	21310	20500	19950	19650
8	23510	23080	23140	23400	24370	24680	23640	22480	21270	20460	19940	19630
9	23450	23070	23150	23410	24390	24670	23590	22460	21230	20400	19930	19620
10	23400	23060	23160	23430	24400	24680	23530	22420	21180	20360	19910	19610
11	23410	23070	23170	23440	24400	24670	23480	22390	21150	20310	19900	19600
12	23440	23070	23170	23440	24410	24680	23430	22360	21110	20270	19890	19590
13	23390	23070	23150	23440	24420	24680	23390	22320	21080	20210	19880	19580
14	23340	23070	23150	23460	24420	24700	23330	22290	21040	20190	19860	19570
15	23290	23050	23190	23470	24420	24700	23320	22250	21000	20190	19850	19560
16	23250	23050	23230	23480	24440	24670	23260	22210	20960	20180	19840	19550
17	23210	23050	23230	23610	24450	24640	23230	22160	20920	20170	19820	19550
18	23160	23060	23240	23840	24450	24590	23170	22130	20880	20160	19820	19530
19	23100	23050	23250	23880	24450	24550	23140	22090	20840	20140	19810	19530
20	23050	23050	23270	23910	24480	24510	23170	22060	20810	20140	19800	19520
21	23020	23050	23280	24000	24480	24450	23150	22020	20770	20140	19790	19520
22	22970	23050	23290	24000	24480	24410	23110	21980	20740	20140	19790	19510
23	22950	23050	23290	24020	24500	24370	23090	21940	20690	20120	19790	19500
24	22950	23050	23290	24060	24510	24340	23060	21890	20660	20110	19780	19500
25	22950	23060	23290	24050	24530	24300	23030	21850	20660	20100	19780	19480
26	22960	23050	23290	24070	24530	24260	22980	21820	20660	20080	19770	19480
27	22970	23040	23300	24080	24550	24200	22930	21780	20660	20070	19760	19480
28	22960	23050	23320	24100	24560	24170	22890	21740	20650	20060	19750	19480
29	22960	23040	23330	24100	24560	24100	22850	21690	20640	20050	19750	19460
30	22960	23050	23350	24110	---	24050	22800	21650	20630	20040	19750	19460
31	23000	---	23360	24120	---	24010	---	21600	---	20030	19730	---
MAX	23920	23080	23360	24120	24560	24700	23950	22750	21570	20620	20020	19720
MIN	22950	23010	23050	23350	24120	24010	22800	21600	20630	20030	19730	19460
a	1440.31	1440.38	1440.83	1441.82	1442.49	1441.73	1440.03	1438.30	1436.86	1435.94	1435.49	1435.06
b	-940	+50	+310	+760	+440	-550	-1210	-1200	-970	-600	-300	-270

WTR YR 1988 MAX 24700 MIN 19460 b -4480

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

SANTA MARGARITA RIVER BASIN

11042631 PECHANGA CREEK NEAR TEMECULA, CA

LOCATION.--Lat 33°28'06", long 117°07'40", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank on upstream side of Highway S-16 bridge, 0.4 mi upstream from Temecula Creek, and 2.1 mi southeast of Temecula.

DRAINAGE AREA.--13.8 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,010 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 10. Records poor. No regulation or diversion upstream from station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1100	*27	*4.09				

No flow for many days.

DISCHARGE, IN 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	0	0	0	0	0	0	0					
2	0	0	0	0	.01	.13	0					
3	0	0	0	0	0	0	0					
4	0	0	.59	0	0	0	0					
5	0	1.0	.04	0	0	0	0					
6	0	0	0	0	0	0	0					
7	0	0	0	0	0	0	0					
8	0	0	0	0	0	0	0					
9	0	0	0	0	0	0	0					
10	0	0	0	0	0	0	0					
11	0	0	0	0	0	0	0					
12	0	0	0	0	0	0	0					
13	0	0	0	0	0	0	0					
14	0	0	0	0	0	0	0					
15	0	0	0	0	0	0	.33					
16	0	0	.91	0	0	0	0					
17	0	0	1.5	4.0	0	0	0					
18	0	0	0	0	0	0	0					
19	0	0	0	0	0	0	0					
20	0	0	0	0	0	0	.97					
21	0	0	0	0	0	0	.03					
22	0	0	0	0	0	0	0					
23	0	0	0	0	0	0	0					
24	0	0	0	0	0	0	0					
25	0	0	0	0	0	0	0					
26	0	0	0	0	0	0	0					
27	0	0	0	0	0	0	0					
28	0	0	0	0	2.4	0	0					
29	0	0	0	0	.86	0	0					
30	0	0	0	0	---	0	0					
31	.10	---	0	0	---	0	---		---			---
TOTAL	.10	1.0	3.04	4.0	3.27	.13	1.33	0	0	0	0	0
MEAN	.003	.033	.098	.13	.11	.004	.044	0	0	0	0	0
MAX	.10	1.0	1.5	4.0	2.4	.13	.97	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.2	2.0	6.0	7.9	6.5	.3	2.6	0	0	0	0	0

WTR YR 1988 TOTAL 12.87 MEAN .035 MAX 4.0 MIN 0 AC-FT 26

SANTA MARGARITA RIVER BASIN

11042800 WARM SPRINGS CREEK NEAR MURRIETA, CA

LOCATION.--Lat 33°31'56", long 117°10'34", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank at upstream end of Jefferson Road bridge, 0.6 mi upstream from its confluence with Murrieta Creek, and 2.8 mi southeast of Murrieta.

DRAINAGE AREA.--55.4 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988.

GAGE.--Water-stage recorder. Elevation of gage is 1,040 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	2215	55	4.69	Jan. 17	1245	*82	*4.91

No flow for many days.

DISCHARGE, IN 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	0	0	0	0	.07		0	0		0		
2	0	0	0	0	11		0	0		0		
3	0	0	0	0	.63		0	0		0		
4	0	5.4	4.4	0	.19		0	0		0		
5	0	4.0	0	0	.07		0	0		0		
6	0	0	0	0	0		0	0		0		
7	0	0	0	0	0		0	0		0		
8	0	0	0	0	0		0	0		.24		
9	0	0	0	0	0		0	0		0		
10	0	0	0	0	0		0	0		0		
11	0	0	0	0	0		0	0		0		
12	0	0	0	0	.01		0	0		0		
13	0	0	0	0	0		0	0		0		
14	0	0	0	0	0		0	0		0		
15	0	0	0	0	.01		1.1	0		0		
16	0	0	7.7	0	0		0	0		0		
17	0	0	7.6	22	0		0	0		0		
18	0	0	.39	2.0	0		0	0		0		
19	0	0	.63	.17	0		0	0		0		
20	0	0	0	.17	0		10	0		0		
21	0	0	0	0	0		5.6	0		0		
22	0	0	0	0	0		.18	0		0		
23	0	0	0	0	0		0	0		0		
24	0	0	0	0	0		0	0		0		
25	0	0	0	0	0		0	.05		1.7		
26	0	0	0	0	0		0	0		0		
27	0	0	0	0	0		0	0		.01		
28	0	0	0	0	0		0	0		0		
29	0	0	.03	0	0		0	0		0		
30	0	0	.02	0	---		0	0		0		
31	2.1	---	0	0	---		---	0	---	0		---
TOTAL	2.1	9.4	20.77	24.34	11.98	0	16.88	.05	0	1.95	0	0
MEAN	.068	.31	.67	.79	.41	0	.56	.002	0	.063	0	0
MAX	2.1	5.4	7.7	22	11	0	10	.05	0	1.7	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	4.2	19	41	48	24	0	33	.10	0	3.9	0	0

WTR YR 1988 TOTAL 87.47 MEAN .24 MAX 22 MIN 0 AC-FT 173

SANTA MARGARITA RIVER BASIN

11042900 SANTA GERTRUDIS CREEK NEAR TEMECULA, CA

LOCATION.--Lat 33°31'32", long 117°09'36", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank 1.0 mi upstream from Murrieta Creek, 1.5 mi downstream from Tucalota Creek, and 2.2 mi northeast of Temecula.

DRAINAGE AREA.--92.8 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988.

GAGE.--Water-stage recorder. Elevation of gage is 1,045 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 10. Records poor. No regulation upstream from station. Flow less than 1 ft^3/s from urban runoff at times bypasses station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2230	*126	*4.54				

No flow for many days.

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	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.75	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.47	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.59	15	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	1.4	.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	.05	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	1.81	16.40	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
MEAN	.00	.00	.058	.53	.00	.00	.002	.00	.00	.00	.00	.00
MAX	.00	.00	.75	15	.00	.00	.05	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	3.6	33	.0	.0	.1	.0	.0	.0	.0	.0

WTR YR 1988 TOTAL 18.26 MEAN .050 MAX 15 MIN .00 AC-FT 36

SANTA MARGARITA RIVER BASIN

11043000 MURRIETA CREEK AT TEMECULA, CA

LOCATION.--Lat 33°28'47", long 117°08'35", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on right bank 0.4 mi upstream from confluence with Temecula Creek, 1.0 mi south of Temecula, and 12 mi downstream from Skinner Reservoir on Tucalota Creek.

DRAINAGE AREA.--222 mi^2.

PERIOD OF RECORD.--October 1924 to current year. Prior to September 1930 monthly discharges only, published in WSP 1315-B.

GAGE.--Water-stage recorder. Concrete control since Aug. 30, 1981. Elevation of gage is 970 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1735 for history of changes prior to Dec. 16, 1938.

REMARKS.--Estimated daily discharges: Oct. 26-30, Jan. 19-22, Feb. 10-14, Sept. 21-30. Records poor. Low flow regulated since 1974 by Skinner Reservoir. Pumping upstream from station for irrigation of about 2,500 acres. Rancho California Water District can discharge into creek, approximately 0.1 mi upstream, to supplement low flow.

AVERAGE DISCHARGE.--64 years, 10.9 ft^3/s, 7,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft^3/s, Feb. 21, 1980, gage height, 13.70 ft, on basis of slope-area measurement of peak flow; minimum daily, 0.01 ft^3/s, several days during 1988, no flow Dec. 11, 1976 (upstream channel work).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1600	*870	*5.88				

Minimum daily, 0.01 ft^3/s, for several days.

DISCHARGE, IN 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	1.1	14	.18	.53	.06	.18	.01	.10	1.1	1.1	1.4	1.5
2	1.1	1.1	.22	.53	24	.34	.02	.02	1.1	1.1	1.3	1.5
3	1.1	.14	.22	.53	9.5	.22	.02	.02	1.2	.98	1.4	1.5
4	1.1	11	1.9	.68	.98	.14	.02	.10	1.2	1.1	1.3	1.5
5	1.1	76	34	.79	.38	.14	.04	.14	1.3	.98	1.3	1.5
6	1.1	17	1.1	.79	.30	.14	.06	.14	1.3	.98	1.3	1.5
7	1.1	2.7	.39	.86	.14	.10	.06	.22	1.2	.86	1.3	1.5
8	1.1	.68	.34	.79	.10	.14	.10	.14	1.1	.86	1.3	1.4
9	1.1	.30	.30	.74	.10	.14	.10	.18	1.3	.79	1.3	1.4
10	1.1	.04	.30	.68	.10	.10	.10	.14	1.3	.86	1.3	1.4
11	1.3	.04	.34	.68	.10	.10	.06	.14	1.3	.79	1.3	1.5
12	28	.06	.48	.79	.10	.10	.10	.14	1.2	.79	1.3	1.4
13	33	.02	.48	.86	.10	.10	.10	.10	1.3	.86	1.2	1.4
14	1.4	.02	.48	1.1	.10	.10	.22	.10	.74	.92	1.2	1.4
15	1.1	.01	.58	.98	.82	.14	7.1	.10	1.1	.92	1.2	1.3
16	1.1	.01	16	.86	.30	.14	.18	.10	1.1	.92	1.3	1.3
17	1.1	.02	97	300	.14	.18	.06	.18	1.1	.86	1.4	1.3
18	1.2	.06	11	133	.86	.10	.04	.06	1.1	.92	1.5	1.3
19	1.2	.06	1.7	2.2	.58	.10	.04	.04	1.2	.92	1.4	1.3
20	1.2	.06	.92	.68	.01	.18	64	.02	.92	.92	1.4	1.3
21	1.3	.10	.48	.58	.04	.14	36	.02	.86	1.1	1.3	1.5
22	1.3	.10	.53	.53	.04	.14	1.3	.04	1.1	1.1	.78	1.4
23	1.2	.10	3.6	.38	.10	.10	.63	.02	.98	1.1	.34	1.3
24	.94	.10	.62	.26	.06	.04	.30	.02	.98	1.1	.22	1.3
25	.10	.10	.30	.18	.14	.06	.14	.04	1.1	1.1	.18	1.3
26	.02	.14	.34	.18	.18	.06	.10	.02	1.5	1.3	.74	1.4
27	.02	.18	.38	.18	.18	.06	.10	.25	1.7	1.3	1.9	1.5
28	.04	.18	.38	.16	.18	.06	.10	.74	1.5	1.3	2.2	1.4
29	.02	.18	.86	.06	.18	.06	.10	.79	1.2	1.3	2.2	1.4
30	.02	.18	4.0	.06	---	.01	.14	.86	1.3	1.4	2.2	1.4
31	15	---	.68	.06	---	.01	---	.98	---	1.4	2.0	---
TOTAL	101.56	124.68	180.10	450.70	39.87	3.62	111.34	5.96	35.38	31.93	40.46	42.1
MEAN	3.28	4.16	5.81	14.5	1.37	.12	3.71	.19	1.18	1.03	1.31	1.40
MAX	33	76	97	300	24	.34	64	.98	1.7	1.4	2.2	1.5
MIN	.02	.01	.18	.06	.01	.01	.01	.02	.74	.79	.18	1.3
AC-FT	201	247	357	894	79	7.2	221	12	70	63	80	84

CAL YR 1987 TOTAL 735.65 MEAN 2.02 MAX 97 MIN .01 AC-FT 1460
WTR YR 1988 TOTAL 1167.70 MEAN 3.19 MAX 300 MIN .01 AC-FT 2320

SANTA MARGARITA RIVER BASIN

11044000 SANTA MARGARITA RIVER NEAR TEMECULA, CA

LOCATION.--Lat 33°28'26", long 117°08'29", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank at upper end of Temecula Canyon, 0.1 mi downstream from confluence of Murrieta and Temecula Creeks, 1.4 mi south of Temecula, 10 mi downstream from Vail Dam, and about 12 mi downstream from Skinner Reservoir.

DRAINAGE AREA.--588 mi^2.

PERIOD OF RECORD.--January 1923 to current year. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Nov. 3, 1966; buried by sand Nov. 19, 1985, and was ineffective as a low-water control. Elevation of gage is 950 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 3, 1966, at site 100 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 24 to Dec. 17, Jan. 1-16, 21-27, Feb. 5-16, 18-20, Mar. 1, 3-10, Aug. 10, 21. Records poor. Flow partly regulated since November 1948 by Vail Lake (station 11042510) on Temecula Creek, and since 1974 by Skinner Reservoir on Tucalota Creek which is tributary to Murrieta Creek. Rancho California Water District can discharge into Murrieta Creek, approximately 0.6 mi upstream, to supplement low flow.

AVERAGE DISCHARGE.--25 years (water years 1924-48), unregulated, 28.2 ft^3/s, 20,420 acre-ft/yr; 40 years (water years 1949-88), 15.0 ft^3/s, 10,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft^3/s, Feb. 16, 1927, gage height, 14.6 ft, at site then in use, from rating curve extended above 10,000 ft^3/s; minimum daily, 0.16 ft^3/s, Mar. 31, Apr. 1, 11, 1988. Since partial regulation by Vail Lake and Skinner Reservoir, maximum discharge 22,000 ft^3/s, Feb. 21, 1980, gage height, 16.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 883 ft^3/s, Jan. 17, gage height, 7.67 ft; minimum daily, 0.16 ft^3/s, Mar. 31, Apr. 1, 11.

DISCHARGE, IN 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	1.4	17	.65	.70	.94	.73	.16	.20	2.1	1.4	1.4	2.7
2	1.7	4.6	.65	.70	30	.77	.17	.22	2.2	1.3	1.6	2.5
3	1.7	1.9	.65	.70	23	.70	.18	.22	2.2	1.4	1.5	2.3
4	1.7	9.0	3.0	1.0	8.9	.63	.18	.23	2.3	1.1	2.0	2.3
5	1.7	81	40	1.1	2.6	.57	.19	.24	2.1	1.2	1.4	1.9
6	1.7	19	2.0	1.1	1.5	.53	.19	.27	2.2	1.1	1.6	1.6
7	1.5	3.1	.70	1.2	1.1	.48	.18	.27	2.8	1.1	1.9	1.7
8	1.8	.76	.70	1.1	.97	.45	.22	.30	1.8	1.0	1.9	1.6
9	1.9	.70	.70	1.1	.90	.42	.26	.33	2.1	1.1	2.0	1.7
10	2.1	.59	.70	1.0	.88	.38	.18	.34	2.0	1.2	2.0	1.8
11	2.4	.54	.70	1.1	.86	.27	.16	.35	2.1	.99	1.4	1.9
12	56	.67	.80	1.2	.85	.25	.19	.34	2.0	.98	1.6	1.9
13	35	.66	.80	1.3	.85	.25	.20	.38	2.1	.98	1.6	1.9
14	3.0	.69	.80	1.5	.85	.28	.51	.41	3.1	.94	1.6	2.5
15	2.7	.70	1.0	1.4	1.5	.27	14	.45	1.3	.94	1.7	2.2
16	1.9	.65	18	1.3	1.2	.27	.59	.46	1.4	.96	1.8	2.4
17	2.2	.67	101	315	.73	.27	.43	.60	1.5	.94	1.9	1.7
18	2.3	.67	15	157	1.5	.27	.43	.49	1.6	.92	1.9	1.7
19	1.8	.67	5.3	18	1.2	.29	.63	.45	1.6	.99	1.8	1.7
20	1.6	.66	2.9	8.8	.96	.28	99	.45	2.8	1.4	1.7	1.9
21	1.7	.73	2.9	3.5	.88	.28	51	.43	1.4	1.6	1.7	2.2
22	1.8	.73	2.2	1.9	.88	.30	8.9	.43	1.8	1.6	1.7	1.8
23	2.2	.73	6.2	1.5	.95	.36	1.1	.45	1.4	1.5	1.0	1.7
24	1.7	.73	1.7	1.3	1.5	.38	.61	.43	1.5	1.5	.64	1.6
25	1.2	.73	.69	1.1	1.4	.32	.38	.44	1.5	1.4	.83	1.7
26	1.2	.73	.65	1.0	1.3	.18	.30	.46	1.4	1.5	1.2	1.9
27	1.1	.68	.64	1.0	1.7	.17	.27	1.0	1.7	1.6	2.9	1.9
28	1.4	.65	.64	1.0	2.2	.18	.24	1.4	2.2	1.4	2.9	1.9
29	1.1	.65	.87	1.0	1.6	.20	.20	1.7	1.2	1.4	2.9	1.6
30	1.9	.65	5.0	.94	---	.20	.19	2.2	1.4	1.3	2.3	1.5
31	14	---	.75	.94	---	.16	---	1.9	---	1.5	2.2	---
TOTAL	155.4	151.24	218.29	531.48	93.70	11.09	181.24	17.84	56.8	38.24	54.57	57.7
MEAN	5.01	5.04	7.04	17.1	3.23	.36	6.04	.58	1.89	1.23	1.76	1.92
MAX	56	81	101	315	30	.77	99	2.2	3.1	1.6	2.9	2.7
MIN	1.1	.54	.64	.70	.73	.16	.16	.20	1.2	.92	.64	1.5
AC-FT	308	300	433	1050	186	22	359	35	113	76	108	114

CAL YR 1987 TOTAL 1102.27 MEAN 3.02 MAX 101 MIN .41 AC-FT 2190
WTR YR 1988 TOTAL 1567.59 MEAN 4.28 MAX 315 MIN .16 AC-FT 3110

SANTA MARGARITA RIVER BASIN

11046000 SANTA MARGARITA RIVER AT YSIDORA, CA

LOCATION.--Lat 33°18'40", long 117°20'47", in NW 1/4 NW 1/4 sec.18, T.10 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank upstream end of Basilone Road Bridge, 7.9 mi upstream from mouth, and 5.2 mi upstream from Ysidora.

DRAINAGE AREA.--723 mi^2.

REVISED RECORDS.--WDR CA-87-1: Drainage area.

PERIOD OF RECORD.--February 1923 to current year. Low-flow records not equivalent prior to Dec. 10, 1980, due to installation of conservation ponds above downstream site.

GAGE.--Water-stage recorder. Elevation of gage is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1735 for history of changes prior to Nov. 27, 1935. Nov. 27, 1935, to Feb. 25, 1970, at site 5.4 mi downstream at different datum. Feb. 25, 1970, to Dec. 10, 1980, at site 6.2 mi downstream, at different datum.

REMARKS.--Estimated daily discharges: Oct. 18-22, Feb. 15 to Mar. 16. Records fair. Flow partly regulated by Vail Lake (station 11042510) since November 1948. Diversions for irrigation on Rancho California (formerly Santa Margarita Ranch and Pauba Ranch).

AVERAGE DISCHARGE.--65 years, 34.3 ft^3/s, 24,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,600 ft^3/s, Feb. 16, 1927, gage height, 18.00 ft, site and datum then in use, on basis of slope-area measurement of peak flow; maximum gage height, 18.80 ft, Feb. 18, 1980, site and datum then in use, possibly affected by tide; no flow for all or part of most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft^3/s, Jan. 18, gage height, 7.26 ft; no flow for many days.

DISCHARGE, IN 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	0	38	4.3	17	19	4.5	4.7	15	1.2			
2	0	64	4.0	15	28	11	4.3	14	.96			
3	0	67	4.7	14	59	30	4.9	14	.92			
4	0	56	7.2	13	37	25	5.0	13	.90			
5	0	60	28	12	31	20	4.7	12	1.2			
6	0	208	95	7.5	24	19	4.3	12	1.0			
7	0	142	59	6.5	21	17	4.0	11	1.2			
8	0	88	41	6.9	21	15	3.8	11	.92			
9	0	59	30	7.2	23	14	3.6	10	.91			
10	0	40	28	7.4	21	13	3.5	9.6	.96			
11	0	28	24	7.6	18	12	3.8	9.5	1.1			
12	0	22	21	8.0	15	11	3.1	8.6	.98			
13	0	19	19	7.7	12	11	3.5	7.9	.90			
14	0	16	19	7.9	11	10	4.1	6.9	.75			
15	0	14	17	7.9	10	9.5	4.9	6.4	.73			
16	0	13	20	7.9	9.5	8.8	4.2	6.3	.78			
17	0	11	82	69	9.3	8.7	4.8	5.3	.76			
18	.30	10	215	762	8.8	9.2	5.5	5.6	.76			
19	.50	11	93	93	8.4	8.3	6.3	4.9	.65			
20	1.0	8.3	50	32	7.8	8.4	8.2	4.8	.65			
21	2.0	7.4	36	22	7.4	8.1	57	4.4	.55			
22	2.5	8.6	29	16	7.0	7.4	39	4.0	.50			
23	4.1	9.3	26	13	6.6	7.2	22	3.5	.39			
24	6.8	8.5	22	19	6.2	6.8	16	4.0	.37			
25	8.1	7.3	23	19	5.9	6.7	16	3.8	.33			
26	7.7	6.6	20	21	5.6	6.1	17	3.5	.33			
27	8.3	5.9	18	21	5.3	5.7	17	3.0	.22			
28	21	5.9	17	20	5.2	6.0	16	2.1	.15			
29	26	6.0	16	19	5.1	5.3	16	1.7	.06			
30	30	4.9	15	19	---	4.8	16	1.3	.02			
31	34	---	17	19	---	4.8	---	1.8	---			---
TOTAL	152.30	1044.7	1100.2	1317.5	448.1	334.3	323.2	220.9	21.15	0	0	0
MEAN	4.91	34.8	35.5	42.5	15.5	10.8	10.8	7.13	.71	0	0	0
MAX	34	208	215	762	59	30	57	15	1.2	0	0	0
MIN	0	4.9	4.0	6.5	5.1	4.5	3.1	1.3	.02	0	0	0
AC-FT	302	2070	2180	2610	889	663	641	438	42	0	0	0

CAL YR 1987 TOTAL 3889.98 MEAN 10.7 MAX 215 MIN 0 AC-FT 7720
WTR YR 1988 TOTAL 4962.35 MEAN 13.6 MAX 762 MIN 0 AC-FT 9840

SAN JUAN CREEK BASIN

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°30'09", long 117°38'50", in NW 1/4 SE 1/4 sec.6, T.8 S., R.8 W., Orange County, Hydrologic Unit 18070301, on right bank 20 ft downstream from La Novia Street bridge, 1.3 mi upstream from Arroyo Trabuco Creek, and 0.8 mi east of San Juan Capistrano.

DRAINAGE AREA.--109 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year. October 1985 to September 1986, published as San Juan Creek at San Juan Capistrano.

GAGE.--Water-stage recorder. Elevation of gage is 100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 23 to Dec. 22, Apr. 16-19, May 31 to June 18. Records fair. No regulation upstream from station. Capistrano Water Co. diverts water 2.0 mi upstream. Various amounts of diverted water reach station as irrigation return flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft^3/s, Dec. 17, 1988, gage height, 13.58 ft, from rating curve extended above 30 ft^3/s; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a discharge of 22,400 ft^3/s, at site 1.9 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*), from rating curve extended above 30 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 17	Unknown	*778	*13.58	Jan. 17	1845	300	13.17

No flow for many days.

DISCHARGE, IN 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	0	.10	0	1.6	1.3	1.2	.58	.82	.01			
2	0	0	0	1.4	13	1.3	.50	.79	0			
3	0	0	0	1.4	3.1	1.2	.38	.69	0			
4	0	0	0	1.4	1.8	1.0	.32	.64	0			
5	0	.54	.50	2.3	1.7	1.0	.27	.75	0			
6	0	.20	.10	2.0	1.5	.99	.73	.55	0			
7	0	.10	0	1.5	1.5	1.0	.47	.55	0			
8	0	0	0	1.4	1.4	1.1	.34	.49	0			
9	0	0	0	1.5	1.4	1.2	.28	.48	0			
10	0	0	0	1.4	1.4	1.1	.26	.49	0			
11	0	0	0	1.4	1.3	1.0	.17	.37	0			
12	0	0	0	1.5	1.2	1.2	.10	.23	0			
13	0	0	0	1.3	1.2	1.1	.10	.19	0			
14	0	0	0	1.3	1.1	.97	2.0	.23	0			
15	0	0	2.0	1.4	1.2	.89	4.7	.10	0			
16	0	0	8.0	1.3	1.1	.95	2.6	.06	0			
17	0	0	30	50	1.1	1.1	1.5	.07	0			
18	0	0	5.0	38	1.0	1.2	1.0	.22	0			
19	0	0	1.5	3.7	.98	.77	.81	.24	0			
20	0	0	1.3	2.1	.94	.83	23	.14	0			
21	0	0	1.2	1.7	.94	.70	17	.08	0			
22	.05	0	1.4	1.6	.82	.64	3.6	.15	0			
23	.91	0	4.0	1.4	.84	.71	1.7	.09	0			
24	0	0	2.2	1.3	.97	.64	1.4	.06	0			
25	0	0	1.7	1.6	.97	.76	1.3	.05	0			
26	0	0	1.8	1.5	.79	.70	1.3	.11	0			
27	0	0	1.7	1.4	.88	.52	1.2	.06	0			
28	0	0	1.7	1.4	.91	.55	1.1	.05	0			
29	0	0	1.9	1.3	.98	.59	1.0	.06	0			
30	0	0	1.9	1.2	---	.72	.95	.03	0			
31	.70	---	1.6	1.2	---	.74	---	.02	---			---
TOTAL	1.66	.94	69.50	133.5	47.32	28.37	70.66	8.86	.01	0	0	0
MEAN	.054	.031	2.24	4.31	1.63	.92	2.36	.29	.0003	0	0	0
MAX	.91	.54	30	50	13	1.3	23	.82	.01	0	0	0
MIN	0	0	0	1.2	.79	.52	.10	.02	0	0	0	0
AC-FT	3.3	1.9	138	265	94	56	140	18	.02	0	0	0

CAL YR 1987 TOTAL 2517.46 MEAN 6.90 MAX 359 MIN 0 AC-FT 4990
WTR YR 1988 TOTAL 360.82 MEAN .99 MAX 50 MIN 0 AC-FT 716

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971 to current year (prior to water year 1987 published as 11046550 San Juan Creek at San Juan Capistrano).
WATER TEMPERATURE: Water years 1971 to current year.
SEDIMENT DATA: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1970 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1970 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 22,000 mg/L, Feb. 18, 1980; minimum daily mean, no flow at times in most years.
SEDIMENT LOAD: Maximum daily, 331,000 tons, Mar. 4, 1978; minimum daily, 0 ton for many days during most years.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 2,750 mg/L, Dec. 17; minimum daily mean, no flow for many days.
SEDIMENT LOAD: Maximum daily, 553 tons, Jan. 17; minimum daily, 0 ton for many days.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	17.0	16.0	16.0	21.0	20.0	---	---	---
2	---	---	---	---	14.0	16.0	16.0	---	---	---	---	---
3	---	---	---	---	16.0	15.0	---	18.0	---	---	---	---
4	---	---	---	---	17.5	15.0	16.0	---	---	---	---	---
5	---	---	---	---	---	16.0	15.0	18.0	---	---	---	---
6	---	---	---	---	---	16.0	19.0	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	18.0	16.0	---	17.0	---	---	---	---
9	---	---	---	---	18.0	16.0	---	17.0	---	---	---	---
10	---	---	---	---	19.0	14.0	17.0	17.0	---	---	---	---
11	---	---	---	---	20.0	---	17.0	---	---	---	---	---
12	---	---	---	---	---	13.0	---	---	---	---	---	---
13	---	---	---	---	---	---	19.0	18.0	---	---	---	---
14	---	---	---	---	18.0	---	15.0	---	---	---	---	---
15	---	---	---	---	18.0	14.0	---	18.0	---	---	---	---
16	---	---	---	---	14.0	13.5	17.0	20.0	---	---	---	---
17	---	---	---	14.5	17.0	---	17.0	---	---	---	---	---
18	---	---	---	9.0	18.5	15.0	16.0	25.0	---	---	---	---
19	---	---	---	---	12.0	---	17.0	20.0	---	---	---	---
20	---	---	---	---	---	---	16.0	21.0	---	---	---	---
21	---	---	---	---	17.0	16.0	---	---	---	---	---	---
22	---	---	11.5	---	20.0	16.0	---	---	---	---	---	---
23	---	---	---	---	13.0	---	17.0	---	---	---	---	---
24	---	---	---	---	---	17.0	---	22.0	---	---	---	---
25	---	---	---	---	15.0	---	17.0	19.0	---	---	---	---
26	---	---	---	18.0	---	---	18.0	---	---	---	---	---
27	---	---	---	18.0	17.0	18.0	18.0	20.0	---	---	---	---
28	---	---	---	18.0	---	17.0	17.0	19.0	---	---	---	---
29	---	---	---	17.5	16.0	---	---	25.0	---	---	---	---
30	---	---	---	---	---	17.0	17.0	---	---	---	---	---
31	---	---	---	17.5	---	15.0	---	22.0	---	---	---	---

SAN JUAN CREEK BASIN

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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	.10	17	.00	.00	0	.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	.54	22	.03	.50	21	.03
6	.00	0	.00	.20	18	.01	.10	17	.00
7	.00	0	.00	.10	17	.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	2.0	42	.23
16	.00	0	.00	.00	0	.00	8.0	190	4.1
17	.00	0	.00	.00	0	.00	30	2750	223
18	.00	0	.00	.00	0	.00	5.0	120	1.6
19	.00	0	.00	.00	0	.00	1.5	35	.14
20	.00	0	.00	.00	0	.00	1.3	33	.12
21	.00	0	.00	.00	0	.00	1.2	31	.10
22	.05	16	.00	.00	0	.00	1.4	34	.13
23	.91	27	.07	.00	0	.00	4.0	95	1.0
24	.00	0	.00	.00	0	.00	2.2	47	.28
25	.00	0	.00	.00	0	.00	1.7	38	.17
26	.00	0	.00	.00	0	.00	1.8	39	.19
27	.00	0	.00	.00	0	.00	1.7	38	.17
28	.00	0	.00	.00	0	.00	1.7	38	.17
29	.00	0	.00	.00	0	.00	1.9	40	.21
30	.00	0	.00	.00	0	.00	1.9	40	.21
31	.70	25	.05	---	---	---	1.6	37	.16
TOTAL	1.66	---	0.12	0.94	---	0.04	69.50	---	232.01
		JANUARY			FEBRUARY			MARCH	
1	1.6	37	.16	1.3	48	.17	1.2	35	.11
2	1.4	34	.13	13	772	31	1.3	35	.12
3	1.4	34	.13	3.1	195	1.6	1.2	32	.10
4	1.4	34	.13	1.8	68	.33	1.0	27	.07
5	2.3	50	.31	1.7	42	.19	1.0	44	.12
6	2.0	42	.23	1.5	36	.15	.99	46	.12
7	1.5	35	.14	1.5	30	.12	1.0	26	.07
8	1.4	34	.13	1.4	28	.11	1.1	47	.14
9	1.5	35	.14	1.4	26	.10	1.2	47	.15
10	1.4	16	.13	1.4	36	.14	1.1	43	.13
11	1.4	34	.13	1.3	28	.10	1.0	46	.12
12	1.5	35	.14	1.2	17	.06	1.2	34	.11
13	1.3	33	.12	1.2	26	.08	1.1	23	.07
14	1.3	33	.12	1.1	29	.09	.97	21	.05
15	1.4	34	.13	1.2	25	.08	.89	16	.04
16	1.3	33	.12	1.1	20	.06	.95	13	.03
17	50	1620	553	1.1	14	.04	1.1	12	.04
18	38	1570	320	1.0	11	.03	1.2	14	.05
19	3.7	87	.87	.98	18	.05	.77	21	.04
20	2.1	44	.25	.94	25	.06	.83	21	.05
21	1.7	38	.17	.94	25	.06	.70	16	.03
22	1.6	37	.16	.82	14	.03	.64	16	.03
23	1.4	34	.13	.84	11	.02	.71	18	.03
24	1.3	33	.12	.97	12	.03	.64	20	.03
25	1.6	37	.16	.97	14	.04	.76	20	.04
26	1.5	35	.14	.79	14	.03	.70	19	.04
27	1.4	34	.13	.88	15	.04	.52	20	.03
28	1.4	34	.13	.91	17	.04	.55	17	.03
29	1.3	33	.12	.98	26	.07	.59	16	.03
30	1.2	31	.10	---	---	---	.72	21	.04
31	1.2	31	.10	---	---	---	.74	47	.09
TOTAL	133.5	---	877.97	47.32	---	34.92	28.37	---	2.15

SAN JUAN CREEK BASIN

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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	.58	37	.06	.82	26	.06	.01	30	.00
2	.50	17	.02	.79	25	.05	.00	0	.00
3	.38	14	.01	.69	30	.06	.00	0	.00
4	.32	15	.01	.64	36	.06	.00	0	.00
5	.27	19	.01	.75	22	.04	.00	0	.00
6	.73	21	.04	.55	20	.03	.00	0	.00
7	.47	22	.03	.55	25	.04	.00	0	.00
8	.34	30	.03	.49	28	.04	.00	0	.00
9	.28	41	.03	.48	30	.04	.00	0	.00
10	.26	60	.04	.49	26	.03	.00	0	.00
11	.17	35	.02	.37	10	.01	.00	0	.00
12	.10	5	.00	.23	15	.01	.00	0	.00
13	.10	7	.00	.19	26	.01	.00	0	.00
14	2.0	106	1.1	.23	29	.02	.00	0	.00
15	4.7	148	2.1	.10	26	.01	.00	0	.00
16	2.6	110	.77	.06	41	.01	.00	0	.00
17	1.5	100	.41	.07	38	.01	.00	0	.00
18	1.0	97	.26	.22	18	.01	.00	0	.00
19	.81	80	.17	.24	11	.01	.00	0	.00
20	23	438	40	.14	11	.00	.00	0	.00
21	17	520	29	.08	15	.00	.00	0	.00
22	3.6	191	2.4	.15	20	.01	.00	0	.00
23	1.7	51	.23	.09	25	.01	.00	0	.00
24	1.4	49	.19	.06	40	.01	.00	0	.00
25	1.3	44	.15	.05	76	.01	.00	0	.00
26	1.3	32	.11	.11	93	.03	.00	0	.00
27	1.2	18	.06	.06	42	.01	.00	0	.00
28	1.1	30	.09	.05	10	.00	.00	0	.00
29	1.0	44	.12	.06	7	.00	.00	0	.00
30	.95	35	.09	.03	11	.00	.00	0	.00
31	---	---	---	.02	21	.00	---	---	---
TOTAL	70.66	---	77.55	8.86	---	0.63	0.01	---	0.00
		JULY			AUGUST			SEPTEMBER	
1	.00	0	.00	.00	0	.00	.00	0	.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	.00	0	.00
21	.00	0	.00	.00	0	.00	.00	0	.00
22	.00	0	.00	.00	0	.00	.00	0	.00
23	.00	0	.00	.00	0	.00	.00	0	.00
24	.00	0	.00	.00	0	.00	.00	0	.00
25	.00	0	.00	.00	0	.00	.00	0	.00
26	.00	0	.00	.00	0	.00	.00	0	.00
27	.00	0	.00	.00	0	.00	.00	0	.00
28	.00	0	.00	.00	0	.00	.00	0	.00
29	.00	0	.00	.00	0	.00	.00	0	.00
30	.00	0	.00	.00	0	.00	.00	0	.00
31	.00	0	.00	.00	0	.00	---	---	---
TOTAL	0.00	---	0.00	0.00	---	0.00	0.00	---	0.00
YEAR	360.82		1225.39						

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1987	1.66	0.12	0	0
NOVEMBER ...	0.94	0.04	0	0
DECEMBER ...	69.50	232.01	0	232
JANUARY 1988	133.50	877.97	32	910
FEBRUARY ...	47.32	34.92	0	35
MARCH	28.37	2.15	0	2
APRIL	70.66	77.55	1	79
MAY	8.86	0.63	0	1
JUNE	0.01	0.00	0	0
JULY	0.00	0.00	0	0
AUGUST	0.00	0.00	0	0
SEPTEMBER ..	0.00	0.00	0	0
TOTAL	360.82	1225.39	33	1259

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
JAN						
18...	0810	25	9.0	2290	155	100
MAR						
09...	1145	1.1	16.0	35	0.10	84
APR						
20...	1200	10	16.0	234	6.3	97

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JAN								
18...	0815	9.0	1	18	1	1	2	4
18...	0820	9.0	1	18	17	26	38	60
18...	0825	9.0	1	18	--	--	1	15
MAY								
20...	1010	21.0	1	0.14	3	4	8	14
20...	1015	21.0	1	0.14	3	4	8	17
20...	1020	21.0	1	0.14	3	6	11	26
20...	1025	21.0	1	0.14	3	7	14	29

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							
18...	12	34	52	64	90	100	--
18...	86	100	--	--	--	--	--
18...	46	73	88	98	100	--	--
MAY							
20...	26	50	81	91	97	100	--
20...	26	30	35	42	58	78	100
20...	40	47	53	62	76	96	100
20...	56	73	86	96	98	100	--

SAN JUAN CREEK BASIN

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA

LOCATION.--Lat 33°29'54", long 117°39'54", on line between secs.1 and 12, T.8 S., R.8 W., Orange County, Hydrologic Unit 18070301, on left bank 30 ft downstream from Del Obispo Street bridge in San Juan Capistrano.

DRAINAGE AREA.--54.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to September 1977, October 1983 to current year. Records prior to October 1963, in files of Orange County Environmental Management Agency.

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

REMARKS.--Estimated daily discharges: May 10-20. Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1973-77, 1984-88), 6.79 ft^3/s, 4,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s, Feb. 15, 1986, gage height, 15.35 ft, from rating curve extended above 220 ft^3/s; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*), from rating curve extended above 220 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 23	0300	572	13.63	Jan. 17	1000	*988	*14.08
Dec. 4	2100	827	14.04				

No flow for several days.

DISCHARGE, IN 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	.34	6.7	1.6	1.9	1.2	30	.89	.82	1.2	.35	.06	.03
2	.17	6.0	1.7	1.7	112	30	.98	.83	1.4	.31	.12	.10
3	.05	2.7	1.3	1.9	5.8	7.0	.87	.22	1.1	.33	.17	.41
4	.03	32	70	1.9	2.9	3.2	.99	.15	.90	.55	.29	.07
5	.05	17	14	20	2.9	2.2	1.2	.40	.75	.45	.16	.20
6	.15	18	1.4	2.9	2.7	1.7	.94	.39	.37	.54	.13	.27
7	.37	2.5	.94	1.6	3.2	1.5	.78	.26	.30	.64	.05	.16
8	.26	2.1	.82	1.5	3.9	1.8	1.0	.08	.97	1.1	.07	.11
9	.31	1.9	1.3	1.7	3.2	1.7	.90	.22	.46	.94	.13	.19
10	.37	1.8	1.3	1.2	2.7	2.0	.68	.30	.37	.93	.17	.26
11	45	1.8	1.3	1.5	2.9	1.9	.91	.26	.54	.96	.08	.92
12	59	1.8	1.3	1.8	2.0	1.9	1.2	.23	.32	.57	.28	.68
13	9.3	1.8	1.6	1.7	1.1	1.9	1.3	.20	.63	.57	.30	.56
14	5.7	10	1.7	1.8	1.1	1.7	86	.22	.61	.29	.10	.56
15	4.1	1.9	1.8	1.8	1.2	1.5	15	.18	.63	.33	.17	.62
16	3.2	1.6	89	1.6	1.1	2.6	1.7	.12	.43	.17	.25	.56
17	3.2	1.7	81	331	1.0	2.4	1.4	.15	.29	.12	.40	.56
18	2.8	3.9	4.5	67	1.0	1.4	.91	.20	.18	.20	.34	.62
19	2.7	1.9	9.8	13	1.2	1.2	11	.23	.46	.09	.27	.87
20	3.1	1.8	5.0	7.8	1.5	1.2	176	.18	.59	.04	.19	1.8
21	2.0	1.7	4.1	3.2	1.8	1.3	34	.10	.51	.03	0	3.2
22	42	1.7	5.5	2.7	2.2	2.7	8.4	.32	1.0	.12	.05	2.0
23	110	1.7	5.4	2.4	1.4	1.8	2.9	.78	.52	.16	.03	2.0
24	7.8	1.8	5.1	2.9	1.1	1.9	1.7	.73	.24	.01	.02	1.7
25	4.0	1.8	3.3	2.4	1.3	1.9	.57	.86	.15	.01	.05	1.7
26	3.5	1.6	3.4	1.7	1.1	1.7	.42	.78	.24	.12	.03	1.8
27	3.9	1.6	4.0	1.7	.94	1.8	.46	.57	.10	.04	.02	2.4
28	3.0	1.7	4.2	1.5	8.4	1.2	.43	.39	.15	.03	0	3.5
29	2.8	1.7	16	1.7	8.4	1.0	.44	3.5	.46	.02	.01	5.8
30	2.3	1.6	6.0	1.4	---	.98	.79	6.1	.19	.03	.02	3.1
31	72	---	2.0	1.2	---	.92	---	2.2	---	0	.10	---
TOTAL	393.50	135.8	350.36	488.1	181.24	116.00	354.76	21.97	16.06	10.05	4.06	36.75
MEAN	12.7	4.53	11.3	15.7	6.25	3.74	11.8	.71	.54	.32	.13	1.23
MAX	110	32	89	331	112	30	176	6.1	1.4	1.1	.40	5.8
MIN	.03	1.6	.82	1.2	.94	.92	.42	.08	.10	0	0	.03
AC-FT	781	269	695	968	359	230	704	44	32	20	8.1	73

CAL YR 1987 TOTAL 1867.62 MEAN 5.12 MAX 113 MIN 0 AC-FT 3700
WTR YR 1988 TOTAL 2108.65 MEAN 5.76 MAX 331 MIN 0 AC-FT 4180

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971-78, December 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1970 to September 1977, December 1983 to September 1984.
SUSPENDED-SEDIMENT DISCHARGE: October 1970 to September 1977, December 1983 to September 1984.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
OCT								
12...	1535	238	20.5	8820	5670	33	36	39
DEC								
21...	1300	3.6	17.0	35	0.34	--	--	--
JAN								
17...	1620	294	13.0	6520	5180	--	--	--
18...	0940	44	10.5	1110	132	--	--	--
FEB								
02...	1255	81	12.5	1260	276	--	--	--
APR								
20...	1025	323	15.0	3280	2860	--	--	--
20...	1100	323	15.0	3210	2800	--	--	--
MAY								
20...	1130	0.22	25.0	13	0.01	--	--	--
SEP								
30...	1315	3.2	27.0	438	3.8	--	--	--

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								
12...	48	64	80	90	94	97	99	100
DEC								
21...	--	--	96	97	98	100	--	--
JAN								
17...	--	--	78	--	--	--	--	--
18...	--	--	97	--	--	--	--	--
FEB								
02...	--	--	--	--	--	--	--	--
APR								
20...	--	--	60	--	--	--	--	--
20...	--	--	63	--	--	--	--	--
MAY								
20...	--	--	--	--	--	--	--	--
SEP								
30...	--	--	99	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	TEMPER-ATURE WATER (DEG C)	NUMBER OF SAM-PLING POINTS (COUNT)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
JAN								
18...	0945	10.5	4	33	--	1	4	12
MAY								
20...	1125	25.0	1	0.22	4	9	21	43
20...	1130	25.0	1	0.22	--	1	2	11
20...	1135	25.0	1	0.22	1	1	4	10
20...	1140	25.0	1	0.22	14	46	81	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	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
JAN							
18...	26	36	46	58	74	100	--
MAY							
20...	61	69	76	89	100	--	--
20...	21	33	43	51	65	86	100
20...	15	17	21	27	39	61	100
20...	96	98	99	99	100	--	--

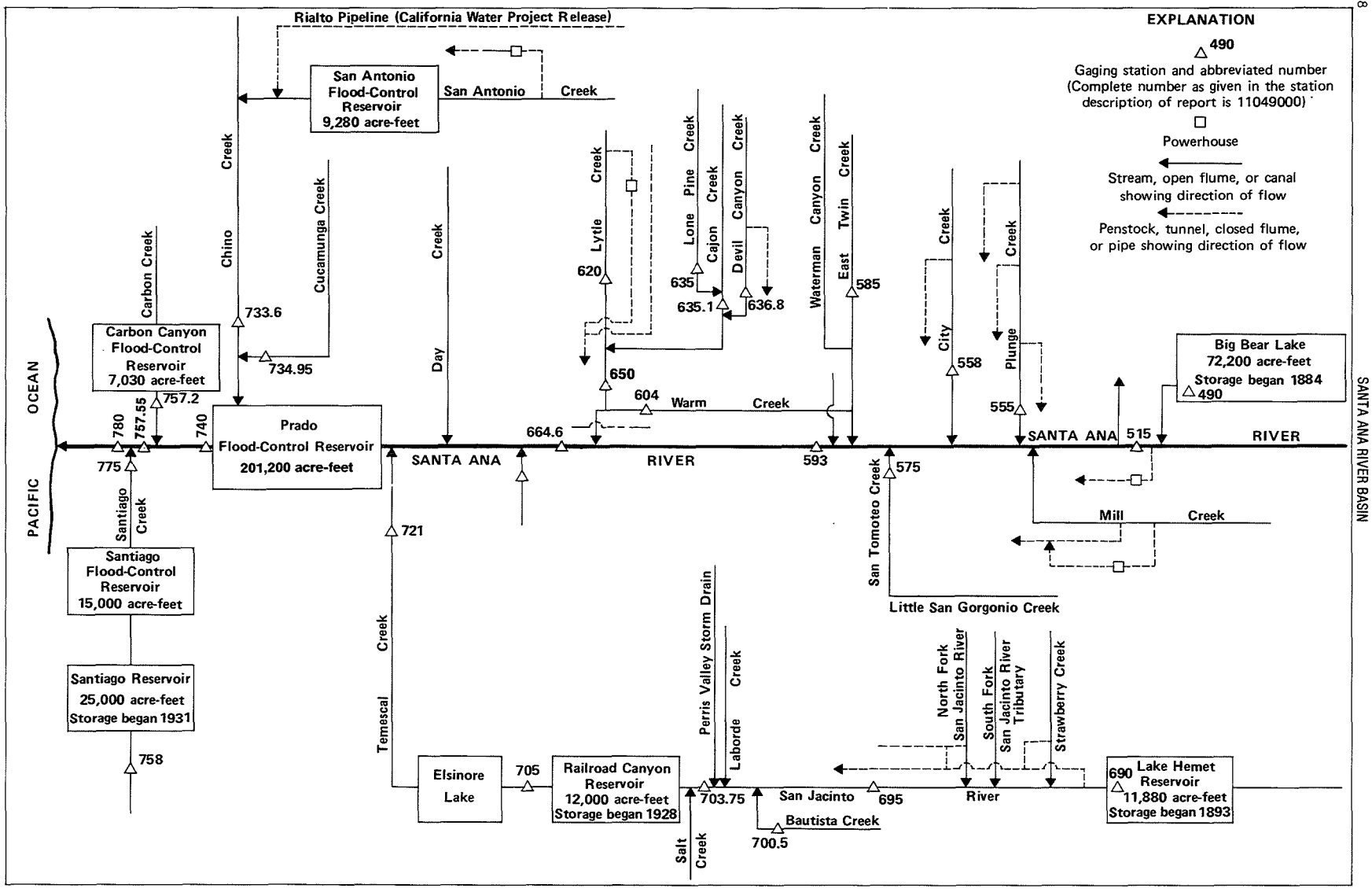

FIGURE 15.--Schematic diagram showing diversions and storage in Santa Ana River basin.

SANTA ANA RIVER BASIN

11049000 BIG BEAR LAKE NEAR BIG BEAR LAKE, CA

LOCATION.--Lat 34°14'33", long 116°58'33", in SW 1/4 sec.22, T.2 N., R.1 W., San Bernardino County, Hydrologic Unit 18070203, at Big Bear Lake Dam on Bear Creek, 4 mi west of town of Big Bear Lake, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--38.9 mi^2, excludes Baldwin Lake drainage included in reports prior to 1983.

PERIOD OF RECORD.--October 1950 to current year. February 1884 to September 1950 in files of Bear Valley Mutual Water Co.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 6,670.9 ft above National Geodetic Vertical Datum of 1929 (levels by Bear Valley Mutual Water Co.). Prior to 1912 at old dam 200 ft upstream at same datum; spillway at gage height, 52.4 ft.

REMARKS.--Lake is formed by multiple-arch concrete dam, completed in 1912, replacing existing lower dam built in 1884; storage began in spring of 1884. Capacity (based on July 1977 resurvey; new capacity table put into use August 1977), 73,320 acre-ft at elevation 6,743.3 ft, top of dam. No dead storage. Water used for irrigation only. See schematic diagram of Santa Ana River basin.

COOPERATION.--Record of contents was provided by Big Bear Municipal Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents unknown, lake spilled in 1969, 1970, 1980, 1983; minimum contents observed, 530 acre-ft, Nov. 24, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents unknown, lake spilled in 1916, 1917, 1922, 1923, 1938, 1939; lake dry October, November 1898, August to November 1899, October, November 1904.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 55,470 acre-ft, Apr. 25; minimum contents observed, 49,460 acre-ft, Sept. 26.

MONTHEND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	53,750	--
Oct. 31	53,880	+130
Nov. 30	53,750	-130
Dec. 31	53,880	+130
CAL YR 1987	--	-3,480
Jan. 31	-- (Frozen)	--
Feb. 29	54,940	--
Mar. 31	55,070	+130
Apr. 30	55,470	+400
May 31	55,070	-400
June 30	53,750	-1,320
July 31	52,170	-1,580
Aug. 31	50,740	-1,430
Sept. 30	49,460	-1,280
WTR YR 1988	--	-4,290

SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA

LOCATION.--Lat 34°06'30", long 117°05'59", in SW 1/4 SW 1/4 sec.4, T.1 S., R.2 W., San Bernardino County, Hydrologic Unit 18070203, on right bank near mouth of canyon, 1.6 mi upstream from Mill Creek, 3.2 mi northeast of Mentone, and 16 mi downstream from Big Bear Lake.
DRAINAGE AREA.--210 mi^2, including area tributary to Baldwin Lake at head of Bear Valley.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1896 to current year. Prior to October 1914, records for river only not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon. Monthly discharge only for January 1910, January and February 1916 published in WSP 1315-B.
GAGE.--Three water-stage recorders. Main gage on right bank of river, canal gage on powerhouse diversion, and since 1970, supplementary gage on left bank of river. Elevation of the main and supplementary gages is 1,950 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 2, 1917, nonrecording gages at several sites within 1.5 mi upstream at various datums. Sept. 3, 1917, to May 27, 1969, water-stage recorder at site 0.2 mi upstream at different datum. Canal gage at different datum.
REMARKS.--No estimated daily discharges. Records good. Flow partly regulated by Big Bear Lake (station 11049000). For records of combined discharge of Santa Ana River and Southern California Edison Co.'s canal below powerplant No. 2, which diverts above station, see following page. Prior to Oct. 1, 1952, and since Apr. 26, 1976, Bear Valley Mutual Water Co. pumps water into channel above canal gage. See schematic diagram of Santa Ana River basin.
AVERAGE DISCHARGE.--River only: 74 years (water years 1915-88), 36.1 ft^3/s, 26,150 acre-ft/yr.
Combined river and canal: 92 years, 82.8 ft^3/s, 60,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 52,300 ft^3/s, Mar. 2, 1938, gage height, 14.3 ft, site and datum then in use, on basis of slope-area measurement of peak flow; no flow at times in some years.
Combined river and canal: Maximum discharge, 52,300 ft^3/s, Mar. 2, 1938; minimum daily, 7.4 ft^3/s, Sept. 21, 1971.
EXTREMES OUTSIDE PERIOD OF RECORD.--Combined river and canal: Flood of Feb. 23, 1891, 53,700 ft^3/s, from notes provided by F. C. Finkle, consulting engineer, Los Angeles.
EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 148 ft^3/s, Jan. 17, gage height, 7.13 ft; no flow for many days.
Combined river and canal: Maximum discharge, 211 ft^3/s, Jan. 17; minimum daily, 15 ft^3/s, several days.

DISCHARGE, IN 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	0	41	0	0	1.6	.63	.36	2.2	.49	.06		
2	0	35	0	0	2.2	6.4	.39	2.1	.44	.05		
3	0	9.8	0	0	2.1	2.0	.37	1.8	.39	.05		
4	0	.10	.05	0	1.8	1.5	.30	1.6	.38	.05		
5	0	32	9.1	.02	1.6	1.1	.24	1.5	.39	.04		
6	0	26	.27	2.0	1.5	.93	.22	1.6	.37	.03		
7	0	.77	0	.53	1.5	.87	.20	1.5	.36	.03		
8	0	.03	0	.20	1.5	.78	.18	1.5	.30	.03		
9	0	0	0	.12	1.4	5.7	.20	1.2	.30	.02		
10	0	0	0	.09	1.4	1.5	.20	1.0	.36	.02		
11	0	0	0	.10	1.4	1.1	.15	.98	.36	.02		
12	0	0	0	.12	1.4	.95	.14	.90	.42	.01		
13	0	0	0	.12	1.4	.82	.16	.86	.33	.02		
14	0	0	0	.13	1.4	.78	.41	.81	.29	.01		
15	0	0	0	.15	1.2	.76	4.8	.73	.29	.01		
16	0	0	0	.16	1.3	.66	2.1	.70	.26	.01		
17	0	0	2.1	52	1.3	.68	1.9	.69	.29	.01		
18	0	0	.16	67	1.3	.66	1.7	.66	.26	.01		
19	0	0	0	41	1.3	.62	1.4	.63	.23	.01		
20	0	0	0	12	1.2	.61	73	.57	.21	0		
21	0	0	0	5.0	1.2	.60	63	.52	.20	0		
22	0	0	0	3.7	1.2	.62	12	.51	.15	0		
23	51	0	0	3.3	.94	.59	6.5	.51	.13	0		
24	31	0	0	2.7	.78	.53	6.5	.52	.15	0		
25	18	0	0	2.4	.66	.47	4.8	.45	.17	0		
26	.90	0	0	2.2	.62	.45	3.5	.50	.14	0		
27	0	0	0	2.0	.49	.45	3.1	.54	.10	0		
28	0	0	0	1.9	.42	.44	2.9	.56	.09	0		
29	0	0	.02	1.9	.43	.44	2.7	.81	.08	0		
30	0	0	.02	1.9	---	.47	2.2	.72	.07	0		
31	7.1	---	0	1.9	---	.41	---	.52	---	0		---
TOTAL	108.00	144.70	11.72	204.64	36.54	34.52	195.62	29.69	8.00	.49	0	0
MEAN	3.48	4.82	.38	6.60	1.26	1.11	6.52	.96	.27	.016	0	0
MAX	51	41	9.1	67	2.2	6.4	73	2.2	.49	.06	0	0
MIN	0	0	0	0	.42	.41	.14	.45	.07	0	0	0
AC-FT	214	287	23	406	72	68	388	59	16	1.0	0	0

CAL YR 1987 TOTAL 845.32 MEAN 2.32 MAX 67 MIN 0 AC-FT 1680
WTR YR 1988 TOTAL 773.92 MEAN 2.11 MAX 73 MIN 0 AC-FT 1540

SANTA ANA RIVER BASIN

11051501 SANTA ANA RIVER NEAR MENTONE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SANTA ANA RIVER AND SOUTHERN CALIFORNIA EDISON CO.'S CANAL NEAR MENTONE, CA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	45	31	26	40	42	30	46	30	20	24	23
2	18	56	31	28	45	49	29	44	30	20	20	24
3	18	53	30	32	40	40	29	43	29	20	19	20
4	18	43	31	32	38	38	28	42	29	21	18	21
5	17	96	45	38	38	37	28	43	31	21	18	20
6	18	77	35	45	38	37	27	45	32	20	17	18
7	18	42	34	40	38	36	27	44	32	18	17	17
8	18	38	31	37	38	36	27	43	31	18	17	18
9	18	36	30	35	38	39	27	40	30	18	17	20
10	18	34	29	35	34	36	26	38	29	18	17	19
11	21	32	29	34	36	35	28	37	29	18	17	20
12	29	31	29	34	36	35	28	36	28	18	17	20
13	33	31	26	33	36	35	30	36	27	18	17	20
14	26	30	26	33	35	35	36	36	27	18	16	20
15	23	29	28	33	35	35	48	35	27	17	16	20
16	23	30	33	33	35	35	39	34	27	16	16	19
17	21	31	36	71	35	34	39	36	26	16	16	20
18	21	31	34	66	35	34	37	37	25	16	15	19
19	21	30	33	57	35	32	36	35	24	16	15	20
20	21	29	32	51	34	32	84	34	24	16	18	22
21	21	29	31	48	34	32	86	33	24	16	21	24
22	21	29	31	46	35	32	70	33	23	18	20	23
23	59	29	33	45	36	31	64	32	23	17	21	22
24	39	28	29	45	35	30	59	34	23	17	24	20
25	36	29	25	43	37	30	57	31	22	16	23	20
26	28	30	27	43	36	30	57	31	22	15	23	20
27	25	30	28	42	34	30	54	31	20	15	23	19
28	25	31	29	42	35	30	53	33	20	15	25	19
29	25	31	29	41	39	30	50	36	20	15	23	19
30	25	31	27	41	---	31	47	35	19	17	23	19
31	33	---	26	40	---	31	---	32	---	18	22	---
TOTAL	755	1121	948	1269	1060	1069	1280	1145	783	542	595	605
MEAN	24.4	37.4	30.6	40.9	36.6	34.5	42.7	36.9	26.1	17.5	19.2	20.2
MAX	59	96	45	71	45	49	86	46	32	21	25	24
MIN	17	28	25	26	34	30	26	31	19	15	15	17
AC-FT	1500	2220	1880	2520	2100	2120	2540	2270	1550	1080	1180	1200

CAL YR 1987 TOTAL 12108 MEAN 33.2 MAX 96 MIN 17 AC-FT 24020
WTR YR 1988 TOTAL 11172 MEAN 30.5 MAX 96 MIN 15 AC-FT 22160

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1982 to current year.
WATER TEMPERATURE: Water years 1982 to current year.
SEDIMENT DATA: Water years 1982 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 10,100 mg/L, Mar. 1, 2, 1983; no flow at times in some years.
SEDIMENT LOAD: Maximum daily discharge, 49,300 tons, Mar. 1, 1983; 0 ton for many days each year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,750 mg/L, Oct. 23; no flow for many days.
SEDIMENT LOAD: Maximum daily, 340 tons, Oct. 23; 0 ton for many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.0	---	3.0	13.5	14.5	17.5	11.5	22.0	22.5		
2	---	13.5	---	2.5	13.0	12.0	18.0	22.0	28.5	---		
3	---	---	---	---	12.0	17.0	18.0	13.0	24.5	---		
4	---	---	---	---	14.0	17.5	15.5	13.5	26.0	---		
5	---	12.5	13.0	---	14.0	17.0	---	16.5	18.5	---		
6	---	10.5	16.0	10.0	17.0	20.0	21.0	16.5	20.0	---		
7	---	---	---	7.5	17.0	13.5	21.5	13.5	---	---		
8	---	19.0	---	6.0	17.5	14.0	18.5	13.0	26.0	26.0		
9	---	---	---	9.0	17.5	15.0	16.0	13.0	27.0	---		
10	---	---	---	15.0	11.5	18.5	16.0	14.5	27.5	---		
11	---	---	---	16.5	18.5	15.5	14.5	15.0	17.0	---		
12	---	---	---	15.0	20.0	8.5	13.0	16.0	17.0	---		
13	---	---	---	15.0	19.5	8.5	15.0	16.5	17.5	---		
14	---	---	---	16.5	13.5	18.0	14.5	16.0	26.0	---		
15	---	---	---	14.5	19.0	9.0	20.0	15.0	25.0	---		
16	---	---	---	---	18.0	9.0	15.0	15.0	23.5	---		
17	---	---	8.5	4.5	14.0	9.5	14.5	17.0	23.5	---		
18	---	---	8.5	5.5	15.0	20.0	15.0	20.5	---	---		
19	---	---	---	4.5	15.0	20.0	15.0	20.5	---	---		
20	---	---	---	11.0	11.0	21.5	10.0	15.5	25.0	---		
21	---	---	---	7.0	19.5	20.5	9.5	24.0	24.5	---		
22	---	---	---	7.5	18.0	12.0	11.5	23.5	24.0	---		
23	14.5	---	---	14.0	10.5	20.0	12.5	15.5	25.0	---		
24	16.0	---	---	9.5	10.5	20.0	13.5	15.5	25.0	---		
25	12.5	---	---	15.5	14.5	13.0	22.0	28.0	25.5	---		
26	19.0	---	---	11.0	13.0	22.0	15.5	28.0	24.5	---		
27	---	---	---	18.0	15.0	21.5	---	28.0	18.0	---		
28	---	---	---	18.0	17.5	13.0	---	28.0	---	---		
29	---	---	---	17.5	13.5	14.5	---	27.0	18.5	---		
30	---	---	---	---	---	11.0	13.0	26.5	24.0	---		
31	15.0	---	9.5	---	---	19.0	---	---	---	---		
MONTH	---	---	---	11.0	15.5	15.5	15.5	18.5	23.0	---		

SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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	41	70	7.9	.00	0	.00
2	.00	0	.00	35	65	6.1	.00	0	.00
3	.00	0	.00	9.8	100	2.7	.00	0	.00
4	.00	0	.00	.10	15	.00	.05	25	.00
5	.00	0	.00	32	325	35	9.1	125	5.4
6	.00	0	.00	26	13	.98	.27	75	.07
7	.00	0	.00	.77	7	.02	.00	0	.00
8	.00	0	.00	.03	5	.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	2.1	53	.61
18	.00	0	.00	.00	0	.00	.16	2	.00
19	.00	0	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	.00	0	.00
21	.00	0	.00	.00	0	.00	.00	0	.00
22	.00	0	.00	.00	0	.00	.00	0	.00
23	51	1750	340	.00	0	.00	.00	0	.00
24	31	90	8.7	.00	0	.00	.00	0	.00
25	18	25	1.6	.00	0	.00	.00	0	.00
26	.90	11	.02	.00	0	.00	.00	0	.00
27	.00	0	.00	.00	0	.00	.00	0	.00
28	.00	0	.00	.00	0	.00	.00	0	.00
29	.00	0	.00	.00	0	.00	.02	1	.00
30	.00	0	.00	.00	0	.00	.02	2	.00
31	7.1	406	49	---	---	---	.00	0	.00
TOTAL	108.00	---	399.32	144.70	---	52.70	11.72	---	6.08
		JANUARY			FEBRUARY			MARCH	
1	.00	0	.00	1.6	1	.00	.63	1	.00
2	.00	0	.00	2.2	4	.02	6.4	115	2.8
3	.00	0	.00	2.1	0	.00	2.0	12	.06
4	.00	0	.00	1.8	0	.00	1.5	1	.00
5	.02	0	.00	1.6	0	.00	1.1	2	.01
6	2.0	16	.12	1.5	1	.00	.93	2	.00
7	.53	1	.00	1.5	3	.01	.87	2	.00
8	.20	0	.00	1.5	0	.00	.78	2	.00
9	.12	1	.00	1.4	0	.00	5.7	30	.76
10	.09	0	.00	1.4	3	.01	1.5	2	.01
11	.10	0	.00	1.4	6	.02	1.1	1	.00
12	.12	2	.00	1.4	1	.00	.95	1	.00
13	.12	0	.00	1.4	3	.01	.82	1	.00
14	.13	1	.00	1.4	1	.00	.78	1	.00
15	.15	1	.00	1.2	1	.00	.76	1	.00
16	.16	0	.00	1.3	1	.00	.66	1	.00
17	52	399	130	1.3	1	.00	.68	1	.00
18	67	150	26	1.3	1	.00	.66	1	.00
19	41	55	6.1	1.3	2	.01	.62	1	.00
20	12	25	.81	1.2	6	.02	.61	1	.00
21	5.0	4	.05	1.2	3	.01	.60	1	.00
22	3.7	2	.02	1.2	2	.01	.62	1	.00
23	3.3	2	.02	.94	3	.01	.59	1	.00
24	2.7	2	.01	.78	4	.01	.53	1	.00
25	2.4	3	.02	.66	2	.00	.47	1	.00
26	2.2	2	.01	.62	1	.00	.45	1	.00
27	2.0	2	.01	.49	3	.00	.45	1	.00
28	1.9	8	.04	.42	6	.01	.44	1	.00
29	1.9	4	.02	.43	4	.01	.44	1	.00
30	1.9	1	.01	---	---	---	.47	1	.00
31	1.9	1	.01	---	---	---	.41	1	.00
TOTAL	204.64	---	163.25	36.54	---	0.16	34.52	---	3.64

SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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	.36	1	.00	2.2	23	.14	.49	4	.00
2	.39	1	.00	2.1	22	.13	.44	3	.00
3	.37	1	.00	1.8	2	.01	.39	4	.00
4	.30	1	.00	1.6	1	.00	.38	8	.01
5	.24	1	.00	1.5	1	.00	.39	3	.00
6	.22	1	.00	1.6	2	.01	.37	3	.00
7	.20	1	.00	1.5	2	.01	.36	1	.00
8	.18	1	.00	1.5	1	.00	.30	2	.00
9	.20	1	.00	1.2	3	.01	.30	2	.00
10	.20	1	.00	1.0	2	.01	.36	2	.00
11	.15	1	.00	.98	1	.00	.36	3	.00
12	.14	1	.00	.90	2	.01	.42	2	.00
13	.16	1	.00	.86	1	.00	.33	1	.00
14	.41	1	.00	.81	1	.00	.29	1	.00
15	4.8	9	.12	.73	2	.00	.29	1	.00
16	2.1	1	.00	.70	2	.00	.26	1	.00
17	1.9	1	.00	.69	2	.00	.29	3	.00
18	1.7	1	.00	.66	1	.00	.26	1	.00
19	1.4	1	.00	.63	3	.01	.23	2	.00
20	73	649	170	.57	2	.00	.21	2	.00
21	63	100	17	.52	2	.00	.20	6	.00
22	12	20	.86	.51	1	.00	.15	1	.00
23	6.5	5	.11	.51	2	.00	.13	9	.00
24	6.5	5	.10	.52	2	.00	.15	5	.00
25	4.8	3	.04	.45	2	.00	.17	1	.00
26	3.5	4	.04	.50	1	.00	.14	6	.00
27	3.1	20	.18	.54	2	.00	.10	1	.00
28	2.9	23	.19	.56	1	.00	.09	1	.00
29	2.7	22	.17	.81	2	.00	.08	3	.00
30	2.2	23	.14	.72	1	.00	.07	1	.00
31	---	---	---	.52	1	.00	---	---	---
TOTAL	195.62	---	188.95	29.69	---	0.34	8.00	---	0.01
		JULY			AUGUST			SEPTEMBER	
1	.06	3	.00	.00	0	.00	.00	0	.00
2	.05	4	.00	.00	0	.00	.00	0	.00
3	.05	4	.00	.00	0	.00	.00	0	.00
4	.05	3	.00	.00	0	.00	.00	0	.00
5	.04	3	.00	.00	0	.00	.00	0	.00
6	.03	3	.00	.00	0	.00	.00	0	.00
7	.03	4	.00	.00	0	.00	.00	0	.00
8	.03	3	.00	.00	0	.00	.00	0	.00
9	.02	2	.00	.00	0	.00	.00	0	.00
10	.02	4	.00	.00	0	.00	.00	0	.00
11	.02	5	.00	.00	0	.00	.00	0	.00
12	.01	4	.00	.00	0	.00	.00	0	.00
13	.02	2	.00	.00	0	.00	.00	0	.00
14	.01	2	.00	.00	0	.00	.00	0	.00
15	.01	3	.00	.00	0	.00	.00	0	.00
16	.01	2	.00	.00	0	.00	.00	0	.00
17	.01	6	.00	.00	0	.00	.00	0	.00
18	.01	5	.00	.00	0	.00	.00	0	.00
19	.01	1	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	.00	0	.00
21	.00	0	.00	.00	0	.00	.00	0	.00
22	.00	0	.00	.00	0	.00	.00	0	.00
23	.00	0	.00	.00	0	.00	.00	0	.00
24	.00	0	.00	.00	0	.00	.00	0	.00
25	.00	0	.00	.00	0	.00	.00	0	.00
26	.00	0	.00	.00	0	.00	.00	0	.00
27	.00	0	.00	.00	0	.00	.00	0	.00
28	.00	0	.00	.00	0	.00	.00	0	.00
29	.00	0	.00	.00	0	.00	.00	0	.00
30	.00	0	.00	.00	0	.00	.00	0	.00
31	.00	0	.00	.00	0	.00	---	---	---
TOTAL	0.49	---	0.00	0.00	---	0.00	0.00	---	0.00
YEAR	773.92		814.45						

SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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	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
MAR										
02...	7.4	126	2.5	--	--	--	--	--	100	--
APR										
20...	104	2120	595	28	39	61	82	92	99	100

SANTA ANA RIVER BASIN

11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA

LOCATION.--Lat 34°07'06", long 117°08'27", in NE 1/4 NE 1/4 sec.1, T.1 S., R.3 W., San Bernardino County, Hydrologic Unit 18070203, on left bank at mouth of canyon at crossing of North Fork ditch siphon, and 1.8 mi northeast of East Highlands.
DRAINAGE AREA.--16.9 mi^2.
PERIOD OF RECORD.--January 1919 to current year; combined records of creek and diversions, March 1951 to current year.
GAGE.--Water-stage recorder on creek. Since March 1951 water-stage recorder and weir on upper diversion; water-stage recorder and concrete-lined canal on middle diversion; crest-stage gage and sharp-crested weir on lower diversion. Elevation of creek gage is 1,590 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1969, creek gage at datum 4.00 ft higher. Diversions all at different datums.
REMARKS.--Estimated daily discharges: Feb. 14 to Mar. 7. Records fair. No regulation above station. Diversion from Alder Creek to Upper Plunge Creek area was active 1904-67. Diversions for irrigation are made at sites 0.5, 1.0, and 2.5 mi above station. Water has been diverted above station for irrigation during entire period of record. Combined discharge of Plunge Creek and upper, middle, and lower diversions is given on following page. No flow in lower diversion since May 29, 1966. See schematic diagram of Santa Ana River basin.
AVERAGE DISCHARGE.--Creek only: 69 years, 6.72 ft^3/s, 4,870 acre-ft/yr.
Combined creek and diversions: 37 years, 8.72 ft^3/s, 6,320 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 5,340 ft^3/s, Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.
Combined creek and diversions: Maximum discharge, 4,770 ft^3/s, Dec. 6, 1966; no flow Nov. 12, 1964, Sept. 29, 1965, Aug. 4, 1987.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

		Creek only		Combined creek and diversions
Date	Time	Discharge (ft^3/s)	Gage height (ft)	Discharge (ft^3/s)
Apr. 20	0530	*148	*4.06	*148

Creek only: No flow for many days.
Combined creek and diversions: Minimum daily, 0.45 ft^3/s, Sept. 4-6.

DISCHARGE, IN 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	0	7.4	2.4	2.4	4.8	5.6	.06	8.2	.29			
2	0	8.3	2.4	2.4	6.5	15	.06	7.4	.05			
3	0	4.8	1.3	2.4	5.5	4.3	.09	6.4	0			
4	0	4.8	.30	2.6	5.0	2.0	.14	4.0	0			
5	0	14	6.5	3.3	4.7	1.4	.05	2.0	0			
6	0	5.4	2.8	4.8	4.8	1.1	.08	1.3	0			
7	0	3.0	1.1	3.5	4.6	.91	.08	1.3	0			
8	0	2.3	.32	3.3	4.5	.68	.09	1.2	0			
9	0	1.9	.26	3.4	4.3	.61	.09	1.1	0			
10	0	1.8	.20	3.3	4.2	.91	.09	.96	0			
11	0	1.7	1.2	3.3	4.1	1.0	.09	.84	0			
12	.10	1.7	1.9	3.3	4.1	.98	.09	.40	0			
13	0	1.7	1.8	3.2	4.1	1.0	.13	.08	0			
14	.13	1.7	1.8	3.3	4.2	.96	1.2	.05	0			
15	.15	1.8	1.9	3.1	4.1	.74	8.0	.04	0			
16	.07	1.8	2.0	3.3	3.2	.76	2.2	.04	0			
17	.02	1.9	5.8	19	2.0	.69	3.2	.04	0			
18	.03	2.1	3.5	13	2.0	.57	2.2	.05	0			
19	.03	2.0	3.0	7.5	1.9	.46	.87	.02	0			
20	.06	1.9	2.7	6.1	1.8	.38	56	.01	0			
21	.08	2.0	2.6	5.5	1.8	.34	19	0	0			
22	.43	1.9	2.5	5.2	1.9	.33	12	0	0			
23	24	2.0	3.5	5.2	.87	.23	12	0	0			
24	2.3	1.9	2.8	5.6	.24	.08	11	0	0			
25	1.4	1.8	2.6	5.5	.20	.07	11	0	0			
26	1.4	2.0	2.4	5.2	.25	.08	10	0	0			
27	1.5	2.2	2.4	5.2	.35	.09	8.9	0	0			
28	1.5	2.2	2.2	5.0	.51	.09	8.0	0	0			
29	2.1	2.4	2.7	5.1	.31	.09	7.9	.87	0			
30	2.6	2.4	3.2	5.2	---	.09	8.5	1.2	0			
31	7.8	---	2.5	4.9	---	.07	---	.50	---			---
TOTAL	45.70	92.8	72.58	154.1	86.83	41.61	183.11	38.00	.34	0	0	0
MEAN	1.47	3.09	2.34	4.97	2.99	1.34	6.10	1.23	.011	0	0	0
MAX	24	14	6.5	19	6.5	15	56	8.2	.29	0	0	0
MIN	0	1.7	.20	2.4	.20	.07	.05	0	0	0	0	0
AC-FT	91	184	144	306	172	83	363	75	.7	0	0	0

CAL YR 1987 TOTAL 690.87 MEAN 1.89 MAX 24 MIN 0 AC-FT 1370
WTR YR 1988 TOTAL 715.07 MEAN 1.95 MAX 56 MIN 0 AC-FT 1420

SANTA ANA RIVER BASIN

11055501 PLUNGE CREEK NEAR EAST HIGHLANDS, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF PLUNGE CREEK AND DIVERSIONS NEAR EAST HIGHLANDS, CA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	7.4	2.4	2.4	4.8	6.1	2.8	8.2	2.2	.70	.56	.53
2	.53	8.3	2.4	2.4	6.5	15	2.8	8.5	1.9	.70	.58	.52
3	.53	4.8	2.4	2.4	5.5	4.3	3.2	8.9	1.6	.69	.57	.48
4	.52	4.8	2.7	2.6	5.0	5.5	3.3	6.7	1.5	.69	.54	.45
5	.52	14	10	3.3	4.7	5.3	2.7	4.8	1.6	.69	.53	.45
6	.55	5.4	5.7	4.8	4.8	4.8	2.3	4.3	1.7	.68	.50	.45
7	.58	3.0	3.9	3.5	4.6	4.5	1.8	4.2	1.7	.68	.49	.52
8	.60	2.3	2.9	3.3	4.5	4.4	1.9	4.0	1.7	.76	.53	.58
9	.64	1.9	2.8	3.4	4.3	4.2	1.8	3.6	1.5	.75	.64	.60
10	.64	1.8	2.7	3.3	4.2	4.1	1.7	3.2	1.4	.76	.63	.63
11	.58	1.7	2.1	3.3	4.1	4.0	1.7	2.8	1.3	.79	.65	.68
12	.63	1.7	1.9	3.3	4.1	4.0	1.7	2.8	1.4	.78	.67	.75
13	.52	1.7	1.8	3.2	4.1	3.9	1.8	2.6	1.4	.77	.67	.69
14	.83	1.7	1.8	3.3	4.2	3.8	3.4	2.6	1.2	.78	.65	.63
15	1.0	1.8	1.9	3.1	4.1	3.7	10	2.4	1.1	.75	.64	.59
16	.88	1.8	2.0	3.3	4.0	3.8	3.6	2.4	1.1	.67	.65	.61
17	.81	1.9	5.8	19	4.0	3.6	4.6	2.5	1.2	.63	.64	.65
18	.86	2.1	3.5	13	4.0	3.5	3.6	2.7	1.2	.65	.62	.67
19	.88	2.0	3.0	7.5	4.0	3.4	3.4	2.4	1.1	.63	.61	.63
20	.90	1.9	2.7	6.1	4.0	3.2	57	2.2	1.2	.61	.63	.76
21	.91	2.0	2.6	5.5	3.9	3.1	19	1.9	1.2	.61	.64	.82
22	1.3	1.9	2.5	5.2	3.9	3.1	12	1.9	1.0	.61	.63	.79
23	24	2.0	3.5	5.2	3.9	3.1	12	1.8	1.1	.59	.65	.76
24	2.3	1.9	2.8	5.6	3.9	3.1	11	1.9	1.0	.59	.71	.74
25	1.4	1.8	2.6	5.5	3.9	2.9	11	1.8	1.0	.56	.66	.72
26	1.4	2.0	2.4	5.2	3.8	2.9	10	1.8	.97	.53	.64	.72
27	1.5	2.2	2.4	5.2	4.5	2.9	8.9	1.8	.92	.51	.62	.68
28	1.5	2.2	2.2	5.0	4.0	2.8	8.0	2.0	.87	.52	.61	.61
29	2.1	2.4	2.7	5.1	4.0	2.8	7.9	4.2	.84	.51	.60	.52
30	2.6	2.4	3.2	5.2	---	2.8	8.5	3.8	.79	.54	.56	.50
31	7.8	---	2.5	4.9	---	2.8	---	2.6	---	.56	.55	---
TOTAL	60.37	92.8	93.8	154.1	125.3	127.4	223.4	107.3	38.69	20.29	18.87	18.73
MEAN	1.95	3.09	3.03	4.97	4.32	4.11	7.45	3.46	1.29	.65	.61	.62
MAX	24	14	10	19	6.5	15	57	8.9	2.2	.79	.71	.82
MIN	.52	1.7	1.8	2.4	3.8	2.8	1.7	1.8	.79	.51	.49	.45
AC-FT	120	184	186	306	249	253	443	213	77	40	37	37

CAL YR 1987 TOTAL 1048.53 MEAN 2.87 MAX 24 MIN 0 AC-FT 2080
WTR YR 1988 TOTAL 1081.05 MEAN 2.95 MAX 57 MIN .45 AC-FT 2140

SANTA ANA RIVER BASIN

11055800 CITY CREEK NEAR HIGHLAND, CA

LOCATION.--Lat 34°08'38", long 117°11'16", in SW 1/4 NW 1/4 sec.27, T.1 N., R.3 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 0.6 mi upstream from Highland Avenue and 1.5 mi northeast of Highland.

DRAINAGE AREA.--19.6 mi^2.

PERIOD OF RECORD.--October 1919 to current year; combined records of creek and City Creek Water Co.'s canal, June 1924 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 1,580 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 1, 1939, at site 0.2 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. No regulation above station. City Creek Water Co.'s canal diverted from a site 0.5 mi above station for irrigation throughout period of record until Sept. 30, 1986. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--Creek only: 69 years, 9.60 ft^3/s, 6,960 acre-ft/yr.
Combined creek and canal: 62 years, 11.4 ft^3/s, 8,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft^3/s, Feb. 25, 1969, gage height, 9.39 ft, from rating curve extended above 580 ft^3/s on basis of slope-area measurement at gage height 8.82 ft; no flow for several months in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 1	2300	*108	*4.57				

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

DISCHARGE, IN 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	.15	8.8	2.7	5.0	5.2	17	2.9	6.0	2.4	.36	.17	.13
2	.15	34	2.8	4.7	7.5	26	2.8	5.3	2.1	.35	.07	.14
3	.14	12	2.7	4.7	6.3	10	3.0	4.8	1.8	.38	.05	.12
4	.13	13	3.8	4.7	5.3	8.3	2.9	4.6	1.7	.40	.15	.10
5	.13	29	11	5.6	5.0	7.0	2.8	4.8	2.0	.38	.16	.10
6	.15	14	4.9	6.7	4.7	6.5	2.5	5.3	2.4	.28	.15	.11
7	.15	8.9	4.4	5.6	4.6	5.8	2.5	5.2	2.4	.22	.15	.11
8	.18	6.3	4.2	5.2	4.4	5.5	2.5	5.1	2.1	.23	.16	.14
9	.19	5.0	4.0	5.2	4.0	5.2	2.3	4.3	1.8	.21	.16	.16
10	.20	4.1	3.9	5.2	4.0	5.1	2.2	3.8	1.7	.19	.16	.16
11	.30	3.5	3.5	5.1	4.0	4.9	2.0	3.4	1.6	.16	.19	.17
12	.60	3.3	3.7	4.9	4.0	4.9	2.1	3.1	1.9	.17	.19	.18
13	.89	3.1	3.7	4.6	4.0	4.6	2.3	3.0	1.8	.12	.18	.15
14	.99	3.0	4.0	4.5	3.8	4.4	7.0	2.9	1.4	.18	.17	.15
15	1.1	2.9	4.0	4.5	3.6	4.2	13	2.8	1.2	.24	.16	.15
16	.88	2.8	5.0	4.5	3.6	4.3	5.9	2.8	1.2	.19	.15	.17
17	.77	2.9	11	30	3.8	4.1	7.0	3.1	1.3	.14	.14	.18
18	.86	3.0	6.7	25	3.8	3.9	6.1	3.2	1.5	.16	.14	.17
19	1.1	2.5	5.9	14	3.8	3.7	5.2	2.6	1.3	.17	.15	.17
20	1.2	2.4	5.4	11	3.8	3.7	63	2.3	1.3	.16	.18	.21
21	1.1	2.3	5.2	9.3	3.6	3.5	28	2.1	1.3	.15	.18	.19
22	10	2.3	5.0	8.2	3.7	3.5	16	1.9	1.1	.15	.17	.16
23	26	2.3	6.6	7.6	3.8	3.5	15	1.9	1.1	.13	.17	.20
24	4.7	2.1	5.4	7.5	3.8	3.3	13	1.9	1.0	.13	.19	.20
25	3.1	2.1	5.0	7.4	3.6	3.1	10	2.0	1.0	.13	.14	.27
26	2.4	2.3	4.7	7.0	3.6	2.9	8.8	2.0	.93	.12	.13	.28
27	2.1	2.4	4.7	6.6	3.7	3.0	7.7	2.1	.67	.12	.13	.26
28	2.0	2.5	4.6	6.3	4.3	2.8	7.6	2.6	.51	.14	.13	.24
29	3.1	2.5	5.3	6.1	4.6	2.8	7.0	5.5	.47	.14	.12	.21
30	3.2	2.7	6.0	5.8	---	2.9	6.5	3.6	.43	.17	.11	.19
31	8.8	---	5.3	5.4	---	2.8	---	2.8	---	.18	.12	---
TOTAL	76.76	188.0	155.1	237.9	123.9	173.2	259.6	106.8	43.41	6.25	4.62	5.17
MEAN	2.48	6.27	5.00	7.67	4.27	5.59	8.65	3.45	1.45	.20	.15	.17
MAX	26	34	11	30	7.5	26	63	6.0	2.4	.40	.19	.28
MIN	.13	2.1	2.7	4.5	3.6	2.8	2.0	1.9	.43	.12	.05	.10
AC-FT	152	373	308	472	246	344	515	212	86	12	9.2	10

CAL YR 1987 TOTAL 1214.43 MEAN 3.33 MAX 34 MIN .12 AC-FT 2410
WTR YR 1988 TOTAL 1380.71 MEAN 3.77 MAX 63 MIN .05 AC-FT 2740

SANTA ANA RIVER BASIN

11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA

LOCATION.--Lat 34°03'46", long 117°16'16", in NE 1/4 NW 1/4 sec.26, T.1 S., R.4 W., San Bernardino County, Hydrologic Unit 18070203, on left bank 200 ft upstream from Redlands Boulevard bridge, and 0.6 mi northwest of Loma Linda.

DRAINAGE AREA.--125 mi^2.

PERIOD OF RECORD.--October 1954 to September 1965, February 1968 to October 1973, April 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,030 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to April 1979, water-stage recorders at site 0.2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 1-24, and Apr. 21 to July 7. Records poor. No regulation above station. Natural flow affected by pumping and return flow from irrigated areas.

AVERAGE DISCHARGE.--25 years (1955-65, 1969-73, 1980-88), 2.69 ft^3/s, 1,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft^3/s, Feb. 25, 1969, gage height, 8.2 ft, from floodmark, from rating curve extended above 2,100 ft^3/s on basis of slope-conveyance study of peak flow, at site and datum then in use; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 5	0015	232	3.79	Jan. 17	1500	*514	*4.39
Dec. 4	2215	175	3.66				

No flow for many days.

DISCHARGE, IN 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	0	5.1	0	3.0	0	7.5	.97	.50	.30	.90	.55	1.3
2	0	2.6	0	3.2	5.2	2.8	1.8	.25	1.1	1.5	.95	1.7
3	.20	1.8	0	3.2	.45	2.0	.99	.04	.10	.35	.41	.78
4	.40	17	11	2.8	.02	1.6	1.1	.01	.05	0	.10	.06
5	.30	26	13	5.6	.25	2.0	1.3	.01	.03	.25	.05	.03
6	.10	1.0	1.9	2.8	.05	2.3	1.4	0	0	.56	.56	.02
7	.26	.98	1.9	2.8	.02	2.4	.57	.40	0	.24	1.5	.21
8	0	.98	.64	1.4	.02	2.1	.17	1.2	0	.06	1.0	.24
9	.20	.98	.62	1.4	0	1.8	3.1	.50	.20	.57	.30	1.7
10	1.5	.94	.40	1.3	0	2.0	.03	.02	1.5	.98	.27	1.8
11	12	0	.96	1.2	0	1.3	0	0	.70	.60	.09	.11
12	.08	0	2.2	1.1	0	.01	0	0	.45	.50	.01	.03
13	.25	0	.76	.64	0	0	1.6	0	.45	.92	1.3	1.1
14	.35	2.0	.85	.81	0	.20	14	.16	.60	.56	1.3	1.4
15	.30	0	.85	.96	0	.48	11	.16	.12	.10	.21	.09
16	.28	0	3.9	1.2	0	.22	2.4	.45	.50	.14	.18	.81
17	.29	.22	6.7	94	0	.30	13	1.2	1.5	.01	.16	1.1
18	.25	.14	1.8	6.4	.24	.22	12	.16	.30	0	.04	.44
19	.20	0	1.1	.56	.54	.08	.24	.30	0	0	.08	.02
20	.10	0	1.2	.28	.71	.35	33	.10	0	0	.11	.14
21	1.0	0	1.1	.83	1.0	.55	13	0	0	0	.37	.37
22	13	0	1.4	.70	1.4	.74	1.3	.10	1.2	.41	.11	.91
23	5.0	0	1.7	.65	.91	1.0	.35	.30	.60	.05	0	.42
24	.93	0	.71	.60	.35	1.2	.25	.60	.35	.70	.33	.51
25	.36	0	.24	.51	.18	1.1	.02	1.0	.15	.64	.13	.41
26	.35	0	1.3	.01	.65	.31	.01	1.7	0	.38	.14	.89
27	.29	0	1.7	.42	1.0	.11	0	.14	0	.01	.38	.01
28	.23	0	1.4	.42	1.1	.22	0	.14	0	.18	.55	0
29	11	0	6.1	.29	1.1	.38	0	.10	.10	.21	.86	0
30	1.1	0	2.5	0	---	.23	1.0	.06	.40	.06	.98	0
31	20	---	3.1	0	---	.36	---	0	---	.02	1.3	---
TOTAL	70.32	59.74	71.03	139.08	15.19	35.86	114.60	9.60	10.70	10.90	14.32	16.60
MEAN	2.27	1.99	2.29	4.49	.52	1.16	3.82	.31	.36	.35	.46	.55
MAX	20	26	13	94	5.2	7.5	33	1.7	1.5	1.5	1.5	1.8
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	139	118	141	276	30	71	227	19	21	22	28	33

CAL YR 1987 TOTAL 419.21 MEAN 1.15 MAX 26 MIN 0 AC-FT 832
WTR YR 1988 TOTAL 567.94 MEAN 1.55 MAX 94 MIN 0 AC-FT 1130

SANTA ANA RIVER BASIN

11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA

LOCATION.--Lat 34°10'45", long 117°15'53", in NE 1/4 NE 1/4 sec.14, T.1 N., R.4 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 1,000 ft upstream from Del Rosa Water Co.'s diversion, 0.5 mi south of Arrowhead Springs, and 1.0 mi downstream from Strawberry Creek.

DRAINAGE AREA.--8.80 mi^2.

PERIOD OF RECORD.--December 1919 to current year. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

GAGE.--Water-stage recorder. Elevation of gage is 1,590 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 7-20. Records fair except for estimated daily discharges, which are poor. No regulation above station. One small diversion for domestic use above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--68 years (water years 1921-88), 4.86 ft^3/s, 3,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,710 ft^3/s, Jan. 29, 1980, gage height, 8.35 ft, on basis of slope-area measurement of peak flow; no flow at times in 1929, 1931-35.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*), from rating curve extended above 120 ft^3/s on basis of slope-area measurement at gage height 8.35 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 22	1900	46	2.64	Mar. 1	2145	*86	*3.01
Dec. 4	2215	59	2.75	Apr. 14	2015	52	2.68
Jan. 17	1415	51	2.67	Apr. 20	0545	64	2.79

Minimum daily, 0.18 ft^3/s, Oct. 7.

DISCHARGE, IN 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	.51	5.9	1.6	1.9	2.3	12	1.3	2.3	1.4	.55	.80	.51
2	.55	18	1.6	1.9	3.4	16	1.3	2.2	1.2	.58	.81	.49
3	.64	7.3	1.6	1.9	2.8	5.1	1.3	2.0	1.1	.62	.82	.46
4	.57	7.8	6.5	1.9	2.6	3.7	1.3	2.0	1.1	.67	.73	.47
5	.57	19	5.6	2.5	2.4	3.0	1.2	2.0	1.3	.65	.60	.47
6	.38	12	2.3	2.2	2.3	2.7	1.1	2.1	1.4	.61	.59	.47
7	.18	2.0	2.1	2.1	2.2	2.5	1.1	2.2	1.4	.58	.58	.44
8	.21	1.8	1.9	2.1	2.1	2.2	1.1	2.2	1.3	.55	.51	.45
9	.22	1.5	1.9	2.0	2.0	2.1	.86	1.9	.96	.54	.60	.57
10	.22	1.5	1.6	2.0	1.9	2.1	.82	1.8	.90	.55	.51	.57
11	.34	1.4	1.4	2.0	1.8	1.9	.89	1.8	.94	.56	.52	.58
12	.62	1.5	1.4	1.9	1.9	1.8	1.0	1.7	1.1	.57	.51	.58
13	.63	1.4	1.4	1.9	2.0	1.7	1.3	1.6	1.0	.57	.53	.57
14	.30	1.5	1.5	1.9	1.9	1.7	9.2	1.6	.90	.59	.53	.56
15	.42	1.4	1.5	1.9	2.0	1.8	6.4	1.7	.85	.65	.52	.57
16	.34	1.3	2.9	2.0	2.0	1.8	2.3	1.7	.87	.67	.46	.58
17	.33	1.4	7.8	20	1.8	1.7	3.5	2.1	.94	.64	.44	.58
18	.36	1.5	2.8	16	1.8	1.6	2.9	1.9	1.0	.66	.44	.58
19	.43	1.4	2.2	7.0	1.7	1.5	2.5	1.6	.93	.66	.43	.59
20	.49	1.4	2.0	4.6	1.8	1.5	32	1.4	.98	.66	.38	.57
21	.46	1.5	1.9	3.7	1.8	1.4	13	1.4	.93	.66	.36	.57
22	7.1	1.6	2.0	3.1	1.9	1.5	6.8	1.3	.82	.64	.45	.58
23	11	1.5	3.2	2.8	1.8	1.6	6.1	1.4	.80	.66	.45	.59
24	1.6	1.4	2.1	2.5	1.8	1.5	4.9	1.3	.77	.79	.50	.55
25	1.1	1.5	2.0	2.4	1.8	1.4	4.1	1.3	.76	.78	.42	.54
26	.91	1.6	1.9	2.4	1.7	1.3	3.4	1.3	.69	.77	.44	.53
27	.76	1.5	1.9	2.1	1.8	1.3	2.9	1.5	.62	.81	.46	.51
28	.87	1.5	1.9	2.1	2.0	1.2	2.7	1.9	.61	.84	.48	.52
29	3.0	1.6	2.5	2.0	2.7	1.3	2.6	3.3	.57	.83	.41	.54
30	1.3	1.5	2.4	2.2	---	1.3	2.4	2.0	.55	.79	.41	.57
31	7.8	---	2.0	2.2	---	1.3	---	1.6	---	.79	.52	---
TOTAL	44.21	106.2	75.4	107.2	60.0	83.5	122.27	56.1	28.69	20.49	16.21	16.16
MEAN	1.43	3.54	2.43	3.46	2.07	2.69	4.08	1.81	.96	.66	.52	.54
MAX	11	19	7.8	20	3.4	16	32	3.3	1.4	.84	.82	.59
MIN	.18	1.3	1.4	1.9	1.7	1.2	.82	1.3	.55	.54	.36	.44
AC-FT	88	211	150	213	119	166	243	111	57	41	32	32

CAL YR 1987 TOTAL 631.51 MEAN 1.73 MAX 26 MIN .18 AC-FT 1250
WTR YR 1988 TOTAL 736.43 MEAN 2.01 MAX 32 MIN .18 AC-FT 1460

SANTA ANA RIVER BASIN

11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°03'54", long 117°17'58", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, 0.4 mi downstream from E Street bridge, 0.4 mi upstream from Warm Creek, 1.2 mi downstream from San Timoteo Creek, 2.8 mi south of San Bernardino, and 26 mi downstream from Big Bear Lake.
DRAINAGE AREA.--541 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1939 to September 1954, October 1966 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 940 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 10, 1950, water-stage recorder on right bank 0.4 mi upstream at datum 964.50 ft above NGVD. Nov. 11, 1950, to Sept. 30, 1954, water-stage recorder on both banks 0.4 mi upstream at datum 964.50 ft above NGVD. Oct. 1, 1966, to Sept. 30, 1976, water-stage recorder on right bank 0.4 mi upstream at datum 954.50 ft above NGVD. Oct. 1, 1976, to Sept. 30, 1977, gage was removed for channel construction. Oct. 1, 1977, to Jan. 28, 1981, water-stage recorder on right bank 0.5 mi upstream at elevation 950 ft above NGVD, from topographic map.
REMARKS.--Estimated daily discharges: Nov. 3 to Dec. 11. Records good except those for estimated daily discharges, which are fair. Flow partly regulated by Big Bear Lake (station 11049000). Natural flow of stream affected by ground-water withdrawals and diversion for domestic use and irrigation above station. Effluent from sewage reclamation plant 1.0 mi upstream has caused sustained flow past gage since 1967. See schematic diagram of Santa Ana River basin.
AVERAGE DISCHARGE.--15 years (water years 1940-54), 12.5 ft^3/s, 9,050 acre-ft/yr; 22 years (water years 1967-88), 96 ft^3/s, 69,550 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft^3/s, Feb. 25, 1969, gage height, 11.9 ft, site and datum then in use; maximum gage height, 16.50 ft, Jan. 23, 1943, site and datum then in use, discharge uncertain, but was probably less than 8,000 ft^3/s; no flow for many days prior to 1967, minimum daily since 1967, 7.0 ft^3/s, Mar. 29, 1971.
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)
Oct. 22	2015	*1,020	*5.51				

Minimum daily, 28 ft^3/s, Nov. 11, 13.

DISCHARGE, IN 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	33	69	64	51	48	100	44	47	36	33	46	43
2	36	84	50	53	95	73	42	48	37	32	44	43
3	36	60	42	52	49	48	40	45	36	30	42	40
4	37	100	81	51	46	46	41	44	37	31	43	38
5	38	170	200	71	46	45	39	45	36	32	43	39
6	37	60	45	51	48	44	40	44	44	32	42	39
7	36	45	37	48	47	46	40	45	42	40	43	39
8	37	32	35	49	46	46	40	46	41	44	42	40
9	36	32	35	48	47	45	40	46	40	41	42	40
10	36	35	37	47	47	43	38	43	42	40	41	39
11	63	28	44	47	49	42	39	43	40	42	40	38
12	71	29	40	46	53	41	39	43	38	42	40	38
13	46	28	36	46	51	40	39	43	39	44	41	37
14	44	33	37	46	50	42	94	43	37	45	41	37
15	39	35	39	46	49	42	144	43	35	44	41	38
16	41	32	52	46	50	43	51	43	35	43	41	38
17	42	40	94	258	42	42	60	43	35	42	41	43
18	37	63	50	76	42	42	59	44	34	43	41	43
19	39	34	47	47	42	41	51	45	34	43	41	43
20	37	46	47	46	42	42	342	48	35	44	40	48
21	38	52	47	45	43	44	86	49	37	43	40	49
22	138	41	49	45	44	42	58	46	34	44	41	54
23	202	61	61	46	41	42	98	43	33	42	41	44
24	45	50	49	47	40	42	60	45	33	41	42	37
25	37	45	44	49	39	44	55	51	32	43	42	40
26	39	48	47	49	39	41	50	48	31	42	40	43
27	39	32	47	48	40	40	49	46	32	42	40	39
28	38	53	49	44	42	41	49	45	33	43	40	36
29	64	66	82	46	50	41	50	53	33	45	42	37
30	40	79	58	46	---	40	50	50	33	43	37	36
31	140	---	51	45	---	43	---	38	---	41	40	---
TOTAL	1641	1582	1696	1735	1367	1413	1927	1405	1084	1256	1280	1218
MEAN	52.9	52.7	54.7	56.0	47.1	45.6	64.2	45.3	36.1	40.5	41.3	40.6
MAX	202	170	200	258	95	100	342	53	44	45	46	54
MIN	33	28	35	44	39	40	38	38	31	30	37	36
AC-FT	3250	3140	3360	3440	2710	2800	3820	2790	2150	2490	2540	2420

CAL YR 1987 TOTAL 17496 MEAN 47.9 MAX 500 MIN 23 AC-FT 34700
WTR YR 1988 TOTAL 17604 MEAN 48.1 MAX 342 MIN 28 AC-FT 34920

11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to 1986, October 1987 to September 1988.
WATER TEMPERATURE: November 1982 to September 1986, October 1987 to September 1988.
SEDIMENT DATA: Water years 1983 to 1986, October 1987 to September 1988.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1982 to September 1983.
SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1983.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
JAN						
07...	1330	55	15.5	41	6.1	--
FEB						
02...	1145	132	15.0	2370	845	27
MAR						
09...	1140	51	20.5	45	6.2	--
24...	1010	51	21.5	435	60	29
APR						
08...	0940	43	24.0	40	4.6	--
15...	1020	76	--	467	96	--
20...	0950	502	--	5800	7860	--
MAY						
05...	1300	49	24.0	23	3.0	--
JUL						
08...	0815	19	26.0	58	3.1	--
AUG						
02...	0915	59	28.5	29	4.6	--
SEP						
16...	1200	50	28.5	6	0.81	--

SANTA ANA RIVER BASIN

11060400 WARM CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°04'42", long 117°17'58", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, on left bank 0.2 mi downstream from Interstate Highway 215 bridge and 2.0 mi southwest of San Bernardino.

DRAINAGE AREA.--11.0 mi^2.

PERIOD OF RECORD.--February 1964 to September 1972, October 1974 to current year.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 960 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1974, at site 0.1 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Natural channel prior to September 1972; concrete-lined channel October 1974 to current year. Possible regulation at high flows by flood-control gates on Warm Creek Floodway, 3.0 mi upstream. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--8 years (water years 1965-72), 1.61 ft^3/s, 1,170 acre-ft/yr; 14 years (water years 1975-88), 20.4 ft^3/s, 14,780 acre-ft/yr. The figure published in the 1987 water year was in error; the correct figure is 13 years, 20.6 ft^3/s, 14,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft^3/s, estimated, Mar. 1, 1978, gage height unknown; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,770 ft^3/s, Nov. 4, gage height, 2.83 ft, from rating curve extended above 420 ft^3/s on basis of step-backwater analysis; minimum daily, 7.5 ft^3/s, Sept. 9.

DISCHARGE, IN 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	12	29	19	16	19	44	19	10	12	13	8.7	9.5
2	12	35	21	18	54	24	18	11	11	13	9.0	8.9
3	12	18	21	19	17	18	18	11	12	13	9.6	8.1
4	12	145	70	20	18	18	18	13	12	12	9.8	8.6
5	12	68	19	38	18	19	17	15	12	12	9.7	8.9
6	13	16	15	17	17	20	16	15	13	12	9.6	8.8
7	13	16	18	17	17	22	15	17	13	12	9.7	8.7
8	12	16	16	17	18	23	15	20	13	12	9.7	8.3
9	12	17	16	17	17	24	15	21	12	12	10	7.5
10	12	17	17	16	17	24	16	19	12	12	9.6	8.2
11	40	17	17	16	18	26	16	19	12	13	9.6	7.9
12	32	18	17	16	17	27	15	18	12	13	9.6	8.1
13	13	18	17	19	23	29	15	18	12	11	9.8	7.8
14	13	18	18	21	28	31	72	18	13	11	11	7.8
15	14	18	19	17	29	32	28	18	12	11	11	8.1
16	15	18	36	15	26	31	12	17	12	11	11	8.7
17	15	19	56	160	20	30	16	15	12	11	11	8.7
18	16	19	15	20	23	28	12	15	11	11	11	8.7
19	17	20	14	19	22	26	13	14	11	11	12	8.7
20	17	21	14	18	23	23	105	13	11	11	12	8.7
21	18	21	15	18	25	22	14	13	11	11	12	12
22	111	19	18	17	27	23	14	12	12	11	12	11
23	49	18	20	17	26	21	42	11	12	11	12	11
24	17	17	13	17	25	19	11	12	12	11	12	11
25	17	17	13	18	22	19	11	11	12	11	11	10
26	19	17	13	19	20	17	11	11	12	9.7	10	11
27	19	20	14	19	20	16	11	11	12	8.7	9.6	8.9
28	20	20	15	21	18	16	10	11	12	8.7	9.6	9.3
29	75	19	36	20	29	19	10	12	12	8.7	9.6	9.8
30	18	19	17	19	---	22	10	11	12	8.7	9.8	9.7
31	94	---	16	19	---	19	---	12	---	8.7	9.6	---
TOTAL	771	750	645	720	653	732	615	444	359	345.2	320.6	272.4
MEAN	24.9	25.0	20.8	23.2	22.5	23.6	20.5	14.3	12.0	11.1	10.3	9.08
MAX	111	145	70	160	54	44	105	21	13	13	12	12
MIN	12	16	13	15	17	16	10	10	11	8.7	8.7	7.5
AC-FT	1530	1490	1280	1430	1300	1450	1220	881	712	685	636	540

CAL YR 1987 TOTAL 7308.0 MEAN 20.0 MAX 145 MIN 10 AC-FT 14500
WTR YR 1988 TOTAL 6627.2 MEAN 18.1 MAX 160 MIN 7.5 AC-FT 13150

SANTA ANA RIVER BASIN

11062000 LYTLE CREEK NEAR FONTANA, CA

LOCATION.--Lat 34°12'44", long 117°27'26", in NW 1/4 SE 1/4 sec.36, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 75 ft upstream from highway culvert crossing, 0.7 mi upstream from right tributary, 2.3 mi downstream from Lytle Creek conduit, and 8 mi north of Fontana.
DRAINAGE AREA.--46.6 mi^2.
PERIOD OF RECORD.--October 1918 to current year. Combined records of Lytle Creek and diversions, October 1898 to December 1899, October 1904 to current year (published as "at mouth of canyon near Rialto" 1898-99, as "near San Bernardino" 1904-18, and as Lytle Creek and Fontana pipeline near Fontana 1919-31). Monthly discharge only for some periods published in WSP 1315-B.
REVISED RECORDS.--WDR CA-83-1: Drainage area.
GAGE.--Water-stage recorder on creek. Elevation of gage is 2,380 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1918 to Mar. 21, 1938, at site 1 mi downstream at different datum. Mar. 22, 1938, to Nov. 20, 1963, at site 75 ft downstream at datum 4.58 ft lower. Water-stage recorders and sharp-crested weirs on conduit since June 3, 1949, and infiltration line since Oct. 1, 1971.
REMARKS.--Estimated daily discharges: Oct. 1 to Sept. 30. Records poor. Indeterminate stage-discharge relation at the creek gage during 1988. Record of combined discharge estimated on basis of records of upstream diversions, periodic measurements of discharge at the creek, and hydrographic comparison with nearby stations. Record of discharge in the creek estimated by subtracting diversions from the record of combined discharge. No regulation above station. Southern California Edison Co.'s Lytle Creek conduit diverts 2.3 mi upstream for power development and Fontana Union Water Co. collects water from an infiltration line upstream for irrigation and domestic use. See schematic diagram of Santa Ana River basin. For records of combined discharge of Lytle Creek and diversions, see following page.
AVERAGE DISCHARGE.--Creek only: 70 years, 18.1 ft^3/s, 13,110 acre-ft/yr.
Combined creek and diversions: 85 years (water years 1899, 1905-88), 45.0 ft^3/s, 32,600 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 35,900 ft^3/s, Jan. 25, 1969, gage height, 15.0 ft, from floodmark, from rating curve extended above 570 ft^3/s on basis of slope-area measurements at gage heights 10.78 and 15.0 ft; no flow at times most years.
Combined creek and diversions: Maximum discharge, 35,900 ft^3/s, Jan. 25, 1969; minimum daily, 0.12 ft^3/s, June 21, 22, 1976.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

		Creek only		Combined creek and diversions
Date	Time	Discharge (ft^3/s)	Gage height (ft)	Discharge (ft^3/s)
Jan. 17	1100	e*470	*4.67	e480

e estimated

Creek only: No flow for many days. Combined creek and diversions: Minimum daily, 9.5 ft^3/s, Oct. 2-4.

DISCHARGE, IN 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	0	37	4.6	5.6	5.6	35	1.2	1.3	.72			
2	0	36	4.5	5.2	9.8	20	1.2	1.2	.72			
3	0	14	10	5.0	7.6	12	1.2	1.2	.71			
4	0	9.8	57	4.7	6.0	8.7	1.2	1.2	.70			
5	0	28	38	4.9	5.4	5.6	1.2	1.2	.68			
6	0	24	30	6.0	5.0	4.5	1.1	1.2	.66			
7	0	20	26	5.0	4.5	3.5	1.1	1.1	.64			
8	0	14	24	4.8	4.2	3.0	1.1	1.1	.62			
9	0	4.6	12	4.8	3.9	2.7	1.0	1.1	.60			
10	0	7.0	9.0	4.7	3.7	2.5	.94	1.1	.60			
11	0	4.5	8.6	4.7	3.6	2.3	.90	1.0	.58			
12	0	4.6	7.6	4.6	3.5	2.1	.94	1.0	.58			
13	0	6.0	7.2	4.6	3.6	1.9	.94	1.0	.56			
14	0	4.2	7.2	4.5	3.7	2.0	10	.98	.56			
15	0	3.8	7.0	4.4	3.7	1.9	30	.96	.54			
16	0	3.7	10	11	3.7	1.8	6.0	.98	.52			
17	0	3.5	30	200	3.4	1.8	1.2	1.0	.50			
18	0	5.6	20	30	3.6	1.8	1.1	1.0	.45			
19	0	5.0	15	10	3.8	1.7	1.1	.98	.41			
20	0	4.8	10	8.0	3.8	1.6	110	.94	.37			
21	0	4.8	9.0	7.6	3.7	1.7	50	.92	.33			
22	9.6	4.9	8.4	7.3	3.6	1.8	9.0	.90	.30			
23	34	4.9	7.4	7.2	3.5	1.8	2.0	.90	.25			
24	14	5.0	7.0	7.0	3.5	1.8	1.9	.84	0			
25	.66	5.1	6.4	6.8	3.4	1.7	1.8	.74	0			
26	.22	5.2	5.6	6.6	3.4	1.7	1.8	.72	0			
27	.29	5.7	5.5	6.5	4.0	1.6	1.7	.72	0			
28	.21	5.4	5.2	6.3	4.0	1.5	1.6	.71	0			
29	9.0	5.0	5.6	6.2	20	1.4	1.6	.70	0			
30	5.9	4.8	5.4	6.0	---	1.4	1.4	.72	0			
31	51	---	5.8	5.8	---	1.3	---	.72	---			---
TOTAL	124.88	290.9	409.0	405.8	141.2	134.1	246.22	30.13	12.60	0	0	0
MEAN	4.03	9.70	13.2	13.1	4.87	4.33	8.21	.97	.42	0	0	0
MAX	51	37	57	200	20	35	110	1.3	.72	0	0	0
MIN	0	3.5	4.5	4.4	3.4	1.3	.90	.70	0	0	0	0
AC-FT	248	577	811	805	280	266	488	60	25	0	0	0

CAL YR 1987 TOTAL 1326.21 MEAN 3.63 MAX 91 MIN 0 AC-FT 2630
WTR YR 1988 TOTAL 1794.83 MEAN 4.90 MAX 200 MIN 0 AC-FT 3560

SANTA ANA RIVER BASIN

11062001 LYTLE CREEK NEAR FONTANA, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF LYTLE CREEK, SOUTHERN CALIFORNIA EDISON CO.'S LYTLE CREEK CONDUIT, AND FONTANA UNION WATER CO.'S INFILTRATION LINE DIVERSIONS, NEAR FONTANA, CA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	39	23	26	28	40	23	22	22	17	16	16
2	9.5	40	22	25	32	35	22	22	22	17	15	15
3	9.5	22	26	25	30	34	22	22	19	17	15	14
4	9.5	27	72	25	28	31	22	22	18	18	15	14
5	9.7	30	41	25	27	28	21	22	18	18	15	14
6	10	27	33	24	27	27	22	22	20	17	15	14
7	10	23	29	26	27	26	20	22	22	17	16	13
8	9.7	22	32	26	26	25	19	22	22	17	16	13
9	9.9	23	31	26	26	25	19	22	22	17	15	13
10	9.9	26	28	26	26	25	19	22	19	18	15	13
11	11	23	28	26	26	24	18	22	18	17	15	14
12	13	23	27	26	26	24	18	22	20	17	15	14
13	14	25	25	26	26	24	18	22	22	17	15	14
14	12	23	26	26	26	24	25	22	21	17	15	14
15	9.9	22	26	25	26	24	42	22	21	16	15	14
16	9.8	23	29	32	26	24	27	22	21	16	15	14
17	10	23	44	208	25	24	22	22	21	17	15	15
18	11	24	40	38	25	24	23	22	20	17	14	14
19	11	23	36	30	26	24	23	22	20	16	14	14
20	11	23	31	28	26	24	115	22	20	16	14	15
21	11	23	30	30	26	24	55	22	19	16	14	15
22	20	23	29	29	26	24	23	22	19	16	15	16
23	36	23	28	29	26	24	23	22	19	16	15	15
24	19	23	28	29	26	24	23	22	19	17	17	15
25	15	22	27	29	25	24	24	22	19	16	15	15
26	14	22	27	28	25	23	24	22	18	16	15	15
27	13	24	27	29	26	24	23	22	18	16	15	15
28	13	23	26	28	26	24	23	22	18	15	16	14
29	18	23	27	28	38	23	23	22	18	15	15	14
30	14	23	24	28	---	23	22	22	17	15	15	14
31	58	---	25	28	---	23	---	22	---	15	15	---
TOTAL	441.4	740	947	1034	779	796	803	682	592	512	467	429
MEAN	14.2	24.7	30.5	33.4	26.9	25.7	26.8	22.0	19.7	16.5	15.1	14.3
MAX	58	40	72	208	38	40	115	22	22	18	17	16
MIN	9.5	22	22	24	25	23	18	22	17	15	14	13
AC-FT	876	1470	1880	2050	1550	1580	1590	1350	1170	1020	926	851

CAL YR 1987 TOTAL 6948.2 MEAN 19.0 MAX 102 MIN 9.4 AC-FT 13780
WTR YR 1988 TOTAL 8222.4 MEAN 22.5 MAX 208 MIN 9.5 AC-FT 16310

11063500 LONE PINE CREEK NEAR KEENBROOK, CA

LOCATION.--Lat 34°15'59", long 117°27'47", in SE 1/4 SW 1/4 sec.12, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 50 ft upstream from the Atchison, Topeka, & Santa Fe Railway Co. bridge, 150 ft upstream from confluence with Cajon Creek, and 1.1 mi north of Keenbrook.

DRAINAGE AREA.--15.1 mi^2.

PERIOD OF RECORD.--December 1919 to September 1938, June 1949 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 2, 1938, water-stage recorder (destroyed by flood), and Mar. 2 to Sept. 30, 1938, nonrecording gage at same site at datum 0.98 ft higher.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--57 years (water years 1921-38, 1950-88), 1.85 ft^3/s, 1,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,180 ft^3/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; no flow Aug. 6-8, Sept. 29, 30, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	2045	89	2.67	Jan. 17	1100	*119	*2.93

Minimum daily, 0.33 ft^3/s, Oct. 30, and Sept. 5, 6.

DISCHARGE, IN 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	.42	1.4	.71	.42	.69	.67	.57	.49	.54	.61	.42	.36
2	.48	.72	.74	.47	.77	.55	.54	.51	.54	.61	.42	.36
3	.48	.46	.77	.54	.73	.54	.54	.53	.52	.61	.48	.34
4	.48	.57	5.9	.54	.70	.54	.54	.54	.48	.61	.48	.35
5	.42	.68	.90	.56	.69	.54	.54	.54	.48	.61	.48	.33
6	.45	.45	.61	.54	.69	.54	.48	.54	.48	.61	.48	.33
7	.48	.42	.57	.54	.68	.54	.52	.52	.54	.61	.48	.34
8	.47	.42	.49	.54	.69	.54	.52	.50	.48	.61	.48	.34
9	.48	.42	.48	.54	.69	.54	.53	.48	.48	.61	.48	.35
10	.48	.42	.52	.54	.69	.54	.54	.48	.54	.61	.47	.36
11	.49	.42	.51	.54	.69	.54	.54	.48	.54	.61	.48	.36
12	.48	.42	.43	.54	.72	.54	.54	.48	.54	.61	.48	.36
13	.48	.42	.47	.54	.75	.54	.54	.49	.54	.61	.48	.36
14	.48	.46	.71	.54	.70	.54	.71	.48	.54	.58	.48	.36
15	.48	.48	.72	.54	.71	.60	.50	.49	.54	.54	.51	.39
16	.48	.47	.98	.54	.69	.61	.48	.54	.54	.54	.52	.39
17	.48	.48	4.5	20	.65	.56	.48	.56	.54	.48	.57	.41
18	.48	.48	2.0	2.0	.67	.48	.50	.56	.54	.54	.57	.41
19	.48	.48	.70	.86	.68	.52	.54	.59	.54	.54	.58	.40
20	.48	.49	.59	.81	.69	.51	1.6	.64	.54	.54	.59	.42
21	.48	.53	.54	.86	.69	.48	.79	.61	.54	.48	.50	.42
22	.84	.54	.47	.86	.69	.48	.71	.60	.54	.48	.42	.40
23	1.2	.54	.42	.82	.69	.48	.60	.55	.54	.48	.42	.40
24	.36	.54	.42	.77	.69	.48	.54	.48	.54	.48	.46	.39
25	.36	.60	.42	.77	.69	.48	.54	.49	.54	.42	.43	.36
26	.36	.65	.38	.77	.69	.50	.54	.52	.54	.42	.42	.36
27	.36	.69	.37	.77	.70	.55	.54	.48	.54	.42	.45	.36
28	.36	.73	.37	.77	.69	.54	.54	.48	.54	.36	.39	.36
29	1.1	.77	.42	.74	.91	.54	.54	.48	.54	.42	.34	.35
30	.33	.77	.42	.69	---	.55	.48	.54	.54	.42	.34	.35
31	10	---	.42	.69	---	.54	---	.54	---	.42	.36	---
TOTAL	25.20	16.92	27.95	40.65	20.41	16.60	17.57	16.21	15.88	16.49	14.46	11.07
MEAN	.81	.56	.90	1.31	.70	.54	.59	.52	.53	.53	.47	.37
MAX	10	1.4	5.9	20	.91	.67	1.6	.64	.54	.61	.59	.42
MIN	.33	.42	.37	.42	.65	.48	.48	.48	.48	.36	.34	.33
AC-FT	50	34	55	81	40	33	35	32	31	33	29	22

CAL YR 1987 TOTAL 271.29 MEAN .74 MAX 10 MIN .33 AC-FT 538
WTR YR 1988 TOTAL 239.41 MEAN .65 MAX 20 MIN .33 AC-FT 475

SANTA ANA RIVER BASIN

11063510 CAJON CREEK BELOW LONE PINE CREEK, NEAR KEENBROOK, CA

LOCATION.--Lat 34°16'04", long 117°27'58", in NW 1/4 NW 1/4 sec.13, T.2 N., R.6 W., San Bernardino County, Hydrologic Unit 18070203, on left bank 0.25 mi downstream from Lone Pine Creek, and 0.95 mi north of Keenbrook.

DRAINAGE AREA.--56.5 mi^2.

PERIOD OF RECORD.--October 1971 to September 1977, October 1983 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above National Geodetic Vertical Datum of 1929, from topographic map. Oct. 1, 1971, to Sept. 30, 1977, at site 0.25 mi upstream at diversion dam at different datum.

REMARKS.--Estimated daily discharges: Oct. 1. Records fair. Concrete control installed Oct. 1, 1987. No regulation or diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--11 years (water years 1972-77, 1984-88), 8.10 ft^3/s, 5,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft^3/s, Feb. 11, 1973, gage height, 13.50 ft, site and datum then in use; minimum daily, 2.2 ft^3/s, Dec. 16, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*), from rating curve extended above 30 ft^3/s on basis of slope-area measurement of peak flow at gage height 6.02 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 29	1045	374	5.50	Jan. 17	1045	*644	*6.02
Dec. 4	2045	383	5.52				

Minimum daily, 3.2 ft^3/s, July 25, 26, Aug. 9, 10, 15.

DISCHARGE, IN 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	3.6	24	4.4	9.3	8.3	16	6.5	6.5	6.4	5.0	3.8	4.2
2	3.5	19	4.1	9.0	14	12	6.6	6.5	6.4	5.1	3.9	4.1
3	3.6	8.8	4.1	8.3	12	10	6.5	6.9	6.4	4.9	3.6	4.0
4	3.5	14	37	9.3	10	9.6	6.4	6.8	5.9	5.0	3.5	3.9
5	3.8	23	9.7	9.1	9.8	8.9	6.0	7.5	5.9	4.9	3.5	3.7
6	3.3	11	5.2	8.9	8.6	8.7	5.8	7.3	5.9	4.8	3.4	3.7
7	3.5	5.7	5.1	8.2	7.4	8.5	5.9	7.1	5.9	4.1	3.4	3.7
8	3.5	4.3	5.6	8.3	5.9	8.6	5.9	6.6	5.9	3.5	3.4	3.7
9	3.7	4.0	5.5	8.8	7.6	8.3	5.8	6.5	5.9	3.5	3.2	3.8
10	3.6	4.4	4.7	8.8	7.6	8.3	5.5	6.5	6.4	3.9	3.2	3.8
11	4.1	3.9	4.4	8.5	7.2	8.0	5.6	6.5	6.4	4.1	3.3	4.0
12	4.2	4.0	4.4	8.3	7.0	7.9	5.8	6.5	5.9	4.0	3.3	4.0
13	4.1	4.3	4.3	7.6	7.2	8.0	5.9	6.6	5.4	3.8	3.3	3.8
14	4.0	3.9	4.1	7.4	7.2	8.3	16	6.6	5.2	3.8	3.4	3.8
15	4.0	3.5	3.9	7.5	7.5	8.1	11	6.8	4.9	3.7	3.2	3.9
16	3.9	3.5	6.2	7.8	7.2	7.4	6.1	7.3	5.0	3.6	3.5	4.0
17	3.9	3.5	38	135	6.8	7.3	5.7	8.1	5.4	3.5	4.8	4.0
18	4.0	3.7	32	39	7.1	7.3	4.8	7.3	5.3	3.8	6.5	3.8
19	4.0	4.4	24	19	7.6	7.2	7.0	7.0	5.2	3.9	6.2	3.6
20	3.9	4.3	19	16	7.7	7.3	43	6.7	4.7	3.8	4.2	3.8
21	4.0	4.4	18	13	7.6	7.5	15	6.6	4.5	3.9	4.4	3.7
22	19	4.2	20	12	7.2	7.4	9.5	6.4	4.5	3.9	4.4	3.6
23	20	4.3	17	12	7.1	7.4	9.7	6.9	4.7	3.6	4.1	3.6
24	5.8	4.3	12	12	7.1	7.2	8.6	6.9	4.6	3.4	4.9	3.7
25	5.1	4.4	11	12	6.9	7.1	8.0	6.9	4.9	3.2	4.2	3.9
26	5.0	4.5	8.8	11	6.9	7.0	7.2	6.4	5.3	3.2	4.2	3.8
27	5.4	4.5	9.9	11	9.7	6.7	7.2	6.9	5.0	3.3	4.0	3.8
28	5.7	4.4	8.4	10	8.2	6.5	7.1	6.9	5.0	3.4	3.9	3.6
29	21	4.4	11	10	19	6.7	6.7	6.9	4.9	3.3	4.0	3.5
30	4.6	4.3	8.8	9.4	---	6.7	6.6	6.4	4.9	3.4	4.0	3.5
31	83	---	9.8	8.3	---	6.7	---	6.4	---	3.6	4.2	---
TOTAL	254.3	200.9	360.4	464.8	243.4	252.6	257.4	211.2	162.7	120.9	122.9	114.0
MEAN	8.20	6.70	11.6	15.0	8.39	8.15	8.58	6.81	5.42	3.90	3.96	3.80
MAX	83	24	38	135	19	16	43	8.1	6.4	5.1	6.5	4.2
MIN	3.3	3.5	3.9	7.4	5.9	6.5	4.8	6.4	4.5	3.2	3.2	3.5
AC-FT	504	398	715	922	483	501	511	419	323	240	244	226

CAL YR 1987 TOTAL 2278.4 MEAN 6.24 MAX 83 MIN 3.3 AC-FT 4520
WTR YR 1988 TOTAL 2765.5 MEAN 7.56 MAX 135 MIN 3.2 AC-FT 5490

SANTA ANA RIVER BASIN

11063680 DEVIL CANYON CREEK NEAR SAN BERNARDINO, CA

LOCATION.--Lat 34°12'30", long 117°19'50", in Muscupiabe Grant, San Bernardino County, Hydrologic Unit 18070203, on left bank 0.6 mi downstream from confluence of East and West Forks, and 7.5 mi northwest of San Bernardino.
DRAINAGE AREA.--5.49 mi^2.
PERIOD OF RECORD.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to current year. Monthly figures only for January 1914, published in WSP 1315-B.
GAGE.-Water-stage recorder on creek; flowmeter on diversion. Elevation of gage is 2,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to December 1919, nonrecording gage at site 0.5 mi downstream at different datum. December 1919 to July 1969, at site 0.4 mi downstream at different datum. July 1969 to September 1972, present gage used as supplementary gage. Oct. 1, 1973, to Feb. 25, 1974, supplementary gage at site 0.5 mi downstream at different datum.
REMARKS.--No estimated daily discharges. Records good. No regulation above station. City of San Bernardino diverts above station for municipal supply. See schematic diagram of Santa Ana River basin. Records given below are for creek only unless otherwise indicated.
COOPERATION.--Records of diversion were provided by city of San Bernardino.
AVERAGE DISCHARGE.--Creek only: 69 years (water years 1914, 1921-88), 2.27 ft^3/s, 1,640 acre-ft/yr. Combined creek and diversion: 55 years (water years 1914, 1935-88), 4.24 ft^3/s, 3,070 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD (1913-14 AND SINCE 1919).--Maximum discharge, 3,720 ft^3/s, Jan. 25, 1969, gage height, 5.40 ft, site and datum then in use, 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 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 1	2100	*37	*5.60				

No flow for many days.

DISCHARGE, IN 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	0	5.3	.23	4.3	2.4	6.3	0	.25		0	0	0
2	0	7.8	.78	4.3	3.5	5.4	0	.18		0	0	0
3	0	4.3	1.5	4.3	3.2	3.7	0	.59		0	0	0
4	0	5.3	3.2	4.3	3.0	2.5	0	.10		0	0	0
5	0	6.5	4.7	4.7	2.8	.32	0	.33		0	0	0
6	0	4.4	3.5	4.6	2.8	.15	0	2.5		0	0	0
7	0	3.5	3.7	4.5	2.7	.12	0	2.5		0	0	0
8	0	3.2	3.9	4.3	2.2	.10	0	1.7		0	0	0
9	0	2.1	4.5	4.3	1.1	.09	0	.31		0	0	0
10	0	2.4	2.2	4.3	.32	.99	0	.02		0	0	0
11	.03	3.6	.17	3.5	.12	2.0	0	0		0	0	0
12	.24	3.9	.13	.69	.09	.06	0	0		0	0	0
13	.30	2.2	.25	1.1	.08	.02	0	0		0	0	0
14	.21	3.5	1.6	1.3	.08	0	3.1	0		0	0	0
15	0	3.8	3.5	2.7	.05	0	2.5	0		0	0	0
16	.02	2.6	5.5	3.8	.04	0	1.2	0		0	0	0
17	.03	.75	6.7	9.5	.08	0	1.6	0		0	0	0
18	.11	.58	4.6	6.4	0	0	1.4	0		0	0	0
19	.73	.50	4.4	4.5	0	0	.34	0		0	0	0
20	.75	.46	4.3	3.8	0	0	15	0		0	0	.03
21	.36	.33	4.3	1.8	0	0	6.7	0		.01	0	.15
22	1.2	.25	2.2	1.7	0	0	4.9	0		0	0	.07
23	5.1	.81	2.7	3.4	0	0	4.7	0		0	0	0
24	2.6	.65	4.3	2.9	.01	0	4.0	0		0	.05	0
25	2.3	.64	4.3	2.0	0	0	3.2	0		0	.08	0
26	2.1	1.2	4.2	1.8	0	0	.99	0		0	0	0
27	1.3	2.0	4.1	1.6	1.7	0	.22	0		0	0	0
28	1.6	1.1	4.1	1.7	2.3	0	.33	0		0	0	0
29	3.0	.28	4.2	1.6	2.6	0	.23	1.5		0	.01	0
30	2.7	.28	4.3	1.6	---	0	.20	.99		0	.09	0
31	5.7	---	4.3	2.3	---	0	---	0	---	0	0	---
TOTAL	30.38	74.23	102.36	103.59	31.17	21.75	50.61	10.97	0	.01	.23	.25
MEAN	.98	2.47	3.30	3.34	1.07	.70	1.69	.35	0	.0003	.007	.008
MAX	5.7	7.8	6.7	9.5	3.5	6.3	15	2.5	0	.01	.09	.15
MIN	0	.25	.13	.69	0	0	0	0	0	0	0	0
AC-FT	60	147	203	205	62	43	100	22	0	.02	.5	.5
a	108	205	232	258	153	195	216	172	124	88	80	80

CAL YR 1987 TOTAL 350.19 MEAN .96 MAX 7.8 MIN 0 AC-FT 695
WTR YR 1988 TOTAL 425.55 MEAN 1.16 MAX 15 MIN 0 AC-FT 844

a Combined discharge, in acre-feet, of Devil Canyon Creek and city of San Bernardino diversion.

SANTA ANA RIVER BASIN

11065000 LYTLE CREEK AT COLTON, CA

LOCATION.--Lat 34°04'44", long 117°18'17", in San Bernardino Grant, San Bernardino County, Hydrologic Unit 18070203, on right bank 400 ft downstream from Colton Avenue, 1,930 ft upstream from outlet end of channel, and 1.3 mi northeast of Colton.

DRAINAGE AREA.--186 mi^2.

REVISED RECORDS.--WDR CA-83-1: Drainage area.

PERIOD OF RECORD.--October 1957 to September 1983, October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 974.67 ft above National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records fair. Flow partly regulated by Lytle Creek spreading grounds 3.2 mi upstream. Diversions above station for irrigation, power development, domestic use, and ground-water replenishment. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft^3/s, Mar. 4, 1978, gage height, 14.8 ft, from rating curve extended above 4,200 ft^3/s on basis of discharge for design flood at gage height 21.4 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft^3/s, Jan. 17, gage height, 3.02 ft; no flow for many days.

DISCHARGE, IN 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	0	41	0	0	0	13	0	1.1				
2	0	35	0	0	7.5	32	0	.73				
3	0	11	0	0	4.8	5.9	0	.53				
4	0	70	34	.01	3.7	4.4	0	.26				
5	0	76	56	4.2	2.9	3.3	0	0				
6	0	4.3	6.6	0	2.3	2.6	0	0				
7	0	1.9	5.1	0	1.8	2.1	0	0				
8	0	.50	3.8	0	1.3	1.6	0	0				
9	0	0	2.9	0	.95	1.1	0	0				
10	0	0	2.2	0	.53	.61	0	0				
11	3.5	0	1.7	0	.05	.10	0	0				
12	2.2	0	1.1	0	0	0	0	0				
13	0	0	.27	0	0	0	0	0				
14	0	0	0	0	0	0	16	0				
15	0	0	0	0	0	0	9.2	0				
16	0	0	1.7	0	0	0	2.4	0				
17	0	0	42	271	0	0	2.8	0				
18	0	0	0	25	0	0	.06	0				
19	0	0	0	7.0	0	0	0	0				
20	0	0	0	5.0	0	0	69	0				
21	0	0	0	3.8	0	0	7.4	0				
22	15	0	.49	3.0	0	0	5.1	0				
23	4.9	0	.17	2.6	0	0	7.7	0				
24	0	0	0	2.2	0	0	4.7	0				
25	0	0	0	1.7	0	0	3.6	0				
26	0	0	0	1.4	0	0	2.9	0				
27	0	0	0	1.1	0	0	2.6	0				
28	0	0	0	.79	0	0	2.1	0				
29	14	0	2.7	.53	1.2	0	1.8	0				
30	0	0	0	.48	---	0	1.6	0				
31	116	---	0	0	---	0	---	0	---			---
TOTAL	155.6	239.70	160.73	329.81	27.03	66.71	138.96	2.62	0	0	0	0
MEAN	5.02	7.99	5.18	10.6	.93	2.15	4.63	.085	0	0	0	0
MAX	116	76	56	271	7.5	32	69	1.1	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	309	475	319	654	54	132	276	5.2	0	0	0	0

CAL YR 1987 TOTAL 873.38 MEAN 2.39 MAX 116 MIN 0 AC-FT 1730
WTR YR 1988 TOTAL 1121.16 MEAN 3.06 MAX 271 MIN 0 AC-FT 2220

SANTA ANA RIVER BASIN

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA

LOCATION.--Lat 33°58'07", long 117°26'51", in NE 1/4 SW 1/4 sec.30, T.2 S., R.5 W., Riverside County, Hydrologic Unit 18070203, on right bank at MWD pipeline crossing, 0.8 mi downstream from Union Pacific Railroad bridge, 1.1 mi upstream from bridge on Van Buren Boulevard, and 3.3 mi north of Arlington.
DRAINAGE AREA.--852 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1970 to current year.
REVISED RECORDS.--WDR CA-83-1: Drainage area.
GAGE.--Water-stage recorder. Elevation of gage is 685 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1984, water-stage recorder at site 300 ft upstream on left bank at different datum.
REMARKS.--No estimated daily discharges. Records poor. Flow partly regulated by Big Bear Lake (station 11049000). Natural streamflow affected by ground-water withdrawals, diversions for irrigation, and return flows from irrigated areas. The records at this station are equivalent to those collected at Santa Ana River at Riverside Narrows, near Arlington minus the flow at Riverside Water Quality Control Plant at Riverside Narrows, near Arlington.
AVERAGE DISCHARGE.--18 years (water years 1971-88), 116 ft^3/s, 84,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft^3/s, Mar. 2, 1983, gage height, 15.38 ft, site and datum then in use, from rating curve extended above 5,100 ft^3/s on basis of area-velocity study; maximum gage height, 20.23 ft, Mar. 4, 1978; minimum daily, 15 ft^3/s, Sept. 7, 8, 1980.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1927, 100,000 ft^3/s, Mar. 2, 1938, on basis of slope-area measurement at site 1.1 mi downstream. Flood of Jan. 22, 1862, 320,000 ft^3/s, by slope-conveyance study at site 8.2 mi upstream. Stage at that site was 5 ft higher than Mar. 2, 1938.
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)
Oct. 23	0215	2,680	9.82	Jan. 17	1830	3,340	10.05
Oct. 31	1345	1,670	9.41	Mar. 2	0330	1,550	9.36
Nov. 5	0145	*5,530	*10.78	Apr. 15	0400	1,700	9.42
Dec. 5	0200	1,700	9.42				

Minimum daily, 45 ft^3/s, Nov. 11.

DISCHARGE, IN 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	70	492	76	69	90	253	92	87	73	70	64	54
2	80	281	69	82	376	466	90	79	67	79	88	56
3	77	309	65	84	82	132	87	90	67	78	69	57
4	67	351	181	75	54	98	85	79	72	70	74	60
5	71	1220	560	163	49	92	94	84	70	76	74	52
6	69	196	93	152	56	95	86	72	69	81	59	59
7	73	75	88	111	62	94	82	78	80	87	70	64
8	74	51	85	111	83	97	95	93	65	91	66	60
9	72	49	82	120	79	90	85	88	75	83	78	68
10	76	51	79	101	58	102	76	88	91	83	83	82
11	225	45	89	109	62	85	82	88	89	74	80	79
12	333	48	104	104	52	95	80	70	70	96	76	79
13	259	46	89	101	54	79	84	79	75	88	82	84
14	114	50	107	108	68	97	176	64	60	96	77	83
15	95	52	98	105	52	96	574	76	60	94	71	81
16	87	50	181	87	50	87	104	71	63	79	76	85
17	91	56	449	1180	47	100	99	79	56	73	77	88
18	85	74	92	386	50	97	100	77	60	65	81	87
19	90	52	80	111	56	103	84	70	60	71	80	91
20	87	62	83	90	76	95	760	71	48	75	76	89
21	89	67	83	83	49	106	331	61	46	71	76	95
22	349	57	95	79	73	103	174	61	58	63	76	104
23	1210	72	124	82	83	102	305	52	62	66	65	93
24	214	62	71	84	94	106	226	64	72	59	76	89
25	112	59	75	81	76	105	119	67	65	56	70	87
26	100	61	74	91	87	95	111	58	74	63	70	86
27	121	51	87	94	97	97	101	76	60	62	71	86
28	134	67	74	90	101	93	95	72	75	61	65	75
29	461	76	161	86	138	98	95	84	68	68	63	74
30	259	86	156	104	---	90	93	84	76	64	62	89
31	780	---	87	90	---	90	---	78	---	56	63	---
TOTAL	6024	4268	3837	4413	2354	3538	4665	2340	2026	2298	2258	2336
MEAN	194	142	124	142	81.2	114	156	75.5	67.5	74.1	72.8	77.9
MAX	1210	1220	560	1180	376	466	760	93	91	96	88	104
MIN	67	45	65	69	47	79	76	52	46	56	59	52
AC-FT	11950	8470	7610	8750	4670	7020	9250	4640	4020	4560	4480	4630

CAL YR 1987 TOTAL 44910 MEAN 123 MAX 1220 MIN 41 AC-FT 89080
WTR YR 1988 TOTAL 40357 MEAN 110 MAX 1220 MIN 45 AC-FT 80050

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.
CHEMICAL DATA: Water years 1970 to current year.
SPECIFIC CONDUCTANCE: Water years 1970-78.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT					
07...	1000	77	940	20.0	577
19...	0945	91	920	19.5	572
NOV					
05...	1005	757	336	15.0	221
23...	1105	64	928	16.5	587
DEC					
04...	0920	82	928	14.0	602
23...	1100	134	790	13.0	507
JAN					
07...	0900	97	937	12.5	593
26...	1045	74	988	14.0	600
FEB					
08...	1210	81	965	14.5	600
22...	1315	82	948	17.5	591
MAR					
09...	1330	80	950	22.0	594
24...	1220	89	973	21.0	619
APR					
04...	1220	74	955	22.0	600
MAY					
05...	1030	75	968	16.5	611
JUN					
06...	1015	71	938	19.5	590
22...	1030	71	938	22.0	596
JUL					
01...	1020	65	933	22.0	587
AUG					
09...	0945	78	950	21.5	596
16...	0900	74	948	18.5	562
SEP					
09...	1300	62	956	25.0	591

SANTA ANA RIVER BASIN

11069500 SAN JACINTO RIVER NEAR SAN JACINTO, CA

LOCATION.--Lat 33°44'10", long 116°49'26", in NE 1/4 SE 1/4 sec.13, T.5 S., R.1 E., Riverside County, Hydrologic Unit 18070202, on right bank 350 ft upstream from bridge on State Highway 74, 1 mi downstream from North Fork San Jacinto River, 8.3 mi southeast of San Jacinto, and 9 mi downstream from Lake Hemet.
DRAINAGE AREA.--141 mi^2.
PERIOD OF RECORD.--October 1920 to February 1927, March 1927 to current year. Records for Oct. 1, 1969, to Sept. 30, 1980, equivalent to prior records if lower diversion is deducted from flow past station. Records for the 1981 water year are from the auxiliary gage below the lower diversion and are equivalent to records for March 1927 to Sept. 30, 1969. Combined records of river and diversion, October 1948 to current year. Monthly discharge only for October 1920 and July to September 1926, published in WSP 1315-B.
GAGE.--Water-stage recorder on river; water-stage recorder on upper canal. Datum of river gage is 1,982.75 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1735 for history of changes prior to Jan. 23, 1948. Oct. 1, 1969, to Sept. 30, 1980, at site 350 ft upstream at same datum. Canal gage at different datum.
REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 16, Dec. 22 to Jan 4, Jan 12-16, 23, 24, Feb. 20-29, Mar. 3, 9-13, 18-31, Apr. 1-14, 19, May 3, Aug. 26 to Sept. 5. Records poor. Flow partly regulated by Lake Hemet. Lake Hemet Municipal Water District's upper canal diverts 4.0 mi upstream from station. One small diversion for domestic use above station. Diversion above station began prior to 1920. Records of lower diversion are available at Lake Hemet Municipal Water District. See schematic diagram of Santa Ana River basin. Combined records are equivalent for period of record. For records of combined daily discharge of San Jacinto River and diversion, see following page.
AVERAGE DISCHARGE.--River only: 56 years (water years 1921-26, 1928-69, 1981-88), 18.6 ft^3/s, 13,480 acre-ft/yr; 11 years (water years 1970-80), 29.0 ft^3/s, 21,010 acre-ft/yr. Combined river and diversion: 39 years (water years 1949-80, 1982-88), 25.3 ft^3/s, 18,330 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 45,000 ft^3/s, Feb. 16, 1927 on basis of slope-area measurement of peak flow; no flow for several months in some years. Combined river and diversion: Maximum discharge, 17,300 ft^3/s, Feb. 21, 1980; no flow at times in 1951, 1952, 1957, 1976.
EXTREMES FOR CURRENT YEAR.--Combined river and diversion: Peak discharges greater than base discharge of 500 ft^3/s and maximum (*), from rating curve extended above 1,500 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 31	Unknown	*181	*3.74 (floodmark)				

No flow for many days.

DISCHARGE, IN 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	0	.37	0	0	2.7	.07	.01	3.8	.06		0	2.4
2	0	0	0	0	6.0	2.8	.01	1.6	.05		0	.30
3	0	0	0	0	12	.40	0	.70	.05		0	.08
4	0	0	0	0	8.6	.49	0	.14	.04		0	.02
5	0	1.0	.84	2.7	6.4	.80	0	.15	.94		0	.01
6	0	3.1	.50	42	4.8	.72	0	.25	3.6		0	0
7	0	.50	.20	7.2	4.0	1.1	0	.21	.12		0	0
8	0	.25	.20	5.6	3.6	.20	0	.12	.05		0	0
9	0	.10	.10	4.7	3.6	.10	0	.09	.05		0	0
10	0	.10	.05	2.7	3.6	.08	0	.09	.03		0	0
11	0	.05	0	1.4	3.2	.05	0	.07	.02		0	0
12	1.1	.05	0	1.0	3.0	.03	0	.07	.02		0	0
13	2.9	0	0	.50	2.4	.01	0	.06	.02		0	0
14	0	0	0	.20	2.5	.43	0	.13	.01		0	0
15	0	0	0	.10	1.6	.20	.58	.23	.01		0	0
16	0	0	0	0	1.9	.44	1.6	.13	.01		0	0
17	0	0	1.6	4.5	2.1	.77	1.9	.12	.01		0	0
18	0	0	1.4	7.7	1.1	.35	1.3	.08	.01		0	0
19	0	0	1.4	3.3	.79	.30	.80	.13	0		0	0
20	0	0	1.7	2.4	.60	.25	4.8	.11	0		0	0
21	0	0	1.2	1.9	.40	.20	9.4	.07	0		0	0
22	0	0	.50	.98	.20	.18	9.6	.12	0		0	0
23	0	0	.20	.50	.10	.16	8.9	.06	0		0	0
24	0	0	.10	.20	.05	.14	9.1	2.4	0		1.8	0
25	0	0	.10	1.5	.02	.12	7.2	2.1	0		.13	0
26	0	0	.05	2.5	0	.10	6.8	.11	0		.10	0
27	0	0	0	2.9	0	.08	6.3	.07	0		.05	0
28	0	0	0	4.3	0	.06	5.0	.06	0		.02	0
29	0	0	0	5.1	0	.04	3.3	.14	0		.01	0
30	0	0	0	4.3	---	.02	3.6	.09	0		1.5	0
31	0	---	0	3.3	---	.01	---	.13	---		19	---
TOTAL	4.0	5.52	10.14	113.48	75.26	10.70	80.20	13.63	5.10	0	22.61	2.81
MEAN	.13	.18	.33	3.66	2.60	.35	2.67	.44	.17	0	.73	.094
MAX	2.9	3.1	1.7	42	12	2.8	9.6	3.8	3.6	0	19	2.4
MIN	0	0	0	0	0	.01	0	.06	0	0	0	0
AC-FT	7.9	11	20	225	149	21	159	27	10	0	45	5.6

CAL YR 1987 TOTAL 868.96 MEAN 2.38 MAX 166 MIN 0 AC-FT 1720
WTR YR 1988 TOTAL 343.45 MEAN .94 MAX 42 MIN 0 AC-FT 681

SANTA ANA RIVER BASIN

11069501 SAN JACINTO RIVER NEAR SAN JACINTO, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SAN JACINTO RIVER AND LAKE HEMET WATER CO.'S UPPER CANAL, NEAR SAN JACINTO, CA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.6	1.8	2.9	2.7	3.9	1.9	4.7	4.7	1.0	4.1	2.5
2	2.7	4.7	1.8	2.9	6.0	7.4	.44	5.0	3.6	1.2	3.9	.30
3	2.6	4.4	1.8	2.9	12	4.7	.44	4.6	3.3	1.6	4.1	.08
4	2.5	2.8	1.9	2.3	8.6	3.9	.38	3.2	2.9	2.2	3.8	.02
5	2.8	8.2	6.4	7.3	6.4	3.7	.63	3.4	3.4	1.9	3.6	.01
6	2.9	11	5.2	50	4.8	2.8	2.1	3.4	5.1	1.8	3.8	0
7	2.6	7.8	3.1	13	4.0	3.5	2.0	3.5	4.0	2.2	3.7	0
8	2.7	6.6	2.3	8.7	3.6	2.2	2.4	4.0	3.6	3.7	3.9	0
9	3.1	4.3	2.1	6.8	3.6	2.2	2.3	2.4	3.5	2.9	3.8	2.1
10	2.3	3.0	2.2	5.2	3.6	2.1	2.2	1.9	3.2	2.0	3.5	4.7
11	3.8	1.8	1.9	4.7	3.2	2.7	2.3	1.4	3.0	2.0	3.7	4.8
12	7.2	.44	2.5	4.4	3.0	5.2	2.3	1.1	3.2	1.8	3.7	4.7
13	7.1	2.7	2.5	2.8	2.4	5.1	3.1	4.4	3.0	1.6	3.5	4.2
14	1.1	2.6	2.4	2.0	2.5	4.2	4.8	6.3	2.6	1.5	3.7	4.5
15	1.4	2.5	2.3	1.6	1.6	5.1	7.2	6.5	2.8	1.6	3.8	4.1
16	.56	2.3	2.7	1.5	1.9	4.2	6.0	5.7	3.2	1.4	3.7	4.2
17	.43	2.2	4.8	9.5	2.1	5.6	5.7	6.0	3.1	1.4	3.4	4.1
18	.38	2.7	4.2	16	2.2	4.3	4.6	6.9	2.4	1.1	3.5	4.1
19	.47	2.5	3.8	8.7	2.4	1.1	3.6	6.4	2.4	1.2	3.4	4.0
20	.57	2.1	4.0	5.8	2.1	1.1	9.2	6.0	2.3	1.6	3.5	4.8
21	.54	2.0	3.0	5.3	2.0	.83	11	5.8	2.0	2.5	4.0	4.9
22	.57	2.0	1.1	5.0	2.3	.82	11	5.5	1.8	2.5	3.7	4.3
23	.91	2.0	1.1	4.3	2.0	3.8	10	5.1	1.8	2.0	5.0	4.3
24	.94	1.3	.87	4.5	1.9	4.2	9.5	4.3	1.9	1.6	9.4	3.9
25	.77	1.8	.36	7.0	1.8	4.1	10	4.1	1.8	1.5	6.3	3.3
26	.73	1.8	.33	6.6	1.9	3.9	8.9	4.6	1.6	1.5	4.3	2.9
27	.48	1.8	.29	6.4	2.0	1.9	7.4	4.6	1.4	3.8	4.5	3.3
28	.48	1.7	.16	5.6	2.3	.85	7.1	4.8	1.6	5.2	3.6	2.9
29	.56	1.8	1.5	5.1	2.6	.92	7.1	5.8	1.8	5.6	3.3	2.4
30	.63	1.8	3.3	4.3	---	.56	5.0	5.7	1.6	4.5	6.7	2.4
31	.85	---	3.1	3.3	---	.87	---	5.6	---	4.4	23	---
TOTAL	57.37	96.24	74.81	216.4	97.5	97.75	150.59	142.7	82.6	70.8	147.9	87.81
MEAN	1.85	3.21	2.41	6.98	3.36	3.15	5.02	4.60	2.75	2.28	4.77	2.93
MAX	7.2	11	6.4	50	12	7.4	11	6.9	5.1	5.6	23	4.9
MIN	.38	.44	.16	1.5	1.6	.56	.38	1.1	1.4	1.0	3.3	0
AC-FT	114	191	148	429	193	194	299	283	164	140	293	174

CAL YR 1987 TOTAL 2118.22 MEAN 5.80 MAX 170 MIN .16 AC-FT 4200
WTR YR 1988 TOTAL 1322.47 MEAN 3.61 MAX 50 MIN 0 AC-FT 2620

SANTA ANA RIVER BASIN

11070020 BAUTISTA CREEK AT HEAD OF FLOOD CONTROL CHANNEL, NEAR HEMET, CA

LOCATION.--Lat 33°42'42", long 116°52'04", in NW 1/4 NE 1/4 sec.27, T.5 S., R.1 E., Riverside County, Hydrologic Unit 18070202, on right bank at the head of the concrete lined flood channel, 3.7 mi upstream from the mouth, and 3.0 mi southeast of Valle Vista.

DRAINAGE AREA.--47.2 mi^2.

PERIOD OF RECORD.--October 1987 to September 1988.

GAGE.--Water-stage recorder. Elevation of gage is 2,080 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation upstream from station. Sand and gravel operations upstream from station may cause peak attenuation. Minor diversion upstream from station for irrigation.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1515	*28	*11.12	Apr. 20	0645	*28	*11.12

No flow for many days.

DISCHARGE, IN 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			0	0	0	.05	0				0	
2			0	0	7.5	0	0				0	
3			0	0	0	0	0				0	
4			.21	0	0	0	0				0	
5			0	0	0	0	0				0	
6			0	0	0	0	0				0	
7			0	0	0	0	0				0	
8			0	0	0	0	0				0	
9			0	0	0	0	0				0	
10			0	0	0	0	0				0	
11			0	0	0	0	0				0	
12			0	0	0	0	0				0	
13			0	0	0	0	.07				0	
14			0	0	0	0	1.9				0	
15			0	0	0	0	.18				0	
16			3.2	0	0	0	0				0	
17			.30	5.5	0	0	0				0	
18			0	4.1	0	0	0				0	
19			0	0	0	0	.03				0	
20			0	0	0	0	4.9				0	
21			0	0	0	0	1.8				0	
22			0	0	0	0	.40				0	
23			0	0	0	0	.49				0	
24			0	0	0	0	0				0	
25			0	0	0	0	0				0	
26			0	0	0	0	0				0	
27			0	0	0	0	0				0	
28			0	0	0	0	0				0	
29			.01	0	0	0	0				0	
30			0	0	---	0	0				3.0	
31		---	0	0	---	0	---		---		2.6	---
TOTAL	0	0	3.72	9.6	7.5	.05	9.77	0	0	0	5.6	0
MEAN	0	0	.12	.31	.26	.002	.33	0	0	0	.18	0
MAX	0	0	3.2	5.5	7.5	.05	4.9	0	0	0	3.0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	7.4	19	15	.10	19	0	0	0	11	0

WTR YR 1988 TOTAL 36.24 MEAN .099 MAX 7.5 MIN 0 AC-FT 72

SANTA ANA RIVER BASIN

11070500 SAN JACINTO RIVER NEAR ELSINORE, CA

LOCATION.--Lat 33°39'51", long 117°17'35", in SE 1/4 NE 1/4 sec.9, T.6 S., R.4 W., Riverside County, Hydrologic Unit 18070203, on right bank 2.0 mi east of Elsinore, 2.1 mi downstream from Railroad Canyon Dam, and 36 mi downstream from Lake Hemet.

DRAINAGE AREA.--723 mi^2.

PERIOD OF RECORD.--January 1916 to current year. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-72-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Feb. 13, 1916, nonrecording gage at site 0.7 mi downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, nonrecording gage at present site, but at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow partly regulated by Lake Hemet (station 11069000) and regulated since 1928 by Railroad Canyon Reservoir, capacity, 12,000 acre-ft, 2.1 mi upstream from station. Diversions for irrigation and domestic use upstream from Railroad Canyon Reservoir. Temescal Water Co. diverted 1,180 acre-ft during current year from Railroad Canyon Reservoir for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft^3/s, Feb. 17, 1927, gage height, 11.8 ft, from rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59 ft^3/s, Jan. 17, gage height, 3.56 ft; no flow several days.

DISCHARGE, IN 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	.17	1.5	1.4	.98	1.2	1.3	.56	.64	.35	.09	.04	.05
2	.12	1.1	1.2	.95	2.1	1.8	.49	.63	.31	.08	.13	.11
3	.14	1.1	1.2	1.2	2.5	1.4	.48	.63	.26	.07	.17	.11
4	.08	1.3	1.3	1.3	1.7	1.0	.57	.64	.25	.04	.18	.03
5	.02	2.5	1.7	1.3	1.5	.98	.71	.63	.26	.02	.18	0
6	.10	1.6	2.7	1.6	1.1	.98	.72	.65	.29	.09	.15	.01
7	.22	1.2	2.1	1.4	1.0	1.0	.74	.65	.32	.12	.12	.05
8	.27	1.1	1.6	1.4	1.2	1.0	.73	.67	.32	.11	.10	.15
9	.31	1.4	1.5	1.1	1.4	1.1	.62	.61	.30	.10	.09	.19
10	.34	1.1	1.5	.99	1.3	1.1	.49	.57	.25	.08	.07	.24
11	.36	1.0	1.4	1.3	1.3	1.1	.44	.52	.27	.06	.07	.29
12	1.1	.87	1.3	1.2	1.2	.91	.52	.45	.27	.22	.07	.34
13	1.6	.95	.93	1.3	1.2	.86	.60	.46	.25	.17	.07	.37
14	.96	.87	.92	1.2	1.1	.99	.66	.42	.23	.23	.04	.36
15	.91	.74	1.3	1.1	1.4	1.1	1.4	.38	.18	.25	.02	.37
16	.80	.98	2.1	1.0	1.1	1.1	.79	.38	.18	.20	.02	.42
17	.82	1.1	6.7	12	1.4	1.0	.67	.48	.23	.05	.04	.46
18	.83	1.1	2.7	5.5	1.4	.97	.69	.55	.25	0	.03	.46
19	.88	1.0	1.9	2.1	1.5	.81	.70	.47	.16	.13	.04	.46
20	.83	1.1	1.9	1.7	1.2	.76	1.4	.38	.16	.16	.04	.49
21	.80	.92	1.9	1.6	1.1	.83	1.9	.32	.22	.16	.05	.55
22	2.3	.84	1.7	1.5	1.5	.83	1.6	.25	.17	.15	.01	.53
23	1.5	1.2	1.3	1.5	1.5	.88	1.1	.24	.16	.09	.25	.46
24	1.0	1.3	1.6	1.2	1.5	.90	1.2	.29	.21	.04	.29	.47
25	.81	1.3	1.1	1.3	1.4	.69	1.0	.33	.20	0	.26	.47
26	.88	1.3	1.1	1.2	1.3	.58	.92	.36	.12	.01	.23	.45
27	.95	1.1	1.2	1.3	1.0	.49	.94	.41	.05	.03	.15	.48
28	.92	1.2	1.3	1.2	.99	.46	.93	.44	.03	.08	.09	.48
29	.86	1.2	1.4	1.0	1.2	.51	.83	.42	.07	.10	.05	.47
30	.81	1.4	1.4	.96	---	.61	.69	.37	.08	.07	.04	.47
31	1.7	---	1.4	.91	---	.59	---	.32	---	.04	.03	---
TOTAL	23.39	35.37	52.75	54.29	39.29	28.63	25.09	14.56	6.40	3.04	3.12	9.79
MEAN	.75	1.18	1.70	1.75	1.35	.92	.84	.47	.21	.098	.10	.33
MAX	2.3	2.5	6.7	12	2.5	1.8	1.9	.67	.35	.25	.29	.55
MIN	.02	.74	.92	.91	.99	.46	.44	.24	.03	0	.01	0
AC-FT	46	70	105	108	78	57	50	29	13	6.0	6.2	19

CAL YR 1987 TOTAL 229.74 MEAN .63 MAX 6.7 MIN 0 AC-FT 456
WTR YR 1988 TOTAL 295.72 MEAN .81 MAX 12 MIN 0 AC-FT 587

SANTA ANA RIVER BASIN

11072100 TEMESCAL CREEK ABOVE MAIN STREET, AT CORONA, CA

LOCATION.--Lat 33°53'21", long 117°33'43", in La Sierra Grant, Riverside County, Hydrologic Unit 18070203, on right bank 500 ft upstream from Main Street bridge in Corona, and 1.5 mi upstream from topographic boundary of Prado Flood control basin.

DRAINAGE AREA.--224 mi^2, excludes 768 mi^2 above Lake Elsinore.

PERIOD OF RECORD.--December 1967 to September 1974, December 1980 to July 1983, February 1984 to current year.

GAGE.--Water-stage recorder and concrete-lined flood control channel. Elevation of gage is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map. December 1967 to September 1974, water-stage recorder at site 1.2 mi downstream at different datum. December 1980 to July 1983 at site 500 ft downstream at different datum.

REMARKS.--Estimated daily discharges: June 12 to July 7. Records fair. Flow regulated by several small storage reservoirs. Many diversions upstream for irrigation. Gage removed July 26, 1983, due to channel construction, and reinstalled Feb. 28, 1984.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,850 ft^3/s, Feb. 25, 1969, gage height, 8.17 ft, from floodmark, at old site 1.2 mi downstream, on basis of slope-area measurement of peak flow; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft^3/s, Nov. 4, gage height, 4.58 ft; minimum daily, 3.0 ft^3/s, Aug. 15.

DISCHARGE, IN 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	5.2	4.6	5.6	4.6	4.2	17	5.8	4.3	8.2	5.4	5.9	7.1
2	6.1	7.5	6.6	4.5	71	70	7.1	5.6	8.9	5.4	8.0	10
3	5.8	3.5	6.3	4.8	4.9	5.9	7.1	5.6	9.0	5.6	7.7	7.7
4	6.6	136	67	5.3	4.1	5.1	7.8	6.3	9.6	6.0	5.8	4.3
5	5.8	38	29	27	4.0	4.2	5.9	6.6	8.4	6.4	4.5	3.5
6	5.2	4.8	4.9	4.5	3.8	5.4	3.4	6.9	6.5	6.8	4.2	5.4
7	5.4	4.3	5.4	6.4	4.1	4.6	3.9	7.2	7.7	7.0	4.4	5.0
8	7.0	4.6	4.1	4.5	4.6	4.7	4.4	6.5	8.7	6.6	4.1	4.3
9	5.4	4.5	5.0	3.6	4.2	4.6	4.7	6.0	7.7	5.1	4.3	5.0
10	6.1	4.1	4.0	4.1	3.9	5.6	4.5	5.7	6.6	6.4	3.8	5.4
11	50	3.6	4.4	4.1	3.7	6.7	6.9	5.2	6.7	6.6	3.6	5.7
12	29	3.6	4.1	3.9	3.9	6.8	8.6	6.6	6.6	6.9	3.4	4.7
13	8.3	3.5	3.8	4.1	5.6	6.7	9.2	6.4	6.2	7.1	3.2	5.1
14	6.1	4.1	4.4	4.3	6.0	6.2	82	6.3	6.0	7.4	3.5	5.3
15	5.5	3.4	4.3	4.1	5.1	5.5	44	6.6	6.8	8.1	3.0	5.3
16	5.6	3.4	145	4.0	5.2	5.3	6.7	8.1	7.8	7.6	3.7	6.7
17	5.9	3.9	60	198	5.1	3.9	5.0	10	7.0	7.9	4.5	7.7
18	6.9	3.9	4.9	10	5.6	4.4	4.5	7.4	6.4	9.0	4.6	5.8
19	7.5	3.8	5.1	5.4	6.7	4.2	5.1	7.3	6.6	9.5	4.9	5.5
20	6.7	3.7	5.8	5.0	6.3	6.2	93	9.3	7.0	11	5.9	7.7
21	6.7	5.4	5.0	5.4	7.3	4.7	11	8.9	7.2	11	5.9	8.4
22	114	6.4	4.2	5.7	5.5	5.2	8.7	8.5	6.6	12	5.8	7.4
23	91	5.2	4.2	5.7	4.9	5.3	33	8.4	6.6	11	7.3	6.2
24	3.6	5.1	4.5	5.4	5.1	4.6	4.0	9.4	6.6	8.2	5.5	4.8
25	3.3	4.9	5.2	5.3	5.4	4.3	4.1	8.1	6.0	8.9	6.0	4.1
26	3.3	4.4	5.4	5.9	4.6	3.8	4.1	8.1	5.8	8.2	7.6	7.4
27	3.4	4.5	5.4	4.2	5.8	4.0	4.0	11	5.6	8.9	8.2	8.6
28	4.3	4.7	5.3	4.4	10	4.8	4.1	10	5.6	8.2	17	9.3
29	4.2	5.2	23	4.3	7.8	6.8	4.2	8.6	5.0	8.0	13	8.6
30	3.1	5.0	7.5	4.2	---	6.4	4.2	8.6	5.4	5.4	9.9	9.6
31	48	---	4.7	4.2	---	4.9	---	7.5	---	4.8	7.5	---
TOTAL	475.0	299.6	454.1	366.9	218.4	237.8	401.0	231.0	208.8	236.4	186.7	191.6
MEAN	15.3	9.99	14.6	11.8	7.53	7.67	13.4	7.45	6.96	7.63	6.02	6.39
MAX	114	136	145	198	71	70	93	11	9.6	12	17	10
MIN	3.1	3.4	3.8	3.6	3.7	3.8	3.4	4.3	5.0	4.8	3.0	3.5
AC-FT	942	594	901	728	433	472	795	458	414	469	370	380

CAL YR 1987 TOTAL 2975.3 MEAN 8.15 MAX 145 MIN 2.0 AC-FT 5900
WTR YR 1988 TOTAL 3507.3 MEAN 9.58 MAX 198 MIN 3.0 AC-FT 6960

SANTA ANA RIVER BASIN

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA

LOCATION.--Lat 34°00'14", long 117°43'34", in Santa Ana del Chino Grant, San Bernardino County, Hydrologic Unit 18070203, on right bank 300 ft downstream from Schaefer Avenue, 0.8 mi downstream from San Antonio Creek, and 1.5 mi southwest of Chino.

DRAINAGE AREA.--48.9 mi^2.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Concrete dikes have formed low-water control since October 1975. Elevation of gage is 685 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow mostly regulated by San Antonio flood-control reservoir, capacity, 7,620 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversions for power, domestic use, irrigation, and return flow from irrigated areas. California Water Project reported 5,880 acre-ft was released during the year to the basin via San Antonio Creek from Rialto Pipeline below San Antonio Dam at a site 10 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft^3/s, Feb. 27, 1983, gage height, 10.32 ft, from rating curve extended above 1,200 ft^3/s on basis of slope-conveyance study; no flow May 21, June 30, July 1, Oct. 30, Nov. 3, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 9.23 ft, present datum, discharge, 9,200 ft^3/s, by contracted-opening measurement at site 6.1 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,160 ft^3/s, Oct. 22, gage height, 6.45 ft; minimum daily, 0.94 ft^3/s, June 11, 12.

DISCHARGE, IN 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	1.5	24	1.3	2.6	1.5	31	2.7	1.1	1.2	42	33	1.6
2	1.5	67	1.3	2.2	94	59	1.6	1.5	1.2	42	2.6	2.1
3	1.6	1.8	1.1	1.3	2.0	2.0	1.4	1.6	1.0	42	2.7	3.7
4	1.3	120	68	1.3	1.8	1.6	1.3	2.5	1.3	42	24	2.6
5	2.1	12	6.5	22	1.5	2.2	23	1.9	.99	42	42	2.1
6	1.8	1.5	1.6	2.0	1.5	1.6	45	1.4	1.1	42	41	1.6
7	1.7	1.5	4.3	1.5	1.3	1.6	45	1.3	1.1	43	42	2.0
8	1.5	1.2	1.3	1.4	1.3	1.7	44	1.1	.97	43	41	1.9
9	2.3	1.1	1.2	1.4	1.9	1.4	42	2.0	1.0	43	40	1.4
10	1.7	1.1	1.2	1.3	2.3	1.5	42	1.4	1.1	42	40	1.2
11	13	1.1	1.3	2.2	1.6	1.8	42	1.8	.94	42	40	1.1
12	4.9	1.2	1.2	1.5	1.6	2.2	41	1.8	.94	42	39	1.7
13	2.3	.96	.97	1.4	1.6	2.4	42	1.6	1.2	42	39	1.4
14	1.6	2.9	2.7	1.6	1.6	2.2	130	1.6	1.3	42	20	1.2
15	1.7	1.0	3.4	1.4	2.2	1.6	10	2.0	1.2	42	1.2	1.1
16	1.6	1.0	220	1.3	2.1	1.6	1.6	3.5	1.1	42	1.4	1.3
17	1.5	1.6	42	367	2.0	1.7	2.8	2.8	1.2	42	1.6	1.2
18	1.6	1.2	2.7	4.8	1.7	1.6	2.3	1.3	1.2	42	1.5	1.3
19	1.7	1.1	1.6	3.3	1.5	1.6	18	1.6	1.1	43	1.4	20
20	1.9	1.1	1.5	2.9	1.6	1.6	158	2.3	1.5	42	1.3	41
21	1.7	1.1	1.3	3.2	1.6	1.6	3.2	2.2	1.4	37	1.2	48
22	202	1.1	1.3	1.6	1.9	1.6	2.0	1.6	1.2	2.8	1.2	55
23	71	1.2	2.4	1.4	1.8	2.0	29	1.4	20	2.4	1.5	66
24	4.4	1.4	2.6	1.3	1.8	2.7	1.7	1.5	37	2.5	3.3	75
25	3.2	1.4	3.0	1.6	2.0	3.0	1.3	1.8	35	25	1.7	76
26	3.1	1.1	5.4	1.8	2.1	2.8	1.3	1.2	36	42	1.6	74
27	3.4	1.1	3.7	1.3	42	2.7	1.3	1.5	36	43	1.5	74
28	2.0	1.1	3.6	1.3	9.1	2.3	1.5	1.3	35	41	1.6	75
29	57	1.1	44	1.5	67	2.5	1.3	3.5	40	42	3.3	75
30	5.6	1.1	5.0	1.6	---	1.8	1.3	1.3	42	42	2.1	74
31	123	---	2.8	1.6	---	1.5	---	1.1	---	42	1.8	---
TOTAL	525.2	256.06	440.27	442.6	255.9	146.4	739.6	54.5	306.24	1165.7	475.5	783.5
MEAN	16.9	8.54	14.2	14.3	8.82	4.72	24.7	1.76	10.2	37.6	15.3	26.1
MAX	202	120	220	367	94	59	158	3.5	42	43	42	76
MIN	1.3	.96	.97	1.3	1.3	1.4	1.3	1.1	.94	2.4	1.2	1.1
AC-FT	1040	508	873	878	508	290	1470	108	607	2310	943	1550

CAL YR 1987 TOTAL 2357.83 MEAN 6.46 MAX 307 MIN .62 AC-FT 4680
WTR YR 1988 TOTAL 5591.47 MEAN 15.3 MAX 367 MIN .94 AC-FT 11090

SANTA ANA RIVER BASIN

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA

LOCATION.--Lat 33°58'58", long 117°35'55", in SW 1/4 NE 1/4 sec.22, T.2 S., R.7 W., San Bernardino County, Hydrologic Unit 18070203, on right bank 300 ft upstream from Merrill Avenue bridge, and 4.6 mi west of Mira Loma.

DRAINAGE AREA.--75.8 mi^2.

PERIOD OF RECORD.--January 1968 to July 1977, January 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 1977 at site 100 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 22 to Nov. 15, Dec. 4, 16, Jan. 17, and Apr. 20. Records poor. Channel is now a trapezoidal concrete floodway; records for low and medium flows prior to July 31, 1977, are not equivalent. Chino Basin Municipal Water District Tertiary Plant No. 1 began discharging effluent 1.5 mi above station on May 8, 1985. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--8 years (water years 1969-76), 2.74 ft^3/s, 1,990 acre-ft/yr; 5 years (water years 1980-84), 19.3 ft^3/s, 13,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s, Feb. 27, 1983, gage height, 7.85 ft, from floodmark on basis of slope-conveyance study of peak flow; no flow for most of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft^3/s, estimated, Oct. 22, gage height, unknown; minimum daily, 8.8 ft^3/s, Aug. 30.

DISCHARGE, IN 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	27	65	16	20	35	48	21	20	15	19	25	15
2	29	110	16	19	128	65	21	22	13	19	22	14
3	30	32	13	19	47	28	21	17	17	19	22	13
4	31	150	90	19	40	24	22	17	19	18	23	11
5	32	36	40	46	39	23	18	13	22	20	24	11
6	35	21	19	20	38	26	23	13	19	21	23	13
7	39	19	24	16	39	26	24	18	16	22	23	14
8	40	18	19	17	44	26	23	19	16	21	20	15
9	43	18	15	17	41	28	23	18	15	22	20	16
10	43	16	17	18	46	24	23	20	15	21	18	15
11	58	15	15	19	37	25	24	20	17	23	17	15
12	42	15	16	18	38	28	24	18	16	20	17	17
13	38	14	19	18	41	29	24	21	17	14	22	16
14	37	18	22	15	44	22	49	22	20	15	20	17
15	37	13	23	17	47	25	50	21	19	19	18	17
16	35	15	250	14	39	15	26	20	18	20	18	16
17	35	17	71	500	27	16	23	21	17	20	25	17
18	37	18	28	60	19	17	22	20	19	23	21	18
19	36	16	18	25	22	18	20	20	22	22	17	17
20	37	17	19	20	20	24	150	17	23	22	18	18
21	36	15	18	18	21	23	36	20	21	22	20	17
22	270	18	19	18	22	21	24	19	16	22	20	18
23	100	18	24	32	21	22	29	19	13	21	23	20
24	44	18	17	33	23	25	22	20	21	21	18	20
25	40	17	20	35	21	26	21	20	19	21	11	20
26	40	17	13	33	19	25	21	19	19	22	11	21
27	26	18	19	33	20	23	20	20	20	22	12	19
28	28	16	20	27	23	22	21	17	20	24	13	18
29	100	14	47	35	38	22	19	15	20	21	13	16
30	46	16	23	41	---	20	18	13	19	22	8.8	17
31	170	---	18	37	---	17	---	14	---	24	14	---
TOTAL	1641	810	988	1259	1039	783	862	573	543	642	576.8	491
MEAN	52.9	27.0	31.9	40.6	35.8	25.3	28.7	18.5	18.1	20.7	18.6	16.4
MAX	270	150	250	500	128	65	150	22	23	24	25	21
MIN	26	13	13	14	19	15	18	13	13	14	8.8	11
AC-FT	3250	1610	1960	2500	2060	1550	1710	1140	1080	1270	1140	974

CAL YR 1987 TOTAL 11121.5 MEAN 30.5 MAX 772 MIN 2.5 AC-FT 22060
WTR YR 1988 TOTAL 10207.8 MEAN 27.9 MAX 500 MIN 8.8 AC-FT 20250

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA
(National stream-quality accounting network station)

LOCATION.--Lat 33°53'00", long 117°38'40", in La Sierra Grant, Riverside County, Hydrologic Unit 18070203, on left bank of outlet channel, 2,500 ft downstream from axis of Prado Dam, and 4.5 mi west of Corona.

DRAINAGE AREA.--1,490 mi^2, excludes 768 mi^2 above Lake Elsinore.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to November 1939 (irrigation seasons only), March 1940 to current year. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, and Santa Fe Railroad Bridge, near Prado" May 1932 to November 1939, and as "below Prado Dam, near Prado" March 1940 to September 1950.

GAGE.--Water-stage recorder and concrete control since August 1944. Datum of gage is approximately 449 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 18, 1940, at about same site at various datums.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1941 by Prado Reservoir, capacity, 201,200 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. During the year, California Water Project released 5,880 acre-ft to the basin. See schematic diagram of Santa Ana River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,440 ft^3/s, Feb. 21, 1980, gage height, 6.88 ft; minimum daily, 2.4 ft^3/s, July 29 to Aug. 3, Sept. 20, 1978 (result of gate closure).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 100,000 ft^3/s, by slope-area measurement of peak flow at site 2.5 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 991 ft^3/s, Jan. 19, gage height, 4.52 ft; minimum daily, 52 ft^3/s, Oct. 4, 5.

DISCHARGE, IN 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	53	288	282	298	271	259	244	260	169	179	172	136
2	53	291	272	298	249	310	235	259	173	182	157	133
3	53	292	247	300	250	346	228	259	172	188	146	137
4	52	292	232	300	251	343	234	260	170	188	144	129
5	52	331	235	301	271	337	258	260	169	193	170	114
6	172	368	236	304	282	333	222	260	168	187	177	116
7	265	369	233	307	284	331	233	262	166	187	184	120
8	328	367	230	310	321	329	231	262	165	185	184	135
9	348	328	229	312	330	327	219	263	168	186	187	132
10	342	297	230	314	330	325	214	264	189	190	185	131
11	336	295	230	316	332	323	209	265	186	189	188	134
12	332	294	228	318	336	320	210	266	183	188	183	139
13	329	283	223	319	339	318	214	267	179	179	179	138
14	325	267	223	322	339	317	228	266	194	175	181	137
15	319	264	223	323	340	317	256	265	200	185	143	123
16	270	263	225	323	339	315	170	261	192	185	138	136
17	245	244	233	332	337	312	170	258	182	182	139	149
18	241	218	235	652	345	311	225	253	172	180	132	145
19	236	220	234	973	346	309	164	250	168	178	139	149
20	231	221	233	977	356	307	64	245	174	181	137	183
21	225	223	234	961	353	307	111	201	166	178	136	172
22	220	225	234	935	352	306	223	172	165	155	133	209
23	240	255	233	334	352	306	332	170	160	132	133	218
24	252	283	229	227	350	302	406	169	185	128	141	228
25	252	281	224	220	350	299	341	158	183	127	137	219
26	271	277	224	219	296	296	300	183	182	158	135	213
27	283	272	224	220	266	289	300	182	177	162	135	213
28	281	283	281	277	268	281	299	181	173	158	135	221
29	281	283	334	317	270	271	283	180	176	163	134	225
30	282	266	339	316	---	262	261	179	180	164	128	216
31	282	---	316	313	---	253	---	178	---	170	128	---
TOTAL	7451	8440	7585	12238	9105	9561	7084	7158	5286	5382	4740	4850
MEAN	240	281	245	395	314	308	236	231	176	174	153	162
MAX	348	369	339	977	356	346	406	267	200	193	188	228
MIN	52	218	223	219	249	253	64	158	160	127	128	114
AC-FT	14780	16740	15040	24270	18060	18960	14050	14200	10480	10680	9400	9620

CAL YR 1987 TOTAL 75913 MEAN 208 MAX 675 MIN 21 AC-FT 150600
WTR YR 1988 TOTAL 88880 MEAN 243 MAX 977 MIN 52 AC-FT 176300

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.
CHEMICAL DATA: Water years 1967 to current year.
BIOLOGICAL DATA: Water years 1975 to current year.
SPECIFIC CONDUCTANCE: Water years 1970 to current year.
WATER TEMPERATURE: Water years 1970 to current year.
SEDIMENT DATA: Water years 1974 to current year.

PERIOD OF DAILY RECORD.--
CHLORIDE: October 1970 to September 1971.
SPECIFIC CONDUCTANCE: October 1969 to current year.
WATER TEMPERATURE: October 1969 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1973 to June 1982.

INSTRUMENTATION.--Water-quality monitor recording specific conductance and water temperature since October 1969.

REMARKS.--Periods of missing conductivity and temperature data due to equipment malfunctions and gate closures.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,830 microsiemens, Apr. 30, 1971; minimum recorded, 220 microsiemens, Feb. 20, 1978.
WATER TEMPERATURE: Maximum recorded, 36.0 °C, Sept. 4, 1972, Sept. 8, 1984; minimum recorded, 2.5 °C, Dec. 30, 1969.
SEDIMENT CONCENTRATION: Maximum daily mean, 2,870 mg/L, Mar. 5, 1978; minimum daily mean, 3 mg/L, Apr. 2, 1980, and several days during 1982.
SEDIMENT LOAD: Maximum daily, 18,900 tons, Mar. 5, 1978; minimum daily, 0.58 ton, Sept. 20, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,200 microsiemens, Oct. 5; minimum recorded, 596 microsiemens, Apr. 15, 16.
WATER TEMPERATURE: Maximum recorded, 29.0 °C, July 22-25; minimum recorded, 7.5 °C, Jan. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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)
OCT												
19...	1235	235	1100	--	20.0	--	--	--	--	--	--	--
NOV												
03...	1225	289	776	--	18.5	--	--	--	--	--	--	--
18...	1240	228	846	7.80	15.5	1.8	750	8.5	87	K61	130	260
DEC												
03...	0830	269	1040	--	12.5	--	--	--	--	--	--	--
23...	1330	232	934	--	10.0	--	--	--	--	--	--	--
JAN												
06...	1410	301	914	--	9.5	--	--	--	--	--	--	--
21...	1130	960	673	8.00	10.0	63	750	9.6	87	1800	7200	200
FEB												
04...	0815	253	968	--	12.5	--	--	--	--	--	--	--
23...	1220	349	1050	--	13.5	--	--	--	--	--	--	--
MAR												
04...	0945	342	945	--	15.5	--	--	--	--	--	--	--
23...	1245	276	1040	7.90	17.0	5.3	745	8.4	89	K22	K15	310
APR												
07...	0820	212	1040	--	18.0	--	--	--	--	--	--	--
MAY												
05...	1400	258	918	--	18.5	--	--	--	--	--	--	--
11...	1345	270	953	7.80	18.0	2.1	745	7.9	86	K10	K6	260
JUN												
06...	1300	182	1070	--	20.0	--	--	--	--	--	--	--
22...	1400	172	1070	--	21.0	--	--	--	--	--	--	--
JUL												
01...	1340	187	971	--	24.5	--	--	--	--	--	--	--
28...	1345	160	961	8.00	24.5	42	745	7.6	94	350	430	270
AUG												
09...	1245	190	965	--	23.0	--	--	--	--	--	--	--
16...	1315	140	1050	--	22.5	--	--	--	--	--	--	--
SEP												
06...	1000	110	1050	--	23.0	--	--	--	--	--	--	--
08...	1045	132	1030	8.00	22.5	30	745	7.6	90	290	910	280

See footnote at end of table.

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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)	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	CARBONATE WATER WH IT FIELD MG/L AS CO3	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)
OCT												
19...	0	--	--	--	--	--	--	--	--	--	--	--
NOV												
03...	0	--	--	--	--	--	--	--	--	--	--	--
18...	66	77	17	72	36	2	10	241	0	197	197	100
DEC												
03...	0	--	--	--	--	--	--	--	--	--	--	--
23...	0	--	--	--	--	--	--	--	--	--	--	--
JAN												
06...	0	--	--	--	--	--	--	--	--	--	--	--
21...	41	58	14	58	37	2	12	198	0	162	162	82
FEB												
04...	0	--	--	--	--	--	--	--	--	--	--	--
23...	0	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	0	--	--	--	--	--	--	--	--	--	--	--
23...	87	90	21	93	38	2	10	272	0	223	225	120
APR												
07...	0	--	--	--	--	--	--	--	--	--	--	--
MAY												
05...	0	--	--	--	--	--	--	--	--	--	--	--
11...	54	74	18	82	40	2	6.0	250	0	205	206	120
JUN												
06...	0	--	--	--	--	--	--	--	--	--	--	--
22...	0	--	--	--	--	--	--	--	--	--	--	--
JUL												
01...	0	--	--	--	--	--	--	--	--	--	--	--
28...	73	72	21	89	41	2	8.0	237	0	194	194	110
AUG												
09...	0	--	--	--	--	--	--	--	--	--	--	--
16...	0	--	--	--	--	--	--	--	--	--	--	--
SEP												
06...	0	--	--	--	--	--	--	--	--	--	--	--
08...	67	77	21	82	38	2	8.9	259	0	212	212	130

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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)	PHOSPHORUS TOTAL (MG/L AS P)
OCT												
19...	--	--	--	686	--	--	--	--	--	--	--	--
NOV												
03...	--	--	--	478	--	--	--	--	--	--	--	--
18...	83	0.50	21	526	521	0.72	0.210	3.20	1.00	0.980	2.1	--
DEC												
03...	--	--	--	660	--	--	--	--	--	--	--	--
23...	--	--	--	559	--	--	--	--	--	--	--	--
JAN												
06...	--	--	--	563	--	--	--	--	--	--	--	--
21...	63	0.40	15	417	424	0.57	0.190	3.40	2.80	2.80	3.0	1.80
FEB												
04...	--	--	--	605	--	--	--	--	--	--	--	--
23...	--	--	--	629	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	594	--	--	--	--	--	--	--	--
23...	100	0.40	21	647	634	0.88	0.290	7.40	2.50	2.50	3.3	3.00
APR												
07...	--	--	--	625	--	--	--	--	--	--	--	--
MAY												
05...	--	--	--	560	--	--	--	--	--	--	--	--
11...	91	0.50	22	567	574	0.77	0.450	5.40	3.30	3.30	5.4	3.40
JUN												
06...	--	--	--	669	--	--	--	--	--	--	--	--
22...	--	--	--	662	--	--	--	--	--	--	--	--
JUL												
01...	--	--	--	593	--	--	--	--	--	--	--	--
28...	110	0.40	24	585	586	0.80	0.440	6.00	1.60	1.90	3.5	2.60
AUG												
09...	--	--	--	601	--	--	--	--	--	--	--	--
16...	--	--	--	622	--	--	--	--	--	--	--	--
SEP												
06...	--	--	--	640	--	--	--	--	--	--	--	--
08...	100	0.40	23	620	612	0.84	0.370	7.00	2.50	2.50	3.6	3.40

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											
18...	2.60	2.00	<10	4	41	<0.5	<1	1	<3	3	22
JAN											
21...	2.10	1.70	10	2	37	<0.5	<1	<1	<3	2	24
MAR											
23...	2.70	2.50	--	--	--	--	--	--	--	--	--
MAY											
11...	3.20	2.70	<10	4	33	<0.5	<1	<1	<3	3	20
JUL											
28...	2.00	2.00	20	5	53	<0.5	<1	<1	<3	3	4
SEP											
08...	3.40	2.90	--	--	--	--	--	--	--	--	--

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											
18...	<5	10	130	<0.1	<10	2	<1	<1.0	470	<6	10
JAN											
21...	<5	8	52	<0.1	<10	<1	<1	<1.0	370	<6	7
MAY											
11...	<5	12	160	<0.1	<10	4	<1	<1.0	490	<6	6
JUL											
28...	<5	11	84	<0.1	<10	6	<1	<1.0	490	8	5

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.

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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
JAN										
21...*	1055	26.0	672	8.10	10.0	750	9.5	86	98	82
21...*	1100	66.0	671	8.00	10.0	750	9.6	87	116	67
21...*	1105	95.0	672	8.00	10.0	750	9.6	87	127	59
21...*	1110	127	673	8.00	10.0	750	9.6	87	149	50
21...*	1115	180	675	7.90	10.0	750	9.6	87	109	59
JUL										
28...*	1255	3.50	966	7.90	24.5	745	7.6	94	150	85
28...*	1300	11.0	964	8.00	24.5	745	7.7	95	175	85
28...*	1305	17.0	962	8.00	24.5	745	7.6	94	189	79
28...*	1310	23.5	959	8.00	24.5	745	7.6	94	178	75
28...*	1315	30.5	957	8.00	24.5	745	7.6	94	174	76

* Instantaneous streamflow at the time of cross-sectional measurements: Jan. 21, 960 ft^3/s; July 28, 160 ft^3/s.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1100	1060	945	886	1070	1020	914	884	987	906	1070	1020
2	1120	1070	889	793	1060	1020	894	874	1040	927	1080	1010
3	1130	1100	818	766	1060	1020	904	884	1070	978	1010	956
4	1170	1130	868	771	1070	1010	924	894	978	899	956	935
5	1200	1170	917	720	1070	1010	914	894	910	880	957	897
6	1190	1110	734	649	1000	979	914	894	912	891	938	867
7	1160	1120	698	659	981	942	896	876	924	912	960	889
8	1130	985	709	672	973	923	888	876	955	924	941	870
9	1010	979	782	702	964	884	900	878	967	945	962	891
10	1020	983	842	777	1030	945	941	880	977	948	924	853
11	1030	1010	844	795	977	917	983	922	1000	968	1040	884
12	1030	1010	890	832	978	919	945	923	1010	982	1030	875
13	1030	1010	901	805	949	910	987	945	983	963	1020	887
14	1050	1000	864	822	1020	900	987	958	985	953	999	918
15	1060	1020	833	766	1000	962	970	949	1020	985	980	909
16	1090	1020	871	804	1000	924	982	970	1020	977	971	931
17	1100	1040	892	843	1020	886	982	944	1080	988	983	922
18	1110	1070	874	837	907	817	1000	944	1030	1000	1020	963
19	1120	1080	869	798	908	839	956	697	1050	1030	1010	984
20	1130	1100	930	829	900	849	759	707	1040	1020	1050	996
21	1120	1100	931	860	892	861	749	650	1040	1010	1060	1020
22	1150	1120	942	882	913	862	780	680	1050	1030	1060	1010
23	1130	884	983	903	954	914	871	621	1070	1040	1050	1020
24	906	808	975	914	924	864	872	812	1080	1040	1040	1030
25	894	762	996	935	904	844	922	852	1080	1040	1070	1030
26	950	837	1010	976	904	854	923	843	1080	1040	1050	1040
27	953	824	1030	977	984	904	904	864	1070	1040	1060	1030
28	968	846	1060	989	984	954	874	824	1060	1020	1050	1030
29	973	841	1050	1010	964	944	865	805	1060	1020	1050	1030
30	958	856	1050	1020	964	924	866	805	---	---	1050	1030
31	934	892	---	---	924	894	976	856	---	---	1060	1040
MONTH	1200	762	1060	649	1070	817	1000	621	1080	880	1080	853

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1080	1060	894	864	1050	978	992	936	977	947	1090	1050
2	1130	1080	925	864	1050	978	954	917	1050	958	1080	1050
3	1110	1090	966	905	1060	979	956	928	1050	1020	1080	1040
4	1110	1090	967	897	1070	989	957	930	1060	1020	1060	1030
5	1130	1090	918	868	1080	999	958	920	1030	961	1070	1050
6	1100	1030	958	868	1070	991	951	923	972	952	1050	1020
7	1040	1020	969	929	1050	991	951	924	963	943	1050	1010
8	1020	1010	969	919	1040	982	953	926	964	934	1050	1020
9	1020	999	950	929	1090	993	954	928	966	935	1050	1020
10	1020	1000	940	930	1080	1020	958	938	972	934	1050	1020
11	1010	992	950	930	1090	1030	957	939	981	950	1050	1020
12	1010	992	980	950	1080	1030	951	932	993	956	1040	1020
13	1000	993	1000	961	1070	1030	962	934	990	965	1040	1020
14	1000	815	1030	981	1080	1040	972	954	1000	966	1040	1020
15	765	596	1050	981	1090	1040	974	955	1050	1000	1070	1030
16	788	596	1060	1000	1090	1060	975	957	1060	1020	1050	1030
17	859	718	1060	992	1100	1080	973	953	1040	1010	1040	1020
18	920	819	1070	993	1100	1070	963	943	1060	1020	1040	1010
19	---	---	1040	983	1090	1060	953	943	1050	1020	1050	1020
20	---	---	1050	983	1080	1060	953	933	1050	1020	1040	1010
21	---	---	1060	994	1090	1060	953	933	1060	1010	1040	995
22	814	714	1070	984	1080	1060	973	943	1050	1020	1000	975
23	765	724	1080	994	1100	1060	993	963	1070	1010	985	975
24	826	775	1080	995	1090	1030	1000	983	1050	1030	986	956
25	857	807	1080	995	1030	1010	1010	983	1060	1030	976	956
26	828	799	1070	996	1020	997	993	973	1080	1050	966	947
27	809	760	1070	996	1010	976	983	973	1090	1060	967	947
28	821	770	1070	986	995	964	973	944	1100	1050	957	947
29	872	811	1070	1010	994	963	964	934	1090	1050	958	938
30	923	862	1080	997	982	953	975	935	1120	1040	968	938
31	---	---	1070	998	---	---	966	946	1120	1070	---	---
MONTH	---	---	1080	864	1100	953	1010	917	1120	934	1090	938

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

SANTA ANA RIVER BASIN

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
OCT						
19...	1235	235	20.0	16	10	--
NOV						
03...	1225	289	18.5	15	12	--
18...	1240	228	15.5	13	8.0	53
JAN						
21...	1130	960	10.0	120	311	63
FEB						
04...	0815	253	12.5	18	12	--
23...	1220	349	13.5	6	5.7	--
MAR						
04...	0945	342	15.5	8	7.4	--
23...	1245	276	17.0	9	6.7	94
APR						
07...	0820	212	18.0	150	86	99
MAY						
05...	1400	258	18.5	8	5.6	--
11...	1345	270	18.0	6	4.4	86
JUN						
06...	1300	182	20.0	29	14	--
22...	1400	172	21.0	128	59	--
JUL						
01...	1340	187	24.5	258	130	--
28...	1345	160	24.5	173	75	81
AUG						
09...	1245	190	23.0	191	98	--
16...	1315	140	22.5	121	46	--
SEP						
06...	1000	110	23.0	114	34	--
08...	1045	132	22.5	114	41	64

SANTA ANA RIVER BASIN

11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA

LOCATION.--Lat 33°54'48", long 117°50'30" (revised), in SW 1/4 NE 1/4 sec.17, T.3 S., R.9 W., Orange County, Hydrologic Unit 18070106, on right wall of outlet channel 250 ft downstream from toe of Carbon Canyon Dam, and 2.4 mi northwest of Yorba Linda.

DRAINAGE AREA.--19.5 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 396.29 ft, U.S. Army Corps of Engineers datum. Prior to Dec. 3, 1971, at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 24-30. Records good. Flow regulated by Carbon Canyon flood-control reservoir, capacity, 6,610 acre-ft. No diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--27 years, 1.04 ft^3/s, 753 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 796 ft^3/s (revised), Mar. 1, 1983, gage height, 5.11 ft, present datum, from rating curve extended above 110 ft^3/s on basis of optical current-meter measurement at 241 ft^3/s and normal depth solution for discharge computation at gage height 4.27 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36 ft^3/s, Dec. 16, gage height, 2.63 ft; no flow for most of year.

REVISIONS.--The maximum discharge for the water year 1983 has been revised to 796 ft^3/s, Mar. 1, 1983, gage height, 5.11 ft, superseding the figure published in the reports for 1983-87.

DISCHARGE, IN 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	0		0	0	0	0	0			0		
2	0		0	0	.24	0	0			0		
3	0		0	0	.01	.30	0			0		
4	0		.67	0	0	0	0			0		
5	0		.33	.11	0	0	0			0		
6	0		.11	.07	0	0	0			0		
7	0		.11	.04	0	0	0			0		
8	0		.11	.01	0	0	0			0		
9	0		.07	0	0	0	0			0		
10	0		.07	0	0	0	0			0		
11	0		.07	0	0	0	0			0		
12	.02		.07	0	0	0	0			.01		
13	0		.07	0	0	0	0			0		
14	0		.05	0	0	0	0			0		
15	0		.04	0	0	0	.12			0		
16	0		3.7	0	0	0	0			0		
17	0		1.1	0	0	0	0			0		
18	0		.07	0	0	0	0			0		
19	0		.07	0	0	0	0			0		
20	0		.07	.01	0	0	.53			0		
21	0		.07	0	0	0	.13			0		
22	.18		.06	0	0	0	0			0		
23	1.1		.04	0	0	0	0			0		
24	.20		.04	0	0	0	0			0		
25	0		.04	0	0	0	0			0		
26	0		.04	0	0	0	0			0		
27	0		.03	0	0	0	0			0		
28	0		0	0	0	0	0			0		
29	0		0	0	0	0	0			0		
30	0		0	0	---	0	0			0		
31	.02	---	0	0	---	0	---		---	0		---
TOTAL	1.52	0	7.10	.24	.25	.30	.78	0	0	.01	0	0
MEAN	.049	0	.23	.008	.009	.010	.026	0	0	.0003	0	0
MAX	1.1	0	3.7	.11	.24	.30	.53	0	0	.01	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3.0	0	14	.5	.5	.6	1.5	0	0	.02	0	0

CAL YR 1987 TOTAL 22.89 MEAN .063 MAX 9.4 MIN 0 AC-FT 45
WTR YR 1988 TOTAL 10.20 MEAN .028 MAX 3.7 MIN 0 AC-FT 20

SANTA ANA RIVER BASIN

11075755 SANTA ANA RIVER AT BALL ROAD, AT ANAHEIM, CA

LOCATION.--Lat 33°49'00", long 117°52'17", in SE 1/4 SW 1/4 sec.24, T.4 S., R.10 W., Orange County, Hydrologic Unit 18070203, 350 ft south of Ball Road, 0.6 mi west of Batavia Street, 1.0 mi east of State College Boulevard in Anaheim, and 16 mi downstream from Prado Dam.

DRAINAGE AREA.--1,587 mi^2, excludes 768 mi^2 above Lake Elsinore.

PERIOD OF RECORD.--October 1976 to April 1988 (discontinued).

REVISED RECORDS.--WDR CA-86-1: 1985.

GAGE.--Water-stage recorder and concrete cut-off wall. Elevation of gage is 170 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 9, 1987 at datum 4.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. River flow is regulated by Prado Dam, infiltration ponds and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft^3/s, Mar. 1, 1983, gage height, 10.17 ft present datum, from rating curve extended above 7,000 ft^3/s; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October 1987 to April 1988, 5,350 ft^3/s, Dec. 4, gage height, 7.69 ft; no flow for many days.

DISCHARGE, IN 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	0	27	23	12	57	29	0					
2	0	20	25	7.7	230	13	0					
3	0	13	24	11	20	4.8	0					
4	0	10	335	11	9.7	12	0					
5	.05	84	205	24	11	5.4	0					
6	0	40	73	41	37	2.7	0					
7	0	61	44	10	50	6.6	0					
8	0	65	60	13	40	15	0					
9	0	72	46	17	.74	12	88					
10	0	31	28	13	7.7	5.8	48					
11	18	16	11	7.6	18	2.4	17					
12	55	19	3.4	9.0	9.3	3.2	.04					
13	36	22	11	8.2	15	2.6	1.1					
14	6.7	15	18	5.4	15	1.0	210					
15	8.0	7.9	18	8.9	13	2.1	154					
16	3.3	11	494	11	11	1.5	.03					
17	.09	17	187	897	2.1	.14	0					
18	0	13	60	398	.10	0	0					
19	0	.16	37	725	0	0	0					
20	0	0	33	547	1.1	0	169					
21	0	0	19	683	4.1	0	3.2					
22	0	0	19	720	4.3	0	0					
23	144	0	0	283	.31	0	0					
24	.01	17	0	1.5	0	0	32					
25	0	23	.17	0	2.1	0	46					
26	0	16	.80	1.4	17	0	15					
27	1.7	15	1.0	0	0	0	16					
28	7.8	19	2.0	0	0	0	7.5					
29	3.3	31	27	22	0	0	20					
30	.05	24	55	76	---	0	34					
31	105	---	35	59	---	0	---					
TOTAL	389.00	689.06	1894.37	4622.7	575.55	119.24	860.87					
MEAN	12.5	23.0	61.1	149	19.8	3.85	28.7					
MAX	144	84	494	897	230	29	210					
MIN	0	0	0	0	0	0	0					
AC-FT	772	1370	3760	9170	1140	237	1710					

CAL YR 1987 TOTAL 8231.39 MEAN 22.6 MAX 742 MIN 0 AC-FT 16330

SANTA ANA RIVER BASIN

11075800 SANTIAGO CREEK AT MODJESKA, CA

LOCATION.--Lat 33°42'46", long 117°38'39", in NE 1/4 NE 1/4 sec.30, T.5 S., R.7 W., Orange County, Hydrologic Unit 18070203, on right bank at Santiago Canyon Road bridge, 0.9 mi northwest of Modjeska, 1.0 mi downstream from Harding Creek, and 1.5 mi downstream from Modjeska Reservoir.

DRAINAGE AREA.--13.0 mi^2.

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

REVISED RECORDS.--WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,210 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 10, 1969, at site 0.6 mi upstream at datum approximately 48 ft higher. Sept. 10, 1969, to Feb. 6, 1985, at site 0.6 mi upstream at datum approximately 44 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1-21, Nov. 19 to Dec. 3, Mar. 25 to Apr. 13, and May 4 to June 3. Records good. Slight regulation by Modjeska Reservoir on Harding Creek. No diversion above station. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--27 years, 7.66 ft^3/s, 5,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,520 ft^3/s, Feb. 25, 1969, gage height, 6.18 ft, at site and datum then in use, from rating curve extended above 840 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	2300	*203	*6.65				

No flow for many days.

DISCHARGE, IN 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	0	0	0	1.0	1.7	.87	0	1.4				
2	0	0	0	.95	2.6	.80	0	.99				
3	0	0	0	.75	2.0	.80	0	.72				
4	0	.02	1.0	.75	1.8	.81	0	.50				
5	0	.63	2.2	.93	1.6	.74	0	.12				
6	0	.80	1.0	1.1	1.4	.66	0	.15				
7	0	.71	.78	1.1	1.2	.59	0	.31				
8	0	.52	.70	1.0	1.2	.50	0	.21				
9	0	.37	.61	1.1	1.1	.43	0	.17				
10	0	.25	.51	1.1	.92	.47	0	.10				
11	0	.18	.45	1.0	.84	.50	0	.04				
12	0	.15	.38	.96	.80	.36	0	.02				
13	0	.13	.35	.88	.77	.29	0	.01				
14	0	.14	.35	.76	.70	.24	.03	0				
15	0	.12	.35	.73	.64	.22	.02	0				
16	0	.11	.97	.69	.59	.22	0	0				
17	0	.11	2.2	40	.50	.21	0	0				
18	0	.05	1.7	54	.51	.16	0	0				
19	0	.01	2.7	12	.46	.12	.02	0				
20	0	0	3.4	8.1	.41	.07	4.9	0				
21	0	0	2.9	5.6	.39	.03	3.5	0				
22	.01	0	2.7	4.7	.38	.02	2.2	0				
23	.28	0	2.3	4.3	.35	.02	2.2	0				
24	0	0	1.7	3.6	.34	.01	3.0	0				
25	0	0	1.6	2.9	.31	0	2.7	0				
26	0	0	1.7	2.6	.31	0	2.2	0				
27	0	0	1.3	2.3	.32	0	2.0	0				
28	0	0	1.2	2.1	.45	0	1.8	0				
29	0	0	1.4	1.9	.60	0	1.5	0				
30	0	0	1.4	1.7	---	0	1.5	0				
31	.01	---	1.1	1.7	---	0	---	0	---			---
TOTAL	.30	4.30	38.95	162.30	25.19	9.14	27.57	4.74	0	0	0	0
MEAN	.010	.14	1.26	5.24	.87	.29	.92	.15	0	0	0	0
MAX	.28	.80	3.4	54	2.6	.87	4.9	1.4	0	0	0	0
MIN	0	0	0	.69	.31	0	0	0	0	0	0	0
AC-FT	.6	8.5	77	322	50	18	55	9.4	0	0	0	0

CAL YR 1987 TOTAL 151.55 MEAN .42 MAX 8.4 MIN 0 AC-FT 301
WTR YR 1988 TOTAL 272.49 MEAN .74 MAX 54 MIN 0 AC-FT 540

SANTA ANA RIVER BASIN

11077500 SANTIAGO CREEK AT SANTA ANA, CA

LOCATION.--Lat 33°46'13", long 117°53'01", in SW 1/4 NW 1/4 sec.1, T.5 S., R.10 W., Orange County, Hydrologic Unit 18070203, on left bank 127 ft upstream from Bristol Street bridge at Santa Ana and 1,700 ft upstream from mouth at Santa Ana River.

DRAINAGE AREA.--98.6 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 105.00 ft, Orange County Environmental Management Agency bench mark. Prior to Sept. 8, 1969, at site 0.1 mi upstream at different datum; Sept. 9, 1969, to July 21, 1976, at site 127 ft downstream at datum 2.66 ft lower.

REMARKS.--Estimated daily discharges: Dec. 26 to Jan. 5, May 15 to June 3. Records fair. Flow regulated by Santiago Reservoir, capacity, 25,000 acre-ft; since January 1963 by Villa Park flood-control reservoir, capacity, 15,500 acre-ft, and affected by intervening gravel pits. Diversions above station by Irvine County and Serrano and Carpenter Irrigation Districts. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--60 years, 4.81 ft^3/s, 3,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft^3/s, Feb. 25, 1969, gage height, 9.10 ft, site and datum then in use; maximum gage height, 9.85 ft, Jan. 16, 1952, site and datum then in use; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft^3/s, Jan. 17, gage height, 4.89 ft; no flow for several months.

DISCHARGE, IN 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	0	.68	0	0	0		0					
2	0	0	0	0	15		0					
3	0	0	0	0	.03		0					
4	0	13	74	0	0		0					
5	0	2.4	13	1.5	0		0					
6	0	3.5	0	0	0		0					
7	0	.03	0	0	0		0					
8	0	0	0	0	0		0					
9	0	0	0	0	0		0					
10	0	0	0	0	0		0					
11	0	0	0	0	0		0					
12	0	0	0	0	0		0					
13	0	0	0	0	0		0					
14	0	0	0	0	0		10					
15	0	0	0	0	0		.71					
16	0	0	49	0	0		0					
17	0	0	3.1	191	0		0					
18	0	0	0	.85	0		0					
19	0	0	0	0	0		0					
20	0	0	0	0	0		17					
21	0	0	0	0	.91		.05					
22	17	0	0	0	0		0					
23	16	0	0	0	0		3.8					
24	0	0	0	0	0		.11					
25	0	0	0	0	0		0					
26	0	0	0	0	0		0					
27	0	0	0	0	0		0					
28	0	0	0	0	0		0					
29	0	0	0	0	0		0					
30	0	0	0	0	---		0					
31	16	---	0	0	---		---		---			---
TOTAL	49	19.61	139.1	193.35	15.94	0	31.67	0	0	0	0	0
MEAN	1.58	.65	4.49	6.24	.55	0	1.06	0	0	0	0	0
MAX	17	13	74	191	15	0	17	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	97	39	276	384	32	0	63	0	0	0	0	0

CAL YR 1987 TOTAL 273.53 MEAN .75 MAX 74 MIN 0 AC-FT 543
WTR YR 1988 TOTAL 448.67 MEAN 1.23 MAX 191 MIN 0 AC-FT 890

SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA

LOCATION.--Lat 33°44'56" (revised), long 117°54'30", in SW 1/4 SE 1/4 sec.10, T.5 S., R.10 W., Orange County, Hydrologic Unit 18070203, on right bank 50 ft downstream from Fifth Street Bridge in Santa Ana, and 1.8 mi downstream from Santiago Creek.
DRAINAGE AREA.--1,700 mi^2, excludes 768 mi^2 above Lake Elsinore.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1923 to current year.
REVISED RECORDS.--WDR CA-74-1: Drainage area. WDR CA-79-1: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 61.01 ft, Orange County Environmental Management Agency datum. Jan. 3, 1923, to Jan. 24, 1929, at same site at different datum. Jan. 25, 1929, to June 20, 1948, at site 450 ft upstream at different datum. June 21, 1948, to May 2, 1960, at same site at different datum. Feb. 28, 1961, to Oct. 1, 1961, at same site at datum 12.00 ft higher. Oct. 2, 1961, to Nov. 28, 1979, at same site at datum 10.00 ft higher. Nov. 29, 1979, to Apr. 20, 1980, at same site at arbitrary datum approximately 15 ft lower. Apr. 21, 1980, to Aug. 14, 1981, no gage due to channel reconstruction.

REMARKS.--Estimated daily discharges: Dec. 6 to Jan. 16, Jan. 24 to Apr. 13, Apr. 16-19, and Apr. 22 to Sept. 30. Records poor. Natural flow affected by ground-water withdrawals, diversions, importation by Metropolitan Water District, municipal use, return flow from irrigation. Since 1940, natural flow affected by Prado flood-control reservoir, capacity, 201,200 acre-ft; three small flood-control reservoirs, combined capacity, 31,900 acre-ft; Big Bear Lake (station 11049000); and Santiago Reservoir, capacity, 25,000 acre-ft. Discharge up to 100 ft^3/s can be diverted from Carbon Creek to Coyote Creek 1.5 mi upstream from mouth of Carbon Creek. See schematic diagram of Santa Ana River basin.

AVERAGE DISCHARGE.--17 years (water years 1924-40), 23.4 ft^3/s, 16,940 acre-ft/yr; 48 years (water years 1941-88, unadjusted for storage), 53.7 ft^3/s, 38,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,300 ft^3/s, Mar. 3, 1938, gage height, 10.20 ft, site and datum then in use, on basis of slope-area measurement of peak flow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,230 ft^3/s, Jan. 17, gage height, 8.07 ft; no flow for many days.

DISCHARGE, IN 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	.08	61	0	3.0	0	1.5	0					
2	.05	2.7	0	.60	350	0	0					
3	.03	2.4	0	.20	14	0	0					
4	.01	61	492	.60	.35	0	0					
5	0	55	194	1.5	0	0	0					
6	0	2.7	50	.25	0	0	0					
7	0	0	2.5	0	0	0	0					
8	0	0	3.5	0	0	0	0					
9	0	.21	2.3	0	0	0	10					
10	0	.04	1.5	0	0	0	1.0					
11	.05	0	1.0	0	0	0	0					
12	1.5	0	.40	0	0	0	0					
13	1.1	0	.20	0	0	0	0					
14	.81	0	0	0	0	0	74					
15	.65	0	0	0	0	0	308					
16	.49	0	610	0	0	0	20					
17	.47	0	300	1500	0	0	.60					
18	.40	0	30	429	0	0	0					
19	.42	0	20	1230	0	0	0					
20	.48	0	.50	1040	0	0	212					
21	.49	0	0	1180	2.7	0	17					
22	14	0	0	1100	.20	0	0					
23	222	0	0	542	0	0	0					
24	19	0	0	70	0	0	0					
25	2.0	0	0	1.5	0	0	0					
26	1.2	0	0	0	0	0	0					
27	.95	0	0	0	0	0	0					
28	.78	0	0	0	0	0	0					
29	.80	0	.30	0	0	0	0					
30	.72	0	1.5	1.0	---	0	0					
31	158	---	27	.50	---	0	---		---			---
TOTAL	426.48	185.05	1736.70	7100.15	367.25	1.5	642.60	0	0	0	0	0
MEAN	13.8	6.17	56.0	229	12.7	.048	21.4	0	0	0	0	0
MAX	222	61	610	1500	350	1.5	308	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	846	367	3440	14080	728	3.0	1270	0	0	0	0	0

CAL YR 1987 TOTAL 6504.30 MEAN 17.8 MAX 1220 MIN 0 AC-FT 12900
WTR YR 1988 TOTAL 10459.73 MEAN 28.6 MAX 1500 MIN 0 AC-FT 20750

SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-71, 1973 to current year.
WATER TEMPERATURE: Water years 1968-71, 1973 to current year.
SEDIMENT DATA: Water years 1968-71, 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1967 to September 1969, October 1970 to September 1971, October 1972 to September 1980, October 1981 to September 1987.
SUSPENDED-SEDIMENT DISCHARGE: October 1967 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
FEB					
03...	1520	14	13.5	38	1.4

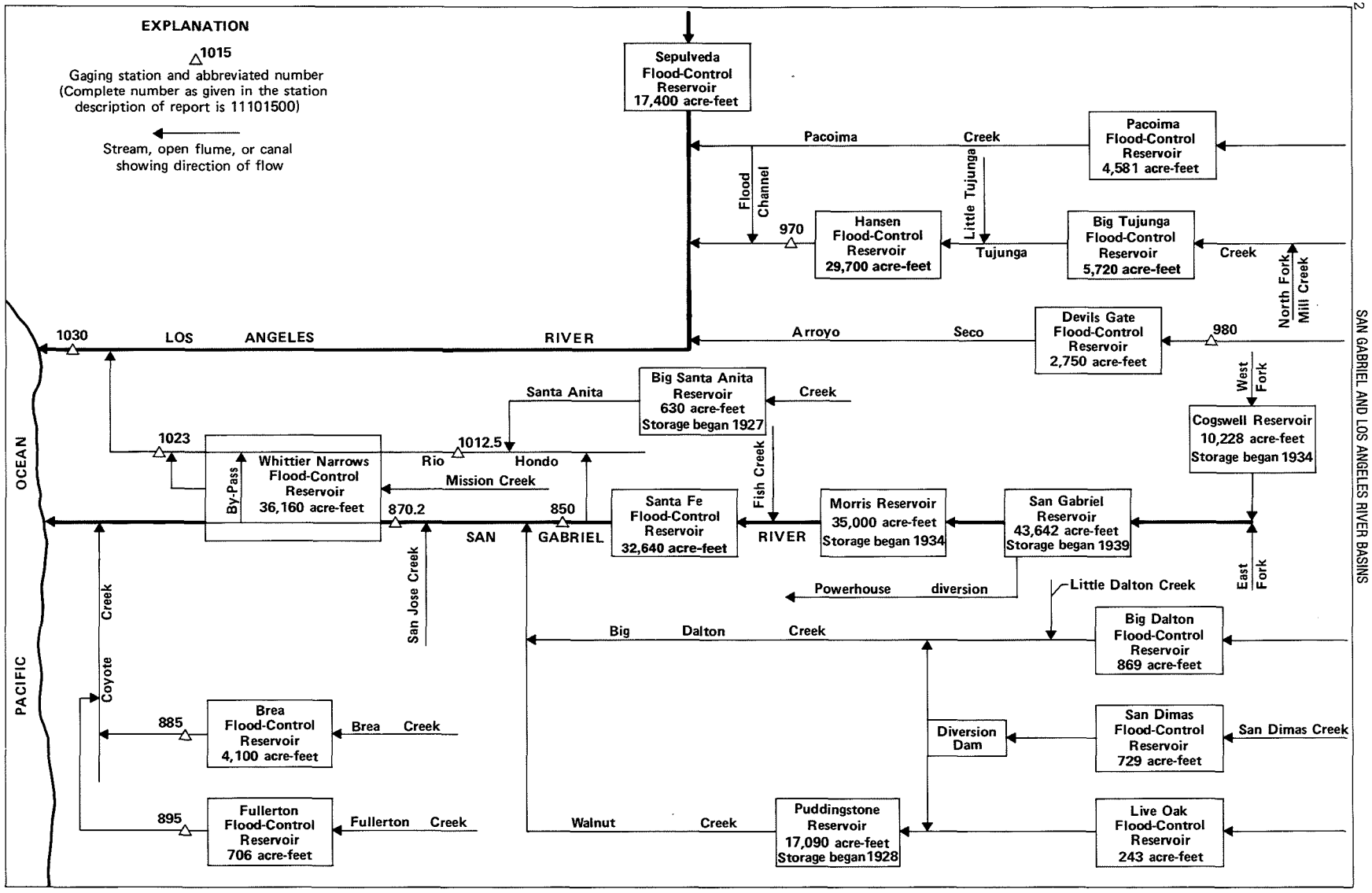

FIGURE 16.--Schematic diagram showing diversions and storage in San Gabriel and Los Angeles River basins.

SAN GABRIEL RIVER BASIN

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA

LOCATION.--Lat 34°06'44", long 117°58'07", NE 1/4 SW 1/4 sec.6, T.1 S., R.10 W., Los Angeles County, Hydrologic Unit 18070106, on left bank at stilling basin of outlet of Santa Fe flood-control dam, 500 ft downstream from axis of dam, and 1.7 mi north of Baldwin Park.

DRAINAGE AREA.--236 mi^2.

PERIOD OF RECORD.--October 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 400.00 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 Cogswell and San Gabriel flood-control reservoirs, combined capacity, 53,870 acre-ft; Morris Reservoir, capacity, 35,000 acre-ft; and Santa Fe flood-control reservoir, capacity, 32,640 acre-ft. Diversions above station for irrigation, power development, and ground-water replenishment. At times water is diverted from side of stilling basin to headwaters of Rio Hondo; 8,360 acre-ft were diverted during the current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion to Rio Hondo were provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,900 ft^3/s, Jan. 26, 1969, gage height, 22.20 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 239 ft^3/s, Jan. 17, gage height, 10.91 ft; no flow for many days.

DISCHARGE, IN 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				0					0			0
2				0					0			0
3				0					0			0
4				0					0			0
5				0					0			0
6				0					0			0
7				0					0			0
8				0					0			0
9				0					.03			0
10				0					0			0
11				0					0			0
12				0					0			0
13				0					0			0
14				0					0			0
15				0					0			0
16				0					0			0
17				59					0			0
18				7.5					0			0
19				2.6					0			0
20				.01					0			0
21				0					0			0
22				0					0			0
23				0					0			0
24				0					0			0
25				0					0			0
26				0					0			0
27				0					0			42
28				0					0			56
29				0					0			52
30				0	---				0			53
31		---		0	---		---		---			---
TOTAL	0	0	0	69.11	0	0	0	0	.03	0	0	203
MEAN	0	0	0	2.23	0	0	0	0	.001	0	0	6.77
MAX	0	0	0	59	0	0	0	0	.03	0	0	56
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	137	0	0	0	0	.06	0	0	403

CAL YR 1987 TOTAL 0.00 MEAN .000 MAX .00 MIN 0 AC-FT 0
WTR YR 1988 TOTAL 272.14 MEAN .74 MAX 59 MIN 0 AC-FT 540

SAN GABRIEL RIVER BASIN

11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°02'03", long 118°02'14", in La Puente Grant, Los Angeles County, Hydrologic Unit 18070106, at Peck Road 0.8 mi downstream from San Jose flood channel, 1.2 mi upstream from axis of Whittier Narrows Dam, and 1.8 mi south of El Monte.

DRAINAGE AREA.--442 mi^2.

PERIOD OF RECORD.--October 1955 to September 1957, October 1963 to current year.

REVISED RECORDS.--WDR CA-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by San Gabriel, Cogswell, and Santa Fe flood-control reservoirs, combined capacity, 90,670 acre-ft; several small flood-control reservoirs, combined capacity, 19,100 acre-ft; and Morris Reservoir, capacity, 35,000 acre-ft. Many diversions above station for irrigation, power development, and ground-water replenishment. Colorado River water released to the San Gabriel River at a site 14.9 mi upstream from gage, at Metropolitan Water District aqueduct crossing on San Dimas Creek for ground-water replenishment. Los Angeles County Department of Public Works diverted 8,360 acre-ft from San Gabriel River below Santa Fe Dam to Rio Hondo during the current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion to Rio Hondo were provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,600 ft^3/s, Jan. 25, 1969, gage height, 10.90 ft; no flow for part of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,800 ft^3/s, Dec. 4, gage height, 8.14 ft; no flow for many days.

DISCHARGE, IN 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	115	230	170	5.6	26	58	79	80	136	0	0	0
2	111	188	170	5.3	536	365	79	30	137	0	0	0
3	5.0	10	168	4.8	4.9	1.3	81	1.1	96	0	0	0
4	0	898	1510	6.2	.67	1.7	82	.05	124	0	.03	0
5	0	110	157	78	.11	.31	106	14	127	43	3.4	0
6	0	21	9.1	10	.05	1.1	81	137	128	75	0	0
7	40	83	59	3.7	.17	.02	112	128	132	77	0	0
8	39	82	104	6.9	.11	.43	117	128	133	78	0	0
9	78	55	100	6.9	.12	.16	116	104	137	77	0	0
10	79	4.3	100	5.0	.07	.22	114	142	136	72	0	0
11	89	3.4	97	4.3	34	109	117	150	134	79	0	0
12	85	7.7	94	3.5	80	119	113	143	133	82	0	0
13	77	143	90	3.0	79	119	110	156	130	896	0	0
14	77	182	73	3.6	39	124	1100	141	5.3	1130	0	0
15	81	143	4.3	4.4	0	128	157	138	0	53	0	0
16	84	143	708	4.2	1.4	130	36	118	0	0	0	0
17	92	148	159	3790	108	130	31	147	0	0	40	0
18	80	118	15	82	113	130	31	146	0	45	72	0
19	45	70	7.0	21	120	133	145	165	0	69	38	0
20	40	69	5.7	8.3	124	133	2020	185	0	17	68	0
21	83	70	5.9	6.1	124	135	63	198	0	0	72	.04
22	2020	72	5.7	6.9	124	133	23	185	50	0	74	.03
23	605	134	6.2	5.1	124	135	357	174	81	0	78	1.9
24	9.1	206	4.7	5.7	115	136	14	208	78	0	70	.03
25	5.2	238	7.8	6.2	2.3	136	6.3	183	72	0	.02	.16
26	4.3	177	6.3	37	.01	136	3.2	145	76	0	0	.13
27	3.8	239	3.7	52	51	136	1.9	124	82	0	0	.35
28	2.7	210	4.7	76	109	179	.83	127	82	0	0	0
29	313	170	125	105	468	174	37	133	22	0	0	.34
30	6.6	166	9.0	71	---	157	84	129	0	0	0	.95
31	525	---	5.1	37	---	144	---	109	---	0	0	---
TOTAL	4794.7	4390.4	3984.2	4464.7	2383.91	3284.24	5417.23	3968.15	2231.3	2793	515.45	3.93
MEAN	155	146	129	144	82.2	106	181	128	74.4	90.1	16.6	.13
MAX	2020	898	1510	3790	536	365	2020	208	137	1130	78	1.9
MIN	0	3.4	3.7	3.0	0	.02	.83	.05	0	0	0	0
AC-FT	9510	8710	7900	8860	4730	6510	10750	7870	4430	5540	1020	7.8

CAL YR 1987 TOTAL 44081.90 MEAN 121 MAX 4210 MIN 0 AC-FT 87440
WTR YR 1988 TOTAL 38231.21 MEAN 104 MAX 3790 MIN 0 AC-FT 75830

SAN GABRIEL RIVER BASIN

11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA

LOCATION.--Lat 33°53'16", long 117°55'32", in NE 1/4 NE 1/4 sec.28, T.3 S., R.10 W., Orange County, Hydrologic Unit 18070106, on right bank 0.2 mi downstream from Brea Dam, and 1 mi north of Fullerton.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--January 1942 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 4, 1964, at datum 1.03 ft higher.

REMARKS.--Estimated daily discharges: Nov. 8 to Dec. 3, and Sept. 8-30. Records fair except those below 10 ft^3/s, which are poor. Flow regulated by Brea flood-control reservoir, capacity, 4,100 acre-ft. No diversion above station. Since August 1966 low flow mostly the result of irrigation wastewater from golf course 0.8 mi upstream. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--46 years, 3.14 ft^3/s, 2,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,700 ft^3/s, Feb. 18, 1980; no flow for parts of some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft^3/s, Jan. 17, gage height, 4.99 ft; minimum daily, 0.49 ft^3/s, Aug. 22.

DISCHARGE, IN 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	1.9	2.8	1.2	1.5	1.4	43	1.0	.93	.96	.78	1.7	1.2
2	2.0	2.5	1.3	1.5	109	11	1.1	1.1	.96	1.1	1.8	1.2
3	2.0	2.7	1.4	1.4	3.9	3.0	.92	1.2	.99	1.1	1.2	1.5
4	2.1	16	69	1.4	2.4	2.0	.94	1.6	.74	1.7	1.0	2.0
5	1.8	32	11	14	1.9	1.5	.80	1.9	.74	1.1	.88	1.6
6	1.8	9.5	3.4	3.8	1.8	1.7	1.1	1.5	.74	1.2	1.1	1.5
7	1.4	2.2	3.8	2.2	1.7	1.5	1.2	1.6	.76	1.1	1.0	1.4
8	1.3	1.5	1.7	1.8	1.6	1.4	1.6	1.9	.89	1.2	.88	1.0
9	1.2	1.3	1.5	2.0	1.4	1.1	1.4	1.8	.78	1.1	1.1	1.0
10	1.3	1.0	1.3	1.8	1.1	1.5	1.5	1.8	1.2	1.0	.83	1.2
11	1.7	.90	1.2	1.7	1.2	1.7	1.5	2.0	1.5	1.2	.90	1.1
12	3.6	1.0	1.3	1.7	1.5	1.9	1.4	1.8	1.8	.77	.67	1.1
13	1.3	1.1	1.0	1.7	2.2	1.9	1.7	1.7	1.8	1.1	.79	.90
14	1.3	4.0	1.0	1.6	2.0	1.9	66	1.6	1.2	1.2	.87	1.1
15	1.2	1.5	1.3	1.5	1.8	1.8	27	1.5	.90	1.5	.79	1.5
16	1.2	1.4	75	1.6	1.8	1.5	2.4	1.7	1.0	1.1	1.1	1.2
17	1.2	1.3	31	295	1.8	1.5	1.5	1.6	1.3	1.2	.97	1.2
18	1.2	10	7.5	31	1.7	2.0	1.5	1.6	1.1	1.4	.87	1.3
19	1.1	3.5	3.1	4.8	1.6	1.5	4.2	1.8	.89	1.2	.72	1.1
20	1.1	1.5	2.2	3.4	1.8	1.2	73	1.7	1.0	.89	.55	6.0
21	1.2	1.4	2.0	2.6	1.6	1.4	18	1.5	1.2	1.2	.67	2.0
22	4.4	1.4	1.8	2.2	1.7	1.2	2.9	1.3	1.3	1.5	.49	1.5
23	36	1.4	1.4	2.0	1.7	.99	12	1.2	1.1	1.5	.56	1.0
24	17	1.2	1.2	1.7	1.5	1.4	2.5	1.0	1.1	.99	8.5	.90
25	1.9	1.2	1.3	1.9	1.5	1.3	1.8	1.3	1.3	.99	2.6	1.0
26	3.1	1.0	1.2	1.7	1.5	1.4	1.5	1.0	1.2	1.5	1.5	.80
27	1.5	1.0	1.3	1.8	2.7	1.5	1.4	.86	1.3	2.0	1.6	.80
28	1.5	1.2	1.3	1.6	4.6	1.2	1.4	.86	1.0	1.4	1.6	1.0
29	7.3	1.3	11	1.5	37	1.5	1.4	1.5	.95	1.1	1.6	.90
30	3.2	1.3	5.3	1.5	---	1.4	1.5	.80	.81	1.2	1.8	.80
31	3.5	---	1.7	1.5	---	1.5	---	.79	---	1.5	1.7	---
TOTAL	112.3	110.10	249.7	395.4	197.4	99.39	236.16	44.44	32.51	37.82	42.34	40.80
MEAN	3.62	3.67	8.05	12.8	6.81	3.21	7.87	1.43	1.08	1.22	1.37	1.36
MAX	36	32	75	295	109	43	73	2.0	1.8	2.0	8.5	6.0
MIN	1.1	.90	1.0	1.4	1.1	.99	.80	.79	.74	.77	.49	.80
AC-FT	223	218	495	784	392	197	468	88	64	75	84	81

CAL YR 1987 TOTAL 1393.34 MEAN 3.82 MAX 313 MIN .48 AC-FT 2760
WTR YR 1988 TOTAL 1598.36 MEAN 4.37 MAX 295 MIN .49 AC-FT 3170

SAN GABRIEL RIVER BASIN

11089500 FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CA

LOCATION.--Lat 33°53'45", long 117°53'07", in NW 1/4 SW 1/4 sec.24, T.3 S., R.10 W., Orange County, Hydrologic Unit 18070106, on left bank of outlet channel of Fullerton Dam and 1.6 mi southeast of Brea.

DRAINAGE AREA.--4.94 mi^2.

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WDR CA-82-1: 1981.

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above National Geodetic Vertical Datum of 1929, from topographic map. V-notch sharp-crested weir used Oct. 25, 1946, to Feb. 2, 1956. Prior to Dec. 3, 1971, at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 7-30 and Aug. 21 to Sept. 7. Records good. Flow regulated by Fullerton flood-control reservoir, capacity, 706 acre-ft. Small tributary formerly entering below station diverted into reservoir since December 1954. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--13 years (water years 1942-54), 0.19 ft^3/s, 135 acre-ft/yr; 34 years (water years 1955-88), 1.25 ft^3/s, 906 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 392 ft^3/s, Mar. 1, 1983, gage height, 8.25 ft, present datum; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 226 ft^3/s, Jan. 17, gage height, 6.81 ft; minimum daily, 0.41 ft^3/s, Dec. 13.

DISCHARGE, IN 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	.67	2.7	.60	.57	.88	7.9	.82	.60	.60	.90	.95	.90
2	.62	2.8	.78	.51	19	1.6	.77	.60	.60	.86	.87	.80
3	.66	.76	.68	.51	1.2	.77	.75	.60	.95	.75	.81	.78
4	.76	8.6	18	.54	.86	.73	.89	.77	1.1	.83	.88	.80
5	.60	4.4	9.7	8.6	.70	.60	.79	.71	.96	.86	.93	1.0
6	.60	.78	.81	1.4	.70	.60	.85	.72	1.1	.77	.86	.90
7	.60	.68	1.1	.68	.70	.71	.98	.70	.97	.85	.78	.82
8	.60	.60	.74	.60	.70	.84	1.0	.64	.83	.84	.82	.95
9	.70	.60	.60	.60	.79	.82	.99	.73	.87	.80	.92	1.0
10	.70	.59	.60	.60	.88	.75	.87	.91	.89	.74	.88	.91
11	2.0	.51	.60	.65	.89	.61	.99	.87	.79	.80	.83	.86
12	1.0	.60	.59	.60	.82	.60	.94	.85	.70	.88	.94	.95
13	.80	.76	.41	.58	.82	.62	1.0	.87	.84	.94	.86	1.0
14	.70	.81	.48	.59	.82	.65	9.4	.84	.93	.80	.76	.98
15	.60	.61	.51	.60	.82	.78	24	.75	.86	.87	.81	.84
16	.60	.70	23	.60	1.0	.76	7.4	1.1	1.1	.87	.84	.97
17	.60	.70	7.7	85	.73	.67	.82	1.3	1.0	.76	.93	.86
18	.75	.67	.78	7.0	.73	.68	.82	.66	.92	.89	1.2	.80
19	.60	.58	.60	.93	.60	.70	2.0	.69	.79	.96	1.2	1.0
20	.82	.66	.56	1.1	.52	.72	25	.97	.89	.83	.92	1.7
21	.71	.70	.51	.83	.51	.74	9.5	.71	.92	.82	.82	1.1
22	15	.70	.60	.53	.56	.76	1.1	.69	.85	.82	.80	.79
23	18	.77	.48	.62	.60	.80	2.9	.62	.84	1.0	1.1	.87
24	.82	.77	.46	.63	.60	.78	.85	.83	.89	.81	2.0	.84
25	.74	.66	.50	.57	.70	.79	.70	.67	.82	.81	1.0	.74
26	.50	.58	.56	.60	.74	.80	.74	.60	.84	.80	.80	.77
27	.60	.60	.51	.81	1.1	.75	.68	.60	.86	.76	.82	1.1
28	.60	.70	.51	.78	1.7	.81	.60	.77	.95	.85	.78	.89
29	5.8	.60	3.7	.71	10	.79	.60	.72	.85	1.2	.80	.82
30	.67	.60	1.5	.84	---	.85	.60	.60	.87	.88	.90	.90
31	20	---	.58	.82	---	.83	---	.60	---	.75	1.0	---
TOTAL	78.42	35.79	78.75	120.00	50.67	30.81	99.35	23.29	26.38	26.30	28.81	27.64
MEAN	2.53	1.19	2.54	3.87	1.75	.99	3.31	.75	.88	.85	.93	.92
MAX	20	8.6	23	85	19	7.9	25	1.3	1.1	1.2	2.0	1.7
MIN	.50	.51	.41	.51	.51	.60	.60	.60	.60	.74	.76	.74
AC-FT	156	71	156	238	101	61	197	46	52	52	57	55

CAL YR 1987 TOTAL 615.31 MEAN 1.69 MAX 108 MIN .41 AC-FT 1220
WTR YR 1988 TOTAL 626.21 MEAN 1.71 MAX 85 MIN .41 AC-FT 1240

LOS ANGELES RIVER BASIN

11097000 BIG TUJUNGA CREEK BELOW HANSEN DAM, CA

LOCATION.--Lat 34°15'13", long 118°23'17", in Mission San Fernando Grant, Los Angeles County, Hydrologic Unit 18070105, in city of Los Angeles, on left bank of outlet channel 0.5 mi downstream from Hansen Dam, 0.1 mi upstream from Glen Oaks Boulevard, and 3 mi southeast of San Fernando.

DRAINAGE AREA.--153 mi^2.

PERIOD OF RECORD.--May 1932 to February 1938, August 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

REVISED RECORDS.--WDR CA-84-1: 1978 (M).

GAGE.--Water-stage recorder. Datum of gage is 943.32 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). See WSP 1735 for history of changes prior to Oct. 1, 1953.

REMARKS.--Estimated daily discharges: Sept. 26-28. Records poor. Flow regulated since July 1931 by Big Tujunga flood-control reservoir, capacity, 5,720 acre-ft in 1979, and since September 1940 by Hansen flood-control reservoir, capacity, 29,700 acre-ft. Several small diversions for domestic use and irrigation. Water reported herein is that which passed Hansen Dam. Los Angeles County Department of Public Works diverts water 0.3 mi upstream from gage to spreading grounds, as shown in footnote below table. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion were provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft^3/s, Feb. 10, 1978, Mar. 2, 1983; maximum gage height, 7.64 ft, Mar. 2, 1983; no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 54,000 ft^3/s, estimated, Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft^3/s, Oct. 22, gage height, 2.41 ft; no flow for many days.

DISCHARGE, IN 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	0	5.1	0	0	0	7.6	0	0			0	
2	0	0	0	0	0	0	0	0			2.3	
3	0	0	0	0	0	0	0	0			3.4	
4	0	5.9	1.6	0	0	0	0	0			3.4	
5	0	.12	0	0	0	0	0	0			2.3	
6	0	0	0	0	0	0	0	0			1.9	
7	0	0	0	0	0	0	0	0			1.8	
8	0	0	0	0	0	0	0	0			2.8	
9	0	.05	0	0	0	0	0	0			1.6	
10	0	0	0	0	0	0	0	0			.48	
11	0	0	0	0	0	0	0	0			.92	
12	0	0	0	0	0	0	0	0			1.9	
13	0	0	0	0	0	0	0	0			2.3	
14	0	0	0	0	0	0	.05	0			3.4	
15	0	0	0	0	0	0	0	0			3.8	
16	0	0	0	0	0	0	0	3.1			3.1	
17	0	0	0	28	0	0	0	0			1.5	
18	0	0	0	0	0	0	0	0			.70	
19	0	0	0	0	0	0	1.7	0			.39	
20	0	0	0	0	0	0	3.4	0			.43	
21	0	0	0	0	0	0	0	0			.49	
22	131	0	0	0	0	0	0	0			.21	
23	267	0	0	0	0	0	.01	0			.22	
24	13	0	0	0	0	0	0	0			.45	
25	4.4	0	0	0	0	0	0	0			.37	
26	3.4	0	0	0	0	0	0	0			0	
27	3.4	0	0	0	0	0	0	0			0	
28	3.4	0	0	0	.15	0	0	0			0	
29	2.6	0	0	0	146	0	0	0			0	
30	.50	0	0	0	---	0	0	0			0	
31	132	---	0	0	---	0	---	0	---		0	---
TOTAL	560.70	11.17	1.6	28	146.15	7.6	5.16	3.1	0	0	40.16	0
MEAN	18.1	.37	.052	.90	5.04	.25	.17	.10	0	0	1.30	0
MAX	267	5.9	1.6	28	146	7.6	3.4	3.1	0	0	3.8	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1110	22	3.2	56	290	15	10	6.1	0	0	80	0
a	1640	1640	1410	2570	2030	3380	2750	1570	768	661	168	272

CAL YR 1987 TOTAL 622.26 MEAN 1.70 MAX 267 MIN 0 AC-FT 1230
WTR YR 1988 TOTAL 803.64 MEAN 2.20 MAX 267 MIN 0 AC-FT 1590

a Combined discharge, in acre-feet, of creek and diversion.

LOS ANGELES RIVER BASIN

11098000 ARROYO SECO NEAR PASADENA, CA

LOCATION.--Lat 34°13'20", long 118°10'36", in NW 1/4 NE 1/4 sec.31, T.2 N., R.12 W., Los Angeles County, Hydrologic Unit 18070105, on right bank 0.7 mi east of Angeles Crest Highway, 1.5 mi upstream from Millard Canyon, and 5.5 mi northwest of Pasadena.

DRAINAGE AREA.--16.0 mi^2.

PERIOD OF RECORD.--December 1910 to current year.

GAGE.--Water-stage recorder. Broad-crested weir since November 1938. Datum of gage is 1,397.88 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1916, nonrecording gage at different datum. Oct. 1, 1916, to Oct. 19, 1945, water-stage recorder at datum 4.00 ft lower.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion above station. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--74 years (water years 1914-15, 1917-88), 9.79 ft^3/s, 7,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,620 ft^3/s, Mar. 2, 1938, gage height, 9.42 ft, present datum, 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 150 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 23	0015	311	3.29	Feb. 29	1915	*457	*3.57
Dec. 4	2115	166	2.87	Apr. 20	0100	218	3.04
Jan. 17	1330	158	2.84				

Minimum daily, 0.05 ft^3/s, Oct. 1.

DISCHARGE, IN 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	.05	35	2.6	3.6	4.5	57	3.3	8.2	2.8	.95	.45	.22
2	.12	14	2.6	3.5	6.7	31	3.5	7.4	2.6	.91	.51	.21
3	.13	14	2.6	3.4	5.6	19	3.6	6.8	2.4	.90	.45	.18
4	.15	15	26	3.4	4.8	14	3.5	6.7	2.4	.86	.42	.15
5	.18	37	19	3.9	4.3	12	3.4	6.6	2.5	.79	.37	.15
6	.23	17	6.8	4.4	4.2	11	3.1	6.6	2.8	.72	.38	.15
7	.30	10	5.7	3.9	4.2	10	2.8	6.8	2.7	.67	.36	.16
8	.34	7.9	4.6	3.7	4.1	9.3	2.8	7.1	2.5	.64	.34	.20
9	.39	6.4	4.1	3.6	3.9	8.4	2.5	7.1	2.2	.61	.33	.22
10	.45	5.3	3.7	3.4	3.7	7.6	2.3	6.4	2.1	.63	.33	.22
11	.52	4.7	3.5	3.4	3.5	7.3	2.1	6.1	2.1	.67	.34	.23
12	.76	4.3	3.3	3.3	3.5	6.7	2.1	5.7	2.3	.64	.33	.22
13	.82	4.1	2.6	3.2	3.4	6.4	2.2	5.6	2.3	.64	.31	.22
14	.78	4.3	3.1	3.1	3.4	6.2	18	5.3	2.1	.63	.28	.20
15	.73	3.9	3.1	3.1	3.4	6.0	15	5.0	1.9	.62	.26	.20
16	.68	3.7	3.8	3.1	3.3	5.9	6.7	5.1	1.9	.57	.28	.25
17	.68	3.6	6.1	69	3.1	5.8	5.4	5.2	2.0	.49	.30	.26
18	.71	4.1	6.1	44	3.1	5.6	4.8	5.0	2.0	.54	.31	.25
19	.71	3.6	5.1	19	2.9	5.3	15	4.4	2.0	.58	.29	.22
20	.71	3.4	4.6	13	3.0	5.1	112	4.0	2.1	.54	.30	.35
21	.72	3.3	4.4	11	3.2	4.9	37	3.7	2.0	.49	.27	.28
22	5.1	3.2	4.2	8.8	3.2	5.0	24	3.4	1.7	.46	.24	.22
23	28	3.1	4.0	8.0	3.2	4.9	23	3.4	1.6	.46	.23	.20
24	3.0	3.0	3.8	7.2	3.0	4.7	19	3.5	1.5	.45	.32	.21
25	1.5	2.8	3.7	6.6	2.9	4.4	16	3.5	1.5	.44	.27	.20
26	1.1	2.7	3.5	6.1	2.8	4.0	13	3.3	1.4	.43	.23	.17
27	.94	3.1	3.5	5.7	3.8	4.0	12	3.3	1.3	.45	.23	.17
28	.90	2.7	3.7	5.3	12	3.9	11	3.7	1.2	.49	.25	.17
29	4.7	2.7	4.2	5.0	76	3.8	10	4.0	1.1	.47	.22	.16
30	2.9	2.6	4.4	4.9	---	3.8	9.2	3.2	1.0	.43	.20	.17
31	35	---	3.8	4.7	---	3.4	---	2.9	---	.42	.21	---
TOTAL	93.30	230.5	162.2	274.3	188.7	286.4	388.3	159.0	60.0	18.59	9.61	6.21
MEAN	3.01	7.68	5.23	8.85	6.51	9.24	12.9	5.13	2.00	.60	.31	.21
MAX	35	37	26	69	76	57	112	8.2	2.8	.95	.51	.35
MIN	.05	2.6	2.6	3.1	2.8	3.4	2.1	2.9	1.0	.42	.20	.15
AC-FT	185	457	322	544	374	568	770	315	119	37	19	12

CAL YR 1987 TOTAL 838.67 MEAN 2.30 MAX 37 MIN .04 AC-FT 1660
WTR YR 1988 TOTAL 1877.11 MEAN 5.13 MAX 112 MIN .05 AC-FT 3720

LOS ANGELES RIVER BASIN

11101250 RIO HONDO ABOVE WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°03'30", long 118°04'15", in Potrero Grande Grant, Los Angeles County, Hydrologic Unit 18070105, on right bank 0.3 mi downstream from Garvey Avenue, 0.4 mi downstream from Rubio Wash, 2.8 mi upstream from axis of Whittier Narrows Dam, and 2.2 mi west of El Monte.

DRAINAGE AREA.--91.2 mi^2.

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

GAGE.--Water-stage recorder. Concrete trapezoidal channel. Datum of gage is 217.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 15. Records good except those of estimated daily discharge, which are poor. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs, and Sierra Madre, Las Flores, and Rubio debris basins, combined capacity, 2,195 acre-ft. Many diversions above station for domestic use and irrigation. Los Angeles County Department of Public Works diverted 8,360 acre-ft from San Gabriel River below Santa Fe Dam to Rio Hondo during current year. See schematic diagram of San Gabriel and Los Angeles River basins.

COOPERATION.--Records of diversion were provided by the Los Angeles County Department of Public Works.

AVERAGE DISCHARGE.--32 years, 42.6 ft^3/s, 30,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,200 ft^3/s, Feb. 16, 1980, gage height, 7.35 ft; no flow for some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,800 ft^3/s, Jan. 17, gage height, 5.60 ft; minimum daily, 0.36 ft^3/s, May 1.

DISCHARGE, IN 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	1.6	250	.80	1.0	2.8	120	.92	.36	1.9	1.1	.76	1.0
2	1.2	260	1.0	.94	441	114	1.2	.56	3.3	1.0	.80	1.2
3	.80	8.0	.80	.92	4.0	.85	1.0	.77	2.6	.89	.80	.95
4	.40	140	560	1.1	3.5	.92	4.3	.71	2.3	.93	1.0	.73
5	.80	100	70	26	3.1	1.0	9.2	1.1	1.2	.97	.94	.66
6	1.2	25	3.5	1.7	1.2	.78	3.8	.78	1.9	1.5	.77	1.3
7	1.4	7.0	50	1.2	.88	.89	4.4	2.6	1.7	2.3	.47	1.5
8	1.6	1.6	.80	1.0	1.8	1.0	3.0	1.1	12	.93	.65	.93
9	1.8	1.4	1.2	1.1	1.6	.85	1.9	1.2	91	.93	.82	1.8
10	2.0	1.6	1.4	1.1	1.6	.83	1.2	1.0	169	.85	1.0	2.3
11	6.0	1.6	1.2	1.2	1.6	.73	2.8	1.0	226	1.9	1.1	2.0
12	25	1.6	1.0	1.1	1.6	.84	3.0	1.0	258	.98	.96	2.5
13	1.4	2.0	.80	.88	1.6	.68	1.5	1.1	281	1.2	.94	2.3
14	1.2	30	4.0	.93	1.6	.90	229	1.0	284	1.1	.68	5.6
15	1.0	1.8	1.2	1.9	1.7	.95	27	.89	304	.98	.72	7.2
16	.80	1.2	282	1.3	1.9	1.3	1.1	.96	319	.97	.76	6.8
17	1.2	1.8	45	1730	.63	1.1	.83	1.0	326	.81	1.1	7.2
18	.80	1.4	1.9	8.9	.74	1.4	.94	.75	270	1.4	.88	7.4
19	.60	1.8	1.2	2.1	.69	.97	374	.88	173	1.8	.92	11
20	.40	2.0	1.1	1.4	.97	.97	558	.88	91	1.1	1.0	176
21	.80	1.8	1.3	1.3	1.1	1.2	4.5	.83	47	1.0	.86	7.5
22	300	1.6	1.7	.89	1.9	1.2	.97	.84	26	.92	.78	.74
23	350	1.8	1.2	1.1	1.2	.94	182	.81	13	.79	.87	1.2
24	70	1.6	.68	.96	.93	.99	.93	1.1	5.9	.74	3.0	.99
25	60	1.0	.45	1.1	1.2	1.4	.78	.77	2.1	.64	1.0	.59
26	12	1.2	.81	.97	1.6	1.4	.96	.81	1.1	.78	1.6	.72
27	1.8	1.4	.98	1.1	296	1.4	1.1	.89	1.0	.67	.90	.76
28	25	1.4	1.2	1.2	18	1.7	.75	1.2	.99	1.1	.72	.72
29	200	1.2	122	1.3	626	1.1	.68	1.1	.85	1.2	1.1	.86
30	6.0	1.0	1.9	1.1	---	1.2	.75	1.0	.90	1.4	1.7	.92
31	500	---	1.2	1.2	---	.95	---	1.5	---	.75	.97	---
TOTAL	1576.80	853.8	1162.32	1797.99	1422.44	264.44	1422.51	30.49	2917.74	33.63	30.57	255.37
MEAN	50.9	28.5	37.5	58.0	49.0	8.53	47.4	.98	97.3	1.08	.99	8.51
MAX	500	260	560	1730	626	120	558	2.6	326	2.3	3.0	176
MIN	.40	1.0	.45	.88	.63	.68	.68	.36	.85	.64	.47	.59
AC-FT	3130	1690	2310	3570	2820	525	2820	60	5790	67	61	507

CAL YR 1987 TOTAL 6930.71 MEAN 19.0 MAX 1010 MIN .40 AC-FT 13750
WTR YR 1988 TOTAL 11768.10 MEAN 32.2 MAX 1730 MIN .36 AC-FT 23340

LOS ANGELES RIVER BASIN

1110230U RIO HONDO BELOW WHITTIER NARROWS DAM, CA

LOCATION.--Lat 34°01'00", long 118°05'15", in Paso de Bartolo Grant, Los Angeles County, Hydrologic Unit 18070105, on right levee 0.2 mi upstream from Beverly Boulevard, 0.4 mi downstream from axis of Whittier Narrows Dam, and 1.0 mi northeast of Montebello.

DRAINAGE AREA.--124 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 175 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 6. Records fair above 100 ft^3/s and poor below. Flow regulated by Whittier Narrows flood-control reservoir, capacity, 36,160 acre-ft. There are several small flood-control reservoirs (combined capacities, 1,700 acre-ft) and several small debris basins above Whittier Narrows Dam. Many diversions for domestic use and irrigation. At times flow is diverted from San Gabriel River to Rio Hondo from sites below Santa Fe Dam and above Whittier Narrows Dam. See schematic diagram of San Gabriel and Los Angeles River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,800 ft^3/s, Jan. 25, 1969, gage height, 13.82 ft, from rating curve extended above 15,000 ft^3/s on basis of gate openings at dam at gage heights 12.32 and 13.82 ft; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft^3/s, Jan. 17, gage height, 7.22 ft; no flow Aug. 14, 17.

DISCHARGE, IN 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	68	89	66	1.3	19	99	131	91	105	26	.45	15
2	42	91	71	1.3	335	313	126	63	78	26	1.3	16
3	3.7	24	68	1.3	28	13	121	28	23	25	.38	16
4	.47	460	1020	1.3	33	18	97	30	9.5	24	.45	15
5	2.0	381	385	16	9.9	14	81	35	9.4	37	.24	16
6	12	191	130	2.5	9.5	14	71	123	9.3	67	.22	14
7	23	24	35	1.3	8.5	13	97	142	8.3	78	.21	16
8	32	9.9	12	1.3	8.3	14	119	152	11	77	.25	15
9	54	9.6	39	.90	6.3	13	110	130	86	77	.25	16
10	54	9.7	44	.76	4.8	12	109	157	170	76	.22	17
11	59	10	3.4	.76	5.4	40	62	186	207	80	.22	15
12	72	10	1.8	.56	6.1	52	30	194	236	85	.23	11
13	64	59	2.7	.43	6.4	54	34	199	239	84	.14	11
14	62	96	8.0	.38	6.4	53	423	125	209	87	0	12
15	67	88	4.9	.60	5.7	50	319	121	199	77	.07	13
16	74	102	378	.68	5.5	36	14	104	205	25	.02	14
17	78	115	165	2950	16	34	14	129	207	21	0	14
18	74	90	11	190	46	48	11	133	184	42	3.2	12
19	49	143	7.7	61	48	54	119	141	140	41	8.5	9.0
20	42	147	4.3	37	47	59	872	149	89	14	29	33
21	67	92	1.3	33	47	65	475	164	50	7.2	32	12
22	408	72	1.3	25	47	76	65	152	47	5.8	35	9.9
23	1080	112	.88	7.8	47	86	284	126	59	5.0	41	11
24	93	98	1.0	5.0	47	86	13	128	66	4.8	43	11
25	80	82	.71	2.0	16	86	9.9	119	59	4.8	9.1	12
26	42	88	.69	1.4	7.8	86	9.9	111	64	7.2	6.1	12
27	8.4	90	.76	6.1	93	87	9.9	95	76	1.0	6.4	12
28	6.4	93	.76	19	44	106	9.9	90	89	.95	7.6	13
29	105	92	81	31	554	103	34	104	54	1.3	8.3	11
30	13	86	10	31	---	120	89	108	26	1.0	9.3	11
31	1220	---	4.5	21	---	148	---	90	---	.89	11	---
TOTAL	4054.97	3054.2	2559.70	3451.67	1557.6	2052	3959.6	3719	3014.5	1108.94	254.15	414.9
MEAN	131	102	82.6	111	53.7	66.2	132	120	100	35.8	8.20	13.8
MAX	1220	460	1020	2950	554	313	872	199	239	87	43	33
MIN	.47	9.6	.69	.38	4.8	12	9.9	28	8.3	.89	0	9.0
AC-FT	8040	6060	5080	6850	3090	4070	7850	7380	5980	2200	504	823

CAL YR 1987 TOTAL 29833.25 MEAN 81.7 MAX 2210 MIN .11 AC-FT 59170
WTR YR 1988 TOTAL 29201.23 MEAN 79.8 MAX 2950 MIN 0 AC-FT 57920

11103000 LOS ANGELES RIVER AT LONG BEACH, CA
(National stream-quality accounting network station)

LOCATION.--Lat 33°49'02", long 118°12'20", in Los Cerritos Grant, Los Angeles County, Hydrologic Unit 18070105, on right bank 5,000 ft upstream from Willow Street, 3.4 mi north of Long Beach, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--827 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1928 to September 1983. October 1983 to current year, available in files of Los Angeles County Department of Public Works; not reviewed by U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 11.91 ft above National Geodetic Vertical Datum of 1929 (levels by Los Angeles County Department of Public Works). See WSP 1735 for history of changes prior to Jan. 19, 1956.

REMARKS.--Flow regulated since September 1940 by Hansen flood-control reservoir; since December 1946 by Sepulveda flood-control reservoir (combined capacity, 47,100 acre-ft); and by several small flood-control reservoirs. City of Los Angeles stores imported Owens River water in San Fernando and Chatsworth Reservoirs and at times discharges imported water into Los Angeles River above station. Many diversions above station for domestic use and irrigation. AVERAGE DISCHARGE represents flow to the ocean, regardless of upstream development. See schematic diagram of San Gabriel and Los Angeles River basins.

AVERAGE DISCHARGE.--54 years (water years 1930-83), 215 ft^3/s, 155,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 129,000 ft^3/s, Feb. 16, 1980, gage height, 17.99 ft; no flow at times in 1929-30, 1934.

11103000 LOS ANGELES RIVER AT LONG BEACH, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.
CHEMICAL DATA: Water years 1973 to current year.
BIOLOGICAL DATA: Water years 1973-81.
SPECIFIC CONDUCTANCE: Water years 1974-75, 80-83.
WATER TEMPERATURE: Water years 1974-75, 80-83.
SEDIMENT DATA: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1973 to September 1975, July 1980 to September 1983.
WATER TEMPERATURE: October 1973 to September 1975, January 1980 to September 1983.

INSTRUMENTATION.--Water-quality monitor from October 1973 to September 1975, January 1980 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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...	1145	145	978	8.50	16.0	2.3	760	11.5	117	K1200	640	250
MAR												
15...	1415	158	944	10.30	21.0	5.4	755	>20.0	>230	<4	43	230
JUN												
21...	1215	144	965	9.70	26.5	8.5	755	>20.0	>256	K3	K26	240
SEP												
28...	1445	139	1080	10.30	30.0	14	755	>20.0	>259	K3	K29	210

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 WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
DEC												
09...	89	67	21	98	44	3	10	192	5	166	166	160
MAR												
15...	93	63	18	100	47	3	9.5	2	82	138	139	180
JUN												
21...	100	63	21	110	48	3	9.0	50	61	142	142	170
SEP												
28...	100	59	16	130	56	4	9.8	2	67	112	112	180

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
DEC												
09...	95	0.50	25	614	606	0.84	0.650	4.00	5.20	4.60	6.5	2.40
MAR												
15...	100	0.60	12	584	584	0.79	1.10	3.60	1.30	1.10	4.0	0.820
JUN												
21...	110	0.70	25	646	618	0.88	1.20	5.00	0.750	0.800	4.4	1.40
SEP												
28...	140	0.60	13	572	631	0.78	0.970	2.90	1.40	1.50	3.5	1.30

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...	2.30	2.00	10	7	39	<0.5	3	4	<3	8	24
MAR											
15...	0.120	0.060	<10	7	15	<0.5	<1	3	<3	8	<3
JUN											
21...	0.430	0.340	20	7	35	<0.5	<1	1	<3	5	<3
SEP											
28...	0.090	0.060	10	4	38	<0.5	2	1	<3	2	3

See footnotes at end of table.

LOS ANGELES RIVER BASIN

11103000 LOS ANGELES RIVER AT LONG BEACH, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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	49	43	<0.1	20	11	1	<1.0	470	<6	40
MAR											
15...	16	72	<1	<0.1	20	5	2	<1.0	420	<6	5
JUN											
21...	<5	60	<1	<0.1	30	12	2	<1.0	450	<6	7
SEP											
28...	<5	49	<1	<0.1	20	8	1	<1.0	460	<6	7

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

CROSS-SECTIONAL DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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...*	1245	74.0	962	10.50	22.0	755	>20.0	>234	7	80
15...*	1255	151	935	10.10	21.0	755	>20.0	>230	10	88
15...*	1305	159	931	10.00	20.5	755	>20.0	>227	9	88
15...*	1315	171	932	10.00	21.5	755	>20.0	>232	9	90
15...*	1325	245	952	10.50	22.5	755	>20.0	>235	9	69
SEP										
28...*	1230	56.0	1070	10.50	31.0	755	>20.0	>262	12	42
28...*	1235	105	1070	10.10	30.0	755	>20.0	>259	2	--
28...*	1240	110	1060	10.00	29.5	755	>20.0	>255	7	55
28...*	1245	116	1070	10.00	29.5	755	>20.0	>255	9	48
28...*	1250	122	1070	10.10	30.0	755	>20.0	>259	10	48
28...*	1255	195	1100	10.40	31.5	755	>20.0	>264	16	72

* Instantaneous streamflow at the time of cross-sectional measurements: Mar. 15, 158 ft^3/s; Sept. 28, 139 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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...	1145	145	16.0	9	3.5	66
MAR						
15...	1415	158	21.0	8	3.4	80
JUN						
21...	1215	144	26.5	15	5.8	90
SEP						
28...	1445	139	30.0	9	3.4	51

SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 34°23'59", long 118°42'14", in San Francisco Grant, Ventura County, Hydrologic Unit 18070102, on downstream end of old diversion weir on right bank, on private road 0.2 mi south of Highway 126, 0.8 mi west of Los Angeles-Ventura County line, and 6.4 mi west of intersection of Highway 126 and Interstate 5.

DRAINAGE AREA.--625 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-78-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 794.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 21 to Dec. 3, Dec. 8, 9, and Dec. 31 to Jan. 5. Records poor. Base flow affected by pumping from wells along stream for irrigation. Flow partly regulated since January 1972 by Castaic Reservoir, capacity, 324,000 acre-ft. Imported water from California Water Project stored and released at Castaic Dam.

AVERAGE DISCHARGE.--36 years, 48.8 ft^3/s, 35,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,800 ft^3/s, Jan. 25, 1969, gage height, 19.01 ft, from rating curve extended above 9,200 ft^3/s on basis of field estimate of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 23	0015	897	7.99	Dec. 16	1945	1,110	8.56
Oct. 31	1945	1,170	8.70	Jan. 17	1300	929	8.08
Dec. 14	2200	*1,340	*9.02				

Minimum daily, 19 ft^3/s, several days.

DISCHARGE, IN 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	26	165	19	41	47	133	34	53	40	30	26	25
2	26	62	19	41	52	103	33	52	40	31	26	25
3	25	46	19	41	45	78	33	52	41	31	25	25
4	25	64	137	40	44	67	33	53	42	32	25	24
5	25	59	84	41	44	61	32	53	43	31	25	24
6	26	47	56	42	44	58	32	54	43	31	25	25
7	26	46	50	40	44	55	32	55	43	30	24	25
8	27	42	47	40	43	54	32	51	43	29	24	25
9	27	39	46	39	42	52	32	46	42	29	24	25
10	27	34	42	39	41	48	32	45	42	29	24	26
11	28	28	40	39	40	45	33	44	42	29	24	25
12	29	27	40	37	40	44	32	43	40	29	23	26
13	29	25	39	37	40	44	32	38	38	28	25	26
14	28	23	37	37	40	44	64	36	36	28	24	26
15	29	22	38	37	40	44	59	36	35	29	23	25
16	28	21	317	37	40	41	52	36	37	28	24	26
17	28	21	200	331	39	39	50	36	38	28	24	27
18	29	28	94	130	35	39	49	38	38	28	24	27
19	60	21	88	54	32	39	64	39	37	28	24	28
20	23	20	84	47	31	39	193	38	37	28	24	30
21	21	20	79	47	30	40	88	38	36	28	24	31
22	73	20	76	47	31	39	79	40	34	27	24	30
23	106	20	76	49	30	38	79	40	34	27	24	29
24	22	20	74	52	31	37	67	35	35	26	24	30
25	19	20	72	52	31	36	58	36	34	26	25	30
26	19	20	73	50	31	36	55	38	32	25	24	31
27	19	20	72	50	34	35	56	40	32	25	24	29
28	19	19	72	50	292	34	55	41	31	25	25	29
29	21	19	72	46	170	35	54	41	30	27	24	27
30	19	19	43	46	---	34	55	41	30	26	24	28
31	255	---	42	46	---	34	---	41	---	26	24	---
TOTAL	1164	1037	2247	1725	1503	1525	1599	1329	1125	874	753	809
MEAN	37.5	34.6	72.5	55.6	51.8	49.2	53.3	42.9	37.5	28.2	24.3	27.0
MAX	255	165	317	331	292	133	193	55	43	32	26	31
MIN	19	19	19	37	30	34	32	35	30	25	23	24
AC-FT	2310	2060	4460	3420	2980	3020	3170	2640	2230	1730	1490	1600

CAL YR 1987 TOTAL 13208 MEAN 36.2 MAX 317 MIN 19 AC-FT 26200
WTR YR 1988 TOTAL 15690 MEAN 42.9 MAX 331 MIN 19 AC-FT 31120

SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to September 1988 (discontinued).
CHEMICAL DATA: Water years 1969, 1972 to September 1988 (discontinued).
BIOLOGICAL DATA: Water years 1979-80.
WATER TEMPERATURE: Water years 1969-78 (observed), February to September 1980.
SEDIMENT DATA: Water years 1969 to September 1988 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1969 to September 1981.
pH: June to September 1969.
CHLORIDE: June to September 1969.
WATER TEMPERATURE: February 1980 to September 1981.
SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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												
10...	1330	43	1360	8.20	20.5	52	740	7.9	91	K190	590	440
MAR												
16...	1230	41	1360	8.40	21.0	5.2	740	8.9	103	K28	140	470
JUN												
22...	1300	30	1310	8.20	23.0	28	735	8.1	98	K33	170	430
SEP												
29...	1300	26	1400	8.10	22.5	4.5	735	8.7	105	K880	300	430

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 WH IT FIELD MG/L AS HCO3	CAR-BONATE WATER WH IT FIELD MG/L AS CO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)
DEC												
10...	200	110	39	130	39	3	7.5	282	0	235	233	320
MAR												
16...	230	120	40	120	36	3	7.0	274	4	231	233	340
JUN												
22...	180	110	37	120	37	3	7.2	298	0	245	245	300
SEP												
29...	190	110	38	130	39	3	7.7	295	0	242	240	310

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
DEC												
10...	92	0.60	23	935	890	1.27	0.270	4.40	0.570	0.620	1.6	2.40
MAR												
16...	100	0.50	21	936	918	1.27	0.160	5.60	0.050	0.070	1.1	1.80
JUN												
22...	100	0.50	22	877	875	1.19	0.780	5.90	0.260	0.290	1.3	1.90
SEP												
29...	120	0.50	24	914	923	1.24	0.420	7.50	0.220	0.240	1.1	1.50

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC											
10...	2.40	2.20	20	2	57	<0.5	<1	2	<3	2	5
MAR											
16...	1.60	1.40	10	2	54	<0.5	<1	1	<3	1	<3
JUN											
22...	1.50	1.40	30	2	52	<0.5	<1	<1	<3	1	<3
SEP											
29...	1.30	1.40	30	2	51	<0.5	1	<1	<3	1	5

See footnotes at end of table.

SANTA CLARA RIVER BASIN

11108500 SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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											
10...	<5	26	46	<0.1	<10	1	2	<1.0	880	<6	11
MAR											
16...	<5	27	15	<0.1	<10	<1	2	<1.0	890	<6	6
JUN											
22...	<5	23	31	<0.1	10	4	3	<1.0	840	<6	12
SEP											
29...	<5	26	11	<0.1	<10	3	2	<1.0	870	<6	17

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 1987 TO SEPTEMBER 1988

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
DEC										
10...*	1240	3.00	1370	8.20	20.5	740	7.9	91	185	79
10...*	1250	7.00	1370	8.20	20.5	740	7.9	91	877	20
10...*	1300	9.50	1360	8.20	20.5	740	8.0	92	352	46
10...*	1310	12.0	1360	8.30	20.5	740	8.0	92	323	52
10...*	1320	14.5	1360	8.30	20.5	740	7.9	91	429	39
10...*	1325	19.5	1360	8.20	20.5	740	7.9	91	210	77
JUN										
22...*	1110	2.00	1320	8.20	23.0	735	8.1	98	282	24
22...*	1115	5.00	1310	8.20	23.0	735	8.1	98	354	20
22...*	1120	7.00	1310	8.20	23.0	735	8.1	98	110	57
22...*	1125	9.00	1310	8.20	23.0	735	8.1	98	263	26
22...*	1130	12.5	1310	8.20	23.0	735	8.1	98	190	36

* Instantaneous streamflow at the time of cross-sectional measurements: Dec. 10, 43 ft^3/s; June 22, 30 ft^3/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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						
10...	1330	43	20.5	379	44	47
MAR						
16...	1230	41	21.0	254	28	25
JUN						
22...	1300	30	23.0	180	15	38
SEP						
29...	1300	26	22.5	101	7.1	16

SANTA CLARA RIVER BASIN

11109600 PIRU CREEK ABOVE LAKE PIRU, CA

LOCATION.--Lat 34°31'23", long 118°45'22", in NE 1/4 NW 1/4 sec.15, T.5 N., R.18 W., Ventura County, Hydrologic Unit 18070102, on left bank near Blue Point, 1.3 mi downstream from Agua Blanca Creek, 4.3 mi upstream from Santa Felicia Dam, 8.0 mi northeast of Piru, and 15 mi downstream from Pyramid Dam.

DRAINAGE AREA.--372 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,058.55 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Forest Service). Prior to Dec. 15, 1972, at site 0.3 mi upstream at different datum.

REMARKS.--Estimated daily discharges, Jan. 17 to Feb. 2 and Mar. 1-6. Records fair except those for estimated daily discharges which are poor. Flow regulated beginning December 1971 by Pyramid Dam, capacity, 173,500 acre-ft. Imported water from the California Water Project stored and released at Pyramid Dam.

AVERAGE DISCHARGE.--16 years (water years 1956-71), 55.1 ft^3/s, 39,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft^3/s, Feb. 25, 1969, gage height, 18.6 ft, site and datum then in use, from floodmarks, from rating curve extended above 4,000 ft^3/s on basis of slope-area measurement at gage height 12.2 ft and inflow-outflow records for Lake Piru; no flow in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 35,000 ft^3/s, and is the greatest since that date.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,960 ft^3/s, Feb. 29, gage height, 7.80 ft; minimum daily, 6.3 ft^3/s, July 12, 13.

DISCHARGE, IN 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	11	26	6.6	14	55	1500	27	26	11	12	11	11
2	11	16	6.6	14	53	794	26	25	10	11	9.5	11
3	11	14	6.8	16	52	150	25	26	11	10	7.2	11
4	11	19	30	18	54	125	25	26	13	9.6	8.6	9.9
5	11	61	31	36	62	100	24	61	12	8.1	8.1	9.8
6	11	24	10	27	107	80	23	65	12	7.8	9.4	9.8
7	11	23	8.8	29	107	79	21	64	12	10	8.2	9.6
8	11	24	7.8	31	109	75	20	64	12	9.6	8.6	12
9	11	22	7.3	30	109	54	20	64	12	6.9	9.5	9.2
10	9.7	21	6.8	30	110	51	19	64	11	6.6	9.6	7.3
11	9.2	22	6.6	30	110	31	19	64	12	6.4	9.3	9.0
12	9.9	21	6.4	29	110	35	16	64	11	6.3	8.3	7.5
13	10	15	6.6	29	111	42	16	60	10	6.3	7.2	6.4
14	9.7	12	6.9	29	110	47	29	19	14	6.5	8.1	6.5
15	9.8	11	7.0	29	107	47	34	14	15	6.8	8.2	7.4
16	9.7	11	14	34	107	42	23	14	13	6.7	8.3	7.7
17	9.9	12	24	150	107	33	20	15	12	9.6	8.4	7.8
18	10	18	20	45	98	32	19	13	11	11	11	7.5
19	11	13	17	45	36	31	33	11	14	11	12	7.5
20	11	14	17	45	31	31	80	11	15	11	12	18
21	11	9.8	14	45	30	31	65	11	11	11	10	8.9
22	15	8.3	16	45	30	29	60	13	11	13	10	7.9
23	18	8.0	17	45	30	27	62	13	11	13	10	7.1
24	13	8.0	14	45	29	29	57	13	12	12	11	7.0
25	12	7.2	13	45	29	29	54	13	9.9	13	10	7.0
26	11	7.0	13	45	29	28	51	13	8.6	13	14	7.0
27	12	7.0	14	45	37	28	49	13	8.9	11	12	7.0
28	12	7.0	14	45	333	29	51	12	9.2	10	12	6.4
29	16	7.0	17	50	2200	30	49	13	8.9	9.5	12	7.7
30	15	6.9	19	55	---	29	30	13	9.6	9.1	12	9.6
31	18	---	15	55	---	29	---	13	---	12	11	---
TOTAL	361.9	475.2	413.2	1230	4492	3697	1047	910	343.1	299.8	306.5	261.5
MEAN	11.7	15.8	13.3	39.7	155	119	34.9	29.4	11.4	9.67	9.89	8.72
MAX	18	61	31	150	2200	1500	80	65	15	13	14	18
MIN	9.2	6.9	6.4	14	29	27	16	11	8.6	6.3	7.2	6.4
AC-FT	718	943	820	2440	8910	7330	2080	1800	681	595	608	519

CAL YR 1987	TOTAL	5082.2	MEAN 13.9	MAX 104	MIN 6.4	AC-FT	10080
WTR YR 1988	TOTAL	13837.2	MEAN 37.8	MAX 2200	MIN 6.3	AC-FT	27450

SANTA CLARA RIVER BASIN

11109700 LAKE PIRU NEAR PIRU, CA

LOCATION.--Lat 34°27'41", long 118°45'02", in Temescal Grant, Ventura County, Hydrologic Unit 18070102, near center of Santa Felicia Dam on Piru Creek, 0.5 mi downstream from Santa Felicia Canyon, 4.2 mi northeast of Piru, and 20 mi downstream from Pyramid Dam.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--May 1955 to current year. Prior to October 1985, monthend elevation and contents only.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by United Water Conservation District). Prior to Jan. 27, 1956, reference point at intake tower at same datum. Jan. 27, 1956, to Dec. 1, 1980, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill dam. Storage began May 20, 1955. Capacity below spillway level at elevation 1,055.0 ft, 88,340 acre-ft. Water is released from outlet to Piru Creek for ground-water recharge, domestic use, and irrigation on the Oxnard Plain.

COOPERATION.--Capacity table provided by United Water Conservation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,400 acre-ft, Feb. 25, 1969, elevation, 1,061.45 ft; lake dry, Oct. 25 to Nov. 20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,800 acre-ft, May 8, elevation, 1,010.95 ft; minimum, 20,700 acre-ft, Oct. 1, elevation, 980.80 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Provided by United Water Conservation District based on survey dated October 1985)

975	17,420	1,000	33,920	1,020	50,830
980	20,270	1,005	37,860	1,025	55,550
985	23,350	1,010	41,980	1,030	60,460
990	26,670	1,015	46,310	1,035	65,590
995	30,190				

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20700	21100	21700	22800	25900	36400	40400	42300	29500	24700	24200	24000
2	20800	21100	21700	22800	26000	38200	40400	42400	28900	24700	24200	24000
3	20800	21100	21700	22800	26100	38600	40400	42400	28200	24700	24200	24000
4	20800	21200	21800	22900	26200	38900	40500	42500	27500	24700	24200	23900
5	20800	21300	21900	22900	26300	39000	40500	42500	27000	24600	24200	23900
6	20800	21400	22000	23000	26400	39200	40500	42600	26900	24600	24200	23900
7	20800	21400	22000	23000	26600	39300	40500	42700	26800	24600	24200	23900
8	20800	21500	22000	23100	26800	39400	40500	42800	26800	24600	24200	23900
9	20800	21500	22000	23200	27000	39500	40500	42600	26700	24600	24200	23900
10	20800	21500	22000	23200	27200	39600	40600	42300	26600	24500	24100	23900
11	20800	21500	22000	23300	27400	39600	40600	42000	26500	24500	24100	23900
12	20800	21600	22000	23300	27600	39700	40600	41600	26400	24500	24100	23900
13	20800	21600	22000	23400	27800	39700	40600	41200	26300	24500	24100	23900
14	20800	21600	22000	23400	27900	39700	40700	40600	26200	24500	24100	23900
15	20800	21600	22000	23500	28100	39800	40700	40000	26100	24500	24100	23900
16	20800	21600	22200	23500	28300	39900	40800	39400	26000	24400	24000	23800
17	20800	21600	22200	24200	28400	39900	40800	38900	25900	24400	24000	23800
18	20800	21700	22300	24400	28700	40000	40800	38300	25800	24400	24000	23800
19	20800	21700	22300	24600	28700	40000	40900	37700	25800	24400	24000	23800
20	20800	21700	22400	24700	28700	40100	41200	37200	25700	24400	24000	23800
21	20800	21700	22400	24800	28800	40100	41400	36600	25600	24400	24000	23800
22	20900	21700	22400	24900	28800	40200	40500	36000	25500	24400	24000	23800
23	20900	21700	22500	25000	28900	40200	41600	35400	25400	24400	24000	23800
24	20900	21700	22500	25100	28900	40200	41800	34800	25300	24400	24000	23800
25	20900	21700	22500	25200	29000	40300	41900	34200	25200	24400	24000	23800
26	20900	21700	22500	25300	29000	40300	42000	33500	25100	24300	24000	23800
27	20900	21700	22600	25400	29100	40300	42100	32800	25000	24200	24000	23800
28	20900	21700	22600	25500	29600	40300	42200	32200	24900	24200	24000	23800
29	20900	21700	22700	25500	33300	40400	42300	31500	24800	24200	24000	23700
30	20900	21700	22700	25600	---	40400	42300	30900	24700	24200	24000	23700
31	21000	---	22700	25700	---	40300	---	30300	---	24200	24000	---
MAX	21000	21700	22700	25700	33300	40400	42300	42800	29500	24700	24200	24000
MIN	20700	21100	21700	22800	25900	36400	40400	30300	24700	24200	24000	23700
a	981.28	982.34	984.02	988.63	999.20	1008.04	1010.37	995.02	987.12	986.35	985.94	985.59
b	+250	+700	+1000	+3000	+7600	+7000	+2000	-12000	-5600	-500	-200	-300

CAL YR 1987 b -24410
WTR YR 1988 b +2950

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

SANTA CLARA RIVER BASIN

11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA

LOCATION.--Lat 34°27'37", long 118°45'04", in Temescal Grant, Ventura County, Hydrologic Unit 18070102, on right bank 750 ft downstream from Santa Felicia Dam, 1 mi upstream from Lime Canyon, 4 mi northeast of Piru, and 20 mi downstream from Pyramid Dam.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--October 1955 to September 1968, October 1973 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 858.8 ft above National Geodetic Vertical Datum of 1929 (levels by United Water Conservation District).

REMARKS.--No estimated daily discharges. Records good except for Mar. 2 to Apr. 6, which are fair. Since May 1955 flow regulated by Lake Piru (station 11109700) and since December 1971 by Pyramid Lake, capacity, 173,500 acre-ft. Imported water from the California Water Project stored by Pyramid Lake. No diversion above station. Spill from Lake Piru bypasses gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 623 ft^3/s, Aug. 2, 1982, gage height, 3.82 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 364 ft^3/s, May 25, gage height, 3.37 ft; minimum daily, 2.40 ft^3/s, Sept.7.

DISCHARGE, IN 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	6.8	4.5	4.8	3.9	4.4	5.0	6.3	9.3	350	29	9.7	10
2	7.2	4.9	4.8	3.7	4.1	6.9	6.3	8.1	350	12	9.5	8.3
3	7.1	4.8	4.8	3.7	4.1	7.3	6.5	7.8	352	11	9.5	7.9
4	6.4	4.8	4.9	3.8	4.1	6.4	6.4	6.3	353	9.5	9.5	11
5	7.5	4.8	4.8	3.9	4.1	6.9	6.5	7.4	273	13	9.5	11
6	6.6	4.8	4.7	3.9	4.1	5.8	7.1	17	59	11	13	9.3
7	7.0	4.8	4.5	3.9	4.1	6.0	7.4	33	56	12	11	2.4
8	8.8	4.9	4.2	3.9	4.2	6.7	7.2	38	52	13	10	3.9
9	7.5	5.0	3.6	4.0	4.3	6.9	7.2	168	56	15	8.8	8.6
10	6.3	5.0	3.7	4.0	4.3	6.4	6.9	229	59	13	9.1	11
11	8.1	5.0	3.7	4.4	4.3	7.2	6.9	234	59	8.2	8.6	8.4
12	7.8	5.0	3.7	4.8	11	6.9	7.0	245	58	5.0	9.4	8.5
13	6.6	4.8	3.6	4.6	16	6.9	7.7	276	58	14	14	8.5
14	6.6	4.8	3.6	4.5	10	6.5	8.5	296	59	13	14	8.6
15	5.4	4.8	3.7	4.5	10	6.1	7.8	298	54	12	9.8	8.6
16	8.7	4.8	3.9	4.5	12	5.3	6.2	298	51	16	11	8.5
17	10	4.8	3.7	4.8	9.2	5.2	6.6	298	51	15	14	8.4
18	10	4.8	3.7	4.6	4.5	5.8	6.0	298	50	11	9.3	8.5
19	9.0	4.8	3.7	4.5	6.2	5.9	5.9	298	49	9.9	7.2	8.5
20	8.1	4.8	3.5	4.5	5.6	6.0	6.4	298	49	8.5	7.1	8.4
21	5.0	4.9	3.7	4.6	5.1	6.0	7.1	298	50	11	7.1	9.7
22	6.8	5.0	3.7	4.7	5.9	6.0	6.3	298	51	11	7.0	12
23	7.1	5.0	3.7	4.7	6.5	4.8	5.4	298	52	11	7.4	9.8
24	6.0	5.1	3.7	4.7	7.0	5.1	6.6	327	52	12	8.0	10
25	6.0	4.9	3.7	4.8	6.4	5.8	10	354	51	11	8.6	9.8
26	6.0	4.8	3.6	4.7	6.1	6.1	8.9	347	51	30	7.9	8.4
27	6.0	4.6	3.7	4.5	7.8	6.0	7.4	342	52	10	12	8.4
28	5.9	4.7	3.7	4.5	6.6	5.3	8.5	341	52	9.8	12	8.4
29	5.1	4.8	3.1	4.5	6.0	5.8	6.8	318	51	10	12	8.4
30	4.5	4.8	3.7	4.5	---	6.2	7.3	321	55	8.1	11	8.3
31	4.6	---	3.9	4.5	---	6.1	---	348	---	9.7	10	---
TOTAL	214.5	145.3	121.8	135.1	188.0	189.3	211.1	6954.9	3015	384.7	307.0	261.5
MEAN	6.92	4.84	3.93	4.36	6.48	6.11	7.04	224	101	12.4	9.90	8.72
MAX	10	5.1	4.9	4.8	16	7.3	10	354	353	30	14	12
MIN	4.5	4.5	3.1	3.7	4.1	4.8	5.4	6.3	49	5.0	7.0	2.4
AC-FT	425	288	242	268	373	375	419	13800	5980	763	609	519

CAL YR 1987 TOTAL 16301.29 MEAN 44.7 MAX 496 MIN 0 AC-FT 32330
WTR YR 1988 TOTAL 12128.20 MEAN 33.1 MAX 354 MIN 2.4 AC-FT 24060

SANTA CLARA RIVER BASIN

11111500 SESPE CREEK NEAR WHEELER SPRINGS, CA

LOCATION.--Lat 34°34'40", long 119°15'25", in NW 1/4 SW 1/4 sec.30, T.6 N., R.22 W., Ventura County, Hydrologic Unit 18070102, on right bank at Sespe Gorge, 1.6 mi upstream from Tule Creek, and 5 mi northeast of Wheeler Springs.

DRAINAGE AREA.--49.5 mi^2.

PERIOD OF RECORD.--October 1947 to current year. Discharge estimated for period October 1947 to July 1948.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,500.65 ft above National Geodetic Vertical Datum of 1929 (levels by Ventura County Flood Control District).

REMARKS.--Estimated daily discharges: Oct. 29 to Dec. 1, Mar. 4-28, and Sept. 4-30. Records fair except for periods of estimated record, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--41 years, 13.6 ft^3/s, 9,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s, Mar. 1, 1983, gage height, 15.02 ft, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement of peak flow; no flow for many days in some years.

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. 4	2330	125	2.95	Apr. 20	0115	128	2.82
Feb. 29	1245	*2,900	*6.88				

Minimum daily, 0.07 ft^3/s, Oct. 1.

DISCHARGE, IN 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	.07	.60	1.0	1.6	11	259	8.8	12	3.8	1.5	.46	.23
2	.09	.56	.91	1.6	11	104	7.9	11	3.7	1.4	.42	.23
3	.10	.54	.89	1.7	9.9	70	6.8	11	3.5	1.3	.41	.27
4	.10	.90	15	2.5	9.0	60	6.5	11	3.6	1.3	.37	.24
5	.10	4.2	16	22	8.5	50	6.1	11	3.8	1.3	.36	.24
6	.11	2.2	2.7	9.4	8.2	40	5.8	11	4.1	1.2	.34	.24
7	.12	1.2	2.1	5.2	7.9	35	5.7	10	4.4	1.2	.31	.24
8	.13	1.0	1.7	4.7	7.8	31	5.4	10	2.9	1.1	.30	.24
9	.13	.92	1.5	5.7	7.5	28	5.0	9.1	1.8	1.1	.29	.24
10	.14	.88	1.4	6.6	7.2	25	4.8	8.5	1.8	1.0	.26	.24
11	.15	.82	1.3	6.6	7.2	23	4.7	8.1	1.8	1.0	.26	.24
12	.18	.78	1.3	6.0	7.1	21	4.7	7.6	1.9	.99	.26	.24
13	.16	.75	1.3	4.8	7.0	19	4.7	7.4	1.8	.97	.26	.24
14	.14	.70	1.2	4.5	6.9	18	14	7.3	1.9	.95	.26	.24
15	.13	.70	1.2	4.0	6.8	17	14	6.7	1.9	.93	.26	.24
16	.14	.68	1.5	4.0	6.7	16	9.1	6.0	1.9	.85	.26	.24
17	.15	.66	1.1	41	6.6	15	7.1	6.0	2.1	.80	.26	.24
18	.16	.64	1.5	31	6.6	14	5.8	6.0	2.0	.72	.26	.24
19	.16	.62	2.0	19	6.4	14	25	5.5	2.0	.71	.26	.24
20	.18	.60	2.1	14	6.2	13	64	5.1	2.0	.65	.27	.24
21	.20	.58	2.2	14	6.1	13	30	4.8	1.9	.71	.28	.24
22	.41	.56	4.1	13	6.1	12	21	4.6	2.0	.67	.26	.24
23	.64	.50	3.2	13	6.0	12	22	4.5	2.0	.65	.26	.24
24	.36	.45	6.5	15	5.9	12	20	4.3	2.0	.64	.25	.24
25	.34	.70	6.5	14	5.8	11	16	4.1	2.0	.62	.23	.24
26	.33	1.0	1.9	14	5.7	11	15	4.0	2.0	.58	.23	.24
27	.41	1.4	1.8	13	27	11	14	3.8	1.8	.57	.23	.24
28	.48	1.1	1.8	13	196	11	13	3.9	1.7	.55	.23	.24
29	3.3	1.1	2.0	13	1240	10	12	4.2	1.5	.52	.23	.24
30	1.5	1.1	1.7	13	---	9.9	12	4.5	1.5	.49	.23	.24
31	1.0	---	1.7	12	---	9.5	---	4.1	---	.47	.23	---
TOTAL	11.61	28.44	91.10	342.9	1654.1	994.4	390.9	217.1	71.1	27.44	8.79	7.21
MEAN	.37	.95	2.94	11.1	57.0	32.1	13.0	7.00	2.37	.89	.28	.24
MAX	3.3	4.2	16	41	1240	259	64	12	4.4	1.5	.46	.27
MIN	.07	.45	.89	1.6	5.7	9.5	4.7	3.8	1.5	.47	.23	.23
AC-FT	23	56	181	680	3280	1970	775	431	141	54	17	14

CAL YR 1987 TOTAL 617.58 MEAN 1.69 MAX 91 MIN .02 AC-FT 1220
WTR YR 1988 TOTAL 3845.09 MEAN 10.5 MAX 1240 MIN .07 AC-FT 7630

SANTA CLARA RIVER BASIN

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA

LOCATION.--Lat 34°24'48", long 119°04'53", in NW 1/4 SE 1/4 sec.21, T.4 N., R.21 W., Mission San Buenaventura Grant, Ventura County, Hydrologic Unit 18070102, on right bank 1.3 mi downstream from Sisar Creek and 4.8 mi north of Santa Paula.

DRAINAGE AREA.--38.4 mi^2.

PERIOD OF RECORD.--October 1927 to current year. March 1912 to September 1913, at site 1.2 mi upstream; records not equivalent.

GAGE.--Water-stage recorder. Elevation of gage is 790 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 22, 1980, at various sites and datums 1.3 mi downstream. See U.S. Geological Survey Water-Data Report CA-79-1 for history of changes prior to Oct. 22, 1980.

REMARKS.--Estimated daily discharges: Oct. 1-4, 6, 7, Apr. 3-5, May 14-25, Aug. 8-10, Aug. 12 to Sept. 1. Records fair except for periods of estimated record, which are poor. Natural flow affected by pumping and return flow from irrigated areas.

AVERAGE DISCHARGE.--61 years, 23.2 ft^3/s, 16,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft^3/s, Feb. 25, 1969, gage height, 18.18 ft, from floodmark, site and datum then in use, from rating curve extended above 2,300 ft^3/s on basis of critical-depth measurement at gage height 15.2 ft; no flow at times in 1949, 1951-52, 1965.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1715	210	3.58	Apr. 19	2045	273	3.50
Feb. 28	1700	*1,950	*5.74	Apr. 21	1600	229	3.36

Minimum daily, 0.69 ft^3/s, Oct. 11.

DISCHARGE, IN 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	1.0	2.9	2.0	4.2	8.0	314	5.2	15	6.0	3.5	2.5	1.3
2	.90	2.4	1.9	4.0	8.3	124	5.1	14	5.6	3.6	2.4	1.3
3	.90	2.2	1.9	4.0	7.4	46	5.4	13	5.2	3.6	2.4	1.3
4	.90	4.3	8.5	3.9	6.8	33	5.8	13	5.2	3.8	2.2	1.5
5	.90	4.0	6.3	17	6.5	26	6.3	13	5.8	3.7	2.1	1.3
6	1.0	2.8	3.8	15	6.1	22	7.2	13	6.0	3.4	2.1	1.3
7	1.4	2.5	3.7	9.6	6.1	19	6.5	13	5.6	3.2	2.2	1.3
8	1.8	2.4	3.2	8.2	6.0	17	6.7	12	5.5	3.1	2.3	1.3
9	1.4	2.1	3.1	7.3	5.7	16	5.8	11	5.3	3.0	2.3	1.4
10	1.2	1.9	3.7	6.9	5.4	15	5.1	7.4	5.0	3.1	2.3	1.4
11	.69	1.9	3.2	6.5	4.9	14	5.6	6.8	5.0	3.2	2.3	1.4
12	.83	2.3	2.5	6.3	4.8	13	5.3	6.5	5.2	3.4	2.2	1.5
13	1.2	2.3	2.8	6.2	4.6	12	4.9	6.7	5.1	3.3	2.2	1.4
14	1.1	1.8	2.9	6.4	4.6	11	7.7	6.8	4.9	3.4	2.1	1.4
15	1.1	1.6	2.9	6.1	4.6	11	7.1	7.0	4.7	3.2	2.0	1.4
16	1.1	1.8	15	5.9	4.6	10	5.7	7.0	4.8	2.7	1.9	1.4
17	.95	1.6	11	97	4.3	9.7	5.9	7.0	4.9	2.5	1.8	1.4
18	1.2	1.4	6.2	38	4.2	9.0	5.7	7.0	4.8	3.0	1.8	1.5
19	1.1	1.7	5.4	19	4.2	8.2	45	7.0	4.8	3.0	1.7	1.6
20	1.1	1.7	4.8	15	4.1	8.1	81	7.0	5.0	2.8	1.7	1.7
21	1.0	1.7	4.5	13	4.0	7.7	55	7.0	4.7	3.2	1.6	1.7
22	2.3	1.9	4.3	11	3.9	7.4	32	6.8	4.5	2.8	1.5	1.7
23	2.8	1.9	4.2	10	3.7	7.2	34	6.8	4.4	2.7	1.5	1.6
24	2.2	1.7	4.0	8.9	4.5	6.4	27	6.7	4.5	2.7	1.5	1.6
25	2.0	1.7	4.0	8.8	4.1	5.8	23	6.5	4.7	2.6	1.4	1.6
26	1.8	2.0	4.0	9.0	3.7	5.5	20	6.5	4.3	2.5	1.4	1.7
27	1.7	1.9	4.0	8.9	30	5.3	17	6.9	5.0	2.5	1.4	1.6
28	1.7	2.1	4.1	8.5	332	5.4	17	7.1	4.1	2.4	1.4	1.5
29	2.5	2.1	6.4	8.5	668	5.5	16	6.8	3.5	2.4	1.3	1.4
30	2.0	2.1	5.1	8.3	---	5.5	15	6.7	3.3	2.3	1.3	1.4
31	2.5	---	4.6	8.0	---	5.5	---	6.6	---	2.4	1.3	---
TOTAL	44.27	64.7	144.0	389.4	1165.1	805.2	489.0	267.6	147.4	93.0	58.1	43.9
MEAN	1.43	2.16	4.65	12.6	40.2	26.0	16.3	8.63	4.91	3.00	1.87	1.46
MAX	2.8	4.3	15	97	668	314	81	15	6.0	3.8	2.5	1.7
MIN	.69	1.4	1.9	3.9	3.7	5.3	4.9	6.5	3.3	2.3	1.3	1.3
AC-FT	88	128	286	772	2310	1600	970	531	292	184	115	87

CAL YR 1987 TOTAL 1433.17 MEAN 3.93 MAX 104 MIN .69 AC-FT 2840
WTR YR 1988 TOTAL 3711.67 MEAN 10.1 MAX 668 MIN .69 AC-FT 7360

SANTA CLARA RIVER BASIN

11114000 SANTA CLARA RIVER AT MONTALVO, CA

LOCATION.--Lat 34°14'31", long 119°11'21", in San Miguel Grant, Ventura County, Hydrologic Unit 18070102, on downstream end of center pier of southbound bridge on U.S. Highway 101, 0.9 mi southeast of Montalvo, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--1,612 mi^2.

PERIOD OF RECORD.--October 1927 to September 1932, October 1949 to current year. Monthly discharge only for 1950-67, published in WDR 1968. October 1949 to September 1969, published as "at Saticoy."

REVISED RECORDS.--WSP 2128: Drainage area.

GAGE.--Two water-stage recorders. Datum of main gage is 51.88 ft above National Geodetic Vertical Datum of 1929 (levels by Ventura County Flood Control District). Oct. 1, 1927, to Sept. 30, 1932, and Oct. 1, 1949, to Sept. 30, 1967, at same site at different datums. Oct. 1, 1967, to Feb. 2, 1970, at site 3.9 mi upstream at different datum. Supplementary gage 0.7 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 4, 5. Records poor. Flow partly regulated by Lake Piru (station 11109500) 33 mi upstream since May 1955; by Pyramid Lake, capacity, 173,500 acre-ft, 42 mi upstream since December 1971; and by Castaic Reservoir, capacity 324,000 acre-ft, 43 mi upstream since January 1972. Natural flow affected by ground-water withdrawals, diversions, municipal use, and ground-water replenishment. Imported water from the California Water Project released to the basin at Castaic Dam and Pyramid Dam. Diversion to spreading grounds and for irrigation in Pleasant Valley, at site 6.0 mi upstream (station 11113900). AVERAGE DISCHARGE represents flow to the ocean regardless of upstream development.

AVERAGE DISCHARGE.--44 years, 150 ft^3/s, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 165,000 ft^3/s, Jan. 25, 1969, gage height, 17.41 ft, present datum; no flow for long periods in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 120,000 ft^3/s, estimated by Ventura County Flood Control District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft^3/s, Feb. 29, gage height, 4.50 ft; no flow for many days.

DISCHARGE, IN 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			0	0	0	2810	0					
2			0	0	0	889	0					
3			0	0	0	458	0					
4			60	0	0	62	0					
5			15	0	0	8.2	0					
6			0	0	0	2.0	0					
7			0	0	0	0	0					
8			0	0	0	0	0					
9			0	0	0	0	0					
10			0	0	0	0	0					
11			0	0	0	0	0					
12			0	0	0	0	0					
13			0	0	0	0	0					
14			0	0	0	0	0					
15			0	0	0	0	0					
16			5.0	0	0	0	0					
17			396	1090	0	0	0					
18			4.2	328	0	0	0					
19			2.0	0	0	0	0					
20			1.0	0	0	0	751					
21			0	0	0	0	445					
22			0	0	0	0	101					
23			0	0	0	0	10					
24			0	0	0	0	2.0					
25			0	0	0	0	0					
26			0	0	0	0	0					
27			0	0	0	0	0					
28			0	0	756	0	0					
29			0	0	3400	0	0					
30			0	0	---	0	0					
31		---	0	0	---	0	---		---			---
TOTAL	0	0	483.2	1418	4156	4229.2	1309.0	0	0	0	0	0
MEAN	0	0	15.6	45.7	143	136	43.6	0	0	0	0	0
MAX	0	0	396	1090	3400	2810	751	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	958	2810	8240	8390	2600	0	0	0	0	0

CAL YR 1987	TOTAL	800.60	MEAN	2.19	MAX	396	MIN 0	AC-FT 1590
WTR YR 1988	TOTAL	11595.40	MEAN	31.7	MAX	3400	MIN 0	AC-FT 23000

VENTURA RIVER BASIN

11115000 MATILIJA RESERVOIR AT MATILIJA HOT SPRINGS, CA

LOCATION.--Lat 34°29'08", long 119°18'25", in NW 1/4 SE 1/4 sec.29, T.5 N., R.23 W., Ventura County, Hydrologic Unit 18070101, on left end of dam on Ventura River, 0.2 mi east of Matilija Hot Springs, and 1.8 mi southwest of Wheeler Springs.

DRAINAGE AREA.--54.4 mi^2.

PERIOD OF RECORD.--March 1948 to September 1965, October 1970 to September 1988 (discontinued). Prior to October 1985, monthend elevation and contents only. March 1948 to October 1953, published as "at Matilija."

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Ventura County Department of Public Works). Prior to Nov. 12, 1970, at site near right end of dam at same datum.

REMARKS.--Reservoir is formed by concrete-arch dam. Dam was completed in 1948. Storage began Mar. 14, 1948. Structural modifications have resulted in lowering the crest of the dam since March 1964. Capacity table dated August 1983 not valid due to silting of reservoir during the 1986 water year. Lowest sluice gate silted, elevation, 1,000 ft. Lowest usable outlet, elevation 1,064 ft, and crest of spillway, elevation 1,095 ft. Water is released from reservoir to natural stream for recharge of ground-water basin in Ventura River Valley and since May 1959 is at times diverted at Robles diversion dam downstream to Lake Casitas on Coyote Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,399 acre-ft, Apr. 3, 1958, elevation, 1,128.10 ft; minimum, reservoir dry several days in 1979 due to construction.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum contents from October 1965 to September 1970, 3,128 acre-ft, Jan. 25, 1969, elevation, 1,103.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,095.83 ft, Feb. 29; minimum elevation, 1,074.20 ft, June 24.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1085.00	1085.14	1089.98	1077.09	1085.40	1095.45	1082.82	1090.56	1078.73	1077.88	1078.31	1078.15
2	1084.96	1085.26	1090.05	1077.28	1086.50	1092.75	1083.90	1091.33	1078.60	1078.35	1078.21	---
3	1084.90	1085.33	1090.15	1077.43	1087.42	1088.25	1084.92	1087.87	1078.42	1078.82	1078.14	---
4	1084.85	1085.57	1090.92	1077.65	1088.32	1082.83	1085.32	1079.28	1078.25	1079.30	1078.08	---
5	1084.77	1086.07	1091.77	1080.41	1089.02	1083.30	1085.48	1077.53	1078.16	1079.63	1078.07	---
6	1084.74	1086.41	1092.15	1081.87	1089.51	1086.59	1085.60	1078.40	1078.04	1079.65	1078.08	---
7	1084.72	1086.74	1092.15	1082.44	1090.11	1089.35	1085.70	1078.65	1077.93	1079.36	1078.12	---
8	1084.70	1087.02	1091.83	1082.87	1090.36	1087.25	1085.75	1078.88	1077.80	1078.73	1078.13	1078.02
9	1084.68	1087.29	1091.46	1082.94	1090.65	1081.00	1085.81	1078.04	1077.65	1078.45	1078.13	1078.05
10	1084.67	1087.50	1091.10	1083.04	1090.95	1081.41	1085.86	1079.14	1077.50	1078.38	1078.13	1078.13
11	1084.63	1087.71	1090.67	1083.09	1091.25	1084.01	1085.88	1079.24	1077.33	1078.50	1078.11	1078.17
12	1084.60	1087.90	1090.25	1083.00	1091.60	1086.11	1085.89	1079.28	1077.19	1078.73	1078.12	1078.23
13	1084.58	1088.07	1089.77	1082.67	1091.91	1087.98	1085.90	1079.30	1076.95	1079.96	1078.11	1078.32
14	1084.55	1088.24	1089.40	1082.28	1092.18	1089.69	1086.43	1079.32	1076.78	1079.21	1078.11	1078.41
15	1084.53	1088.38	1084.73	1081.87	1092.42	1086.04	1086.79	1079.32	1076.59	1079.41	1078.12	1078.52
16	1084.50	1088.50	1079.69	1081.44	1092.66	1078.56	1086.97	1079.35	1076.20	1079.58	1078.11	1078.61
17	1084.47	1088.65	1081.06	1086.94	1092.87	1078.01	1087.09	1079.39	1075.96	1079.68	1078.10	1078.70
18	1084.43	1088.78	1081.42	1090.12	1093.09	1080.43	1087.15	1079.44	1075.69	1079.80	1077.97	1078.82
19	1084.40	1088.90	1081.11	1088.21	1093.35	1082.39	1084.43	1079.46	1075.47	1079.95	1077.96	1078.90
20	1084.40	1089.02	1080.66	1083.60	1093.57	1083.96	1078.94	1079.46	1075.25	1079.80	1078.00	1079.01
21	1084.37	1089.13	1080.13	1081.93	1093.76	1085.43	1078.28	1079.43	1075.01	1079.65	1077.92	1079.13
22	1084.49	1089.22	1079.58	1083.90	1087.46	1086.76	1080.38	1079.37	1074.75	1079.47	1077.83	1079.23
23	1084.55	1089.32	1079.23	1085.56	1081.22	1088.01	1082.40	1079.34	1074.47	1079.31	1077.98	---
24	1084.60	1089.42	1078.90	1087.04	1081.33	1089.21	1083.87	1079.28	1074.20	1079.17	1077.99	---
25	1084.63	1089.50	1078.47	1088.40	1081.33	1090.17	1085.06	1079.22	1074.49	1079.03	1077.95	---
26	1084.77	1089.57	1077.95	1089.58	1083.30	1090.83	1086.13	1079.15	1075.19	1078.86	1077.93	---
27	1084.73	1089.64	1077.42	1088.55	1081.51	1091.45	1087.13	1079.08	1075.78	1078.76	1077.90	1079.70
28	1084.78	1089.73	1076.99	1086.47	1081.22	1092.04	1088.07	1078.96	1076.22	1078.68	1077.84	1079.78
29	1084.83	1089.80	1076.87	1081.83	1095.83	1092.62	1088.95	1078.91	1076.87	1078.60	1077.04	---
30	1084.92	1089.87	1076.86	1083.21	---	1087.42	1089.77	1078.87	1077.37	1078.48	1078.24	---
31	1085.03	---	1076.96	1084.40	---	1081.52	---	1078.82	---	1078.38	1078.18	---
MAX	1085.03	1089.87	1092.15	1090.12	1095.83	1095.45	1089.77	1091.33	1078.73	1079.96	1078.31	---
MIN	1084.37	1085.14	1076.86	1077.09	1081.22	1078.01	1078.28	1077.53	1074.20	1077.88	1077.04	---

VENTURA RIVER BASIN

11115500 MATILIJA CREEK AT MATILIJA HOT SPRINGS, CA

LOCATION.--Lat 34°28'58", long 119°18'03", in NW 1/4 SW 1/4 sec.28, T.5 N., R.23 W., Ventura County, Hydrologic Unit 18070101, on right bank 0.2 mi east of Matilija Hot Springs, 0.2 mi upstream from North Fork, and 0.4 mi downstream from Matilija Dam.

DRAINAGE AREA.--54.6 mi^2.

PERIOD OF RECORD.--October 1927 to September 1988 (discontinued). Combined monthly records for creek and diversion, May 1951 to September 1969. Prior to October 1953, published as "at Matilija."

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Concrete control since September 1969. Elevation of gage is 900 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Feb. 11, 1939, at site 0.6 mi upstream at different datum.

REMARKS.--Estimated daily discharges: June 25 to July 6, Aug. 15 to Sept. 6, Sept. 10-29. Records fair except for periods of estimated daily discharges, which are poor. Flow regulated by Matilija Reservoir (station 11115000) March 1948 to March 1964, capacity, 7,020 acre-ft. Structural modification of dam and siltation has resulted in only partial regulation since March 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft^3/s, Jan. 25, 1969, gage height, 16.5 ft, from rating curve extended above 4,200 ft^3/s on basis of computation of peak flow over dam; minimum daily, 0.10 ft^3/s, several days in some years of regulated flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft^3/s, Feb. 29, gage height, 6.32 ft; minimum daily, 1.9 ft^3/s, Feb. 4.

DISCHARGE, IN 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	4.1	5.0	2.6	19	2.1	425	2.3	23	14	15	7.2	3.4
2	4.1	5.1	2.6	17	2.2	284	2.3	23	13	15	6.3	3.4
3	4.1	5.4	2.6	18	2.0	272	2.3	134	12	15	6.3	3.3
4	4.0	4.6	3.6	18	1.9	254	16	219	14	15	5.6	3.3
5	3.6	3.5	4.4	18	4.9	93	22	61	14	15	4.8	3.3
6	3.5	3.1	6.0	20	9.5	2.3	22	10	14	15	5.0	3.2
7	4.6	2.6	15	28	9.4	2.3	22	21	14	15	7.8	3.2
8	5.9	2.4	23	31	12	121	22	20	14	11	5.1	3.0
9	6.0	2.2	23	33	13	219	22	20	13	11	4.7	2.8
10	6.0	2.2	23	32	12	63	21	18	14	8.6	4.4	2.6
11	5.9	2.4	22	30	11	2.2	21	18	14	8.0	4.4	2.7
12	6.0	2.5	22	33	9.6	2.2	21	18	14	2.8	4.4	2.6
13	6.7	2.8	22	38	9.9	2.2	21	17	14	3.1	4.5	2.5
14	7.4	2.4	22	37	10	2.2	21	17	13	2.9	4.6	2.7
15	7.6	2.4	135	36	11	138	21	17	16	2.1	4.6	2.6
16	7.5	2.4	149	35	11	213	22	17	16	2.5	4.5	2.7
17	7.4	2.6	18	37	11	66	22	17	15	2.8	4.4	3.0
18	7.4	2.5	22	36	10	2.0	22	16	16	2.2	4.4	3.0
19	7.4	2.3	35	131	9.9	2.0	126	16	15	5.3	4.3	3.1
20	7.3	2.4	35	187	9.9	2.1	214	16	14	11	4.3	3.3
21	6.6	2.5	36	99	9.9	2.0	61	16	15	11	4.2	3.1
22	6.4	2.5	34	3.4	163	2.1	2.3	16	14	11	4.2	3.2
23	5.9	2.7	30	3.4	201	2.2	2.4	16	14	9.7	4.1	3.6
24	5.4	2.7	30	3.4	15	2.1	12	16	14	9.2	4.0	2.9
25	5.1	2.6	30	3.3	17	12	23	16	14	9.4	3.9	2.5
26	4.9	2.6	30	3.2	16	22	23	17	14	9.6	3.8	2.6
27	4.9	2.5	30	67	16	23	23	17	14	8.8	3.7	2.5
28	5.1	2.5	29	123	102	23	24	16	14	8.7	3.7	2.9
29	5.5	2.5	29	130	681	24	24	16	14	9.0	3.6	2.7
30	4.7	2.6	26	2.0	---	175	23	16	15	8.5	3.5	2.3
31	4.9	---	21	2.0	---	184	---	15	---	7.1	3.5	---
TOTAL	175.9	86.5	912.8	1273.7	1393.2	2638.9	882.6	895	425	280.3	143.8	88.0
MEAN	5.67	2.88	29.4	41.1	48.0	85.1	29.4	28.9	14.2	9.04	4.64	2.93
MAX	7.6	5.4	149	187	681	425	214	219	16	15	7.8	3.6
MIN	3.5	2.2	2.6	2.0	1.9	2.0	2.3	10	12	2.1	3.5	2.3
AC-FT	349	172	1810	2530	2760	5230	1750	1780	843	556	285	175

CAL YR 1987 TOTAL 3220.91 MEAN 8.82 MAX 149 MIN .44 AC-FT 6390
WTR YR 1988 TOTAL 9195.70 MEAN 25.1 MAX 681 MIN 1.9 AC-FT 18240

VENTURA RIVER BASIN

11116550 VENTURA RIVER NEAR MEINERS OAKS, CA

LOCATION.--Lat 34°27'49", long 119°17'22", in NW 1/4 NE 1/4 sec.4, T.4 N., R.23 W., Ventura County, Hydrologic Unit 18070101, on right bank 500 ft downstream from Robles diversion dam and 1.2 mi northwest of Meiners Oaks.

DRAINAGE AREA.--76.4 mi^2.

PERIOD OF RECORD.--May 1959 to September 1978, December 1980 to February 1983, January 1984 to September 1988 (discontinued). Since October 1985, only discharges below 200 ft^3/s published.

GAGE.--Water-stage recorder and concrete control since December 1980. Datum of gage is 745.85 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to Oct. 30, 1969, at datum 1.25 ft lower. Oct. 30, 1969, to Sept. 30, 1978, at site 500 ft upstream at datum 4.15 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Matilija Reservoir (station 11115000). Flow up to 500 ft^3/s diverted since May 1959 at Robles diversion dam to Lake Casitas on Coyote Creek. Flow reported is discharge less than 200 ft^3/s released downstream from Robles diversion dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft^3/s, Jan. 25, 1969, estimated on basis of peak flows at stations on nearby streams, gage height, unknown; no flow several months in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,600 ft^3/s, Feb. 29, gage height, 7.27 ft; no flow for many days.

DISCHARGE, IN 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	.78	1.9	1.5	16	4.5	91	9.9	3.9	11	0	2.5	0
2	.82	2.4	1.3	15	4.1	.11	4.3	4.0	10	0	2.4	0
3	.67	2.1	1.2	15	3.6	.04	3.4	11	9.4	0	2.4	0
4	.44	2.4	6.3	15	3.6	.03	11	16	9.3	0	2.3	0
5	.26	4.5	11	24	5.1	.04	17	16	9.4	0	1.6	0
6	0	3.3	7.9	21	11	0	18	9.0	9.7	0	1.4	0
7	0	2.6	12	21	11	0	17	19	9.9	6.1	1.6	0
8	0	2.3	17	23	12	0	16	19	9.6	9.5	1.6	0
9	0	1.7	18	23	15	0	16	18	9.2	6.5	1.3	0
10	0	1.5	18	22	16	3.3	17	16	9.3	4.3	1.0	0
11	.35	1.4	17	22	15	4.2	16	15	9.5	2.6	.92	0
12	.69	1.3	17	22	12	2.0	16	15	9.6	.85	.63	0
13	.70	1.4	17	25	12	2.3	16	13	9.8	.47	.86	0
14	.73	1.5	16	25	12	2.2	19	13	8.4	.44	.76	0
15	.57	2.0	21	25	12	6.3	19	13	9.9	.50	.67	0
16	.57	2.4	27	24	13	11	18	13	10	.26	.64	0
17	.60	2.9	22	24	14	10	18	12	9.8	.43	.70	0
18	.69	2.9	19	23	12	8.1	18	12	9.8	.50	.68	0
19	.75	2.7	25	17	11	7.9	8.6	11	9.3	.55	.68	0
20	.52	2.9	25	12	10	7.7	.03	11	9.3	2.4	.79	0
21	.67	2.7	26	12	11	7.5	0	11	9.4	3.1	1.1	0
22	1.5	3.0	25	12	17	7.5	.01	11	9.5	3.1	.97	0
23	2.0	3.6	24	11	22	7.5	.03	11	9.4	2.8	.85	0
24	1.6	2.1	23	8.8	21	6.1	.04	11	9.1	2.3	.62	0
25	1.5	1.6	23	7.8	18	9.9	.03	11	6.8	2.3	.73	.02
26	1.4	1.6	22	6.9	18	15	.01	11	.19	2.6	.61	.01
27	1.7	1.8	22	6.8	19	15	0	11	0	2.2	.60	0
28	1.7	1.8	22	6.8	24	15	0	11	0	2.3	.81	.03
29	1.7	1.8	23	7.9	412	14	6.1	12	0	2.4	.68	0
30	1.8	1.5	21	11	---	22	4.1	12	0	2.3	.28	0
31	1.8	---	18	5.3	---	25	---	11	---	2.4	0	---
TOTAL	26.51	67.6	549.2	510.3	770.9	300.72	288.55	382.9	236.59	63.20	32.68	.06
MEAN	.86	2.25	17.7	16.5	26.6	9.70	9.62	12.4	7.89	2.04	1.05	.002
MAX	2.0	4.5	27	25	412	91	19	19	11	9.5	2.5	.03
MIN	0	1.3	1.2	5.3	3.6	0	0	3.9	0	0	0	0
AC-FT	53	134	1090	1010	1530	596	572	759	469	125	65	.1

CAL YR 1987 TOTAL 1891.50 MEAN 5.18 MAX 31 MIN 0 AC-FT 3750
WTR YR 1988 TOTAL 3229.21 MEAN 8.82 MAX 412 MIN 0 AC-FT 6410

VENTURA RIVER BASIN

11117600 COYOTE CREEK NEAR OAK VIEW, CA

LOCATION.--Lat 34°25'00", long 119°22'11", in Santa Ana Grant, Ventura County, Hydrologic Unit 18070101, on left bank at Los Padres National Forest boundary, 0.8 mi upstream from Poplin Creek, and 4.2 mi northwest of Oak View.

DRAINAGE AREA.--13.2 mi^2.

PERIOD OF RECORD.--October 1958 to September 1988 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 577.37 ft, U.S. Bureau of Reclamation datum. Prior to Oct. 1, 1980, at site 1,000 ft downstream at datum 16.90 ft lower.

REMARKS.--Estimated daily discharges: Jan. 4, 10-15, Mar. 20 to Apr. 6, and Apr. 19 to May 9. Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--30 years, 7.77 ft^3/s, 5,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s, Jan. 25, 1969, gage height, 12.00 ft, site and datum then in use, from floodmarks, from rating curve extended above 2,100 ft^3/s on basis of slope-area measurements at gage heights 9.10 and 12.00 ft; maximum gage height, 13.72 ft, Feb. 16, 1980, site and datum then in use, backwater from Casitas Reservoir; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*), from rating curve extended above 82 ft^3/s on basis of slope-area measurements at gage heights 7.53 and 9.61 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1630	*532	*4.52	Feb. 29	1400	391	4.16

Minimum daily, 0.08 ft^3/s, Sept. 5, 6.

DISCHARGE, IN 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	.19	.56	.62	2.5	2.4	41	1.3	1.6	.72	.53	.21	.10
2	.18	.53	.56	2.1	2.4	16	1.3	1.5	.66	.56	.27	.10
3	.19	.46	.62	1.8	2.3	10	1.2	1.5	.66	.55	.25	.09
4	.18	.61	5.1	1.6	2.0	7.9	1.2	1.5	.66	.56	.25	.09
5	.17	1.5	7.5	12	2.0	6.5	1.2	1.5	.66	.52	.27	.08
6	.19	1.1	.58	5.2	1.8	5.5	1.2	1.4	.66	.49	.24	.08
7	.22	.96	.56	1.9	1.7	4.8	1.2	1.4	.66	.52	.25	.09
8	.28	.95	.52	1.6	1.7	4.1	1.2	1.4	.62	.51	.26	.11
9	.31	.91	.47	1.3	1.5	3.8	1.2	1.2	.63	.52	.25	.09
10	.24	.82	.44	1.2	1.5	3.6	1.0	1.3	.62	.58	.26	.10
11	.19	.70	.44	1.1	1.4	3.4	1.2	1.2	.65	.60	.25	.09
12	.24	.65	.49	1.1	1.4	3.1	1.1	1.1	.66	.55	.28	.12
13	.26	.65	.84	1.0	1.4	2.9	.97	.97	.63	.45	.31	.14
14	.28	.55	.81	.98	1.4	2.8	2.7	.97	.65	.43	.31	.13
15	.32	.55	.80	.93	1.3	2.7	2.8	1.0	.66	.40	.29	.11
16	.31	.56	8.2	2.3	1.2	2.5	1.5	.97	.66	.35	.29	.13
17	.30	.54	13	105	1.2	2.4	1.3	.97	.63	.33	.31	.23
18	.37	.48	3.8	30	1.2	2.2	1.2	.97	.59	.42	.31	.24
19	.40	.48	3.0	13	1.2	2.2	9.0	.97	.62	.40	.32	.22
20	.38	.48	1.8	9.2	1.1	2.1	8.2	.97	.66	.32	.28	.29
21	.36	.42	1.2	7.4	1.1	2.0	3.1	.94	.62	.26	.28	.28
22	1.3	.40	1.0	6.2	1.1	1.9	2.4	.90	.66	.28	.26	.44
23	.66	.38	1.0	5.4	1.0	1.8	3.0	.86	.66	.26	.26	.34
24	.55	.31	1.1	4.8	.97	1.8	2.4	.86	.66	.26	.21	.43
25	.56	.47	.93	4.1	.97	1.7	2.1	.83	.63	.24	.15	.38
26	.53	.68	.84	3.6	.94	1.6	1.9	.75	.62	.24	.14	.30
27	.64	.74	.95	3.4	2.5	1.6	1.9	.75	.62	.24	.17	.26
28	.70	.67	1.3	2.9	13	1.5	1.9	.78	.61	.24	.14	.21
29	1.8	.65	4.6	2.9	144	1.4	1.7	.81	.58	.18	.13	.16
30	.65	.65	5.6	2.9	---	1.4	1.6	.76	.53	.18	.12	.16
31	.59	---	3.2	2.4	---	1.3	---	.75	---	.19	.12	---
TOTAL	13.54	19.41	71.87	241.81	197.68	147.5	63.97	33.38	19.15	12.16	7.44	5.59
MEAN	.44	.65	2.32	7.80	6.82	4.76	2.13	1.08	.64	.39	.24	.19
MAX	1.8	1.5	13	105	144	41	9.0	1.6	.72	.60	.32	.44
MIN	.17	.31	.44	.93	.94	1.3	.97	.75	.53	.18	.12	.08
AC-FT	27	38	143	480	392	293	127	66	38	24	15	11

CAL YR 1987 TOTAL 509.24 MEAN 1.40 MAX 106 MIN .17 AC-FT 1010
WTR YR 1988 TOTAL 833.50 MEAN 2.28 MAX 144 MIN .08 AC-FT 1650

VENTURA RIVER BASIN

11117800 SANTA ANA CREEK NEAR OAK VIEW, CA

LOCATION.--Lat 34°25'25", long 119°20'25", in Santa Ana Grant, Ventura County, Hydrologic Unit 18070101, on upstream end of right abutment of bridge on Santa Ana Road, 400 ft upstream from unnamed tributary, and 3.0 mi northwest of Oak View.

DRAINAGE AREA.--9.11 mi^2.

PERIOD OF RECORD.--October 1958 to September 1988 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 612.43 ft, U.S. Bureau of Reclamation datum. Prior to Aug. 17, 1970, on downstream end of right abutment at same datum.

REMARKS.--Estimated daily discharges: Oct.1-4, 6-28, and Aug. 20 to Sept. 7. Records good. Low flow slightly regulated by one small reservoir upstream. Some small diversions upstream from station.

AVERAGE DISCHARGE.--30 years, 5.88 ft^3/s, 4,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,330 ft^3/s, Mar. 4, 1978, gage height, 10.01 ft, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement at gage height 8.57 ft; maximum gage height, 10.70 ft, Jan. 25, 1969; no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, reached a discharge of 3,780 ft^3/s, by slope-area measurement at site 2.0 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 29	1415	*344	*5.95				

No flow for many days.

DISCHARGE, IN 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			0	.75	1.6	24	.72	1.1	.16	.06		
2			0	.75	1.8	11	.71	1.1	.13	.06		
3			0	.75	1.5	7.2	.71	1.0	.17	.05		
4			3.4	.83	1.3	5.7	.70	1.0	.19	.05		
5			2.0	4.5	1.2	4.7	.65	1.0	.20	.04		
6			.73	2.0	1.1	4.2	.54	.92	.23	.03		
7			.65	.89	1.0	3.8	.47	.94	.26	.03		
8			.40	.58	.97	3.3	.43	.93	.23	.03		
9			.36	.51	.97	3.0	.34	.80	.17	.03		
10			.35	.48	1.1	2.8	.19	.31	.14	.03		
11			.30	.42	1.2	2.6	.17	.25	.13	.03		
12			.27	.45	1.1	2.4	.25	.58	.12	.03		
13			.29	.35	1.1	2.3	.43	.56	.17	.02		
14			.28	.37	.97	2.2	1.1	.30	.14	.02		
15			.33	.57	.97	2.1	.91	.57	.12	.02		
16			.80	.69	.95	2.1	.77	.70	.12	.02		
17			1.7	33	.91	1.9	.78	.80	.11	.02		
18			.76	13	1.0	1.3	.74	.77	.10	.02		
19			.67	6.0	.95	1.1	5.1	.39	.10	.02		
20			.63	4.4	.95	.85	5.5	.44	.10	.02		
21			.63	3.7	.93	.95	2.3	.40	.10	.01		
22			.63	3.3	.89	1.3	1.8	.44	.10	.01		
23			.63	3.0	.89	1.3	2.1	.45	.10	0		
24			.63	2.9	.89	1.1	1.8	.42	.09	0		
25			.63	2.7	.87	1.0	1.5	.43	.09	0		
26			.63	2.4	.82	.97	1.5	.42	.08	0		
27			.63	2.0	1.5	.87	1.5	.42	.07	0		
28			.73	1.9	4.2	.80	1.4	.47	.06	0		
29			1.4	1.8	85	.49	1.3	.50	.06	0		
30			1.1	1.7	---	.78	1.2	.36	.06	0		
31		---	.83	1.7	---	.74	---	.29	---	0		---
TOTAL	0	0	22.39	98.39	118.63	98.85	37.61	19.06	3.90	.65	0	0
MEAN	0	0	.72	3.17	4.09	3.19	1.25	.61	.13	.021	0	0
MAX	0	0	3.4	33	85	24	5.5	1.1	.26	.06	0	0
MIN	0	0	0	.35	.82	.49	.17	.25	.06	0	0	0
AC-FT	0	0	44	195	235	196	75	38	7.7	1.3	0	0

CAL YR 1987 TOTAL 229.53 MEAN .63 MAX 44 MIN 0 AC-FT 455
WTR YR 1988 TOTAL 399.48 MEAN 1.09 MAX 85 MIN 0 AC-FT 792

VENTURA RIVER BASIN

11117900 LAKE CASITAS NEAR CASITAS SPRINGS, CA

LOCATION.--Lat 34°22'24", long 119°19'56", in Santa Ana Grant, Ventura County, Hydrologic Unit 18070101, on left end of dam on Coyote Creek, 1.5 mi west of Casitas Springs.

DRAINAGE AREA.--38.6 mi^2.

PERIOD OF RECORD.--December 1978 to September 1988 (discontinued). Prior to October 1985, monthend elevation, National Geodetic Vertical Datum, and contents only. Daily readings prior to December 1978 in files of Casitas Municipal Water District.

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

REMARKS.--Reservoir is formed by earthfill dam. Storage began January 1959. Capacity table is dated December 1958. Usable capacity, 250,800 acre-ft between bottom of lowest outlet gate at elevation 350.00 ft and crest of spillway at elevation 567.00 ft. Dead storage, 3,170 acre-ft, included in contents. Flow from Ventura River is diverted at Robles Diversion Dam through concrete canal to Lake Casitas and is included in these records.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 260,100 acre-ft, Feb. 21, 1980, elevation, 569.24 ft; minimum, 196,400 acre-ft, Nov. 24, 1985, elevation, 544.18 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 216,500 acre-ft, Mar. 17, 18, elevation, 552.54 ft; minimum, 198,200 acre-ft, Sept. 30, elevation, 544.93 ft.

Capacity table (elevation, in feet NGVD, and contents, in acre-feet)
(Based on survey dated December 1958, by U.S. Bureau of Reclamation)

540	186,800	560	235,400
545	198,300	565	248,600
550	210,300	570	262,200
555	222,600		

CONTENTS IN ACRE-FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213300	210600	208900	208700	210700	213000	215700	215600	213200	209900	206200	202200
2	213200	210600	208900	208600	210700	213800	215600	215500	213100	209800	206000	202000
3	213000	210500	208700	208600	210700	214400	215500	215600	213000	209700	205900	201800
4	212900	210500	209100	208700	210700	214900	215400	215900	212800	209600	205800	201600
5	212800	210600	209100	208900	210700	215100	215400	216000	212700	209500	205600	201400
6	212600	210500	209000	208900	210700	215200	215300	215700	212600	209400	205500	201200
7	212500	210500	209000	208900	210700	215200	215200	215900	212400	209200	205400	200900
8	212200	210400	209000	208800	210700	215400	215100	215800	212300	209100	205300	200700
9	212100	210400	208900	208800	210700	215700	215100	215800	212100	209000	205100	200600
10	212000	210400	208900	208700	210700	215800	215000	215600	212000	208900	205000	200500
11	211800	210300	208900	208700	210600	215800	214800	215600	211900	208800	205000	200400
12	211800	210300	208800	208600	210600	215700	214700	215400	211800	208700	204900	200300
13	211600	210200	208700	208600	210600	215700	214600	215300	211800	208600	204800	200200
14	211600	210100	208700	208600	210500	215700	214600	215100	211600	208400	204700	200000
15	211600	210100	208700	208500	210500	215900	214600	215000	211500	208300	204500	200000
16	211300	210100	209100	208500	210500	216400	214600	214900	211400	208200	204400	199700
17	211200	209900	209100	209300	210300	216500	214500	214800	211300	208100	204300	199600
18	211100	209900	209100	209500	210200	216500	214500	214700	211100	208000	204200	199500
19	211000	209900	209100	209700	210100	216300	215100	214500	211100	207900	204200	199400
20	210900	209700	209000	210000	210000	216200	215800	214500	211000	207700	204000	199300
21	210800	209700	209000	210200	209900	216200	215900	214400	210900	207600	204000	199200
22	210900	209600	208900	210200	210000	216000	215900	214300	210800	207500	203800	199100
23	210800	209600	208900	210200	210400	216000	216000	214200	210700	207400	203800	199000
24	210800	209400	208800	210200	210300	216000	215800	214000	210600	207200	203600	198800
25	210800	209400	208700	210200	210200	215900	215800	213900	210500	207100	203400	198700
26	210700	209300	208700	210200	210100	215800	215900	213800	210400	207000	203300	198700
27	210700	209200	208600	210200	210300	215700	215900	213700	210400	206800	203100	198500
28	210600	209200	208700	210500	210500	215600	215800	213600	210200	206600	202900	198400
29	210600	209000	208700	210800	212100	215400	215700	213400	210100	206500	202700	198300
30	210600	209000	208700	210700	---	215500	215700	213300	210000	206400	202500	198200
31	210600	---	208700	210700	---	215800	---	213200	---	206300	202400	---
MAX	213300	210600	209100	210800	212100	216500	216000	216000	213200	209900	206200	202200
MIN	210600	209000	208600	208500	209900	213000	214500	213200	210000	206300	202400	198200
a	550.14	549.47	549.35	550.17	550.67	552.24	552.20	551.21	549.90	548.35	546.57	544.93
b	-2800	-1600	-300	+2000	+1400	+3700	-100	-2500	-3200	-3700	-3900	-4200

CAL YR 1987 b -27200
WTR YR 1988 b -15200

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

VENTURA RIVER BASIN

11118500 VENTURA RIVER NEAR VENTURA, CA

LOCATION.--Lat 34°21'05", long 119°18'23", in southeast corner of Santa Ana Grant, Ventura County, Hydrologic Unit 18070101, on right bank 420 ft downstream from bridge on Casitas Pass Road at Foster Memorial Park, 0.2 mi downstream from Coyote Creek, and 5 mi north of Ventura.

DRAINAGE AREA.--188 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to January 1914, October 1929 to current year; combined records of river and diversion, October 1932 to current year.
REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder and Parshall flume on diversion. Datum of gage is 205.23 ft, Ventura County Flood Control datum. See WSP 1315-B for history of changes prior to Nov. 2, 1949. Nov. 2, 1949, to June 12, 1969, at site 80 ft downstream at datum 9.00 ft lower. June 13, 1969, to Dec. 22, 1986, at site 370 ft upstream at datum 5.00 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated since March 1948 by Matilija Reservoir, usable capacity, 1,480 acre-ft, and since October 1959 by Casitas Reservoir, capacity, 267,000 acre-ft. Water diverted to Casitas Reservoir on Coyote Creek since January 1959. Diversion by city of Ventura for municipal supply began prior to 1911. AVERAGE DISCHARGE (river only) represents flow to ocean regardless of upstream development. For records of combined discharge of river and Ventura City diversion, see following page.

AVERAGE DISCHARGE.--River only: 61 years (water years 1912-13, 1930-88), 59.3 ft^3/s, 42,960 acre-ft/yr.
Combined river and diversion: 56 years, 68.9 ft^3/s, 49,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 63,600 ft^3/s, Feb. 10, 1978, gage height, 24.14 ft, from rating curve extended above 34,000 ft^3/s; maximum gage height, 29.3 ft, Jan. 25, 1969, present datum, from floodmarks; no flow at times in many years.
Combined river and diversion: Maximum discharge, 63,600 ft^3/s, Feb. 10, 1978; no flow Nov. 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 4,000 ft^3/s, Feb. 29, gage height, 9.76 ft; no flow for many days.
Combined river and diversion: Maximum discharge, 4,010 ft^3/s, Feb. 29; minimum daily, 3.4 ft^3/s, Dec. 3.

DISCHARGE, IN 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			0	.13	3.7	197	2.1	8.8	1.9	1.1	.43	
2			0	.13	2.6	51	4.8	6.4	1.2	1.0	.44	
3			0	.13	2.5	38	8.5	3.6	1.1	2.0	.39	
4			4.8	.13	3.5	30	6.5	2.5	1.0	2.4	.44	
5			3.1	1.4	3.9	25	2.7	3.1	2.2	2.4	.40	
6			.11	.36	3.7	23	2.0	3.3	2.3	1.5	.37	
7			.10	.23	4.8	16	1.6	5.2	1.1	.98	.34	
8			.07	.23	4.5	5.8	1.2	7.5	1.0	1.1	.36	
9			.07	.20	3.6	6.3	1.3	6.0	.98	.69	.38	
10			.05	.18	3.2	9.5	4.6	4.0	.89	1.0	.37	
11			.02	.17	3.2	9.0	6.2	3.1	.83	1.1	.35	
12			.02	.17	2.9	12	1.8	1.7	1.6	.80	.32	
13			0	.17	3.3	18	1.7	1.7	2.1	.81	.29	
14			0	.17	14	15	12	2.9	1.2	.68	.22	
15			0	.17	22	17	9.9	4.5	1.2	1.0	.17	
16			4.4	.20	22	9.4	8.7	3.9	.98	2.2	.15	
17			1.3	128	23	1.8	14	1.9	.85	2.0	.13	
18			.18	51	23	2.6	9.8	1.4	.75	1.7	.10	
19			.16	20	14	7.1	34	1.3	1.4	.65	.07	
20			.16	8.5	2.1	14	62	1.3	2.6	.50	.03	
21			.13	4.0	3.4	5.9	20	1.4	1.4	.44	0	
22			.11	1.4	9.2	1.7	14	3.2	1.6	.41	0	
23			.10	1.4	1.6	1.8	14	2.8	1.1	.40	0	
24			.09	1.9	1.4	1.8	14	1.8	1.0	.42	0	
25			.08	2.2	1.3	2.5	9.2	1.4	2.1	.77	0	
26			.05	1.9	1.2	4.8	4.0	1.1	3.3	.60	0	
27			.06	1.9	11	8.8	6.2	1.1	3.5	.53	0	
28			.09	1.9	94	5.1	6.9	1.2	1.7	.46	0	
29			.16	1.9	690	2.3	4.9	2.9	1.4	.41	0	
30			.21	2.1	---	2.3	7.0	3.5	1.2	.41	0	
31		---	.15	3.0	---	1.6	---	3.3	---	.41	0	---
TOTAL	0	0	15.77	235.27	978.6	546.1	295.6	97.8	45.48	30.87	5.75	0
MEAN	0	0	.51	7.59	33.7	17.6	9.85	3.15	1.52	1.00	.19	0
MAX	0	0	4.8	128	690	197	62	8.8	3.5	2.4	.44	0
MIN	0	0	0	.13	1.2	1.6	1.2	1.1	.75	.40	0	0
AC-FT	0	0	31	467	1940	1080	586	194	90	61	11	0

CAL YR 1987 TOTAL 1099.42 MEAN 3.01 MAX 103 MIN 0 AC-FT 2180
WTR YR 1988 TOTAL 2251.24 MEAN 6.15 MAX 690 MIN 0 AC-FT 4470

VENTURA RIVER BASIN

11118501 VENTURA RIVER NEAR VENTURA, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF VENTURA RIVER AND VENTURA CITY DIVERSION NEAR VENTURA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	5.8	4.3	5.0	18	210	16	18	18	16	11	11
2	6.3	5.4	4.2	6.0	19	64	17	21	16	13	15	11
3	6.3	6.0	3.4	8.2	15	48	18	21	17	11	14	11
4	6.1	6.1	9.3	7.9	15	42	21	20	12	12	14	11
5	6.1	4.4	9.9	9.4	17	37	19	18	12	14	13	10
6	5.9	4.9	6.0	9.0	14	35	19	18	17	19	12	11
7	6.0	5.1	6.7	8.6	15	25	19	16	15	15	11	11
8	5.7	5.0	7.4	8.4	18	21	18	18	16	16	11	11
9	5.8	4.9	7.6	8.3	19	21	12	18	17	11	14	10
10	5.9	4.1	7.3	6.3	17	24	14	18	16	11	14	10
11	5.5	4.2	6.8	8.4	17	24	23	21	14	14	13	9.0
12	4.4	4.9	6.3	8.2	18	24	19	16	11	17	13	9.8
13	6.0	4.8	5.9	8.1	13	25	17	18	15	17	12	11
14	5.9	4.7	6.2	8.0	17	27	25	15	16	16	9.6	10
15	5.6	4.5	6.0	8.1	23	30	27	14	17	15	12	10
16	5.7	4.6	11	8.3	23	26	19	16	16	13	14	10
17	5.7	4.5	8.7	137	24	17	21	19	17	12	13	10
18	5.7	4.5	8.0	61	24	19	28	17	10	15	13	10
19	5.7	4.5	8.5	30	21	18	46	16	11	16	13	9.3
20	5.5	4.4	8.2	19	14	21	74	16	16	16	12	10
21	5.5	4.4	6.8	17	14	23	35	13	15	15	12	10
22	5.5	4.4	7.1	16	19	17	29	13	18	16	9.8	9.8
23	4.8	3.5	7.6	13	19	18	26	15	16	13	13	9.6
24	4.0	3.7	7.3	13	18	17	23	18	15	9.7	12	9.6
25	3.9	4.3	6.1	16	17	18	22	17	12	14	12	9.6
26	4.1	4.3	4.8	18	16	18	20	16	12	16	12	9.4
27	3.9	3.5	7.6	17	23	19	21	17	17	16	12	9.4
28	4.0	4.5	7.4	17	100	18	22	11	17	14	10	9.3
29	4.2	4.1	7.5	17	700	18	21	13	15	13	10	9.2
30	5.3	12	8.1	14	---	18	17	13	16	13	12	9.1
31	6.4	---	8.1	13	---	18	---	16	---	9.9	12	---
TOTAL	168.0	146.0	220.1	544.2	1287	960	708	516	452	438.6	380.4	301.1
MEAN	5.42	4.87	7.10	17.6	44.4	31.0	23.6	16.6	15.1	14.1	12.3	10.0
MAX	6.6	12	11	137	700	210	74	21	18	19	15	11
MIN	3.9	3.5	3.4	5.0	13	17	12	11	10	9.7	9.6	9.0
AC-FT	333	290	437	1080	2550	1900	1400	1020	897	870	755	597

CAL YR 1987 TOTAL 4418.6 MEAN 12.1 MAX 111 MIN 3.4 AC-FT 8760
WTR YR 1988 TOTAL 6121.4 MEAN 16.7 MAX 700 MIN 3.4 AC-FT 12140

VENTURA RIVER BASIN

11118500 VENTURA RIVER NEAR VENTURA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1907 to December 1908, water years 1967 to current year.
CHEMICAL DATA: December 1907 to December 1908, water years 1967-79.
WATER TEMPERATURE: Water years 1969, 1971-73, 1975 to current year.
SEDIMENT DATA: Water years 1969-73, 1975 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1968 to September 1969, October 1970 to September 1973, October 1974 to September 1981, October 1985 to September 1986.
SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1973, October 1974 to September 1981, October 1985 to September 1986.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
JAN							
05...	1100	0.32	12.5	54	0.05	--	--
17...	1240	227	10.5	740	454	--	--
19...	1620	19	14.5	45	2.3	--	--
FEB							
02...	0910	2.6	13.5	55	0.39	--	--
29...	1115	431	14.0	1330	1550	43	60
MAR							
02...	0920	54	13.0	77	11	--	--
JUN							
01...	0920	2.7	17.0	28	0.20	--	--

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	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
JAN							
05...	--	--	--	--	--	--	--
17...	--	--	--	71	77	88	100
19...	--	--	--	--	--	--	--
FEB							
02...	--	--	--	--	--	--	--
29...	76	89	96	99	100	--	--
MAR							
02...	--	--	--	--	--	--	--
JUN							
01...	--	--	--	--	--	--	--

CARPINTERIA CREEK BASIN

11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA

LOCATION.--Lat 34°24'05", long 119°29'08", in El Rincon Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank 100 ft upstream from bridge on State Highway 192, 165 ft downstream from Gobernador Creek, and 1.8 mi northeast of Carpinteria.

DRAINAGE AREA.--13.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1941 to September 1977, October 1978 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 1, 1958, at site 100 ft downstream, at datum 6.00 ft higher. July 2, 1958, to Aug. 27, 1970, at site 65 ft downstream at datum 4.00 ft higher. Aug. 28, 1970, to Sept. 30, 1977, at site 100 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. No regulation upstream from station. Gobernador Land and Water Co. diverts from Gobernador Creek 1.8 mi upstream from station. Small lake 0.8 mi southeast of station and outside the drainage area stores storm runoff and surplus water diverted by Gobernador Land and Water Co. from Gobernador Creek. At times this lake is drained by pumping water back into Gobernador Creek 1,000 ft upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1942-77, 1979-88), 2.99 ft^3/s, 2,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,880 ft^3/s, Dec. 27, 1971, gage height, 14.10 ft, from floodmark, from rating curve extended above 130 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 125 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 17	1915	*113	*4.31				

No flow for many days.

DISCHARGE, IN 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	0	0	0	0	0	6.1	0	0				
2	0	0	0	0	.39	2.1	0	0				
3	0	0	0	0	.06	.68	0	0				
4	0	.01	.07	0	0	.32	0	0				
5	0	.71	.49	3.6	0	.31	0	0				
6	0	.01	0	1.1	0	.19	0	.25				
7	0	0	0	.17	0	.16	0	0				
8	0	0	0	.09	0	.12	0	0				
9	0	0	0	.01	0	.09	0	0				
10	0	0	0	0	0	.08	0	0				
11	0	0	0	0	0	.09	0	0				
12	0	0	0	0	0	.05	0	0				
13	0	0	0	0	0	.02	0	0				
14	0	0	0	0	0	.01	1.2	0				
15	0	0	0	0	0	0	.26	0				
16	0	0	2.0	0	0	0	0	0				
17	0	0	1.0	23	0	0	0	0				
18	0	0	.03	16	0	0	0	0				
19	0	0	.01	2.1	0	0	4.9	0				
20	0	0	0	.90	0	0	6.4	0				
21	0	0	0	.60	0	1.0	0	0				
22	.70	0	0	.34	0	.34	0	0				
23	.45	0	0	.26	0	.10	0	0				
24	0	0	0	.17	0	.10	0	0				
25	0	0	3.1	.12	0	.07	0	0				
26	0	0	2.6	.09	0	0	0	0				
27	0	0	.01	.04	1.9	0	0	0				
28	0	0	0	0	6.8	.02	0	0				
29	0	0	1.4	0	17	.03	0	0				
30	0	0	.50	0	---	.02	0	0				
31	0	---	.01	0	---	0	---	0	---			---
TOTAL	1.15	.73	11.22	48.59	26.15	12.00	12.76	.25	0	0	0	0
MEAN	.037	.024	.36	1.57	.90	.39	.43	.008	0	0	0	0
MAX	.70	.71	3.1	23	17	6.1	6.4	.25	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	2.3	1.4	22	96	52	24	25	.5	0	0	0	0

CAL YR 1987 TOTAL 117.79 MEAN .32 MAX 77 MIN 0 AC-FT 234
WTR YR 1988 TOTAL 112.85 MEAN .31 MAX 23 MIN 0 AC-FT 224

CARPINTERIA CREEK BASIN

11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
DEC						
16...	1245	3.7	680	7.80	7.5	434
JAN						
06...	1215	0.68	707	8.50	8.0	473
FEB						
03...	1435	0.01	710	7.90	15.0	467
MAR						
04...	1430	0.48	670	8.70	16.5	432
APR						
20...	1145	7.9	504	8.40	16.0	340

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
JAN									
06...	1215	0.68	707	8.50	8.0	310	110	80	27

DATE	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)
JAN								
06...	33	19	0.8	2.0	206	150	15	0.4

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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN								
06...	16	473	448	0.28	<0.01	70	18	2

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

MISSION CREEK BASIN

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA

LOCATION.--Lat 34°25'35", long 119°43'20", in Pueblo Lands of Santa Barbara, Santa Barbara County, Hydrologic Unit 18060013, on left bank 200 ft downstream from Los Olivos Street in Santa Barbara.

DRAINAGE AREA.--8.38 mi^2.

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

GAGE.--Water-stage recorder. Concrete-lined channel. Elevation of gage is 105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--(Water year 1987), no estimated daily discharges. Records fair. (Water year 1988), estimated daily discharges: Dec. 30. Records fair except that for Dec. 30 which is poor. No regulation or diversion above station. At times water is released to creek for ground-water recharge from Gibraltar tunnel several miles upstream. Control installed Nov. 26, 1979.

AVERAGE DISCHARGE.--18 years, 2.87 ft^3/s, 2,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,580 ft^3/s, Jan. 18, 1973, gage height, 4.97 ft, from rating curve extended above 41 ft^3/s on basis of computation of flow in concrete-lined channel; maximum gage height, 5.45 ft, Feb. 16, 1980; no flow most of each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 5, 1987	2330	*110	*2.38	Feb. 29, 1988	1000	*139	*2.53

No flow for many days in both 1987 and 1988.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	0	0				0		0
2		0	0	0	0	0				0		0
3		0	0	0	0	0				0		0
4		0	0	8.6	0	.34				0		0
5		0	0	.08	0	33				0		0
6		0	.05	4.6	0	34				0		0
7		0	0	.52	0	2.7				0		0
8		0	0	0	0	.62				0		0
9		0	0	0	11	.13				0		0
10		0	0	0	3.7	0				0		0
11		0	0	0	.36	0				0		0
12		0	0	0	.04	0				0		0
13		0	0	0	6.4	.31				0		0
14		0	0	0	.18	.18				0		0
15		0	0	0	.75	.12				0		0
16		0	0	0	0	0				0		0
17		2.7	0	0	0	0				0		0
18		3.2	0	0	0	0				0		0
19		0	0	0	0	0				0		0
20		0	0	0	0	0				0		.62
21		0	0	0	0	1.8				0		.98
22		0	0	0	.10	0				0		1.1
23		0	0	0	0	0				0		1.2
24		0	0	0	0	0				0		1.3
25		0	0	0	1.2	0				0		1.1
26		0	0	0	.14	0				0		0
27		0	0	0	0	0				0		0
28		0	0	0	0	0				.57		0
29		0	0	0	---	0				1.1		0
30		0	0	0	---	0				1.1		0
31		---	0	0	---	0	---		---	.83		---
TOTAL	0	5.9	.05	13.80	23.87	73.20	0	0	0	3.60	0	6.30
MEAN	0	.20	.002	.45	.85	2.36	0	0	0	.12	0	.21
MAX	0	3.2	.05	8.6	11	34	0	0	0	1.1	0	1.3
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	12	.10	27	47	145	0	0	0	7.1	0	12

CAL YR 1986 TOTAL 804.29 MEAN 2.20 MAX 122 MIN .00 AC-FT 1600
WTR YR 1987 TOTAL 126.72 MEAN .35 MAX 34 MIN .00 AC-FT 251

MISSION CREEK BASIN

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA--Continued

DISCHARGE, IN 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	0	0	0	0	0	4.7	0					
2	0	0	0	0	.03	.69	0					
3	0	0	0	0	0	.09	0					
4	0	1.1	5.5	1.4	0	0	0					
5	0	3.2	.04	7.9	0	0	0					
6	0	.02	.08	.21	0	0	0					
7	0	0	.04	.01	0	0	0					
8	0	0	0	0	0	0	0					
9	0	0	0	0	0	0	0					
10	0	0	0	0	0	0	0					
11	0	0	0	0	0	0	0					
12	0	0	0	0	0	0	0					
13	0	0	0	0	0	0	0					
14	0	0	0	0	0	0	4.6					
15	0	0	0	0	0	0	1.0					
16	0	0	0	0	0	0	.67					
17	0	0	0	17	0	0	.50					
18	0	0	0	2.5	0	0	.31					
19	0	0	0	.23	0	0	.21					
20	0	0	0	.01	0	0	.28					
21	0	0	0	0	0	0	.49					
22	6.6	0	0	0	0	0	.10					
23	.10	0	0	0	0	0	.27					
24	0	0	0	0	0	0	0					
25	0	0	0	.34	0	0	0					
26	0	0	0	.07	0	0	0					
27	.20	0	0	0	4.1	0	0					
28	.03	0	0	0	.18	0	0					
29	0	0	0	0	29	0	0					
30	0	0	.03	0	---	0	0					
31	0	---	0	0	---	0	---		---			---
TOTAL	6.93	4.32	5.69	29.67	33.31	5.48	8.43	0	0	0	0	0
MEAN	.22	.14	.18	.96	1.15	.18	.28	0	0	0	0	0
MAX	6.6	3.2	5.5	17	29	4.7	4.6	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	14	8.6	11	59	66	11	17	0	0	0	0	0

CAL YR 1987 TOTAL 137.71 MEAN .38 MAX 34 MIN 0 AC-FT 273
WTR YR 1988 TOTAL 93.83 MEAN .26 MAX 29 MIN 0 AC-FT 186

ARROYO BURRO BASIN

11119780 ARROYO BURRO AT SANTA BARBARA, CA
(Formerly published as Arroyo Burro Creek at Santa Barbara)

LOCATION.--Lat 34°26'13", long 119°44'44", in Pueblo Lands of Santa Barbara, Santa Barbara County, Hydrologic Unit 18060013, on right bank 0.2 mi south of State Street on Hope Avenue in Santa Barbara.

DRAINAGE AREA.--6.65 mi^2.

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

REVISED RECORDS.--WDR CA-76-1: 1974(M), 1975(P).

GAGE.--Water-stage recorder. Concrete-lined channel with a low-water control. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: June 27, 28, Aug. 7-24. Records fair except for periods of estimated daily discharge, which are poor. Small amount of inflow occurs at times from large shopping center that empties water directly into the stream. Partial regulation by Lauro Canyon Reservoir on San Roque Creek.

AVERAGE DISCHARGE.--18 years, 2.29 ft^3/s, 1,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft^3/s, Mar. 4, 1978, Feb. 16, 1980, from rating curve extended above 50 ft^3/s on basis of slope-conveyance study; maximum gage height, 5.67 ft, Mar. 4, 1978; no flow many days in most years.

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)
Dec. 4	1630	521	3.72	Feb. 29	1000	*546	*3.78

No flow for many days.

DISCHARGE, IN 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	.06	.03	0	0	.08	1.1	0	.02	.03	.01	.01	.01
2	.08	.02	0	0	.39	.17	0	.01	.05	0	0	.02
3	.06	.02	.01	0	.68	.22	.01	.01	.04	0	.01	.02
4	.09	2.6	15	4.3	0	.08	.04	0	.02	0	0	.01
5	.06	2.6	.09	8.9	0	.05	.03	.01	.02	.01	.01	.02
6	.05	.02	.57	.08	0	.04	0	0	.01	0	0	.01
7	.03	.01	.07	.01	0	.03	0	0	0	0	0	.02
8	.03	.02	.01	0	.01	0	0	.01	.01	0	0	.02
9	.05	0	0	.01	0	.03	0	0	0	0	0	.01
10	0	.01	.02	0	0	.15	.01	0	0	0	0	.01
11	.01	.02	.02	0	.25	.05	0	0	0	0	0	.09
12	.02	0	0	0	0	0	0	.01	0	0	0	.08
13	0	0	.01	0	0	0	0	.01	0	0	0	.03
14	.01	.01	.38	0	0	0	6.3	.01	.01	.01	0	.03
15	.01	.01	0	0	0	0	.01	.01	.01	.01	0	.04
16	.02	0	2.7	.10	0	0	0	.01	0	.01	0	.03
17	0	.11	.16	16	.15	.01	0	.01	.01	0	0	.02
18	.01	.01	0	.32	0	0	0	0	0	.02	0	.02
19	.01	.04	0	.06	0	0	22	.01	0	0	0	.03
20	0	.01	0	.05	0	0	2.0	.01	.01	0	0	.04
21	0	0	0	.05	.01	0	.07	.01	.01	.01	0	.01
22	14	.01	.01	.03	0	.01	.62	.01	0	0	0	.02
23	.18	0	.01	.03	0	.07	4.1	0	.01	0	0	.02
24	.03	0	.01	.04	0	.01	.07	0	0	.01	0	.02
25	.01	.01	.01	.05	0	.01	.01	0	.01	.01	0	.01
26	.01	0	.02	.24	.02	.02	.21	.01	0	0	.01	.02
27	.79	.13	.01	.12	10	.01	.01	.01	.01	0	0	.01
28	.06	.06	3.7	.06	.24	.02	.28	.01	0	.01	0	0
29	.02	0	5.8	.07	26	.01	1.5	.03	0	.01	0	.01
30	.01	0	.06	.10	---	0	.01	.02	0	0	0	.01
31	.25	---	.02	.10	---	.01	---	.02	---	0	0	---
TOTAL	15.96	5.75	28.69	30.72	37.83	2.10	37.28	.26	.26	.12	.04	.69
MEAN	.51	.19	.93	.99	1.30	.068	1.24	.008	.009	.004	.001	.023
MAX	14	2.6	15	16	26	1.1	22	.03	.05	.02	.01	.09
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	32	11	57	61	75	4.2	74	.5	.5	.2	.08	1.4

CAL YR 1987 TOTAL 145.48 MEAN .40 MAX 37 MIN 0 AC-FT 289
WTR YR 1988 TOTAL 159.70 MEAN .44 MAX 26 MIN 0 AC-FT 317

ATASCADERO CREEK BASIN

11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA

LOCATION.--Lat 34°26'42", long 119°48'10", in Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank at University Drive, 0.2 mi east of Patterson Avenue, and 1.5 mi northeast of Goleta.

DRAINAGE AREA.--6.35 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 18-22, and Dec. 29. Records fair. No regulation above station. Some pumping for irrigation.

AVERAGE DISCHARGE.--18 years, 1.72 ft^3/s, 1,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,650 ft^3/s, Jan. 16, 1978, gage height, 5.87 ft, from rating curve extended above 290 ft^3/s on basis of slope-area measurement of peak flow; no flow most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 29	1600	*226	*2.52				

No flow for many days.

DISCHARGE, IN 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	0	0	0	0	0	4.1	.54				0	
2	0	0	0	0	0	.73	.62				0	
3	0	0	0	0	0	.38	.57				0	
4	0	.24	.48	.73	0	.18	.41				0	
5	0	.73	0	5.9	0	.08	0				0	
6	0	0	.07	.36	0	0	0				0	
7	0	0	.03	.09	0	0	0				0	
8	0	0	0	0	0	0	0				0	
9	0	0	0	0	0	0	0				0	
10	0	0	0	0	0	0	0				.12	
11	0	0	0	0	0	0	0				.11	
12	0	0	0	0	0	0	0				0	
13	0	0	0	0	0	0	0				.22	
14	0	0	0	0	0	0	1.4				.29	
15	0	0	0	0	0	0	.07				.29	
16	0	0	.92	0	0	0	0				.32	
17	0	0	.01	12	0	0	0				.34	
18	0	0	0	.22	0	.03	0				.34	
19	0	0	0	.26	0	0	7.2				.33	
20	0	0	0	.19	0	0	3.2				.10	
21	0	0	0	.13	0	.01	.80				.38	
22	6.0	0	0	.06	0	.71	.16				.35	
23	.06	0	0	.03	0	.67	3.1				.36	
24	0	0	0	0	0	.63	.12				.34	
25	0	0	0	0	0	.26	.03				.34	
26	0	0	0	0	0	.59	0				.33	
27	.07	0	0	0	1.2	.66	0				.34	
28	0	0	.58	0	.61	.91	0				.34	
29	0	0	5.0	0	39	.80	0				.35	
30	0	0	.28	0	---	.70	0				.33	
31	0	---	.04	0	---	.75	---		---		.26	---
TOTAL	6.13	.97	7.41	19.97	40.81	12.19	18.22	0	0	0	6.18	0
MEAN	.20	.032	.24	.64	1.41	.39	.61	0	0	0	.20	0
MAX	6.0	.73	5.0	12	39	4.1	7.2	0	0	0	.38	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	12	1.9	15	40	81	24	36	0	0	0	12	0

CAL YR 1987 TOTAL 73.17 MEAN .20 MAX 17 MIN 0 AC-FT 145
WTR YR 1988 TOTAL 111.88 MEAN .31 MAX 39 MIN 0 AC-FT 222

ATASCADERO CREEK BASIN

11120000 ATASCADERO CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°25'29", long 119°48'39", in La Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on downstream side of center pier of county road bridge 100 ft downstream from Maria Ygnacio Creek, 1.3 mi upstream from mouth, and 1.3 mi southeast of Goleta.

DRAINAGE AREA.--18.9 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1947, published as "Atascadero Creek near Goleta."

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8.59 ft, Santa Barbara County benchmark. Prior to Dec. 14, 1967, at site 275 ft downstream, datum 4.00 ft higher. Dec. 14, 1967, to Sept. 30, 1976, at datum 4.00 ft higher; and Oct. 1, 1976, to Sept. 30, 1978, at datum 2.00 ft higher, both at present site.

REMARKS.--No estimated daily discharges. Records fair except those below 1.0 ft^3/s, which are poor. No regulation above station. Small diversions for irrigation above station. Some low flow results from return irrigation wastewater.

AVERAGE DISCHARGE.--47 years, 4.73 ft^3/s, 3,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,380 ft^3/s, Jan. 18, 1973, gage height, 17.1 ft, present datum, from rating curve extended above 2,300 ft^3/s; maximum gage height, 17.3 ft, from floodmark, Dec. 3, 1974, present datum; no flow some days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 225 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	1715	*457	*4.16	Apr. 19	1730	368	3.91
Feb. 29	1030	361	3.89				

No flow for many days.

DISCHARGE, IN 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	0	.16	.05	.24	.79	19	.40	.06	.02	.03	.01	.01
2	.01	.07	.05	.21	.93	2.7	.39	.05	.02	.03	.01	0
3	0	.13	.05	.21	.28	1.1	.39	.05	.02	.04	.03	0
4	0	12	40	7.4	.23	.75	.36	.07	.01	.08	.03	0
5	0	15	1.7	63	.19	.66	.26	.05	.01	.05	.05	0
6	0	.25	.88	1.2	.19	.95	.26	.05	.01	.03	.12	0
7	0	.18	1.2	.45	.18	.57	.27	.04	.01	.24	.14	0
8	0	.17	.34	.35	.18	2.4	.27	.05	.01	.15	.13	0
9	0	.15	.28	.31	.18	1.2	.21	.04	.02	.04	.14	0
10	0	.14	.24	.28	.17	.27	.23	.05	.01	.03	.13	0
11	0	.09	.24	.25	.19	.27	.21	.05	.01	.04	.11	0
12	0	.08	.21	.21	.23	.33	.22	.03	.02	.03	.10	0
13	.01	.08	.16	.73	.22	.28	.25	.02	.01	.03	.13	0
14	0	.07	.10	.29	.18	.29	22	.02	.01	.04	.17	0
15	0	.05	.07	.24	.18	.30	1.5	.03	.02	.04	.17	0
16	0	.05	18	.23	.17	.30	.13	.03	.03	.06	.15	.01
17	.01	.09	.40	88	.14	.29	.06	.05	.03	.06	.14	0
18	0	.17	.21	6.0	.20	.53	.05	.03	.03	.08	.13	0
19	.01	.07	.14	.76	.14	.33	47	.03	.03	.12	.14	.01
20	.01	.06	.14	.35	.13	.31	27	.02	.04	.12	.14	0
21	.02	.05	.82	.28	.14	.31	3.6	.02	.06	.26	.09	0
22	40	.07	.15	.25	.14	.35	.63	.03	.04	.53	.27	.01
23	2.5	.06	.11	.25	.15	.57	22	.03	.04	.55	.37	0
24	1.3	.06	.12	.26	.18	.57	2.4	.03	.03	.20	.32	.01
25	.53	.05	.15	.22	.16	.29	.81	.03	.04	.15	.14	.01
26	.36	.05	.16	.21	.19	.35	.15	.03	.03	.17	.13	.01
27	3.1	.05	.09	.21	12	.30	.13	.02	.03	.17	.11	.01
28	.48	.05	9.1	.20	3.2	.30	.10	.02	.02	.15	.09	.01
29	.13	.05	29	.19	97	.30	.08	.02	.02	.16	.09	.02
30	.07	.05	.93	.18	---	.33	.06	.02	.02	.12	.20	.02
31	.43	---	.31	.28	---	.54	---	.02	---	.08	.08	---
TOTAL	48.97	29.60	105.40	173.24	118.26	37.04	131.42	1.09	.70	3.88	4.06	.13
MEAN	1.58	.99	3.40	5.59	4.08	1.19	4.38	.035	.023	.13	.13	.004
MAX	40	15	40	88	97	19	47	.07	.06	.55	.37	.02
MIN	0	.05	.05	.18	.13	.27	.05	.02	.01	.03	.01	0
AC-FT	97	59	209	344	235	73	261	2.2	1.4	7.7	8.1	.3

CAL YR 1987 TOTAL 520.94 MEAN 1.43 MAX 127 MIN 0 AC-FT 1030
WTR YR 1988 TOTAL 653.79 MEAN 1.79 MAX 97 MIN 0 AC-FT 1300

SAN JOSE CREEK BASIN

11120500 SAN JOSE CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°27'33", long 119°48'29", in La Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank 1.1 mi downstream from unnamed tributary and 1.7 mi northeast of Goleta.

DRAINAGE AREA.--5.51 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1941 to current year.

REVISED RECORDS.--WSP 1928: Drainage area.

GAGE.--Water-stage recorder and concrete low-water control. Datum of gage is 95.61 ft, Santa Barbara County Road Department datum. Prior to Dec. 24, 1955, at datum 5.50 ft higher. Dec. 24, 1955, to Jan. 10, 1960, at datum 1.5 ft higher. Prior to Oct. 1, 1971, at site 75 ft downstream.

REMARKS.--Estimated daily discharges: Jan. 13-19, Apr. 10, 19-21. Records fair except those for periods of estimated daily discharges, which are poor. No regulation upstream from station. Many small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--47 years, 2.06 ft^3/s, 1,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s, Jan. 25, 1969, gage height, 10.10 ft, from rating curve extended above 400 ft^3/s on basis of slope-area measurement at gage height 9.32 ft; maximum gage height, 12.74 ft, present datum, Jan. 21, 1943; no flow at times in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 29	1530	*159	*4.64				

Minimum daily, 0.02 ft^3/s, Oct.19-21.

DISCHARGE, IN 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	.04	.25	.25	.72	.40	6.8	.14	.74	.06	.06	.05	.04
2	.04	.40	.25	.38	.45	2.1	.14	.64	.10	.06	.06	.03
3	.04	.40	.25	.29	.48	1.4	.16	.63	.10	.06	.06	.03
4	.04	.74	2.0	.41	.48	1.1	.21	.40	.09	.06	.06	.04
5	.04	1.1	2.7	7.5	.46	.91	.18	.43	.06	.06	.06	.06
6	.04	.56	.87	2.1	.40	.78	.15	.36	.06	.06	.06	.06
7	.04	.56	.75	.91	.40	.75	.16	.45	.06	.06	.06	.04
8	.04	.50	.73	.61	.41	.68	.16	.56	.06	.06	.05	.04
9	.03	.48	.49	.52	.40	.63	.08	.56	.06	.06	.04	.03
10	.03	.45	.40	.54	.40	.56	.08	.46	.06	.06	.04	.03
11	.04	.25	.40	.47	.40	.56	.08	.28	.06	.06	.04	.03
12	.04	.25	.40	.63	.40	.49	.10	.18	.06	.06	.04	.03
13	.04	.24	.40	.50	.40	.48	.06	.19	.04	.06	.04	.03
14	.04	.19	.40	.50	.40	.48	.73	.17	.04	.06	.04	.03
15	.03	.19	.40	.50	.40	.48	.90	.15	.04	.06	.04	.03
16	.03	.25	1.1	.50	.40	.44	.61	.13	.04	.06	.04	.03
17	.03	.25	.67	1.0	.40	.32	.52	.23	.04	.06	.04	.03
18	.03	.25	.54	10	.53	.32	.49	.13	.04	.06	.04	.03
19	.02	.26	.45	3.0	.45	.25	1.1	.19	.04	.06	.04	.03
20	.02	.32	.43	1.3	.40	.25	2.5	.14	.09	.06	.04	.03
21	.02	.32	.41	1.2	.35	.25	2.0	.12	.10	.06	.04	.03
22	.87	.32	.40	1.2	.40	.14	1.6	.15	.10	.04	.04	.03
23	.61	.32	.43	.92	.33	.14	1.9	.19	.10	.03	.04	.03
24	.25	.25	.44	.86	.36	.18	1.5	.11	.10	.04	.04	.03
25	.10	.19	.37	.76	.32	.21	.99	.10	.07	.04	.04	.04
26	.10	.19	.47	.75	.32	.19	1.1	.10	.06	.04	.04	.04
27	.11	.26	.46	.75	.47	.19	.98	.13	.07	.04	.04	.04
28	.19	.37	.69	.68	.76	.16	.96	.14	.06	.04	.04	.06
29	.19	.25	1.6	.40	34	.14	.86	.10	.06	.04	.04	.06
30	.19	.25	1.3	.40	---	.14	.81	.13	.06	.04	.04	.03
31	.19	---	1.1	.40	---	.14	---	.08	---	.04	.04	---
TOTAL	3.52	10.61	21.55	40.70	45.77	21.66	21.25	8.37	1.98	1.65	1.38	1.09
MEAN	.11	.35	.70	1.31	1.58	.70	.71	.27	.066	.053	.045	.036
MAX	.87	1.1	2.7	10	34	6.8	2.5	.74	.10	.06	.06	.06
MIN	.02	.19	.25	.29	.32	.14	.06	.08	.04	.03	.04	.03
AC-FT	7.0	21	43	81	91	43	42	17	3.9	3.3	2.7	2.2

CAL YR 1987 TOTAL 166.79 MEAN .46 MAX 35 MIN .02 AC-FT 331
WTR YR 1988 TOTAL 179.53 MEAN .49 MAX 34 MIN .02 AC-FT 356

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT						
07...	1120	0.06	2600	7.40	19.0	2240
NOV						
16...	1520	0.24	1360	8.00	14.0	1010
DEC						
01...	1030	0.28	1370	7.90	15.0	978
29...	1230	3.4	698	7.40	7.5	407
FEB						
04...	1130	0.49	1170	8.20	8.0	821
MAR						
01...	1145	5.8	476	7.40	12.5	315
30...	1030	0.15	1640	7.90	14.0	1270
MAY						
06...	1130	0.31	1240	7.90	12.0	919
JUN						
06...	1100	0.07	2010	7.80	14.5	1620
JUL						
01...	1200	0.07	1960	7.70	17.0	1640
AUG						
01...	1330	0.06	1980	7.60	19.0	1790

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
FEB									
04...	1130	0.49	1170	8.20	8.0	490	240	130	41

DATE	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)
FEB								
04...	71	24	1	1.8	255	320	46	0.4

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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB								
04...	16	821	780	0.19	<0.01	90	20	20

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

SAN JOSE CREEK BASIN

11120510 SAN JOSE CREEK AT GOLETA, CA

LOCATION.--Lat 34°25'49", long 119°49'16", in La Goleta Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank south of Hollister Avenue on Kellogg Avenue and 0.5 mi southeast of Goleta.

DRAINAGE AREA.--9.42 mi^2.

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

REVISED RECORDS.--WDR CA-75-1: 1973(M).

GAGE.--Water-stage recorder and concrete channel. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Sept. 14-22. Records fair except those for estimated daily discharges, which are poor. No regulation upstream from station. Diversions for irrigation and domestic use upstream from station.

AVERAGE DISCHARGE.--18 years, 3.04 ft^3/s, 2,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,330 ft^3/s, Mar. 4, 1978, gage height, 5.65 ft, from rating curve extended above 400 ft^3/s on basis of slope-conveyance computation of flow in concrete channel at gage height 8.00 ft; no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	1630	*220	*2.28				

No flow for many days.

DISCHARGE, IN 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	0	.02	0	.62	.57	5.2	0	.45	0			
2	0	0	0	.36	.83	1.7	0	.34	0			
3	0	0	0	.28	.53	1.3	0	.32	0			
4	0	2.2	11	3.4	.47	1.0	0	.18	0			
5	0	2.3	1.6	17	.42	.88	0	.18	0			
6	0	.14	1.0	2.7	.30	.72	0	.20	0			
7	0	.09	.53	1.0	.28	.63	0	.29	0			
8	0	.08	.33	.65	.42	.55	0	.43	0			
9	0	.03	.21	.51	.27	.50	0	.32	0			
10	0	0	.15	.38	.26	.48	0	.27	0			
11	0	0	.13	.38	.28	.43	0	.11	0			
12	0	0	.10	.54	.38	.44	0	0	0			
13	0	0	.12	.52	.24	.48	0	0	.04			
14	0	0	.19	.45	.35	.46	6.4	0	.09			
15	0	0	.25	.46	.29	.47	.66	0	.08			
16	0	0	6.0	.43	.37	.43	.28	0	.18			
17	0	.12	.41	24	.22	.26	.20	0	0			
18	0	.04	.24	7.7	.44	.23	.13	0	0			
19	0	0	.17	2.5	.33	.16	12	0	.02			
20	0	.09	.14	1.4	.30	.15	13	0	0			
21	0	.01	.13	1.2	.19	.14	3.0	0	0			
22	12	0	.14	.92	.44	.08	1.4	0	0			
23	.30	0	.19	.79	.33	.10	5.4	0	.01			
24	.04	0	.26	.71	.41	.04	1.0	0	0			
25	0	0	.14	.64	.33	.02	.79	0	0			
26	0	0	.14	.61	.21	0	.65	0	0			
27	.27	0	.14	.60	2.8	0	.60	0	0			
28	.02	0	3.0	.55	1.0	0	.56	0	0			
29	0	0	7.2	.42	22	0	.49	0	0			
30	0	0	.93	.38	---	0	.42	0	0			
31	.19	---	.66	.54	---	0	---	0	---			---
TOTAL	12.82	5.12	35.50	72.64	35.26	16.85	46.98	3.09	.42	0	0	0
MEAN	.41	.17	1.15	2.34	1.22	.54	1.57	.10	.014	0	0	0
MAX	12	2.3	11	24	22	5.2	13	.45	.18	0	0	0
MIN	0	0	0	.28	.19	0	0	0	0	0	0	0
AC-FT	25	10	70	144	70	33	93	6.1	.8	0	0	0

CAL YR 1987 TOTAL 172.64 MEAN .47 MAX 52 MIN 0 AC-FT 342
WTR YR 1988 TOTAL 228.68 MEAN .62 MAX 24 MIN 0 AC-FT 454

CARNEROS CREEK BASIN

11120530 TECOLOTITO CREEK NEAR GOLETA, CA

LOCATION.--Lat 34°26'05", long 119°52'04", in Los Dos Pueblos Grant, Santa Barbara County, Hydrologic Unit 18060013, on right bank 0.2 mi east of Glen Annie Road, and 2.1 mi west of Goleta.

DRAINAGE AREA.--4.42 mi^2.

PERIOD OF RECORD.--October 1970 to September 1972, January 1980 to September 1982, October 1987 to September 1988.

GAGE.--Water-stage recorder and concrete channel. Elevation of gage is 40 ft, from topographic map. Prior to Jan. 25, 1980, at same site at different datum.

REMARKS.--Estimated daily discharges: Oct. 10-21, Nov. 5 to Dec. 1, May 2-8, and July 7-10. Records fair except for periods of estimated record, which are poor. No regulation above station. Some pumping for irrigation and water is occasionally released to channel from Tecolote tunnel.

AVERAGE DISCHARGE.--5 years (Water years 1971-72, 1981-82, 1988), 0.76 ft^3/s, 551 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,610 ft^3/s, Feb. 16, 1980, gage height, 4.47 ft, from rating curve extended above 160 ft^3/s on basis of slope-conveyance computation of flow in concrete channel; no flow at times in some years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 29	1115	116	2.35	Apr. 19	1645	*232	*2.52

Minimum daily, 0.03 ft^3/s, Aug. 1.

DISCHARGE, IN 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	.15	.20	.12	.25	.32	2.1	.27	.31	.23	.30	.03	.10
2	.14	.15	.16	.24	.35	.68	.26	.27	.23	.18	.13	.08
3	.12	.14	.18	.24	.30	.48	.31	.27	.17	.19	.16	.07
4	.10	.16	4.3	.88	.29	.39	.33	.28	.12	.20	.12	.07
5	.09	1.5	.49	6.0	.28	.36	.29	.29	.12	.18	.10	.22
6	.10	1.0	.36	.54	.28	.34	.29	.30	.16	.21	.10	.08
7	.12	.50	.30	.37	.27	.33	.30	.30	.15	.20	.10	.11
8	.13	.20	.21	.32	.26	.31	.29	.30	.16	.19	.10	.11
9	.15	.18	.19	.29	.26	.31	.29	.31	.13	.18	.12	.10
10	.15	.17	.19	.30	.26	.30	.28	.33	.15	.19	.16	.11
11	.15	.16	.18	.27	.26	.28	.28	.32	.15	.20	.15	.10
12	.15	.15	.17	.27	.34	.29	.31	.28	.15	.20	.13	.11
13	.15	.15	.16	.26	.26	.29	.34	.28	.19	.20	.11	.10
14	.15	.15	.16	.27	.28	.28	1.1	.28	.21	.21	.10	.10
15	.15	.15	.18	.27	.26	.28	.41	.32	.23	.18	.09	.10
16	.15	.15	1.8	.27	.27	.26	.30	.32	.24	.17	.11	.12
17	.15	.18	.30	15	.24	.28	.27	.31	.24	.16	.09	.14
18	.15	.26	.24	1.9	.23	.30	.26	.28	.22	.17	.11	.16
19	.15	.20	.23	.66	.23	.30	14	.29	.19	.17	.12	.13
20	.15	.18	.21	.46	.24	.27	6.1	.30	.21	.17	.17	.13
21	.50	.17	.21	.41	.25	.28	.92	.30	.22	.18	.12	.11
22	5.0	.16	.22	.37	.26	.29	.98	.30	.21	.18	.11	.09
23	.51	.18	.20	.37	.26	.29	.48	.30	.26	.25	.11	.10
24	.51	.20	.20	.37	.24	.27	.42	.30	.30	.19	.11	.11
25	.19	.17	.23	.36	.25	.27	.40	.31	.27	.18	.07	.13
26	.17	.16	.20	.36	.26	.28	.40	.30	.24	.17	.06	.10
27	.23	.15	.21	.35	.56	.26	.38	.30	.23	.16	.05	.12
28	.21	.14	1.4	.34	.40	.24	.36	.24	.24	.16	.08	.12
29	.19	.13	1.9	.33	13	.26	.33	.25	.26	.17	.08	.12
30	.16	.12	.40	.32	---	.27	.31	.27	.27	.52	.08	.10
31	.27	---	.28	.32	---	.26	---	.24	---	.21	.11	---
TOTAL	10.69	7.51	15.58	32.96	20.96	11.40	31.26	9.05	6.15	6.22	3.28	3.34
MEAN	.34	.25	.50	1.06	.72	.37	1.04	.29	.21	.20	.11	.11
MAX	5.0	1.5	4.3	15	13	2.1	14	.33	.30	.52	.17	.22
MIN	.09	.12	.12	.24	.23	.24	.26	.24	.12	.16	.03	.07
AC-FT	21	15	31	65	42	23	62	18	12	12	6.5	6.6

WTR YR 1988 TOTAL 158.40 MEAN .43 MAX 15 MIN .03 AC-FT 314

SANTA YNEZ RIVER BASIN

11121000 SANTA YNEZ RIVER AT JAMESON LAKE, NEAR MONTECITO, CA

LOCATION.--Lat 34°29'32", long 119°30'25", in NE 1/4 NW 1/4 sec.28, T.5 N., R.25 W., Santa Barbara County, Hydrologic Unit 18060010, on upstream face of Juncal Dam, 6.5 mi north of Carpinteria, and 8 mi northeast of Montecito.

DRAINAGE AREA.--13.9 mi^2, excludes that of Alder Creek.

PERIOD OF RECORD.--December 1930 to current year. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

GAGE.--Two water-stage recorders. Datum of lake gage is 2,021.6 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Supplementary gage and sharp-crested weir on outlet conduit of lake release, at different datum.

REMARKS.--Records of total inflow represent all water reaching Jameson Lake, including precipitation on the lake. Total inflow computed on basis of records of storage, diversion (draft) to city of Montecito, spill and release to river, evaporation, and seepage. Records of net inflow exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from U.S. Weather Bureau Class A land pan. Area and capacity tables are based on survey made in 1980. Lake capacity at spillway level, gage height 223.82 ft, 5,725 acre-ft. Dead storage, 32 acre-ft, below lowest outlet at gage height 139.0 ft included in these records. There is no regulation or diversion above station. At times flow of Alder Creek, which enters Santa Ynez River 2 mi downstream from Juncal Dam, is diverted at elevation 2,250 ft through a tunnel to Jameson Lake and is included in these records.

COOPERATION.--Reservoir-operation records and related data were provided by Montecito Water District.

AVERAGE DISCHARGE.--57 years (water years 1932-88), 7.03 ft^3/s, 5,090 acre-ft/yr.

Date	Elevation (feet)[a]	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Spill and release (acre-feet)	Evaporation and seepage (acre-feet)	Total inflow (acre-feet)	Rain on reservoir (acre-feet)	Net inflow (acre-feet)
Sept. 30.....	2,205.02	3,540	--	--	--	--	--	--	--
Oct. 31.....	2,203.34	3,380	-160	147	0	36	23	17	6
Nov. 30.....	2,202.70	3,320	-60	85	0	17	42	17	25
Dec. 31.....	2,203.57	3,400	+80	62	0	7	149	40	109
CAL YR 1987.....	--	--	-1,200	1,517	50	488	825	139	716
Jan. 31.....	2,208.35	3,900	+500	61	0	19	580	45	535
Feb. 29.....	2,209.23	3,990	+90	82	0	26	198	43	155
Mar. 31.....	2,216.38	4,800	+810	113	0	41	964	13	951
Apr. 30.....	2,218.10	5,000	+200	126	0	32	358	60	298
May 31.....	2,218.11	5,000	0	88	0	61	149	5	144
June 30.....	2,216.87	4,850	-150	158	0	53	61	1	60
July 31.....	2,215.17	4,650	-200	165	0	74	39	0	39
Aug. 31.....	2,212.89	4,390	-260	211	0	58	9	0	9
Sept. 30.....	2,210.65	4,140	-250	195	0	59	4	0	4
WTR YR 1988.....	--	--	600	1,493	0	483	2,576	241	2,335

a Elevation at 0800.

NOTE.--For months when inflow to the lake was small and other quantities were large, preliminary computations may indicate negative net inflow. This arises primarily from the difficulty of computing net inflow as the residual of several large quantities, which are not conducive to precise measurement. When this occurs, evaporation and seepage is adjusted to produce non-negative inflows.

SANTA YNEZ RIVER BASIN

11122000 SANTA YNEZ RIVER ABOVE GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'34", long 119°41'08", in NW 1/4 SW 1/4 sec.11, T.5 N., R.27 W., Santa Barbara County, Hydrologic Unit 18060010, on upstream face of Gibraltar Dam and 7 mi north of Santa Barbara.

DRAINAGE AREA.--216 mi^2.

PERIOD OF RECORD.--April 1920 to current year. November 1903 to November 1918 (fragmentary) at river station at damsite; records not equivalent because records since April 1920 are based on operation of Gibraltar Reservoir, and since December 1930, Jameson Lake. Prior to October 1945, published as "Santa Ynez River near Santa Barbara."

REVISED RECORDS.--WDR CA-86-1: 1934-43.

GAGE.--Two water-stage recorders. Datum of gage is National Geodetic Vertical Datum of 1929. Supplementary gage and sharp-crested weir on diversion from reservoir at different datum. See WSP 1735 for history of changes on both gages prior to Oct. 1, 1955. Spill and release measured by streamgaging station below dam (station 11123000).

REMARKS.--Records of total inflow represent all water reaching Gibraltar Reservoir, including precipitation on reservoir. Total inflow computed on basis of records of storage, diversion (draft) to city of Santa Barbara, spill and release to river, evaporation, and seepage. Records of net inflow exclude precipitation on reservoir surface. Monthly evaporation from reservoir surface computed on basis of evaporation from U.S. Weather Bureau Class A land pan. Area and capacity tables are based on survey made in September 1986. Reservoir capacity at spillway level, elevation, 1,399.82 ft, 8,240 acre-ft. Lowest outlet at elevation 1,333.86 ft. Flow regulated by Jameson Lake (station 11121000) since December 1930.

COOPERATION.--Reservoir-operation records and related data were provided by city of Santa Barbara.

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)a	Contents (acre-feet)	Change in contents (acre-feet)	Draft (acre-feet)	Spill and release (acre-feet)	Evaporation and seepage (acre-feet)	Total inflow (acre-feet)	Rain on reservoir (acre-feet)	Net inflow (acre-feet)
Sept. 30.....	1,374.26	3,150	--	--	--	--	--	--	--
Oct. 31.....	1,373.14	2,980	-170	139	4	53	26	21	5
Nov. 30.....	1,370.20	2,530	-450	468	0	21	39	20	19
Dec. 31.....	1,366.88	2,050	-480	558	0	11	89	57	32
CAL YR 1987.....	--	--	-3,860	4,584	61	779	1,564	335	1,229
Jan. 31.....	1,369.95	2,500	+450	405	0	25	880	62	818
Feb. 29.....	1,371.12	2,670	+170	375	0	25	570	53	517
Mar. 31.....	1,389.88	6,040	+3,370	431	0	62	3,863	41	3,822
Apr. 30.....	1,394.63	7,060	+1,020	509	0	58	1,587	90	1,497
May 31.....	1,394.25	6,980	-80	576	0	100	596	1	595
June 30.....	1,391.97	6,490	-490	529	11	101	151	1	150
July 31.....	1,388.37	5,740	-750	614	81	128	73	0	73
Aug. 31.....	1,384.92	5,050	-690	608	0	106	24	0	24
Sept. 30.....	1,381.29	4,370	-680	617	0	83	20	0	20
WTR YR 1988.....	--	--	+1,220	5,829	96	773	7,918	346	7,572

a Elevation at 0800.

NOTE.--For months when inflow to the reservoir was small and other quantities were large, negative figures of inflow may appear. This arises primarily from the difficulty of computing inflow as the residual of several larger quantities, which are not conducive to precise measurement. When this occurs, evaporation and seepage is adjusted to produce non-negative inflows.

SANTA YNEZ RIVER BASIN

11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA

LOCATION.--Lat 34°31'28", long 119°41'11", in SW 1/4 SW 1/4 sec.11, T.5 N., R.27 W., Santa Barbara County, Hydrologic Unit 18060010, on left bank 700 ft downstream from Gibraltar Dam and 7 mi north of Santa Barbara.

DRAINAGE AREA.--216 mi^2.

PERIOD OF RECORD.--April 1920 to current year (monthly discharge only prior to October 1941).

REVISED RECORDS.--WDR CA-86-1: 1934-43.

GAGE.--Two water-stage recorders. Datum of gage on main channel is 1,227 ft above National Geodetic Vertical Datum of 1929. Supplementary gage and sharp-crested weir on the release channel from Gibraltar Dam to river at different datum. See WSP 1735 for history of changes on both gages prior to May 20, 1958.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Jameson Lake (station 11121000) and Gibraltar Reservoir (station 11122000). City of Santa Barbara diverted 5,830 acre-ft during current year from Gibraltar Reservoir; Montecito Water District diverted 1,490 acre-ft during current year from Jameson Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,200 ft^3/s, Jan. 25, 1969, gage height, 25.8 ft, from rating curve extended above 2,100 ft^3/s on basis of computations of flow from gate openings and flow over dam at gage heights 17.5 and 25.8 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.7 ft^3/s, July 15 (return flow from release weir); no flow for many days.

DISCHARGE, IN 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	1.1								0	2.1		
2	.88								0	2.1		
3	0								0	2.1		
4	0								0	2.1		
5	0								0	1.9		
6	0								0	1.9		
7	0								0	2.1		
8	0								0	1.7		
9	0								0	1.2		
10	0								0	1.3		
11	0								0	2.0		
12	0								0	2.0		
13	0								0	2.0		
14	0								0	1.8		
15	0								0	2.3		
16	0								0	2.5		
17	0								0	2.3		
18	0								0	2.2		
19	0								0	2.2		
20	0								0	2.3		
21	0								0	.76		
22	0								0	0		
23	0								0	0		
24	0								0	0		
25	0								0	0		
26	0								0	0		
27	0								0	0		
28	0								1.4	0		
29	0								1.9	0		
30	0				---				2.1	0		
31	0	---			---		---		---	0		---
TOTAL	1.98	0	0	0	0	0	0	0	5.4	40.86	0	0
MEAN	.064	0	0	0	0	0	0	0	.18	1.32	0	0
MAX	1.1	0	0	0	0	0	0	0	2.1	2.5	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3.9	0	0	0	0	0	0	0	11	81	0	0

CAL YR 1987 TOTAL 30.39 MEAN .083 MAX 5.1 MIN 0 AC-FT 60
WTR YR 1988 TOTAL 48.24 MEAN .13 MAX 2.5 MIN 0 AC-FT 96

SANTA YNEZ RIVER BASIN

11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°32'37", long 119°51'50", in San Marcos Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.3 mi downstream from Los Laureles Canyon Creek, 10 mi downstream from Gibraltar Reservoir, and 13.3 mi east of Santa Ynez.

DRAINAGE AREA.--277 mi^2.

PERIOD OF RECORD.--April 1947 to current year. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 787.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Jameson Lake and Gibraltar Reservoir (stations 11121000 and 11122000). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Low flow affected by intermittent pumping for irrigation from infiltration gallery in riverbed at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,500 ft^3/s, Jan. 25, 1969, gage height, 18.88 ft, from rating curve extended above 11,600 ft^3/s on basis of peak flow for station below Gibraltar Dam plus tributary inflow; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,790 ft^3/s, Feb. 29, gage height, 6.28 ft; no flow for many days.

DISCHARGE, IN 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				0	.67	134	1.1	3.2	.26			
2				0	.76	44	.86	2.9	.19			
3				0	.81	26	.56	2.7	.15			
4				0	.69	19	.45	2.6	.12			
5				0	.48	15	.47	2.6	.10			
6				0	.42	13	.39	2.7	.10			
7				0	.44	11	.38	2.5	.09			
8				0	.46	9.5	.36	2.0	.07			
9				0	.37	8.6	.30	1.9	.06			
10				0	.29	8.4	.26	1.7	.05			
11				0	.23	7.6	.25	1.2	.04			
12				0	.20	7.0	.23	1.0	.03			
13				0	.19	6.4	.22	.88	.03			
14				0	.19	5.8	1.4	.79	.03			
15				0	.17	5.6	2.5	.69	.02			
16				0	.14	4.9	1.1	.67	.02			
17				51	.11	4.3	.80	.67	.02			
18				39	.10	3.9	.73	.67	.02			
19				11	.08	3.8	5.1	.65	.02			
20				5.1	.07	3.8	25	.63	.02			
21				3.3	.06	3.4	20	.50	.02			
22				2.5	.06	3.0	13	.48	.01			
23				2.1	.05	3.1	13	.42	.01			
24				2.0	.05	2.8	12	.46	.01			
25				1.6	.04	2.6	8.6	.46	.01			
26				1.2	.04	2.4	7.1	.41	.01			
27				.90	.12	2.0	5.7	.38	.01			
28				.73	7.3	1.5	5.0	.37	.01			
29				.67	549	1.2	4.4	.34	.01			
30				.67	---	1.2	3.7	.31	0			
31		---		.67	---	1.2	---	.28	---			---
TOTAL	0	0	0	122.44	563.59	366.0	134.96	37.06	1.54	0	0	0
MEAN	0	0	0	3.95	19.4	11.8	4.50	1.20	.051	0	0	0
MAX	0	0	0	51	549	134	25	3.2	.26	0	0	0
MIN	0	0	0	0	.04	1.2	.22	.28	0	0	0	0
AC-FT	0	0	0	243	1120	726	268	74	3.1	0	0	0

CAL YR 1987 TOTAL 24.63 MEAN .068 MAX 19 MIN 0 AC-FT 49
WTR YR 1988 TOTAL 1225.59 MEAN 3.35 MAX 549 MIN 0 AC-FT 2430

SANTA YNEZ RIVER BASIN

11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°35'48", long 119°54'28", in San Marcos Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank 0.6 mi downstream from Pine Canyon and 9.9 mi east of Santa Ynez.

DRAINAGE AREA.--74.0 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 783.38 ft above National Geodetic Vertical Datum of 1929. See WSP 1735 for history of changes prior to Sept. 27, 1952. Sept. 27, 1952, to June 24, 1969, at datum 3.25 ft higher.

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

AVERAGE DISCHARGE.--47 years, 17.4 ft^3/s, 12,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft^3/s, Feb. 24, 1969, gage height, 14.45 ft, from floodmark, present datum, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement at gage height 14.16 ft; no flow at times since 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*), from rating curve extended above 160 ft^3/s on basis of slope-area measurement at gage height 12.10 ft:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 5	1300	232	8.42	Feb. 29	1215	*1,800	*10.89
Jan. 17	2145	157	8.14				

No flow for many days.

DISCHARGE, IN 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			0	.04	4.2	125	4.2	6.0	2.6	.13		
2			0	.02	4.4	44	4.1	5.7	2.0	.12		
3			0	0	4.1	28	4.1	5.6	1.5	.10		
4			0	.04	3.9	22	4.2	5.3	1.4	.07		
5			0	87	3.7	18	3.9	5.4	1.3	.09		
6			0	34	3.5	15	3.3	6.0	1.6	.09		
7			0	12	3.4	13	3.2	5.9	1.9	.08		
8			0	6.4	3.4	12	3.1	6.0	1.9	.08		
9			0	4.2	3.4	10	2.7	5.4	1.7	.08		
10			0	3.0	3.2	9.3	2.4	5.2	1.5	.10		
11			0	2.3	3.2	9.2	2.2	4.9	1.2	.10		
12			0	1.9	3.2	8.7	2.2	4.8	1.0	.10		
13			0	1.7	3.2	8.2	2.5	4.9	.90	.10		
14			0	1.5	3.2	7.9	5.5	4.9	.69	.08		
15			0	1.3	3.2	7.6	9.7	5.0	.54	.06		
16			0	1.3	3.3	7.2	6.2	5.1	.42	.05		
17			0	36	3.2	6.9	5.4	5.7	.35	.05		
18			0	54	3.3	6.7	4.8	5.8	.32	.05		
19			0	20	3.2	6.5	6.2	5.4	.26	.05		
20			0	13	3.2	6.0	35	4.6	.29	.05		
21			0	10	3.2	5.8	27	4.2	.28	.05		
22			0	7.8	3.3	5.8	15	3.6	.28	.04		
23			0	7.0	3.2	5.6	16	3.7	.25	.04		
24			0	7.1	3.3	5.4	15	3.6	.25	.02		
25			0	7.3	3.4	5.1	12	3.7	.29	0		
26			0	6.5	3.3	4.8	10	3.5	.28	0		
27			0	5.7	4.3	4.7	8.8	3.3	.24	0		
28			0	5.1	13	4.4	7.7	3.0	.23	0		
29			.02	4.7	434	4.4	7.2	3.0	.20	0		
30			.94	4.5	---	4.5	6.5	3.0	.22	0		
31		---	.13	4.4	---	4.3	---	3.1	---	0		---
TOTAL	0	0	1.09	349.80	540.4	426.0	240.1	145.3	25.89	1.78	0	0
MEAN	0	0	.035	11.3	18.6	13.7	8.00	4.69	.86	.057	0	0
MAX	0	0	.94	87	434	125	35	6.0	2.6	.13	0	0
MIN	0	0	0	0	3.2	4.3	2.2	3.0	.20	0	0	0
AC-FT	0	0	2.2	694	1070	845	476	288	51	3.5	0	0

CAL YR 1987 TOTAL 523.62 MEAN 1.43 MAX 118 MIN 0 AC-FT 1040
WTR YR 1988 TOTAL 1730.36 MEAN 4.73 MAX 434 MIN 0 AC-FT 3430

SANTA YNEZ RIVER BASIN

11125500 LAKE CACHUMA NEAR SANTA YNEZ, CA

LOCATION.--Lat 34°34'57", long 119°58'47", in Lomas de la Purification Grant, Santa Barbara County, Hydrologic Unit 18060010, at Bradbury Dam on Santa Ynez River, on upstream face near left end of dam, and 6.1 mi east of Santa Ynez.
DRAINAGE AREA.--417 mi^2.

PERIOD OF RECORD.--November 1952 to current year. Prior to October 1985, only monthend elevations and contents and total diversions published. November 1952 to October 1960, published as "Cachuma Reservoir near Santa Ynez."
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to Oct. 1, 1965, nonrecording gage.

REMARKS.--Reservoir is formed by earthfill dam. Storage began November 1952. Dead storage below outlet gage to river, elevation, 600 ft, 3,114 acre-ft, included in contents. Capacity below sill of inlet to Tecolote tunnel, elevation, 660 ft, 32,514 acre-ft; below spillway level, elevation, 720 ft, 125,292 acre-ft; and below top of four radial gates, elevation, 750 ft, 204,874 acre-ft. Water is released from outlet to Santa Ynez River to satisfy downstream water rights. Water diverted to Tecolote tunnel for use by city of Santa Barbara, nearby communities, and Santa Ynez River Water Conservation District, and to Cachuma recreation area.
COOPERATION.--Reservoir elevation, contents, and diversion figures were provided by U.S. Bureau of Reclamation. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 221,100 acre-ft, Feb. 24, 1969, elevation, 755.11 ft; minimum since initial filling in April 1958, 99,150 acre-ft, Sept. 30, 1988, elevation 707.42 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 128,261 acre-ft, Oct. 1, elevation, 721.31 ft; minimum, 99,150 acre-ft, Sept. 30, elevation, 707.42 ft.

Capacity table (elevation, in feet NGVD, and contents, in acre-feet)
(Based on survey dated January 1953, by U.S. Bureau of Reclamation)

720	125,292	745	189,827
725	136,861	750	204,874
730	149,099	755	220,694
735	162,004	760	237,200
740	175,569		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128261	125880	124555	124063	124264	126829	126399	125654	121844	114981	107461	102829
2	128170	125834	124510	123996	124242	127258	126264	125608	121711	114555	107361	102672
3	128078	125789	124443	124019	124220	127439	126151	125563	121601	114112	107139	102515
4	127964	125744	124376	123996	124197	127575	126038	125495	121490	113671	106998	102378
5	127849	125880	124644	124108	124153	127666	125947	125428	121336	113208	106897	102299
6	127712	125857	124622	124264	121108	127712	125925	125315	121203	112788	106756	102143
7	127529	125812	124555	124287	124086	127758	125857	125203	121071	112473	106615	101968
8	127394	125789	124510	121264	124041	127804	125789	125113	120872	112180	106494	101774
9	127213	125721	124488	124220	123996	127781	125676	125024	120719	111869	106373	101638
10	127100	125699	124465	124220	123952	127712	125608	124912	120545	111579	106212	101483
11	126987	125654	124376	124197	123907	127735	125518	124801	120392	111310	106052	101309
12	126851	125563	124376	124197	123840	127712	125405	124666	120218	111020	105873	101173
13	126716	125495	124309	124153	123773	127666	125315	124488	120043	110729	105694	101018
14	126603	125428	124264	124108	123706	127643	125225	124354	119912	110460	105535	100882
15	126490	125382	124242	124063	123616	127575	125292	124220	119738	110129	105376	100765
16	126377	125337	124376	124019	123505	127529	125203	124086	119563	109864	105217	100649
17	126309	125247	124376	124220	123415	127507	125136	123907	119389	109761	105058	100533
18	126219	125225	124376	124555	123304	127462	125069	123795	119258	109618	104899	100397
19	126128	125180	124354	124599	123214	127439	125024	123684	119149	109496	104739	100300
20	126060	125158	124287	124622	123147	127439	125337	123594	119018	109373	104561	100203
21	125947	125091	124287	124599	123058	127394	125541	123482	118909	109250	104402	100031
22	125880	125068	124242	124599	123014	127371	125631	123371	118561	109148	104242	99916
23	125970	125024	124153	124577	122948	127349	125767	123237	118195	108964	104124	99840
24	125857	124957	124130	124555	122903	127281	125789	123103	117850	108801	104006	99782
25	125789	124912	124063	124555	122859	127190	125812	122948	117484	108637	103908	99686
26	125721	124845	124019	124510	122793	127145	125812	122793	117074	108474	103810	99533
27	125699	124800	123952	124488	122749	127032	125834	122638	116686	108310	103653	99437
28	125721	124733	123974	124443	122926	126897	125812	122484	116259	108147	103496	99322
29	125925	124666	124041	124376	123460	126761	125789	122307	115811	107945	103339	99265
30	125880	124622	124108	124354	---	126648	125721	122131	115407	107764	103182	99150
31	125880	---	124108	124309	---	126535	---	121976	---	107623	103025	---
MAX	128261	125880	124644	124622	124264	127804	126399	125654	121844	114981	107461	102829
MIN	125699	124622	123952	121264	121108	126535	125024	121976	115407	107623	103025	99150
a	720.26	719.70	719.47	719.56	719.18	720.55	720.19	718.51	715.48	711.73	709.42	707.42
b	-2472	-1258	-514	+201	-849	+3075	-814	-3745	-6569	-7784	-4598	-3875
c.	2152	841	892	1024	1638	1779	1841	3129	3249	3485	3677	3114

CAL YR 1987 b -40132
WTR YR 1988 b -29202

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

SANTA YNEZ RIVER BASIN

11128300 ALISAL RESERVOIR NEAR SOLVANG, CA

LOCATION.--Lat 34°32'56", long 120°07'45", in NE 1/4 NW 1/4 sec.4, T.5 N., R.31 W., Santa Barbara County, Hydrologic Unit 18060010, in cove on right bank 0.4 mi upstream from reservoir spillway and 3 mi south of Solvang.

DRAINAGE AREA.--7.83 mi^2.

PERIOD OF RECORD.--December 1971 to current year. Prior to October 1985, only monthend elevations and contents published.

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

REMARKS.--Estimated daily contents: Nov. 1-3, Nov. 29 to Dec. 1. Lake is formed by earthfill dam. Storage began Dec. 19, 1970. Usable capacity, 2,260 acre-ft between bottom of outlet gate at elevation 555.70 ft, and crest of spillway at elevation 599.88 ft. Dead storage, 110 acre-ft. Inflow must total 150 acre-ft during any one month between November and June in order to store flows for that water year.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,770 acre-ft, Mar. 4, 1978, elevation, 604.31 ft; minimum, 748 acre-ft, Nov. 8-10, 1972, elevation, 577.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,400 acre-ft, Feb. 29, elevation, 600.27 ft; minimum,2,090 acre-ft, Sept. 30, elevation, 596.82 ft.

Capacity table (elevation in feet NGVD, and contents, in acre-feet)
(Based on data provided by Santa Barbara County Flood Control District in 1971)

595	1,940
600	2,380
605	2,840

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
INSTANTANEOUS OBSERVATIONS AT 1800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2120	2110	2100	2130	2270	2390	2370	2370	2340	2290	2220	2150
2	2110	2110	2100	2140	2270	2380	2360	2370	2340	2290	2220	2150
3	2110	2110	2100	2140	2270	2380	2360	2370	2340	2290	2220	2150
4	2110	2110	2110	2140	2270	2380	2360	2370	2340	2280	2220	2150
5	2110	2110	2110	2150	2270	2380	2360	2370	2340	2280	2210	2140
6	2110	2110	2110	2150	2270	2370	2360	2370	2340	2280	2210	2140
7	2110	2110	2110	2150	2270	2370	2360	2370	2330	2270	2210	2140
8	2110	2110	2110	2150	2270	2370	2360	2370	2330	2270	2210	2140
9	2100	2110	2110	2150	2270	2370	2360	2370	2330	2270	2200	2140
10	2100	2110	2110	2150	2270	2370	2360	2370	2330	2270	2200	2130
11	2100	2110	2110	2150	2270	2370	2360	2370	2330	2270	2200	2130
12	2100	2110	2110	2150	2270	2370	2360	2370	2320	2270	2200	2130
13	2100	2110	2110	2150	2270	2370	2360	2370	2320	2260	2190	2120
14	2100	2110	2110	2150	2270	2370	2370	2360	2320	2260	2190	2120
15	2100	2110	2110	2160	2270	2370	2370	2360	2320	2260	2190	2120
16	2100	2110	2110	2160	2270	2370	2370	2360	2320	2260	2180	2120
17	2100	2110	2120	2210	2270	2370	2370	2360	2320	2260	2180	2120
18	2090	2100	2120	2240	2270	2370	2370	2360	2310	2250	2180	2120
19	2100	2100	2120	2250	2270	2370	2380	2360	2310	2250	2180	2120
20	2110	2100	2120	2250	2270	2370	2380	2360	2310	2250	2170	2110
21	2110	2100	2120	2250	2270	2370	2380	2360	2310	2250	2170	2110
22	2110	2100	2120	2250	2270	2370	2370	2360	2310	2250	2170	2110
23	2110	2100	2120	2260	2270	2370	2380	2360	2290	2240	2170	2110
24	2110	2100	2120	2260	2270	2370	2370	2350	2310	2240	2160	2100
25	2110	2100	2110	2260	2270	2370	2370	2350	2300	2240	2160	2100
26	2110	2100	2110	2260	2270	2370	2370	2350	2300	2240	2160	2100
27	2110	2100	2110	2260	2280	2370	2370	2350	2300	2230	2160	2100
28	2110	2100	2120	2260	2280	2370	2370	2350	2300	2230	2160	2100
29	2110	2100	2130	2260	2400	2370	2370	2350	2300	2230	2160	2100
30	2110	2100	2130	2270	---	2370	2370	2340	2290	2230	2160	2090
31	2110	---	2130	2270	---	2370	---	2340	---	2230	2150	---
MAX	2120	2110	2130	2270	2400	2390	2380	2370	2340	2290	2220	2150
MIN	2090	2100	2100	2130	2270	2370	2360	2340	2290	2230	2150	2090
a	597.01	---	597.27	598.75	600.24	599.85	599.88	599.60	599.04	598.28	597.48	596.82
b	-10	-10	+30	+140	+130	-30	+0	-30	-50	-60	-80	-60

CAL YR 1987 b +10
WTR YR 1988 b -30

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

SANTA YNEZ RIVER BASIN

11128500 SANTA YNEZ RIVER AT SOLVANG, CA

LOCATION.--Lat 34°35'06", long 120°08'37", in San Carlos de Jonata Grant, Santa Barbara County, Hydrologic Unit 18060010, near left bank on downstream end of pier of Alisal Road bridge, 25 ft downstream from Alisal Creek, 0.8 mi southwest of Solvang, and 10 mi downstream from Lake Cachuma.

DRAINAGE AREA.--579 mi^2.

PERIOD OF RECORD.--October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 362.43 ft above National Geodetic Vertical Datum of 1929. Various datums used during period of record. July 29 to Sept. 30, 1953, auxiliary water-stage recorder 750 ft upstream at different datum. Oct. 1, 1953, to Sept. 30, 1968, water-stage recorder at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records poor. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (stations 11121000, 11122000, and 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water for irrigation pumped from wells along banks of river in valley upstream.

EXTREMES FOR PERIOD OF RECORD (1928-36 and since 1946).--Maximum discharge, 82,000 ft^3/s, Jan. 25, 1969, estimated on basis of discharge measurements up to 81,000 ft^3/s for Santa Ynez River near Buellton, gage height, 17.1 ft, from floodmark; no flow for several months in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 634 ft^3/s, Feb. 29, gage height, 2.01 ft; no flow for many days.

DISCHARGE, IN 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			0	.76	.38	93	0	.57	0	88		
2			0	.49	0	23	0	.71	0	93		
3			0	.38	0	9.7	0	.57	0	96		
4			0	.49	0	7.8	0	.49	0	106		
5			0	5.5	0	7.4	0	.46	0	117		
6			0	4.0	0	6.7	0	.60	0	116		
7			0	1.5	0	6.5	0	.51	0	74		
8			0	1.1	0	6.0	0	.29	0	67		
9			0	.65	0	5.3	0	.11	0	62		
10			0	.65	0	5.3	0	0	0	61		
11			0	.54	0	4.8	0	0	0	60		
12			0	.11	0	4.6	0	0	0	58		
13			0	0	0	.92	0	0	0	58		
14			0	0	0	0	0	0	0	58		
15			1.4	0	0	0	0	0	0	58		
16			8.5	0	0	0	0	0	0	51		
17			.16	23	0	0	0	0	0	7.5		
18			.33	11	0	0	0	0	0	.96		
19			.11	5.6	0	0	0	0	0	.27		
20			0	4.1	0	0	.70	0	0	0		
21			0	.72	0	0	1.1	0	0	0		
22			0	1.0	0	0	.65	0	0	0		
23			0	1.1	0	0	1.1	0	0	0		
24			0	1.3	0	0	1.1	0	0	0		
25			0	1.1	0	0	.93	0	12	0		
26			0	.76	0	0	1.1	0	48	0		
27			0	.38	0	0	1.1	0	60	0		
28			0	.22	0	0	1.1	0	65	0		
29			2.8	.05	215	0	.90	0	77	0		
30			2.7	.27	---	0	.80	0	87	0		
31		---	1.4	.65	---	0	---	0	---	0		---
TOTAL	0	0	17.40	67.42	215.38	181.02	10.58	4.31	349	1231.73	0	0
MEAN	0	0	.56	2.17	7.43	5.84	.35	.14	11.6	39.7	0	0
MAX	0	0	8.5	23	215	93	1.1	.71	87	117	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	35	134	427	359	21	8.5	692	2440	0	0

CAL YR 1987 TOTAL 882.78 MEAN 2.42 MAX 87 MIN 0 AC-FT 1750
WTR YR 1988 TOTAL 2076.84 MEAN 5.67 MAX 215 MIN 0 AC-FT 4120

SANTA YNEZ RIVER BASIN

11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA

LOCATION.--Lat 34°35'19", long 120°24'27", in W 1/2 sec.24, T.6 N., R.34 W., Santa Barbara County, Hydrologic Unit 18060010, on right bank at bridge on Jalama Road, 0.4 mi downstream from El Jaro Creek, and 4.4 mi southeast of Lompoc.

DRAINAGE AREA.--47.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1941 to current year.

GAGE.--Water-stage recorder and concrete low-water control. Elevation of gage is 220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation above station. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--47 years, 9.95 ft^3/s, 7,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft^3/s, Mar. 15, 1952, gage height, 20.8 ft; no flow at times in some years.

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)
Feb. 29	1145	*185	*2.51				

Minimum daily, 0.04 ft^3/s, Aug. 6, 7, 26, 27, Sept. 28-30.

DISCHARGE, IN 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	.05	1.2	.65	1.0	1.7	8.6	.72	.74	.34	.18	.05	.05
2	.06	.90	.65	1.0	1.7	4.5	.75	.76	.32	.17	.05	.05
3	.06	.60	.67	.89	1.7	2.9	.67	.80	.29	.18	.05	.05
4	.05	.70	7.9	1.4	1.6	2.3	.67	.83	.29	.20	.05	.05
5	.05	.89	4.6	9.9	1.5	2.1	.75	.84	.26	.19	.05	.05
6	.05	.64	.98	3.3	1.5	2.0	.69	.88	.26	.18	.04	.05
7	.06	.60	1.1	1.6	1.6	1.9	.70	.88	.26	.16	.04	.05
8	.07	.54	.79	1.2	1.4	1.7	.67	.96	.26	.16	.05	.05
9	.09	.52	.60	1.2	1.4	1.9	.67	.88	.26	.16	.05	.06
10	.10	.50	.57	1.3	1.3	1.8	.63	.71	.26	.15	.05	.06
11	.15	.47	.54	1.4	1.3	2.0	.67	.66	.26	.16	.06	.06
12	.18	.46	.52	1.2	1.2	1.7	.67	.62	.26	.15	.05	.06
13	.18	.50	.49	1.2	1.2	1.6	.67	.60	.26	.14	.05	.06
14	.18	.55	.48	1.2	1.3	1.4	.89	.57	.27	.13	.05	.06
15	.22	.50	.48	1.2	1.3	1.4	1.2	.57	.28	.12	.05	.06
16	.26	.46	9.3	1.2	1.1	1.4	.98	.57	.28	.10	.05	.06
17	.29	.52	3.3	43	1.0	1.4	.88	.55	.28	.08	.05	.06
18	.32	.71	1.0	15	1.0	1.4	.73	.55	.28	.08	.05	.05
19	.43	.65	.72	3.6	1.0	1.4	5.6	.51	.29	.09	.05	.05
20	.44	.58	.62	2.5	1.0	1.2	15	.46	.29	.08	.05	.05
21	.44	.58	.62	2.0	1.0	1.1	4.4	.43	.32	.07	.05	.05
22	.49	.56	.62	1.7	1.1	1.0	1.8	.40	.31	.07	.05	.05
23	.65	.52	.58	1.7	1.1	1.0	1.9	.40	.29	.06	.05	.05
24	.95	.52	.57	1.8	1.2	1.0	1.5	.40	.33	.06	.05	.05
25	1.2	.50	.57	1.6	.99	1.0	1.0	.40	.35	.06	.05	.05
26	.94	.48	.57	1.4	1.0	.97	.88	.40	.32	.06	.04	.06
27	.97	.50	.57	1.4	1.3	.85	.88	.40	.27	.06	.04	.05
28	1.0	.55	11	1.4	3.4	.67	.88	.40	.22	.05	.05	.04
29	1.1	.59	10	1.5	64	.66	.88	.38	.19	.06	.05	.04
30	.84	.62	4.0	1.7	---	.67	.81	.37	.17	.06	.05	.04
31	1.1	---	1.4	1.7	---	.69	---	.36	---	.06	.05	---
TOTAL	12.97	17.91	66.46	112.19	101.89	54.21	49.14	18.28	8.32	3.53	1.52	1.57
MEAN	.42	.60	2.14	3.62	3.51	1.75	1.64	.59	.28	.11	.049	.052
MAX	1.2	1.2	11	43	64	8.6	15	.96	.35	.20	.06	.06
MIN	.05	.46	.48	.89	.99	.66	.63	.36	.17	.05	.04	.04
AC-FT	26	36	132	223	202	108	97	36	17	7.0	3.0	3.1

CAL YR 1987 TOTAL 786.18 MEAN 2.15 MAX 171 MIN .04 AC-FT 1560
WTR YR 1988 TOTAL 447.99 MEAN 1.22 MAX 64 MIN .04 AC-FT 889

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1978 to current year.
CHEMICAL DATA: Water year 1978 to current year.
pH: Water years 1982-83.
WATER TEMPERATURE: Water years 1982-83.

PERIOD OF DAILY RECORD.--
pH: October 1981 to September 1983.
WATER TEMPERATURE: October 1981 to September 1983.

INSTRUMENTATION.--Water-quality monitor from October 1981 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT						
01...	1655	0.06	1510	8.60	19.0	1110
NOV						
02...	1400	0.81	1440	8.10	15.0	970
DEC						
01...	1330	0.67	1510	8.10	11.0	1010
JAN						
05...	1520	11	1180	8.40	10.5	824
FEB						
03...	1310	1.7	1480	8.20	9.5	994
29...	1130	167	604	7.50	14.0	374
APR						
06...	1230	0.86	1530	8.10	17.5	990
MAY						
05...	1135	0.92	1430	7.80	15.5	964
JUN						
02...	1500	0.32	1530	8.10	24.5	967
JUL						
06...	1410	0.21	1610	7.90	27.0	1060
AUG						
02...	1445	0.06	1520	7.80	22.5	1080
SEP						
09...	1215	0.06	1630	7.80	19.0	1080

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
FEB									
03...	1310	1.7	1480	8.20	9.5	580	210	140	57

DATE	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)	SILICA, DISSOLVED (MG/L AS SIO2)
FEB									
03...	110	29	2	3.1	374	280	120	0.5	24

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
FEB							
03...	994	960	<0.10	0.11	650	<10	120

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

SANTA YNEZ RIVER BASIN

11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA

LOCATION.--Lat 34°38'14", long 120°25'28", in Canada de Salsipuedes Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.6 mi upstream from State Highway 246, 1.9 mi east of Lompoc, 1.8 mi downstream from Salsipuedes Creek, and 12.4 mi downstream from Lake Cachuma.

DRAINAGE AREA.--789 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1947 to November 1951 (irrigation seasons only). May 1952 to September 1963, October 1964 to September 1978, October 1980 to current year. Records equivalent, except for low-flow periods, to those published as "near Lompoc" (station 11133500), November to December 1906, October 1907 to September 1918, May 1925 to September 1960, and October 1978 to September 1980.

GAGE.--Two water-stage recorders. Elevation of main gage is 90 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1715 for history of changes prior to Oct. 1, 1961. Since Oct. 1, 1961, at various sites and datums within 0.1 mi of present site. Supplementary gage, used for high-water periods, at site 0.6 mi downstream at datum 79.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Aug. 19-31. Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (stations 11121000, 11122000, and 11125500). Water diverted out of Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Water pumped from wells along banks of river for irrigation in valley upstream.

EXTREMES FOR PERIOD OF RECORD (1952-63 and since 1964).--Maximum discharge, 80,000 ft^3/s, Jan. 25, 1969, gage height, 24.20 ft, from supplementary gage; no flow at times in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 9, 1907, reached a stage of 22.0 ft, site and datum then in use, discharge, 120,000 ft^3/s, from mean-depth study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 423 ft^3/s, Mar. 1, gage height, 2.93 ft, from rating curve extended above 360 ft^3/s on basis of velocity-area study at gage height of 5.99 ft; no flow for many days.

DISCHARGE, IN 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			0	2.9	3.1	293	2.6	2.8	.01	0	.41	
2			0	2.0	3.5	105	2.5	2.8	0	0	.39	
3			0	1.6	3.5	51	2.5	2.8	0	.14	.36	
4			0	1.7	3.7	32	2.5	2.8	0	15	.33	
5			.03	6.6	3.7	23	2.4	2.6	0	42	.32	
6			.05	5.6	3.7	18	2.4	2.3	0	58	.29	
7			0	3.8	3.7	16	2.5	2.0	0	72	.26	
8			0	2.9	3.9	14	2.5	1.7	0	71	.22	
9			0	2.5	4.0	12	2.1	1.5	0	49	.19	
10			0	2.2	4.0	11	1.3	1.4	0	41	.17	
11			0	2.1	4.2	10	1.1	1.2	0	38	.16	
12			0	2.1	4.1	9.0	.96	.94	0	37	.15	
13			0	2.3	3.7	8.1	.95	.74	0	37	.13	
14			0	2.0	3.5	7.6	1.2	.58	0	36	.11	
15			0	2.0	3.5	7.5	1.6	.53	0	34	.10	
16			2.4	2.0	3.3	6.9	1.4	.50	0	30	.09	
17			5.5	22	3.0	6.4	1.1	.40	0	27	.06	
18			1.9	33	3.0	6.3	1.1	.31	0	26	.04	
19			.19	5.8	3.0	6.0	1.6	.22	0	17	.03	
20			0	4.4	3.2	5.7	7.5	.15	0	8.5	.02	
21			0	3.9	3.3	5.6	5.5	.13	0	4.9	.01	
22			0	3.5	3.3	5.3	4.4	.11	0	2.9	0	
23			0	3.2	3.5	5.1	4.2	.10	0	1.9	0	
24			0	3.0	3.5	5.1	4.2	.09	0	1.3	0	
25			0	2.5	3.0	4.5	3.9	.08	0	.97	0	
26			0	2.5	3.0	4.2	3.7	.07	0	.84	0	
27			0	2.4	3.0	3.9	3.7	.07	0	.72	0	
28			4.3	2.3	4.4	3.6	3.6	.06	0	.65	0	
29			9.8	2.7	70	3.2	3.4	.06	0	.57	0	
30			7.5	2.8	---	3.0	3.1	.05	0	.49	0	
31		---	4.1	2.8	---	2.8	---	.03	---	.44	0	---
TOTAL	0	0	35.77	141.1	168.3	694.8	81.51	29.12	.01	654.32	3.84	0
MEAN	0	0	1.15	4.55	5.80	22.4	2.72	.94	.0003	21.1	.12	0
MAX	0	0	9.8	33	70	293	7.5	2.8	.01	72	.41	0
MIN	0	0	0	1.6	3.0	2.8	.95	.03	0	0	0	0
AC-FT	0	0	71	280	334	1380	162	58	.02	1300	7.6	0

CAL YR 1987 TOTAL 2387.16 MEAN 6.54 MAX 376 MIN 0 AC-FT 4730
WTR YR 1988 TOTAL 1808.77 MEAN 4.94 MAX 293 MIN 0 AC-FT 3590

11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
JAN						
05...	1045	8.0	1370	8.20	12.0	919
FEB						
03...	1055	3.4	1740	8.30	10.5	1280
29...	1555	159	662	7.60	15.5	410
APR						
06...	1115	2.2	1860	8.10	19.5	1260
MAY						
05...	0955	2.6	1720	7.80	15.5	1270
JUL						
06...	1100	56	1300	7.80	20.0	904
AUG						
02...	1145	0.38	1520	7.80	21.0	1170

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
FEB									
03...	1055	3.4	1740	8.30	10.5	670	310	140	77
JUL									
06...	1100	56	1300	7.80	20.0	550	300	110	66

DATE	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
FEB									
03...	110	26	2	4.5	361	480	120	0.4	21
JUL									
06...	72	22	1	4.0	251	370	54	0.3	26

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
FEB								
03...	1280	1170	<0.10	<0.01	--	530	<10	50
JUL								
06...	904	853	<0.10	0.08	0.25	430	7	<1

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

SANTA YNEZ RIVER BASIN

11134800 MIGUELITO CREEK AT LOMPOC, CA

LOCATION.--Lat 34°37'54", long 120°27'50", in Lompoc Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank at upstream end of debris dam and 1,900 ft south of Lompoc Union High School.

DRAINAGE AREA.--11.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to May 6, 1986, October 1987 to September 1988.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 97.94 ft Santa Barbara County Flood Control District datum. Prior to May 6, 1986, on right bank at same datum.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion above station; some pumping from wells along stream for irrigation.

AVERAGE DISCHARGE.--16 years (water years 1971-85, 1988) 1.82 ft^3/s, 1,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,210 ft^3/s, Jan. 26, 1983, gage height, 7.63 ft, from rating curve extended above 380 ft^3/s on basis of slope-area measurements at gage heights 4.34 ft and 7.63 ft; no flow many days in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1969, reached a stage of 5.83 ft, from floodmark, discharge, 680 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	1645	*228	*1.49	Feb. 29	0915	168	1.32
Dec. 28	0830	161	1.29				

Minimum daily, 0.06 ft^3/s, July 16-19, 29.

DISCHARGE, IN 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	.27	.23	.13	2.4	.43	.67	.33	.39	.34	.08	.08	.12
2	.25	.23	.13	2.4	.43	.44	.33	.33	.25	.09	.08	.11
3	.21	.23	.13	2.3	.43	.43	.37	.33	.15	.10	.08	.12
4	.13	.31	12	3.0	.40	.43	.41	.33	.15	.13	.08	.10
5	.13	.25	1.1	5.3	.33	.41	.39	.26	.16	.12	.07	.11
6	.13	.23	.89	1.6	.33	.36	.31	.32	.14	.09	.07	.11
7	.17	.23	.77	.62	.33	.33	.25	.28	.13	.08	.08	.10
8	.14	.23	.70	.60	.33	.33	.23	.36	.11	.08	.08	.10
9	.26	.20	.63	.53	.33	.33	.22	.38	.11	.08	.08	.09
10	.26	.13	.60	.57	.33	.43	.20	.43	.12	.15	.08	.08
11	.27	.13	.60	.60	.33	.42	.23	.51	.10	.07	.08	.07
12	.25	.13	.63	.46	.33	.33	.23	.44	.13	.07	.13	.08
13	.26	.14	.62	.44	.32	.33	.23	.41	.13	.07	.13	.07
14	.29	.13	.57	.43	.26	.33	2.2	.46	.15	.07	.13	.07
15	.29	.13	.43	.43	.25	.33	.36	.43	.15	.07	.14	.07
16	.30	.13	10	.44	.23	.40	.33	.43	.15	.06	.16	.09
17	.26	.19	1.8	13	.23	.43	.33	.49	.14	.06	.16	.20
18	.26	.15	1.7	1.9	.23	.43	.33	.57	.17	.06	.13	.08
19	.30	.13	1.6	1.4	.23	.33	6.5	.48	.12	.06	.13	.08
20	.23	.13	1.4	1.1	.23	.33	5.4	.43	.09	.07	.12	.08
21	.23	.14	1.4	1.1	.23	.37	1.7	.44	.11	.07	.10	.10
22	.34	.13	1.4	.79	.23	.41	1.6	.43	.12	.07	.08	.08
23	.24	.13	1.1	.70	.23	.43	1.8	.43	.12	.07	.08	.08
24	.14	.10	1.1	.70	.28	.37	.70	.45	.18	.07	.08	.08
25	.19	.08	.96	.63	.33	.33	.63	.44	.18	.07	.08	.08
26	.18	.08	.90	.60	.33	.33	.60	.38	.14	.07	.08	.08
27	.26	.10	1.1	.60	2.4	.33	.59	.37	.13	.07	.08	.08
28	.26	.13	16	.60	2.4	.33	.52	.37	.17	.07	.08	.12
29	.24	.12	25	.55	29	.33	.43	.38	.13	.06	.08	.13
30	.23	.12	3.8	.43	---	.32	.43	.36	.11	.07	.08	.13
31	.39	---	2.8	.43	---	.31	---	.36	---	.08	.13	---
TOTAL	7.36	4.79	91.99	46.65	41.74	11.68	28.18	12.47	4.38	2.43	3.04	2.89
MEAN	.24	.16	2.97	1.50	1.44	.38	.94	.40	.15	.078	.098	.096
MAX	.39	.31	25	13	29	.67	6.5	.57	.34	.15	.16	.20
MIN	.13	.08	.13	.43	.23	.31	.20	.26	.09	.06	.07	.07
AC-FT	15	9.5	182	93	83	23	56	25	8.7	4.8	6.0	5.7

WTR YR 1988 TOTAL 257.60 MEAN .70 MAX 29 MIN .06 AC-FT 511

PERIOD OF RECORD.--
CHEMICAL DATA: June 1980 to September 1986, October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT						
02...	1050	0.22	1500	8.60	17.0	1010
NOV						
02...	1100	0.23	1380	8.50	14.5	976
DEC						
01...	1110	0.11	1330	8.40	12.5	889
JAN						
05...	1200	1.6	827	7.90	11.5	525
FEB						
03...	0900	0.45	1370	8.20	7.0	940
29...	1340	15	552	7.70	14.5	347
APR						
06...	0900	0.24	1410	8.40	14.0	930
MAY						
05...	0840	0.31	1240	8.30	13.0	869
JUN						
02...	0925	0.17	1290	8.50	18.5	852
JUL						
06...	1620	0.13	1460	8.30	24.0	1010
AUG						
02...	1030	0.10	1410	8.30	18.5	1040
SEP						
09...	1010	0.10	1620	7.70	17.0	1100

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
FEB									
03...	0900	0.45	1370	8.20	7.0	610	240	130	69

DATE	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)
FEB								
03...	83	23	2	2.5	372	260	100	0.5

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
FEB								
03...	39	940	909	1.28	0.23	0.33	130	50

SAN ANTONIO CREEK BASIN

11135800 SAN ANTONIO CREEK AT LOS ALAMOS, CA

LOCATION.--Lat 34°44'36", long 120°16'12", in Los Alamos Grant, Santa Barbara County, Hydrologic Unit 18060009, on left bank 100 ft upstream from bridge on northbound lane of Highway 101 at Los Alamos.

DRAINAGE AREA.--34.9 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 580 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation upstream from station. Pumping for irrigation of about 1,000 acres upstream from station.

AVERAGE DISCHARGE.--18 years, 1.78 ft^3/s, 1,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,230 ft^3/s, Mar. 1, 1983, gage height, 11.6 ft, from floodmarks, from rating curve extended above 150 ft^3/s on basis of computation of peak flow through culverts; no flow for most of 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)
Feb. 29	0845	*48	*2.04				

No flow for most of year.

DISCHARGE, IN 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			0	0	0	.94	0	0				
2			0	0	0	.45	0	0				
3			0	0	0	.25	0	0				
4			.01	0	0	.10	0	0				
5			0	.22	0	0	0	0				
6			0	.06	0	0	0	0				
7			0	0	0	0	0	0				
8			0	0	0	0	0	.01				
9			0	0	0	0	0	.20				
10			0	0	0	0	0	.23				
11			0	0	0	0	0	.34				
12			0	0	0	0	0	.64				
13			0	0	0	0	0	.30				
14			0	0	0	0	.01	0				
15			0	0	0	0	0	0				
16			0	0	0	0	0	0				
17			0	.15	0	0	0	0				
18			0	.29	0	0	0	0				
19			0	.04	0	0	.01	.24				
20			0	0	0	0	0	.16				
21			0	0	0	0	0	.19				
22			0	0	0	0	0	0				
23			0	0	0	0	.04	0				
24			0	0	0	0	0	0				
25			0	0	0	0	0	0				
26			0	0	0	0	0	0				
27			0	0	.08	0	0	0				
28			0	0	.18	0	0	0				
29			0	0	4.8	0	0	0				
30			.02	0	---	0	0	0				
31		---	0	0	---	0	---	0	---			---
TOTAL	0	0	.03	.76	5.06	1.74	.06	2.31	0	0	0	0
MEAN	0	0	.001	.025	.17	.056	.002	.075	0	0	0	0
MAX	0	0	.02	.29	4.8	.94	.04	.64	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	.06	1.5	10	3.5	.1	4.6	0	0	0	0

CAL YR 1987 TOTAL 6.52 MEAN .018 MAX 1.2 MIN 0 AC-FT 13
WTR YR 1988 TOTAL 9.96 MEAN .027 MAX 4.8 MIN 0 AC-FT 20

SAN ANTONIO CREEK BASIN

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA

LOCATION.--Lat 34°46'56", long 120°31'47", in Jesus Maria Grant, Santa Barbara County, Hydrologic Unit 18060009, on Vandenberg Military Reservation on downstream side of San Antonio Road bridge, 0.7 mi east of junction of San Antonio Road and Lompoc-Casmalia Road, and 3.8 mi south of Casmalia.

DRAINAGE AREA.--135 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 27, 1958, at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair. No regulation above station. Flow affected by pumping from wells along stream for irrigation upstream from station. At times water is released to creek from Vandenberg Air Force Base water-treatment plant.

AVERAGE DISCHARGE.--33 years, 5.92 ft^3/s, 4,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,680 ft^3/s, Mar. 1, 1983, gage height, 14.32 ft, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement at gage height 12.93 ft; minimum daily, 0.10 ft^3/s, June 19, 20, 1957.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 29	1745	*91	*2.79				

Minimum daily, 0.14 ft^3/s, July 16, 17.

DISCHARGE, IN 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	.41	.84	.44	1.4	.93	10	.48	.30	.39	.20	.29	.32
2	.40	.52	.51	.92	.98	3.7	.67	.34	.25	.23	.31	.32
3	.35	.53	.56	.60	.95	2.4	.60	.40	.20	.25	.30	.30
4	.41	.73	1.1	.64	.97	2.1	.64	.41	.25	.26	.26	.26
5	.30	1.1	1.8	15	.97	1.7	.43	1.5	.37	.25	.23	.30
6	.32	.56	.60	4.5	.99	1.7	.33	1.0	.84	.25	.22	.34
7	.37	.46	.65	1.5	1.1	1.5	.33	.63	.54	.33	.24	.41
8	.31	.43	.47	.93	1.1	1.3	.30	.57	.30	.21	.30	.43
9	.33	.34	.47	.64	1.3	1.2	.26	.38	.24	.15	.37	.38
10	.36	.34	.44	.65	1.2	1.1	.26	.32	.27	.15	.40	.34
11	.33	.33	.42	.78	1.2	1.3	.26	.27	.25	.15	.46	.34
12	.36	.31	.38	.70	1.2	1.2	.28	.25	.26	.15	.48	.34
13	.38	.38	.37	.73	1.2	1.6	.33	.42	.43	.15	.49	.34
14	.36	.41	.44	.66	1.3	1.5	.58	.27	.62	.15	.51	.28
15	.39	.37	.46	.67	1.3	1.4	.60	.26	.28	.15	.54	.26
16	.41	.35	1.3	.81	1.4	1.0	1.3	.51	1.1	.14	.55	.26
17	.39	.44	.95	7.1	1.4	.92	.72	.80	1.1	.14	.48	.27
18	.41	.51	.62	16	1.3	1.3	.47	.64	1.7	.18	.29	.29
19	.37	.37	.70	2.1	1.3	1.2	.95	.31	.91	.16	.29	.31
20	.34	.34	.69	.90	1.3	1.2	15	.30	.50	.15	.29	.34
21	.34	.36	.72	.86	1.4	2.1	5.8	.32	.35	.15	.33	.34
22	.39	.39	.72	.73	1.3	1.1	1.2	.26	.29	.15	.29	.36
23	.62	.34	.61	.71	1.3	1.5	1.7	.35	.26	.15	.27	.40
24	.56	.34	.62	.72	1.3	2.3	4.8	.75	.32	.15	.26	.43
25	.42	.44	.81	.73	1.3	1.3	.98	.48	.39	.15	.26	.38
26	.34	.43	.91	.91	1.3	1.0	.54	.40	.30	.15	.24	.30
27	.41	.37	.92	.87	1.5	.69	.44	.33	.21	.15	.24	.34
28	.75	.43	3.6	.79	3.4	.61	.40	.29	.19	.18	.31	.33
29	1.1	.41	22	.78	38	.46	.35	.43	.17	.24	.34	.32
30	.60	.44	13	.77	---	.42	.34	1.2	.19	.26	.34	.34
31	1.1	---	3.5	.99	---	.38	---	.83	---	.26	.32	---
TOTAL	13.93	13.61	60.78	66.09	74.19	51.18	41.34	15.52	13.47	5.79	10.50	9.97
MEAN	.45	.45	1.96	2.13	2.56	1.65	1.38	.50	.45	.19	.34	.33
MAX	1.1	1.1	22	16	38	10	15	1.5	1.7	.33	.55	.43
MIN	.30	.31	.37	.60	.93	.38	.26	.25	.17	.14	.22	.26
AC-FT	28	27	121	131	147	102	82	31	27	11	21	20

CAL YR 1987 TOTAL 369.54 MEAN 1.01 MAX 41 MIN .16 AC-FT 733
WTR YR 1988 TOTAL 376.37 MEAN 1.03 MAX 38 MIN .14 AC-FT 747

SAN ANTONIO CREEK BASIN

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1978 to current year.
CHEMICAL DATA: Water year 1978 to current year.
pH: December 1981 to September 1983.
WATER TEMPERATURE: December 1981 to September 1983.

PERIOD OF DAILY RECORD.--
pH: December 1981 to September 1983.
WATER TEMPERATURE: December 1981 to September 1983.

INSTRUMENTATION.--Water-quality monitor from December 1981 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT						
08...	0930	0.34	2260	7.90	17.0	1560
NOV						
04...	0930	0.42	2220	7.80	14.0	1380
DEC						
10...	1030	0.48	2230	7.80	11.5	1360
JAN						
08...	0945	0.87	1640	7.30	8.0	1060
FEB						
02...	1440	0.94	2380	8.00	10.0	1560
MAR						
03...	1455	1.4	2000	7.80	13.5	1360
APR						
05...	1530	0.50	2090	7.80	16.5	1390
MAY						
04...	1340	0.52	2170	7.70	15.5	1390
JUN						
01...	1140	0.33	2050	7.80	16.5	1290
JUL						
08...	0915	0.28	1940	7.90	20.0	1340
AUG						
17...	1250	0.44	2220	7.50	16.5	1350
SEP						
08...	1350	0.39	2220	7.80	16.0	1360

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
DEC											
10...	1030	0.48	2230	7.80	11.5	480	140	130	38	310	57
FEB											
02...	1440	0.94	2380	8.00	10.0	590	260	160	47	270	49
APR											
05...	1530	0.50	2090	7.80	16.5	560	260	150	45	230	47
AUG											
17...	1250	0.44	2220	7.50	16.5	460	83	120	40	290	57

DATE	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)	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)
DEC										
10...	6	18	340	250	400	0.5	48	1360	1430	1.85
FEB										
02...	5	15	336	420	340	0.4	49	1560	1540	2.12
APR										
05...	4	12	296	400	280	0.4	37	1390	1350	1.89
AUG										
17...	6	11	382	240	360	0.2	46	1350	1350	1.84

SAN ANTONIO CREEK BASIN

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALACHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	AMETRYNE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)
DEC										
10...	5.50	0.92	1600	30	--	--	--	--	--	--
FEB										
02...	6.90	0.89	1500	20	--	--	--	--	--	--
APR										
05...	4.20	0.66	1300	30	<1	<1.0	<0.1	<0.10	<0.1	<0.1
AUG										
17...	2.40	1.30	1700	30	<1	<1.0	<0.10	<0.10	<0.1	<0.1

DATE	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	CYANAZINE TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)
DEC										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
05...	<1.0	<0.1	0.2	0.7	0.2	<0.01	0.10	<0.10	<0.10	<0.01
AUG										
17...	<1.0	<0.1	8.0	180	44	<0.01	<0.10	<0.10	1.6	<0.01

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	METOLACHLOR WATER WHOLE TOT.REC (UG/L)	METRIBUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)
DEC										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
05...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01	<0.1	<0.1	<0.10
AUG										
17...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10

DATE	PARATHION, TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRIFLURALIN TOTAL RECOVER (UG/L)	TOTAL TRITHION (UG/L)
DEC										
10...	--	--	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
05...	<0.01	<1.00	<0.1	<0.1	<0.1	0.2	<0.1	<10	<0.1	<0.01
AUG										
17...	<0.01	<1.00.	<0.10	<0.10	<0.1	<0.1	<0.10	20	<0.1	<0.01

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

SANTA MARIA RIVER BASIN

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA

LOCATION.--Lat 35°01'19", long 120°13'39", SW 1/4 sec.14, T.11 N., R.32 W., San Luis Obispo-Santa Barbara County line, Hydrologic Unit 18060007, on downstream side of bridge on State Highway 166, 1.5 mi downstream from Buckhorn Canyon, and 13 mi northeast of Santa Maria.

DRAINAGE AREA.--886 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1903 to December 1905 (published as Santa Maria River near Santa Maria), October 1959 to current year. Monthly discharge only for October 1903 and July 1904 and yearly estimate for water year 1941 (incomplete), published in WSP 1315-B.

REVISED RECORDS.--WDR CA-71-1: Drainage area. WDR-CA-77-1: 1976.

GAGE.--Water-stage recorder. Elevation of gage is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1959, nonrecording gage at different site and datum.

REMARKS.--Estimated daily discharges: Oct. 29, Nov. 12 to Jan. 16, Jan. 28 to Feb. 2, Mar. 6 to Apr. 5, and Apr. 28 to May 3. Records poor. No regulation above station. Pumping from wells along stream for irrigation of several thousand acres in Upper Cuyama Valley.

AVERAGE DISCHARGE.--31 years (water years 1904, 1905, 1960-88), 22.1 ft^3/s, 16,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft^3/s, Feb. 25, 1969, gage height, 13.70 ft, from rating curve extended above 4,900 ft^3/s on basis of slope-area measurement at gage height 10.85 ft; maximum gage height, 14.74 ft, Mar. 4, 1978; no flow at times in most years.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 5	2045	*472	*7.46	Feb. 29	0015	213	7.13
Jan. 18	1730	288	7.25				

No flow for many days.

DISCHARGE, IN 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	0	0	1.1	1.5	1.8	59	.19	.33	.09	.01		
2	0	0	1.2	1.5	1.8	19	.19	.32	.08	.01		
3	0	0	2.0	1.5	1.2	3.7	.18	.32	.05	.01		
4	0	0	4.5	8.0	1.0	1.3	.18	.32	.04	.01		
5	0	66	1.5	4.5	.85	.41	.17	.32	.04	.01		
6	0	78	1.4	25	.74	.34	.12	.33	.05	0		
7	0	11	1.4	15	.61	.32	.10	.33	.04	0		
8	0	5.1	1.4	8.0	.48	.30	.08	.30	.03	0		
9	0	3.1	1.4	4.5	.39	.29	.08	.30	.03	0		
10	0	2.1	1.4	2.5	.35	.28	.08	.30	.03	0		
11	0	1.5	1.4	1.5	.29	.28	.07	.29	.03	0		
12	0	1.1	1.4	1.0	.21	.27	.07	.30	.02	0		
13	0	1.0	1.4	1.0	.15	.27	.08	.27	.02	0		
14	0	1.0	1.4	1.0	.11	.26	.47	.26	.02	0		
15	0	1.0	1.4	1.0	.13	.26	.55	.27	.02	0		
16	0	1.1	4.5	1.0	.09	.26	.24	.29	.02	0		
17	0	2.5	1.5	23	.06	.25	.14	.30	.02	0		
18	0	1.4	1.0	88	.07	.25	.13	.21	.02	0		
19	0	1.0	1.0	41	.07	.25	.40	.23	.02	0		
20	0	1.0	1.0	8.3	.06	.24	4.6	.21	.02	0		
21	0	1.0	1.0	6.6	.06	.24	15	.18	.02	0		
22	0	1.0	1.0	5.7	.05	.24	8.2	.20	.02	0		
23	0	1.0	1.0	3.3	.03	.23	8.0	.20	.02	0		
24	0	1.0	1.0	2.3	.03	.23	6.1	.20	.02	0		
25	0	1.0	1.0	1.3	.02	.23	3.0	.21	.02	0		
26	0	1.0	1.0	4.6	.02	.22	1.7	.19	.01	0		
27	0	1.0	1.1	5.4	.05	.22	.65	.15	.01	0		
28	0	1.0	1.5	2.5	2.6	.21	.40	.13	.01	0		
29	.40	1.0	6.0	1.8	113	.21	.35	.14	.01	0		
30	0	1.0	1.5	1.8	---	.20	.34	.12	.01	0		
31	0	---	1.5	1.8	---	.20	---	.11	---	0		---
TOTAL	.40	187.9	50.9	275.9	126.32	89.96	51.86	7.63	.84	.05	0	0
MEAN	.013	6.26	1.64	8.90	4.36	2.90	1.73	.25	.028	.002	0	0
MAX	.40	78	6.0	88	113	59	15	.33	.09	.01	0	0
MIN	0	0	1.0	1.0	.02	.20	.07	.11	.01	0	0	0
AC-FT	.8	373	101	547	251	178	103	15	1.7	.10	0	0

CAL YR 1987 TOTAL 439.16 MEAN 1.20 MAX 155 MIN 0 AC-FT 871
WTR YR 1988 TOTAL 791.76 MEAN 2.16 MAX 113 MIN 0 AC-FT 1570

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
DEC						
09...	1030	1.4	2600	8.00	12.0	2190
JAN						
07...	1000	15	2240	7.60	10.0	1890
FEB						
02...	0830	1.8	3060	8.20	7.5	2410
MAR						
02...	0820	17	2110	7.40	8.0	1470
APR						
05...	0830	0.17	1900	8.10	12.0	1390
MAY						
04...	0855	0.27	1860	7.90	14.0	1430
31...	1430	0.09	1850	8.20	27.0	1410
JUL						
07...	1145	0.01	1900	8.20	29.0	1460

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
JAN									
07...	1000	15	2240	7.60	10.0	910	690	250	70

DATE	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)
JAN								
07...	120	22	2	5.9	221	1200	43	0.9

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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JAN								
07...	5.2	1890	1830	0.49	<0.01	250	<10	10

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

SANTA MARIA RIVER BASIN

11138500 SISQUOC RIVER NEAR SISQUOC, CA

LOCATION.--Lat 34°50'23", long 120°10'02", in Sisquoc Grant, Santa Barbara County, Hydrologic Unit 18060008, on left bank 2.6 mi upstream from La Brea Creek and 7 mi east of Sisquoc.

DRAINAGE AREA.--281 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to current year. October 1929 to September 1933, at site 0.2 mi downstream; low-flow records not equivalent owing to diversion immediately upstream. Monthly discharge only for some periods, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 624.30 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1735 for history of changes prior to Aug. 24, 1951.

REMARKS.--Estimated daily discharge: Mar. 7. Records fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--45 years, 44.1 ft^3/s, 31,950 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft^3/s, Dec. 6, 1966, gage height, 15.75 ft, from rating curve extended above 1,700 ft^3/s on basis of slope-area measurements at gage heights 10.08 and 15.75 ft; no flow Nov. 11-18, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1938, 11,000 ft^3/s, gage height, 8.1 ft, from high-water mark in gage well, at site in use 1929-33, from rating curve extended above 2,800 ft^3/s.

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)
Feb. 29	1815	*1,920	*5.37				

Minimum daily, 0.66 ft^3/s, Oct. 7-10.

DISCHARGE, IN 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	.79	.89	1.6	1.7	15	341	8.9	20	3.5	1.5	.76	1.1
2	.78	.87	1.7	1.7	14	116	8.6	19	3.2	1.5	.77	1.1
3	.75	.90	1.4	1.7	13	75	8.5	19	3.0	1.5	.76	1.1
4	.74	.91	2.0	2.0	13	55	8.3	19	2.9	1.4	.74	1.1
5	.69	1.3	1.5	2.8	12	45	7.7	17	2.8	1.3	.75	1.1
6	.67	1.4	1.4	2.3	12	44	7.0	16	2.7	1.2	.75	1.2
7	.66	1.4	1.4	2.3	12	43	7.0	16	2.6	1.3	.73	1.2
8	.66	1.4	1.4	2.2	11	38	6.8	16	2.5	1.3	.71	1.2
9	.66	1.4	1.4	2.3	10	34	6.2	15	2.3	1.3	.72	1.2
10	.66	1.4	1.4	2.3	9.8	30	5.8	13	2.5	1.2	.73	1.2
11	.67	1.3	1.2	2.1	10	28	5.6	12	2.4	1.3	.72	1.1
12	.69	1.4	1.2	2.1	9.7	26	5.6	11	2.3	1.2	.72	1.1
13	.69	1.5	1.3	2.3	10	25	5.6	9.9	2.2	1.2	.72	1.1
14	.69	1.5	1.2	2.2	9.9	22	8.1	9.0	2.2	1.1	.71	1.1
15	.69	1.4	1.2	2.3	9.2	19	11	8.6	2.1	1.1	.69	1.1
16	.70	1.4	2.2	2.3	9.3	18	11	8.4	2.0	1.0	.69	1.1
17	.72	1.6	1.5	3.1	9.2	17	11	8.2	2.0	.95	.72	1.1
18	.72	1.7	1.4	100	9.1	16	9.6	7.7	1.9	.95	.74	1.1
19	.73	1.6	1.4	38	9.2	16	9.6	7.2	2.0	.96	.79	1.1
20	.75	1.6	1.4	17	8.6	15	42	6.5	2.2	.94	.83	1.1
21	.77	1.6	1.3	12	8.6	14	67	6.0	1.9	.90	.85	1.1
22	.88	1.4	1.4	9.6	9.0	14	48	5.6	1.8	.85	.86	1.0
23	.87	1.4	1.4	8.1	8.9	13	44	5.4	1.9	.83	.86	1.0
24	.85	1.4	1.3	7.5	7.5	12	50	4.9	1.9	.81	.87	1.1
25	.84	1.3	1.4	7.3	6.4	12	40	4.5	1.7	.81	.88	1.1
26	.84	1.4	1.4	9.9	6.4	12	37	4.2	1.7	.80	.90	1.1
27	.85	1.4	1.4	12	6.6	11	32	4.2	1.6	.78	.93	1.0
28	.89	1.4	2.1	12	8.3	10	28	4.0	1.7	.78	.97	1.0
29	.89	1.4	2.2	14	524	9.7	26	4.0	1.6	.77	1.0	1.0
30	.87	1.4	2.0	16	---	9.5	23	3.8	1.6	.78	1.0	.99
31	.92	---	1.9	16	---	9.2	---	3.6	---	.75	1.0	---
TOTAL	23.58	40.97	47.0	317.1	801.7	1149.4	588.9	308.7	66.7	33.06	24.87	32.89
MEAN	.76	1.37	1.52	10.2	27.6	37.1	19.6	9.96	2.22	1.07	.80	1.10
MAX	.92	1.7	2.2	100	524	341	67	20	3.5	1.5	1.0	1.2
MIN	.66	.87	1.2	1.7	6.4	9.2	5.6	3.6	1.6	.75	.69	.99
AC-FT	47	81	93	629	1590	2280	1170	612	132	66	49	65

CAL YR 1987 TOTAL 1208.44 MEAN 3.31 MAX 126 MIN .66 AC-FT 2400
WTR YR 1988 TOTAL 3434.87 MEAN 9.38 MAX 524 MIN .66 AC-FT 6810

SANTA MARIA RIVER BASIN

11138500 SISQUOC RIVER NEAR SISQUOC, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT						
06...	1100	0.67	1150	7.80	19.5	842
NOV						
05...	1230	1.4	1080	8.00	19.0	839
DEC						
08...	1130	1.4	1210	7.60	13.5	881
JAN						
06...	1145	2.3	1200	8.00	11.0	865
FEB						
01...	1130	14	1160	8.20	10.5	827
MAR						
07...	1200	29	965	8.30	17.5	729
APR						
04...	1130	8.4	1130	8.20	17.5	808
MAY						
03...	1130	21	1070	8.10	18.0	764
31...	1120	4.0	1110	7.80	19.0	815
JUL						
07...	0900	1.4	1130	7.90	17.0	817
AUG						
16...	1215	0.71	1120	8.10	21.0	806
SEP						
07...	1200	1.2	1160	7.70	19.5	837

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
AUG									
16...	1215	0.71	1120	8.10	21.0	510	320	97	66

DATE	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)	SILICA, DIS-SOLVED (MG/L AS SIO2)
AUG									
16...	59	20	1	2.2	198	410	20	0.4	21

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
AUG							
16...	806	795	<0.10	0.02	150	38	9

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

SANTA MARIA RIVER BASIN

11140000 SISQUOC RIVER NEAR GAREY, CA

LOCATION.--Lat 34°53'38", long 120°18'20", in SW 1/4 sec.36, T.10 N., R.33 W., Santa Barbara County, Hydrologic Unit 18060008, on downstream side of Santa Maria Mesa Road bridge near left bank, 0.6 mi northeast of Garey, and 3.7 mi downstream from Tepusquet Creek.

DRAINAGE AREA.--471 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Records for water year 1941 incomplete; yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

REVISED RECORDS.--WSP 1011: 1941, 1943. WSP 1928: Drainage area.

GAGE.--Two water-stage recorders. Datum of main gage is 354.8 ft, Santa Barbara County datum. See WSP 1735 for history of changes of main gage prior to Oct. 1, 1959. Oct. 1, 1959, to Dec. 30, 1965, at datum 6.00 ft higher. Since Oct. 1, 1959, supplementary gage on downstream side of bridge near right bank at same datum.

REMARKS.--Estimated daily discharges: Feb. 29 to Mar. 2. Records poor. No regulation above station. Pumping from wells along stream for irrigation of about 7,000 acres above station.

AVERAGE DISCHARGE.--48 years, 43.6 ft^3/s, 31,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,600 ft^3/s, Mar. 1, 1983, gage height, 11.16 ft, from rating curve extended above 22,000 ft^3/s; maximum gage height, 13.50 ft, Dec. 6, 1966; no flow for many days 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)
Feb. 29	Unknown	*2,790	*7.24				

No flow for many days.

DISCHARGE, IN 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					0	950						
2					0	120						
3					0	26						
4					0	0						
5					0	0						
6					0	0						
7					0	0						
8					0	0						
9					0	0						
10					0	0						
11					0	0						
12					0	0						
13					0	0						
14					0	0						
15					0	0						
16					0	0						
17					0	0						
18					0	0						
19					0	0						
20					0	0						
21					0	0						
22					0	0						
23					0	0						
24					0	0						
25					0	0						
26					0	0						
27					0	0						
28					0	0						
29					730	0						
30					---	0						
31		---			---	0	---		---			---
TOTAL	0	0	0	0	730	1096	0	0	0	0	0	0
MEAN	0	0	0	0	25.2	35.4	0	0	0	0	0	0
MAX	0	0	0	0	730	950	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	1450	2170	0	0	0	0	0	0

CAL YR 1987	TOTAL	0.00	MEAN .000	MAX	.00	MIN 0	AC-FT	0
WTR YR 1988	TOTAL	1826.00	MEAN 4.99	MAX	950	MIN 0	AC-FT	3620

SANTA MARIA RIVER BASIN

11140600 BRADLEY DITCH NEAR DONOVAN ROAD, AT SANTA MARIA, CA

LOCATION.--Lat 34°58'00", long 120°25'00", in NE 1/4 NE 1/4 sec.11, T.10 N., R.34 W., Santa Barbara County, Hydrologic Unit 18060008, on left bank 250 ft upstream from bridge on Donovan Road, and 0.2 mi east of U.S. Highway 101 in Santa Maria.

DRAINAGE AREA.--5.47 mi^2.

PERIOD OF RECORD.--October 1970 to September 1978, October 1979 to current year.

GAGE.--Water-stage recorder on concrete-lined channel. Elevation of gage is 225 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to September 1978, at site 50 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Apr. 26 to May 3. Records fair except those for estimated discharges, which are poor. Extensive channel modification in 1979 water year widened the concrete-lined channel.

AVERAGE DISCHARGE.--17 years, 1.48 ft^3/s, 1,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 539 ft^3/s, Mar. 1, 1983, gage height, 4.59 ft, from rating curve extended above 69 ft^3/s on basis of slope-conveyance studies of discharge; maximum gage height, 5.85 ft, Mar. 4, 1978; no flow for several days in most years.

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)
Oct. 29	0130	124	2.69	Feb. 29	0700	*184	*3.06

No flow Jan. 2, 3, 7.

DISCHARGE, IN 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	1.1	.08	1.1	.01	1.3	.93	2.0	1.6	1.1	.97	1.2	2.1
2	.66	.17	1.8	0	1.5	.26	1.6	1.6	1.8	.44	.45	.68
3	.37	.37	1.3	0	1.5	.46	1.4	1.6	1.5	.81	.27	1.9
4	1.2	1.1	3.0	1.5	1.8	.29	2.0	2.6	1.6	.44	.64	1.5
5	1.0	.91	1.4	7.3	1.6	1.6	3.0	2.3	2.2	.75	1.3	.19
6	1.6	.02	.61	.20	2.3	2.2	2.5	1.7	1.1	2.1	2.0	.50
7	1.2	.01	.27	0	.98	1.4	2.0	1.6	.24	1.4	1.8	.41
8	.83	.01	.31	.19	.81	2.1	2.8	.39	.76	1.2	1.1	1.6
9	.77	.09	.21	.26	2.6	1.6	2.3	.15	.79	1.3	1.0	.82
10	1.5	.18	.20	.99	2.3	2.7	2.3	.60	.64	.95	.63	.68
11	1.7	.58	.73	1.4	2.9	1.7	2.5	1.9	.95	1.1	1.7	1.5
12	1.4	.23	1.4	1.6	2.9	2.1	2.7	2.4	.48	1.2	2.8	.55
13	2.9	.54	1.1	1.6	2.8	2.0	1.8	2.0	.48	.89	1.3	1.8
14	2.1	.22	1.1	.63	1.4	1.5	2.7	2.6	1.2	2.0	.61	.55
15	.53	.21	1.2	.22	1.5	2.5	.57	1.9	1.4	1.6	.50	.60
16	2.1	.06	4.6	.85	2.7	2.1	.40	1.2	.50	1.8	1.2	1.1
17	3.3	1.7	.42	11	3.1	2.4	.02	1.9	.78	1.2	1.2	.49
18	2.9	.67	1.1	1.6	1.1	2.9	.05	2.4	.50	.96	.97	.44
19	1.8	.49	1.3	.01	1.9	3.0	3.4	2.3	.79	.34	1.3	.70
20	1.1	.39	.17	.01	2.6	2.2	3.9	2.0	.26	1.5	2.0	.57
21	.67	.14	.63	.15	3.4	2.3	2.0	2.1	.25	1.9	2.0	.70
22	1.1	.81	1.8	.41	2.2	2.3	.71	1.6	.52	2.0	1.6	1.9
23	1.2	1.3	1.7	.93	2.1	2.7	1.7	.13	1.6	2.1	1.2	1.9
24	.92	2.2	2.3	1.4	1.9	2.6	2.1	1.3	1.1	2.1	1.6	1.0
25	.55	2.4	1.6	.39	2.8	3.1	1.4	1.5	1.0	1.9	2.5	.69
26	.74	2.6	.85	1.1	2.2	2.9	1.6	1.8	.57	2.2	1.3	1.4
27	1.5	1.7	1.8	1.5	8.6	2.9	1.6	2.4	.49	2.2	1.3	.65
28	.71	2.8	7.2	2.1	2.8	1.7	1.6	1.6	.37	1.5	1.1	.85
29	9.9	2.4	6.0	1.7	31	2.4	1.6	1.8	1.2	1.5	.10	1.8
30	.10	.93	2.6	1.8	---	2.9	1.6	1.8	.90	1.3	1.1	1.5
31	2.3	---	.18	1.2	---	2.4	---	.11	---	1.9	1.1	---
TOTAL	49.75	25.31	49.98	42.05	96.59	64.14	55.85	50.88	27.07	43.55	38.87	31.07
MEAN	1.60	.84	1.61	1.36	3.33	2.07	1.86	1.64	.90	1.40	1.25	1.04
MAX	9.9	2.8	7.2	11	31	3.1	3.9	2.6	2.2	2.2	2.8	2.1
MIN	.10	.01	.17	0	.81	.26	.02	.11	.24	.34	.10	.19
AC-FT	99	50	99	83	192	127	111	101	54	86	77	62

CAL YR 1987 TOTAL 607.87 MEAN 1.67 MAX 25 MIN 0 AC-FT 1210
WTR YR 1988 TOTAL 575.11 MEAN 1.57 MAX 31 MIN 0 AC-FT 1140

SANTA MARIA RIVER BASIN

11141050 ORCUTT CREEK NEAR ORCUTT, CA

LOCATION.--Lat 34°53'01", long 120°29'38", in SW 1/4 SE 1/4 sec.6, T.9 N., R.34 W., Santa Barbara County, Hydrologic Unit 18060008, on right bank 10 ft upstream from Black Road bridge, 0.2 mi northeast of State Highway 1, and 3.0 mi northwest of Orcutt.

DRAINAGE AREA.--18.5 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 12-20, 26. Records poor. No regulation or diversion above station. Natural flow affected by pumping and return flow from irrigated areas.

AVERAGE DISCHARGE.--6 years, 1.48 ft^3/s, 1,070 acre/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,830 ft^3/s, Mar. 1, 1983, gage height, 7.53 ft, from floodmarks, from rating curve extended above 10 ft^3/s on basis of slope-area measurements at gage heights 4.83 and 7.53 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft^3/s, Feb. 29, gage height, 6.03 ft; no flow for several days.

DISCHARGE, IN 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	.06	.10	.03	.05	.24	8.7	.06	.04	.94	.03	.02	.10
2	.30	.06	.03	.05	.28	2.0	.06	.03	.98	.09	.22	.16
3	.07	.05	.02	.05	.07	1.3	.06	.04	.23	.37	.17	.23
4	.05	.11	.12	.10	.06	1.3	.04	.04	1.0	.05	.08	.31
5	.06	.12	.02	4.7	.04	.79	.03	.34	.82	.25	.06	0
6	.07	.08	.02	.63	.03	.48	.03	.71	.16	.38	.01	.10
7	.04	.07	.02	.24	.10	.77	.02	.59	.52	.34	.10	.14
8	.04	.07	.02	.18	.61	1.0	.01	1.0	.02	.31	.02	.18
9	.04	.07	.02	.28	.69	.17	.01	1.1	.24	.67	.08	0
10	.03	.07	.02	.45	.32	.11	.01	1.1	.02	.57	.20	0
11	.03	.06	.02	.50	.53	.20	.14	1.1	.58	.04	.23	0
12	.05	.06	.01	.19	.43	.29	.48	1.1	.54	.33	.34	0
13	.04	.05	.01	.06	.52	.42	.16	1.1	.14	.21	.37	.22
14	.04	.05	.02	.05	.08	.37	.08	.93	.75	0	.01	.25
15	.05	.05	.02	.05	.09	.14	.30	1.0	.15	0	.21	.29
16	.05	.05	.20	.03	.06	.10	.16	1.1	.76	0	.35	.12
17	.05	.06	.03	19	.06	.10	.19	.99	.20	.09	.44	.08
18	.04	.07	.02	4.3	.11	.09	.19	.73	.60	.01	.01	.07
19	.15	.06	.02	.98	.22	.17	1.4	.16	.84	.23	0	.07
20	.06	.06	.18	.89	.29	.52	21	.92	.20	.04	.13	.07
21	.04	.04	.40	.60	.04	.20	.91	.86	.03	0	.17	.07
22	.21	.04	.50	.25	.03	.09	.60	1.1	.31	.04	0	.06
23	.59	.04	.52	.09	.34	.07	10	1.1	.69	.30	.17	.07
24	.61	.04	.33	.11	.45	.08	1.5	.92	.24	.24	.13	.10
25	.22	.04	.04	.11	.19	.09	.93	.92	.36	.01	.14	.18
26	.54	.04	.04	.13	.05	.08	.68	.53	.72	.01	.08	.07
27	.12	.04	.04	.18	.43	.06	.13	.70	.77	0	.06	.24
28	.29	.04	2.0	.16	3.6	.06	.10	.84	.05	0	.24	.08
29	1.3	.04	2.6	.08	50	.07	.82	1.1	0	0	0	.06
30	.07	.04	1.5	.06	---	.07	.07	.92	0	0	.04	.05
31	.31	---	.18	.05	---	.07	---	.88	---	.18	.02	---
TOTAL	5.62	1.77	9.00	34.60	59.96	19.96	40.17	23.99	12.86	4.79	4.10	3.37
MEAN	.18	.059	.29	1.12	2.07	.64	1.34	.77	.43	.15	.13	.11
MAX	1.3	.12	2.6	19	50	8.7	21	1.1	1.0	.67	.44	.31
MIN	.03	.04	.01	.03	.03	.06	.01	.03	0	0	0	0
AC-FT	11	3.5	18	69	119	40	80	48	26	9.5	8.1	6.7

CAL YR 1987 TOTAL 98.03 MEAN .27 MAX 33 MIN .01 AC-FT 194
WTR YR 1988 TOTAL 220.19 MEAN .60 MAX 50 MIN 0 AC-FT 437

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
NOV 04...	1100	0.09	2480	7.60	16.5	1450
DEC 09...	1500	0.02	2430	7.80	17.0	1410
JAN 07...	1400	0.25	2550	7.60	12.0	1590
FEB 02...	1315	0.24	[1]3440	8.80	18.5	2150
MAR 01...	1230	11	676	7.60	16.5	377
APR 04...	1500	0.02	2140	9.60	23.0	1160
MAY 04...	1300	0.03	2210	9.30	21.5	1320
JUN 01...	1015	1.1	2140	7.70	17.5	1290
JUL 07...	1420	0.59	2020	7.60	25.0	1440
AUG 17...	1100	0.73	2360	7.40	20.0	1490
SEP 07...	1120	0.21	2310	7.50	18.0	1470

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 17...	1100	0.73	2360	7.40	20.0	450	130	91

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)
AUG 17...	53	330	61	7	15	314	310	410	0.3

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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
AUG 17...	62	1490	1490	2.10	5.60	520	100	30

[1] Laboratory value.

DISCHARGE AT PARTIAL-RECORDS STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage station is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current year is given. Information on some lower floods may have been obtained but is not published here. The years given in the period of record represent water years for which the annual maximum has been obtained.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS
DURING WATER YEAR 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximums: Date	Annual maximums: Gage height (feet)	Annual maximums: Discharge (ft^3/s)
		Bristol Lake basin					
10253000	Gourd Creek near Ludlow, CA	Lat 34°40'35", long 116°02'20", in SW 1/4 sec.23, T.7 N., R.9 E., San Bernardino County, Hydrologic Unit 18090208, at culvert on U.S Highway 66, 8.5 mi southeast of Ludlow.	0.30	1959-74 1976-88	--	--	0
10261800	Beacon Creek at Helendale, CA	Lat 34°45'00", long 117°18'53", in SE 1/4 sec.29, T.8 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, at culvert on county road (formerly U.S. Highways 66 and 91), 0.6 mi northeast of Helendale.	0.72	1959-60 1961-67* 1968-69 1976-88	8-29-88	14.06	42
10262600	Boom Creek near Barstow, CA	Lat 34°54'20", long 116°56'57", NW 1/4 NE 1/4 sec.2, T.9 N., R.1 W., San Bernardino County, Hydrologic Unit 18090208, at culvert on U.S. Highway I-15, 4.3 mi east of Barstow.	0.24	1956-66 1967-73* 1976-88	8-29-88	11.25	61
		Antelope Valley					
10263900	Buckhorn Creek near Valyermo, CA	Lat 34°20'35", long 117°55'13", in SW 1/4 sec.15, T.3 N., R.10 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on State Highway 2, Angeles National Forest, 8.1 mi southwest of Valyermo.	0.48	1961-66* 1967-69 1971-73 1977-88	4-20-88	3.20	44
10264530	Pine Creek near Palmdale, CA	Lat 34°36'09", long 118°14'48", in SW 1/4 sec.15, T.6 N., R.13 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on Pine Canyon Road, 7.5 mi northwest of Palmdale.	1.37	1959-73 1977-88	4-20-88	10.34	0.57
10264560	Spencer Canyon Creek near Fairmont, CA	Lat 34°46'33", long 118°34'08", in SW 1/4 SW 1/4 sec.15, T.8 N., R.16 W., Los Angeles County, Hydrologic Unit 18090206, at culvert on county road, 8.5 mi northwest of Fairmont.	3.60	1959-64 1965-73* 1974 1978-88	--	--	0

* Operated as a continuous-record gaging station.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1988--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		Franklin Creek basin					
11119530	Franklin Creek at Carpinteria, CA	Lat 34°24'17", long 119°31'05", in Pueblo Lands of Santa Barbara, Santa Barbara County, Hydrologic Unit 18060013, on right bank 20 ft downstream from Malibu Drive bridge, 0.5 mi north of Carpinteria, and 0.9 mi upstream from mouth.	1.81	1970-78* 1981-88	1-17-88	2.08	178
		Santa Ynez River basin					
11131700	Santa Rita Creek near Lompoc, CA	Lat 34°38'41", long 120°22'09", in Santa Rita Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 2.4 mi upstream from mouth and 6.5 mi east of Lompoc.	14.1	1976-79 1981-88	---	a	<26
11133700	Purisima Creek near Lompoc, CA	Lat 34°41'34", long 120°25'51", in Purisima Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank 1.1 mi northeast of junction of Buener Road and Lompoc-Casmalia Road and 4.0 mi northeast of Lompoc.	4.75	1972-75* 1976-88	12-4-87	1.68	24
11135200	Rodeo-San Pasqual Creek near Lompoc, CA	Lat 34°38'42", long 120°30'57", in Lompoc Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank 0.1 mi east of Dewolf Avenue at Highway 246 and 3.3 mi west of Lompoc.	7.80	1971-72* 1973-78 1980-88	---	a	<29

* Operated as a continuous-record station.
a Peak stage did not reach bottom of gage.
< Actual value is known to be less than the value shown.

DISCHARGE AND WATER-QUALITY AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1988

Stream	Tributary to	Location	Measured previously (water years)	Date	Time	Stream flow Instantaneous (ft^3/s)	Specific conductance (umhos)	Temperature (deg C)
		Atascadero Creek Basin						
Maria Ygnacio Creek	Atascadero Creek	Lat 34°25'31", long 119°48'33", T. 4 N., R. 28 W., Santa Barbara County, Hydrologic Unit 18060013, 100 ft upstream from Atascadero Creek and 1.3 mi southeast of Goleta.	--	08/08/88	--	0	--	--
				08/16/88	--	0	--	--
				08/22/88	1545	.27	1120	28.0
				08/31/88	1330	.19	1150	28.0
				09/07/88	--	0	--	--
				09/13/88	--	0	--	--
				09/19/88	--	0	--	--
				09/27/88	--	0	--	--
Maria Ygnacio Creek	Atascadero Creek	Lat 34°27'34", long 119°47' 24", in SE 1/4 NE 1/4 sec.3, T.4 N., R.28 W., Santa Barbara County, Hydrologic Unit 18060013, 0.1 mi upstream from Old San Marcos Pass Road bridge, 300 ft upstream from East Fork, and 2.5 mi northeast of Goleta.	1983-87	10/06/87	--	0	--	--
				10/14/87	--	0	--	--
				10/19/87	--	0	--	--
				10/26/87	1455	.07	1670	17.5
				11/04/87	1540	.63	1050	15.5
				11/12/87	1450	.15	1580	15.5
				11/16/87	1340	.13	1500	14.0
				11/23/87	1245	.16	1460	12.0
				11/30/87	1320	.17	1460	11.0
				12/07/87	1540	.18	1160	13.0
				12/15/87	1210	.26	1410	9.0
				12/22/87	1420	.21	1290	12.0
				12/31/87	1020	.33	1150	6.0
				01/04/88	1150	.30	1200	10.0
				01/11/88	1450	.24	1260	13.0
				01/19/88	1405	.59	920	10.5
				01/25/88	1400	.34	1080	12.0
				02/01/88	1310	.30	1170	12.0
				02/11/88	1205	.22	1400	12.5
				02/16/88	1035	.20	1410	11.0
				02/22/88	1320	.23	1250	12.5
				03/03/88	1115	.42	983	12.5
				03/09/88	1205	.27	1160	14.5
				03/14/88	1325	.18	1190	13.0
				03/24/88	1200	.20	1240	17.0
				03/30/88	1355	.11	1340	16.0
				04/04/88	1425	.16	1290	16.0
				04/11/88	1435	.10	1540	19.0
				04/19/88	1430	.19	1200	15.0
				04/25/88	1340	.36	1060	15.0
				05/02/88	1040	.21	1180	13.0
				05/09/88	1345	.11	1280	16.5
				05/16/88	1410	.14	1320	16.0
				05/24/88	1040	.01	1730	17.0
				06/01/88	1200	.01	1630	18.0
				06/06/88	1335	<.01	--	--
				06/14/88	1345	<.01	1960	18.0
				06/20/88	1440	.07	1820	17.0
				06/27/88	1115	<.01	1850	19.0
				07/05/88	1340	<.01	1950	21.5
				07/19/88	1200	<.01	1700	19.0
				07/28/88	1255	<.01	1870	21.0
				08/02/88	1405	<.01	1980	20.0
				08/08/88	1345	<.01	1930	22.0
				08/16/88	1430	0	--	--
				08/22/88	1405	0	--	--
				08/31/88	1220	0	--	--
				09/07/88	--	0	--	--
				09/13/88	--	0	--	--
				09/19/88	--	0	--	--
				09/27/88	--	0	--	--

MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1988

Stream	Tributary to	Location	Measured previously (water years)	Date	Time	Stream flow Instantaneous (ft^3/s)	Specific conductance (umhos)	Temperature (deg C)
		Atascadero Creek Basin--Continued						
East Fork Maria Ygnacio Creek	Maria Ygnacio Creek	Lat 34°27'36" long 119°47'26", in SE 1/4 NE 1/4 sec.3, T.4 N., R.28 W., Santa Barbara County, Hydrologic Unit 18060013, 0.1 mi upstream from Old San Marcos Pass Road bridge, 50 ft (revised) upstream from confluence with Maria Ygnacio Creek, and 2.5 mi northeast of Goleta.	1984-85	10/06/87	1130	.02	1900	17.0
				10/14/87	1210	.02	1930	17.0
				10/19/87	1525	.02	1970	17.5
				10/26/87	1515	.02	1840	18.0
				11/04/87	1510	.12	785	15.5
				11/12/87	1505	.02	1820	15.0
				11/16/87	1310	.02	1900	14.0
				11/23/87	1220	.01	1950	11.0
				11/30/87	1340	.02	1860	13.0
				12/07/87	1515	.02	2000	12.5
				12/15/87	1205	.02	2160	10.5
				12/22/87	1400	.02	2080	12.0
				12/31/87	0935	.02	1850	5.5
				01/04/88	1105	.02	1950	11.0
				01/11/88	1400	.03	1970	12.0
				01/19/88	1455	.07	1400	10.0
				01/25/88	1450	.04	1650	11.5
				02/01/88	1300	.03	1760	13.0
				02/11/88	1250	.03	2010	12.5
				02/16/88	1105	.03	1990	10.5
				02/22/88	1345	.02	1950	12.5
				03/03/88	1145	.07	1610	13.0
				03/09/88	1220	.03	2000	15.0
				03/14/88	1345	.02	1980	14.0
				03/24/88	1130	1.00	920	22.5
				03/30/88	1320	1.30	882	23.0
				04/04/88	1355	.26	980	21.5
				04/11/88	1420	.02	1840	20.0
				04/19/88	1425	1.22	900	21.0
				04/25/88	1405	.02	1860	19.5
				05/02/88	1110	.02	1870	15.5
				05/09/88	1425	.03	1890	21.0
				05/16/88	1340	.02	1880	17.5
				05/24/88	1025	.02	1900	17.5
				06/01/88	1120	.02	1760	18.5
				06/06/88	1345	.02	1900	21.5
				06/14/88	1350	.02	1820	21.0
				06/20/88	1430	.02	1820	18.0
				06/27/88	1050	.02	1820	20.5
				07/05/88	1325	.01	1770	23.0
				07/11/88	1330	.02	1800	20.0
				07/19/88	1110	.02	1600	18.0
				07/28/88	1230	.02	1790	20.5
				08/02/88	1345	.02	1890	20.0
				08/08/88	1340	.89	890	25.5
				08/16/88	1515	.91	891	26.5
				08/22/88	1400	.90	927	24.5
				08/31/88	1245	.26	1060	24.5
				09/07/88	1100	.05	2150	20.5
				09/13/88	0950	.06	2180	16.0
				09/19/88	1145	.02	1988	16.5
				09/27/88	1000	.02	1944	15.0

DISCHARGE AND WATER-QUALITY AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1988

Stream	Tributary to	Location	Measured previously (water years)	Date	Time	Stream flow Instantaneous (ft^3/s)	Specific conductance (umhos)	Temperature (deg C)
		Atascadero Creek Basin--Continued						
East Fork, Maria Ygnacio Creek	Maria Ygnacio Creek	Lat 34°28'32", long 119°46'40" in SE 1/4 NE 1/4 sec.35, T.5 N., R.28 W., Santa Barbara County, Hydrologic Unit 18060013, 100 ft upstream from bridge on private road, 1.5 mi upstream from Maria Ygnacio Creek, and 4.0 mi northeast of Goleta.	1983-87	10/06/87	1050	.01	760	17.5
				10/11/87	1130	.02	767	15.5
				10/19/87	1435	.02	742	16.5
				10/26/87	1355	.01	769	17.0
				11/04/87	1630	.22	673	15.0
				11/12/87	1350	.02	743	16.0
				11/16/87	1140	.02	727	13.0
				11/23/87	1340	.02	723	13.0
				11/30/87	--	0	--	--
				12/07/87	1425	.01	750	13.0
				12/15/87	1110	.01	808	11.5
				12/22/87	1320	.01	741	12.0
				12/31/87	0845	.02	684	6.5
				01/04/88	1015	.01	692	10.0
				01/11/88	1315	.02	710	12.0
				01/19/88	1230	.04	625	9.5
				01/25/88	1210	.02	650	11.0
				02/01/88	1030	.02	698	10.0
				02/11/88	1345	.01	708	13.0
				02/16/88	0950	.01	698	10.5
				02/22/88	1425	.01	696	12.0
				03/03/88	0950	.04	675	11.0
				03/09/88	1045	.02	730	12.0
				03/14/88	1210	.01	736	11.5
				03/24/88	1020	<.01	710	14.0
				03/30/88	1500	0	--	--
				04/04/88	1205	<.01	740	13.0
				04/11/88	1330	0	--	--
				04/19/88	1145	.01	690	13.0
				04/25/88	1150	.02	680	13.0
				05/02/88	0935	.06	792	12.0
				05/09/88	1525	.05	775	15.5
				05/16/88	1155	.04	773	15.5
				05/24/88	0925	.01	760	14.0
				06/01/88	1010	.04	740	14.5
				06/06/88	1445	.13	900	17.0
				06/14/88	1205	.09	820	17.5
				06/20/88	1345	.04	740	15.0
				06/27/88	1325	0	--	--
				07/05/88	1405	.05	770	18.0
				07/11/88	1405	.05	750	18.0
				07/19/88	1005	.04	773	17.0
				07/28/88	1105	.02	802	18.0
				08/02/88	1245	.04	842	18.0
				08/08/88	1200	.03	796	17.0
				08/16/88	1610	.02	814	19.0
				08/22/88	1350	<.01	775	18.0
				08/31/88	1045	<.01	739	--
				09/07/88	0830	<.01	736	19.0
				09/13/88	0850	<.01	730	14.0
				09/19/88	1045	<.01	754	15.0
				09/27/88	0840	<.01	751	13.5
		Santa Maria River Basin						
Green Canyon Creek	Santa Maria River	Lat 34°57'27", long 120°37'54", Santa Barbara County, Hydrologic Unit 180060008, at culvert on Main Street, 3.6 mi southwest of Guadalupe.	1984-87	10/07/87	1055	18.0	--	--
				11/05/87	0900	4.91	--	--
				12/08/87	1510	3.71	--	--
				01/06/88	1525	10.2	--	--
				02/02/88	1120	4.45	--	--
				03/01/88	1615	46.7	--	--
				04/05/88	1220	11.2	--	--
				05/04/88	1055	11.7	--	--
				06/01/88	0830	16.4	--	--
				07/07/88	1555	9.66	--	--
				08/17/88	0900	16.3	--	--
				09/08/88	0850	19.5	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SAN ONOFRE CREEK BASIN

11046250 SAN ONOFRE CREEK AT SAN ONOFRE, CA

LOCATION.--Lat 33°23'00", long 117°34'22", in SE 1/4 SE 1/4, sec.14, T.9 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on left bank 0.2 mi north of San Onofre, 0.3 mi upstream from Interstate 5, and 0.5 mi upstream from mouth.

DRAINAGE AREA.--42.2 mi^2.

PERIOD OF RECORD.--
WATER TEMPERATURE: January 1982 to September 1983, October 1987 to September 1988.
SEDIMENT DATA: January 1982 to September 1983, October 1987 to September 1988.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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
JAN						
18...	0730	15	9.0	418	17	78

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SAN MATEO CREEK BASIN

11046370 SAN MATEO CREEK AT SAN ONOFRE, CA

LOCATION.--Lat 33°24'00", long 117°35'09", in SW 1/4 SW 1/4 sec.11, T.9 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on right bank 0.6 mi upstream from bridge on Interstate Highway 5, 1.2 mi upstream from mouth, and 1.9 mi downstream from Cristianitos Creek.

DRAINAGE AREA.--130 mi^2.

PERIOD OF RECORD.--
WATER TEMPERATURE: Water years 1982 to current year.
SEDIMENT DATA: Water years 1982 to current year. Records for October 1984 to September 1985, published in WDR CA-85-1, are unreliable and should not be used.

PERIOD OF DAILY RECORD.--
WATER DISCHARGE: October 1946 to September 1967, October 1984 to September 1985. Records for October 1984 to September 1985, published in WDR CA-85-1, are unreliable and should not be used.
WATER TEMPERATURE: December 1983 to September 1984.
SUSPENDED-SEDIMENT DISCHARGE: December 1983 to September 1984.

REMARKS.--Minor flows regulated by percolation basins. No flow for the entire year.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

TOPANGA CREEK BASIN

11104000 TOPANGA CREEK NEAR TOPANGA BEACH, CA

LOCATION.--Lat 34°03'52", long 118°35'10", in NW 1/4 SW 1/4 sec.20, T.1 S., R.16 W., Los Angeles County, Hydrologic Unit 18070104, on right bank 1.8 mi north of Topanga Beach on Topanga Canyon Road.

DRAINAGE AREA.--18.0 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG												
03...	1645	0.10	1240	7.90	23.5	745	7.00	85	K32	480	250	97

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)	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)
AUG												
03...	58	110	33	2	4.1	230	340	110	0.7	18	900	877

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG												
03...	1.22	<0.10	0.04	<1	730	<10	<1	5	<100	<0.1	<1	<10

DATE	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CYAN-AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)
AUG												
03...	<1	<1.0	<0.10	<0.10	<0.1	<0.1	1.0	<0.1	<0.10	0.3	<0.10	<0.01

DATE	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	METOLA-CHLOR WATER WHOLE TOT.REC (UG/L)
AUG											
03...	0.10	<0.10	<0.10	<0.01	<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.10

DATE	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)	TOTAL TRI-THION (UG/L)
AUG												
03...	<0.10	<0.10	<0.01	<1.00	<0.10	<0.10	<0.1	<0.1	<0.10	<10	<0.1	<0.01

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.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

11104400 MALIBU CREEK AT CORNELL, CA

LOCATION.--Lat 34°06'51", long 118°46'42", in SW 1/4 NW 1/4 sec.4, T.1 S., R.18 W., Los Angeles County, Hydrologic Unit 18070104, at Mulholland Highway Bridge, 0.2 mi west of Cornell.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1983-84, 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	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 17...	1000	116	838	7.60	10.5	735	9.80	91	2000	14000	300

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)	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)
DEC 17...	140	58	37	60	30	2	2.9	158	190	60	0.3

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
DEC 17...	27	554	537	0.75	1.50	0.14	2	140	<10	7

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
DEC 17...	11	<100	<0.1	<1	20	<0.1	<0.1	<0.1	0.17	<0.01

DATE	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
DEC 17...	0.02	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1	0.6	<0.1	<0.01

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

11105410 COLD CREEK AT PIUMA ROAD, NEAR MONTE NIDO, CA

LOCATION.--Lat 34°04'45", long 118°41'54", in NW 1/4 SE 1/4 sec.18, T.1 S., R.17 W., Los Angeles County, Hydrologic Unit 18070104, at culvert under Piuma Road 0.2 mi upstream from mouth and 0.7 mi west of Monte Nido.
DRAINAGE AREA.--7.73 mi^2.
PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1982-84, 1986, October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
DEC												
17...	1400	4.9	904	8.00	10.5	735	10.2	95	--	350	120	79
AUG												
03...	1025	0.04	1330	8.00	18.5	755	8.10	88	250	600	130	130

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)	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)
DEC												
17...	38	57	26	1	2.7	236	170	51	0.4	27	586	572
AUG												
03...	67	89	24	2	1.1	472	190	110	0.4	47	894	921

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC												
17...	0.8	1.10	0.06	1	780	<10	9	14	<100	<0.1	<1	20
AUG												
03...	1.22	0.49	0.10	3	630	<10	2	5	<100	<0.1	<1	<10

DATE	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CYAN-AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)
DEC												
17...	--	--	--	--	--	--	--	--	--	--	--	0.01
AUG												
03...	<1	<1.0	<0.10	<0.10	<0.1	<0.1	2.0	<0.1	<0.10	<0.10	<0.10	<0.01

DATE	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
DEC											
17...	--	--	--	<0.01	--	--	--	<0.01	--	<0.01	<0.01
AUG											
03...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01

See footnote at the end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

11105410 COLD CREEK AT PIUMA ROAD, NEAR MONTE NIDO, CA--Continued

DATE	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRIFLURALIN TOTAL RECOVER (UG/L)	TOTAL TRITHION (UG/L)
DEC											
17...	--	<0.01	--	--	--	--	--	--	--	--	<0.01
AUG											
03...	<0.10	<0.01	<1.00	<0.10	<0.10	<0.1	<0.1	<0.10	<10	<0.1	<0.01

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

11105500 MALIBU CREEK AT CRATER CAMP, NEAR CALABASAS, CA

LOCATION.--Lat 34°04'40", long 118°42'03", in SW 1/4 SE 1/4, sec.18, T.1 S, R.17 W., Los Angeles County, Hydrologic Unit 18070104, on right bank 0.4 mi southeast of intersection of Piuma and Malibu Canyon Roads.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 02...	1630	2.6	1620	7.60	23.0	755	8.10	96	530	630	420	130

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)	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)
AUG 02...	75	150	34	3	6.5	216	530	140	0.4	27	1280	1240

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 02...	1.74	9.20	2.50	4	480	<10	2	<3	<100	<0.1	2	10

DATE	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL (UG/L)	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CYAN-AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)
AUG 02...	<1	<1.0	<0.10	0.10	<0.1	<0.1	<1.0	<0.1	<0.10	0.5	<0.10	<0.01

DATE	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	METOLA-CHLOR WATER WHOLE TOT.REC (UG/L)
AUG 02...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.10

DATE	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PARA-THION, TOTAL (UG/L)	PER-THANE IN BOT-TOM MA-TERIAL (UG/KG)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)	TOTAL TRI-THION (UG/L)
AUG 02...	<0.10	<0.10	<0.01	<1.00	<0.10	<0.10	<0.1	0.2	<0.10	<10	<0.1	<0.01

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340205118405301 MALIBU LAGOON AT MALIBU BEACH, CA

LOCATION.--Lat 34°02'05", long 118°40'53", in NW 1/4 SE 1/4 sec.32, T.1 S., R.17 W., Los Angeles County, Hydrologic Unit 18070104, on downstream side of Highway 1 bridge.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1982, October 1987 to September 1988 (discontinued). No data for water years 1983-87.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JAN 01...	1545	3900	8.0	15.5	--	11.5	--	560
MAR 18...	0730	1120	8.2	12.0	760	10.0	93	60000
JUL 28...	1015	10000	--	25.0	770	5.8	72	830

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	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)
JAN 01...	4600	870	660	150	120	500	55	8	19
MAR 18...	31000	420	250	86	50	88	31	2	4.2
JUL 28...	1500	1600	1300	190	270	1700	69	19	61

DATE	SULFATE DISSOLVED (MG/L AS SO4)	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, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)
JAN 01...	630	830	0.4	21	2570	2430	3.50	5.6	1.70
MAR 18...	330	81	0.3	20	807	771	1.10	1.8	0.50
JUL 28...	850	3200	0.5	26	6500	6470	8.84	2.2	0.20

DATE	ARSENIC TOTAL (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
JAN 01...	--	680	<30	--	--	--	--	10	<100
MAR 18...	--	290	--	--	--	--	--	46	--
JUL 28...	2	1200	20	10	10	30	20	30	100

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340205118405301 MALIBU LAGOON AT MALIBU BEACH, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(NOT PREVIOUSLY PUBLISHED)

DATE	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)
JAN 01...	--	--	--	--	--	--	--	40	--
MAR 18...	--	--	--	--	--	--	--	--	--
JUL 28...	<100	0.1	0.2	200	<100	4	<1	50	30

DATE	TIME	AMETRYNE TOTAL (UG/L)	ATRATONE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
JAN 01...	1545	M0.0	M0.0	0.4	M0.0	M0.0	M0	M0	M0.0	0.7	M0.0	M0
MAR 18...	0730	M0.0	M0.0	2.2	M0.0	M0.0	M0	M0	M0.0	1.5	M0.0	M0
JUL 28...	1015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	TIME	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUL 28...	1015	4	<1.0	<0.1	13	1.5	1.9	<0.1	0.6

DATE	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)
JUL 28...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10

< Actual value is known to be less than the value shown.
M Before July 1982, U.S. Geological Survey published values of 0 and 0.0; now published as less than the detection level.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340205118405301 MALIBU LAGOON AT MALIBU BEACH, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	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	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
AUG 04...	1230	4190	8.00	23.0	760	8.50	101	1000	780	180	140	570

DATE	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY 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)	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)	ARSENIC TOTAL (UG/L AS AS)
AUG 04...	54	8	15	249	620	880	0.3	26	2640	2580	3.59	4

DATE	BORON, DISSOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALACHLOR TOTAL RECOVER (UG/L)
AUG 04...	640	<10	2	40	<100	<0.1	2	<10	<1	<1.0	<0.10

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	AMETRYNE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	CYANAZINE TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)
AUG 04...	<0.10	<0.1	<0.1	6.0	<0.1	<0.10	2.0	0.10	<0.01	0.10	<0.10

DATE	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	METOLACHLOR WATER WHOLE TOT.REC (UG/L)	METRIBUZIN WATER WHOLE TOT.REC (UG/L)
AUG 04...	<0.10	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01	<0.10	<0.10

DATE	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRIFLURALIN TOTAL RECOVER (UG/L)	TOTAL TRITHION (UG/L)
AUG 04...	<0.10	<0.01	<1.00	<0.10	<0.10	<0.1	0.2	<0.10	<10	<0.1	<0.01

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

TUNA CREEK BASIN

340248118352401 TUNA CREEK NEAR TOPANGA BEACH, CA

LOCATION.--Lat 34°02'48", long 118°35'24", in SE 1/4 SE 1/4 sec.30, T.1 S., R.16 W., Los Angeles County, Hydrologic Unit 18070104, at culvert 0.5 mi north of Highway 1 on Tuna Canyon Road, 0.8 mi norhtwest of Topanga Beach.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1982-84, 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
AUG 03...	1440	E0.04	1140	8.10	22.5	760	8.10	94

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)
AUG 03...	K12	232	350	53	0.7	814	<0.10	<0.01

DATE	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 03...	2	300	<10	<1	<100	<0.1	<1	<10

E Estimated value.
K Results based on colony count outside the acceptable range.
< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340613118424301 LAS VIRGENES CREEK AT MULHOLLAND ROAD, NEAR BROWN RANCH, CA

LOCATION.--Lat 34°06'13", long 118°42'43", in SE 1/4 SE 1/4, sec.1, Los Angeles County, Hydrologic Unit 18070104, 0.2 mi west of Las Virgenes Road on Mulholland Highway above bridge.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 04...	1700	0.76	3910	8.10	20.0	750	7.60	86	1700	1300	370

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)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 04...	200	330	29	4	9.1	431	1900	180	0.4	36	3520

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 04...	3280	4.79	2	830	<10	2	40	<100	<0.1	34	20

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340616118450001 MALIBU CREEK BELOW MALIBU LAKE, CA

LOCATION.--Lat 34°06'16", long 118°45'00", in SE 1/4 SE 1/4, sec.3, Los Angeles County, Hydrologic Unit 18070104, 100 ft below Malibu Lake dam.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
AUG 05...	1500	0.60	2460	8.50	28.0	1100	800	210	150	210

DATE	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)	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)
AUG 05...	28	3	4.4	340	890	170	0.3	16	1830	1860

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 05...	2.49	5	440	<10	2	20	<100	<0.1	4	<10

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340634118451401 MALIBU LAKE NEAR CORNELL, CA

LOCATION.--Lat 34°06'34", long 118°45'14", in NE 1/4 SW 1/4 sec.3, T.1 S., R.18 W., Los Angeles County, Hydrologic Unit 18070104, at bridge on Cornell Road, 1.3 mi southeast of Cornell.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1982 to July 1983 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	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)	HARDNESS TOTAL (MG/L AS CACO3)
JAN											
02...	0900	1770	8.30	12.0	5.0	738	9.7	93	370	3400	760
MAR											
18...	1145	840	7.90	13.0	--	739	9.6	94	4700	20000	300
JUL											
27...	1020	1810	--	27.5	--	748	8.9	116	<100	<140	710

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)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
JAN											
02...	520	140	99	140	28	2	4.4	610	150	0.40	21
MAR											
18...	160	61	37	60	30	2	3.0	210	51	0.30	21
JUL											
27...	470	120	100	160	33	3	3.8	610	130	0.30	2.6

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	AMETRYNE TOTAL (UG/L)
JAN											
02...	1410	1310	1.92	<0.090	0.040	<30	310	<10	<100	40	0.0
MAR											
18...	562	537	0.76	0.720	0.130	--	--	32	--	--	0.0
JUL											
27...	1430	1270	1.94	<0.100	0.030	--	--	16	--	--	--

DATE	ATRATONE TOTAL (UG/L)	ATRAZINE, TOTAL (UG/L)	CYANAZINE TOTAL (UG/L)	CYPRAZINE TOTAL (UG/L)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETONE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)
JAN										
02...	0.0	3.0	0.0	0.0	0.2	0	0.0	2.1	0.0	0
MAR										
18...	0.0	2.7	0.0	0.0	0.1	0	0.0	2.6	0.0	0

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL RECORD STATIONS

MALIBU CREEK BASIN

340634118451401 MALIBU LAKE NEAR CORNELL, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	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
JUL 14...	0920	1850	8.10	27.5	745	8.1	106	740	490

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)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUL 14...	140	96	130	27	2	4.5	590	100

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, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)
JUL 14...	0.40	24	1360	1240	1.85	<0.100	0.020	7

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340655118451801 MEDEA CREEK AT PARAMOUNT RANCH, NEAR CORNELL, CA

WATER-QUALITY RECORDS

LOCATION.--Lat 34°06'555, long 118°45'18", in NE 1/4 NW 1/4 sec.3, T.1 S., R.18 W., Los Angeles County, Hydrologic Unit 18070104, at Paramount Ranch and 1.2 mi east of Cornell.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: Water year 1982-84, October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	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)
JAN										
01...	1400	11	1200	7.9	13.0	743	9.9	97	5600	27000
MAR										
18...	1100	--	--	8.0	11.0	739	10.6	99	2600	31000
JUL										
27...	0845	0.2	3200	--	19.5	748	8.0	90	K820	560

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	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)
JAN										
01...	480	330	93	59	110	33	2	4.3	[1]150	420
MAR										
18...	660	450	130	79	130	30	2	4.4	211	600
JUL										
27...	1300	1100	260	170	260	29	3	4.7	[1]232	1200

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JAN										
01...	79	0.4	14	916	870	1.2	0.72	0.08	330	27
MAR										
18...	88	0.5	23	1240	1200	1.7	1.4	0.14	280	37
JUL										
27...	230	0.5	30	2540	2300	3.5	<0.1	0.06	630	80

K Results based on colony count outside the acceptable range.
[1] Laboratory value.
< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	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)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
JUL									
13...	1715	E0.8	8.2	29.0	740	7.0	94	1100	860

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340655118451801 MEDEA CREEK AT PARAMOUNT RANCH, NEAR CORNELL, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
(NOT PREVIOUSLY PUBLISHED)

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)
JUL									
13...	210	150	240	31	3	4.8	280	1100	190

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, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)
JUL									
13...	0.6	31	2170	2100	3.0	0.23	0.07	540	40

E Estimated value.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	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)
MAY										
31...	0820	0.62	2680	7.9	19.0	759	7.4	81	450	2300
JUN										
27...	0845	0.38	2710	8.0	19.0	740	8.5	95	500	1700
AUG										
29...	0845	0.35	2120	8.1	21.5	762	7.4	84	120	350

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	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
MAY									
31...	1200	840	230	140	250	32	3	4.6	[1]316
JUN									
27...	1200	880	230	150	230	29	3	4.6	317
AUG									
29...	1200	840	220	150	240	31	3	4.6	333

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
MAY									
31...	990	200	0.6	32	2230	2040	3.03	<0.1	0.09
JUN									
27...	1100	190	0.6	32	2260	2130	3.07	<0.1	0.05
AUG									
29...	1100	200	0.6	34	2170	2150	2.95	<0.1	0.14

See footnotes at end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340655118451801 MEDEA CREEK AT PARAMOUNT RANCH NEAR CORNELL, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
(NOT PREVIOUSLY PUBLISHED)

DATE	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY									
31...	2	530	<10	20	30	<100	<0.1	<1	60
JUN									
27...	2	530	<10	20	60	100	0.3	4	150
AUG									
29...	2	620	<30	10	20	<100	0.2	3	10

[1] Laboratory value.
< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE LAB (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)	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)
AUG											
02...	1300	1.70	2700	7.90	20.5	740	7.60	87	640	1200	1100

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)	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)
AUG											
02...	800	220	140	240	32	3	5.1	325	980	210	0.5

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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)
AUG											
02...	29	2180	2020	2.96	0.57	0.14	3	540	<10	2	30

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)
AUG										
02...	<100	<0.1	8	<10	<1	<1.0	<0.10	<0.10	<0.1	<0.1

DATE	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CYAN-AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
AUG										
02...	18	<0.1	<0.10	1.8	<0.10	<0.01	0.2	<0.10	<0.10	<0.01

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340655118451801 MEDEA CREEK AT PARAMOUNT RANCH, NEAR CORNELL, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	METOLACHLOR WATER WHOLE TOT.REC (UG/L)	METRIBUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)
AUG 02...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10

DATE	PARATHION, TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRIFLURALIN TOTAL RECOVER (UG/L)	TOTAL TRITHION (UG/L)
AUG 02...	<0.01	<1.00	<0.10	<0.10	<0.1	0.3	<0.10	<10	<0.1	<0.01

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

340757118491701 MALIBU CREEK AT LINDERO ROAD, NEAR WESTLAKE, CA

LOCATION.--Lat 34°07'57", long 118°49'17", Land grant El Conejo, Los Angeles County, Hydrologic Unit 18070104, 0.2 mi below Westlake dam, upstream of bridge at Lindero Canyon Road.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--
CHEMICAL DATA: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 05...	0930	0.20	1250	7.70	22.0	740	4.50	53	460	220	90

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)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 05...	57	96	31	2	2.5	237	290	110	0.2	31	838

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 05...	819	1.14	2	190	<10	<1	6	<100	<0.1	<1	<10

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MALIBU CREEK BASIN

341047118460701 MEDEA CREEK AT KANAN ROAD, NEAR SIMI PEAK, CA

LOCATION.--Lat 34°10'47", long 118°46'07", SW 1/4 SE 1/4, sec.9, Ventura County, Hydrologic Unit 18070104, 2.4 mi northwest of Highway 101 on Kanan Road at Oak Park.

DRAINAGE AREA.--Not computed.

PERIOD OF RECORD.--
CHEMICAL DATA: October 1987 to September 1988.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 05...	1230	0.15	2890	8.20	27.0	735	7.70	101	1600	1300	280

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)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 05...	220	160	18	2	7.4	291	1300	210	0.4	26	2390

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	ARSENIC TOTAL (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG 05...	2380	3.25	2	230	<10	3	30	<100	<0.1	<1	20

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SANTA MARIA RIVER BASIN

345556120274001 LA BREA RECHARGE POND AT SANTA MARIA, CA

LOCATION.--Lat 34° 55'56", long 120° 27'40", unsurveyed, Santa Barbara County, Hydrologic Unit 18060008, at inflow structure of recharge pond, 2.1 mi southwest of Santa Maria.

DRAINAGE AREA.--Not determined.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
NOV 04...	1330	503	7.70	16.0	332
JAN 07...	1530	141	7.50	11.5	110
FEB 01...	1330	[1]236	8.20	13.0	150
MAR 01...	1330	229	7.60	17.0	150

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS TOTAL (MG/L AS CACO3)	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)
JAN 07...	1530	141	7.50	11.5	60	22	15	5.5	9.1

DATE	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)	SILICA, DISSOLVED (MG/L AS SIO2)
JAN 07...	24	0.5	1.8	38	31	8.4	0.2	5.1

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JAN 07...	110	101	0.37	0.11	40	140	11

[1] Laboratory value.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA

LOCATION.--Lat 34°57'27", long 120°37'54", Santa Barbara County, Hydrologic Unit 18060008, at culvert on West Main Street and 3.6 mi southwest of Guadalupe.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--
CHEMICAL DATA: Water years 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
APR											
05...	1200	11.0	2280	7.80	16.5	880	600	170	110	140	26
AUG											
17...	0825	16.3	2200	7.60	16.0	1100	770	240	110	130	21

DATE	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)	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, NO2+NO3 DIS-SOLVED (MG/L AS N)
APR											
05...	2	6.6	280	760	150	0.5	29	1680	1530	2.28	--
AUG											
17...	2	8.1	285	770	150	0.4	32	1720	1690	2.34	18.0

DATE	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
APR										
05...	--	270	40	<1	<1.0	<0.1	<0.10	<0.1	<0.1	<1.0
AUG										
17...	0.57	260	40	<1	<1.0	<0.10	<0.10	<0.1	<0.1	<1.0

DATE	CYAN-AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-SYSTON TOTAL (UG/L)	ENDO-SULFAN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
APR										
05...	<0.1	110	270	44	0.17	2.9	--	6.1	6.3	<0.01
AUG										
17...	<0.1	1.3	2.7	1.1	0.03	<0.10	0.04	<0.10	<0.10	<0.01

DATE	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	METOLA-CHLOR WATER WHOLE TOT.REC (UG/L)	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)	MIREX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
APR										
05...	<0.10	1.9	<0.10	<0.01	450	<0.01	<0.01	<0.1	<0.1	<0.10
AUG										
17...	<0.10	<0.10	<0.10	<0.01	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	PARATHION, TOTAL (UG/L)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRIFLURALIN TOTAL RECOVER (UG/L)	TOTAL THION (UG/L)
APR										
05...	<0.01	<1.00	<0.1	0.2	<0.1	0.1	<0.1	<10	<0.1	<0.01
AUG										
17...	<0.01	<1.00	<0.10	0.5	<0.1	<0.1	<0.10	<10	<0.1	<0.01

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

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☆U.S. GOVERNMENT PRINTING OFFICE: 1989-687-158

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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